



# Altivar Process ATV600

## Variable speed drives

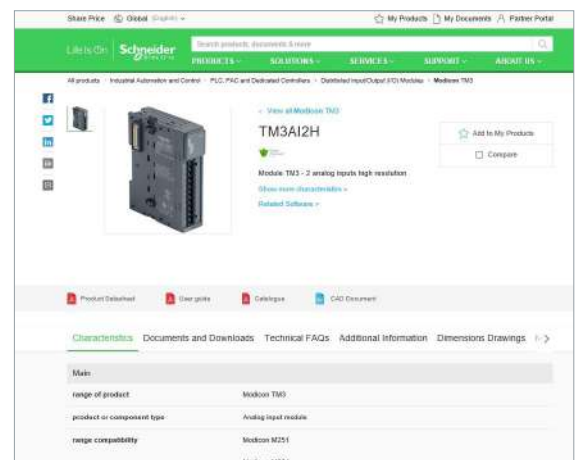
# Quick access to product information

## Get technical information about your product

References

**Modicon TM3**  
I/O expansion modules for Modicon controllers  
Analog I/O modules

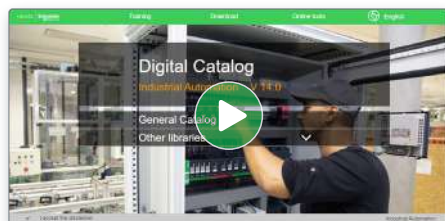
| Product image | Product name             | Input range                                | Resolution                          | Output range                            | Resolution                          | Performance                         | Reference |
|---------------|--------------------------|--------------------------------------------|-------------------------------------|-----------------------------------------|-------------------------------------|-------------------------------------|-----------|
|               | 2 voltage/current inputs | AI: -10VDC<br>-10VDC<br>0...20mA, 0...20mA | 16,384 pt<br>16,384 pt<br>16,384 pt | AO: 0...12VDC<br>0...12VDC<br>0...12VDC | 16,384 pt<br>16,384 pt<br>16,384 pt | 16,384 pt<br>16,384 pt<br>16,384 pt | TM3AI2H   |
|               | 4 voltage/current inputs | AI: -10VDC<br>-10VDC<br>0...20mA, 0...20mA | 16,384 pt<br>16,384 pt<br>16,384 pt | AO: 0...12VDC<br>0...12VDC<br>0...12VDC | 16,384 pt<br>16,384 pt<br>16,384 pt | 16,384 pt<br>16,384 pt<br>16,384 pt | TM3AI4H   |
|               | 4 voltage/current inputs | AI: -10VDC<br>-10VDC<br>0...20mA, 0...20mA | 16,384 pt<br>16,384 pt<br>16,384 pt | AO: 0...12VDC<br>0...12VDC<br>0...12VDC | 16,384 pt<br>16,384 pt<br>16,384 pt | 16,384 pt<br>16,384 pt<br>16,384 pt | TM3AI4H   |
|               | 4 voltage/current inputs | AI: -10VDC<br>-10VDC<br>0...20mA, 0...20mA | 16,384 pt<br>16,384 pt<br>16,384 pt | AO: 0...12VDC<br>0...12VDC<br>0...12VDC | 16,384 pt<br>16,384 pt<br>16,384 pt | 16,384 pt<br>16,384 pt<br>16,384 pt | TM3AI4H   |



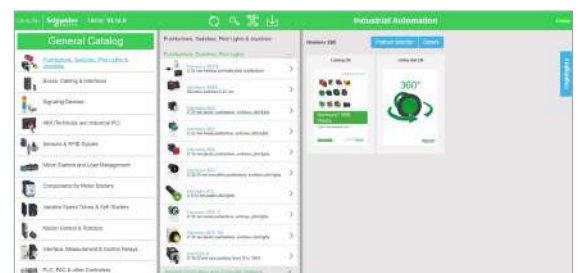
Each commercial reference presented in a catalog contains a hyperlink. Click on it to obtain the technical information of the product:

- Characteristics, Dimensions and drawings, Mounting and clearance, Connections and schemas, Performance curves
- Product image, Instruction sheet, User guide, Product certifications, End of life manual

## Find your catalog



- > With just 3 clicks, you can access the Industrial Automation and Control catalogs, in both English and French
- > Consult digital automation catalogs at [Digi-Cat Online](#)

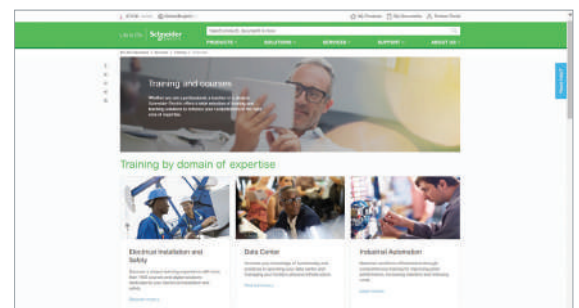


- Up-to-date catalogs
- Embedded product selectors, 360° pictures
- Optimized search by commercial references

## Select your training



- > Find the right [Training](#) for your needs on our Global website
- > Locate the training center with the selector tool, using this [link](#)





# Altivar

## Discover [Altivar](#)

Variable speed drives and soft starters

**Altivar** variable speed drives and soft starters deliver top performance in motor control applications across machines, processes, and buildings. With built-in intelligence, these smart connected devices gather and share data to improve operational efficiency, safety, and reliability.

## Explore our offer

- [Altivar Process](#)
- [Altivar Machine](#)
- [Altivar Building](#)
- [Altivar Soft Starters](#)

Life Is On

**Schneider**  
Electric

# Green Premium™

Enhance sustainability with Altivar™ Process drives

## Superior environmental performance thanks to upgradability and modernization solutions

Altivar Process is **RoHS** and **REACH** compliant

- Transparent environment information
- Life Cycle Analysis, compliant with ISO 14025
- Circularity Profile

Altivar Process drives offer key benefits to help you achieve **superior sustainable performance** by enhancing functionality, performance, and capacity of both hardware and software.

The **additional hardware options** and **firmware upgradability** capabilities of Altivar Process can help you to maximize process continuity and operation, as well as reduce your operational expenses, by avoiding the need to replace your drive or modify your existing installation as a retrofit.

### Benefits

- Maximize **process continuity and operation**
- Reduce your **OPEX**
- Easy **scalability** of your automation system
- **Future-ready** solution for **Industry 4.0**
- Improve the **power quality** of your system with a low investment
- Improve the **Safety Integrity Level (SIL)**, and/or **Performance Level (PEL)**, integration, and performance of your application
- Optimize your **maintenance costs** and the **drive's service life**



Sustainable  
performance,  
by design

### Communication & Wi-Fi modules

The additional fieldbus modules allow you to easily integrate Altivar Process drives in your scalable automation system. Together with the Wi-Fi access point, they bring easy access to the real data provided by the drive, helping the digitalization and easy integration of the drive in Industry 4.0 technologies.

### Passive filters\*

The optional passive filter available with Altivar Process drives offers you the possibility to improve your installation's power quality by reducing the harmonics levels, even keeping your existing drives installed.

### Additional I/O & safety modules\*

The I/O module helps you to extend your application's performance and integration.

The Safety module optimizes the overall cost of the installation by avoiding the need for additional external devices, while conforming to international safety standards.

### Firmware updates & Service expertise

Our global network of service experts offers you the possibility of upgrading your drive's firmware and modernizing its hardware to extend your drive's service life.



Experience the difference today at

[se.com/green-premium](https://se.com/green-premium)

\* For more information regarding the compatibility of these options, please visit us at [se.com/drives](https://se.com/drives)

# General contents

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Schneider Electric's IoT-enabled, plug-and-play, open, secure, interoperable architecture and platform, in Industries, Infrastructures, Data Centers, and Buildings.

### Innovation at every level

EcoStruxure is based on a three-tiered technology stack delivering innovation at every level, from connected products to edge control and apps, analytics, and services.

Together with our hybrid segments approach, this enhances your value around safety, reliability, operational efficiency, sustainability, and connectivity across 6 domains of expertise:

- Power
- IT
- Building
- Machine
- Plant
- Grid

### Dedicated architectures and IoT

We tailor our solutions in the form of dedicated reference architectures for plants:

- Management systems
- Power systems
- Data center systems
- Industrial plant and machine systems
- Smart grid systems

The Industrial Internet of Things (IIoT) gives an additional boost to technologies. That's why we provide our customers with an IoT-enabled architecture and platform offering simple, reliable, productive, and cost-efficient solutions.

### Cybersecurity solutions

Robust cybersecurity protection is a must, and Schneider Electric's solutions can deliver it, regardless of business type or industry.

The vendor-agnostic services provided by our skilled professionals help to protect your entire critical infrastructure. We help to assess your risk, implement cyber-specific solutions, and maintain your onsite defenses over time, while integrating appropriate IT policies and requirements.

This is our difference and your advantage.

### Enhanced safety

With the release of M580 Safety, Schneider Electric further expands the EcoStruxure platform.

This consolidates our position as one of the most trusted industrial safety vendor, with thousands of Modicon and Triconex safety systems protecting the most critical industrial processes globally.

## EcoStruxure™ for Industry Innovation At Every Level



\*The Schneider Electric industrial software business and AVEVA have merged to trade as AVEVA Group plc, a UK listed company. The Schneider Electric and Life is On trademarks are owned by Schneider Electric and are being licensed to AVEVA by Schneider Electric.

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## Altivar Process

Provides the efficiency you deserve

Altivar Process is the new comprehensive range of variable speed drives from Schneider Electric, covering the majority of industrial applications with two series:

- > ATV600: drives focused on fluid management and processing and energy saving
- > ATV900: drives focused on maximum productivity with exceptional motor control and connectivity

Depending on customer requirements, Altivar Process drives are available as wall-mounting, floor-standing, and optimized solutions for integration in cabinets.



Wall-mounting drives  
from 0.75 kW up to 315 kW  
(1...500 HP)

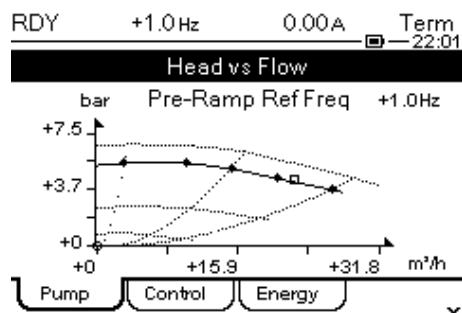


Enclosed drive solutions  
from 0.75 kW up to 2600 kW  
(1...2600 HP)



Drives for cabinet integration  
from 0.75 kW up to 2600 kW  
(1...2600 HP)

Altivar Process range



Pump monitoring display

## Business optimization

### Optimum monitoring of your process

- > Instant reaction if pump efficiency drops thanks to embedded pump monitoring
- > Notification of critical operating points without additional sensors
- > Process integration with pressure, flow, and level control including compensation of flow losses

### Energy-saving drive solution

- > Up to 30% energy saving when on standby due to the innovative "stop & go" operation without additional costs
- > Smart control of the internal fans depending on operation
- > Optimum energy efficiency over the whole lifecycle
- > Data logging and graphic display of the power consumption

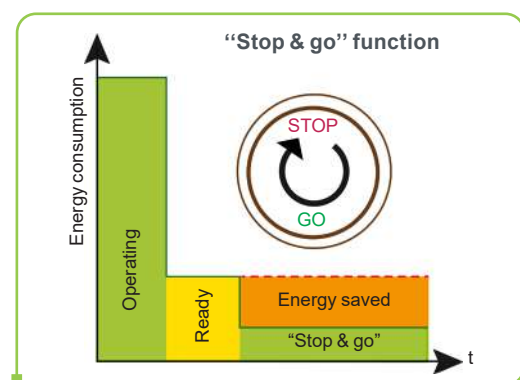
### Altivar Efficiency Calculator

This tool calculates the level of energy efficiency of your variable speed drive according to the Ecodesign standard EN/IEC 61800-9-2.

- > **Drive efficiency (CDM Complete Drive Module)**  
Drive performance is determined according to 8 operating points considering torque and speed
- > **System efficiency (PDS Power Drive System)**  
System performance is determined according to 8 operating points considering torque and speed. This includes the efficiency of the variable speed drive and its motor.



Calculate your level of energy efficiency  
with the Altivar Efficiency Calculator





Configure your Altivar drive with the EcoStruxure™ Motor Control Configurator



**ODVA organization:**  
Supports network technologies based on EtherNet/IP



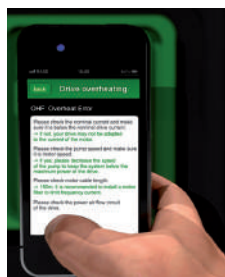
**FDT Technology:**  
A widely-accepted international standard in the automation industry



Achilles™ Level 2 certified



Scanning the QR code from a smartphone or tablet



Instant access to online help



## Real-time intelligence

### Web server and services via Ethernet

- > Embedded Web server interface based on the Ethernet network gives you process monitoring with your daily working tools.
- > Local and remote access to energy use and customized dashboards means your energy is visible anywhere, any time, on PC, tablet, or smartphone.

## User-friendliness

### Simple integration in PLC environments

- > Easy integration thanks to standardized FDT/DTM and ODVA technology
- > Supported by predefined EcoStruxure Control Expert libraries
- > Easy access via PC, tablet, or smartphone
- > Robust connection via Ethernet

## Sophisticated service concept

- > Modular design provides easy spare parts logistics
- > Optimized maintenance costs due to dynamic maintenance schedule, with integrated monitoring of individual components
- > Simple exchange of power modules and fans
- > Quick assistance with dynamic QR codes and Customer Care app

## Green product

### Designed to have a smaller carbon footprint

- > The Green Premium product label, Schneider Electric's eco-mark, indicates your compliance with international environmental standards such as:
  - RoHS according to European Directive 2011/65 and the delegated Directive (EU) 2015/863
  - REACH according to EU regulation 1907/2006
  - IEC 62635: The end-of-life instructions comply with the latest recycling rules; up to 85% of the product components can be recycled

Variable speed drives  
Altivar Process ATV600  
Wall-mounting and floor-standing drives

Market segments

- Water & wastewater
- Oil & gas
- Mining, minerals & metals
- Consumer packaged goods (CPG)



| Mounting type                          |                                                       |
|----------------------------------------|-------------------------------------------------------|
| Degree of protection                   |                                                       |
| Power range for 50...60 Hz line supply | Three-phase: 200...240 V (kW/HP)                      |
|                                        | Three-phase: 380...440 V (kW)                         |
|                                        | Three-phase: 380...480 V (kW/HP)                      |
|                                        | Three-phase: 500...690 V (kW/HP)                      |
| Drive                                  | Output frequency                                      |
|                                        | Control type Asynchronous motor<br>Synchronous motor  |
| Functions                              | Advanced functions                                    |
|                                        |                                                       |
|                                        |                                                       |
|                                        | Integrated safety function<br>Number of preset speeds |
| Number of integrated I/O               | Analog inputs                                         |
|                                        | Digital inputs                                        |
|                                        | Analog outputs                                        |
|                                        | Relay outputs<br>Safety function inputs               |
| Extended I/O module (optional)         | Analog inputs                                         |
|                                        | Digital inputs                                        |
|                                        | Digital outputs                                       |
| Extended relay module (optional)       | Relay outputs                                         |
| Communication                          | Integrated                                            |
|                                        | Option modules                                        |
| Configuration and runtime tools        |                                                       |
| Standards and certifications           |                                                       |
| References                             |                                                       |
| Page                                   |                                                       |

| Wall mounting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                                   | Floor standing                                                                                                           |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------|
| IP20 and IP21/UL Type 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | IP55              | IP55 with Vario disconnect switch | IP21                                                                                                                     | IP54         |
| 0.75...75/1...100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | –                 | –                                 | –                                                                                                                        | –            |
| –                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | –                 | –                                 | 110...315                                                                                                                | 110...315    |
| 0.75...315/1...500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.75...90/1...125 | 0.75...90/1...125                 | –                                                                                                                        | –            |
| 1.5...75/2...100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | –                 | –                                 | –                                                                                                                        | –            |
| 0.1...500 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |                                   |                                                                                                                          |              |
| Standard constant torque, variable standard torque, optimized torque mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                                   |                                                                                                                          |              |
| PM (permanent magnet) motor, synchronous reluctance motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                                   |                                                                                                                          |              |
| ■ Accurate measurement for monitoring system energy consumption (deviation < 5%)<br>■ Installation energy drift detection<br>■ Embedded Ethernet with direct access to system configuration and monitoring<br>■ Integration of actual pump curves to optimize the system operating point<br>■ Optimized pump monitoring based on actual operating point<br>■ Sensorless estimated flow rate<br>■ Measurements expressed in working units (e.g. m³/h, kWh/m³)<br>■ Limitation of overvoltage at the motor terminals<br>■ Contextual access to technical documentation through dynamic QR code<br>■ Continuous and historical real-time measurements with customizable dashboards<br>■ Predictive and preventive maintenance tracking functions (e.g. temperature with PT100/1000 probe, fan monitoring) |                   |                                   |                                                                                                                          |              |
| 1: STO (Safe Torque Off) SIL3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                                   |                                                                                                                          |              |
| 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |                                   |                                                                                                                          |              |
| 3: Configurable as voltage (0...10 V) or current (0-20 mA/4-20 mA), 2 of them including probes (PTC, PT100, PT1000, or KTY84)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                                   |                                                                                                                          |              |
| 6: Voltage 24 V --- (positive or negative logic)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |                                   |                                                                                                                          |              |
| 2: Configurable as voltage (0...10 V) or current (0-20 mA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                                   |                                                                                                                          |              |
| 3: 1 with NO/NC contacts and 2 with NO contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |                                   |                                                                                                                          |              |
| 2: For safety function STO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                                   |                                                                                                                          |              |
| 2 differential analog inputs configurable via software as current (0-20 mA/4-20 mA), or for PTC, PT100, or PT1000, 2- or 3-wire probe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                                   |                                                                                                                          |              |
| 6: Voltage 24 V --- (positive or negative logic)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |                                   |                                                                                                                          |              |
| 2: Assignable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                                   |                                                                                                                          |              |
| 3: NO contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |                                   |                                                                                                                          |              |
| Modbus/TCP, Modbus serial link                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |                                   |                                                                                                                          |              |
| EtherNet/IP and Modbus/TCP dual port, ProfiNet, CANopen RJ45 daisy chain, SUB-D, and screw terminal block, Profibus DP V1, DeviceNet, and BACnet MS/TP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                                   |                                                                                                                          |              |
| Graphic display terminal, embedded Web server, DTM (Device Type Manager), SoMove software                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                                   |                                                                                                                          |              |
| UL 508C and UL61800-5-1 (1), EN/IEC 61800-3, EN/IEC 61800-3 environment 1 category C2, EN/IEC 61800-3 environment 2 category C3, EN/IEC 61800-5-1, IEC 61000-3-12, IEC 60721-3, IEC 61508 (2), ATEX 2/22, ATEX 1/21, SEMI F47-0706                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |                                   | EN/IEC 61800-3, EN/IEC 61800-3 environment 2 category C3, EN/IEC 61800-5-1, IEC 60721-3, IEC 61508, ATEX 2/22, ATEX 1/21 |              |
| ATV630●●●●●                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ATV650●●●●●       | ATV650●●●●●E                      | ATV630●●●●●F                                                                                                             | ATV650●●●●●F |
| 2/4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2/7               | 2/8                               | 2/10                                                                                                                     | 2/11         |

(1) Evaluated UL standards may differ per drive reference. Please refer to our website for more details.  
(2) For marine product certificate, please contact your Schneider Electric representative.



Variable speed drives  
Altivar Process ATV600  
Drives for integration

Market segments

- Water & wastewater
- Oil & gas
- Mining, minerals & metals
- Consumer packaged goods (CPG)

- Water & wastewater
- Oil & gas
- Mining, minerals & metals



| Mounting type                          | Cabinet integration                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drive type                             | Drive products for cabinet integration                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
| Degree of protection                   | IP20                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
| Power range for 50...60 Hz line supply | Three phase: 380...480 V (kW/HP)                                                                                                                                                                                                              | 0.75...90/1...120                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                      | –                                                                                                                                                                                                                                                    |
|                                        | Three-phase: 400 V (kW)                                                                                                                                                                                                                       | –                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                      | 110...800                                                                                                                                                                                                                                            |
|                                        | Three-phase: 440 V (kW)                                                                                                                                                                                                                       | –                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                      | 110...800                                                                                                                                                                                                                                            |
|                                        | Three-phase: 480 V (HP)                                                                                                                                                                                                                       | –                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                      | 150...1100                                                                                                                                                                                                                                           |
|                                        | Three-phase: 500 (kW)                                                                                                                                                                                                                         | –                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                      | 75...800                                                                                                                                                                                                                                             |
|                                        | Three-phase: 600 (HP)                                                                                                                                                                                                                         | –                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                      | 125...1200                                                                                                                                                                                                                                           |
|                                        | Three-phase: 690 (kW)                                                                                                                                                                                                                         | –                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                      | 110...1200                                                                                                                                                                                                                                           |
| Drive                                  | 0.1...500 Hz                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
| Control type                           | Standard constant torque, variable standard torque, optimized torque mode                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | PM (permanent magnet) motor, synchronous reluctance motor                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
| Functions                              | Including all the advanced features of ATV600 drives:                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | ■ Accurate measurement for monitoring system energy consumption (deviation < 5%)                                                                                                                                                              |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | ■ Installation energy drift detection                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | ■ Embedded Ethernet with direct access to system configuration and monitoring                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | ■ Integration of actual pump curves to optimize the system operating point                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | ■ Optimized pump monitoring based on actual operating point                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | ■ Sensorless estimated flow rate                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | ■ Measurements expressed in working units (e.g. m³/h, kWh/m³)                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | ■ Limitation of overvoltage at the motor terminals                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | ■ Contextual access to technical documentation through dynamic QR code                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | ■ Continuous and historical real-time measurements with customizable dashboards                                                                                                                                                               |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | ■ Predictive and preventive maintenance tracking functions (e.g. temperature with PT100/1000 probe, fan monitoring)                                                                                                                           |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | ■ Easy setting of drive identification for Altivar Process Modular drives                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | 1: STO (Safe Torque Off) SIL3                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | 16                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | 3: Configurable as voltage (0...10 V) or current (0-20 mA/4-20 mA), 2 of them including probes (PTC, PT100, PT1000, or KTY84)                                                                                                                 |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | 6: Voltage 24 V  (positive or negative logic)                                                                                                              |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | –                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | 2: Configurable as voltage (0...10 V) or current (0-20 mA)                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | 3: 1 with NO/NC contacts and 2 with NO contacts                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | 2: For safety function STO                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | 2 differential analog inputs configurable via software as voltage (0...±10 V) or current (0-20 mA/4-20 mA), or for PTC, PT100, or PT1000 2- or 3-wire probes                                                                                  |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | 6: Voltage 24 V  (positive or negative logic)                                                                                                              |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | 2: Assignable                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | 3: NO contacts                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        |                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
| Communication                          | Modbus/TCP, Modbus serial link                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
|                                        | Ethernet/IP, Modbus TCP and MD-Link dual port, CANopen RJ45 daisy chain, SUB-D, and screw terminal block, PROFINET, PROFIBUS DP V1, DeviceNet, BACnet MS/TP, POWERLINK                                                                        |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
| Configuration and runtime tools        | Graphic display terminal, embedded Web server, DTM (Device Type Manager), SoMove software                                                                                                                                                     |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
| Standards and certifications           | 86/188/EEC, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, EN/IEC 61800-3, EN/IEC 61800-5-1, IEC 61000-3-12, IEC 60721-3, IEC 61508, IEC 13849-1, TÜV certification, C <sup>®</sup> marking, ATEX 2/22, ATEX 1/21 | 86/188/EEC, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, EN/IEC 61800-3, EN/IEC 61800-5-1, IEC 61000-3-12, IEC 60721-3, IEC 13849-1, TÜV certification, C <sup>®</sup> marking, cULus, IEC 61508, Marine certification (DNV-GL, ABS, RINA, BV, LR) (1), ATEX 2/22, ATEX 1/21 | 86/188/EEC, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, EN/IEC 61800-3, EN/IEC 61800-5-1, IEC 61000-3-12, IEC 60721-3, IEC 13849-1, TÜV certification, C <sup>®</sup> marking, cULus, IEC 61508, ATEX 2/22, ATEX 1/21 | 86/188/EEC, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, EN/IEC 61800-3, EN/IEC 61800-5-1, IEC 61000-3-12, IEC 60721-3, IEC 13849-1, TÜV certification, C <sup>®</sup> marking, cULus, IEC 61508, ATEX 2/22, ATEX 1/21 |
| References                             | ATV630●●●N4Z                                                                                                                                                                                                                                  | ATV6A0●●●●●                                                                                                                                                                                                                                                                                                | ATV6B0●●●●●                                                                                                                                                                                                                                          | ATV6L0●●●●●                                                                                                                                                                                                                                          |
| Page                                   | 3/6                                                                                                                                                                                                                                           | 3/8                                                                                                                                                                                                                                                                                                        | 3/14                                                                                                                                                                                                                                                 | 3/20                                                                                                                                                                                                                                                 |

(1) For marine product certificate, please contact your Schneider Electric representative.



More technical information on [www.se.com](http://www.se.com)



More technical information on [www.se.com](http://www.se.com)

|                                               |                                      |                                                                                                                                                                                                                                                               |                                                                                                                                                                            |
|-----------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Market segments</b>                        |                                      | <ul style="list-style-type: none"> <li>Water &amp; wastewater</li> <li>Oil &amp; gas</li> <li>Mining, minerals &amp; metals</li> <li>Consumer packaged goods (CPG)</li> </ul>                                                                                 |                                                                                                                                                                            |
|                                               |                                      |                                                                                                                                                                             |                                                                                                                                                                            |
| <b>Power range for 50...60 Hz line supply</b> | Three-phase: 315...415 V, 480 V (kW) | 90...800                                                                                                                                                                                                                                                      |                                                                                                                                                                            |
| <b>Main characteristics</b>                   |                                      | Compact Drive Systems with an integrated line reactor to reduce the current harmonics THDi < 48%                                                                                                                                                              | Low Harmonic Drive Systems with 3-level technology to reach a total distortion factor THDi of around 2% which fulfills the requirements according to IEEE 519 of THDi < 5% |
| <b>Variants</b>                               |                                      | Compact Standard offer<br>Modular with integrated options (CTO)<br>User-definable on request (ETO, Full ETO)                                                                                                                                                  | Low Harmonic Standard offer<br>Modular with integrated options (CTO)<br>User-definable on request (ETO, Full ETO)                                                          |
| <b>Degree of protection</b>                   |                                      | IP23<br>IP54 with separate air flows as an option                                                                                                                                                                                                             |                                                                                                                                                                            |
| <b>Drive</b>                                  | Output frequency                     | 0.1...500 Hz                                                                                                                                                                                                                                                  |                                                                                                                                                                            |
|                                               | Type of control                      | Standard constant torque, variable standard torque, optimized torque mode                                                                                                                                                                                     |                                                                                                                                                                            |
|                                               | Asynchronous motor                   | PM (permanent magnet) motor, synchronous reluctance motor                                                                                                                                                                                                     |                                                                                                                                                                            |
|                                               | Synchronous motor                    |                                                                                                                                                                                                                                                               |                                                                                                                                                                            |
| <b>Communication</b>                          | Integrated                           | Modbus/TCP<br>Modbus serial link<br>Ethernet                                                                                                                                                                                                                  |                                                                                                                                                                            |
|                                               | As an option                         | EtherNet/IP and Modbus/TCP dual port<br>PROFINET<br>CANopen RJ45 daisy chain, SUB-D9, and screw terminal block<br>Profibus DP V1<br>DeviceNet                                                                                                                 |                                                                                                                                                                            |
| <b>Interfaces and runtime tools</b>           |                                      | Graphic display terminal in the enclosure door<br>Control terminals inside the enclosure<br>Control terminals can be extended<br>Reading of the parameters via USB interface on the keypad<br>Embedded Web server, DTM (Device Type Manager), SoMove software |                                                                                                                                                                            |
| <b>Standards and certifications</b>           |                                      | CE, EAC, RCM, EN/IEC 61439, EN/IEC 61800-3, EN/IEC 61800-3 environment 2 category C3, EN/IEC 61800-5-1, IEC 60721-3, IEC 61508, ATEX 2/22, ATEX 1/21                                                                                                          | CE, EAC, RCM, EN/IEC 61439, EN/IEC 61800-3, EN/IEC 61800-3 environment 2 category C3, EN/IEC 61800-5-1, IEC 60721-3, IEC 61508, ATEX 2/22, ATEX 1/21, IEEE 519             |
| <b>References</b>                             |                                      | <b>ATV660●●●●4X1</b>                                                                                                                                                                                                                                          | <b>ATV680●●●●4X1</b>                                                                                                                                                       |
| <b>Page</b>                                   |                                      | 4/8                                                                                                                                                                                                                                                           | 4/14                                                                                                                                                                       |



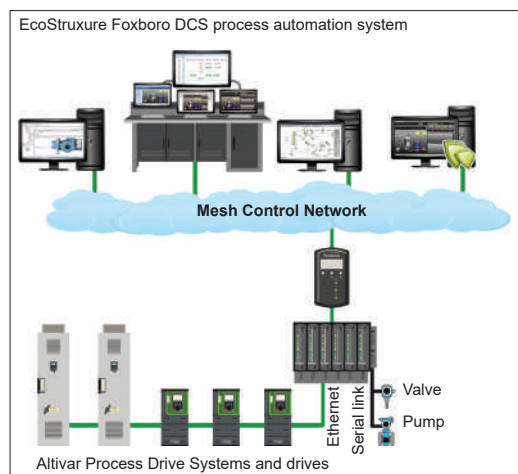


Altivar Process range

### Process

Altivar Process drives are specifically designed to meet the requirements of following market segments:

- Water & wastewater
- Oil & gas
- Mining, minerals & metals
- Consumer packaged goods (CPG)



Altivar Process in EcoStruxure Foxboro DCS architecture

### EcoStruxure Plant™ integration

The association of Altivar Process services with Schneider Electric process automation control systems like EcoStruxure Foxboro DCS (for process systems) or EcoStruxure Hybrid DCS (for hybrid systems) offers a high-performance, global automation and motor control solution with optimized total cost of ownership (TCO).

The solution provides operational integrity for people, processes, and assets, with improved maintenance support to reduce downtime and helps to ensure operation continuity.

It offers operational insight by accessing more information to optimize the process and control energy efficiency.

Based on market standards (FDT/DTM, Ethernet, etc.), it is a sustainable, scalable solution that enables processes to be adapted easily and affordably.



### Water & wastewater applications

- Pumping
- Drilling
- Suction
- Dosing
- Odor control
- Ventilation
- Gas compression
- Sludge removal

### Use

- Pumping station and storage tank
- Irrigation
- Treatment plant
- Desalination plant
- Storage and booster station
- Housing
- Wastewater lift station
- Wastewater treatment
- Discharge back into the environment, land application

1



### Process (continued)

#### Oil & gas applications

- Hydrocarbon production:
  - Drilling
  - Offshore and onshore extraction
  - Water treatment and re-injection
  - Crude oil storage
  - Separation
  - Pipeline pumping
  - Storage
  - Refining
  - DOF (digital oil field)

#### Use

- Pumps:
  - Submersible
  - Hydraulic
  - Pipeline
  - Reverse flow
  - Water injection
  - Kerosene
- Regasification compressors
- Refining:
  - Fans
  - Compressors



#### Mining, minerals & metals applications

- Flotation and thickening
- Rinsing and filtration
- Mine shaft pumping
- Preheater fan
- Waste gas evacuation
- Cooling fan
- Separator for vertical roller mill
- Storage and loading
- Water supply
- Pumping
- Drying fans

#### Use

- Conveyors
- Grinders
- Mixers
- Pumps
- Crushers
- Kiln drives for cement industry
- Tunnel boring machines



#### Consumer packaged goods (CPG)

- Pumping
- Drying fans

#### Use

- Conveyors
- Mixers
- Centrifuges
- Pumps
- Extruders



Cooling system with two separate air flows

### General presentation of the offer

Altivar Process drives can help improve equipment performance and reduce operating costs by optimizing energy consumption and user comfort.

Altivar Process drives provide a wide range of integrated functions, such as:

- Safety and automation functions that meet the requirements of some of the most demanding applications
- Various optional communication modules available for seamless integration into the main automation architectures
- Numerous configurable I/O as standard to facilitate adaptation to specific applications
- Intuitive commissioning using the graphic display terminal
- Local and remote access and monitoring using the embedded Web server
- Energy savings and protection of the grid by means of integrated harmonic filters
- Installation EMC conformity by means of integrated EMC filters

Depending on the power range, Altivar Process is available with several mounting types, protection ratings, and cooling concepts for building air-cooled solutions, as well as liquid-cooled solutions in higher power ranges:

- Wall-mounting IP20/21/UL Type 1 from 0.75 to 315 kW/1 to 500 HP, ready-to-use for easy integration inside or without an enclosure in an electrical room
- Wall-mounting IP55 from 0.75 to 90 kW/1 HP to 125 HP, ready-to-use for easy integration in harsh environments and installations close to the system to reduce the length of the motor cable. The wall-mounting IP55 offer is available with and without a disconnect switch.
- Floor-standing IP21 and IP54 from 110 to 315 kW, ready-to-use in high-power ranges with minimum dimensions for easy, optimized integration in an electrical room in a standard or harsh environment
- Floor-standing IP23 and IP54 from 110 to 800 kW, fully customizable by configuration tool, ready-to-use. Up to 2600 kW available as Engineered Drive System variant.
- Cabinet integration from 75 to 2600 kW/125 to 2600 HP, designed for easy and cost-effective integration of power-intensive drives into cabinets
- Cabinet integration IP20 from 0.75 to 90 kW/1 to 125 HP, for easy and cost-effective drive configuration inside enclosures

### Cabinet integration

Get more than just a drive with the Altivar Process Modular offer for cabinet integration:

- Standardized and cost-effective integration with power rating through module paralleling up to 2600 kW/2600 HP
- Integrated category C3 EMC filter
- Reduced harmonics with integrated line choke for standard drives and less than 3% THDi for Low Harmonic (LH) drives
- Integrated highly efficient motor filter reducing the risk of motor winding insulation aging and motor damage even for longer motor cables
- Ready-to-connect line supply terminals on top and motor terminals at the bottom
- Reduced downtime of assets thanks to easily changeable electric core components such as power module with wheel (for standard drives) and power fan (for LH and standard drives) inside a drawer accessible from the front face

### Enclosed high-power drive solutions

The floor-standing IP21/IP54 fully customizable turnkey drive offers integrate:

- Drive power and control modules
- Semiconductor protection fuses
- Line chokes to limit THDi levels
- A filter to help protect the motor against the effects of dv/dt
- Accessible busbars to simplify the motor wiring and power wiring

The IP54 variant features additional equipment, such as:

- A main switch with external handle
- A system for separating the cooling air flow between the power and control sections, allowing operation in a highly polluted environment as well as optimum management of thermal stress in the plant room

Altivar Process drives can be supplied as Engineered Drive System variants from 75 to 2600 kW/125 to 2600 HP, developed by Schneider Electric based on customer specifications. Engineered drives are available as standard with THDi level < 48% and as a Low Harmonic solution with THDi level < 3%.



ATV630D45Y6 equipped with IP20/UL Type 1 wall-mounting kit

### General presentation of the offer (continued)

#### Rugged

Altivar Process drives are designed to adapt to the harshest environments.

- Ambient operating temperature
- Wall-mounting drives:
  - IP20/21: up to 160 kW/250 HP, -15...+50 °C/5...122 °F as standard, up to 60 °C/140 °F with derating; above 160 kW/250 HP, -10...+40 °C/14...104 °F as standard, up to 60 °C/140 °F with derating
  - IP55: -15...+40 °C/5...104 °F as standard, up to 50 °C/122 °F with derating
- Floor-standing IP21/IP23/IP54 and cabinet integration drives:
  - 0...40 °C/32...104 °F as standard
  - 40...50 °C/104...122 °F with derating
- Relative humidity without condensing: 5...95%
- Storage and transport temperature: -40...+70 °C/-40...+158 °F
- Operating altitude:
  - 0...1,000 m/0...3,281 ft without derating
  - 1,000...4,800 m/3,281...15,700 ft with derating of 1% per 100 m/328 ft (1)
- Withstand to harsh environments:
  - Chemical class 3C3 conforming to IEC/EN 60721-3-3 (2)
  - Mechanical class 3S3 conforming to IEC/EN 60721-3-3 (2)
  - Printed circuit boards with protective coating
- Protection to suit requirements:
  - IP00 for mounting in an enclosure, depending on the model
  - IP20/21/UL type 1 for wall mounting in a plant room and in an enclosure
  - IP55 for wall mounting, with protection against dust and water jets
  - Floor-standing IP21 or IP23
  - Floor-standing IP54, with protection against dust and water jets
  - Engineered Drive System variants up to IP66

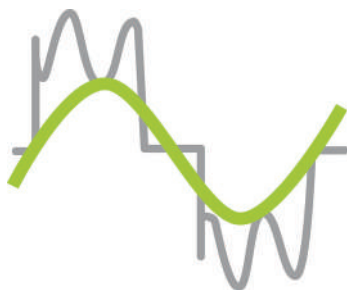
A large number of external options can be combined with the Altivar 600:

- Line chokes and passive filters (see [page 2/41](#))
- Additional EMC input filters for reducing conducted emissions on the line (see [page 2/38](#))
- Dv/dt filters and sinus filters for long cable runs or to remove the need for shielding (see [page 2/42](#))
- Mounting options: The Altivar 600 drive can be mounted in a variety of ways to adapt to the various needs of an installation:
  - Mounting without an enclosure: The Altivar 600 drive can be mounted directly on a wall without having to be installed inside an enclosure. IP20/21 UL Type 1 conformity can be achieved by using kits, for drives above 110 kW/150 HP at 380...480 V and for drives from 2.2 to 90 kW/3 to 125 HP at a 690 V supply voltage (see [page 2/12](#)).
  - Optimized enclosures: A patented flange mounting kit is used to remove the heat generated by the power unit outside the enclosure when the variable speed drive is integrated in a cabinet (see [page 2/13](#)).

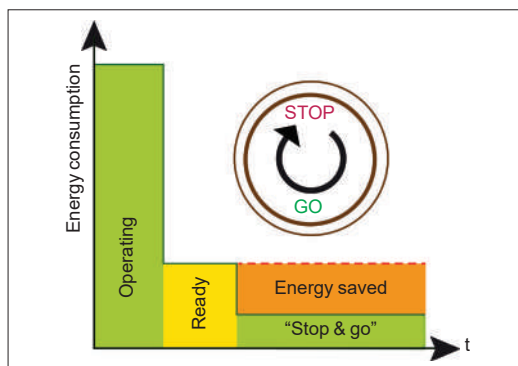
(1) ATV630U22Y6...D90Y6 drives with 500...690 V supply can operate at a maximum of 2,000 m (6,560 ft) altitude.

(2) Altivar Process ATV630C22N4...C31N4 drives are certified as chemical class 3C2 and mechanical class 3S2 conforming to IEC/EN 60721.

**THDi ≤ 48% for 80...100% load**  
with Altivar Process



Altivar Process drive THDi



"Stop &amp; go" function

### General presentation of the offer (continued)

#### Energy

Altivar Process drives help to optimize power consumption by reducing the rms input current for the same load.

- Standard offer:
  - THDi ≤ 48% for 80 to 100% load, which is used to maintain an optimum power factor on the most common operating range
  - Embedded low harmonic DC choke technology complying with standard IEC 61000-3-12 for the 380...480 V offer
  - Embedded line choke for Altivar Process Modular and floor-standing drive solutions
- Passive filter options
  - Low Harmonic offer compatible with standard IEEE 519

In addition, thanks to the "stop & go" function, Altivar Process drives can reduce power consumption by up to 30% during system stop phases by disabling some functions automatically (the power section, fans, backlighting, etc.). On a system restart request, the Altivar Process drive takes less than 2 seconds to restart the motor.

Integrated as standard, the "stop & go" function can be enabled and disabled in the drive parameters.

#### Environment

The Altivar Process drives offer has been developed to meet the requirements of directives regarding protection of the environment and to anticipate future changes in regulations:

- RoHS-2 (1)
- REACH (2) + solution for REACH Substitute It Now (halogen-free wiring and plastics)
- PEP (Product Environmental Profile) eco-passport program for reducing the carbon footprint and conserving raw materials
- EoLI (end-of-life instruction) (3)
- More than 70% recyclable materials (new ruling)
- Efficient energy management: 30% reduction in consumption

#### Electromagnetic compatibility (EMC)

Compliance with electromagnetic compatibility requirements has been incorporated into the design of Altivar Process Modular drives, which simplifies installation and provides an economical means of helping to ensure equipment meets CE marking requirements.

Altivar Process drives have a category C2 or C3 EMC filter, except ATV630U07M3...D75M3 models, which can take an additional filter to meet more stringent requirements (see [page 2/38](#)).

Altivar Process Modular drives have category C3 EMC filters that allow 300 m/980 ft of shielded motor cables.

(1) European directive 2002/95/EC Restriction of Hazardous Substances

(2) European regulation 1907/2006

(3) According to IEC 62635 Enhanced Guidelines

### General presentation of the offer (continued)

#### Installation/Maintenance

Altivar Process drives are ergonomically designed to adapt to any type of installation:

- Products, systems, or integrated in iMCC
- IP00, IP20/21 UL Type 1, IP55, IP54
- IP00 modules that can be integrated in cabinets with a protection rating up to IP66 as a standard integration
- Easy installation of products and systems:
  - Cable entry equipped with Romex cable clamps to maintain an EMC connection for the power and control cable (optional for 500...690 V drives)
  - Color code for connections to the removable terminal blocks on the HMI block
  - Long cable for wall mounting: Up to 150 m/492 ft with category C3 EMC filter at 380...480 V
  - Long cable for Altivar Process Modular and floor-standing offer: Highly efficient integrated motor filters for dv/dt and common mode reduction and voltage peak limitation allow motor cable lengths of up to 300 m/980 ft with shielded cable (category C3 environment) and 500 m/1,640 ft with unshielded cable (category C4 environment)
- Asynchronous or synchronous drive in open loop for 0.1...500 Hz output frequency
- Special motors: Submersible and tapered rotor motors
- Lower maintenance costs due to drive's ergonomic design:
  - Fans can be replaced in less than 5 minutes
  - No maintenance tool required
  - Limited number of parts
- Embedded Web server:
  - Compatible process elements for easier implementation
  - Direct worldwide access to monitoring and maintenance functions:
    - Reading values
    - Modifying data
    - Configuring parameters
    - Changing controller status

### Integrated functions

Altivar Process drives include numerous advanced functions for the more complex applications in each market segment.

#### Advanced functions

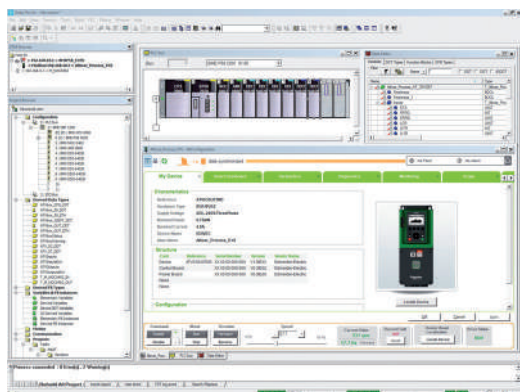
- Accurate measurement for monitoring system energy consumption (deviation < 5%)
- Installation energy drift detection
- Embedded Ethernet with direct access to system configuration and monitoring
- Integration of actual pump curves to optimize the system operating point
- Optimized pump monitoring based on actual operating point
- Sensorless estimated flow rate
- Measurements expressed in working units (e.g. m<sup>3</sup>/h, kWh/m<sup>3</sup>)
- Limitation of overvoltage at the motor terminals
- Contextual access to technical documentation through dynamic QR code
- Continuous and historical real-time measurements with customizable dashboards
- Predictive and preventive maintenance tracking functions (e.g. temperature with PT100/1000 probe, fan monitoring)

#### Power measurement function

Altivar Process drives integrate a power measurement function accurate to within 5%, based on measurement of the motor voltage and the power supply:

- Process drift detection for installation reliability throughout its entire service life
- Useful system performance information provided by comparing the energy used with the energy produced:
- Typical KPIs:
  - Specific energy consumption
  - kWh/m<sup>3</sup>
  - kWh/mWc/m<sup>3</sup>

Users are therefore able to monitor and analyze input power, energy produced, and the KPIs directly from the drive or from the process management system.



Altivar Process DTM in EcoStruxure Control Expert

#### Safety and monitoring functions

The Safety function STO and numerous monitoring functions are provided to help protect personnel and equipment.

- Advantages:
  - Time savings in terms of installation design and compliance
  - Fewer components and cables
  - Optimum space
  - Simplified setup of machines
  - Improved maintenance performance; limited machine intervention time and installation downtime
  - Optimized conditions for maintenance operations
- Conformity to standards EN/IEC 61508, EN/ISO 13849, and IEC 61800-5-2
- Integrated STO (Safe Torque Off) function, SIL3/Plc
- Monitoring function to help protect against premature wear:
  - Monitoring of pumping cycles
  - Start-stop of centrifugal pumps
  - Monitoring of start cycles (number of starts per hour)
  - Monitoring function to help protect against water hammer
  - Cleaning of pumps by reversing the flow (anti-clogging)

### Integration

#### Communication protocols

- Modbus/TCP, EtherNet/IP, and Modbus serial link:
  - Standard Modbus and Ethernet protocols
  - Connection of configuration and runtime tools
  - Control and supervision of the Altivar Process in process architectures (controllers, SCADA systems, HMIs, etc.) in industrial networks (read/write data)
  - Diagnostic, supervision, and fieldbus management functions
- Ethernet services:
  - SNMP, SNTP, BootP & DHCP, IP v6, cybersecurity services, FDR
  - Open Ethernet topologies

#### Integration of configuration and runtime tools

- FDT/DTM technology (see [page 2/17](#)):
  - Drive configuration, diagnostics, and control using EcoStruxure Control Expert

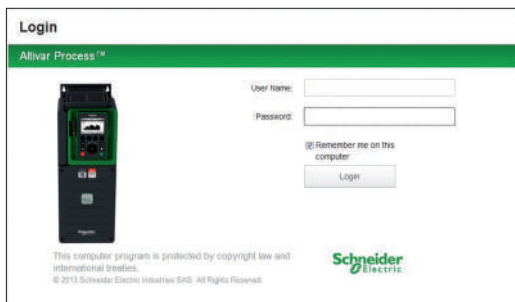
### Configuration and runtime tools

- Graphic display terminal (see [page 2/14](#)):
  - Drive control, adjustment, and configuration
  - Display of current values (motor, I/O, etc.)
  - Configuration storage and download
  - Duplication of one drive configuration on another drive from a PC or another drive
  - Remote use by means of appropriate accessories (see [page 2/15](#))
  - Connection to several drives using multidrop link components (see [page 2/15](#))
- Embedded Web server (see [page 2/16](#)):
  - Easily accessible from any PC, iPhone, iPad, Android system, and major Web browsers
  - Network diagnostics in real time
  - Read/write values
- SoMove software (see [page 2/17](#)):
  - Advanced functions for configuration, setup, and maintenance of Altivar Process drives

### Integrated services

Altivar Process drives feature integrated services to achieve optimum time savings:

- Simplified communication:
  - Ethernet port with embedded Web server
- Energy management (integrated power measurement)
- Dynamic predictive maintenance
- 3 QR codes:
  - Access to the Customer Care Center application and product data sheet
  - Direct access to description of the functions
  - QR code generated in the event of a detected error (red screen): Identification of the detected error, probable causes, and remedies



Embedded Web server login screen

### Altivar Process ATV600 variable speed drives

|                                                                                       |           |
|---------------------------------------------------------------------------------------|-----------|
| ■ Altivar Process variable speed drives presentation .....                            | page 2/2  |
| ■ 200...240 V 50/60 Hz wall-mounting drives.....                                      | page 2/4  |
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### Options

|                                          |           |
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### Motor starters

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### Dimensions

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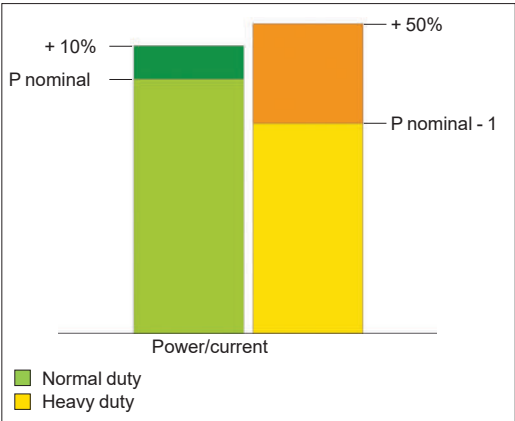
ATV630...N4F, ATV630...M3, ATV630...Y6, ATV650...N4, ATV650...N4E

Extensive offer

The Altivar Process wall-mounting and floor-standing products cover motor power ratings from 0.75...315 kW/1...500 HP for three-phase voltages between 200...240 V, 380...480 V, and 500...690 V.

| Three-phase power supply   | Motor power                     | Degree of protection | Reference                 |
|----------------------------|---------------------------------|----------------------|---------------------------|
| 200...240 V<br>(-15...10%) | 0.75 kW...75 kW<br>1...100 HP   | IP21 UL Type 1       | ATV630U07M3...D75M3       |
| 380...480 V<br>(-15...10%) | 0.75 kW...315 kW<br>1...500 HP  | IP21 UL Type 1       | ATV630U07N4...C31N4       |
|                            |                                 | IP55                 | ATV650U07N4...D90N4       |
|                            |                                 | IP55                 | ATV650U07N4E...D90N4E (1) |
| 380...440 V<br>(-15...10%) | 110 kW...315 kW<br>150...500 HP | IP21                 | ATV630C11N4F...C31N4F     |
|                            |                                 | IP54                 | ATV650C11N4F...C31N4F     |
| 500...690 V<br>(-15...10%) | 2.2...90 kW<br>3...125 HP       | IP20 UL Type 1       | ATV630U22Y6...D90Y6       |

(1) Integrated with disconnect switch.



Normal duty and Heavy duty modes

Altivar Process variable speed drives are designed for use in two operating modes that can optimize the drive nominal rating according to the system constraints.

These two modes are:

- Normal duty (ND): Dedicated mode for applications requiring a slight overload (up to 110%) with a motor power no higher than the drive nominal power
- Heavy duty (HD): Dedicated mode for applications requiring a significant overload (up to 150%) with a motor power no higher than the drive nominal power derated by one rating

### Accessories and options

Altivar Process drives are designed to take numerous accessories and options to increase their functionality and also their capacity for integration and adaptation.

#### Accessories

- Drive:
- Fan kit (see [page 2/12](#))
- Graphic display terminal:
- Remote mounting kit for mounting on enclosure door (see [page 2/15](#))
- Multidrop connection accessories for connecting several drives to the RJ45 terminal port (see [page 2/15](#))

#### Options

- Modules (see [page 2/23](#)):
- Extended I/O module:
  - 2 analog inputs
  - 6 digital inputs
  - 2 digital outputs
- Extended relay module:
  - 3 NO contacts
- Communication:
  - EtherNet/IP and Modbus TCP dual port
  - CANopen bus: RJ45 daisy chain, SUB-D, 5-way screw terminals
  - PROFINET bus
  - Profibus DP V1 bus
  - DeviceNet bus
  - BACnet MS/TP
- Passive filters (see [page 2/33](#))
- Additional EMC input filters for reducing conducted emissions on the line (see [page 2/38](#))
- Output filters:
  - dv/dt filters (see [page 2/42](#))
  - Sinus filters (see [page 2/45](#))

#### Motor starters

Schneider Electric offers combinations of circuit breakers and contactors to be able to use Altivar Process drives in optimum conditions (see [page 2/49](#)).

## Variable speed drives

Altivar Process ATV600

Three-phase supply voltage: 200...240 V 50/60 Hz

Wall-mounting drives

2



ATV630D11M3



ATV630D15M3



ATV630D30M3



ATV630D75M3

200...240 V (-15...10%) IP21/UL Type 1 drives <sup>(1)</sup>

| Motor                                      |                |     | Line supply      |                 |                |                                          | Altivar Process                |                                 |                 |                |
|--------------------------------------------|----------------|-----|------------------|-----------------|----------------|------------------------------------------|--------------------------------|---------------------------------|-----------------|----------------|
| Power indicated on rating plate (2)        |                |     | Line current (3) |                 | Apparent power | Maximum prospective line I <sub>sc</sub> | Maximum continuous current (2) | Max. transient current for 60 s | Reference (1)   | Weight         |
|                                            |                |     | 200 V            | 240 V           |                |                                          |                                |                                 |                 |                |
|                                            |                |     | ND:              | Normal duty (4) |                |                                          |                                |                                 |                 |                |
| HD:                                        | Heavy duty (5) |     |                  |                 |                |                                          |                                |                                 |                 |                |
| kW                                         | HP             | A   | A                | kVA             | kA             | A                                        | A                              |                                 | kg/lb           |                |
| THDi ≤ 44% at 100% load in Normal duty (4) |                |     |                  |                 |                |                                          |                                |                                 |                 |                |
| ND                                         | 0.75           | 1   | 3                | 2.6             | 1.1            | 50                                       | 4.6                            | 5.1                             | ATV630U07M3     | 4.300/9.480    |
| HD                                         | 0.37           | 0.5 | 1.7              | 1.5             | 0.6            | 50                                       | 3.3                            | 5                               |                 |                |
| ND                                         | 1.5            | 2   | 5.9              | 5               | 2.1            | 50                                       | 8                              | 8.8                             | ATV630U15M3     | 4.300/9.480    |
| HD                                         | 0.75           | 1   | 3.3              | 3               | 1.2            | 50                                       | 4.6                            | 6.9                             |                 |                |
| ND                                         | 2.2            | 3   | 8.4              | 7.2             | 3              | 50                                       | 11.2                           | 12.3                            | ATV630U22M3     | 4.500/9.921    |
| HD                                         | 1.5            | 2   | 6                | 5.3             | 2.2            | 50                                       | 8                              | 12                              |                 |                |
| ND                                         | 3              | —   | 11.5             | 9.9             | 4.1            | 50                                       | 13.7                           | 15.1                            | ATV630U30M3     | 4.500/9.921    |
| HD                                         | 2.2            | 3   | 8.7              | 7.6             | 3.2            | 50                                       | 11.2                           | 16.8                            |                 |                |
| ND                                         | 4              | 5   | 15.1             | 12.9            | 5.4            | 50                                       | 18.7                           | 20.6                            | ATV630U40M3     | 4.600/10.141   |
| HD                                         | 3              | —   | 11.7             | 10.2            | 4.2            | 50                                       | 13.7                           | 20.6                            |                 |                |
| ND                                         | 5.5            | 7.5 | 20.2             | 17.1            | 7.1            | 50                                       | 25.4                           | 27.9                            | ATV630U55M3     | 7.700/16.976   |
| HD                                         | 4              | 5   | 15.1             | 13              | 5.4            | 50                                       | 18.7                           | 28.1                            |                 |                |
| ND                                         | 7.5            | 10  | 27.1             | 22.8            | 9.5            | 50                                       | 32.7                           | 36                              | ATV630U75M3     | 13.800/30.424  |
| HD                                         | 5.5            | 7.5 | 20.2             | 17.1            | 7.1            | 50                                       | 25.4                           | 38.1                            |                 |                |
| ND                                         | 11             | 15  | 39.3             | 32.9            | 13.7           | 50                                       | 46.8                           | 51.5                            | ATV630D11M3     | 13.800/30.424  |
| HD                                         | 7.5            | 10  | 27.2             | 23.1            | 9.6            | 50                                       | 32.7                           | 49.1                            |                 |                |
| ND                                         | 15             | 20  | 52.6             | 45.5            | 18.9           | 50                                       | 63.4                           | 69.7                            | ATV630D15M3     | 27.300/60.186  |
| HD                                         | 11             | 15  | 40.1             | 34.3            | 14.3           | 50                                       | 46.8                           | 70.2                            |                 |                |
| ND                                         | 18.5           | 25  | 66.7             | 54.5            | 22.7           | 50                                       | 78.4                           | 86.2                            | ATV630D18M3     | 27.300/60.186  |
| HD                                         | 15             | 20  | 53.1             | 44.9            | 18.7           | 50                                       | 63.4                           | 95.1                            |                 |                |
| ND                                         | 22             | 30  | 76.0             | 64.3            | 26.7           | 50                                       | 92.6                           | 101.9                           | ATV630D22M3     | 27.300/60.186  |
| HD                                         | 18.5           | 25  | 64.8             | 54.5            | 22.7           | 50                                       | 78.4                           | 117.6                           |                 |                |
| ND                                         | 30             | 40  | 104.7            | 88.6            | 36.8           | 50                                       | 123                            | 135.3                           | ATV630D30M3     | 56.600/124.781 |
| HD                                         | 22             | 30  | 78.3             | 67.1            | 27.9           | 50                                       | 92.6                           | 138.9                           |                 |                |
| ND                                         | 37             | 50  | 128.0            | 107.8           | 44.8           | 50                                       | 149                            | 163.9                           | ATV630D37M3     | 56.600/124.781 |
| HD                                         | 30             | 40  | 104.7            | 88.6            | 36.8           | 50                                       | 123                            | 184.5                           |                 |                |
| ND                                         | 45             | 60  | 155.1            | 130.4           | 54.2           | 50                                       | 176                            | 193.6                           | ATV630D45M3     | 56.600/124.781 |
| HD                                         | 37             | 50  | 128.5            | 108.5           | 45.1           | 50                                       | 149                            | 223.5                           |                 |                |
| ND                                         | 55             | 75  | 189              | 161             | 61.1           | 50                                       | 211                            | 232.1                           | ATV630D55M3 (6) | 84.000/185.188 |
| HD                                         | 45             | 60  | 156              | 134             | 50             | 50                                       | 176                            | 264                             |                 |                |
| ND                                         | 75             | 100 | 256              | 215             | 83.7           | 50                                       | 282                            | 310.2                           | ATV630D75M3 (6) | 84.000/185.188 |
| HD                                         | 55             | 75  | 189              | 161             | 61.1           | 50                                       | 211                            | 316.5                           |                 |                |

(1) Altivar Process **ATV630U07M3...D75M3** drives have been designed without an EMC filter. An additional filter can be added to help meet more stringent requirements and reduce electromagnetic emissions.

(2) These values are given for a nominal switching frequency of 4 kHz up to **ATV630D22M3** or 2.5 kHz for **ATV630D30M3...D75M3**, for use in continuous operation.

The switching frequency is adjustable from 2...12 kHz for all ratings.

Above 2.5 or 4 kHz (depending on the rating), the drive will automatically reduce the switching frequency in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see the derating curves in the [Installation Manual](#)).

(3) Typical value for the indicated motor power and for the maximum prospective line I<sub>sc</sub>.

(4) Values given for applications requiring a slight overload (up to 110%).

(5) Values given for applications requiring a significant overload (up to 150%).

(6) Product supplied as IP00 for mounting in an enclosure. For IP21 wall mounting, order the IP21/UL Type 1 conformity kit VW3A9704 separately.

**Note:** Consult the summary tables of possible drive, option, and accessory combinations (see [page 2/18](#)).

## Variable speed drives

Altivar Process ATV600

Three-phase supply voltage: 380...480 V 50/60 Hz

Wall-mounting drives



ATV630D15N4



ATV630D30N4

## 380...480 V (-15...10%) IP21/UL Type 1 drives

| Motor                                  | Line supply      |       |                         |                              | Altivar Process             |                                 |               |        |
|----------------------------------------|------------------|-------|-------------------------|------------------------------|-----------------------------|---------------------------------|---------------|--------|
|                                        | Line current (2) |       | Apparent power<br>380 V | Maximum prospective line Isc | Max. continuous current (1) | Max. transient current for 60 s | Reference (5) | Weight |
|                                        | 380 V            | 480 V |                         |                              |                             |                                 |               |        |
| ND: Normal duty (3)                    |                  |       |                         |                              |                             |                                 |               |        |
| HD: Heavy duty (4)                     |                  |       |                         |                              |                             |                                 |               |        |
|                                        | kW               | HP    | A                       | A                            | kVA                         | kA                              | A             | A      |
|                                        |                  |       |                         |                              |                             |                                 |               | kg/lb  |
| With category C2 integrated EMC filter |                  |       |                         |                              |                             |                                 |               |        |
| ND                                     | 0.75             | 1     | 1.5                     | 1.3                          | 1.1                         | 50                              | 2.2           | 2.4    |
| HD                                     | 0.37             | 0.5   | 0.9                     | 0.8                          | 0.7                         | 50                              | 1.5           | 2.3    |
| ND                                     | 1.5              | 2     | 3                       | 2.6                          | 2.2                         | 50                              | 4             | 4.4    |
| HD                                     | 0.75             | 1     | 1.7                     | 1.5                          | 1.2                         | 50                              | 2.2           | 3.3    |
| ND                                     | 2.2              | 3     | 4.3                     | 3.8                          | 3.2                         | 50                              | 5.6           | 6.2    |
| HD                                     | 1.5              | 2     | 3.1                     | 2.9                          | 2.4                         | 50                              | 4             | 6      |
| ND                                     | 3                | —     | 5.8                     | 5.1                          | 4.2                         | 50                              | 7.2           | 7.9    |
| HD                                     | 2.2              | 3     | 4.5                     | 4                            | 3.3                         | 50                              | 5.6           | 8.4    |
| ND                                     | 4                | 5     | 7.6                     | 6.7                          | 5.6                         | 50                              | 9.3           | 10.2   |
| HD                                     | 3                | —     | 6                       | 5.4                          | 4.5                         | 50                              | 7.2           | 10.8   |
| ND                                     | 5.5              | 7.5   | 10.4                    | 9.1                          | 7.6                         | 50                              | 12.7          | 14     |
| HD                                     | 4                | 5     | 8                       | 7.2                          | 6.0                         | 50                              | 9.3           | 14     |
| ND                                     | 7.5              | 10    | 13.8                    | 11.9                         | 9.9                         | 50                              | 16.5          | 18.2   |
| HD                                     | 5.5              | 7.5   | 10.5                    | 9.2                          | 7.6                         | 50                              | 12.7          | 19.1   |
| ND                                     | 11               | 15    | 19.8                    | 17                           | 14.1                        | 50                              | 23.5          | 25.9   |
| HD                                     | 7.5              | 10    | 14.1                    | 12.5                         | 10.4                        | 50                              | 16.5          | 24.8   |
| ND                                     | 15               | 20    | 27                      | 23.3                         | 19.4                        | 50                              | 31.7          | 34.9   |
| HD                                     | 11               | 15    | 20.6                    | 18.1                         | 15.0                        | 50                              | 23.5          | 35.3   |
| ND                                     | 18.5             | 25    | 33.4                    | 28.9                         | 24                          | 50                              | 39.2          | 43.1   |
| HD                                     | 15               | 20    | 27.7                    | 24.4                         | 20.3                        | 50                              | 31.7          | 47.6   |
| ND                                     | 22               | 30    | 39.6                    | 34.4                         | 28.6                        | 50                              | 46.3          | 50.9   |
| HD                                     | 18.5             | 25    | 34.1                    | 29.9                         | 24.9                        | 50                              | 39.2          | 58.8   |
| ND                                     | 30               | 40    | 53.3                    | 45.9                         | 38.2                        | 50                              | 61.5          | 67.7   |
| HD                                     | 22               | 30    | 40.5                    | 35.8                         | 29.8                        | 50                              | 46.3          | 69.5   |
| ND                                     | 37               | 50    | 66.2                    | 57.3                         | 47.6                        | 50                              | 74.5          | 82     |
| HD                                     | 30               | 40    | 54.8                    | 48.3                         | 40.2                        | 50                              | 61.5          | 92.3   |
| ND                                     | 45               | 60    | 79.8                    | 69.1                         | 57.4                        | 50                              | 88            | 96.8   |
| HD                                     | 37               | 50    | 67.1                    | 59.0                         | 49.1                        | 50                              | 74.5          | 111.8  |

(1) These values are given for use in continuous operation with a nominal switching frequency of 4 kHz (ATV630U07N4...D45N4).

The switching frequency is adjustable from 2...12 kHz (ATV630U07N4...D45N4).

Above the nominal switching frequency, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, nominal drive current should be derated according to the derating curves in the [Installation Manual](#).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) Values given for applications requiring a slight overload (up to 110%).

(4) Values given for applications requiring a significant overload (up to 150%).

(5) For ATV630...N4Z cabinet integration products, see pages 3/6 and 3/7 in the cabinet integration section.

Note: Consult the summary tables of possible drive, option, and accessory combinations (see [page 2/18](#)).

## Variable speed drives

## Altivar Process ATV600

Three-phase supply voltage: 380...480 V 50/60 Hz

Wall-mounting drives

2



ATV630D55N4



ATV630C25N4

## 380...480 V (-15...10%) IP21/UL Type 1 drives

| Motor                                  |                 |     | Line supply      |       |                |                              | Altivar Process             |                                 |                 |                 |
|----------------------------------------|-----------------|-----|------------------|-------|----------------|------------------------------|-----------------------------|---------------------------------|-----------------|-----------------|
| Power indicated on rating plate (1)    |                 |     | Line current (2) |       | Apparent power | Maximum prospective line Isc | Max. continuous current (1) | Max. transient current for 60 s | Reference (5)   | Weight          |
|                                        |                 |     | 380 V            | 480 V | 380 V          |                              |                             |                                 |                 |                 |
| ND:                                    | Normal duty (3) |     |                  |       |                |                              |                             |                                 |                 |                 |
| HD:                                    | Heavy duty (4)  |     |                  |       |                |                              |                             |                                 |                 |                 |
| kW                                     | HP              |     | A                | A     | kVA            | kA                           | A                           | A                               |                 | kg/lb           |
| With category C3 integrated EMC filter |                 |     |                  |       |                |                              |                             |                                 |                 |                 |
| ND                                     | 55              | 75  | 97.2             | 84.2  | 70             | 50                           | 106                         | 116.6                           | ATV630D55N4     | 56.500/124.561  |
| HD                                     | 45              | 60  | 81.4             | 71.8  | 59.7           | 50                           | 88                          | 132                             |                 |                 |
| ND                                     | 75              | 100 | 131.3            | 112.7 | 93.7           | 50                           | 145                         | 159.5                           | ATV630D75N4     | 58.000/127.868  |
| HD                                     | 55              | 75  | 98.9             | 86.9  | 72.2           | 50                           | 106                         | 159                             |                 |                 |
| ND                                     | 90              | 125 | 156.2            | 135.8 | 112.9          | 50                           | 173                         | 190.3                           | ATV630D90N4     | 58.500/128.970  |
| HD                                     | 75              | 100 | 134.3            | 118.1 | 98.2           | 50                           | 145                         | 217.5                           |                 |                 |
| ND                                     | 110             | 150 | 201              | 165   | 121.8          | 50                           | 211                         | 232.1                           | ATV630C11N4 (6) | 82.000/180.779  |
| HD                                     | 90              | 125 | 170              | 143   | 102.6          | 50                           | 173                         | 259.5                           |                 |                 |
| ND                                     | 132             | 200 | 237              | 213   | 161.4          | 50                           | 250                         | 275                             | ATV630C13N4 (6) | 82.000/180.779  |
| HD                                     | 110             | 150 | 201              | 165   | 121.8          | 50                           | 211                         | 317                             |                 |                 |
| ND                                     | 160             | 250 | 284              | 262   | 201.3          | 50                           | 302                         | 332.2                           | ATV630C16N4 (6) | 82.000/180.779  |
| HD                                     | 132             | 200 | 237              | 213   | 161.4          | 50                           | 250                         | 375                             |                 |                 |
| ND                                     | 220             | 350 | 397              | 324   | 247            | 50                           | 427                         | 470                             | ATV630C22N4 (6) | 163.000/359.353 |
| HD                                     | 160             | 250 | 296              | 246   | 187            | 50                           | 302                         | 453                             |                 |                 |
| ND                                     | 250             | 400 | 451              | 366   | 279            | 50                           | 481                         | 529                             | ATV630C25N4 (6) | 207.000/456.357 |
| HD                                     | 220             | 300 | 365              | 301   | 229            | 50                           | 387                         | 581                             |                 |                 |
| ND                                     | 315             | 500 | 569              | 461   | 351            | 50                           | 616                         | 678                             | ATV630C31N4 (6) | 207.000/456.357 |
| HD                                     | 250             | 400 | 457              | 375   | 286            | 50                           | 481                         | 722                             |                 |                 |

(1) These values are given for use in continuous operation with a nominal switching frequency of 2.5 kHz (ATV630D55N4...C31N4).

The switching frequency is adjustable from 2...8 kHz (ATV630D55N4...C31N4).

Above the nominal switching frequency, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, nominal drive current should be derated according to the derating curves in the [Installation Manual](#).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) Values given for applications requiring a slight overload (up to 110%).

(4) Values given for applications requiring a significant overload (up to 150%).

(5) For ATV630...N4Z cabinet integration products, see pages 3/6 and 3/7 in the cabinet integration section.

(6) Product supplied as IP00 for mounting in an enclosure. For IP21/UL Type1 wall mounting, an adaptation kit should be ordered separately (see [page 2/13](#)).

Note: Consult the summary tables of possible drive, option, and accessory combinations (see [page 2/18](#)).

## Variable speed drives

Altivar Process ATV600

Three-phase supply voltage: 380...480 V 50/60 Hz

Wall-mounting drives



ATV650D15N4



ATV650D30N4



ATV650D55N4

| 380...480 V (-15...10%) IP55 drives with category C2 or C3 integrated EMC filter <sup>(1)</sup> |                            |     |                             |       |                |                              |                                           |                                 |                          |                    |  |  |  |  |
|-------------------------------------------------------------------------------------------------|----------------------------|-----|-----------------------------|-------|----------------|------------------------------|-------------------------------------------|---------------------------------|--------------------------|--------------------|--|--|--|--|
| Motor                                                                                           |                            |     | Line supply                 |       |                |                              | Altivar Process                           |                                 |                          |                    |  |  |  |  |
| Power indicated on rating plate <sup>(2)</sup>                                                  |                            |     | Line current <sup>(3)</sup> |       | Apparent power | Maximum prospective line Isc | Maximum continuous current <sup>(2)</sup> | Max. transient current for 60 s | Reference <sup>(6)</sup> | Weight             |  |  |  |  |
|                                                                                                 |                            |     | 380 V                       | 480 V | 380 V          |                              |                                           |                                 |                          |                    |  |  |  |  |
| ND:                                                                                             | Normal duty <sup>(4)</sup> |     |                             |       |                |                              |                                           |                                 |                          |                    |  |  |  |  |
| HD:                                                                                             | Heavy duty <sup>(5)</sup>  |     |                             |       |                |                              |                                           |                                 |                          |                    |  |  |  |  |
|                                                                                                 | kW                         | HP  | A                           | A     | kVA            | kA                           | A                                         | A                               |                          | kg<br>lb           |  |  |  |  |
| THDi ≤ 44% at 100% load in Normal duty <sup>(4)</sup>                                           |                            |     |                             |       |                |                              |                                           |                                 |                          |                    |  |  |  |  |
| ND                                                                                              | 0.75                       | 1   | 1.5                         | 1.3   | 1.1            | 50                           | 2.2                                       | 2.4                             | ATV650U07N4              | 10.500/<br>23.149  |  |  |  |  |
| HD                                                                                              | 0.37                       | 0.5 | 0.9                         | 0.8   | 0.7            | 50                           | 1.5                                       | 2.3                             |                          |                    |  |  |  |  |
| ND                                                                                              | 1.5                        | 2   | 3                           | 2.6   | 2.2            | 50                           | 4                                         | 4.4                             | ATV650U15N4              | 10.500/<br>23.149  |  |  |  |  |
| HD                                                                                              | 0.75                       | 1   | 1.7                         | 1.5   | 1.2            | 50                           | 2.2                                       | 3.3                             |                          |                    |  |  |  |  |
| ND                                                                                              | 2.2                        | 3   | 4.3                         | 3.8   | 3.2            | 50                           | 5.6                                       | 6.2                             | ATV650U22N4              | 10.500/<br>23.149  |  |  |  |  |
| HD                                                                                              | 1.5                        | 2   | 3.1                         | 2.9   | 2.4            | 50                           | 4                                         | 6                               |                          |                    |  |  |  |  |
| ND                                                                                              | 3                          | —   | 5.8                         | 5.1   | 4.2            | 50                           | 7.2                                       | 7.9                             | ATV650U30N4              | 10.600/<br>23.369  |  |  |  |  |
| HD                                                                                              | 2.2                        | 3   | 4.5                         | 4     | 3.3            | 50                           | 5.6                                       | 8.4                             |                          |                    |  |  |  |  |
| ND                                                                                              | 4                          | 5   | 7.6                         | 6.7   | 5.6            | 50                           | 9.3                                       | 10.2                            | ATV650U40N4              | 10.600/<br>23.369  |  |  |  |  |
| HD                                                                                              | 3                          | —   | 6                           | 5.4   | 4.5            | 50                           | 7.2                                       | 10.8                            |                          |                    |  |  |  |  |
| ND                                                                                              | 5.5                        | 7.5 | 10.4                        | 9.1   | 7.6            | 50                           | 12.7                                      | 14                              | ATV650U55N4              | 10.700/<br>23.589  |  |  |  |  |
| HD                                                                                              | 4                          | 5   | 8                           | 7.2   | 6.0            | 50                           | 9.3                                       | 14                              |                          |                    |  |  |  |  |
| ND                                                                                              | 7.5                        | 10  | 13.8                        | 11.9  | 9.9            | 50                           | 16.5                                      | 18.2                            | ATV650U75N4              | 13.700/<br>30.203  |  |  |  |  |
| HD                                                                                              | 5.5                        | 7.5 | 10.5                        | 9.2   | 7.6            | 50                           | 12.7                                      | 19.1                            |                          |                    |  |  |  |  |
| ND                                                                                              | 11                         | 15  | 19.8                        | 17    | 14.1           | 50                           | 23.5                                      | 25.9                            | ATV650D11N4              | 13.700/<br>30.203  |  |  |  |  |
| HD                                                                                              | 7.5                        | 10  | 14.1                        | 12.5  | 10.4           | 50                           | 16.5                                      | 24.8                            |                          |                    |  |  |  |  |
| ND                                                                                              | 15                         | 20  | 27                          | 23.3  | 19.4           | 50                           | 31.7                                      | 34.9                            | ATV650D15N4              | 19.600/<br>43.211  |  |  |  |  |
| HD                                                                                              | 11                         | 15  | 20.6                        | 18.1  | 15             | 50                           | 23.5                                      | 35.3                            |                          |                    |  |  |  |  |
| ND                                                                                              | 18.5                       | 25  | 33.4                        | 28.9  | 24             | 50                           | 39.2                                      | 43.1                            | ATV650D18N4              | 20.600/<br>45.415  |  |  |  |  |
| HD                                                                                              | 15                         | 20  | 27.7                        | 24.4  | 20.3           | 50                           | 31.7                                      | 47.6                            |                          |                    |  |  |  |  |
| ND                                                                                              | 22                         | 30  | 39.6                        | 34.4  | 28.6           | 50                           | 46.3                                      | 50.9                            | ATV650D22N4              | 20.600/<br>45.415  |  |  |  |  |
| HD                                                                                              | 18.5                       | 25  | 34.1                        | 29.9  | 24.9           | 50                           | 39.2                                      | 58.8                            |                          |                    |  |  |  |  |
| ND                                                                                              | 30                         | 40  | 53.3                        | 45.9  | 38.2           | 50                           | 61.5                                      | 67.7                            | ATV650D30N4              | 50.000/<br>110.231 |  |  |  |  |
| HD                                                                                              | 22                         | 30  | 40.5                        | 35.8  | 29.8           | 50                           | 46.3                                      | 69.5                            |                          |                    |  |  |  |  |
| ND                                                                                              | 37                         | 50  | 66.2                        | 57.3  | 47.6           | 50                           | 74.5                                      | 82                              | ATV650D37N4              | 50.000/<br>110.231 |  |  |  |  |
| HD                                                                                              | 30                         | 40  | 54.8                        | 48.3  | 40.2           | 50                           | 61.5                                      | 92.3                            |                          |                    |  |  |  |  |
| ND                                                                                              | 45                         | 60  | 79.8                        | 69.1  | 57.4           | 50                           | 88                                        | 96.8                            | ATV650D45N4              | 50.000/<br>110.231 |  |  |  |  |
| HD                                                                                              | 37                         | 50  | 67.1                        | 59    | 49.1           | 50                           | 74.5                                      | 111.8                           |                          |                    |  |  |  |  |
| ND                                                                                              | 55                         | 75  | 97.2                        | 84.2  | 70             | 50                           | 106                                       | 116.6                           | ATV650D55N4              | 87.000/<br>191.802 |  |  |  |  |
| HD                                                                                              | 45                         | 60  | 81.4                        | 71.8  | 59.7           | 50                           | 88                                        | 132                             |                          |                    |  |  |  |  |
| ND                                                                                              | 75                         | 100 | 131.3                       | 112.7 | 93.7           | 50                           | 145                                       | 159.5                           | ATV650D75N4              | 87.000/<br>191.802 |  |  |  |  |
| HD                                                                                              | 55                         | 75  | 98.9                        | 86.9  | 72.2           | 50                           | 106                                       | 159                             |                          |                    |  |  |  |  |
| ND                                                                                              | 90                         | 125 | 156.2                       | 135.8 | 112.9          | 50                           | 173                                       | 190.3                           | ATV650D90N4              | 87.000/<br>191.802 |  |  |  |  |
| HD                                                                                              | 75                         | 100 | 134.3                       | 118.1 | 98.2           | 50                           | 145                                       | 217.5                           |                          |                    |  |  |  |  |

(1) Category C2 EMC filter for **ATV650U07N4...D45N4**. Category C3 EMC filter above **ATV650D45N4**.(2) These values are given for a nominal switching frequency of 4 kHz adjustable from 2...12 kHz up to **ATV650D45N4** or 2.5 kHz adjustable from 2...8 kHz for **ATV650D55N4...D90N4**, for use in continuous operation.Above 2.5 or 4 kHz (depending on the rating), the drive will automatically reduce the switching frequency in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see the derating curves in the [Installation Manual](#)).

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) Values given for applications requiring a slight overload (up to 110%).

(5) Values given for applications requiring a significant overload (up to 150%).

(6) Supplied with cable gland.

**Note:** Consult the summary tables of possible drive, option, and accessory combinations (see [page 2/20](#)).

## Variable speed drives

Altivar Process ATV600

Three-phase supply voltage: 380...480 V 50/60 Hz

Wall-mounting drives

2



ATV650D15N4E



ATV650D30N4E



ATV650D55N4E

380...480 V (-15...10%) IP55 drives with Vario disconnect switch and category C2 or C3 integrated EMC filter <sup>(1)</sup>

| Motor                                      |                |     | Line supply      |                 |                |                              | Altivar Process                |                                 |               |                |       |
|--------------------------------------------|----------------|-----|------------------|-----------------|----------------|------------------------------|--------------------------------|---------------------------------|---------------|----------------|-------|
| Power indicated on rating plate (2)        |                |     | Line current (3) |                 | Apparent power | Maximum prospective line Isc | Maximum continuous current (2) | Max. transient current for 60 s | Reference (6) | Weight         |       |
|                                            |                |     |                  |                 |                |                              |                                |                                 |               |                | 380 V |
|                                            |                |     | ND:              | Normal duty (4) |                |                              |                                |                                 |               |                |       |
| HD:                                        | Heavy duty (5) |     |                  |                 |                |                              |                                |                                 |               |                |       |
|                                            | kW             | HP  | A                | A               | kVA            | kA                           | A                              | A                               |               | kg/lb          |       |
| THDi ≤ 44% at 100% load in Normal duty (4) |                |     |                  |                 |                |                              |                                |                                 |               |                |       |
| ND                                         | 0.75           | 1   | 1.5              | 1.3             | 1.1            | 50                           | 2.2                            | 2.4                             | ATV650U07N4E  | 10.500/23.149  |       |
| HD                                         | 0.37           | 0.5 | 0.9              | 0.8             | 0.7            | 50                           | 1.5                            | 2.3                             |               |                |       |
| ND                                         | 1.5            | 2   | 3                | 2.6             | 2.2            | 50                           | 4                              | 4.4                             | ATV650U15N4E  | 10.500/23.149  |       |
| HD                                         | 0.75           | 1   | 1.7              | 1.5             | 1.2            | 50                           | 2.2                            | 3.3                             |               |                |       |
| ND                                         | 2.2            | 3   | 4.3              | 3.8             | 3.2            | 50                           | 5.6                            | 6.2                             | ATV650U22N4E  | 10.500/23.149  |       |
| HD                                         | 1.5            | 2   | 3.1              | 2.9             | 2.4            | 50                           | 4                              | 6                               |               |                |       |
| ND                                         | 3              | —   | 5.8              | 5.1             | 4.2            | 50                           | 7.2                            | 7.9                             | ATV650U30N4E  | 10.600/23.369  |       |
| HD                                         | 2.2            | 3   | 4.5              | 4               | 3.3            | 50                           | 5.6                            | 8.4                             |               |                |       |
| ND                                         | 4              | 5   | 7.6              | 6.7             | 5.6            | 50                           | 9.3                            | 10.2                            | ATV650U40N4E  | 10.600/23.369  |       |
| HD                                         | 3              | —   | 6                | 5.4             | 4.5            | 50                           | 7.2                            | 10.8                            |               |                |       |
| ND                                         | 5.5            | 7.5 | 10.4             | 9.1             | 7.6            | 50                           | 12.7                           | 14                              | ATV650U55N4E  | 10.700/23.589  |       |
| HD                                         | 4              | 5   | 8                | 7.2             | 6.0            | 50                           | 9.3                            | 14                              |               |                |       |
| ND                                         | 7.5            | 10  | 13.8             | 11.9            | 9.9            | 50                           | 16.5                           | 18.2                            | ATV650U75N4E  | 13.700/30.203  |       |
| HD                                         | 5.5            | 7.5 | 10.5             | 9.2             | 7.6            | 50                           | 12.7                           | 19.1                            |               |                |       |
| ND                                         | 11             | 15  | 19.8             | 17              | 14.1           | 50                           | 23.5                           | 25.9                            | ATV650D11N4E  | 13.700/30.203  |       |
| HD                                         | 7.5            | 10  | 14.1             | 12.5            | 10.4           | 50                           | 16.5                           | 24.8                            |               |                |       |
| ND                                         | 15             | 20  | 27               | 23.3            | 19.4           | 50                           | 31.7                           | 34.9                            | ATV650D15N4E  | 19.600/43.211  |       |
| HD                                         | 11             | 15  | 20.6             | 18.1            | 15             | 50                           | 23.5                           | 35.3                            |               |                |       |
| ND                                         | 18.5           | 25  | 33.4             | 28.9            | 24             | 50                           | 39.2                           | 43.1                            | ATV650D18N4E  | 20.600/45.415  |       |
| HD                                         | 15             | 20  | 27.7             | 24.4            | 20.3           | 50                           | 31.7                           | 47.6                            |               |                |       |
| ND                                         | 22             | 30  | 39.6             | 34.4            | 28.6           | 50                           | 46.3                           | 50.9                            | ATV650D22N4E  | 20.600/45.415  |       |
| HD                                         | 18.5           | 25  | 34.1             | 29.9            | 24.9           | 50                           | 39.2                           | 58.8                            |               |                |       |
| ND                                         | 30             | 40  | 53.3             | 45.9            | 38.2           | 50                           | 61.5                           | 67.7                            | ATV650D30N4E  | 50.000/110.231 |       |
| HD                                         | 22             | 30  | 40.5             | 35.8            | 29.8           | 50                           | 46.3                           | 69.5                            |               |                |       |
| ND                                         | 37             | 50  | 66.2             | 57.3            | 47.6           | 50                           | 74.5                           | 82                              | ATV650D37N4E  | 50.000/110.231 |       |
| HD                                         | 30             | 40  | 54.8             | 48.3            | 40.2           | 50                           | 61.5                           | 92.3                            |               |                |       |
| ND                                         | 45             | 60  | 79.8             | 69.1            | 57.4           | 50                           | 88                             | 96.8                            | ATV650D45N4E  | 50.000/110.231 |       |
| HD                                         | 37             | 50  | 67.1             | 59              | 49.1           | 50                           | 74.5                           | 111.8                           |               |                |       |
| ND                                         | 55             | 75  | 97.2             | 84.2            | 70             | 50                           | 106                            | 116.6                           | ATV650D55N4E  | 87.000/191.802 |       |
| HD                                         | 45             | 60  | 81.4             | 71.8            | 59.7           | 50                           | 88                             | 132                             |               |                |       |
| ND                                         | 75             | 100 | 131.3            | 112.7           | 93.7           | 50                           | 145                            | 159.5                           | ATV650D75N4E  | 87.000/191.802 |       |
| HD                                         | 55             | 75  | 98.9             | 86.9            | 72.2           | 50                           | 106                            | 159                             |               |                |       |
| ND                                         | 90             | 125 | 156.2            | 135.8           | 112.9          | 50                           | 173                            | 190.3                           | ATV650D90N4E  | 87.000/191.802 |       |
| HD                                         | 75             | 100 | 134.3            | 118.1           | 98.2           | 50                           | 145                            | 217.5                           |               |                |       |

(1) Category C2 EMC filter for **ATV650U07N4E...D45N4E**. Category C3 EMC filter above **ATV650D45N4E**.(2) These values are given for a nominal switching frequency of 4 kHz adjustable from 2...12 kHz up to **ATV650D45N4E** or 2.5 kHz adjustable from 2...8 kHz for **ATV650D55N4E...D90N4E**, for use in continuous operation.Above 2.5 or 4 kHz (depending on the rating), the drive will automatically reduce the switching frequency in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see the derating curves in the [Installation Manual](#)).

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) Values given for applications requiring a slight overload (up to 110%).

(5) Values given for applications requiring a significant overload (up to 150%).

(6) Supplied with cable gland.

**Note:** Consult the summary tables of possible drive, option, and accessory combinations (see [page 2/20](#)).

## Variable speed drives

Altivar Process ATV600

Three-phase supply voltage: 500...690 V 50/60 Hz

Wall-mounting drives



ATV630U22Y6



ATV630D37Y6

| 500...690 V (-15...10%) IP00 drives (1) |                 |     |       |     |                  |       |                |                              |                             |                                 |             |                |  |
|-----------------------------------------|-----------------|-----|-------|-----|------------------|-------|----------------|------------------------------|-----------------------------|---------------------------------|-------------|----------------|--|
| Motor                                   |                 |     |       |     | Line supply      |       |                |                              |                             | Altivar Process                 |             |                |  |
| Power indicated on rating plate (2)     |                 |     |       |     | Line current (3) |       | Apparent power | Maximum prospective line Isc | Max. continuous current (2) | Max. transient current for 60 s | Reference   | Weight         |  |
| ND:                                     | Normal duty (4) |     |       |     | 500 V            | 690 V | 690 V          |                              |                             |                                 |             |                |  |
| HD:                                     | Heavy duty (5)  |     |       |     |                  |       |                |                              |                             |                                 |             |                |  |
| Supply voltage                          | 500 V           |     | 690 V |     |                  |       |                |                              |                             |                                 |             |                |  |
|                                         | kW              | HP  | kW    | HP  | A                | A     | kVA            | kA                           | A                           | A                               |             | kg/lb          |  |
| With category C3 integrated EMC filter  |                 |     |       |     |                  |       |                |                              |                             |                                 |             |                |  |
| ND                                      | 1.5             | 2   | 2.2   | 3   | 3.4              | 3.6   | 4.3            | 70                           | 3.1                         | 3.4                             | ATV630U22Y6 | 22.000/48.502  |  |
| HD                                      | 1.1             | 1.5 | 1.5   | 2   | 2.6              | 2.6   | 3.1            | 70                           | 2.4                         | 3.6                             |             |                |  |
| ND                                      | 2.2             | 3   | 3     | —   | 4.7              | 4.8   | 5.7            | 70                           | 4.2                         | 4.6                             | ATV630U30Y6 | 22.000/48.502  |  |
| HD                                      | 1.5             | 2   | 2.2   | 3   | 3.4              | 3.6   | 4.3            | 70                           | 3.1                         | 4.7                             |             |                |  |
| ND                                      | 3               | —   | 4     | 5   | 6.2              | 6.1   | 7.3            | 70                           | 5.4                         | 5.9                             | ATV630U40Y6 | 22.000/48.502  |  |
| HD                                      | 2.2             | 3   | 3     | —   | 4.7              | 4.8   | 5.7            | 70                           | 4.2                         | 6.3                             |             |                |  |
| ND                                      | 4               | 5   | 5.5   | 7.5 | 7.9              | 8     | 9.6            | 70                           | 7.2                         | 7.9                             | ATV630U55Y6 | 22.000/48.502  |  |
| HD                                      | 3               | —   | 4     | 5   | 6.2              | 6.1   | 7.3            | 70                           | 5.4                         | 8.1                             |             |                |  |
| ND                                      | 5.5             | 7.5 | 7.5   | 10  | 10.4             | 10.5  | 12.5           | 70                           | 9.5                         | 10.5                            | ATV630U75Y6 | 22.000/48.502  |  |
| HD                                      | 4               | 5   | 5.5   | 7.5 | 7.9              | 8     | 9.6            | 70                           | 7.2                         | 10.8                            |             |                |  |
| ND                                      | 7.5             | 10  | 11    | 15  | 13.6             | 14.7  | 17.6           | 70                           | 13.5                        | 14.9                            | ATV630D11Y6 | 22.000/48.502  |  |
| HD                                      | 5.5             | 7.5 | 7.5   | 10  | 10.4             | 10.5  | 12.5           | 70                           | 9.5                         | 14.3                            |             |                |  |
| ND                                      | 11              | 15  | 15    | 20  | 18.4             | 19.2  | 22.9           | 70                           | 18                          | 19.8                            | ATV630D15Y6 | 22.000/48.502  |  |
| HD                                      | 7.5             | 10  | 11    | 15  | 13.6             | 14.7  | 17.6           | 70                           | 13.5                        | 20.3                            |             |                |  |
| ND                                      | 15              | 20  | 18.5  | 25  | 23.1             | 23    | 27.5           | 70                           | 24                          | 26.4                            | ATV630D18Y6 | 22.000/48.502  |  |
| HD                                      | 11              | 15  | 15    | 20  | 18.4             | 19.2  | 22.9           | 70                           | 18                          | 27.0                            |             |                |  |
| ND                                      | 18.5            | 25  | 22    | 30  | 27.6             | 26    | 31.1           | 70                           | 29                          | 31.9                            | ATV630D22Y6 | 22.000/48.502  |  |
| HD                                      | 15              | 20  | 18.5  | 25  | 23.2             | 23    | 27.5           | 70                           | 24                          | 36.0                            |             |                |  |
| ND                                      | 22              | 30  | 30    | 40  | 32.1             | 32.8  | 39.2           | 70                           | 34                          | 37.4                            | ATV630D30Y6 | 22.000/48.502  |  |
| HD                                      | 18.5            | 25  | 22    | 30  | 27.6             | 26    | 31.1           | 70                           | 29                          | 43.5                            |             |                |  |
| ND                                      | 30              | 40  | 37    | 50  | 47.2             | 46.2  | 55.2           | 70                           | 45                          | 49.5                            | ATV630D37Y6 | 53.000/116.845 |  |
| HD                                      | 22              | 30  | 30    | 40  | 37.7             | 38.5  | 46.0           | 70                           | 34                          | 51.0                            |             |                |  |
| ND                                      | 37              | 50  | 45    | 60  | 55.6             | 54.4  | 65.0           | 70                           | 55                          | 60.5                            | ATV630D45Y6 | 53.000/116.845 |  |
| HD                                      | 30              | 40  | 37    | 50  | 47.2             | 46.2  | 55.2           | 70                           | 45                          | 67.5                            |             |                |  |
| ND                                      | 45              | 60  | 55    | 75  | 65.5             | 62.5  | 74.7           | 70                           | 66                          | 72.6                            | ATV630D55Y6 | 53.000/116.845 |  |
| HD                                      | 37              | 50  | 45    | 60  | 55.6             | 54.4  | 65.0           | 70                           | 55                          | 82.5                            |             |                |  |
| ND                                      | 55              | 75  | 75    | 100 | 82.7             | 87.7  | 104.8          | 70                           | 83                          | 91.3                            | ATV630D75Y6 | 53.000/116.845 |  |
| HD                                      | 45              | 60  | 55    | 75  | 71               | 68.5  | 81.9           | 70                           | 66                          | 99.0                            |             |                |  |
| ND                                      | 75              | 100 | 90    | 125 | 108.3            | 99.4  | 118.8          | 70                           | 108                         | 118.8                           | ATV630D90Y6 | 53.000/116.845 |  |
| HD                                      | 55              | 75  | 75    | 100 | 82.7             | 87.7  | 104.8          | 70                           | 83                          | 124.5                           |             |                |  |

(1) Product supplied as IP00 for mounting in an enclosure. For IP20/UL Type1 wall mounting, an adaptation kit should be ordered separately (see page 60822/13).

(2) These values are given for use in continuous operation with a nominal switching frequency between 2.5 kHz (ATV630D37Y6...D90Y6) and 4 kHz (ATV630U22Y6...D30Y6). The switching frequency is adjustable from 1...4.9 kHz (ATV630D37Y6...D90Y6) to 2...8 kHz (ATV630U22Y6...D30Y6).

Above the nominal switching frequency, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, nominal drive current should be derated according to the derating curves in the [Installation Manual](#).

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) Values given for applications requiring a slight overload (up to 110%).

(5) Values given for applications requiring a significant overload (up to 150%).

**Note:** Consult the summary tables of possible drive, option, and accessory combinations (see [page 2/18](#)).

## Variable speed drives

Altivar Process ATV600

Three-phase supply voltage: 380...440 V 50/60 Hz

Floor-standing drives without braking unit



ATV630C16N4F

380...440 V (-15...10%) IP21 drives with category C3 integrated EMC filter <sup>(1)</sup>

| Motor                                      |                 | Line supply      |       |                |                              | Altivar Process                |                                 |           |                              |
|--------------------------------------------|-----------------|------------------|-------|----------------|------------------------------|--------------------------------|---------------------------------|-----------|------------------------------|
| Power indicated on rating plate (2)        |                 | Line current (3) |       | Apparent power | Maximum prospective line Isc | Maximum continuous current (2) | Max. transient current for 60 s | Reference | Weight                       |
|                                            |                 | 380 V            | 400 V | 380 V          |                              |                                |                                 |           |                              |
| ND:                                        | Normal duty (4) |                  |       |                |                              |                                |                                 |           |                              |
| HD:                                        | Heavy duty (5)  |                  |       |                |                              |                                |                                 |           |                              |
|                                            | kW              | HP               | A     | A              | kVA                          | kA                             | A                               | A         | kg/lb                        |
| THDi ≤ 44% at 100% load in Normal duty (4) |                 |                  |       |                |                              |                                |                                 |           |                              |
| ND                                         | 110             | —                | 207   | 195            | 135                          | 50                             | 211                             | 232       | ATV630C11N4F 300.000/661.386 |
| HD                                         | 90              | —                | 174   | 164            | 113                          | 50                             | 173                             | 259       |                              |
| ND                                         | 132             | —                | 250   | 232            | 161                          | 50                             | 250                             | 275       | ATV630C13N4F 300.000/661.386 |
| HD                                         | 110             | —                | 207   | 197            | 136                          | 50                             | 211                             | 316       |                              |
| ND                                         | 160             | —                | 291   | 277            | 192                          | 50                             | 302                             | 332       | ATV630C16N4F 300.000/661.386 |
| HD                                         | 132             | —                | 244   | 232            | 161                          | 50                             | 250                             | 375       |                              |
| ND                                         | 200             | —                | 369   | 349            | 242                          | 50                             | 370                             | 407       | ATV630C20N4F 400.000/881.848 |
| HD                                         | 160             | —                | 302   | 286            | 198                          | 50                             | 302                             | 453       |                              |
| ND                                         | 250             | —                | 453   | 432            | 299                          | 50                             | 477                             | 524       | ATV630C25N4F 400.000/881.848 |
| HD                                         | 200             | —                | 369   | 353            | 244                          | 50                             | 370                             | 555       |                              |
| ND                                         | 315             | —                | 566   | 538            | 373                          | 50                             | 590                             | 649       | ATV630C31N4F 400.000/881.848 |
| HD                                         | 250             | —                | 453   | 432            | 299                          | 50                             | 477                             | 715       |                              |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3 and an unshielded cable length up to 450 m/1,476 ft in category C4.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2...8 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see the derating curves in the [Installation Manual](#)).

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) Values given for applications requiring a slight overload (up to 110%).

(5) Values given for applications requiring a significant overload (up to 150%).

**Note:** Consult the summary tables of possible drive, option, and accessory combinations (see [page 2/18](#)).

## Variable speed drives

## Altivar Process ATV600

Three-phase supply voltage: 380...440 V 50/60 Hz

Floor-standing drives without braking unit



ATV650C31N4F

| 380...440 V (-15...10%) IP54 drives with switch and category C3 integrated EMC filter <sup>(1)</sup> |    |                             |       |                |    |                              |                                           |                                 |              |                 |
|------------------------------------------------------------------------------------------------------|----|-----------------------------|-------|----------------|----|------------------------------|-------------------------------------------|---------------------------------|--------------|-----------------|
| Motor                                                                                                |    | Line supply                 |       |                |    | Altivar Process              |                                           |                                 |              |                 |
| Power indicated on rating plate <sup>(2)</sup>                                                       |    | Line current <sup>(3)</sup> |       | Apparent power |    | Maximum prospective line Isc | Maximum continuous current <sup>(2)</sup> | Max. transient current for 60 s | Reference    | Weight          |
|                                                                                                      |    | 380 V                       | 400 V | 380 V          |    |                              |                                           |                                 |              |                 |
| ND: Normal duty <sup>(4)</sup>                                                                       |    |                             |       |                |    |                              |                                           |                                 |              |                 |
| HD: Heavy duty <sup>(5)</sup>                                                                        |    |                             |       |                |    |                              |                                           |                                 |              |                 |
| kW                                                                                                   | HP | A                           | A     | kVA            | kA |                              | A                                         | A                               |              | kg/lb           |
| THDi ≤ 44% at 100% load in Normal duty <sup>(4)</sup>                                                |    |                             |       |                |    |                              |                                           |                                 |              |                 |
| ND 110                                                                                               | —  | 207                         | 195   | 135            | 50 |                              | 211                                       | 232                             | ATV650C11N4F | 310.000/683.433 |
| HD 90                                                                                                | —  | 174                         | 164   | 113            | 50 |                              | 173                                       | 259                             |              |                 |
| ND 132                                                                                               | —  | 250                         | 232   | 161            | 50 |                              | 250                                       | 275                             | ATV650C13N4F | 310.000/683.433 |
| HD 110                                                                                               | —  | 207                         | 197   | 136            | 50 |                              | 211                                       | 316                             |              |                 |
| ND 160                                                                                               | —  | 291                         | 277   | 192            | 50 |                              | 302                                       | 332                             | ATV650C16N4F | 310.000/683.433 |
| HD 132                                                                                               | —  | 244                         | 232   | 161            | 50 |                              | 250                                       | 375                             |              |                 |
| ND 200                                                                                               | —  | 369                         | 349   | 242            | 50 |                              | 370                                       | 407                             | ATV650C20N4F | 420.000/925.941 |
| HD 160                                                                                               | —  | 302                         | 286   | 198            | 50 |                              | 302                                       | 453                             |              |                 |
| ND 250                                                                                               | —  | 453                         | 432   | 299            | 50 |                              | 477                                       | 524                             | ATV650C25N4F | 420.000/925.941 |
| HD 200                                                                                               | —  | 369                         | 353   | 244            | 50 |                              | 370                                       | 555                             |              |                 |
| ND 315                                                                                               | —  | 566                         | 538   | 373            | 50 |                              | 590                                       | 649                             | ATV650C31N4F | 420.000/925.941 |
| HD 250                                                                                               | —  | 453                         | 432   | 299            | 50 |                              | 477                                       | 715                             |              |                 |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3 and an unshielded cable length up to 450 m/1,476 ft in category C4.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation. The switching frequency is adjustable from 2...8 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see the derating curves in the [Installation Manual](#)).

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) Values given for applications requiring a slight overload (up to 110%).

(5) Values given for applications requiring a significant overload (up to 150%).

**Note:** Consult the summary tables of possible drive, option, and accessory combinations (see [page 2/18](#)).

F19\_FAN\_CPSCCT17001



VX5VPS3002

F19\_FAN\_CPSCCT17002



VX5VPS5002

## Replacement parts

| Description                                                              | Corresponding drive                                                                  | Reference                    | Weight<br>kg/lb |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------|-----------------|
| <b>Fan kit for wall-mounting drives</b>                                  |                                                                                      |                              |                 |
| <b>Power fan for IP21 and IP55 drives, bracket, instruction sheets</b>   | ATV630U07M3...U40M3, ATV630U07N4...U55N4, ATV650U07N4...U55N4, ATV650U07N4E...U55N4E | <a href="#">VX5VPS1001</a>   | —               |
|                                                                          | ATV630U55M3, ATV630U75N4...D11N4, ATV650U75N4...D11N4, ATV650U75N4E...D11N4E         | <a href="#">VX5VPS2001</a>   | —               |
|                                                                          | ATV630U75M3...D11M3, ATV630D15N4...D22N4, ATV650D15N4...D22N4, ATV650D15N4E...D22N4E | <a href="#">VX5VPS3001</a>   | —               |
|                                                                          | ATV630U22Y6...D30Y6                                                                  | <a href="#">VX5VPS3002</a>   | —               |
|                                                                          | ATV630D15M3...D22M3, ATV630D30N4...D45N4, ATV650D30N4...D45N4, ATV650D30N4E...D45N4E | <a href="#">VX5VPS4001</a>   | —               |
|                                                                          | ATV630D30M3...D45M3, ATV630D55N4...D90N4, ATV650D55N4...D90N4, ATV650D55N4E...D90N4E | <a href="#">VX5VPS5001</a>   | —               |
|                                                                          | ATV630D37Y6...D90Y6                                                                  | <a href="#">VX5VPS5002</a>   | —               |
|                                                                          | ATV630C11N4...C16N4                                                                  | <a href="#">VX5VPS6001</a>   | —               |
|                                                                          | ATV630C22N4...C31N4                                                                  | <a href="#">VZ3V1212</a> (1) | —               |
|                                                                          |                                                                                      | <a href="#">VZ3V1213</a> (2) | —               |
| <b>Control fan for IP55 drives, bracket, instruction sheets</b>          | ATV650U07N4...D22N4, ATV650U07N4E...D22N4E                                           | <a href="#">VX5VP50A001</a>  | —               |
|                                                                          | ATV650D30N4...D90N4, ATV650D30N4E...D90N4E                                           | <a href="#">VX5VP50BC001</a> | —               |
| <b>Fan kit for floor-standing drives</b>                                 |                                                                                      |                              |                 |
| <b>Power fan, bracket, instruction sheets</b>                            | ATV630C11N4F...C31N4F, ATV650C11N4F...C31N4F                                         | <a href="#">VX5VPM001</a>    | —               |
| <b>Door fan, bracket, instruction sheets</b>                             | ATV630C11N4F...C31N4F, ATV650C11N4F...C31N4F                                         | <a href="#">VX5VPM002</a>    | —               |
| <b>Enclosure grid filter pads</b>                                        |                                                                                      |                              |                 |
| <b>223 x 223 mm/<br/>8.78 x 8.78 in.<br/>enclosure grid filter pad</b>   | ATV650C11N4F...C16N4F                                                                | <a href="#">NSYCAF223</a>    | —               |
| <b>291 x 291 mm/<br/>11.46 x 11.46 in.<br/>enclosure grid filter pad</b> | ATV650C20N4F...C31N4F                                                                | <a href="#">NSYCAF291</a>    | —               |

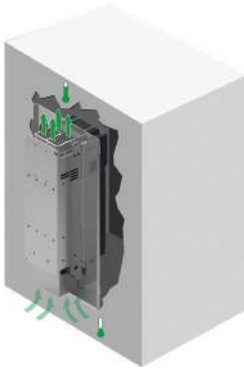
(1) Electronic power fan for drive, with 1 unit for ATV630C22N4, 2 units for ATV630C25N4, and 3 units for ATV630C31N4.

(2) Internal fan for drive, with 1 unit for ATV630C22N4, 2 units for ATV630C25N4, and 3 units for ATV630C31N4.



Universal Enclosures catalog

ATV600\_OP2073



Flange-mounting kit installed inside cabinet

F19\_ACC\_CFSCT17006



VW3A9705

### Accessories for flange mounting

| Description                                                                                                                                  | Corresponding kit or drive (1)              | Enclosure max. height (mm/in.) | Enclosure max. width (mm/in.) | Reference                 | Weight kg/lb |
|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------|-------------------------------|---------------------------|--------------|
| Flange-mounting kit for separate air flow (2).<br>For details of kit contents please consult the product page on <a href="#">our website</a> | ATV630U07M3...U40M3,<br>ATV630U07N4...U55N4 | 360/14.17                      | 235/9.25                      | <a href="#">NSYPTDS1</a>  | —            |
|                                                                                                                                              | ATV630U55M3,<br>ATV630U75N4...D11N4         | 420/16.54                      | 265/10.43                     | <a href="#">NSYPTDS2</a>  | —            |
|                                                                                                                                              | ATV630U75M3...D11M3,<br>ATV630D15N4...D22N4 | 555/21.85                      | 295/11.61                     | <a href="#">NSYPTDS3</a>  | —            |
|                                                                                                                                              | ATV630D15M3...D22M3,<br>ATV630D30N4...D45N4 | 800/31.50                      | 385/15.16                     | <a href="#">NSYPTDS4</a>  | —            |
|                                                                                                                                              | ATV630D30M3...D45M3<br>ATV630D55N4...D90N4  | 975/38.39                      | 427/16.81                     | <a href="#">NSYPTDS5</a>  | —            |
|                                                                                                                                              | ATV630C11N4...C16N4<br>ATV630D55M3...D75M3  | —                              | —                             | <a href="#">VW3A95116</a> | —            |
|                                                                                                                                              | ATV630C22N4                                 | —                              | —                             | <a href="#">VW3A9513</a>  | —            |
|                                                                                                                                              | ATV630C25N4<br>ATV630C31N4                  | —                              | —                             | <a href="#">VW3A9514</a>  | —            |

### IP20 and IP21/UL Type 1 conformity kits

| Description                                                                             | Corresponding drive                        | Reference                | Weight kg/lb |
|-----------------------------------------------------------------------------------------|--------------------------------------------|--------------------------|--------------|
| IP20/UL Type 1 conformity kit: housing, fixing accessories, instruction sheet           | ATV630U22Y6...D30Y6                        | <a href="#">VW3A9705</a> | —            |
|                                                                                         | ATV630D37Y6...D90Y6                        | <a href="#">VW3A9706</a> | —            |
| IP21/UL Type 1 conformity kit: metal conduit box, fixing accessories, instruction sheet | ATV630D55M3...D75M3<br>ATV630C11N4...C16N4 | <a href="#">VW3A9704</a> | —            |
| UL Type 1 conformity kit: cover, casing, plates, fixing accessories, instruction sheet  | ATV630C22N4                                | <a href="#">VW3A9212</a> | —            |
|                                                                                         | ATV630C25N4<br>ATV630C31N4                 | <a href="#">VW3A9213</a> | —            |

### IP31 conformity kits

| Description                                                                          | Corresponding drive        | Reference                | Weight kg/lb |
|--------------------------------------------------------------------------------------|----------------------------|--------------------------|--------------|
| IP31 conformity kit: EMC plate, cover, casing, fixing accessories, instruction sheet | ATV630C22N4                | <a href="#">VW3A9112</a> | —            |
|                                                                                      | ATV630C25N4<br>ATV630C31N4 | <a href="#">VW3A9113</a> | —            |

(1) All accessories designed for use with N4 suffix products ATV630U07N4...U75N4 and ATV630D11N4...D90N4 can also be used with their ...N4Z suffix equivalent products.

(2) RUE-2192 patented system.



Graphic display terminal  
(example shows dynamic pump operation in relation to its optimum operation)



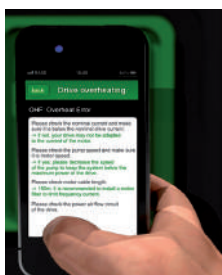
Detected fault: The screen's red backlight is activated automatically



Embedded dynamic QR codes for contextual, instantaneous access to online help



Scanning the QR code from a smartphone or tablet



Instant access to online help

#### Graphic display terminal (supplied with the drive)

This terminal can be:

- Connected and mounted on the front of the drive
- Connected and mounted on an enclosure door using a remote mounting accessory
- Connected to a PC to exchange files via a Mini USB/USB connection (1)
- Connected to several drives in multidrop mode (see [page 2/15](#))

This terminal is used to:

- Control, adjust, and configure the drive
- Display current values (motor, I/O, and process data)
- Display graphic dashboards such as the energy consumption monitoring dashboard
- Store and download configurations (several configuration files can be stored in the 16 MB memory)
- Duplicate the configuration of one powered-up drive on another powered-up drive
- Copy configurations from a PC or drive and duplicate them on another drive (the drives must be powered on for the duration of the duplication operations)

Other characteristics:

- Up to 24 languages (complete alphabets) covering the majority of countries around the world (languages can be removed, added, and updated according to user requirements; consult the [graphic display terminal page](#) on our website)
- 2-color backlit display (white and red); if an error is detected, the red backlight is activated automatically (function can be disabled)
- Operating range: -15...50 °C/+5...122 °F
- Degree of protection: IP65
- Trend curves: Graphic display of changes over time in monitoring variables, energy data, and process data
- Graphic display of a pump's dynamic operation in relation to its optimum operation
- Embedded dynamic QR codes for contextual, instantaneous access to online help (diagnostics and settings, etc.) using a smartphone or tablet
- Real-time clock with 10-year backup battery providing data acquisition and event timestamping functions even when the drive is stopped

#### Description

Display:

- 8 lines, 240 x 160 pixels
- Displays bar charts, gauges, and trend charts
- 4 function keys to facilitate navigation and provide contextual links for enabling functions
- "STOP/RESET" button: Local control of motor stop command/clearing detected faults
- "RUN" button: Local control of motor run command
- Navigation buttons:
  - OK button: Saves the current value (ENT)
  - Turn ±: Increases or decreases the value, goes to the next or previous line
  - "ESC" button: Aborts a value, parameter, or menu to return to the previous selection
  - Home: Root menu
  - Information (i): Contextual help

#### References

| Description              | Reference | Weight<br>kg/<br>lb |
|--------------------------|-----------|---------------------|
| Graphic display terminal | VW3A1111  | 0.200/<br>0.441     |

#### Communication accessory

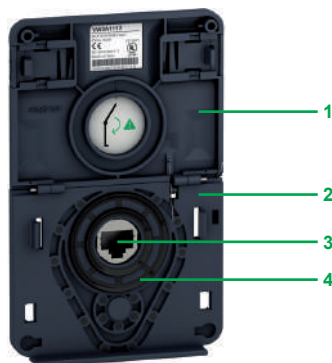
| Description                                                                                                    | Reference   | Weight<br>kg/<br>lb |
|----------------------------------------------------------------------------------------------------------------|-------------|---------------------|
| Wi-Fi dongle<br>Portable battery powered Wi-Fi access point for Wi-Fi equipment (PC, tablet, smartphone, etc.) | TCSEGBW131W | 0.134/<br>0.295     |

(1) Graphic display terminal used only as a handheld terminal.

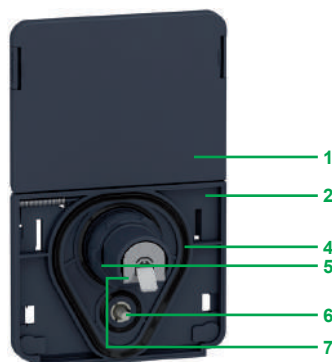
# Variable speed drives

## Altivar Process ATV600

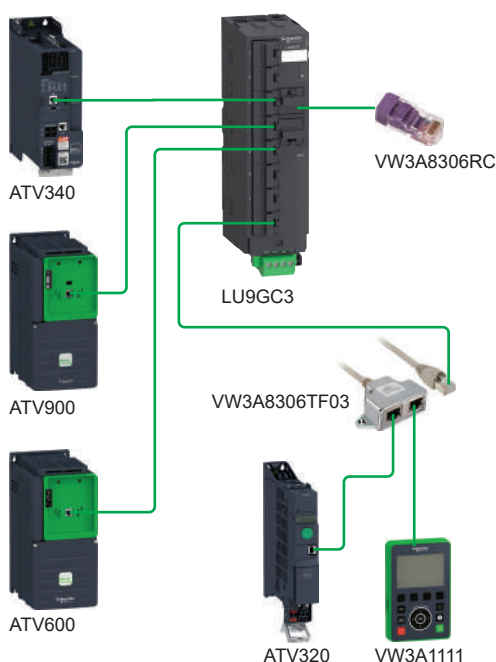
### Configuration and runtime tools



Remote mounting kit for mounting graphic display terminal on enclosure door (front panel)



Remote mounting kit for graphic display terminal (rear panel)



Example of multipoint screen architecture

### Accessories for graphic display terminal

- Remote mounting kit for mounting on enclosure door with IP65/UL Type 12 protection rating as standard

The kit comprises:

- Tightening tool (also sold separately under the reference ZB5AZ905)
- 1 Cover plate to maintain IP65 protection when there is no terminal connected
- 2 Mounting plate
- 3 RJ45 port for the graphic display terminal
- 4 Seal
- 5 Fixing nut
- 6 Anti-rotation pin
- 7 RJ45 port for connecting the remote-mounting cordset (10 m/33 ft maximum); Cordsets should be ordered separately depending on the length required.
- 8 Grounding connector

Drilling a hole with a standard Ø 22 tool, as used for a pushbutton, allows the unit to be mounted without needing a cut-out in the enclosure (Ø 22.5 mm/Ø 0.89 in. drill hole).

### References

| Description                                                                      | Length<br>m/<br>ft | IP<br>rating     | Reference                    | Weight<br>kg/<br>lb |
|----------------------------------------------------------------------------------|--------------------|------------------|------------------------------|---------------------|
| <b>Remote mounting kit</b><br>Order with remote-mounting cordset<br>VW3A1104R●●● | –                  | 65/UL<br>Type 12 | <a href="#">VW3A1112</a>     | –                   |
| <b>Tightening tool</b><br>for remote mounting kit                                | –                  | –                | <a href="#">ZB5AZ905</a>     | 0.016/<br>0.035     |
| <b>Remote-mounting cordset</b><br>equipped with 2<br>RJ45 connectors             | 1/<br>3.28         | –                | <a href="#">VW3A1104R10</a>  | 0.050/<br>0.110     |
|                                                                                  | 3/<br>9.84         | –                | <a href="#">VW3A1104R30</a>  | 0.150/<br>0.331     |
|                                                                                  | 5/<br>16.40        | –                | <a href="#">VW3A1104R50</a>  | 0.250/<br>0.551     |
|                                                                                  | 10/<br>32.81       | –                | <a href="#">VW3A1104R100</a> | 0.500/<br>1.102     |
|                                                                                  | –                  | –                | <a href="#">TCSXCNAMUM3P</a> | –                   |

### USB/Mini B USB cable

for connecting the display terminal to a PC

|                                                                                                    |   |    |                          |                 |
|----------------------------------------------------------------------------------------------------|---|----|--------------------------|-----------------|
| <b>IP65 remote mounting kit for Ethernet port (1)</b><br>Ø 22 RJ45 female/female adapter with seal | – | 65 | <a href="#">VW3A1115</a> | 0.018/<br>0.040 |
|----------------------------------------------------------------------------------------------------|---|----|--------------------------|-----------------|

### Set of 10 x IP55 shutters:

To maintain IP55 protection when the graphic display terminal is removed (2)

### Multidrop connection accessories

These accessories are used to connect a graphic display terminal to several drives via a multidrop link. This multidrop connection uses the RJ45 terminal port on the front of the drive.

### Connection accessories

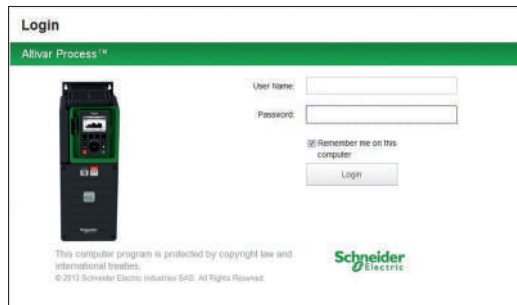
| Description                                                             |                                        |                       | Sold in<br>lots of | Unit<br>reference | Weight<br>kg/<br>lb |
|-------------------------------------------------------------------------|----------------------------------------|-----------------------|--------------------|-------------------|---------------------|
| Modbus splitter box<br>10 RJ45 connectors<br>and 1 screw terminal block |                                        |                       | —                  | LU9GC3            | 0.500/<br>1.102     |
| Modbus<br>T-junction<br>boxes                                           | With 0.3 m/0.98 ft<br>integrated cable |                       | —                  | VW3A8306TF03      | 0.190/<br>0.419     |
|                                                                         | With 1 m/3.28 ft<br>integrated cable   |                       | —                  | VW3A8306TF10      | 0.210/<br>0.463     |
| Modbus line<br>terminator                                               | For RJ45<br>connector                  | R = 120 Ω<br>C = 1 nf | 2                  | VW3A8306RC        | 0.010/<br>0.022     |

### Cordsets (equipped with 2 RJ45 connectors)

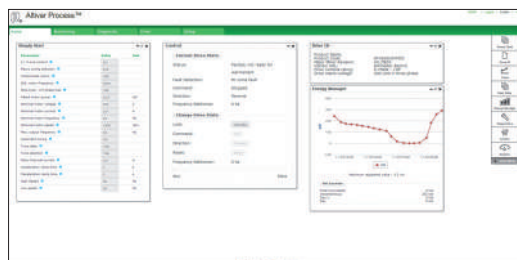
| Used for           | Length<br>m/<br>ft | Reference                   | Weight<br>kg/<br>lb |
|--------------------|--------------------|-----------------------------|---------------------|
| <b>Serial link</b> | 0.3/<br>0.98       | <a href="#">VW3A8306R03</a> | 0.025/<br>0.055     |
|                    | 1/<br>3.28         | <a href="#">VW3A8306R10</a> | 0.060/<br>0.132     |
|                    | 3/<br>9.84         | <a href="#">VW3A8306R30</a> | 0.130/<br>0.287     |
|                    | –                  | –                           | –                   |

(1) Used to connect a remote PC to the RJ45 port on an IP21 drive mounted in an enclosure or on a wall. Drill hole with a standard Ø 22 tool, as used for a pushbutton. (Requires a remote-mounting cordset VW3A1104R●●● equipped with 2 RJ45 connectors.)

(2) Only compatible with ATV650 drives.



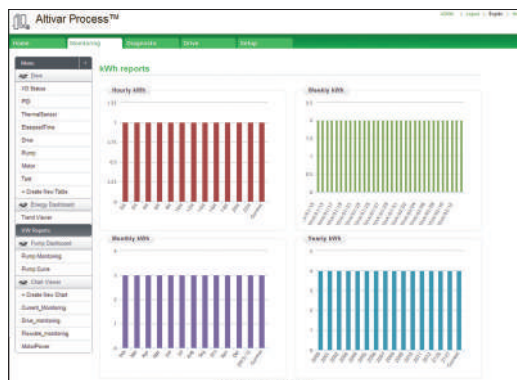
Login screen



Customizable widgets



Pump curves



Energy dashboard

## Web server

### Presentation

- The Web server can be accessed:
  - For a drive not connected to an Ethernet network:
    - Via an Ethernet cable or the Schneider Electric Wi-Fi dongle (the drive then appears as a network device)
  - For a drive connected to an Ethernet network:
    - From any point on the network by entering the drive IP address
- The Web server is used for:
  - Commissioning the drive (setting configuration parameters and enabling the main functions)
  - Monitoring energy and process data, as well as drive and motor data
  - Diagnostics (drive status, file transfer, detected error and warning logs)

### Description

The Web server is structured around 5 tabs.

- “My dashboard” tab:
  - Configurable using a wide choice of widgets; groups all the information and dashboards selected by the user on one page
- “Display” tab:
  - Monitors energy indicators, efficiency, and performance
  - Displays process data such as optimum pump operation
  - Monitors drive parameters and status
  - Shows the I/O state and assignment
- “Diagnostics” tab:
  - Drive status
  - Time- and date-stamped detected error and warning logs
  - Network diagnostics
  - Access to drive self-tests
- “Drive” tab:
  - Access to the main drive adjustment parameters with contextual help
- “Setup” tab:
  - Network configuration
  - Access management
  - Transferring and retrieving drive configurations
  - Exporting data acquisition files and logs
  - Customizing pages (colors, logos, etc.)

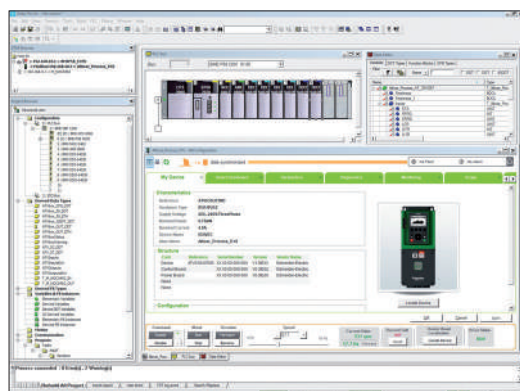
Other characteristics:

- Ease of connection via the RJ45 port or Wi-Fi connection
- Password-protected authentication (modifiable password; access rights can be configured by administrator)
- No downloads or installation necessary
- Web server can be disabled
- Works in a similar way on PCs, iPhones, iPads, Android systems, and the major Web browsers:
  - Internet Explorer® (version 8 or higher)
  - Google Chrome® (version 11 or higher)
  - Mozilla Firefox® (version 4 or higher)
  - Safari® (version 5.1.7 or higher)

# Variable speed drives

## Altivar Process ATV600

### Configuration and runtime tools



Altivar Process DTM in EcoStruxure Control Expert

#### DTM

##### Presentation

Using FDT/DTM technology it is possible to configure, control, and diagnose Altivar Process drives directly in EcoStruxure Control Expert and SoMove software by means of the same software brick (DTM).

FDT/DTM technology standardizes the communication interface between field devices and host systems. The DTM contains a uniform structure for managing drive access parameters.

##### Specific functions of the Altivar Process DTM

- Offline or online access to drive data
- Transfer of configuration files to and from the drive
- Customization (dashboard, My Menu, etc.)
- Access to drive parameters and option cards
- Oscilloscope function
- Graphic interface to assist with configuration of the Altivar Process pump functions
- Energy and process dashboards
- Graphic display of system operation and comparison with optimum operation (pump curves)
- Detected error and warning logs (with time-stamping)

Advantages of the DTM library in EcoStruxure Control Expert:

- Single tool for configuration, setup, and diagnostics
- Network scan for automatic recognition of network configuration
- Ability to add/remove, copy/paste configuration files from other drives in the same architecture
- Single input point for all parameters shared between the ePAC (programmable controller) and the Altivar Process drive
- Creation of drive profiles for implicit communication with the ePAC as well as dedicated profiles for programs with DFBs (derived function blocks)
- Integration in the fieldbus topology
- Drive configuration is an integral part of the EcoStruxure Control Expert project file (STU) and the archive file (STA)

Advantages of the DTM library in SoMove:

- Drive-oriented software environment
- Wired connection to the Ethernet communication port
- Standard cable (file transfer performance)
- Function block library for EcoStruxure Control Expert
- Display blocks for Vijeo Citect

■ Third-party software and downloads:

- The Altivar Process DTM library is a flexible, open, and interactive tool that can be used in a third-party FDT.
- DTMs can be downloaded from [our website](#).

#### SoMove software

##### Presentation

SoMove software for PC is used to configure, set up, and maintain Altivar Process drives.

In addition to the functions offered by the Web server, SoMove software features the oscilloscope function for accurate display of data samples, as well as access to multi-drive applications.

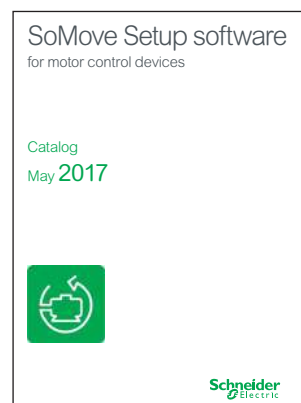
The software can be connected to Altivar Process variable speed drives via:

- Ethernet Modbus and Wi-Fi connection with the Wi-Fi dongle TCSEGWB131W
- Ethernet Modbus TCP connection

For more information on SoMove setup software, please consult the [SoMove Setup software for motor control devices](#) catalog.



SoMove software



Variable speed drives  
Altivar Process ATV600  
Options for ATV630●●●M3, ATV630●●●N4, ATV630●●●N4Z, and ATV630●●●Y6 drives

| Table showing possible combinations of options for ATV630●●●M3, ATV630●●●N4, ATV630●●●N4Z, and ATV630●●●Y6 drives |     |             |              |                                 |                     |                         |               |                         |               |             |                |           |                     |                   |                         |           |                                   |
|-------------------------------------------------------------------------------------------------------------------|-----|-------------|--------------|---------------------------------|---------------------|-------------------------|---------------|-------------------------|---------------|-------------|----------------|-----------|---------------------|-------------------|-------------------------|-----------|-----------------------------------|
| Motor                                                                                                             |     | Drive       | Wear parts   |                                 |                     | Options                 |               |                         |               |             |                |           |                     |                   |                         |           |                                   |
| kW                                                                                                                | HP  |             | Fan kit      | UL Type 1 (IP2X) conformity kit | Flange-mounting kit | Passive filters (50 Hz) |               | Passive filters (60 Hz) |               | Line chokes | EMC filters    |           | dv/dt filters       |                   | Sinus filter            |           | Common mode filter <sup>(1)</sup> |
|                                                                                                                   |     |             |              |                                 |                     | THDi < 10%              | THDi < 5%     | THDi < 10%              | THDi < 5%     | THDi < 48%  | Filter         | IP21 kit  | Filter              | IP20 and IP21 kit | Filter                  | IP21 kit  |                                   |
| Three-phase supply voltage: 200...240 V 50/60 Hz - IP21/UL Type 1                                                 |     |             |              |                                 |                     |                         |               |                         |               |             |                |           |                     |                   |                         |           |                                   |
| 0.75                                                                                                              | 1   | ATV630U07M3 | VX5VPS1001   | –                               | NSYPTDS1            | –                       | –             | –                       | –             | –           | VW3A4701       | VW3A47901 | VW3A5301            | VW3A53902         | VW3A5401                | VW3A53901 | VW3A5502                          |
| 1.5                                                                                                               | 2   | ATV630U15M3 | VX5VPS1001   | –                               | NSYPTDS1            | –                       | –             | –                       | –             | –           | VW3A4701       | VW3A47901 | VW3A5302            | VW3A53902         | VW3A5402                | VW3A53901 | VW3A5502                          |
| 2.2                                                                                                               | 3   | ATV630U22M3 | VX5VPS1001   | –                               | NSYPTDS1            | –                       | –             | –                       | –             | –           | VW3A4702       | VW3A47902 | VW3A5302            | VW3A53902         | VW3A5402                | VW3A53901 | VW3A5502                          |
| 3                                                                                                                 | –   | ATV630U30M3 | VX5VPS1001   | –                               | NSYPTDS1            | –                       | –             | –                       | –             | –           | VW3A4702       | VW3A47902 | VW3A5302            | VW3A53902         | VW3A5402                | VW3A53901 | VW3A5502                          |
| 4                                                                                                                 | 5   | ATV630U40M3 | VX5VPS1001   | –                               | NSYPTDS1            | –                       | –             | –                       | –             | –           | VW3A4703       | VW3A47903 | VW3A5303            | VW3A53902         | VW3A5403                | VW3A53902 | VW3A5502                          |
| 5.5                                                                                                               | 7.5 | ATV630U55M3 | VX5VPS2001   | –                               | NSYPTDS2            | –                       | –             | –                       | –             | –           | VW3A4703       | VW3A47903 | VW3A5304            | VW3A53903         | VW3A5404                | VW3A53903 | VW3A5502                          |
| 7.5                                                                                                               | 10  | ATV630U75M3 | VX5VPS3001   | –                               | NSYPTDS3            | –                       | –             | –                       | –             | –           | VW3A4703       | VW3A47903 | VW3A5304            | VW3A53903         | VW3A5404                | VW3A53903 | VW3A5504                          |
| 11                                                                                                                | 15  | ATV630D11M3 | VX5VPS3001   | –                               | NSYPTDS3            | –                       | –             | –                       | –             | –           | VW3A4704       | VW3A47904 | VW3A5304            | VW3A53903         | VW3A5404                | VW3A53903 | VW3A5504                          |
| 15                                                                                                                | 20  | ATV630D15M3 | VX5VPS4001   | –                               | NSYPTDS4            | –                       | –             | –                       | –             | –           | VW3A4705       | VW3A47905 | VW3A5305            | VW3A53905         | VW3A5405                | VW3A53904 | VW3A5504                          |
| 18.5                                                                                                              | 25  | ATV630D18M3 | VX5VPS4001   | –                               | NSYPTDS4            | –                       | –             | –                       | –             | –           | VW3A4706       | VW3A47906 | VW3A5305            | VW3A53905         | VW3A5405                | VW3A53904 | VW3A5504                          |
| 22                                                                                                                | 30  | ATV630D22M3 | VX5VPS4001   | –                               | NSYPTDS4            | –                       | –             | –                       | –             | –           | VW3A4706       | VW3A47906 | VW3A5305            | VW3A53905         | VW3A5405                | VW3A53904 | VW3A5504                          |
| 30                                                                                                                | 40  | ATV630D30M3 | VX5VPS5001   | –                               | NSYPTDS5            | –                       | –             | –                       | –             | –           | VW3A4707       | VW3A47907 | VW3A5306            | –                 | VW3A5406                | –         | VW3A5504                          |
| 37                                                                                                                | 50  | ATV630D37M3 | VX5VPS5001   | –                               | NSYPTDS5            | –                       | –             | –                       | –             | –           | VW3A4707       | VW3A47907 | VW3A5306            | –                 | VW3A5406                | –         | VW3A5504                          |
| 45                                                                                                                | 60  | ATV630D45M3 | VX5VPS5001   | –                               | NSYPTDS5            | –                       | –             | –                       | –             | –           | VW3A4708       | VW3A47908 | VW3A5306            | –                 | VW3A5406                | –         | VW3A5504                          |
| 55                                                                                                                | 75  | ATV630D55M3 | VX5VPS6001   | VW3A9704                        | VW3A95116           | –                       | –             | –                       | –             | –           | VW3A4709       | –         | VW3A5307            | –                 | –                       | –         | VW3A5506                          |
| 75                                                                                                                | 100 | ATV630D75M3 | VX5VPS6001   | VW3A9704                        | VW3A95116           | –                       | –             | –                       | –             | –           | VW3A4710       | –         | VW3A5307            | –                 | VW3A5407 <sup>(2)</sup> | –         | VW3A5506                          |
| Three-phase supply voltage: 380...480 V 50/60 Hz - IP21/UL Type 1                                                 |     |             |              |                                 |                     |                         |               |                         |               |             |                |           |                     |                   |                         |           |                                   |
| 0.75                                                                                                              | 1   | ATV630U07N4 | VX5VPS1001   | –                               | NSYPTDS1            | VW3A46101               | VW3A46120     | VW3A46139               | VW3A46158     | –           | VW3A4701       | VW3A47901 | VW3A5301            | VW3A53902         | VW3A5401                | VW3A53901 | VW3A5502                          |
| 1.5                                                                                                               | 2   | ATV630U15N4 | VX5VPS1001   | –                               | NSYPTDS1            | VW3A46101               | VW3A46120     | VW3A46139               | VW3A46158     | –           | VW3A4701       | VW3A47901 | VW3A5301            | VW3A53902         | VW3A5401                | VW3A53901 | VW3A5502                          |
| 2.2                                                                                                               | 3   | ATV630U22N4 | VX5VPS1001   | –                               | NSYPTDS1            | VW3A46101               | VW3A46120     | VW3A46139               | VW3A46158     | –           | VW3A4701       | VW3A47901 | VW3A5301            | VW3A53902         | VW3A5401                | VW3A53901 | VW3A5502                          |
| 3                                                                                                                 | –   | ATV630U30N4 | VX5VPS1001   | –                               | NSYPTDS1            | VW3A46101               | VW3A46120     | VW3A46139               | VW3A46158     | –           | VW3A4702       | VW3A47902 | VW3A5302            | VW3A53902         | VW3A5402                | VW3A53901 | VW3A5502                          |
| 4                                                                                                                 | 5   | ATV630U40N4 | VX5VPS1001   | –                               | NSYPTDS1            | VW3A46102               | VW3A46121     | VW3A46140               | VW3A46159     | –           | VW3A4702       | VW3A47902 | VW3A5302            | VW3A53902         | VW3A5402                | VW3A53901 | VW3A5502                          |
| 5.5                                                                                                               | 7.5 | ATV630U55N4 | VX5VPS1001   | –                               | NSYPTDS1            | VW3A46102               | VW3A46121     | VW3A46140               | VW3A46159     | –           | VW3A4702       | VW3A47902 | VW3A5302            | VW3A53902         | VW3A5402                | VW3A53901 | VW3A5502                          |
| 7.5                                                                                                               | 10  | ATV630U75N4 | VX5VPS2001   | –                               | NSYPTDS2            | VW3A46103               | VW3A46122     | VW3A46141               | VW3A46160     | –           | VW3A4703       | VW3A47903 | VW3A5303            | VW3A53902         | VW3A5403                | VW3A53902 | VW3A5502                          |
| 11                                                                                                                | 15  | ATV630D11N4 | VX5VPS2001   | –                               | NSYPTDS2            | VW3A46104               | VW3A46123     | VW3A46142               | VW3A46161     | –           | VW3A4703       | VW3A47903 | VW3A5303            | VW3A53902         | VW3A5403                | VW3A53902 | VW3A5502                          |
| 15                                                                                                                | 20  | ATV630D15N4 | VX5VPS3001   | –                               | NSYPTDS3            | VW3A46105               | VW3A46124     | VW3A46143               | VW3A46162     | –           | VW3A4703       | VW3A47903 | VW3A5304            | VW3A53903         | VW3A5404                | VW3A53903 | VW3A5504                          |
| 18.5                                                                                                              | 25  | ATV630D18N4 | VX5VPS3001   | –                               | NSYPTDS3            | VW3A46106               | VW3A46125     | VW3A46144               | VW3A46163     | –           | VW3A4704       | VW3A47904 | VW3A5304            | VW3A53903         | VW3A5404                | VW3A53903 | VW3A5504                          |
| 22                                                                                                                | 30  | ATV630D22N4 | VX5VPS3001   | –                               | NSYPTDS3            | VW3A46107               | VW3A46126     | VW3A46145               | VW3A46164     | –           | VW3A4704       | VW3A47904 | VW3A5304            | VW3A53903         | VW3A5404                | VW3A53903 | VW3A5504                          |
| 30                                                                                                                | 40  | ATV630D30N4 | VX5VPS4001   | –                               | NSYPTDS4            | VW3A46108               | VW3A46127     | VW3A46146               | VW3A46165     | –           | VW3A4705       | VW3A47905 | VW3A5305            | VW3A53905         | VW3A5405                | VW3A53904 | VW3A5504                          |
| 37                                                                                                                | 50  | ATV630D37N4 | VX5VPS4001   | –                               | NSYPTDS4            | VW3A46109               | VW3A46128     | VW3A46147               | VW3A46166     | –           | VW3A4706       | VW3A47906 | VW3A5305            | VW3A53905         | VW3A5405                | VW3A53904 | VW3A5504                          |
| 45                                                                                                                | 60  | ATV630D45N4 | VX5VPS4001   | –                               | NSYPTDS4            | VW3A46110               | VW3A46129     | VW3A46148               | VW3A46167     | –           | VW3A4706       | VW3A47906 | VW3A5305            | VW3A53905         | VW3A5405                | VW3A53904 | VW3A5504                          |
| 55                                                                                                                | 75  | ATV630D55N4 | VX5VPS5001   | –                               | NSYPTDS5            | VW3A46111               | VW3A46130     | VW3A46149               | VW3A46168     | –           | VW3A4707       | VW3A47907 | VW3A5306            | –                 | VW3A5406                | –         | VW3A5504                          |
| 75                                                                                                                | 100 | ATV630D75N4 | VX5VPS5001   | –                               | NSYPTDS5            | VW3A46112               | VW3A46131     | VW3A46150               | VW3A46169     | –           | VW3A4708       | VW3A47908 | VW3A5306            | –                 | VW3A5406                | –         | VW3A5504                          |
| 90                                                                                                                | 125 | ATV630D90N4 | VX5VPS5001   | –                               | NSYPTDS5            | VW3A46113               | VW3A46132     | VW3A46151               | VW3A46170     | –           | VW3A4708       | VW3A47908 | VW3A5306            | –                 | VW3A5406                | –         | VW3A5504                          |
| 110                                                                                                               | 150 | ATV630C11N4 | VX5VPS6001   | VW3A9704                        | VW3A95116           | VW3A46114               | VW3A46133     | VW3A46152               | VW3A46171     | –           | VW3A4709       | –         | VW3A5307            | –                 | –                       | –         | VW3A5506                          |
| 132                                                                                                               | 200 | ATV630C13N4 | VX5VPS6001   | VW3A9704                        | VW3A95116           | VW3A46115               | VW3A46134     | VW3A46153               | VW3A46172     | –           | VW3A4709       | –         | VW3A5307            | –                 | VW3A5407 <sup>(2)</sup> | –         | VW3A5506                          |
| 160                                                                                                               | 250 | ATV630C16N4 | VX5VPS6001   | VW3A9704                        | VW3A95116           | VW3A46116               | VW3A46135     | VW3A46154               | VW3A46173     | –           | VW3A4710       | –         | VW3A5307            | –                 | VW3A5407 <sup>(2)</sup> | –         | VW3A5506                          |
| 220                                                                                                               | 350 | ATV630C22N4 | VZ3V1212 (3) | VW3A9212                        | VW3A9513            | VW3A46118               | VW3A46137     | VW3A46155               | VW3A46174     | –           | VW3A4411       | VW3A9601  | VW3A5106            | –                 | VW3A5209 <sup>(2)</sup> | –         | –                                 |
| 250                                                                                                               | 400 | ATV630C25N4 | VZ3V1212 (3) | VW3A9213                        | VW3A9514            | VW3A46119               | VW3A46138     | VW3A46157               | VW3A46176     | –           | VW3A4411       | VW3A9601  | VW3A5107            | –                 | VW3A5210 <sup>(2)</sup> | –         | –                                 |
| 315                                                                                                               | 500 | ATV630C31N4 | VZ3V1212 (3) | VW3A9213                        | VW3A9514            | VW3A46116 x 2           | VW3A46135 x 2 | VW3A46153 x 2           | VW3A46172 x 2 | –           | VW3A4411       | VW3A9601  | VW3A5107            | –                 | VW3A5210 <sup>(2)</sup> | –         | –                                 |
| Three-phase supply voltage: 500...690 V 50/60 Hz - IP00                                                           |     |             |              |                                 |                     |                         |               |                         |               |             |                |           |                     |                   |                         |           |                                   |
| 2.2                                                                                                               | 3   | ATV630U22Y6 | VX5VPS3002   | VW3A9705                        | –                   | –                       | –             | –                       | –             | VW3A4551    | <sup>(4)</sup> | –         | VW3A5103 / VW3A5104 | –                 | VW3A5215                | –         | –                                 |
| 3                                                                                                                 | –   | ATV630U30Y6 | VX5VPS3002   | VW3A9705                        | –                   | –                       | –             | –                       | –             | VW3A4551    | <sup>(4)</sup> | –         | VW3A5103 / VW3A5104 | –                 | VW3A5215                | –         | –                                 |
| 4                                                                                                                 | 5   | ATV630U40Y6 | VX5VPS3002   | VW3A9705                        | –                   | –                       | –             | –                       | –             | VW3A4551    | <sup>(4)</sup> | –         | VW3A5103 / VW3A5104 | –                 | VW3A5215                | –         | –                                 |
| 5.5                                                                                                               | 7.5 | ATV630U55Y6 | VX5VPS3002   | VW3A9705                        | –                   | –                       | –             | –                       | –             | VW3A4552    | <sup>(4)</sup> | –         | VW3A5103 / VW3A5104 | –                 | VW3A5215                | –         | –                                 |
| 7.5                                                                                                               | 10  | ATV630U75Y6 | VX5VPS3002   | VW3A9705                        | –                   | –                       | –             | –                       | –             | VW3A4552    | <sup>(4)</sup> | –         | VW3A5103 / VW3A5104 | –                 | VW3A5215                | –         | –                                 |
| 11                                                                                                                | 15  | ATV630D11Y6 | VX5VPS3002   | VW3A9705                        | –                   | –                       | –             | –                       | –             | VW3A4553    | <sup>(4)</sup> | –         | VW3A5103 / VW3A5104 | –                 | VW3A5216                | –         | –                                 |
| 15                                                                                                                | 20  | ATV630D15Y6 | VX5VPS3002   | VW3A9705                        | –                   | –                       | –             | –                       | –             | VW3A4553    | <sup>(4)</sup> | –         | VW3A5104            | –                 | VW3A5216                | –         | –                                 |
| 18.5                                                                                                              | 25  | ATV630D18Y6 | VX5VPS3002   | VW3A9705                        | –                   | –                       | –             | –                       | –             | VW3A4554    | <sup>(4)</sup> | –         | VW3A5104            | –                 | VW3A5216                | –         | –                                 |
| 22.0                                                                                                              | 30  | ATV630D22Y6 | VX5VPS3002   | VW3A9705                        | –                   | –                       | –             | –                       | –             | VW3A4554    | <sup>(4)</sup> | –         | VW3A5104            | –                 | VW3A5216                | –         | –                                 |
| 30.0                                                                                                              | 40  | ATV630D30Y6 | VX5VPS3002   | VW3A9705                        | –                   | –                       | –             | –                       | –             | VW3A4555    | <sup>(4)</sup> | –         | VW3A5104            | –                 | VW3A5217                | –         | –                                 |
| 37.0                                                                                                              | 50  | ATV630D373  |              |                                 |                     |                         |               |                         |               |             |                |           |                     |                   |                         |           |                                   |

(1) This combination table is given for a maximum length of 300 m/984 ft of unshielded cable. For other cable lengths, or for shielded cables, see [page 2/47](#).  
(2) In "Normal Duty", apply a derating of 1 to the drive nominal power with a minimum switching frequency of 4 kHz. For example, an ATV630D75M3 drive with sinus filter can be used on a 55 kW motor.  
(3) Electronic power fan for drive, with 1 unit for **ATV630C22N4**, 2 units for **ATV630C25N4**, and 3 units for **ATV630C31N4**.  
(4) Please consult our [Customer Care Teams](#).

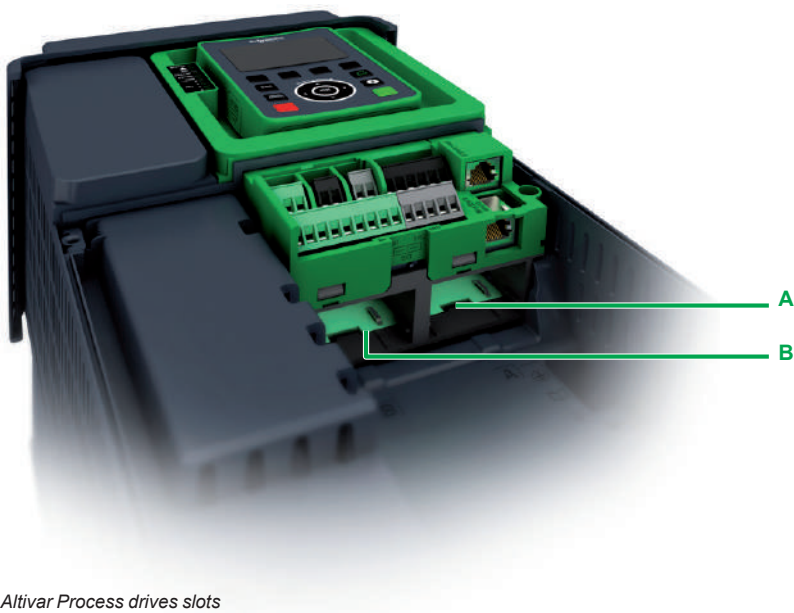
Variable speed drives  
Altivar Process ATV600  
Options for ATV650●●●N4 and ATV650●●●N4E drives

| Table showing possible combinations of options for ATV650●●●N4 and ATV650●●●N4E drives |     |              |            |                          |                     |                         |               |                         |               |             |           |               |                  |              |           |                           |
|----------------------------------------------------------------------------------------|-----|--------------|------------|--------------------------|---------------------|-------------------------|---------------|-------------------------|---------------|-------------|-----------|---------------|------------------|--------------|-----------|---------------------------|
| Motor                                                                                  |     | Drive        | Wear parts |                          |                     | Options                 |               |                         |               |             |           |               |                  |              |           |                           |
| kW                                                                                     | HP  |              | Fan kit    | UL Type 1 conformity kit | Flange-mounting kit | Passive filters (50 Hz) |               | Passive filters (60 Hz) |               | EMC filters |           | dv/dt filters |                  | Sinus filter |           | Common mode filter<br>(1) |
|                                                                                        |     |              |            |                          |                     | THDi < 10%              | THDi < 5%     | THDi < 10%              | THDi < 5%     | Filter      | IP21 kit  | Filter        | IP20 and IP21kit | Filter       | IP21 kit  |                           |
| Three-phase supply voltage: 380...480 V 50/60 Hz - IP55                                |     |              |            |                          |                     |                         |               |                         |               |             |           |               |                  |              |           |                           |
| 0.75                                                                                   | 1   | ATV650U07N4  | VX5VPS1001 | —                        | —                   | VW3A46101 (2)           | VW3A46120 (2) | VW3A46139 (2)           | VW3A46158 (2) | VW3A4701    | —         | VW3A5301      | —                | VW3A5401 (2) | —         | VW3A5502                  |
| 1.5                                                                                    | 2   | ATV650U15N4  | VX5VPS1001 | —                        | —                   | VW3A46101 (2)           | VW3A46120 (2) | VW3A46139 (2)           | VW3A46158 (2) | VW3A4701    | —         | VW3A5301      | —                | VW3A5401 (2) | —         | VW3A5502                  |
| 2.2                                                                                    | 3   | ATV650U22N4  | VX5VPS1001 | —                        | —                   | VW3A46101 (2)           | VW3A46120 (2) | VW3A46139 (2)           | VW3A46158 (2) | VW3A4701    | —         | VW3A5301      | —                | VW3A5401 (2) | —         | VW3A5502                  |
| 3                                                                                      | —   | ATV650U30N4  | VX5VPS1001 | —                        | —                   | VW3A46101 (2)           | VW3A46120 (2) | VW3A46139 (2)           | VW3A46158 (2) | VW3A4702    | —         | VW3A5302      | —                | VW3A5402 (2) | —         | VW3A5502                  |
| 4                                                                                      | 5   | ATV650U40N4  | VX5VPS1001 | —                        | —                   | VW3A46102 (2)           | VW3A46121 (2) | VW3A46140 (2)           | VW3A46159 (2) | VW3A4702    | —         | VW3A5302      | —                | VW3A5402 (2) | —         | VW3A5502                  |
| 5.5                                                                                    | 7.5 | ATV650U55N4  | VX5VPS1001 | —                        | —                   | VW3A46102 (2)           | VW3A46121 (2) | VW3A46140 (2)           | VW3A46159 (2) | VW3A4702    | —         | VW3A5302      | —                | VW3A5402 (2) | —         | VW3A5502                  |
| 7.5                                                                                    | 10  | ATV650U75N4  | VX5VPS2001 | —                        | —                   | VW3A46103 (2)           | VW3A46122 (2) | VW3A46141 (2)           | VW3A46160 (2) | VW3A4703    | —         | VW3A5303      | —                | VW3A5403 (2) | —         | VW3A5502                  |
| 11                                                                                     | 15  | ATV650D11N4  | VX5VPS2001 | —                        | —                   | VW3A46104 (2)           | VW3A46123 (2) | VW3A46142 (2)           | VW3A46161 (2) | VW3A4703    | —         | VW3A5303      | —                | VW3A5403 (2) | —         | VW3A5502                  |
| 15                                                                                     | 20  | ATV650D15N4  | VX5VPS3001 | —                        | —                   | VW3A46105 (2)           | VW3A46124 (2) | VW3A46143 (2)           | VW3A46162 (2) | VW3A4703    | —         | VW3A5304      | —                | VW3A5404 (2) | —         | VW3A5504                  |
| 18.5                                                                                   | 25  | ATV650D18N4  | VX5VPS3001 | —                        | —                   | VW3A46106 (2)           | VW3A46125 (2) | VW3A46144 (2)           | VW3A46163 (2) | VW3A4704    | —         | VW3A5304      | —                | VW3A5404 (2) | —         | VW3A5504                  |
| 22                                                                                     | 30  | ATV650D22N4  | VX5VPS3001 | —                        | —                   | VW3A46107 (2)           | VW3A46126 (2) | VW3A46145 (2)           | VW3A46164 (2) | VW3A4704    | —         | VW3A5304      | —                | VW3A5404 (2) | —         | VW3A5504                  |
| 30                                                                                     | 40  | ATV650D30N4  | VX5VPS4001 | —                        | —                   | VW3A46108 (2)           | VW3A46127 (2) | VW3A46146 (2)           | VW3A46165 (2) | VW3A4705    | —         | VW3A5305      | —                | VW3A5405 (2) | —         | VW3A5504                  |
| 37                                                                                     | 50  | ATV650D37N4  | VX5VPS4001 | —                        | —                   | VW3A46109 (2)           | VW3A46128 (2) | VW3A46147 (2)           | VW3A46166 (2) | VW3A4706    | —         | VW3A5305      | —                | VW3A5405 (2) | —         | VW3A5504                  |
| 45                                                                                     | 60  | ATV650D45N4  | VX5VPS4001 | —                        | —                   | VW3A46110 (2)           | VW3A46129 (2) | VW3A46148 (2)           | VW3A46167 (2) | VW3A4706    | —         | VW3A5305      | —                | VW3A5405 (2) | —         | VW3A5504                  |
| 55                                                                                     | 75  | ATV650D55N4  | VX5VPS5001 | —                        | —                   | VW3A46111 (2)           | VW3A46130 (2) | VW3A46149 (2)           | VW3A46168 (2) | VW3A4707    | —         | VW3A5306      | —                | VW3A5406 (2) | —         | VW3A5504                  |
| 75                                                                                     | 100 | ATV650D75N4  | VX5VPS5001 | —                        | —                   | VW3A46112 (2)           | VW3A46131 (2) | VW3A46150 (2)           | VW3A46169 (2) | VW3A4708    | —         | VW3A5306      | —                | VW3A5406 (2) | —         | VW3A5504                  |
| 90                                                                                     | 125 | ATV650D90N4  | VX5VPS5001 | —                        | —                   | VW3A46113 (2)           | VW3A46132 (2) | VW3A46151 (2)           | VW3A46170 (2) | VW3A4708    | —         | VW3A5306      | —                | VW3A5406 (2) | —         | VW3A5504                  |
| Three-phase supply voltage: 380...480 V 50/60 Hz - IP55 with Vario disconnect switch   |     |              |            |                          |                     |                         |               |                         |               |             |           |               |                  |              |           |                           |
| 0.75                                                                                   | 1   | ATV650U07N4E | VX5VPS1001 | —                        | —                   | VW3A46101 (2)           | VW3A46120 (2) | VW3A46139 (2)           | VW3A46158 (2) | VW3A4701    | —         | VW3A5301      | —                | VW3A5401 (2) | —         | VW3A5502                  |
| 1.5                                                                                    | 2   | ATV650U15N4E | VX5VPS1001 | —                        | —                   | VW3A46101 (2)           | VW3A46120 (2) | VW3A46139 (2)           | VW3A46158 (2) | VW3A4701    | —         | VW3A5301      | —                | VW3A5401 (2) | —         | VW3A5502                  |
| 2.2                                                                                    | 3   | ATV650U22N4E | VX5VPS1001 | —                        | —                   | VW3A46101 (2)           | VW3A46120 (2) | VW3A46139 (2)           | VW3A46158 (2) | VW3A4701    | —         | VW3A5301      | —                | VW3A5401 (2) | —         | VW3A5502                  |
| 3                                                                                      | —   | ATV650U30N4E | VX5VPS1001 | —                        | —                   | VW3A46101 (2)           | VW3A46120 (2) | VW3A46139 (2)           | VW3A46158 (2) | VW3A4702    | —         | VW3A5302      | —                | VW3A5402 (2) | —         | VW3A5502                  |
| 4                                                                                      | 5   | ATV650U40N4E | VX5VPS1001 | —                        | —                   | VW3A46102 (2)           | VW3A46121 (2) | VW3A46140 (2)           | VW3A46159 (2) | VW3A4702    | —         | VW3A5302      | —                | VW3A5402 (2) | —         | VW3A5502                  |
| 5.5                                                                                    | 7.5 | ATV650U55N4E | VX5VPS1001 | —                        | —                   | VW3A46102 (2)           | VW3A46121 (2) | VW3A46140 (2)           | VW3A46159 (2) | VW3A4702    | —         | VW3A5302      | —                | VW3A5402 (2) | —         | VW3A5502                  |
| 7.5                                                                                    | 10  | ATV650U75N4E | VX5VPS2001 | —                        | —                   | VW3A46103 (2)           | VW3A46122 (2) | VW3A46141 (2)           | VW3A46160 (2) | VW3A4703    | —         | VW3A5303      | —                | VW3A5403 (2) | —         | VW3A5502                  |
| 11                                                                                     | 15  | ATV650D11N4E | VX5VPS2001 | —                        | —                   | VW3A46104 (2)           | VW3A46123 (2) | VW3A46142 (2)           | VW3A46161 (2) | VW3A4703    | —         | VW3A5303      | —                | VW3A5403 (2) | —         | VW3A5502                  |
| 15                                                                                     | 20  | ATV650D15N4E | VX5VPS3001 | —                        | —                   | VW3A46105 (2)           | VW3A46124 (2) | VW3A46143 (2)           | VW3A46162 (2) | VW3A4703    | —         | VW3A5304      | —                | VW3A5404 (2) | —         | VW3A5504                  |
| 18.5                                                                                   | 25  | ATV650D18N4E | VX5VPS3001 | —                        | —                   | VW3A46106 (2)           | VW3A46125 (2) | VW3A46144 (2)           | VW3A46163 (2) | VW3A4704    | —         | VW3A5304      | —                | VW3A5404 (2) | —         | VW3A5504                  |
| 22                                                                                     | 30  | ATV650D22N4E | VX5VPS3001 | —                        | —                   | VW3A46107 (2)           | VW3A46126 (2) | VW3A46145 (2)           | VW3A46164 (2) | VW3A4704    | —         | VW3A5304      | —                | VW3A5404 (2) | —         | VW3A5504                  |
| 30                                                                                     | 40  | ATV650D30N4E | VX5VPS4001 | —                        | —                   | VW3A46108 (2)           | VW3A46127 (2) | VW3A46146 (2)           | VW3A46165 (2) | VW3A4705    | —         | VW3A5305      | —                | VW3A5405 (2) | —         | VW3A5504                  |
| 37                                                                                     | 50  | ATV650D37N4E | VX5VPS4001 | —                        | —                   | VW3A46109 (2)           | VW3A46128 (2) | VW3A46147 (2)           | VW3A46166 (2) | VW3A4706    | —         | VW3A5305      | —                | VW3A5405 (2) | —         | VW3A5504                  |
| 45                                                                                     | 60  | ATV650D45N4E | VX5VPS4001 | —                        | —                   | VW3A46110 (2)           | VW3A46129 (2) | VW3A46148 (2)           | VW3A46167 (2) | VW3A4706    | —         | VW3A5305      | —                | VW3A5405 (2) | —         | VW3A5504                  |
| 55                                                                                     | 75  | ATV650D55N4E | VX5VPS5001 | —                        | —                   | VW3A46111 (2)           | VW3A46130 (2) | VW3A46149 (2)           | VW3A46168 (2) | VW3A4707    | —         | VW3A5306      | —                | VW3A5406 (2) | —         | VW3A5504                  |
| 75                                                                                     | 100 | ATV650D75N4E | VX5VPS5001 | —                        | —                   | VW3A46112 (2)           | VW3A46131 (2) | VW3A46150 (2)           | VW3A46169 (2) | VW3A4708    | —         | VW3A5306      | —                | VW3A5406 (2) | —         | VW3A5504                  |
| 90                                                                                     | 125 | ATV650D90N4E | VX5VPS5001 | —                        | —                   | VW3A46113 (2)           | VW3A46132 (2) | VW3A46151 (2)           | VW3A46170 (2) | VW3A4708    | —         | VW3A5306      | —                | VW3A5406 (2) | —         | VW3A5504                  |
| Three-phase supply voltage: 380...480 V 50/60 Hz - IP20                                |     |              |            |                          |                     |                         |               |                         |               |             |           |               |                  |              |           |                           |
| 0.75                                                                                   | 1   | ATV630U07N4Z | VX5VPS1001 | —                        | NSYPTDS1            | VW3A46101               | VW3A46120     | VW3A46139               | VW3A46158     | VW3A4701    | VW3A47901 | VW3A5301      | VW3A53902        | VW3A5401     | VW3A53901 | VW3A5502                  |
| 1.5                                                                                    | 2   | ATV630U15N4Z | VX5VPS1001 | —                        | NSYPTDS1            | VW3A46101               | VW3A46120     | VW3A46139               | VW3A46158     | VW3A4701    | VW3A47901 | VW3A5301      | VW3A53902        | VW3A5401     | VW3A53901 | VW3A5502                  |
| 2.2                                                                                    | 3   | ATV630U22N4Z | VX5VPS1001 | —                        | NSYPTDS1            | VW3A46101               | VW3A46120     | VW3A46139               | VW3A46158     | VW3A4701    | VW3A47901 | VW3A5301      | VW3A53902        | VW3A5401     | VW3A53901 | VW3A5502                  |
| 3                                                                                      | —   | ATV630U30N4Z | VX5VPS1001 | —                        | NSYPTDS1            | VW3A46101               | VW3A46120     | VW3A46139               | VW3A46158     | VW3A4702    | VW3A47902 | VW3A5302      | VW3A53902        | VW3A5402     | VW3A53901 | VW3A5502                  |
| 4                                                                                      | 5   | ATV630U40N4Z | VX5VPS1001 | —                        | NSYPTDS1            | VW3A46102               | VW3A46121     | VW3A46140               | VW3A46159     | VW3A4702    | VW3A47902 | VW3A5302      | VW3A53902        | VW3A5402     | VW3A53901 | VW3A5502                  |
| 5.5                                                                                    | 7.5 | ATV630U55N4Z | VX5VPS1001 | —                        | NSYPTDS1            | VW3A46102               | VW3A46121     | VW3A46140               | VW3A46159     | VW3A4702    | VW3A47902 | VW3A5302      | VW3A53902        | VW3A5402     | VW3A53901 | VW3A5502                  |
| 7.5                                                                                    | 10  | ATV630U75N4Z | VX5VPS2001 | —                        | NSYPTDS2            | VW3A46103               | VW3A46122     | VW3A46141               | VW3A46160     | VW3A4703    | VW3A47903 | VW3A5303      | VW3A53902        | VW3A5403     | VW3A53902 | VW3A5502                  |
| 11                                                                                     | 15  | ATV630D11N4Z | VX5VPS2001 | —                        | NSYPTDS2            | VW3A46104               | VW3A46123     | VW3A46142               | VW3A46161     | VW3A4703    | VW3A47903 | VW3A5303      | VW3A53902        | VW3A5403     | VW3A53902 | VW3A5502                  |
| 15                                                                                     | 20  | ATV630D15N4Z | VX5VPS3001 | —                        | NSYPTDS3            | VW3A46105               | VW3A46124     | VW3A46143               | VW3A46162     | VW3A4703    | VW3A47903 | VW3A5304      | VW3A53903        | VW3A5404     | VW3A53903 | VW3A5504                  |
| 18.5                                                                                   | 25  | ATV630D18N4Z | VX5VPS3001 | —                        | NSYPTDS3            | VW3A46106               | VW3A46125     | VW3A46144               | VW3A46163     | VW3A4704    | VW3A47904 | VW3A5304      | VW3A53903        | VW3A5404     | VW3A53903 | VW3A5504                  |
| 22                                                                                     | 30  | ATV630D22N4Z | VX5VPS3001 | —                        | NSYPTDS3            | VW3A46107               | VW3A46126     | VW3A46145               | VW3A46164     | VW3A4704    | VW3A47904 | VW3A5304      | VW3A53903        | VW3A5404     | VW3A53903 | VW3A5504                  |
| Three-phase supply voltage: 380...480 V 50/60 Hz - IP00                                |     |              |            |                          |                     |                         |               |                         |               |             |           |               |                  |              |           |                           |
| 30                                                                                     | 40  | ATV630D30N4Z | VX5VPS4001 | —                        | NSYPTDS4            | VW3A46108               | VW3A46127     | VW3A46146               | VW3A46165     | VW3A4705    | VW3A47905 | VW3A5305      | VW3A53905        | VW3A5405     | VW3A53904 | VW3A5504                  |
| 37                                                                                     | 50  | ATV630D37N4Z | VX5VPS4001 | —                        | NSYPTDS4            | VW3A46109               | VW3A46128     | VW3A46147               | VW3A46166     | VW3A4706    | VW3A47906 | VW3A5305      | VW3A53905        | VW3A5405     | VW3A53904 | VW3A5504                  |
| 45                                                                                     | 60  | ATV630D45N4Z | VX5VPS1001 | —                        | NSYPTDS4            | VW3A46110               | VW3A46129     | VW3A46148               | VW3A46167     | VW3A4706    | VW3A47906 | VW3A5305      | VW3A53905        | VW3A>        |           |                           |

(1) This combination table is given for a maximum length of 300 m/984 ft of unshielded cable. For other cable lengths, or for shielded cables, see [page 2/47](#).  
(2) When used with ATV650U07N4/N4E...D90N4/N4E drives, the filter must be mounted in a separate enclosure to maintain IP55 protection for the installation.

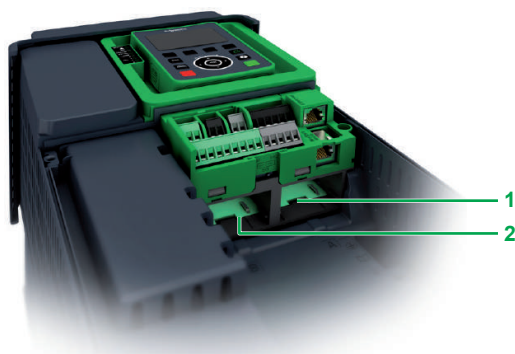
| Module compatibility table                     |           |        |                      |
|------------------------------------------------|-----------|--------|----------------------|
| Additional I/O modules                         |           |        |                      |
| Description                                    | Reference | Slot   | Page                 |
| Extended I/O module (1)                        | VW3A3203  | A or B | <a href="#">2/24</a> |
| Extended relay module (1)                      | VW3A3204  | A or B | <a href="#">2/24</a> |
| Communication modules                          |           |        |                      |
| Description                                    | Reference | Slot   | Page                 |
| EtherNet/IP and Modbus TCP dual port           | VW3A3720  | A      | <a href="#">2/28</a> |
| EtherNet/IP, Modbus TCP, and MD-Link dual port | VW3A3721  | A      | <a href="#">2/28</a> |
| CANopen daisy chain                            | VW3A3608  | A      | <a href="#">2/29</a> |
| CANopen SUB-D                                  | VW3A3618  | A      | <a href="#">2/29</a> |
| CANopen screw terminal block                   | VW3A3628  | A      | <a href="#">2/30</a> |
| PROFINET                                       | VW3A3627  | A      | <a href="#">2/31</a> |
| PROFIBUS DP V1                                 | VW3A3607  | A      | <a href="#">2/31</a> |
| POWERLINK Network                              | VW3A3619  | A      | <a href="#">2/31</a> |
| DeviceNet                                      | VW3A3609  | A      | <a href="#">2/32</a> |
| BACnet MS/TP                                   | VW3A3725  | A      | <a href="#">2/32</a> |

(1) These references can only be used once per drive, e.g. VW3A3203 in slot A and VW3A3204 in slot B.



Altivar Process drives slots

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Altivar Process drives slots for additional I/O modules

## Additional I/O modules

### Presentation

By installing additional I/O modules, Altivar Process drives can be adapted to meet the needs of applications that manage additional sensors or specific sensors.

Two additional I/O modules are available:

- Extended I/O module
- Extended relay module

These modules are inserted in slots A and B on Altivar Process drives:

- 1 Slot A for additional I/O or communication modules
- 2 Slot B for additional I/O modules

### Extended I/O module

- 2 differential analog inputs configurable via software as current (0-20 mA/4-20 mA), or for PTC, PT100, or PT1000, 2- or 3-wire probe
- 14-bit resolution
- 6 x 24 V  $\overline{\text{V}}$  positive or negative digital inputs
- Sampling: 1 ms max
- 2 assignable digital outputs
- 2 removable spring terminal blocks

### Extended relay module

- 3 relay outputs with NO contacts
- 1 fixed screw terminal block

**Note:** Extended I/O module and extended relay module can go in either slot A or slot B on Altivar Process drives. However, the drives cannot take 2 modules of the same type (e.g. 2 extended I/O modules or 2 extended relay modules).



VW3A3203



VW3A3204

| Additional I/O modules   |                   |                    |                  |                  |           |                     |
|--------------------------|-------------------|--------------------|------------------|------------------|-----------|---------------------|
| Description              | I/O type          |                    |                  |                  | Reference | Weight<br>kg/<br>lb |
|                          | Digital<br>inputs | Digital<br>outputs | Analog<br>inputs | Relay<br>outputs |           |                     |
| Extended I/O<br>module   | 6                 | 2                  | 2 (1)            | –                | VW3A3203  | 0.500/<br>1.102     |
| Extended relay<br>module | –                 | –                  | –                | 3 (2)            | VW3A3204  | 0.400/<br>0.882     |

(1) Differential analog inputs configurable via software as current (0-20 mA/4-20 mA), or for PTC, PT100, or PT1000, 2- or 3-wire probe. When configured as PTC probe inputs, they must never be used to monitor the temperature of an ATEX motor for applications in explosive atmospheres. To make an installation compliant with ATEX recommendations, please refer to the Installation Manual for each product.

(2) NO contacts.

#### Presentation

Altivar Process drives have 3 built-in RJ45 communication ports as standard:

- 1 Ethernet Modbus TCP port
- 2 serial ports

#### Integrated communication protocols

Altivar Process drives integrate the Modbus TCP and Modbus serial link communication protocols as standard.

##### ■ Ethernet port

This offers standard services regularly used in industrial networks:

- Modbus TCP message handling is based on the Modbus protocol and is used to exchange process data with other network devices (e.g. a controller). It provides Altivar Process drives with access to the Modbus protocol and to the high performance of the Ethernet network, which is the communication standard for numerous devices.
- SNMP (Simple Network Management Protocol) offers standard diagnostics services for network management tools.
- The FDR (Fast Device Replacement) service allows automatic reconfiguration of a new device installed to replace an existing device.
- Device integrity is reinforced by disabling some unused services as well as managing a list of authorized devices.
- Setup and adjustment tools (SoMove, EcoStruxure Control Expert with DTM) can be connected locally or remotely.
- The embedded Web server is used to display operating data and dashboards as well as to configure and perform system elements diagnostics from any Web browser.

These numerous services offered by Altivar Process drives simplify integration into Schneider Electric process automation control systems like M580 ePAC or Foxboro Evo DCS.

##### ■ Serial ports

- One port dedicated to field network operation for exchanging data with other devices via the Modbus protocol
- A second dedicated port for the multidrop connection of the following HMIs and configuration tools:
  - The remote graphic display terminal supplied with the drive
  - A Magelis industrial HMI terminal
  - A PC with SoMove or EcoStruxure Control Expert setup software

The detailed specifications for the Ethernet or serial communication ports, and the Modbus and Modbus TCP protocols are available on [our website](#).

#### Description

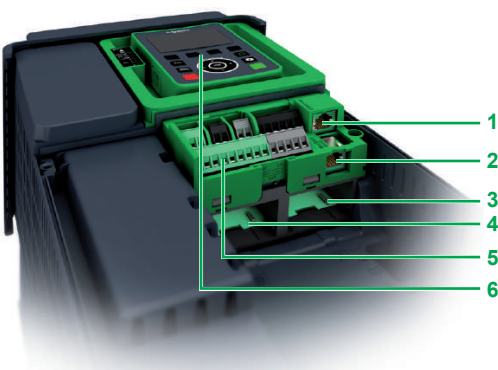
- 1 RJ45 Ethernet Modbus TCP port
- 2 RJ45 serial port
- 3 Slot A for additional I/O or communication (fieldbus) modules
- 4 Slot B for additional I/O modules
- 5 Removable screw terminal blocks for 24 V  $\square$  power supply and integrated I/O
- 6 RJ45 serial link for HMI (remote graphic display terminal, Magelis terminal, etc.)

Altivar Process drives can only take one communication module, in slot A **3** only. They cannot take 2 modules of the same type (e.g. 2 extended I/O modules or 2 extended relay modules).

The drives can take 1 extended I/O module and 1 extended relay module in either slot A **3** or slot B **4**.

**Note:** The User Manuals and description files (gsd, eds, xif) for the devices on the communication buses and networks are available on [our website](#).

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Altivar process drives ports and slots

#### Optional communication modules

The Altivar Process drive can also be connected to other industrial communication buses and networks by using one of the communication modules available as an option. Communication cards are supplied in "cassette" format for ease of mounting/removal.

Dedicated communication modules:

- EtherNet/IP and Modbus TCP dual port
- CANopen:
  - RJ45 daisy chain
  - SUB-D
  - Screw terminal block
- PROFINET
- PROFIBUS DP V1
- POWERLINK network
- DeviceNet
- BACnet

PROFINET and PROFIBUS DP V1 modules also support the Profidrive and CiA402 profiles.

It is possible to maintain communication using a separate power supply for the control and power sections. Monitoring and diagnostics are possible via the network even if there is no power supply to the power section.

#### Functions

The drive functions can be accessed via the various communication networks:

- Configuration
- Adjustment
- Control
- Monitoring

Altivar Process drives offer a high degree of interfacing flexibility with the possibility to assign, by configuration, the different control sources (I/O, communication networks, and HMI terminal) to control functions in order to meet the requirements of complex applications.

Network services and parameters are configured using the SoMove drive setup software, or using EcoStruxure Control Expert if the drive is being integrated into a PlantStruxure architecture.

Communication is monitored according to the specific criteria for each protocol. However, regardless of the protocol, it is possible to configure how the drive responds to a detected communication interruption, as follows:

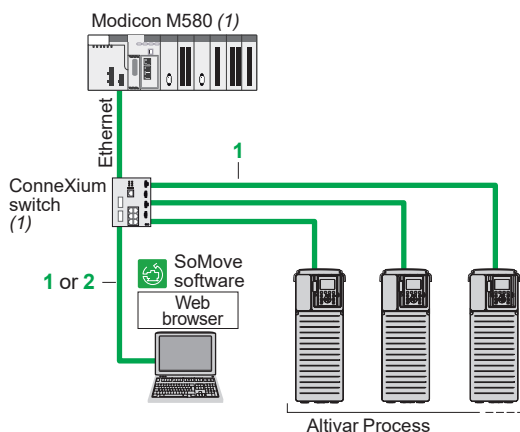
- Define the type of stop when a communication interruption is detected
- Maintain last command received
- Fallback position at preset speed
- Ignore the detected communication interruption

# Variable speed drives

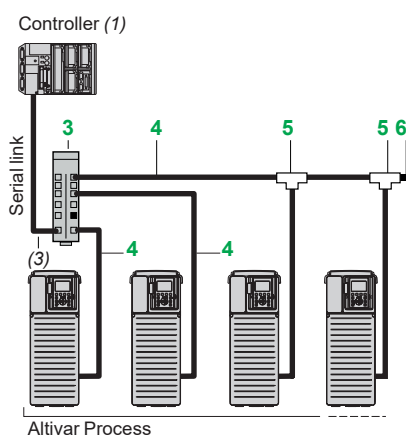
## Altivar Process ATV600

### Communication buses and networks

### Integrated ports



Example of Ethernet architecture



Example of serial link architecture

### Integrated Ethernet port

| Description                                                                                                                                                   | Item     | Length<br>m/<br>ft | Reference                    | Weight<br>kg/<br>lb |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------|------------------------------|---------------------|
| <b>ConneXium cordsets (2)</b>                                                                                                                                 |          |                    |                              |                     |
| <b>Straight shielded twisted pair cables</b><br>equipped with 2 RJ45 connectors<br>conforming to EIA/TIA-568 category 5<br>and IEC 11801/EN 50173-1, class D  | <b>1</b> | 2/<br>6.6          | <a href="#">490NTW00002</a>  | —                   |
|                                                                                                                                                               |          | 5/<br>16.4         | <a href="#">490NTW00005</a>  | —                   |
|                                                                                                                                                               |          | 12/<br>39          | <a href="#">490NTW00012</a>  | —                   |
|                                                                                                                                                               |          |                    |                              |                     |
| <b>Crossover shielded twisted pair cables</b><br>equipped with 2 RJ45 connectors<br>conforming to EIA/TIA-568 category 5<br>and IEC 11801/EN 50173-1, class D | <b>2</b> | 5/<br>16.4         | <a href="#">490NTC00005</a>  | —                   |
|                                                                                                                                                               |          | 15/<br>49          | <a href="#">490NTC00015</a>  | —                   |
| <b>Straight shielded twisted pair cables</b><br>equipped with 2 RJ45 connectors<br>conforming to UL and CSA 22.1                                              | <b>1</b> | 2/<br>6.6          | <a href="#">490NTW00002U</a> | —                   |
|                                                                                                                                                               |          | 5/<br>16.4         | <a href="#">490NTW00005U</a> | —                   |
|                                                                                                                                                               |          | 12/<br>39          | <a href="#">490NTW00012U</a> | —                   |
|                                                                                                                                                               |          |                    |                              |                     |

### Integrated serial port

| Description                                                             | Item     | Length<br>m/<br>ft                          | Reference                    | Weight<br>kg/<br>lb |
|-------------------------------------------------------------------------|----------|---------------------------------------------|------------------------------|---------------------|
| <b>Connection accessories</b>                                           |          |                                             |                              |                     |
| <b>Splitter box</b><br>10 RJ45 connectors and 1 screw<br>terminal block | <b>3</b> | —                                           | <a href="#">LU9GC3</a>       | 0.500/<br>1.102     |
| <b>Modbus T-junction boxes</b>                                          | <b>5</b> | With 0.3 m/0.98 ft<br>integrated cable      | <a href="#">VW3A8306TF03</a> | 0.190/<br>0.419     |
|                                                                         |          | With 1 m/3.28 ft<br>integrated cable        | <a href="#">VW3A8306TF10</a> | 0.210/<br>0.463     |
| <b>Modbus line terminator (4)</b>                                       | <b>6</b> | For RJ45 connector<br>R = 120 Ω<br>C = 1 nF | <a href="#">VW3A8306RC</a>   | 0.010/<br>0.022     |
| <b>Cordsets</b><br>equipped with 2 RJ45 connectors                      | <b>4</b> | 0.3/<br>0.98                                | <a href="#">VW3A8306R03</a>  | 0.025/<br>0.055     |
|                                                                         |          | 1/<br>3.28                                  | <a href="#">VW3A8306R10</a>  | 0.060/<br>0.132     |
|                                                                         |          | 3/<br>9.84                                  | <a href="#">VW3A8306R30</a>  | 0.130/<br>0.287     |
|                                                                         |          |                                             |                              |                     |

(1) Please refer to the [Modicon automation platform](#) catalogs.

(2) Also exist in 40 and 80 m/131 and 262 ft lengths. For other ConneXium connection accessories, please refer to the [Modicon Ethernet Switch](#) catalog.

(3) Cable depends on the controller.

(4) Sold in lots of 2.

## Variable speed drives

Altivar Process ATV600

Communication buses and networks

Option: Communication modules

PF130914A



VW3A3720

2

## EtherNet/IP and Modbus TCP networks (1)

| Description | Item | Length<br>m/<br>ft | Reference | Weight<br>kg/<br>lb |
|-------------|------|--------------------|-----------|---------------------|
|-------------|------|--------------------|-----------|---------------------|

## Communication module

|                                                    |   |   |          |                 |
|----------------------------------------------------|---|---|----------|-----------------|
| <b>EtherNet/IP and Modbus TCP dual port module</b> | 1 | – | VW3A3720 | 0.020/<br>0.044 |
|----------------------------------------------------|---|---|----------|-----------------|

For connection to the Modbus TCP or EtherNet/IP network

Ports: 2 RJ45 connectors

■ 10/100 Mbps, half duplex and full duplex

■ Embedded Web server

Requires cordset

490NTW000●●/●●U or

490NTC000●●/●●U

|                                                              |   |   |          |                 |
|--------------------------------------------------------------|---|---|----------|-----------------|
| <b>EtherNet/IP, Modbus TCP, and MD-Link dual port module</b> | 4 | – | VW3A3721 | 0.020/<br>0.044 |
|--------------------------------------------------------------|---|---|----------|-----------------|

For connection to the Modbus TCP or EtherNet/IP network and MultiDrive-Link

Ports: 2 RJ45 connectors

■ 10/100 Mbps, half duplex and full duplex

■ Embedded Web server

Requires cordset

490NTW000●●/●●U or

490NTC000●●/●●U

## ConneXium cordsets (3)

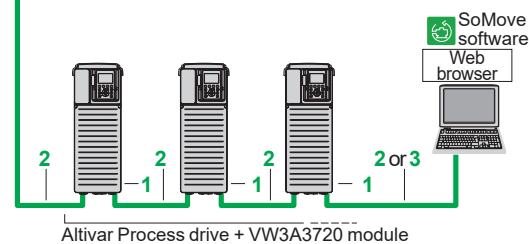
|                                                                                                              |   |            |             |   |
|--------------------------------------------------------------------------------------------------------------|---|------------|-------------|---|
| <b>Straight shielded twisted pair cables</b>                                                                 | 2 | 2/<br>6.6  | 490NTW00002 | – |
| equipped with 2 RJ45 connectors<br>conforming to EIA/TIA-568 category 5<br>and IEC 11801/EN 50173-1, class D |   | 5/<br>16.4 | 490NTW00005 | – |

|  |           |             |   |
|--|-----------|-------------|---|
|  | 12/<br>39 | 490NTW00012 | – |
|--|-----------|-------------|---|

|                                                                                                              |   |            |             |   |
|--------------------------------------------------------------------------------------------------------------|---|------------|-------------|---|
| <b>Crossover shielded twisted pair cables</b>                                                                | 3 | 5/<br>16.4 | 490NTC00005 | – |
| equipped with 2 RJ45 connectors<br>conforming to EIA/TIA-568 category 5<br>and IEC 11801/EN 50173-1, class D |   | 15/<br>49  | 490NTC00015 | – |

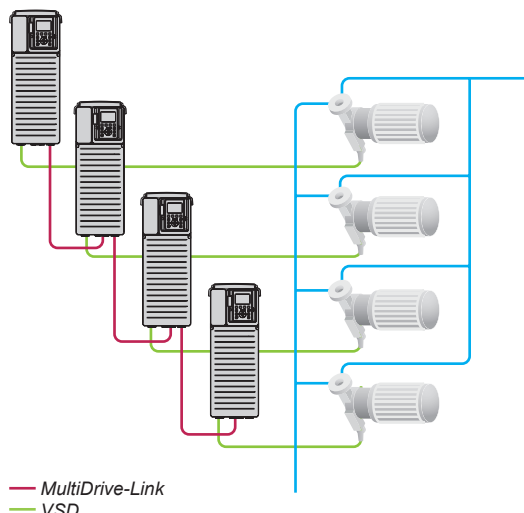
|                                                                                                           |   |            |              |   |
|-----------------------------------------------------------------------------------------------------------|---|------------|--------------|---|
| Straight shielded twisted pair cables<br>equipped with 2 RJ45 connectors<br>conforming to UL and CSA 22.1 | 2 | 2/<br>6.6  | 490NTW00002U | — |
|                                                                                                           |   | 5/<br>16.4 | 490NTW00005U | — |
|                                                                                                           |   | 12/<br>39  | 490NTW00012U | — |

(1) Altivar Process drives can only take one communication module.

(2) Please refer to the [Modicon M580 automation platform](#) catalog.(3) Also exist in 40 and 80 m/131 and 262 ft lengths. For other ConneXium connection accessories, please refer to the [Modicon Ethernet Switch](#) catalog.

Altivar Process drive + VW3A3720 module

Example of connection on an EtherNet/IP network

— MultiDrive-Link  
— VSD

Example of connection with MD-Link

## Variable speed drives

Altivar Process ATV600

Communication buses and networks

Option: Communication modules

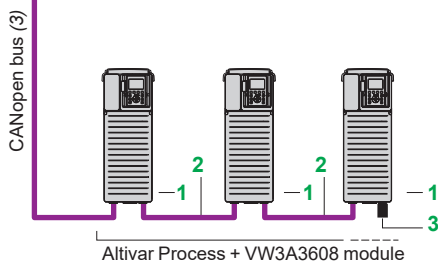


VW3A3608



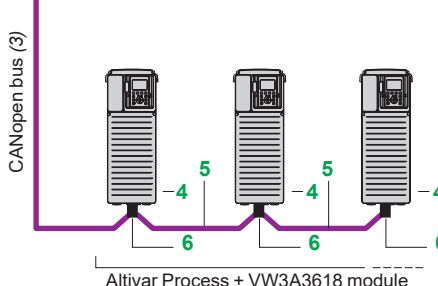
VW3A3618

Controller (2)



Optimized solution for daisy chain connection to the CANopen bus

Controller (2)



Example of connection to the CANopen bus via SUB-D connector

## CANopen bus (1)

| Description | Item | Length<br>m/<br>ft | Reference | Weight<br>kg/<br>lb |
|-------------|------|--------------------|-----------|---------------------|
|-------------|------|--------------------|-----------|---------------------|

## Communication module

|                                                               |          |   |                 |   |
|---------------------------------------------------------------|----------|---|-----------------|---|
| <b>CANopen daisy chain module</b><br>Ports: 2 RJ45 connectors | <b>1</b> | — | <b>VW3A3608</b> | — |
|---------------------------------------------------------------|----------|---|-----------------|---|

## Connection to RJ45 connector (optimized solution for daisy chain connection on CANopen bus)

|                                                            |          |              |                     |                 |
|------------------------------------------------------------|----------|--------------|---------------------|-----------------|
| <b>CANopen cordsets</b><br>equipped with 2 RJ45 connectors | <b>2</b> | 0.3/<br>0.98 | <b>VW3CANCARR03</b> | 0.050/<br>0.110 |
|                                                            |          | 1/<br>3.28   | <b>VW3CANCARR1</b>  | 0.500/<br>1.102 |

|                                                   |          |   |                      |   |
|---------------------------------------------------|----------|---|----------------------|---|
| <b>CANopen line terminator for RJ45 connector</b> | <b>3</b> | — | <b>TCSCAR013M120</b> | — |
|---------------------------------------------------|----------|---|----------------------|---|

## Communication module

|                                                                      |          |   |                 |   |
|----------------------------------------------------------------------|----------|---|-----------------|---|
| <b>CANopen SUB-D module</b><br>Ports: 1 x 9-way male SUB-D connector | <b>4</b> | — | <b>VW3A3618</b> | — |
|----------------------------------------------------------------------|----------|---|-----------------|---|

## Connection to SUB-D connector

|                                                                                                                        |          |             |                    |                   |
|------------------------------------------------------------------------------------------------------------------------|----------|-------------|--------------------|-------------------|
| <b>CANopen cables (3) (4)</b><br>Standard cable, CE mark<br>Low smoke zero halogen<br>Flame-retardant<br>(IEC 60332-1) | <b>5</b> | 50/<br>164  | <b>TSXCANCA50</b>  | 4.930/<br>10.869  |
|                                                                                                                        |          | 100/<br>328 | <b>TSXCANCA100</b> | 8.800/<br>19.401  |
|                                                                                                                        |          | 300/<br>984 | <b>TSXCANCA300</b> | 24.560/<br>54.145 |

|                                                                                                |          |             |                    |                   |
|------------------------------------------------------------------------------------------------|----------|-------------|--------------------|-------------------|
| <b>CANopen cables (3) (4)</b><br>UL certification, CE mark<br>Flame-retardant<br>(IEC 60332-2) | <b>5</b> | 50/<br>164  | <b>TSXCANCB50</b>  | 3.580/<br>7.893   |
|                                                                                                |          | 100/<br>328 | <b>TSXCANCB100</b> | 7.840/<br>17.284  |
|                                                                                                |          | 300/<br>984 | <b>TSXCANCB300</b> | 21.870/<br>48.215 |

|                                                                                                                                                              |          |             |                    |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|--------------------|------------------|
| <b>CANopen cables (3) (4)</b><br>Cable for harsh environments or<br>mobile installations, CE mark<br>Low smoke zero halogen<br>Flame-retardant (IEC 60332-1) | <b>5</b> | 50/<br>164  | <b>TSXCANCD50</b>  | 3.510/<br>7.738  |
|                                                                                                                                                              |          | 100/<br>328 | <b>TSXCANCD100</b> | 7.770/<br>17.130 |
|                                                                                                                                                              |          | 300/<br>984 | <b>TSXCANCD300</b> | 7.770/<br>17.130 |

|                                                                                                                                                                       |          |   |                       |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---|-----------------------|-----------------|
| <b>IP20 straight CANopen connector (5)</b><br>9-way female SUB-D connector with<br>line terminator that can be deactivated<br>For connecting CAN-H, CAN-L,<br>CAN-GND | <b>6</b> | — | <b>TSXCANKCDF180T</b> | 0.049/<br>0.108 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---|-----------------------|-----------------|

(1) Altivar Process drives can only take one communication module.

(2) Please refer to the [Modicon automation platform](#) catalogs.(3) Cable depends on the controller, please refer to the [CANopen for machines](#) catalog.

(4) Standard environment:

- No particular environmental constraints
- Operating temperature between 5 °C and 60 °C/41 °F and 140 °F
- Fixed installation

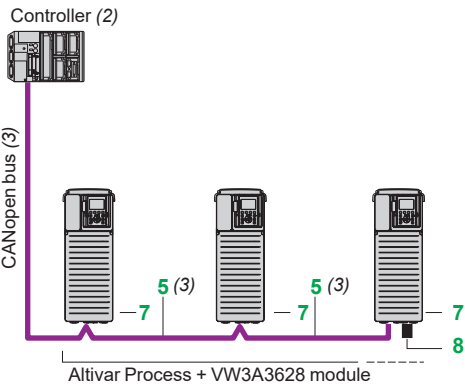
Harsh environment:

- Resistance to hydrocarbons, industrial oils, detergents, solder splashes
- Relative humidity up to 100%
- Saline atmosphere
- Operating temperature between -10 °C and +70 °C/+14 °F and +158 °F
- Significant temperature variations

(5) Only straight connectors are compatible with Altivar Process drives.



VW3A3628



Example of connection to the CANopen bus with a screw terminal block

| CANopen bus (continued) (1)                                                                                                                                                                          |      |                    |               |                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------|---------------|---------------------|
| Description                                                                                                                                                                                          | Item | Length<br>m/<br>ft | Reference     | Weight<br>kg/<br>lb |
| Communication module                                                                                                                                                                                 |      |                    |               |                     |
| CANopen module<br>Port: 1 x 5-way screw terminal block                                                                                                                                               | 7    | —                  | VW3A3628      | —                   |
| Connection to screw terminal block                                                                                                                                                                   |      |                    |               |                     |
| CANopen IP20 cordsets (3)<br>equipped with 2 x 9-way female SUB-D<br>connectors<br>Standard cable, C€ mark.<br>Low smoke zero halogen<br>Flame-retardant<br>(IEC 60332-1)                            | 5    | 0.3/<br>0.98       | TSXCANCADD03  | 0.091/<br>0.201     |
|                                                                                                                                                                                                      |      | 1/<br>3.28         | TSXCANCADD1   | 0.143/<br>0.315     |
|                                                                                                                                                                                                      |      | 3/<br>9.84         | TSXCANCBDD3   | 0.268/<br>0.591     |
|                                                                                                                                                                                                      |      | 5/<br>16.40        | TSXCANCBDD5   | 0.400/<br>0.882     |
|                                                                                                                                                                                                      |      |                    |               |                     |
| IP20 CANopen tap junction boxes<br>equipped with:<br>■ 4 x 9-way male SUB-D connectors<br>+ screw terminal block for trunk cable<br>tap link<br>■ Line terminator                                    | —    | —                  | TSXCANTDM4    | 0.196/<br>0.432     |
| IP20 CANopen tap junction boxes<br>equipped with:<br>■ 2 screw terminal blocks for trunk cable<br>tap link<br>■ 2 RJ45 connectors for connecting<br>drives<br>■ 1 RJ45 connector for connecting a PC | —    | —                  | VW3CANTAP2    | 0.480/<br>1.058     |
| CANopen line terminator for screw<br>terminal connector (4)                                                                                                                                          | 8    | —                  | TCSCAR01NM120 | —                   |

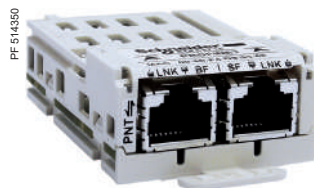
(1) Altivar Process drives can only take one communication module.  
(2) Please refer to the [Modicon automation platform](#) catalogs.  
(3) Cable depends on the controller, please refer to the [CANopen for machines](#) catalog.  
(4) Sold in lots of 2.

## Variable speed drives

Altivar Process ATV600

Communication buses and networks

Option: Communication modules



VW3A3627



VW3A3607



VW3A3619

## PROFINET bus (1) (2)

| Description                                               | Reference       | Weight<br>kg/<br>lb |
|-----------------------------------------------------------|-----------------|---------------------|
| <b>Communication module</b>                               |                 |                     |
| <b>PROFINET module</b><br>equipped with 2 RJ45 connectors | <b>VW3A3627</b> | 0.290/<br>0.639     |

## PROFIBUS DP V1 bus (1) (3)

| Description                                                                                                                                                                                                              | Reference       | Weight<br>kg/<br>lb |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------|
| <b>Communication module</b>                                                                                                                                                                                              |                 |                     |
| <b>PROFIBUS DP V1 module</b><br>Port: 1 x 9-way female SUB-D connector<br>Conforming to PROFIBUS DP V1<br>Profiles supported:<br>■ CiA 402 drive<br>■ Profidrive<br>Offers several message handling modes based on DP V1 | <b>VW3A3607</b> | 0.140/<br>0.309     |

## SUB-D connection

|                                                     |               |   |
|-----------------------------------------------------|---------------|---|
| IP20 straight connectors (4)<br>for Profibus module | <b>LU9AD7</b> | — |
|-----------------------------------------------------|---------------|---|

## POWERLINK network (5)

| Description                                                               | Reference       | Weight<br>kg/<br>lb |
|---------------------------------------------------------------------------|-----------------|---------------------|
| <b>Ethernet POWERLINK communication module</b><br>Port: 2 RJ45 connectors | <b>VW3A3619</b> | 0.300/<br>0.660     |

(1) Altivar Process drives can only take one communication module.

(2) Minimum version compatible with Altivar Process: V1.2.06.

(3) Minimum version compatible with Altivar Process: V1.9.01.

(4) Only straight connectors are compatible with Altivar Process drives.

(5) Minimum Altivar Process firmware version compatible with Powerlink module: V2.2.



VW3A3609

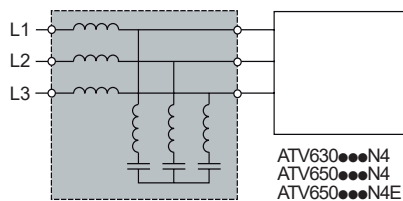


VW3A3725

| DeviceNet bus (1) (2)                                                                                                   |           |                     |
|-------------------------------------------------------------------------------------------------------------------------|-----------|---------------------|
| Description                                                                                                             | Reference | Weight<br>kg/<br>lb |
| Communication module                                                                                                    |           |                     |
| DeviceNet module<br>Port: 1 removable 5-way screw connector<br>Profiles supported:<br>■ CIP AC DRIVE<br>■ CiA 402 drive | VW3A3609  | 0.300/<br>0.661     |

| BACnet MSTP (1) (2)                                                           |           |                     |
|-------------------------------------------------------------------------------|-----------|---------------------|
| Description                                                                   | Reference | Weight<br>kg/<br>lb |
| Communication module                                                          |           |                     |
| BACnet module<br>Port: RS485 5-pin removable terminal block - 2 twisted pairs | VW3A3725  | 0.035/<br>0.08      |

(1) Altivar Process drives can only take one communication module.  
(2) Minimum version compatible with Altivar Process: V1.7.



Passive filter

Altivar Process drive with passive filter

### Presentation

Passive filters are used to obtain total harmonic distortion of less than 10% or 5%. Reactive power increases at no load or low load. To help reduce this reactive power, the filter capacitors can be disconnected (see the diagrams on [our website](#)). Passive filters provide IP20 protection.

### Applications

Reduction of current harmonics in order to use drives in the first environment (restricted distribution, domestic applications).



VW3A46106

## Passive filters: 400 V 50 Hz three-phase supply

| Motor rating |     | For Altivar Process drives                 | Filter          |        | Quantity required per drive | Reference <sup>(1)</sup> | Weight              |
|--------------|-----|--------------------------------------------|-----------------|--------|-----------------------------|--------------------------|---------------------|
|              |     |                                            | Nominal current |        |                             |                          |                     |
|              |     |                                            | Input           | Output |                             |                          |                     |
| kW           | HP  |                                            | A               | A      |                             |                          | kg/<br>lb           |
| THDi < 10%   |     |                                            |                 |        |                             |                          |                     |
| 0.75         | 1   | ATV630U07N4<br>ATV650U07N4<br>ATV650U07N4E | 6               | 6.2    | 1                           | VW3A46101                | 12.000/<br>26.455   |
| 1.5          | 2   | ATV630U15N4<br>ATV650U15N4<br>ATV650U15N4E |                 |        |                             |                          |                     |
| 2.2          | 3   | ATV630U22N4<br>ATV650U22N4<br>ATV650U22N4E |                 |        |                             |                          |                     |
| 3            | –   | ATV630U30N4<br>ATV650U30N4<br>ATV650U30N4E |                 |        |                             |                          |                     |
| 4            | 5   | ATV630U40N4<br>ATV650U40N4<br>ATV650U40N4E | 10              | 10.4   | 1                           | VW3A46102                | 13.500/<br>29.762   |
| 5.5          | 7.5 | ATV630U55N4<br>ATV650U55N4<br>ATV650U55N4E |                 |        |                             |                          |                     |
| 7.5          | 10  | ATV630U75N4<br>ATV650U75N4<br>ATV650U75N4E | 14              | 14.5   | 1                           | VW3A46103                | 16.300/<br>35.935   |
| 11           | 15  | ATV630D11N4<br>ATV650D11N4<br>ATV650D11N4E | 22              | 23     | 1                           | VW3A46104                | 22.000/<br>48.502   |
| 15           | 20  | ATV630D15N4<br>ATV650D15N4<br>ATV650D15N4E | 29              | 30     | 1                           | VW3A46105                | 25.000/<br>55.116   |
| 18.5         | 25  | ATV630D18N4<br>ATV650D18N4<br>ATV650D18N4E | 35              | 37     | 1                           | VW3A46106                | 37.000/<br>81.571   |
| 22           | 30  | ATV630D22N4<br>ATV650D22N4<br>ATV650D22N4E | 43              | 45     | 1                           | VW3A46107                | 39.000/<br>85.980   |
| 30           | 40  | ATV630D30N4<br>ATV650D30N4<br>ATV650D30N4E | 58              | 60     | 1                           | VW3A46108                | 44.000/<br>97.003   |
| 37           | 50  | ATV630D37N4<br>ATV650D37N4<br>ATV650D37N4E | 72              | 75     | 1                           | VW3A46109                | 56.000/<br>123.459  |
| 45           | 60  | ATV630D45N4<br>ATV650D45N4<br>ATV650D45N4E | 86              | 90     | 1                           | VW3A46110                | 62.000/<br>136.686  |
| 55           | 75  | ATV630D55N4<br>ATV650D55N4<br>ATV650D55N4E | 101             | 105    | 1                           | VW3A46111                | 74.000/<br>163.142  |
| 75           | 100 | ATV630D75N4<br>ATV650D75N4<br>ATV650D75N4E | 144             | 150    | 1                           | VW3A46112                | 85.000/<br>187.393  |
| 90           | 125 | ATV630D90N4<br>ATV650D90N4<br>ATV650D90N4E | 180             | 187    | 1                           | VW3A46113                | 102.000/<br>224.871 |
| 110          | 150 | ATV630C11N4                                | 217             | 225    | 1                           | VW3A46114                | 119.000/<br>262.350 |
| 132          | 200 | ATV630C13N4                                | 252             | 262    | 1                           | VW3A46115                | 136.000/<br>299.828 |
| 160          | 250 | ATV630C16N4                                | 304             | 316    | 1                           | VW3A46116                | 142.000/<br>313.056 |
| 220          | 350 | ATV630C22N4                                | 380             | 395    | 1                           | VW3A46118                | 172.000/<br>379.195 |
| 250          | 400 | ATV630C25N4                                | 433             | 450    | 1                           | VW3A46119                | 205.000/<br>451.947 |
| 315          | 500 | ATV630C31N4                                | 304             | 316    | 2                           | VW3A46116                | 142.000/<br>313.056 |

(1) When used with ATV650U07N4/N4E...D90N4/N4E drives, the filter must be mounted in a separate enclosure to maintain IP55 protection for the installation.

| Passive filters: 400 V 50 Hz three-phase supply |     |                                            |                 |        |                             |               |                     |
|-------------------------------------------------|-----|--------------------------------------------|-----------------|--------|-----------------------------|---------------|---------------------|
| Motor rating                                    |     | For Altivar Process drives                 | Filter          |        | Quantity required per drive | Reference (1) | Weight              |
|                                                 |     |                                            | Nominal current |        |                             |               |                     |
| kW                                              | HP  |                                            | Input           | Output |                             |               | kg/lb               |
| THDi < 5%                                       |     |                                            |                 |        |                             |               |                     |
| 0.75                                            | 1   | ATV630U07N4<br>ATV650U07N4<br>ATV650U07N4E | 6               | 6.2    | 1                           | VW3A46120     | 16.000/<br>35.274   |
| 1.5                                             | 2   | ATV630U15N4<br>ATV650U15N4<br>ATV650U15N4E |                 |        |                             |               |                     |
| 2.2                                             | 3   | ATV630U22N4<br>ATV650U22N4<br>ATV650U22N4E |                 |        |                             |               |                     |
| 3                                               | —   | ATV630U30N4<br>ATV650U30N4<br>ATV650U30N4E |                 |        |                             |               |                     |
| 4                                               | 5   | ATV630U40N4<br>ATV650U40N4<br>ATV650U40N4E | 10              | 10.4   | 1                           | VW3A46121     | 18.000/<br>39.683   |
| 5.5                                             | 7.5 | ATV630U55N4<br>ATV650U55N4<br>ATV650U55N4E |                 |        |                             |               |                     |
| 7.5                                             | 10  | ATV630U75N4<br>ATV650U75N4<br>ATV650U75N4E | 14              | 14.5   | 1                           | VW3A46122     | 20.000/<br>44.092   |
| 11                                              | 15  | ATV630D11N4<br>ATV650D11N4<br>ATV650D11N4E | 22              | 23     | 1                           | VW3A46123     | 30.000/<br>66.139   |
| 15                                              | 20  | ATV630D15N4<br>ATV650D15N4<br>ATV650D15N4E | 29              | 30     | 1                           | VW3A46124     | 34.000/<br>74.957   |
| 18.5                                            | 25  | ATV630D18N4<br>ATV650D18N4<br>ATV650D18N4E | 35              | 37     | 1                           | VW3A46125     | 53.000/<br>116.845  |
| 22                                              | 30  | ATV630D22N4<br>ATV650D22N4<br>ATV650D22N4E | 43              | 45     | 1                           | VW3A46126     | 58.000/<br>127.868  |
| 30                                              | 40  | ATV630D30N4<br>ATV650D30N4<br>ATV650D30N4E | 58              | 60     | 1                           | VW3A46127     | 76.000/<br>167.551  |
| 37                                              | 50  | ATV630D37N4<br>ATV650D37N4<br>ATV650D37N4E | 72              | 75     | 1                           | VW3A46128     | 98.000/<br>216.053  |
| 45                                              | 60  | ATV630D45N4<br>ATV650D45N4<br>ATV650D45N4E | 86              | 90     | 1                           | VW3A46129     | 104.000/<br>229.281 |
| 55                                              | 75  | ATV630D55N4<br>ATV650D55N4<br>ATV650D55N4E | 101             | 105    | 1                           | VW3A46130     | 106.000/<br>233.690 |
| 75                                              | 100 | ATV630D75N4<br>ATV650D75N4<br>ATV650D75N4E | 144             | 150    | 1                           | VW3A46131     | 126.000/<br>277.782 |
| 90                                              | 125 | ATV630D90N4<br>ATV650D90N4<br>ATV650D90N4E | 180             | 187    | 1                           | VW3A46132     | 135.000/<br>297.623 |
| 110                                             | 150 | ATV630C11N4                                | 217             | 225    | 1                           | VW3A46133     | 172.000/<br>379.195 |
| 132                                             | 200 | ATV630C13N4                                | 252             | 262    | 1                           | VW3A46134     | 206.000/<br>454.152 |
| 160                                             | 250 | ATV630C16N4                                | 304             | 316    | 1                           | VW3A46135     | 221.000/<br>487.221 |
| 220                                             | 350 | ATV630C22N4                                | 380             | 395    | 1                           | VW3A46137     | 265.000/<br>584.225 |
| 250                                             | 400 | ATV630C25N4                                | 433             | 450    | 1                           | VW3A46138     | 272.000/<br>599.657 |
| 315                                             | 500 | ATV630C31N4                                | 304             | 316    | 2                           | VW3A46135     | 221.000/<br>487.221 |

(1) When used with **ATV650U07N4/N4E...D90N4/N4E** drives, the filter must be mounted in a separate enclosure to maintain IP55 protection for the installation.

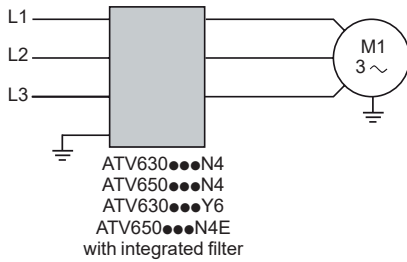
## Passive filters: 460 V 60 Hz three-phase supply

| Motor rating |     | For Altivar Process drives                 | Filter          |        | Quantity required per drive | Reference<br>(1) | Weight              |
|--------------|-----|--------------------------------------------|-----------------|--------|-----------------------------|------------------|---------------------|
|              |     |                                            | Nominal current |        |                             |                  |                     |
|              |     |                                            | Input           | Output |                             |                  |                     |
| kW           | HP  |                                            | A               | A      |                             |                  | kg/<br>lb           |
| THDi < 10%   |     |                                            |                 |        |                             |                  |                     |
| 0.75         | 1   | ATV630U07N4<br>ATV650U07N4<br>ATV650U07N4E | 6               | 6.2    | 1                           | VW3A46139        | 12.000/<br>26.455   |
| 1.5          | 2   | ATV630U15N4<br>ATV650U15N4<br>ATV650U15N4E |                 |        |                             |                  |                     |
| 2.2          | 3   | ATV630U22N4<br>ATV650U22N4<br>ATV650U22N4E |                 |        |                             |                  |                     |
| 3            | –   | ATV630U30N4<br>ATV650U30N4<br>ATV650U30N4E |                 |        |                             |                  |                     |
| 4            | 5   | ATV630U40N4<br>ATV650U40N4<br>ATV650U40N4E | 10              | 10.4   | 1                           | VW3A46140        | 13.500/<br>29.762   |
| 5.5          | 7.5 | ATV630U55N4<br>ATV650U55N4<br>ATV650U55N4E |                 |        |                             |                  |                     |
| 7.5          | 10  | ATV630U75N4<br>ATV650U75N4<br>ATV650U75N4E | 14              | 14.5   | 1                           | VW3A46141        | 16.300/<br>35.935   |
| 11           | 15  | ATV630D11N4<br>ATV650D11N4<br>ATV650D11N4E | 19              | 19.5   | 1                           | VW3A46142        | 22.000/<br>48.502   |
| 15           | 20  | ATV630D15N4<br>ATV650D15N4<br>ATV650D15N4E | 25              | 26     | 1                           | VW3A46143        | 23.000/<br>50.706   |
| 18.5         | 25  | ATV630D18N4<br>ATV650D18N4<br>ATV650D18N4E | 31              | 32     | 1                           | VW3A46144        | 33.000/<br>72.752   |
| 22           | 30  | ATV630D22N4<br>ATV650D22N4<br>ATV650D22N4E | 36              | 37     | 1                           | VW3A46145        | 37.000/<br>81.571   |
| 30           | 40  | ATV630D30N4<br>ATV650D30N4<br>ATV650D30N4E | 48              | 50     | 1                           | VW3A46146        | 39.000/<br>85.980   |
| 37           | 50  | ATV630D37N4<br>ATV650D37N4<br>ATV650D37N4E | 60              | 62     | 1                           | VW3A46147        | 43.000/<br>94.799   |
| 45           | 60  | ATV630D45N4<br>ATV650D45N4<br>ATV650D45N4E | 73              | 76     | 1                           | VW3A46148        | 55.000/<br>121.254  |
| 55           | 75  | ATV630D55N4<br>ATV650D55N4<br>ATV650D55N4E | 95              | 99     | 1                           | VW3A46149        | 62.000/<br>136.686  |
| 75           | 100 | ATV630D75N4<br>ATV650D75N4<br>ATV650D75N4E | 118             | 122    | 1                           | VW3A46150        | 74.000/<br>163.142  |
| 90           | 125 | ATV630D90N4<br>ATV650D90N4<br>ATV650D90N4E | 154             | 160    | 1                           | VW3A46151        | 85.000/<br>187.393  |
| 110          | 150 | ATV630C11N4                                | 183             | 190    | 1                           | VW3A46152        | 102.000/<br>224.871 |
| 132          | 200 | ATV630C13N4                                | 231             | 240    | 1                           | VW3A46153        | 119.000/<br>262.350 |
| 160          | 250 | ATV630C16N4                                | 291             | 302.5  | 1                           | VW3A46154        | 142.000/<br>313.056 |
| 220          | 350 | ATV630C22N4                                | 355             | 369    | 1                           | VW3A46155        | 162.000/<br>357.149 |
| 250          | 400 | ATV630C25N4                                | 436             | 450    | 1                           | VW3A46157        | 205.000/<br>451.948 |
| 315          | 500 | ATV630C31N4                                | 231             | 240    | 2                           | VW3A46153        | 119.000/<br>262.350 |

(1) When used with ATV650U07N4/N4E...D90N4/N4E drives, the filter must be mounted in a separate enclosure to maintain IP55 protection for the installation.

| Passive filters: 460 V 60 Hz three-phase supply |     |                                            |                 |        |                                   |                  |                     |
|-------------------------------------------------|-----|--------------------------------------------|-----------------|--------|-----------------------------------|------------------|---------------------|
| Motor rating                                    |     | For Altivar<br>Process drives              | Filter          |        | Quantity<br>required<br>per drive | Reference<br>(1) | Weight              |
|                                                 |     |                                            | Nominal current |        |                                   |                  |                     |
|                                                 |     |                                            | Input           | Output |                                   |                  |                     |
| kW                                              | HP  |                                            | A               | A      |                                   |                  | kg/<br>lb           |
| THDi < 5%                                       |     |                                            |                 |        |                                   |                  |                     |
| 0.75                                            | 1   | ATV630U07N4<br>ATV650U07N4<br>ATV650U07N4E | 6               | 6.2    | 1                                 | VW3A46158        | 16.000/<br>35.274   |
| 1.5                                             | 2   | ATV630U15N4<br>ATV650U15N4<br>ATV650U15N4E |                 |        |                                   |                  |                     |
| 2.2                                             | 3   | ATV630U22N4<br>ATV650U22N4<br>ATV650U22N4E |                 |        |                                   |                  |                     |
| 3                                               | –   | ATV630U30N4<br>ATV650U30N4<br>ATV650U30N4E |                 |        |                                   |                  |                     |
| 4                                               | 5   | ATV630U40N4<br>ATV650U40N4<br>ATV650U40N4E | 10              | 10.4   | 1                                 | VW3A46159        | 18.000/<br>39.683   |
| 5.5                                             | 7.5 | ATV630U55N4<br>ATV650U55N4<br>ATV650U55N4E |                 |        |                                   |                  |                     |
| 7.5                                             | 10  | ATV630U75N4<br>ATV650U75N4<br>ATV650U75N4E | 14              | 14.5   | 1                                 | VW3A46160        | 20.000/<br>44.092   |
| 11                                              | 15  | ATV630D11N4<br>ATV650D11N4<br>ATV650D11N4E | 19              | 19.5   | 1                                 | VW3A46161        | 30.000/<br>66.139   |
| 15                                              | 20  | ATV630D15N4<br>ATV650D15N4<br>ATV650D15N4E | 25              | 26     | 1                                 | VW3A46162        | 34.000/<br>74.957   |
| 18.5                                            | 25  | ATV630D18N4<br>ATV650D18N4<br>ATV650D18N4E | 31              | 32     | 1                                 | VW3A46163        | 52.000/<br>114.640  |
| 22                                              | 30  | ATV630D22N4<br>ATV650D22N4<br>ATV650D22N4E | 36              | 37     | 1                                 | VW3A46164        | 53.000/<br>116.845  |
| 30                                              | 40  | ATV630D30N4<br>ATV650D30N4<br>ATV650D30N4E | 48              | 50     | 1                                 | VW3A46165        | 57.000/<br>125.663  |
| 37                                              | 50  | ATV630D37N4<br>ATV650D37N4<br>ATV650D37N4E | 60              | 62     | 1                                 | VW3A46166        | 75.000/<br>165.347  |
| 45                                              | 60  | ATV630D45N4<br>ATV650D45N4<br>ATV650D45N4E | 73              | 76     | 1                                 | VW3A46167        | 97.000/<br>213.848  |
| 55                                              | 75  | ATV630D55N4<br>ATV650D55N4<br>ATV650D55N4E | 95              | 99     | 1                                 | VW3A46168        | 104.000/<br>229.281 |
| 75                                              | 100 | ATV630D75N4<br>ATV650D75N4<br>ATV650D75N4E | 118             | 122    | 1                                 | VW3A46169        | 106.000/<br>233.690 |
| 90                                              | 125 | ATV630D90N4<br>ATV650D90N4<br>ATV650D90N4E | 154             | 160    | 1                                 | VW3A46170        | 126.000/<br>277.782 |
| 110                                             | 150 | ATV630C11N4                                | 183             | 190    | 1                                 | VW3A46171        | 135.000/<br>297.624 |
| 132                                             | 200 | ATV630C13N4                                | 231             | 240    | 1                                 | VW3A46172        | 172.000/<br>379.195 |
| 160                                             | 250 | ATV630C16N4                                | 291             | 316    | 1                                 | VW3A46173        | 221.000/<br>487.221 |
| 220                                             | 350 | ATV630C22N4                                | 355             | 369    | 1                                 | VW3A46174        | 229.000/<br>504.858 |
| 250                                             | 400 | ATV630C25N4                                | 436             | 450    | 1                                 | VW3A46176        | 272.000/<br>599.657 |
| 315                                             | 500 | ATV630C31N4                                | 231             | 240    | 2                                 | VW3A46172        | 172.000/<br>379.195 |

(1) When used with **ATV650U07N4/N4E...D90N4/N4E** drives, the filter must be mounted in a separate enclosure to maintain IP55 protection for the installation.



Altivar Process drive with integrated EMC filter

### Integrated EMC filters

Altivar Process drives (except ATV630U07M3...D75M3) have integrated radio interference input filters in accordance with the EMC standard for variable speed electrical power drive "products" IEC/EN 61800-3, edition 2, category C2 or C3 in environment 1 or 2, and to comply with the European EMC (electromagnetic compatibility) directive.

The integrated EMC filter runs off the leakage current to ground. The leakage current can be reduced by disconnecting the built-in EMC filter (please refer to the [Installation Manual](#)). In this configuration, the product does not comply with the European EMC directive.

| Corresponding drive                                 | Maximum length of shielded cable (1) acc. to |                            |
|-----------------------------------------------------|----------------------------------------------|----------------------------|
|                                                     | IEC/EN 61800-3 category C2                   | IEC/EN 61800-3 category C3 |
|                                                     | m/ft                                         | m/ft                       |
| <b>Three-phase supply voltage: 380...480 V</b>      |                                              |                            |
| ATV630U07N4...D45N4                                 | 50/164                                       | 150/492                    |
| ATV630D55N4...C16N4                                 | –                                            | 150/492                    |
| ATV630U07N4Z...D45N4Z                               | 10/32                                        | 50/164                     |
| ATV630D55N4Z...D90N4Z                               | –                                            | 50/164                     |
| ATV630C22N4...C31N4                                 | –                                            | 50/164                     |
| ATV630C11N4F...C31N4F<br>ATV650C11N4F...C31N4F      | –                                            | 300/984                    |
| <b>Three-phase supply voltage: 380...480 V IP55</b> |                                              |                            |
| ATV650U07N4/N4E...D45N4/N4E                         | 50/164                                       | 150/492                    |
| ATV650D55N4/N4E...D90N4/N4E                         | –                                            | 150/492                    |
| <b>Three-phase supply voltage: 500...690 V IP00</b> |                                              |                            |
| ATV630U22Y6...D90Y6                                 | –                                            | 25/82                      |

### Additional EMC input filters

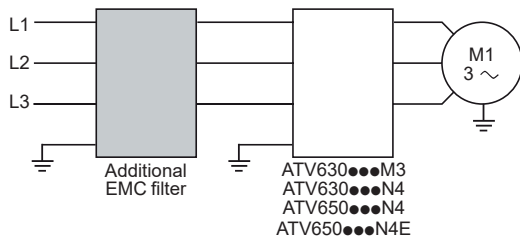
Additional EMC input filters can be used to meet more stringent requirements and are designed to reduce conducted emissions on the line supply below the limits of standard IEC/EN 61800-3 category C1, C2, or C3.

#### Use according to the type of line supply

Use of these additional filters is only possible on TN (neutral connection) and TT (grounded neutral) type systems.

Standard IEC/EN 61800-3, appendix D2.1, states that on IT systems (isolated or impedance grounded neutral), filters can cause permanent insulation monitors to operate in a random manner.

If a machine needs to be installed on an IT system, one solution is to insert an isolation transformer and connect the machine locally to a TN or TT system.



Altivar Process drive with additional EMC filter

(1) The maximum lengths are given as examples only, as they vary depending on the stray capacitance of the motors and the cables used. If motors are connected in parallel, it is the total length of all cables that should be taken into account.



VW3A4701



VW3A4708

## Additional EMC input filters

## References

| Corresponding drive                                                    | Maximum length of shielded cable<br>(1) |                                         |                                         | In<br>(2) | If   | Degree of<br>protection | Reference | Weight            |
|------------------------------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------|------|-------------------------|-----------|-------------------|
|                                                                        | IEC/EN<br>61800-3<br>category C1<br>(3) | IEC/EN<br>61800-3<br>category C2<br>(3) | IEC/EN<br>61800-3<br>category C3<br>(3) |           |      |                         |           |                   |
|                                                                        | m/ft                                    | m/ft                                    | m/ft                                    | A         | mA   | IP                      |           | kg/<br>lb         |
| <b>Three-phase supply voltage: 200...240 V 50 Hz</b>                   |                                         |                                         |                                         |           |      |                         |           |                   |
| ATV630U07M3...U15M3                                                    | 50/164                                  | 150/492                                 | 300/984                                 | 8         | 7.6  | 20                      | VW3A4701  | 2.000/<br>4.409   |
| ATV630U22M3...U30M3                                                    | 50/164                                  | 150/492                                 | 300/984                                 | 15        | 7.6  | 20                      | VW3A4702  | 2.400/<br>5.291   |
| ATV630U40M3...U75M3                                                    | 50/164                                  | 150/492                                 | 300/984                                 | 35        | 7.6  | 20                      | VW3A4703  | 4.100/<br>9.039   |
| ATV630D11M3                                                            | 50/164                                  | 150/492                                 | 300/984                                 | 50        | 7.6  | 20                      | VW3A4704  | 5.200/<br>11.464  |
| ATV630D15M3                                                            | 50/164                                  | 150/492                                 | 300/984                                 | 70        | 13.9 | 20                      | VW3A4705  | 6.100/<br>13.448  |
| ATV630D18M3...D22M3                                                    | 50/164                                  | 150/492                                 | 300/984                                 | 100       | 13.9 | 20                      | VW3A4706  | 6.500/<br>14.330  |
| ATV630D30M3...D37M3                                                    | 50/164                                  | 150/492                                 | 300/984                                 | 160       | 13.9 | 20                      | VW3A4707  | 8.500/<br>18.739  |
| ATV630D45M3                                                            | 50/164                                  | 150/492                                 | 300/984                                 | 200       | 13.9 | 20                      | VW3A4708  | 9.500/<br>20.944  |
| ATV630D55M3                                                            | 50/164                                  | 150/492                                 | 300/984                                 | 240       | 27.8 | 00                      | VW3A4709  | 15.000/<br>33.069 |
| ATV630D75M3                                                            | 50/164                                  | 150/492                                 | 300/984                                 | 305       | 27.8 | 00                      | VW3A4710  | 17.000/<br>37.479 |
| <b>Three-phase supply voltage: 380...480 V 50 Hz</b>                   |                                         |                                         |                                         |           |      |                         |           |                   |
| ATV630U07N4...U22N4(Z)<br>ATV650U07N4...U22N4<br>ATV650U07N4E...U22N4E | 50/164                                  | 150/492                                 | 300/984                                 | 8         | 7.6  | 20                      | VW3A4701  | 2.000/<br>4.409   |
| ATV630U30N4...U55N4(Z)<br>ATV650U30N4...U55N4<br>ATV650U30N4E...U55N4E | 50/164                                  | 150/492                                 | 300/984                                 | 15        | 7.6  | 20                      | VW3A4702  | 2.400/<br>5.291   |
| ATV630U75N4...D15N4(Z)<br>ATV650U75N4...D15N4<br>ATV650U75N4E...D15N4E | 50/164                                  | 150/492                                 | 300/984                                 | 35        | 7.6  | 20                      | VW3A4703  | 4.100/<br>9.039   |
| ATV630D18N4...D22N4(Z)<br>ATV650D18N4...D22N4<br>ATV650D18N4E...D22N4E | 50/164                                  | 150/492                                 | 300/984                                 | 50        | 7.6  | 20                      | VW3A4704  | 5.200/<br>11.464  |
| ATV630D30N4(Z)<br>ATV650D30N4<br>ATV650D30N4E                          | 50/164                                  | 150/492                                 | 300/984                                 | 70        | 13.9 | 20                      | VW3A4705  | 6.100/<br>13.448  |
| ATV630D37N4...D45N4(Z)<br>ATV650D37N4...D45N4<br>ATV650D37N4E...D45N4E | 50/164                                  | 150/492                                 | 300/984                                 | 100       | 13.9 | 20                      | VW3A4706  | 6.500/<br>14.330  |
| ATV630D55N4(Z)<br>ATV650D55N4<br>ATV650D55N4E                          | 50/164                                  | 150/492                                 | 300/984                                 | 160       | 13.9 | 20                      | VW3A4707  | 8.500/<br>18.739  |
| ATV630D75N4...D90N4(Z)<br>ATV650D75N4...D90N4<br>ATV650D75N4E...D90N4E | 50/164                                  | 150/492                                 | 300/984                                 | 200       | 13.9 | 20                      | VW3A4708  | 9.500/<br>20.944  |
| ATV630C11N4...C13N4                                                    | —                                       | 150/492                                 | 300/984                                 | 240       | 27.8 | 00                      | VW3A4709  | 15.000/<br>33.069 |
| ATV630C16N4                                                            | —                                       | 150/492                                 | 300/984                                 | 305       | 27.8 | 00                      | VW3A4710  | 17.000/<br>37.479 |
| ATV630C22N4...C31N4                                                    | 50/164                                  | 300/984                                 | —                                       | 546       | 500  | 00                      | VW3A4411  | 25.000/<br>57.320 |

(1) The maximum lengths are given as examples only, as they vary depending on the stray capacitance of the motors and the cables used. If motors are connected in parallel, it is the total length of all cables that should be taken into account.

(2) Nominal filter current.

(3) Values given depend on the nominal switching frequency of the drive. This frequency depends on the drive rating.

## Variable speed drives

Altivar Process ATV600

Option: Additional EMC input filters

Substitution kits for ATV61/71

## IP21 protection kit for IP20 filters

Additional input filters provide IP20 protection as standard. This kit can be used to provide IP21 or UL Type 1 protection.

| Description                                     | For filters | Reference                 | Weight<br>kg/<br>lb |
|-------------------------------------------------|-------------|---------------------------|---------------------|
| Mechanical kit including cover and cable clamps | VW3A4701    | <a href="#">VW3A47901</a> | 0.200/<br>0.441     |
|                                                 | VW3A4702    | <a href="#">VW3A47902</a> | 0.300/<br>0.661     |
|                                                 | VW3A4703    | <a href="#">VW3A47903</a> | 0.400/<br>0.882     |
|                                                 | VW3A4704    | <a href="#">VW3A47904</a> | 0.500/<br>1.102     |
|                                                 | VW3A4705    | <a href="#">VW3A47905</a> | 0.900/<br>1.984     |
|                                                 | VW3A4706    | <a href="#">VW3A47906</a> | 1.000/<br>2.205     |
|                                                 | VW3A4707    | <a href="#">VW3A47907</a> | 1.500/<br>3.307     |
|                                                 | VW3A4708    | <a href="#">VW3A47908</a> | 2.000/<br>4.409     |

## Substitution kits for ATV61/71

This kit is used to install an Altivar Process drive in the place of an Altivar 61 or Altivar 71 drive using the same fixing holes. It includes the mechanical adapters required for mounting.

| Corresponding drive   | From ATV61/71 | Kit reference             | Weight<br>kg/<br>lb |
|-----------------------|---------------|---------------------------|---------------------|
| ATV630U07N4Z...U22N4Z | S2            | <a href="#">VW3A93111</a> | —                   |
|                       | S3            | <a href="#">VW3A93112</a> | —                   |
|                       | S4            | <a href="#">VW3A93113</a> | —                   |
| ATV630U75N4Z, D11N4Z  | S4            | <a href="#">VW3A93114</a> | —                   |
|                       | S5A           | <a href="#">VW3A93115</a> | —                   |
| ATV630D15N4Z...D22N4Z | S5B           | <a href="#">VW3A93116</a> | —                   |
|                       | S6            | <a href="#">VW3A93116</a> | —                   |
| ATV630D30N4Z...D45N4Z | S6            | <a href="#">VW3A93117</a> | —                   |
|                       | S7A           | <a href="#">VW3A93117</a> | —                   |
|                       | S8            | <a href="#">VW3A93118</a> | —                   |
| ATV630D55N4Z...D90N4Z | S8            | <a href="#">VW3A93119</a> | —                   |
|                       | S9            | <a href="#">VW3A93120</a> | —                   |



Substitution kit VW3A93111

PFI42110



VW3A4556

### Line chokes

A line choke can be used to reduce harmonic distortion of the current produced by the drive.

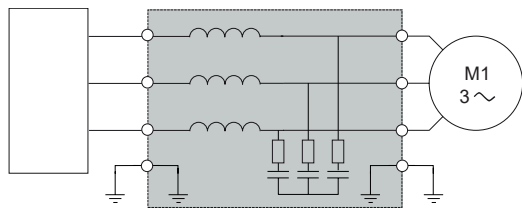
The choke values are defined for a voltage drop between phases of 3% and 5% of the nominal supply voltage. Values higher than this will cause loss of torque.

Line chokes allow ATV630U22Y6...D90Y6 drives to be used in applications requiring a harmonic level of THDi 48%.

Chokes must be installed upstream of the drive.

### References

| Corresponding drive                              | Line supply<br>Isc | Line chokes         |                    |        | Reference                | Weight            |
|--------------------------------------------------|--------------------|---------------------|--------------------|--------|--------------------------|-------------------|
|                                                  |                    | Inductance<br>value | Nominal<br>current | Losses |                          |                   |
|                                                  | kA                 | mH                  | A                  | W      |                          | kg/<br>lb         |
| Three-phase supply voltage: 500...690 V 50/60 Hz |                    |                     |                    |        |                          |                   |
| ATV630U22Y6...D40Y6                              | 22                 | 10                  | 4                  | 45     | <a href="#">VW3A4551</a> | 1.500/<br>2.204   |
| ATV630U55Y6...U75Y6                              | 22                 | 4                   | 10                 | 65     | <a href="#">VW3A4552</a> | 3.000/<br>6.613   |
| ATV630D11Y6...D15Y6                              | 22                 | 2                   | 16                 | 75     | <a href="#">VW3A4553</a> | 3.500/<br>7.716   |
| ATV630D18Y6...D22Y6                              | 22                 | 1                   | 30                 | 90     | <a href="#">VW3A4554</a> | 6.000/<br>13.227  |
| ATV630D30Y6...D45Y6                              | 22                 | 0.5                 | 60                 | 94     | <a href="#">VW3A4555</a> | 11.000/<br>24.250 |
| ATV630D55Y6...D90Y6                              | 22                 | 0.3                 | 100                | 260    | <a href="#">VW3A4556</a> | 16.000/<br>35.274 |



ATV630...M3  
ATV630...N4  
ATV650...N4  
ATV650...N4E

Altivar Process drive with dv/dt filter

### Presentation

Altivar Process drives with supply voltages of 200...240 V and 380...480 V operate with the following maximum motor cable lengths: 150 m/492 ft for shielded cables and 300 m/984 ft for unshielded cables.

For a supply voltage of 500...690 V, the maximum motor cable lengths are 10 m/32 ft for shielded cables and 20 m/65 ft for unshielded cables.

To limit the impact of dv/dt and overvoltages in the motor, it is advisable to add an output filter if the motor insulation type does not conform to IEC 600034-25:

- For cables <50 m, a dv/dt output filter
- For cables >50 m, a sinus filter (see [page 2/45](#))

For further information, please consult the white paper [An Improved Approach for Connecting VSD and Electric Motors](#).

Output filters are used to limit dv/dt at the motor terminals to 500 V/μs maximum for supply voltages up to 480 V, 750 V/μs maximum for a supply voltage of 500 V, and 1,000 V/μs maximum for a supply voltage of 690 V.

Output filters are designed to limit overvoltages at the motor terminals to less than:

- 800 V with a shielded cable 0 to 50 m (0 to 164 ft) long for a 400 V supply voltage
- 1,000 V with a shielded cable 50 to 150 m (164 to 492 ft) long for a 400 V supply voltage
- 1,500 V with a shielded cable 150 to 300 m (492 to 984 ft) long for a 400 V supply voltage (up to 500 m (1,640 ft) with an unshielded cable)
- 1,300 V for a 500 V supply voltage, cable length depending on the dv/dt filter combination
- 1,600 V for a 690 V supply voltage, cable length depending on the dv/dt filter combination

The performance of dv/dt filters will be affected if the maximum cable lengths are exceeded. For an application with several motors connected in parallel, the cable length must include all cabling. If a cable longer than that specified is used, the dv/dt filters may overheat.

The switching frequency must be less than 8 kHz.

### dv/dt output filters

| Corresponding drive                            | Maximum length of motor cable   |                    | Degree of protection | In (3) | Reference | Weight        |
|------------------------------------------------|---------------------------------|--------------------|----------------------|--------|-----------|---------------|
|                                                | Maximum switching frequency (1) | Shielded cable (2) |                      |        |           |               |
|                                                | kHz                             | m/ft               | IP                   | A      |           | kg/lb         |
| <b>Three-phase supply voltage: 200...240 V</b> |                                 |                    |                      |        |           |               |
| ATV630U07M3                                    | 4                               | 300/984            | 20                   | 6      | VW3A5301  | 11.000/24.251 |
| ATV630U15M3...U30M3                            | 4                               | 300/984            | 20                   | 15     | VW3A5302  | 12.000/26.455 |
| ATV630U40M3                                    | 4                               | 300/984            | 20                   | 25     | VW3A5303  | 12.000/26.455 |
| ATV630U55M3...D11M3                            | 4                               | 300/984            | 20                   | 50     | VW3A5304  | 18.000/39.683 |
| ATV630D15M3...D22M3                            | 4                               | 300/984            | 20                   | 95     | VW3A5305  | 19.000/41.888 |
| ATV630D30M3...D45M3                            | 2.5                             | 300/984            | 00                   | 180    | VW3A5306  | 22.000/48.502 |
| ATV630D55M3...D75M3                            | 2.5                             | 300/984            | 00                   | 305    | VW3A5307  | 40.000/88.185 |

(1) The filters are designed to operate in a switching frequency range of between 2 and 8 kHz.

(2) Values given depend on the nominal switching frequency of the drive. This frequency depends on the drive rating. These cable lengths are given as examples only as they can vary depending on the application. They correspond to motors conforming to IEC 6034-25 and NEMA MG1/31.2006.

(3) Nominal filter current.

IOP121624



VW3A5104

## dv/dt output filters (continued)

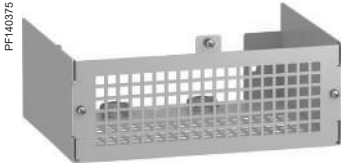
| Corresponding drive                                                 | Maximum length of motor cable   |                    | Degree of protection | In (3) | Reference (4) | Weight             |
|---------------------------------------------------------------------|---------------------------------|--------------------|----------------------|--------|---------------|--------------------|
|                                                                     | Maximum switching frequency (1) | Shielded cable (2) |                      |        |               |                    |
|                                                                     | kHz                             | m/ft               | IP                   | A      |               | kg/lb              |
| <b>Three-phase supply voltage: 380...480 V</b>                      |                                 |                    |                      |        |               |                    |
| ATV630U07N4...U22N4<br>ATV650U07N4...U22N4<br>ATV650U07N4E...U22N4E | 4                               | 300/<br>984        | 20                   | 6      | VW3A5301      | 11.000/<br>24.251  |
| ATV630U30N4...U55N4<br>ATV650U30N4...U55N4<br>ATV650U30N4E...U55N4E | 4                               | 300/<br>984        | 20                   | 15     | VW3A5302      | 12.000/<br>26.455  |
| ATV630U75N4...D11N4<br>ATV650U75N4...D11N4<br>ATV650U75N4E...D11N4E | 4                               | 300/<br>984        | 20                   | 25     | VW3A5303      | 12.000/<br>26.455  |
| ATV630D15N4...D22N4<br>ATV650D15N4...D22N4<br>ATV650D15N4E...D22N4E | 4                               | 300/<br>984        | 20                   | 50     | VW3A5304      | 18.000/<br>39.683  |
| ATV630D30N4...D45N4<br>ATV650D30N4...D45N4<br>ATV650D30N4E...D45N4E | 4                               | 300/<br>984        | 20                   | 95     | VW3A5305      | 19.000/<br>41.888  |
| ATV630D55N4...D90N4<br>ATV650D55N4...D90N4<br>ATV650D55N4E...D90N4E | 2.5                             | 300/<br>984        | 00                   | 180    | VW3A5306      | 22.000/<br>48.502  |
| ATV630C11N4...C16N4                                                 | 2.5                             | 300/<br>984        | 00                   | 305    | VW3A5307      | 40.000/<br>88.185  |
| ATV630C22N4                                                         | 2.5                             | 250/<br>820        | 00                   | 481    | VW3A5106      | 58.000/<br>127.868 |
| ATV630C25N4...C31N4                                                 | 2.5                             | 200/<br>656        | 00                   | 759    | VW3A5107      | 93.000/<br>205.230 |
| <b>Three-phase supply voltage: 500...690 V</b>                      |                                 |                    |                      |        |               |                    |
| ATV630U22Y6...U55Y6                                                 | 6                               | 50/<br>164         | 00                   | 90     | VW3A5103      | 10.000/<br>22.046  |
| ATV630U75Y6,<br>ATV630D11Y6                                         | 6                               | 50/<br>164         | 00                   | 90     | VW3A5103      | 10.000/<br>22.046  |
|                                                                     | 6                               | 100/<br>328        | 00                   | 215    | VW3A5104      | 15.500/<br>34.171  |
| ATV630D15Y6...D30Y6                                                 | 2.5                             | 50/<br>164         | 00                   | 90     | VW3A5103      | 10.000/<br>22.046  |
|                                                                     | 2.5                             | 70/<br>230         | 00                   | 90     | 2 x VW3A5103  | 20.000/<br>44.001  |
|                                                                     | 4                               | 35/<br>115         | 00                   | 90     |               |                    |
|                                                                     | 4                               | 150/<br>492        | 00                   | 215    | VW3A5104      | 15.500/<br>34.171  |
|                                                                     | 6                               | 100/<br>328        | 00                   | 215    |               |                    |
|                                                                     | 6                               | 150/<br>492        | 00                   | 215    | 2 x VW3A5104  | 31.000/<br>68.342  |
|                                                                     | 4                               | 100/<br>328        | 00                   | 215    | VW3A5104      | 15.500/<br>34.171  |
|                                                                     | 4                               | 150/<br>492        | 00                   | 215    | 2 x VW3A5104  | 31.000/<br>68.342  |

(1) The filters are designed to operate in a switching frequency range of between 2 and 8 kHz.

(2) Values given depend on the nominal switching frequency of the drive. This frequency depends on the drive rating. These cable lengths are given as examples only as they can vary depending on the application. They correspond to motors conforming to IEC 6034-25 and NEMA MG1/31.2006.

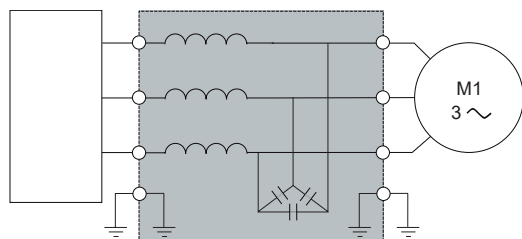
(3) Nominal filter current.

(4) When used with ATV650U07N4/N4E...D90N4/N4E drives, the filter must be mounted in a separate enclosure to maintain IP55 protection for the installation.



VW3A53902

| IP21 protection kit for IP20 filters            |                            |           |              |
|-------------------------------------------------|----------------------------|-----------|--------------|
| Description                                     | Corresponding dv/dt filter | Reference | Weight kg/lb |
| Mechanical kit including cover and cable clamps | VW3A5301                   | VW3A53902 | 1.300/       |
|                                                 | VW3A5302                   |           | 2.866        |
|                                                 | VW3A5303                   |           |              |
|                                                 | VW3A5304                   | VW3A53903 | 1.700/3.748  |
|                                                 | VW3A5305                   | VW3A53905 | 3.200/7.055  |



ATV630...M3  
ATV630...N4  
ATV630...Y6  
ATV650...N4  
ATV650...N4E

Altivar Process drive with sinus filter

### Presentation

Sinus filters allow Altivar Process drives to operate with long motor cables:

- 500 m (1,640 ft) with a shielded cable
- 1,000 m (3,280 ft) with an unshielded cable

The minimum switching frequency at which sinus filters can operate is 2 kHz. This is the default value when the sinus filter function is activated on the variable speed drive (please refer to the [Programming Manual](#))

The output frequency must be less than 100 Hz.

At 100% load, the voltage drop is less than 8% with output frequency 50 Hz and switching frequency 4 kHz.

### Applications

For applications requiring:

- Long cable runs
- Motors connected in parallel
- Submersible pumps sensitive to dv/dt
- An intermediate transformer between the drive and the motor

### Sinus filters

| Corresponding drive                            | Maximum length of unshielded motor cable | Nominal current | Degree of protection | Reference (1) | Weight              |
|------------------------------------------------|------------------------------------------|-----------------|----------------------|---------------|---------------------|
|                                                | m/<br>ft                                 | A               | IP                   |               | kg/<br>lb           |
| <b>Three-phase supply voltage: 200...240 V</b> |                                          |                 |                      |               |                     |
| ATV630U07M3                                    | 1,000/<br>3,280                          | 6               | 20                   | VW3A5401      | 10.000/<br>22.046   |
| ATV630U15M3...U30M3                            | 1,000/<br>3,280                          | 15              | 20                   | VW3A5402      | 13.500/<br>29.762   |
| ATV630U40M3                                    | 1,000/<br>3,280                          | 25              | 20                   | VW3A5403      | 20.000/<br>44.092   |
| ATV630U55M3...D11M3                            | 1,000/<br>3,280                          | 50              | 20                   | VW3A5404      | 35.000/<br>77.162   |
| ATV630D15M3...D22M3                            | 1,000/<br>3,280                          | 95              | 20                   | VW3A5405      | 60.000/<br>132.277  |
| ATV630D30M3...D45M3                            | 1,000/<br>3,280                          | 180             | 00                   | VW3A5406      | 90.000/<br>198.416  |
| ATV630D75M3 (2)                                | 1,000/<br>3,280                          | 305             | 00                   | VW3A5407      | 134.000/<br>295.419 |

(1) The filters are designed to operate in a switching frequency range of between 4 and 8 kHz.

(2) In "Normal Duty", apply a derating of 1 to the drive nominal power with a minimum switching frequency of 4 kHz.

For example: An ATV630D75M3 drive with sinus filter can be used on a 55 kW motor.

## Variable speed drives

Altivar Process ATV600

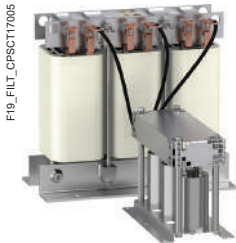
Option: Output filters

Sinus filters and protection kits

2



VW3A5216



VW3A5219

## Sinus filters (continued)

| Corresponding drive                                                 | Maximum length of unshielded motor cable | Nominal current | Degree of protection | Reference (1) (2) | Weight              |
|---------------------------------------------------------------------|------------------------------------------|-----------------|----------------------|-------------------|---------------------|
|                                                                     | m/ft                                     | A               | IP                   |                   | kg/lb               |
| <b>Three-phase supply voltage: 380...480 V</b>                      |                                          |                 |                      |                   |                     |
| ATV630U07N4...U22N4<br>ATV650U07N4...U22N4<br>ATV650U07N4E...U22N4E | 1,000/<br>3,280                          | 6               | 20                   | VW3A5401          | 10.000/<br>22.046   |
| ATV630U30N4...U55N4<br>ATV650U30N4...U55N4<br>ATV650U30N4E...U55N4E | 1,000/<br>3,280                          | 15              | 20                   | VW3A5402          | 13.500/<br>29.762   |
| ATV630U75N4...D11N4<br>ATV650U75N4...D11N4<br>ATV650U75N4E...D11N4E | 1,000/<br>3,280                          | 25              | 20                   | VW3A5403          | 20.000/<br>44.092   |
| ATV630D15N4...D22N4<br>ATV650D15N4...D22N4<br>ATV650D15N4E...D22N4E | 1,000/<br>3,280                          | 50              | 20                   | VW3A5404          | 35.000/<br>77.162   |
| ATV630D30N4...D45N4<br>ATV650D30N4...D45N4<br>ATV650D30N4E...D45N4E | 1,000/<br>3,280                          | 95              | 20                   | VW3A5405          | 60.000/<br>132.277  |
| ATV630D55N4...D90N4<br>ATV650D55N4...D90N4<br>ATV650D55N4E...D90N4E | 1,000/<br>3,280                          | 180             | 00                   | VW3A5406          | 90.000/<br>198.416  |
| ATV630C13N4...C16N4 (3)                                             | 1,000/<br>3,280                          | 305             | 00                   | VW3A5407          | 134.000/<br>295.419 |
| ATV630C22N4 (3)                                                     | 400/<br>1,312                            | 400             | 00                   | VW3A5209          | 190.000/<br>418.878 |
| ATV630C25N4...C31N4 (3)                                             | 400/<br>1,312                            | 600             | 00                   | VW3A5210          | 260.000/<br>573.202 |

## Three-phase supply voltage: 500...690 V

|                     |               |     |    |          |                     |
|---------------------|---------------|-----|----|----------|---------------------|
| ATV630U22Y6...U75Y6 | 500/<br>1,640 | 13  | 20 | VW3A5215 | 13.500/<br>29.762   |
| ATV630D11Y6...D22Y6 | 500/<br>1,640 | 28  | 20 | VW3A5216 | 25.400/<br>55.997   |
| ATV630D30Y6...D37Y6 | 500/<br>1,640 | 45  | 20 | VW3A5217 | 38.000/<br>83.776   |
| ATV630D45Y6...D55Y6 | 750/<br>2,460 | 75  | 20 | VW3A5218 | 75.000/<br>165.347  |
| ATV630D75Y6...D90Y6 | 750/<br>2,460 | 115 | 20 | VW3A5219 | 106.000/<br>233.690 |

## IP21 protection kit for IP20 filters

| Description                                     | Corresponding sinus filter | Reference | Weight kg/lb    |
|-------------------------------------------------|----------------------------|-----------|-----------------|
| Mechanical kit including cover and cable clamps | VW3A5401<br>VW3A5402       | VW3A53901 | 1.000/<br>2.205 |
|                                                 | VW3A5403                   | VW3A53902 | 1.300/<br>2.866 |
|                                                 | VW3A5404                   | VW3A53903 | 2.700/<br>5.952 |
|                                                 | VW3A5405                   | VW3A53904 | 3.200/<br>7.055 |
|                                                 |                            |           |                 |

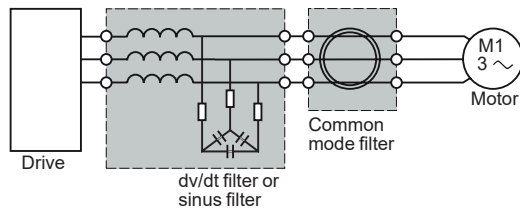
(1) The filters are designed to operate in a switching frequency range of between 4 and 8 kHz.

(2) When used with **ATV650U07N4/N4E...D90N4/N4E** drives, the filter must be mounted in a separate enclosure to maintain IP55 protection for the installation.

(3) In "Normal Duty", apply a derating of 1 to the drive nominal power with a minimum switching frequency of 4 kHz. For example:

- An ATV630C13N4 drive with sinus filter can be used on a 110 kW motor.

- An ATV630C16N4 drive with sinus filter can be used on a 132 kW motor.



Altivar Process ATV600 drive with common mode filter

### Presentation

Sinus filters or dv/dt filters reduce the overvoltage across windings and high frequency currents in differential mode. But they have no effect on the common mode current between phases and the cable shielding, or between the windings and the stator/rotor of the motor.

Common mode filters offer several benefits:

- Reduction of RFI (radio frequency interference) of the motor cable and improvement of the effectiveness of the EMC filter for conducted emissions
- Reduction of the high frequency currents circulating in the motor bearings to help to prevent them from being damaged

It is possible to use the common mode filter at the output terminals of the drive, the dv/dt filter, or the sinus filter.

**Note:** The selection of a common mode configuration depends on the type and length of motor cable. An abnormal increase in temperature indicates a possible saturation. Additional filters should be used to avoid it.

### Common mode filters

| Corresponding drive | Maximum length of unshielded cable |                  |                        |                        |
|---------------------|------------------------------------|------------------|------------------------|------------------------|
|                     | 150 m/<br>492 ft                   | 300 m/<br>984 ft | 500 m/<br>1,640 ft     | 1,000 m/<br>3,280 ft   |
| ATV630U07M3...U40M3 | VW3A5501                           | VW3A5502         | 2 x VW3A5501           | VW3A5501 +<br>VW3A5502 |
| ATV630U55M3         | VW3A5501                           | VW3A5502         | VW3A5501 +<br>VW3A5502 | 2 x VW3A5502           |
| ATV630U75M3...D11M3 | VW3A5503                           | VW3A5504         | 2 x VW3A5503           | VW3A5503 +<br>VW3A5504 |
| ATV630D15M3...D45M3 | VW3A5503                           | VW3A5504         | VW3A5503 +<br>VW3A5504 | 2 x VW3A5504           |
| ATV630D55M3...D75M3 | VW3A5505                           | VW3A5506         | 2 x VW3A5505           | 2 x VW3A5506           |

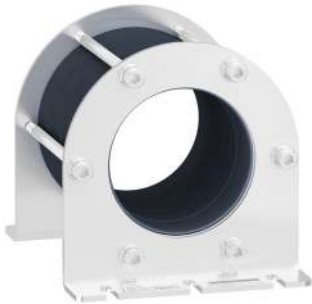
## Variable speed drives

Altivar Process ATV600

Option: Output filters

Common mode filters

PF130952A



VW3A5503

## Common mode filters (continued)

| Corresponding drive                                                 | Maximum length of unshielded cable |                  |                        |                        |
|---------------------------------------------------------------------|------------------------------------|------------------|------------------------|------------------------|
|                                                                     | 150 m/<br>492 ft                   | 300 m/<br>984 ft | 500 m/<br>1,640 ft     | 1,000 m/<br>3,280 ft   |
| ATV630U07N4...U40N4<br>ATV650U07N4...U40N4<br>ATV650U07N4E...U40N4E | VW3A5501                           | VW3A5502         | 2 x VW3A5501           | VW3A5501 +<br>VW3A5502 |
| ATV630U55N4<br>ATV650U55N4<br>ATV650U55N4E                          | VW3A5501                           | VW3A5502         | VW3A5501 +<br>VW3A5502 | VW3A5501 +<br>VW3A5502 |
| ATV630U75N4...D11N4<br>ATV650U75N4...D11N4<br>ATV650U75N4E...D11N4E | VW3A5501                           | VW3A5502         | VW3A5501 +<br>VW3A5502 | 2 x VW3A5502           |
| ATV630D15N4...D22N4<br>ATV650D15N4...D22N4<br>ATV650D15N4E...D22N4E | VW3A5503                           | VW3A5504         | 2 x VW3A5503           | VW3A5503 +<br>VW3A5504 |
| ATV630D30N4...D90N4<br>ATV650D30N4...D90N4<br>ATV650D30N4E...D90N4E | VW3A5503                           | VW3A5504         | VW3A5503 +<br>VW3A5504 | 2 x VW3A5504           |
| ATV630C11N4...C16N4                                                 | VW3A5505                           | VW3A5506         | 2 x VW3A5505           | 2 x VW3A5506           |

## Corresponding drive Maximum length of shielded cable

| Corresponding drive                                                 | Maximum length of shielded cable |                        |                     |
|---------------------------------------------------------------------|----------------------------------|------------------------|---------------------|
|                                                                     | 150 m/<br>492 ft                 | 300 m/<br>984 ft       | 500 m/<br>1,640 ft  |
| ATV630U07N4...U40N4<br>ATV650U07N4...U40N4<br>ATV650U07N4E...U40N4E | VW3A5501                         | VW3A5502               | 2 x VW3A5501        |
| ATV630U55N4<br>ATV650U55N4<br>ATV650U55N4E                          | VW3A5502                         | 2 x VW3A5501           | 2 x VW3A5502        |
| ATV630U75N4...D11N4<br>ATV650U75N4...D11N4<br>ATV650U75N4E...D11N4E | VW3A5502                         | 2 x VW3A5501           | 2 x VW3A5502        |
| ATV630D15N4...D22N4<br>ATV650D15N4...D22N4<br>ATV650D15N4E...D22N4E | VW3A5503                         | 2 x VW3A5503           | VW3A5503 + VW3A5504 |
| ATV630D30N4...D90N4<br>ATV650D30N4...D90N4<br>ATV650D30N4E...D90N4E | VW3A5504                         | VW3A5503 +<br>VW3A5504 | 2 x VW3A5504        |
| ATV630C11N4                                                         | VW3A5505                         | VW3A5506               | VW3A5505 + VW3A5506 |
| ATV630C13N4...C16N4                                                 | VW3A5506                         | 2 x VW3A5505           | 2 x VW3A5506        |

### Applications

Circuit breaker/contactor/drive combinations help to ensure continuity of service in the installation. The type of circuit breaker/contactor coordination selected can reduce maintenance costs in the event of a motor short circuit on the drive input by minimizing the time required to make the necessary repairs and the cost of replacement equipment. The suggested combinations provide coordination according to the drive rating.

The drive controls the motor, provides a monitoring function against short circuits between the drive and the motor, and helps protect the motor cable against overloads. Overload monitoring is provided by the drive's motor thermal monitoring function if this has been enabled. Otherwise, an external monitoring device such as a probe or thermal overload relay must be provided.

Selecting short circuit protection devices (fuses or circuit breakers) is key to helping to protect the overall installation against potential damage due to short circuits. It is recommended that you refer to the [EcoStruxure™ Motor Control Configurator](#) and [Installation Manual](#) for more information.



GV3L40



LC1D40A●●



ATV630D11M3

### IEC standard motor starters

| Motor                                            | Drive       | Circuit breaker         |        | Line contactor |                   |
|--------------------------------------------------|-------------|-------------------------|--------|----------------|-------------------|
| Power (1)                                        | Reference   | Reference (2)           | Rating | Irm            | Reference (3) (4) |
| kW HP                                            |             |                         | A      | A              |                   |
| Three-phase supply voltage: 200...240 V 50/60 Hz |             |                         |        |                |                   |
| 0.75 1                                           | ATV630U07M3 | GV2L08                  | 4      | 51             | LC1D09●●          |
| 1.5 2                                            | ATV630U15M3 | GV2L10                  | 6.3    | 78             |                   |
| 2.2 3                                            | ATV630U22M3 | GV2L14                  | 10     | 138            |                   |
| 3 –                                              | ATV630U30M3 | GV2L16                  | 14     | 170            | LC1D18●●          |
| 4 5                                              | ATV630U40M3 | GV2L20                  | 18     | 223            |                   |
| 5.5 7.5                                          | ATV630U55M3 | GV2L22                  | 25     | 327            | LC1D25●●          |
| 7.5 10                                           | ATV630U75M3 | GV2L32                  | 32     | 448            | LC1D40A●●         |
| 11 15                                            | ATV630D11M3 | GV3L40                  | 40     | 560            |                   |
| 15 20                                            | ATV630D15M3 | GV3L65                  | 65     | 910            | LC1D65A●●         |
| 18.5 25                                          | ATV630D18M3 | GV4L/LE80●              | 80     | 480            | LC1D65A●●         |
| 22 30                                            | ATV630D22M3 |                         |        |                | LC1D80●●          |
| 30 40                                            | ATV630D30M3 | GV4L/LE115●             | 115    | 690            | LC1D95●●          |
| 37 50                                            | ATV630D37M3 | NSX160●MA150            | 150    | 1350           | LC1D115●●         |
| 45 60                                            | ATV630D45M3 |                         |        |                | LC1D150●●         |
| 55 75                                            | ATV630D55M3 | NSX250●MA220            | 220    | 1980           | LC1G185●●         |
| 75 100                                           | ATV630D75M3 | NSX400●Micrologic 1.3-M | 320    | 1600           | LC1G265●●         |

(1) Standard power ratings for 230 V 50/60 Hz 4-pole motors.

The values expressed in HP conform to the NEC (National Electrical Code).

(2) For references to be completed, replace ● with the letter corresponding to the breaking performance of the circuit breaker (F, N, H, S, or L). You can use the [EcoStruxure™ Motor Control Configurator](#) tool to support your customization.

Breaking capacity of circuit breakers according to standard IEC 60947-2:

| Circuit breaker         | Icu (kA) for 200...240 V |    |    |     |     |     |
|-------------------------|--------------------------|----|----|-----|-----|-----|
|                         | B                        | F  | N  | H   | S   | L   |
| GV2L08...L20            | >100                     | –  | –  | –   | –   | –   |
| GV2L22...L32            | 50                       | –  | –  | –   | –   | –   |
| GV3L40...L65            | 50                       | –  | –  | –   | –   | –   |
| GV4L80/115●             | –                        | 50 | –  | 100 | –   | –   |
| GV4LE80/115●            | –                        | 50 | –  | 100 | 120 | –   |
| NSX160●MA150            | –                        | –  | 85 | 90  | 100 | 150 |
| NSX250●MA220            | –                        | –  | 85 | 90  | 100 | 150 |
| NSX400●Micrologic 1.3-M | –                        | –  | 40 | 85  | 100 | 150 |

(3) Composition of contactors:

LC1D09...D150: 3 poles + 1 NO auxiliary contact + 1 NC auxiliary contact

LC1G185...G265: 3 poles

To add auxiliary contacts or other accessories, please refer to the [TeSys](#) catalog.

(4) Replace ●● with the control circuit voltage code indicated in the table below:

|                | Volts ~     | 24      | 48       | 110       | 220 | 230       | 240 |
|----------------|-------------|---------|----------|-----------|-----|-----------|-----|
| LC1D09...D150  | 50 Hz       | B5      | E5       | F5        | M5  | P5        | U5  |
|                | 60 Hz       | B6      | E6       | F6        | M6  | –         | U6  |
|                | 50/60 Hz    | B7      | E7       | F7        | M7  | P7        | U7  |
|                | AC/DC volts | 24...48 | 48...130 | 100...250 |     | 200...500 |     |
| LC1G185...G265 |             | BEEA    | EHEN     | KUEN      |     | LSEA      |     |

For other voltages available between 24 V and 660 V, or a DC control circuit, please consult our [Customer Care Teams](#).



GV4LE115

+



LC1D80●●

+



ATV630D45N4

### IEC standard motor starters

| Motor                                            | Drive       | Circuit breaker          |        | Line contactor  |                   |
|--------------------------------------------------|-------------|--------------------------|--------|-----------------|-------------------|
| Power (1)                                        | Reference   | Reference (2)            | Rating | I <sub>rm</sub> | Reference (3) (4) |
| kW HP                                            |             |                          | A      | A               |                   |
| Three-phase supply voltage: 380...415 V 50/60 Hz |             |                          |        |                 |                   |
| 0.75 1                                           | ATV630U07N4 | GV2L07                   | 2.5    | 33.5            | LC1D09●●          |
| 1.5 2                                            | ATV630U15N4 | GV2L08                   | 4      | 51              |                   |
| 2.2 3                                            | ATV630U22N4 | GV2L10                   | 6.3    | 78              |                   |
| 3 –                                              | ATV630U30N4 | GV2L14                   | 10     | 138             |                   |
| 4 5                                              | ATV630U40N4 |                          |        |                 |                   |
| 5.5 7.5                                          | ATV630U55N4 | GV2L16                   | 14     | 170             | LC1D18●●          |
| 7.5 10                                           | ATV630U75N4 | GV2L20                   | 18     | 223             |                   |
| 11 15                                            | ATV630D11N4 | GV2L22                   | 25     | 327             | LC1D25●●          |
| 15 20                                            | ATV630D15N4 | GV3L32                   | 32     | 448             |                   |
| 18.5 25                                          | ATV630D18N4 | GV3L40                   | 40     | 560             | LC1D40A●●         |
| 22 30                                            | ATV630D22N4 | GV3L50                   | 50     | 700             | LC1D50A●●         |
| 30 40                                            | ATV630D30N4 | GV3L65                   | 65     | 910             |                   |
| 37 50                                            | ATV630D37N4 | GV4L/LE80●               | 80     | 480             | LC1D65A●●         |
| 45 60                                            | ATV630D45N4 | GV4L/LE115●              | 115    | 690             | LC1D80●●          |
| 55 75                                            | ATV630D55N4 |                          |        |                 |                   |
| 75 100                                           | ATV630D75N4 | NSX160●MA150             | 150    | 1350            | LC1D115●●         |
| 90 125                                           | ATV630D90N4 | NSX250●MA220             | 220    | 1980            | LC1G185●●         |
| 110 150                                          | ATV630C11N4 |                          |        |                 | LC1G225●●         |
| 132 200                                          | ATV630C13N4 | NSX400● Micrologic 1.3-M | 320    | 1600            | LC1G265●●         |
| 160 250                                          | ATV630C16N4 |                          |        |                 | LC1G330●●         |
| 220 350                                          | ATV630C22N4 | NSX630● Micrologic 1.3-M | 500    | 3000            | LC1G400●●         |
| 250 400                                          | ATV630C25N4 |                          |        |                 | LC1G500●●         |
| 310 500                                          | ATV630C31N4 | NS800L Micrologic 2 or 5 | 800    | 1600            | LC1G500●●         |

(1) Standard power ratings for 400 V 50/60 Hz 4-pole motors.

The values expressed in HP conform to the NEC (National Electrical Code).

(2) For references to be completed, replace ● with the letter corresponding to the breaking performance of the circuit breaker (F, N, H, S, or L). You can use the [EcoStruxure™ Motor Control Configurator](#) tool to support your customization.

Breaking capacity of circuit breakers according to standard IEC 60947-2:

| Circuit breaker          | I <sub>cu</sub> (kA) for 380...415 V |    |    |    |     |     |
|--------------------------|--------------------------------------|----|----|----|-----|-----|
|                          | B                                    | F  | N  | H  | S   | L   |
| GV2L07...L14             | >100                                 | –  | –  | –  | –   | –   |
| GV2L16...L22             | 50                                   | –  | –  | –  | –   | –   |
| GV3L32...L65             | 50                                   | –  | –  | –  | –   | –   |
| GV4L80/115●              | –                                    | 25 | –  | 50 | –   | –   |
| GV4LE80/115●             | –                                    | 25 | –  | 50 | 100 | –   |
| NSX160●MA150             | –                                    | –  | 36 | 50 | 70  | 100 |
| NSX250●MA220             | –                                    | –  | 36 | 50 | 70  | 100 |
| NSX400●, NSX630●         | –                                    | –  | 36 | 50 | 70  | 100 |
| NS800L Micrologic 2 or 5 | –                                    | –  | –  | –  | –   | 150 |

(3) Composition of contactors:

LC1D09...D115: 3 poles + 1 NO auxiliary contact + 1 NC auxiliary contact

LC1G185...G500: 3 poles

To add auxiliary contacts or other accessories, please refer to the [TeSys](#) catalog.

(4) Replace ●● with the control circuit voltage code indicated in the table below:

|                | Volts ~     | 24      | 48       | 110       | 220       | 230 | 240 |
|----------------|-------------|---------|----------|-----------|-----------|-----|-----|
| LC1D09...D115  | 50 Hz       | B5      | E5       | F5        | M5        | P5  | U5  |
|                | 60 Hz       | B6      | E6       | F6        | M6        | –   | U6  |
|                | 50/60 Hz    | B7      | E7       | F7        | M7        | P7  | U7  |
| LC1G185...G500 | AC/DC volts | 24...48 | 48...130 | 100...250 | 200...500 |     |     |
|                |             | BEEA    | EHEN     | KUEN      | LSEA      |     |     |

For other voltages available between 24 V and 660 V, or a DC control circuit, please consult our [Customer Care Teams](#).



GV4LE115

+



LC1D80●●

+



ATV650D45N4

#### IEC standard motor starters

| Motor                                            | Drive           | Circuit breaker |        |                 | Line contactor        |
|--------------------------------------------------|-----------------|-----------------|--------|-----------------|-----------------------|
| Power (1)                                        | Reference       | Reference (2)   | Rating | I <sub>rm</sub> | Reference (3) (4) (5) |
| kW HP                                            |                 |                 | A      | A               |                       |
| Three-phase supply voltage: 380...415 V 50/60 Hz |                 |                 |        |                 |                       |
| 0.75 1                                           | ATV650U07N4/N4E | GV2L07          | 2.5    | 33.5            | LC1D09●●              |
| 1.5 2                                            | ATV650U15N4/N4E | GV2L08          | 4      | 51              |                       |
| 2.2 3                                            | ATV650U22N4/N4E | GV2L10          | 6.3    | 78              |                       |
| 3 –                                              | ATV650U30N4/N4E | GV2L14          | 10     | 138             |                       |
| 4 5                                              | ATV650U40N4/N4E |                 |        |                 |                       |
| 5.5 7.5                                          | ATV650U55N4/N4E | GV2L16          | 14     | 170             | LC1D18●●              |
| 7.5 10                                           | ATV650U75N4/N4E | GV2L20          | 18     | 223             |                       |
| 11 15                                            | ATV650D11N4/N4E | GV2L22          | 25     | 327             | LC1D25●●              |
| 15 20                                            | ATV650D15N4/N4E | GV3L32          | 32     | 448             |                       |
| 18.5 25                                          | ATV650D18N4/N4E | GV3L40          | 40     | 560             | LC1D40A●●             |
| 22 30                                            | ATV650D22N4/N4E | GV3L50          | 50     | 700             | LC1D50A●●             |
| 30 40                                            | ATV650D30N4/N4E | GV3L65          | 65     | 910             |                       |
| 37 50                                            | ATV650D37N4/N4E | GV4L/LE80●      | 80     | 480             | LC1D65A●●             |
| 45 60                                            | ATV650D45N4/N4E | GV4L/LE115●     | 115    | 690             | LC1D80●●              |
| 55 75                                            | ATV650D55N4/N4E |                 |        |                 |                       |
| 75 100                                           | ATV650D75N4/N4E | NSX160●MA150    | 150    | 1350            | LC1D115●●             |
| 90 125                                           | ATV650D90N4/N4E | NSX250●MA220    | 220    | 1980            | LC1G185●●             |

(1) Standard power ratings for 400 V 50/60 Hz 4-pole motors.

The values expressed in HP conform to the NEC (National Electrical Code).

(2) For references to be completed, replace ● with the letter corresponding to the breaking performance of the circuit breaker (F, N, H, S, or L). You can use the [EcoStruxure™ Motor Control Configurator](#) tool to support your customization.

Breaking capacity of circuit breakers according to standard IEC 60947-2:

| Circuit breaker | Icu (kA) for 380...415 V |    |    |    |     |     |
|-----------------|--------------------------|----|----|----|-----|-----|
|                 | B                        | F  | N  | H  | S   | L   |
| GV2L07...L14    | >100                     | –  | –  | –  | –   | –   |
| GV2L16...L22    | 50                       | –  | –  | –  | –   | –   |
| GV3L32...L65    | 50                       | –  | –  | –  | –   | –   |
| GV4L80/115●     | –                        | 25 | –  | 50 | –   | –   |
| GV4LE80/115●    | –                        | 25 | –  | 50 | 100 | –   |
| NSX160●MA150    | –                        | –  | 36 | 50 | 70  | 100 |
| NSX250●MA220    | –                        | –  | 36 | 50 | 70  | 100 |

(3) Composition of contactors:

LC1D09...D115: 3 poles + 1 NO auxiliary contact + 1 NC auxiliary contact

LC1G185: 3 poles

To add auxiliary contacts or other accessories, please refer to the [TeSys](#) catalog.

(4) Replace ●● with the control circuit voltage code indicated in the table below:

|               | Volts ~     | 24      | 48       | 110       | 220 | 230       | 240 |
|---------------|-------------|---------|----------|-----------|-----|-----------|-----|
| LC1D09...D115 | 50 Hz       | B5      | E5       | F5        | M5  | P5        | U5  |
|               | 60 Hz       | B6      | E6       | F6        | M6  | –         | U6  |
|               | 50/60 Hz    | B7      | E7       | F7        | M7  | P7        | U7  |
|               | AC/DC volts | 24...48 | 48...130 | 100...250 |     | 200...500 |     |
| LC1G185       |             | BEEA    | EHEN     | KUEN      |     | LSEA      |     |

For other voltages available between 24 V and 660 V, or a DC control circuit, please consult our [Customer Care Teams](#).

(5) When they are used with ATV650U07N4/N4E...D90N4/N4E drives, the motor starters must be installed in a separate enclosure to maintain the IP55 protection rating of the installation.



GV2L08



LC1D09●●



ATV630U15N4

#### IEC standard motor starters

| Motor                                      | Drive     | Circuit breaker |                          |     | Line contactor    |           |
|--------------------------------------------|-----------|-----------------|--------------------------|-----|-------------------|-----------|
| Power (1)                                  | Reference | Reference (2)   | Rating                   | Irm | Reference (3) (4) |           |
| kW                                         | HP        |                 | A                        | A   |                   |           |
| Three-phase supply voltage: 440 V 50/60 Hz |           |                 |                          |     |                   |           |
| 0.75                                       | 1         | ATV630U07N4     | GV2L07                   | 2.5 | 33.5              | LC1D09●●  |
| 1.5                                        | 2         | ATV630U15N4     | GV2L08                   | 4   | 51                |           |
| 2.2                                        | 3         | ATV630U22N4     | GV2L10                   | 6.3 | 78                |           |
| 3                                          | —         | ATV630U30N4     |                          |     |                   | LC1D18●●  |
| 4                                          | 5         | ATV630U40N4     | GV2L14                   | 10  | 138               |           |
| 5.5                                        | 7.5       | ATV630U55N4     | GV2L16                   | 14  | 170               |           |
| 7.5                                        | 10        | ATV630U75N4     |                          |     |                   | LC1D25●●  |
| 11                                         | 15        | ATV630D11N4     | GV2L22                   | 25  | 327               |           |
| 15                                         | 20        | ATV630D15N4     | GV3L32                   | 32  | 448               |           |
| 18.5                                       | 25        | ATV630D18N4     | GV3L40                   | 40  | 560               | LC1D40A●● |
| 22                                         | 30        | ATV630D22N4     | GV3L50                   | 50  | 700               | LC1D50A●● |
| 30                                         | 40        | ATV630D30N4     | GV3L65                   | 65  | 910               | LC1D50A●● |
| 37                                         | 50        | ATV630D37N4     |                          |     |                   | LC1D65A●● |
| 45                                         | 60        | ATV630D45N4     | GV4L/LE80●               | 80  | 480               | LC1D65A●● |
| 55                                         | 75        | ATV630D55N4     | GV4L/LE115●              | 115 | 690               | LC1D80●●  |
| 75                                         | 100       | ATV630D75N4     | NSX160●MA150             | 150 | 1350              | LC1D115●● |
| 90                                         | 125       | ATV630D90N4     | NSX250●MA220             | 220 | 1980              | LC1D115●● |
| 110                                        | 150       | ATV630C11N4     |                          |     |                   | LC1G185●● |
| 132                                        | 200       | ATV630C13N4     |                          |     |                   |           |
| 160                                        | 250       | ATV630C16N4     | NSX400● Micrologic 1.3-M | 320 | 1600              | LC1G265●● |
| 220                                        | 350       | ATV630C22N4     | NSX630● Micrologic 1.3-M | 500 | 3000              | LC1G400●● |
| 250                                        | 400       | ATV630C25N4     |                          |     |                   | LC1G500●● |
| 310                                        | 500       | ATV630C31N4     | NS800L Micrologic 2 or 5 | 800 | 1600              | LC1G630●● |

(1) Standard power ratings for 400 V 50/60 Hz 4-pole motors.

The values expressed in HP conform to the NEC (National Electrical Code).

(2) For references to be completed, replace ● with the letter corresponding to the breaking performance of the circuit breaker (F, N, H, S, or L). You can use the [EcoStruxure™ Motor Control Configurator](#) tool to support your customization.

Breaking capacity of circuit breakers according to standard IEC 60947-2:

| Circuit breaker          | I <sub>cu</sub> (kA) for 440 V |    |    |    |    |    |     |
|--------------------------|--------------------------------|----|----|----|----|----|-----|
|                          | B                              | F  | N  | H  | S  | L  |     |
| GV2L07...L10             | >100                           | —  | —  | —  | —  | —  | —   |
| GV2L14...L22             | 50                             | —  | —  | —  | —  | —  | —   |
| GV3L32...L66             | 50                             | —  | —  | —  | —  | —  | —   |
| GV4L80/115●              | —                              | 25 | —  | 50 | —  | —  | —   |
| GV4LE80/115●             | —                              | 25 | —  | 50 | —  | 70 | —   |
| NSX160●MA150             | —                              | —  | 35 | 50 | 65 | 90 | 130 |
| NSX250●MA220             | —                              | —  | 35 | 50 | 65 | 90 | 130 |
| NSX400●, NSX630●         | —                              | —  | 30 | 42 | 65 | 90 | 130 |
| NS800L Micrologic 2 or 5 | —                              | —  | —  | —  | —  | —  | 130 |

(3) Composition of contactors:

LC1D09...D115: 3 poles + 1 NO auxiliary contact + 1 NC auxiliary contact

To add auxiliary contacts or other accessories, please refer to the [TeSys](#) catalog.

(4) Replace ●● with the control circuit voltage code indicated in the table below:

|                | Volts ~     | 24      | 48       | 110       | 220 | 230       | 240 |
|----------------|-------------|---------|----------|-----------|-----|-----------|-----|
| LC1D09...D115  | 50 Hz       | B5      | E5       | F5        | M5  | P5        | U5  |
|                | 60 Hz       | B6      | E6       | F6        | M6  | —         | U6  |
|                | 50/60 Hz    | B7      | E7       | F7        | M7  | P7        | U7  |
|                | AC/DC volts | 24...48 | 48...130 | 100...250 |     | 200...500 |     |
| LC1G185...G500 |             | BEEA    | EHEN     | KUEN      |     | LSEA      |     |
| LC1G630        |             | —       | EHEN     | KUEN      |     | LSEA      |     |

For other voltages available between 24 V and 660 V, or a DC control circuit, please consult our [Customer Care Teams](#).



NSX250●MA220



LC1D115●●



ATV650D90N4

#### IEC standard motor starters

| Motor                                      | Drive           | Circuit breaker |        |                 | Line contactor    |
|--------------------------------------------|-----------------|-----------------|--------|-----------------|-------------------|
| Power (1)                                  | Reference       | Reference (2)   | Rating | I <sub>rm</sub> | Reference (3) (4) |
| kW HP                                      |                 |                 | A      | A               |                   |
| Three-phase supply voltage: 440 V 50/60 Hz |                 |                 |        |                 |                   |
| 0.75 1                                     | ATV650U07N4/N4E | GV2L07          | 2.5    | 33.5            | LC1D09●●          |
| 1.5 2                                      | ATV650U15N4/N4E | GV2L08          | 4      | 51              |                   |
| 2.2 3                                      | ATV650U22N4/N4E | GV2L10          | 6.3    | 78              |                   |
| 3 –                                        | ATV650U30N4/N4E |                 |        |                 |                   |
| 4 5                                        | ATV650U40N4/N4E | GV2L14          | 10     | 138             |                   |
| 5.5 7.5                                    | ATV650U55N4/N4E | GV2L16          | 14     | 170             | LC1D18●●          |
| 7.5 10                                     | ATV650U75N4/N4E |                 |        |                 |                   |
| 11 15                                      | ATV650D11N4/N4E | GV2L22          | 25     | 327             | LC1D25●●          |
| 15 20                                      | ATV650D15N4/N4E | GV3L32          | 32     | 448             |                   |
| 18.5 25                                    | ATV650D18N4/N4E | GV3L40          | 40     | 560             | LC1D40A●●         |
| 22 30                                      | ATV650D22N4/N4E | GV3L50          | 50     | 700             | LC1D50A●●         |
| 30 40                                      | ATV650D30N4/N4E | GV3L65          | 65     | 910             | LC1D50A●●         |
| 37 50                                      | ATV650D37N4/N4E |                 |        |                 | LC1D65A●●         |
| 45 60                                      | ATV650D45N4/N4E | GV4L/LE80●      | 80     | 480             | LC1D65A●●         |
| 55 75                                      | ATV650D55N4/N4E | GV4L/LE115●     | 115    | 690             | LC1D80●●          |
| 75 100                                     | ATV650D75N4/N4E | NSX160●MA150    | 150    | 1350            | LC1D115●●         |
| 90 125                                     | ATV650D90N4/N4E | NSX250●MA220    | 220    | 1980            |                   |

(1) Standard power ratings for 400 V 50/60 Hz 4-pole motors.

The values expressed in HP conform to the NEC (National Electrical Code).

(2) For references to be completed, replace ● with the letter corresponding to the breaking performance of the circuit breaker (F, N, H, S, or L). You can use the [EcoStruxure™ Motor Control Configurator](#) tool to support your customization.  
Breaking capacity of circuit breakers according to standard IEC 60947-2:

| Circuit breaker | Icu (kA) for 440 V |    |    |    |    |    |
|-----------------|--------------------|----|----|----|----|----|
|                 | B                  | F  | N  | H  | S  | L  |
| GV2L07...L10    | >100               | –  | –  | –  | –  | –  |
| GV2L14...L22    | 50                 | –  | –  | –  | –  | –  |
| GV3L32...L66    | 50                 | –  | –  | –  | –  | –  |
| GV4L80/115●     | –                  | 25 | –  | 50 | –  | –  |
| GV4LE80/115●    | –                  | 25 | –  | 50 | –  | 70 |
| NSX160●MA150    | –                  | –  | 35 | 50 | 65 | 90 |
| NSX250●MA220    | –                  | –  | 35 | 50 | 65 | 90 |

(3) Composition of contactors:

LC1D09...D115: 3 poles + 1 NO auxiliary contact + 1 NC auxiliary contact

To add auxiliary contacts or other accessories, please refer to the [TeSys](#) catalog.

(4) Replace ●● with the control circuit voltage code indicated in the table below:

|               | Volts ~  | 24 | 48 | 110 | 220 | 230 | 240 |
|---------------|----------|----|----|-----|-----|-----|-----|
| LC1D09...D115 | 50 Hz    | B5 | E5 | F5  | M5  | P5  | U5  |
|               | 60 Hz    | B6 | E6 | F6  | M6  | –   | U6  |
|               | 50/60 Hz | B7 | E7 | F7  | M7  | P7  | U7  |

For other voltages available between 24 V and 660 V, or a DC control circuit, please consult our [Customer Care Teams](#).



GV2L10



LC1D09●●



ATV630U22Y6

## IEC standard motor starters

| Motor Power                                |     | Drive       | Circuit breaker |        | Line contactor  |           |
|--------------------------------------------|-----|-------------|-----------------|--------|-----------------|-----------|
|                                            |     | Reference   | Reference (1)   | Rating | I <sub>rm</sub> | Reference |
| kW                                         | HP  |             |                 | A      | A               |           |
| Three-phase supply voltage: 500 V 50/60 Hz |     |             |                 |        |                 |           |
| 1.5                                        | 2   | ATV630U22Y6 | GV2L10          | 6.3    | 78              | LC1D09●●  |
| 2.2                                        | 3   | ATV630U30Y6 |                 |        |                 |           |
| 3                                          | —   | ATV630U40Y6 | GV2L14          | 10     | 138             | LC1D18●●  |
| 4                                          | 5   | ATV630U55Y6 |                 |        |                 |           |
| 5.5                                        | 7.5 | ATV630U75Y6 | GV2L16          | 14     | 170             | LC1D25●●  |
| 7.5                                        | 10  | ATV630D11Y6 | GV2L20          | 18     | 223             |           |
| 11                                         | 15  | ATV630D15Y6 | GV2L22          | 25     | 327             | LC1D40A●● |
| 15                                         | 20  | ATV630D18Y6 | GV3L25          | 25     | 350             |           |
| 18.5                                       | 25  | ATV630D22Y6 | GV3L32          | 32     | 448             |           |
| 22                                         | 30  | ATV630D30Y6 | GV3L40          | 40     | 560             |           |
| 30                                         | 40  | ATV630D37Y6 | GV3L50          | 50     | 700             | LC1D50A●● |
| 37                                         | 50  | ATV630D45Y6 | GV3L65          | 65     | 910             | LC1D65A●● |
| 45                                         | 60  | ATV630D55Y6 | NSX100●MA100    | 100    | 600             | LC1D80●●  |
| 55                                         | 75  | ATV630D75Y6 |                 |        |                 |           |
| 75                                         | 100 | ATV630D90Y6 | NSX160●MA150    | 150    | 1350            | LC1D150●● |
| Three-phase supply voltage: 690 V 50/60 Hz |     |             |                 |        |                 |           |
| 2.2                                        | 3   | ATV630U22Y6 | GV2L08          | 4      | 51              | LC1D09●●  |
| 3                                          | —   | ATV630U30Y6 | GV2L10          | 6.3    | 78              |           |
| 4                                          | 5   | ATV630U40Y6 | GV2L14          | 10     | 138             | LC1D18●●  |
| 5.5                                        | 7.5 | ATV630U55Y6 |                 |        |                 |           |
| 7.5                                        | 10  | ATV630U75Y6 | GV2L16          | 14     | 170             |           |
| 11                                         | 15  | ATV630D11Y6 | GV2L20          | 18     | 223             |           |
| 15                                         | 20  | ATV630D15Y6 | GV2L22          | 25     | 327             | LC1D25●●  |
| 18.5                                       | 25  | ATV630D18Y6 | GV3L25          | 25     | 350             | LC1D40A●● |
| 22                                         | 30  | ATV630D22Y6 | GV3L32          | 32     | 416             |           |
| 30                                         | 40  | ATV630D30Y6 | GV3L40          | 40     | 560             |           |
| 37                                         | 50  | ATV630D37Y6 | GV3L50          | 50     | 700             | LC1D50A●● |
| 45                                         | 60  | ATV630D45Y6 | GV3L65          | 65     | 910             | LC1D65A●● |
| 55                                         | 75  | ATV630D55Y6 | NSX100●MA100    | 100    | 600             | LC1D80●●  |
| 75                                         | 100 | ATV630D75Y6 |                 |        |                 |           |
| 90                                         | 125 | ATV630D90Y6 | NSX250●MA150    | 150    | 1350            | LC1D150●● |

(1) For references to be completed, replace ● with the letter corresponding to the breaking performance of the circuit breaker (H, HB1, or HB2). Breaking capacity of circuit breakers according to standard IEC 60947-2:

| Circuit breaker | Supply voltage (V) | I <sub>cu</sub> (kA) | Breaking capacity |     |     |
|-----------------|--------------------|----------------------|-------------------|-----|-----|
|                 |                    |                      | H                 | HB1 | HB2 |
| GV2L07...L10    | 500                | >100                 | —                 | —   | —   |
|                 | 690                | 4                    | —                 | —   | —   |
| GV2L14...L22    | 500                | 10                   | —                 | —   | —   |
|                 | 690                | 4                    | —                 | —   | —   |
| GV2L25...L32    | 500                | 12                   | —                 | —   | —   |
|                 | 690                | 4                    | —                 | —   | —   |
| GV3L40...L66    | 500                | 12                   | —                 | —   | —   |
|                 | 690                | 5                    | —                 | —   | —   |
| NSX100●MA100    | 500                | —                    | 50                | 85  | 100 |
|                 | 690                | —                    | —                 | 75  | 100 |
| NSX160●MA150    | 500                | —                    | 50                | —   | —   |
| NSX250●MA220    | 690                | —                    | —                 | 75  | 100 |



#### 200...240 V IP21/UL Type 1 drives

##### Overall dimensions

| Reference                          | W x H x D         |                       |
|------------------------------------|-------------------|-----------------------|
|                                    | mm                | in.                   |
| ATV630U07M3                        | 144 x 350 x 203   | 5.67 x 13.78 x 7.99   |
| ATV630U15M3                        | 144 x 350 x 203   | 5.67 x 13.78 x 7.99   |
| ATV630U22M3                        | 144 x 350 x 203   | 5.67 x 13.78 x 7.99   |
| ATV630U30M3                        | 144 x 350 x 203   | 5.67 x 13.78 x 7.99   |
| ATV630U40M3                        | 144 x 350 x 203   | 5.67 x 13.78 x 7.99   |
| ATV630U55M3                        | 171 x 409 x 233   | 6.73 x 16.10 x 9.17   |
| ATV630U75M3                        | 211 x 546 x 232   | 8.31 x 21.50 x 9.13   |
| ATV630D11M3                        | 211 x 546 x 232   | 8.31 x 21.50 x 9.13   |
| ATV630D15M3                        | 226 x 673 x 271   | 8.90 x 26.50 x 10.67  |
| ATV630D18M3                        | 226 x 673 x 271   | 8.90 x 26.50 x 10.67  |
| ATV630D22M3                        | 226 x 673 x 271   | 8.90 x 26.50 x 10.67  |
| ATV630D30M3                        | 290 x 922 x 323   | 11.42 x 36.30 x 12.72 |
| ATV630D37M3                        | 290 x 922 x 323   | 11.42 x 36.30 x 12.72 |
| ATV630D45M3                        | 290 x 922 x 323   | 11.42 x 36.30 x 12.72 |
| ATV630D55M3                        | 320 x 852 x 390   | 12.60 x 33.54 x 15.35 |
| With IP21/UL Type 1 conformity kit | 320 x 1,160 x 390 | 12.60 x 45.67 x 15.35 |
| ATV630D75M3                        | 320 x 852 x 390   | 12.60 x 33.54 x 15.35 |
| With IP21/UL Type 1 conformity kit | 320 x 1,160 x 390 | 12.60 x 45.67 x 15.35 |

#### 380...480 V IP21/UL Type 1 and cabinet integration drives

##### Overall dimensions

| Reference    | W x H x D         |                       |
|--------------|-------------------|-----------------------|
|              | mm                | in.                   |
| ATV630U07N4  | 144 x 350 x 203   | 5.67 x 13.78 x 7.99   |
| ATV630U07N4Z | 130 x 285 x 196   | 5.11 x 11.22 x 7.71   |
| ATV630U15N4  | 144 x 350 x 203   | 5.67 x 13.78 x 7.99   |
| ATV630U15N4Z | 130 x 285 x 196   | 5.11 x 11.22 x 7.71   |
| ATV630U22N4  | 144 x 350 x 203   | 5.67 x 13.78 x 7.99   |
| ATV630U22N4Z | 130 x 285 x 196   | 5.11 x 11.22 x 7.71   |
| ATV630U30N4  | 144 x 350 x 203   | 5.67 x 13.78 x 7.99   |
| ATV630U30N4Z | 130 x 285 x 196   | 5.11 x 11.22 x 7.71   |
| ATV630U40N4  | 144 x 350 x 203   | 5.67 x 13.78 x 7.99   |
| ATV630U40N4Z | 130 x 285 x 196   | 5.11 x 11.22 x 7.71   |
| ATV630U55N4  | 144 x 350 x 203   | 5.67 x 13.78 x 7.99   |
| ATV630U55N4Z | 130 x 285 x 196   | 5.11 x 11.22 x 7.71   |
| ATV630U75N4  | 171 x 409 x 233   | 6.73 x 16.10 x 9.17   |
| ATV630U75N4Z | 155 x 345 x 225   | 6.10 x 13.58 x 8.85   |
| ATV630D11N4  | 171 x 409 x 233   | 6.73 x 16.10 x 9.17   |
| ATV630D11N4Z | 155 x 345 x 225   | 6.10 x 13.58 x 8.85   |
| ATV630D15N4  | 211 x 546 x 232   | 8.31 x 21.50 x 9.13   |
| ATV630D15N4Z | 195 x 480 x 225.5 | 7.67 x 18.89 x 8.87   |
| ATV630D18N4  | 211 x 546 x 232   | 8.31 x 21.50 x 9.13   |
| ATV630D18N4Z | 195 x 480 x 225.5 | 7.67 x 18.89 x 8.87   |
| ATV630D22N4  | 211 x 546 x 232   | 8.31 x 21.50 x 9.13   |
| ATV630D22N4Z | 195 x 480 x 225.5 | 7.67 x 18.89 x 8.87   |
| ATV630D30N4  | 226 x 673 x 271   | 8.90 x 26.50 x 10.67  |
| ATV630D30N4Z | 210 x 597 x 262   | 8.26 x 23.50 x 10.31  |
| ATV630D37N4  | 226 x 673 x 271   | 8.90 x 26.50 x 10.67  |
| ATV630D37N4Z | 210 x 597 x 262   | 8.26 x 23.50 x 10.31  |
| ATV630D45N4  | 226 x 673 x 271   | 8.90 x 26.50 x 10.67  |
| ATV630D45N4Z | 210 x 597 x 262   | 8.26 x 23.50 x 10.31  |
| ATV630D55N4  | 290 x 922 x 323   | 11.42 x 36.30 x 12.72 |
| ATV630D55N4Z | 265 x 748 x 307   | 10.43 x 29.44 x 12.08 |
| ATV630D75N4  | 290 x 922 x 323   | 11.42 x 36.30 x 12.72 |
| ATV630D75N4Z | 265 x 748 x 307   | 10.43 x 29.44 x 12.08 |
| ATV630D90N4  | 290 x 922 x 323   | 11.42 x 36.30 x 12.72 |
| ATV630D90N4Z | 265 x 748 x 307   | 10.43 x 29.44 x 12.08 |

# Variable speed drives

Altivar Process ATV600

IP21 drives: 380...480 V

IP00 drives: 500...690 V

2

ATV630-480\_62317\_CPSCT17002B



ATV630-480\_62317\_CPSCT17004B



## 380...480 V IP21/UL Type 1 and cabinet integration drives (continued)

### Overall dimensions

| Reference                          | W x H x D         |                       |
|------------------------------------|-------------------|-----------------------|
|                                    | mm                | in.                   |
| ATV630C11N4                        | 320 x 852 x 390   | 12.60 x 33.54 x 15.35 |
| With IP21/UL Type 1 conformity kit | 320 x 1,157 x 390 | 12.60 x 45.55 x 15.35 |
| ATV630C13N4                        | 320 x 852 x 390   | 12.60 x 33.54 x 15.35 |
| With IP21/UL Type 1 conformity kit | 320 x 1,160 x 390 | 12.60 x 45.67 x 15.35 |
| ATV630C16N4                        | 320 x 852 x 390   | 12.60 x 33.54 x 15.35 |
| With IP21/UL Type 1 conformity kit | 320 x 1,160 x 390 | 12.60 x 45.67 x 15.35 |
| ATV630C22N4                        | 440 x 1,190 x 377 | 17.32 x 46.85 x 14.84 |
| With IP21/UL Type 1 conformity kit | 440 x 1,498 x 377 | 17.32 x 58.98 x 14.84 |
| ATV630C25N4                        | 598 x 1,190 x 377 | 23.43 x 46.85 x 14.84 |
| With IP21/UL Type 1 conformity kit | 598 x 1,498 x 377 | 23.43 x 58.98 x 14.84 |
| ATV630C31N4                        | 598 x 1,190 x 377 | 23.43 x 46.85 x 14.84 |
| With IP21/UL Type 1 conformity kit | 598 x 1,498 x 377 | 23.43 x 58.98 x 14.84 |

## 500...690 V IP00 drives (1)

### Overall dimensions

| Reference                          | W x H x D       |                       |
|------------------------------------|-----------------|-----------------------|
|                                    | mm              | in.                   |
| ATV630U22Y6                        | 246 x 420 x 242 | 9.68 x 16.5 x 9.52    |
| With IP20/UL Type 1 conformity kit | 246 x 567 x 242 | 9.68 x 22.32 x 9.52   |
| ATV630U30Y6                        | 246 x 420 x 242 | 9.68 x 16.5 x 9.52    |
| With IP20/UL Type 1 conformity kit | 246 x 567 x 242 | 9.68 x 22.32 x 9.52   |
| ATV630U40Y6                        | 246 x 420 x 242 | 9.68 x 16.5 x 9.52    |
| With IP20/UL Type 1 conformity kit | 246 x 567 x 242 | 9.68 x 22.32 x 9.52   |
| ATV630U55Y6                        | 246 x 420 x 242 | 9.68 x 16.5 x 9.52    |
| With IP20/UL Type 1 conformity kit | 246 x 567 x 242 | 9.68 x 22.32 x 9.52   |
| ATV630U75Y6                        | 246 x 420 x 242 | 9.68 x 16.5 x 9.52    |
| With IP20/UL Type 1 conformity kit | 246 x 567 x 242 | 9.68 x 22.32 x 9.52   |
| ATV630D11Y6                        | 246 x 420 x 242 | 9.68 x 16.5 x 9.52    |
| With IP20/UL Type 1 conformity kit | 246 x 567 x 242 | 9.68 x 22.32 x 9.52   |
| ATV630D15Y6                        | 246 x 420 x 242 | 9.68 x 16.5 x 9.52    |
| With IP20/UL Type 1 conformity kit | 246 x 567 x 242 | 9.68 x 22.32 x 9.52   |
| ATV630D18Y6                        | 246 x 420 x 242 | 9.68 x 16.5 x 9.52    |
| With IP20/UL Type 1 conformity kit | 246 x 567 x 242 | 9.68 x 22.32 x 9.52   |
| ATV630D22Y6                        | 246 x 420 x 242 | 9.68 x 16.5 x 9.52    |
| With IP21/UL Type 1 conformity kit | 246 x 567 x 242 | 9.68 x 22.32 x 9.52   |
| ATV630D30Y6                        | 246 x 420 x 242 | 9.68 x 16.5 x 9.52    |
| With IP20/UL Type 1 conformity kit | 246 x 567 x 242 | 9.68 x 22.32 x 9.52   |
| ATV630D37Y6                        | 331 x 630 x 297 | 13.03 x 24.80 x 11.69 |
| With IP20/UL Type 1 conformity kit | 331 x 822 x 297 | 13.03 x 32.36 x 11.69 |
| ATV630D45Y6                        | 331 x 630 x 297 | 13.03 x 24.80 x 11.69 |
| With IP20/UL Type 1 conformity kit | 331 x 822 x 297 | 13.03 x 32.36 x 11.69 |
| ATV630D55Y6                        | 331 x 630 x 297 | 13.03 x 24.80 x 11.69 |
| With IP20/UL Type 1 conformity kit | 331 x 822 x 297 | 13.03 x 32.36 x 11.69 |
| ATV630D75Y6                        | 331 x 630 x 297 | 13.03 x 24.80 x 11.69 |
| With IP20/UL Type 1 conformity kit | 331 x 822 x 297 | 13.03 x 32.36 x 11.69 |
| ATV630D90Y6                        | 331 x 630 x 297 | 13.03 x 24.80 x 11.69 |
| With IP20/UL Type 1 conformity kit | 331 x 822 x 297 | 13.03 x 32.36 x 11.69 |

1) Product supplied as IP00 for mounting in an enclosure. For IP20/UL Type1 wall mounting, an adaptation kit should be ordered separately (see page 60822/13).



#### 380...480 V IP55 drives

##### Overall dimensions

| Reference   | W x H x D         |                       |
|-------------|-------------------|-----------------------|
|             | mm                | in.                   |
| ATV650U07N4 | 264 x 678 x 272   | 10.39 x 26.69 x 10.71 |
| ATV650U15N4 | 264 x 678 x 272   | 10.39 x 26.69 x 10.71 |
| ATV650U22N4 | 264 x 678 x 272   | 10.39 x 26.69 x 10.71 |
| ATV650U30N4 | 264 x 678 x 272   | 10.39 x 26.69 x 10.71 |
| ATV650U40N4 | 264 x 678 x 272   | 10.39 x 26.69 x 10.71 |
| ATV650U55N4 | 264 x 678 x 272   | 10.39 x 26.69 x 10.71 |
| ATV650U75N4 | 264 x 678 x 299   | 10.39 x 26.69 x 11.77 |
| ATV650D11N4 | 264 x 678 x 299   | 10.39 x 26.69 x 11.77 |
| ATV650D15N4 | 264 x 678 x 299   | 10.39 x 26.69 x 11.77 |
| ATV650D18N4 | 264 x 678 x 299   | 10.39 x 26.69 x 11.77 |
| ATV650D22N4 | 264 x 678 x 299   | 10.39 x 26.69 x 11.77 |
| ATV650D30N4 | 290 x 910 x 340   | 11.42 x 35.83 x 13.39 |
| ATV650D37N4 | 290 x 910 x 340   | 11.42 x 35.83 x 13.39 |
| ATV650D45N4 | 290 x 910 x 340   | 11.42 x 35.83 x 13.39 |
| ATV650D55N4 | 345 x 1,250 x 375 | 13.58 x 49.21 x 14.76 |
| ATV650D75N4 | 345 x 1,250 x 375 | 13.58 x 49.21 x 14.76 |
| ATV650D90N4 | 345 x 1,250 x 375 | 13.58 x 49.21 x 14.76 |

#### 380...480 V IP55 drives with Vario disconnect switch

##### Reference W x H x D (1)

| Reference          | W x H x D (1)     |                       |
|--------------------|-------------------|-----------------------|
|                    | mm                | in.                   |
| Overall dimensions |                   |                       |
| ATV650U07N4E       | 264 x 678 x 300   | 10.39 x 26.69 x 11.81 |
| ATV650U15N4E       | 264 x 678 x 300   | 10.39 x 26.69 x 11.81 |
| ATV650U22N4E       | 264 x 678 x 300   | 10.39 x 26.69 x 11.81 |
| ATV650U30N4E       | 264 x 678 x 300   | 10.39 x 26.69 x 11.81 |
| ATV650U40N4E       | 264 x 678 x 300   | 10.39 x 26.69 x 11.81 |
| ATV650U55N4E       | 264 x 678 x 300   | 10.39 x 26.69 x 11.81 |
| ATV650U75N4E       | 264 x 678 x 330   | 10.39 x 26.69 x 12.99 |
| ATV650D11N4E       | 264 x 678 x 330   | 10.39 x 26.69 x 12.99 |
| ATV650D15N4E       | 264 x 678 x 330   | 10.39 x 26.69 x 12.99 |
| ATV650D18N4E       | 264 x 678 x 330   | 10.39 x 26.69 x 12.99 |
| ATV650D22N4E       | 264 x 678 x 330   | 10.39 x 26.69 x 12.99 |
| ATV650D30N4E       | 290 x 910 x 401   | 11.42 x 35.83 x 15.79 |
| ATV650D37N4E       | 290 x 910 x 401   | 11.42 x 35.83 x 15.79 |
| ATV650D45N4E       | 290 x 910 x 401   | 11.42 x 35.83 x 15.79 |
| ATV650D55N4E       | 345 x 1,250 x 436 | 13.58 x 49.21 x 17.17 |
| ATV650D75N4E       | 345 x 1,250 x 436 | 13.58 x 49.21 x 17.17 |
| ATV650D90N4E       | 345 x 1,250 x 436 | 13.58 x 49.21 x 17.17 |

(1) Add 60 mm/2.36 in. to the total depth to include the switch handle.

2



### Floor-standing 380...440 V IP21 drives

#### Overall dimensions

| Reference    | W x H x D (1)     |                       |
|--------------|-------------------|-----------------------|
|              | mm                | in.                   |
| ATV630C11N4F | 400 x 2,150 x 605 | 15.75 x 84.65 x 23.82 |
| ATV630C13N4F | 400 x 2,150 x 605 | 15.75 x 84.65 x 23.82 |
| ATV630C16N4F | 400 x 2,150 x 605 | 15.75 x 84.65 x 23.82 |
| ATV630C20N4F | 600 x 2,150 x 605 | 23.62 x 84.65 x 23.82 |
| ATV630C25N4F | 600 x 2,150 x 605 | 23.62 x 84.65 x 23.82 |
| ATV630C31N4F | 600 x 2,150 x 605 | 23.62 x 84.65 x 23.82 |

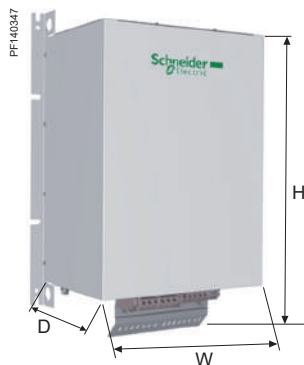
### Floor-standing 380...440 V IP54 drives

#### Overall dimensions

| Reference    | W x H x D (2)     |                       |
|--------------|-------------------|-----------------------|
|              | mm                | in.                   |
| ATV650C11N4F | 400 x 2,350 x 605 | 15.75 x 92.52 x 23.82 |
| ATV650C13N4F | 400 x 2,350 x 605 | 15.75 x 92.52 x 23.82 |
| ATV650C16N4F | 400 x 2,350 x 605 | 15.75 x 92.52 x 23.82 |
| ATV650C20N4F | 600 x 2,350 x 605 | 23.62 x 92.52 x 23.82 |
| ATV650C25N4F | 600 x 2,350 x 605 | 23.62 x 92.52 x 23.82 |
| ATV650C31N4F | 600 x 2,350 x 605 | 23.62 x 92.52 x 23.82 |

(1) Add 42 mm/1.65 in. to the total depth in order to include the door handle.

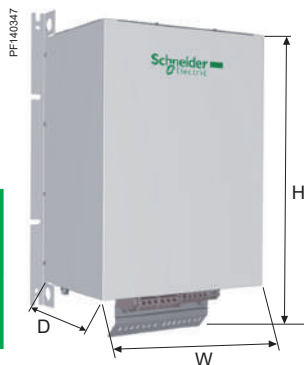
(2) Add 60 mm/2.36 in. to the total depth in order to include the door handle. The total height includes a plinth of 200 mm/7.87 in.



## Passive filters: 400 V 50 Hz three-phase supply

## Overall dimensions

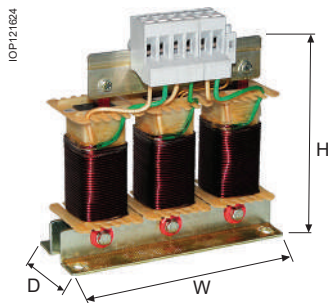
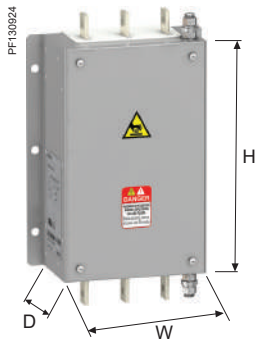
| Reference | W x H x D            |                       |
|-----------|----------------------|-----------------------|
|           | mm                   | in.                   |
| VW3A46101 | 190 x 332.11 x 205.5 | 7.48 x 13.08 x 8.09   |
| VW3A46102 | 190 x 332.11 x 205.5 | 7.48 x 13.08 x 8.09   |
| VW3A46103 | 190 x 332.11 x 205.5 | 7.48 x 13.08 x 8.09   |
| VW3A46104 | 232 x 436.11 x 247.5 | 9.13 x 17.17 x 9.74   |
| VW3A46105 | 232 x 436.11 x 247.5 | 9.13 x 17.17 x 9.74   |
| VW3A46106 | 378 x 594.08 x 242   | 14.88 x 23.39 x 9.53  |
| VW3A46107 | 378 x 594.08 x 242   | 14.88 x 23.39 x 9.53  |
| VW3A46108 | 378 x 623.6 x 333    | 14.88 x 24.55 x 13.11 |
| VW3A46109 | 378 x 623.6 x 333    | 14.88 x 24.55 x 13.11 |
| VW3A46110 | 418 x 736.8 x 333    | 16.46 x 29.01 x 13.11 |
| VW3A46111 | 418 x 736.8 x 333    | 16.46 x 29.01 x 13.11 |
| VW3A46112 | 418 x 767.6 x 400    | 16.46 x 30.22 x 15.75 |
| VW3A46113 | 418 x 767.6 x 400    | 16.46 x 30.22 x 15.75 |
| VW3A46114 | 468 x 900.06 x 448.5 | 18.42 x 35.43 x 17.66 |
| VW3A46115 | 468 x 900.06 x 448.5 | 18.42 x 35.43 x 17.66 |
| VW3A46116 | 468 x 900.06 x 448.5 | 18.42 x 35.43 x 17.66 |
| VW3A46118 | 468 x 900.06 x 448.5 | 18.42 x 35.43 x 17.66 |
| VW3A46119 | 468 x 900.06 x 510   | 18.42 x 35.43 x 20.00 |
| VW3A46120 | 190 x 332.11 x 205.5 | 7.48 x 13.08 x 8.09   |
| VW3A46121 | 190 x 332.11 x 205.5 | 7.48 x 13.08 x 8.09   |
| VW3A46122 | 190 x 332.11 x 205.5 | 7.48 x 13.08 x 8.09   |
| VW3A46123 | 232 x 436.11 x 247.5 | 9.13 x 17.17 x 9.74   |
| VW3A46124 | 232 x 436.11 x 247.5 | 9.13 x 17.17 x 9.74   |
| VW3A46125 | 378 x 594.08 x 242   | 14.88 x 23.39 x 9.53  |
| VW3A46126 | 378 x 594.08 x 242   | 14.88 x 23.39 x 9.53  |
| VW3A46127 | 378 x 623.6 x 333    | 14.88 x 24.55 x 13.11 |
| VW3A46128 | 378 x 623.6 x 333    | 14.88 x 24.55 x 13.11 |
| VW3A46129 | 418 x 736.8 x 333    | 16.46 x 29.01 x 13.11 |
| VW3A46130 | 418 x 736.8 x 333    | 16.46 x 29.01 x 13.11 |
| VW3A46131 | 418 x 767.6 x 400    | 16.46 x 30.22 x 15.75 |
| VW3A46132 | 418 x 767.6 x 400    | 16.46 x 30.22 x 15.75 |
| VW3A46133 | 468 x 900.06 x 448.5 | 18.42 x 35.43 x 17.66 |
| VW3A46134 | 468 x 900.06 x 448.5 | 18.42 x 35.43 x 17.66 |
| VW3A46135 | 468 x 900.06 x 510   | 18.42 x 35.43 x 20.00 |
| VW3A46137 | 468 x 900.06 x 510   | 18.42 x 35.43 x 20.00 |
| VW3A46138 | 468 x 900.06 x 510   | 18.42 x 35.43 x 20.00 |



## Passive filters: 460 V 60 Hz three-phase supply

## Overall dimensions

| Reference | W x H x D            |                       |
|-----------|----------------------|-----------------------|
|           | mm                   | in.                   |
| VW3A46139 | 190 x 332.11 x 205.5 | 7.48 x 13.08 x 8.09   |
| VW3A46140 | 190 x 332.11 x 205.5 | 7.48 x 13.08 x 8.09   |
| VW3A46141 | 190 x 332.11 x 205.5 | 7.48 x 13.08 x 8.09   |
| VW3A46142 | 232 x 436.11 x 247.5 | 9.13 x 17.17 x 9.74   |
| VW3A46143 | 232 x 436.11 x 247.5 | 9.13 x 17.17 x 9.74   |
| VW3A46144 | 378 x 594.08 x 242   | 14.88 x 23.39 x 9.53  |
| VW3A46145 | 378 x 594.08 x 242   | 14.88 x 23.39 x 9.53  |
| VW3A46146 | 378 x 594.08 x 242   | 14.88 x 23.39 x 9.53  |
| VW3A46147 | 378 x 623.6 x 333    | 14.88 x 24.55 x 13.11 |
| VW3A46148 | 378 x 623.6 x 333    | 14.88 x 24.55 x 13.11 |
| VW3A46149 | 418 x 736.8 x 333    | 16.46 x 29.01 x 13.11 |
| VW3A46150 | 418 x 736.8 x 333    | 16.46 x 29.01 x 13.11 |
| VW3A46151 | 418 x 767.6 x 400    | 16.46 x 30.22 x 15.75 |
| VW3A46152 | 418 x 767.6 x 400    | 16.46 x 30.22 x 15.75 |
| VW3A46153 | 468 x 900.06 x 448.5 | 18.42 x 35.43 x 17.66 |
| VW3A46154 | 468 x 900.06 x 448.5 | 18.42 x 35.43 x 17.66 |
| VW3A46155 | 468 x 900.06 x 448.5 | 18.42 x 35.43 x 17.66 |
| VW3A46157 | 468 x 900.06 x 510   | 18.42 x 35.43 x 20.00 |
| VW3A46158 | 190 x 332.11 x 205.5 | 7.48 x 13.08 x 8.09   |
| VW3A46159 | 190 x 332.11 x 205.5 | 7.48 x 13.08 x 8.09   |
| VW3A46160 | 190 x 332.11 x 205.5 | 7.48 x 13.08 x 8.09   |
| VW3A46161 | 232 x 436.11 x 247.5 | 9.13 x 17.17 x 9.74   |
| VW3A46162 | 232 x 436.11 x 247.5 | 9.13 x 17.17 x 9.74   |
| VW3A46163 | 378 x 594.08 x 242   | 14.88 x 23.39 x 9.53  |
| VW3A46164 | 378 x 594.08 x 242   | 14.88 x 23.39 x 9.53  |
| VW3A46165 | 378 x 594.08 x 242   | 14.88 x 23.39 x 9.53  |
| VW3A46166 | 378 x 623.6 x 333    | 14.88 x 24.55 x 13.11 |
| VW3A46167 | 378 x 623.6 x 333    | 14.88 x 24.55 x 13.11 |
| VW3A46168 | 418 x 736.8 x 333    | 16.46 x 29.01 x 13.11 |
| VW3A46169 | 418 x 736.8 x 333    | 16.46 x 29.01 x 13.11 |
| VW3A46170 | 418 x 767.6 x 400    | 16.46 x 30.22 x 15.75 |
| VW3A46171 | 418 x 767.6 x 400    | 16.46 x 30.22 x 17.75 |
| VW3A46172 | 468 x 900.06 x 448.5 | 18.42 x 35.43 x 17.66 |
| VW3A46173 | 468 x 900.06 x 510   | 18.42 x 35.43 x 20.00 |
| VW3A46174 | 468 x 900.06 x 510   | 18.42 x 35.43 x 20.00 |
| VW3A46176 | 468 x 900.06 x 510   | 18.42 x 35.43 x 20.00 |



### Additional EMC input filters

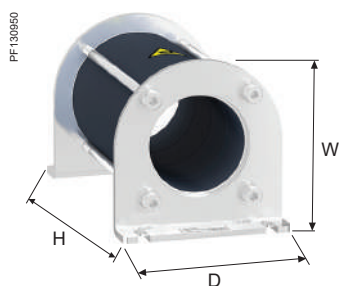
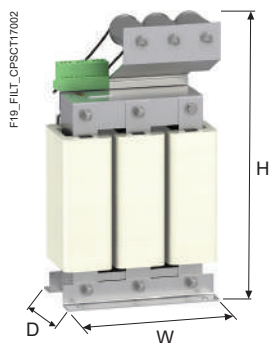
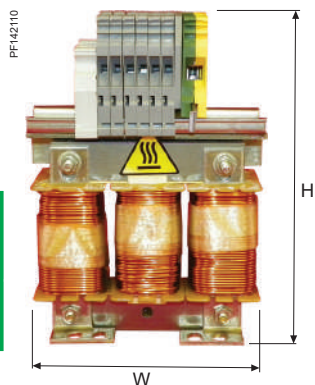
#### Overall dimensions

| Reference                          | W x H x D       |                      |
|------------------------------------|-----------------|----------------------|
|                                    | mm              | in.                  |
| VW3A4701                           | 75 x 220 x 130  | 2.95 x 8.66 x 5.12   |
| With IP21/UL Type 1 conformity kit | 77 x 220 x 130  | 3.03 x 8.66 x 5.12   |
| VW3A4702                           | 75 x 240 x 140  | 2.95 x 9.45 x 5.51   |
| With IP21/UL Type 1 conformity kit | 77 x 240 x 140  | 3.03 x 9.45 x 5.12   |
| VW3A4703                           | 80 x 302 x 155  | 3.15 x 11.89 x 6.10  |
| With IP21/UL Type 1 conformity kit | 83 x 302 x 155  | 3.27 x 11.89 x 6.10  |
| VW3A4704                           | 90 x 283 x 165  | 3.54 x 11.14 x 6.50  |
| With IP21/UL Type 1 conformity kit | 93 x 283 x 165  | 3.66 x 11.14 x 6.50  |
| VW3A4705                           | 100 x 328 x 175 | 3.94 x 12.91 x 6.89  |
| With IP21/UL Type 1 conformity kit | 103 x 328 x 175 | 4.05 x 12.91 x 6.89  |
| VW3A4706                           | 120 x 340 x 180 | 4.72 x 13.39 x 7.09  |
| With IP21/UL Type 1 conformity kit | 123 x 340 x 180 | 4.84 x 13.39 x 7.09  |
| VW3A4707                           | 130 x 395 x 240 | 5.12 x 15.55 x 9.45  |
| With IP21/UL Type 1 conformity kit | 134 x 395 x 240 | 5.28 x 15.55 x 9.45  |
| VW3A4708                           | 200 x 445 x 320 | 7.87 x 17.52 x 12.60 |
| With IP21/UL Type 1 conformity kit | 204 x 445 x 320 | 8.03 x 17.52 x 12.60 |
| VW3A4709                           | 260 x 520 x 117 | 10.24 x 20.47 x 4.61 |
| VW3A4710                           | 260 x 520 x 117 | 10.24 x 20.47 x 4.61 |
| VW3A4411                           | 800 x 261 x 139 | 31.49 x 10.27 x 5.47 |

### dv/dt filters

#### Overall dimensions

| Reference                          | W x H x D       |                       |
|------------------------------------|-----------------|-----------------------|
|                                    | mm              | in.                   |
| VW3A5103                           | 234 x 226 x 126 | 9.21 x 9.21 x 4.96    |
| VW3A5104                           | 170 x 250 x 100 | 6.69 x 9.84 x 3.94    |
| VW3A5106                           | 245 x 250 x 200 | 9.65 x 9.84 x 7.87    |
| VW3A5107                           | 320 x 250 x 220 | 12.60 x 9.84 x 8.66   |
| VW3A5301                           | 285 x 520 x 215 | 11.22 x 20.47 x 8.46  |
| With IP21/UL Type 1 conformity kit | 285 x 530 x 215 | 11.22 x 20.87 x 8.46  |
| VW3A5302                           | 285 x 520 x 215 | 11.22 x 20.47 x 8.46  |
| With IP21/UL Type 1 conformity kit | 285 x 530 x 215 | 11.22 x 20.87 x 8.46  |
| VW3A5303                           | 285 x 520 x 215 | 11.22 x 20.47 x 8.46  |
| With IP21/UL Type 1 conformity kit | 285 x 530 x 215 | 11.22 x 20.87 x 8.46  |
| VW3A5304                           | 300 x 545 x 245 | 11.81 x 21.46 x 9.65  |
| With IP21/UL Type 1 conformity kit | 300 x 560 x 245 | 11.81 x 22.05 x 9.65  |
| VW3A5305                           | 300 x 590 x 245 | 11.81 x 23.23 x 9.65  |
| With IP21/UL Type 1 conformity kit | 300 x 610 x 245 | 11.81 x 24.02 x 9.65  |
| VW3A5306                           | 380 x 235 x 325 | 14.96 x 9.25 x 12.80  |
| VW3A5307                           | 420 x 270 x 350 | 16.54 x 10.63 x 13.78 |



### AC chokes

#### Overall dimensions

| Reference | W x H x D       |                     |
|-----------|-----------------|---------------------|
|           | mm              | in.                 |
| VW3A4551  | 100 x 35 x 60   | 3.93 x 1.37 x 2.36  |
| VW3A4552  | 130 x 55 x 90   | 5.11 x 2.16 x 3.54  |
| VW3A4553  | 130 x 55 x 90   | 5.11 x 2.16 x 3.54  |
| VW3A4554  | 155 x 170 x 135 | 6.10 x 6.69 x 5.31  |
| VW3A4555  | 180 x 210 x 165 | 7.08 x 8.26 x 6.49  |
| VW3A4556  | 270 x 210 x 180 | 10.62 x 8.26 x 7.08 |

### Sinus filters

#### Overall dimensions

| Reference | W x H x D       |                       |
|-----------|-----------------|-----------------------|
|           | mm              | in.                   |
| VW3A5401  | 210 x 455 x 210 | 8.27 x 17.91 x 8.27   |
| VW3A5402  | 210 x 455 x 210 | 8.27 x 17.91 x 8.27   |
| VW3A5403  | 280 x 520 x 215 | 11.02 x 20.47 x 8.46  |
| VW3A5404  | 300 x 545 x 245 | 11.81 x 21.46 x 9.64  |
| VW3A5405  | 375 x 740 x 280 | 14.76 x 29.13 x 11.02 |
| VW3A5406  | 430 x 350 x 495 | 16.93 x 13.78 x 19.49 |
| VW3A5407  | 460 x 370 x 565 | 18.11 x 14.57 x 22.24 |
| VW3A5209  | 480 x 340 x 600 | 18.90 x 13.38 x 23.62 |
| VW3A5210  | 480 x 370 x 710 | 18.90 x 14.57 x 27.95 |
| VW3A5215  | 246 x 420 x 242 | 9.68 x 16.53 x 9.52   |
| VW3A5216  | 171 x 409 x 233 | 6.73 x 16.10 x 9.17   |
| VW3A5217  | 331 x 822 x 297 | 13.03 x 32.36 x 11.69 |
| VW3A5218  | 331 x 822 x 297 | 13.03 x 32.36 x 11.69 |
| VW3A5219  | 331 x 822 x 297 | 13.03 x 32.36 x 11.69 |

### Common mode filters

#### Overall dimensions

| Reference | W x H x D           |                     |
|-----------|---------------------|---------------------|
|           | mm                  | in.                 |
| VW3A5501  | 66 x 119.2 x 66     | 2.60 x 4.69 x 2.60  |
| VW3A5502  | 66 x 163.8 x 66     | 2.60 x 4.69 x 2.60  |
| VW3A5503  | 127.5 x 161 x 127.5 | 5.02 x 6.34 x 5.02  |
| VW3A5504  | 127.5 x 210 x 127.5 | 5.02 x 8.27 x 5.02  |
| VW3A5505  | 191 x 197 x 196     | 7.52 x 7.76 x 7.72  |
| VW3A5506  | 191 x 256 x 196     | 7.52 x 10.08 x 7.72 |

|                                                                                   |           |
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Altivar Process Modular Standard



Altivar Process Modular Standard Reduced Height



Altivar Process Modular Low Harmonic/Regen

#### General presentation of the offer

Altivar Process drives for cabinet integration is a cost-effective solution for installation in cabinets and separate enclosures thanks to their compact and robust design. These drive variants simplify cabinet design and allow quick installation and commissioning. Altivar Process also offers a range of low harmonic drives.

#### Altivar Process Modular concept

Altivar Process Modular is ready to build into cabinets to create high-power drive solutions with minimum dimensions that withstand harsh environments.

A powerful drives range from 75 kW/125 HP up to 1800 kW/2000 HP at 400 V supply voltage and up to 2600 kW/2600 HP at 690 V supply voltage can be created by combining sub-assemblies and accessories such as power modules, control units, options, and mechanical accessories.

Altivar Process Modular Liquid-cooled modules allow installation in cabinets up to IP66 protection for harsh environmental conditions.

Altivar Process Modular brings a new approach where sub-assemblies are used to build drives locally:

- A power module section to be combined in different drive architectures
- Control units that make the family differentiation of the power architecture between ATV600 and ATV900 drives
- Optional kits and accessories for easy enclosure integration

#### Optimized cabinet design

The Altivar Process Modular drives offer has been developed to reduce the engineering time required to design cabinet-mounted drives solutions, consequently decreasing the time to market and the cost of the solution.

Altivar Process Modular brings flexible solutions for special integration constraints with IP21/IP54 protection and robust design with two offers:

- Standard: integration in 2 m/6.56 ft height and 600 mm/23.62 in. depth cabinets
- Reduced Height: integration in 1.6 m/5.25 ft height and 600 mm/23.62 in. depth cabinets

Altivar Process Modular Liquid-cooled modules allow installation in cabinets up to IP66 protection for harsh environmental conditions.

These power-intensive drives offers integrate:

- Drive power and control modules
- Line chokes to limit THDi levels for Standard version and less than 3% THDi for Low Harmonic version
- A filter to help protect the motor against the effects of dv/dt
- Accessible terminals to simplify the motor wiring and power wiring

IP21 (UL Type 1) integration creates a common cooling air flow for the power and control sections.

The IP54 (UL Type 12) mechanical option introduces a system for separating the cooling air flow between the power and control sections, allowing operation in a highly polluted environment as well as optimum management of thermal stress in the plant room. Both designs allow a maximum incoming air temperature of 50 °C/122 °F with derating (class 3K3 according to IEC/EN 60721-3-3).



Power module and power fan inside drawer



Altivar Process Modular Liquid-cooled

#### Product features

The Altivar Process Modular drives offer has been developed to meet the requirements of some of the most demanding applications and enclosure requirements and the most recent standards and regulations.

Compliance with electromagnetic compatibility requirements has been incorporated into the design of the modular process drives, which simplifies installation and provides an economical means of helping to ensure equipment meets marking requirements.

- Altivar Process Modular drives have category C3 EMC filters and highly efficient integrated motor filters for dv/dt and common mode reduction and voltage peak limitation that allow 300 m/980 ft of shielded motor cables (category C3 environment) and 500 m/1,640 ft of unshielded motor cables (category C4 environment)
- THDi ≤ 48% for 80 to 100% load, which is used to maintain an optimum power factor on the most common operating range
- Embedded line choke technology complying with standard IEC 61000-3-12
- Prewired electric core components tested by Schneider Electric laboratories and test centers

#### Simple maintenance

Altivar Process Modular drives can significantly cut downtime of your assets by means of easily replaceable core components:

- Same power module with optimized weight and wheels (for standard drives) for all power ranges
- Same power fan inside a drawer accessible from front face for all power modules
- Spare parts designed for easy and fast intervention in the field

#### Liquid-cooled drives

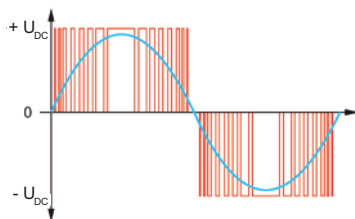
Altivar Process Modular Liquid-cooled drives for cabinet integration offer a modular high-power solution for installation in cabinets and separate enclosures. Thanks to the optimized liquid cooling concept, these drives are suitable for operation in a very harsh environment. The integrated liquid cooling allows optimal dissipation of the heat losses and therefore optimizes the encapsulation of the whole electrical drive unit.

The liquid-cooled modules are designed for 6- or 12-pulse supply as standard.

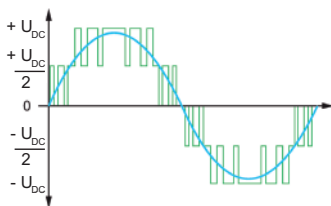


Low Harmonic drive

3



2-level technology



3-level technology

#### Product features (continued)

##### Low Harmonic drives

The Low Harmonic drives are used when drives need to generate particularly low harmonics on the line supply.

In comparison with commonly-used 2-level AFE (active front end) architectures, the 3-level technology of Altivar Process Modular Low Harmonic drives allows this new technology to reach a total distortion factor (THDi) of around 2% and thus fulfills the requirements of standard IEEE 519 for a THDi < 5% in case of distorted mains. Additionally, the  $\cos \Phi \approx 1$  in each load situation (from 30 % Pn) helps to reduce the line supply load.

The Low Harmonic drives range is an optimum solution for energy efficiency and process optimization.

##### Device features

##### Enhanced motor service life due to the 3-level concept

The 3-level AIC (active infeed converter) technology reduces the voltage load at the motor significantly, compared with other low harmonic frequency inverters. The fluctuating adaptation of the DC link voltage helps to extend the motor service life.

##### Reduced losses due to the 3-level concept

In comparison with the traditional circuit structure of active mains rectifiers, the switching frequency is increased and the current load is reduced at the same time when using 3-level technology.

##### Compact dimensions due to the 3-level concept

A significant advantage of the 3-level technology is the reduced size of the integrated filter. Due to the increased switching frequency and its location inside the forced cooling air channel, the dimensions of the filter can be almost halved.

# Variable speed drives

## Altivar Process ATV600

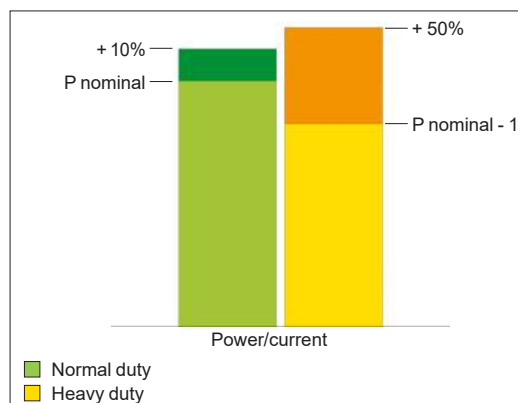
### Drives for integration



Altivar Process Modular Standard architecture from 1 to 6 modules



Altivar Process Modular Low Harmonic architecture from 1 to 6 modules



Normal duty and Heavy duty modes

#### Drive products for integration

Drive products for integration can be used for optimizing space when integrated inside cabinets. They cover motor power ratings from 0.75...90 kW/1...125 HP for 380...480 V three-phase voltages.

##### Three-phase power supply - 380...480 V (-15...10%)

| Motor power               | Degree of protection | Reference             |
|---------------------------|----------------------|-----------------------|
| 0.75...22 kW<br>1...30 HP | IP20                 | ATV630U07N4Z...D22N4Z |
| 30...90 kW<br>40...120 HP | IP20                 | ATV630D30N4Z...D90N4Z |

#### Modular drives, based on APM (Altivar Process Modular)

Modular drives solutions can be built using power modules, control units, and accessories. They cover motor power ratings from 75...2600 kW/125...2600 HP for 380...690 V three-phase voltages.

The APM drive references given in this catalog are representative of the operational drives that can be built with the APM offer. These operational drives must be integrated in a cabinet through an APM partner or through the integration services from Schneider Electric. Please contact your local Schneider Electric representative for more information on the local APM network and/or to get a quotation for an integrated APM drive.

##### Three-phase power supply - 380...480 V (-15...10%) Standard

| Motor power                   | Degree of protection | Reference                                                         |
|-------------------------------|----------------------|-------------------------------------------------------------------|
| 110...800 kW<br>150...1100 HP | IP00                 | ATV6A0C11Q4...C80Q4<br>ATV6A0C11R4...C80R4<br>ATV6A0C11T4...C80T4 |

##### Three-phase power supply - 500 V (-10...15%) & 600...690 V (-15...10%) Standard

| Motor power                   | Degree of protection | Reference                                                         |
|-------------------------------|----------------------|-------------------------------------------------------------------|
| 75...1200 kW<br>125...1200 HP | IP00                 | ATV6A0C11N6...M12N6<br>ATV6A0C11T6...M12T6<br>ATV6A0C11Q6...M12Q6 |

##### Three-phase power supply - 380...440 V (-15...10%) and 480 V (-10...10%) Low Harmonic

| Motor power                   | Degree of protection | Reference                                                         |
|-------------------------------|----------------------|-------------------------------------------------------------------|
| 110...800 kW<br>150...1100 HP | IP00                 | ATV6B0C11Q4...C80Q4<br>ATV6B0C11R4...C80R4<br>ATV6B0C11T4...C80T4 |

##### Three-phase power supply - 500 V (-15...10%) and 600...690 V (-10...10%) Low Harmonic

| Motor power                   | Degree of protection | Reference                                                         |
|-------------------------------|----------------------|-------------------------------------------------------------------|
| 75...1200 kW<br>125...1200 HP | IP00                 | ATV6B0C11N6...M12N6<br>ATV6B0C11T6...M12T6<br>ATV6B0C11Q6...M12Q6 |

#### Modular drives, based on APM-L (Altivar Process Modular Liquid-cooled)

##### Three-phase power supply - 400 V...480 V (-15...10%) Standard

| Motor power                    | Degree of protection | Reference                                                         |
|--------------------------------|----------------------|-------------------------------------------------------------------|
| 132...1800 kW<br>200...2500 HP | IP00                 | ATV6L0C13Q4...M18Q4<br>ATV6L0C13R4...M18R4<br>ATV6L0C13T4...M18T4 |

##### Three-phase power supply - 500 V...690 V (-15...10%) Standard

| Motor power                    | Degree of protection | Reference                                                         |
|--------------------------------|----------------------|-------------------------------------------------------------------|
| 132...2600 kW<br>200...2600 HP | IP00                 | ATV6L0C20N6...M26N6<br>ATV6L0C20T6...M26T6<br>ATV6L0C20Q6...M26Q6 |

Altivar Process Modular variable speed drives are designed for use in two operating modes that can optimize the drive nominal rating according to the system constraints.

These two modes are:

- Normal duty (ND): Dedicated mode for applications requiring a slight overload up to 110% with a motor power no higher than the drive nominal power
- Heavy duty (HD): Dedicated mode for applications requiring a significant overload up to 150% with a motor power no higher than the drive nominal power derated by one rating

## Variable speed drives

Altivar Process ATV600

Drive products for integration

Three-phase supply voltage: 380...480 V 50/60 Hz



## 380...480 V (-15...10%) 50/60 Hz drive products for cabinet integration

| Motor                                        |                 | Line supply      |       |                |                              | Altivar Process             |                                 |               |               |
|----------------------------------------------|-----------------|------------------|-------|----------------|------------------------------|-----------------------------|---------------------------------|---------------|---------------|
| Power indicated on rating plate (1)          |                 | Line current (2) |       | Apparent power | Maximum prospective line Isc | Max. continuous current (1) | Max. transient current for 60 s | Reference (5) | Weight        |
|                                              |                 | 380 V            | 480 V | 380 V          |                              |                             |                                 |               |               |
| ND:                                          | Normal duty (3) |                  |       |                |                              |                             |                                 |               |               |
| HD:                                          | Heavy duty (4)  |                  |       |                |                              |                             |                                 |               |               |
|                                              | kW HP           | A                | A     | kVA            | kA                           | A                           | A                               |               | kg/lb         |
| With category C2 or C3 integrated EMC filter |                 |                  |       |                |                              |                             |                                 |               |               |
| IP20 drives                                  |                 |                  |       |                |                              |                             |                                 |               |               |
| ND                                           | 0.75 1          | 1.5              | 1.3   | 1.1            | 50                           | 2.2                         | 2.4                             | ATV630U07N4Z  | 3.700/8.157   |
| HD                                           | 0.37 0.5        | 0.9              | 0.8   | 0.7            | 50                           | 1.5                         | 2.3                             |               |               |
| ND                                           | 1.5 2           | 3                | 2.6   | 2.2            | 50                           | 4                           | 4.4                             | ATV630U15N4Z  | 3.700/8.157   |
| HD                                           | 0.75 1          | 1.7              | 1.5   | 1.2            | 50                           | 2.2                         | 3.3                             |               |               |
| ND                                           | 2.2 3           | 4.3              | 3.8   | 3.2            | 50                           | 5.6                         | 6.2                             | ATV630U22N4Z  | 3.700/8.157   |
| HD                                           | 1.5 2           | 3.1              | 2.9   | 2.4            | 50                           | 4                           | 6                               |               |               |
| ND                                           | 3 –             | 5.8              | 5.1   | 4.2            | 50                           | 7.2                         | 7.9                             | ATV630U30N4Z  | 3.800/8.377   |
| HD                                           | 2.2 3           | 4.5              | 4     | 3.3            | 50                           | 5.6                         | 8.4                             |               |               |
| ND                                           | 4 5             | 7.6              | 6.7   | 5.6            | 50                           | 9.3                         | 10.2                            | ATV630U40N4Z  | 3.800/8.377   |
| HD                                           | 3 –             | 6                | 5.4   | 4.5            | 50                           | 7.2                         | 10.8                            |               |               |
| ND                                           | 5.5 7.5         | 10.4             | 9.1   | 7.6            | 50                           | 12.7                        | 14                              | ATV630U55N4Z  | 3.900/8.598   |
| HD                                           | 4 5             | 8                | 7.2   | 6.0            | 50                           | 9.3                         | 14                              |               |               |
| ND                                           | 7.5 10          | 13.8             | 11.9  | 9.9            | 50                           | 16.5                        | 18.2                            | ATV630U75N4Z  | 6.900/15.211  |
| HD                                           | 5.5 7.5         | 10.5             | 9.2   | 7.6            | 50                           | 12.7                        | 19.1                            |               |               |
| ND                                           | 11 15           | 19.8             | 17    | 14.1           | 50                           | 23.5                        | 25.9                            | ATV630D11N4Z  | 6.900/15.211  |
| HD                                           | 7.5 10          | 14.1             | 12.5  | 10.4           | 50                           | 16.5                        | 24.8                            |               |               |
| ND                                           | 15 20           | 27               | 23.3  | 19.4           | 50                           | 31.7                        | 34.9                            | ATV630D15N4Z  | 13.000/28.660 |
| HD                                           | 11 15           | 20.6             | 18.1  | 15.0           | 50                           | 23.5                        | 35.3                            |               |               |
| ND                                           | 18.5 25         | 33.4             | 28.9  | 24             | 50                           | 39.2                        | 43.1                            | ATV630D18N4Z  | 13.600/29.982 |
| HD                                           | 15 20           | 27.7             | 24.4  | 20.3           | 50                           | 31.7                        | 47.6                            |               |               |
| ND                                           | 22 30           | 39.6             | 34.4  | 28.6           | 50                           | 46.3                        | 50.9                            | ATV630D22N4Z  | 13.700/30.203 |
| HD                                           | 18.5 25         | 34.1             | 29.9  | 24.9           | 50                           | 39.2                        | 58.8                            |               |               |

(1) These values are given for use in continuous operation with a nominal switching frequency of 4 kHz (ATV630U07N4Z...D45N4Z).

The switching frequency is adjustable from 2...12 kHz (ATV630U07N4Z...D45N4Z).

Above the nominal switching frequency, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, nominal drive current should be derated according to the derating curves in the [Installation Manual](#).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) Values given for applications requiring a slight overload (up to 110%).

(4) Values given for applications requiring a significant overload (up to 150%).

(5) For applications requiring Type 12 ready to use, add "U" at the end of the reference (ATV...N4ZU).

**Note:** Consult the summary tables of possible drive, option, and accessory combinations (see [page 2/18](#)).

## Variable speed drives

Altivar Process ATV600

Drive products for integration

Three-phase supply voltage: 380...480 V 50/60 Hz



ATV630D30N4Z

| 380...480 V (-15...10%) 50/60 Hz drive products for cabinet integration |                            |     |                             |       |                         |                                 |                                              |                                          |                          |                    |
|-------------------------------------------------------------------------|----------------------------|-----|-----------------------------|-------|-------------------------|---------------------------------|----------------------------------------------|------------------------------------------|--------------------------|--------------------|
| Motor                                                                   |                            |     | Line supply                 |       |                         |                                 | Altivar Process                              |                                          |                          |                    |
| Power indicated on rating plate <sup>(1)</sup>                          |                            |     | Line current <sup>(2)</sup> |       | Apparent power<br>380 V | Maximum prospective line<br>Isc | Max.<br>continuous<br>current <sup>(1)</sup> | Max.<br>transient<br>current for<br>60 s | Reference <sup>(5)</sup> | Weight             |
|                                                                         |                            |     | 380 V                       | 480 V |                         |                                 |                                              |                                          |                          |                    |
|                                                                         |                            |     |                             |       |                         |                                 |                                              |                                          |                          |                    |
| ND:                                                                     | Normal duty <sup>(3)</sup> |     |                             |       |                         |                                 |                                              |                                          |                          |                    |
| HD:                                                                     | Heavy duty <sup>(4)</sup>  |     |                             |       |                         |                                 |                                              |                                          |                          |                    |
|                                                                         | kW                         | HP  | A                           | A     | kVA                     | kA                              | A                                            | A                                        |                          | kg/<br>lb          |
| With category C2 or C3 integrated EMC filter                            |                            |     |                             |       |                         |                                 |                                              |                                          |                          |                    |
| IP20 drives <sup>(6)</sup>                                              |                            |     |                             |       |                         |                                 |                                              |                                          |                          |                    |
| ND                                                                      | 30                         | 40  | 53.3                        | 45.9  | 38.2                    | 50                              | 61.5                                         | 67.7                                     | ATV630D30N4Z             | 25.800/<br>56.879  |
| HD                                                                      | 22                         | 30  | 40.5                        | 35.8  | 29.8                    | 50                              | 46.3                                         | 69.5                                     |                          |                    |
| ND                                                                      | 37                         | 50  | 66.2                        | 57.3  | 47.6                    | 50                              | 74.5                                         | 82                                       | ATV630D37N4Z             | 26.000/<br>57.320  |
| HD                                                                      | 30                         | 40  | 54.8                        | 48.3  | 40.2                    | 50                              | 61.5                                         | 92.3                                     |                          |                    |
| ND                                                                      | 45                         | 60  | 79.8                        | 69.1  | 57.4                    | 50                              | 88                                           | 96.8                                     | ATV630D45N4Z             | 26.500/<br>58.422  |
| HD                                                                      | 37                         | 50  | 67.1                        | 59.0  | 49.1                    | 50                              | 74.5                                         | 111.8                                    |                          |                    |
| ND                                                                      | 55                         | 75  | 97.2                        | 84.2  | 70                      | 50                              | 106                                          | 116.6                                    | ATV630D55N4Z             | 52.600/<br>115.963 |
| HD                                                                      | 45                         | 60  | 81.4                        | 71.8  | 59.7                    | 50                              | 88                                           | 132                                      |                          |                    |
| ND                                                                      | 75                         | 100 | 131.3                       | 112.7 | 93.7                    | 50                              | 145                                          | 159.5                                    | ATV630D75N4Z             | 54.100/<br>119.269 |
| HD                                                                      | 55                         | 75  | 98.9                        | 86.9  | 72.2                    | 50                              | 106                                          | 159                                      |                          |                    |
| ND                                                                      | 90                         | 125 | 156.2                       | 135.8 | 112.9                   | 50                              | 173                                          | 190.3                                    | ATV630D90N4Z             | 54.600/<br>120.372 |
| HD                                                                      | 75                         | 100 | 134.3                       | 118.1 | 98.2                    | 50                              | 145                                          | 217.5                                    |                          |                    |

## EMC plates for ATV630...N4Z

| Corresponding drive   | Plate reference | Weight<br>kg/<br>lb |
|-----------------------|-----------------|---------------------|
| ATV630U07N4Z...U55N4Z | VW3A47801       | 0.390/<br>0.860     |
| ATV630U75N4Z, D11N4Z  | VW3A47802       | 0.430/<br>0.948     |
| ATV630D15N4Z...D22N4Z | VW3A47803       | 0.520/<br>1.146     |
| ATV630D30N4Z...D37N4Z | VW3A47804       | 1.000/<br>2.205     |
| ATV630D55N4Z...D90N4Z | VW3A47805       | 1.670/<br>3.682     |

(1) These values are given for use in continuous operation with a nominal switching frequency of 4 kHz (ATV630U07N4Z...D45N4Z). The switching frequency is adjustable from 2...12 kHz (ATV630U07N4Z...D45N4Z).

Above the nominal switching frequency, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, nominal drive current should be derated according to the derating curves in the [Installation Manual](#).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) Values given for applications requiring a slight overload (up to 110%).

(4) Values given for applications requiring a significant overload (up to 150%).

(5) For applications requiring Type 12 ready to use, add "U" at the end of the reference (ATV...N4ZU).

(6) These drives are IP00 at the bottom terminals for power connection.

## Variable speed drives

Altivar Process ATV600

Modular drives

Three-phase supply voltage: 400 V 50/60 Hz



ATV6A0C11Q4

3



ATV6A0C25Q4

| 400 V (-15...10%) IP00 Modular Standard drives <sup>(1)</sup> |             |   |                             |                |                              |                                           |                                 |                          |
|---------------------------------------------------------------|-------------|---|-----------------------------|----------------|------------------------------|-------------------------------------------|---------------------------------|--------------------------|
| Motor                                                         |             |   | Line supply                 |                |                              | Altivar Process                           |                                 |                          |
| Power indicated on rating plate <sup>(2)</sup>                |             |   | Line current <sup>(3)</sup> | Apparent power | Maximum prospective line Isc | Maximum continuous current <sup>(2)</sup> | Max. transient current for 60 s | Reference <sup>(4)</sup> |
|                                                               |             |   | 400 V                       | 400 V          |                              |                                           |                                 |                          |
| ND:                                                           | Normal duty |   |                             |                |                              |                                           |                                 |                          |
| HD:                                                           | Heavy duty  |   |                             |                |                              |                                           |                                 |                          |
| kW                                                            | HP          |   | A                           | kVA            | kA                           | A                                         | A                               |                          |
| Altivar Process Modular for fluid management                  |             |   |                             |                |                              |                                           |                                 |                          |
| THDi ≤ 48% at 100% load in Normal duty                        |             |   |                             |                |                              |                                           |                                 |                          |
| ND                                                            | 110         | – | 198                         | 137            | 50                           | 211                                       | 232                             | ATV6A0C11Q4              |
| HD                                                            | 90          | – | 167                         | 116            | 50                           | 173                                       | 260                             |                          |
| ND                                                            | 132         | – | 233                         | 161            | 50                           | 250                                       | 275                             | ATV6A0C13Q4              |
| HD                                                            | 110         | – | 198                         | 137            | 50                           | 211                                       | 317                             |                          |
| ND                                                            | 160         | – | 278                         | 193            | 50                           | 302                                       | 332                             | ATV6A0C16Q4              |
| HD                                                            | 132         | – | 233                         | 161            | 50                           | 250                                       | 375                             |                          |
| ND                                                            | 200         | – | 352                         | 244            | 50                           | 370                                       | 407                             | ATV6A0C20Q4              |
| HD                                                            | 160         | – | 290                         | 201            | 50                           | 302                                       | 453                             |                          |
| ND                                                            | 250         | – | 432                         | 299            | 50                           | 477                                       | 525                             | ATV6A0C25Q4              |
| HD                                                            | 200         | – | 353                         | 245            | 50                           | 370                                       | 555                             |                          |
| ND                                                            | 315         | – | 538                         | 373            | 50                           | 590                                       | 649                             | ATV6A0C31Q4              |
| HD                                                            | 250         | – | 432                         | 299            | 50                           | 477                                       | 716                             |                          |
| ND                                                            | 355         | – | 611                         | 423            | 50                           | 660                                       | 726                             | ATV6A0C35Q4              |
| HD                                                            | 280         | – | 489                         | 339            | 50                           | 520                                       | 780                             |                          |
| ND                                                            | 400         | – | 681                         | 472            | 50                           | 730                                       | 803                             | ATV6A0C40Q4              |
| HD                                                            | 315         | – | 545                         | 378            | 50                           | 590                                       | 885                             |                          |
| ND                                                            | 450         | – | 764                         | 529            | 50                           | 830                                       | 913                             | ATV6A0C45Q4              |
| HD                                                            | 355         | – | 611                         | 423            | 50                           | 660                                       | 990                             |                          |
| ND                                                            | 500         | – | 846                         | 586            | 50                           | 900                                       | 990                             | ATV6A0C50Q4              |
| HD                                                            | 400         | – | 681                         | 472            | 50                           | 730                                       | 1095                            |                          |
| ND                                                            | 560         | – | 948                         | 657            | 50                           | 1020                                      | 1122                            | ATV6A0C56Q4              |
| HD                                                            | 450         | – | 767                         | 531            | 50                           | 830                                       | 1245                            |                          |
| ND                                                            | 630         | – | 1058                        | 733            | 50                           | 1140                                      | 1254                            | ATV6A0C63Q4              |
| HD                                                            | 500         | – | 849                         | 588            | 50                           | 900                                       | 1350                            |                          |
| ND                                                            | 710         | – | 1192                        | 826            | 50                           | 1260                                      | 1386                            | ATV6A0C71Q4              |
| HD                                                            | 560         | – | 951                         | 659            | 50                           | 1020                                      | 1530                            |                          |
| ND                                                            | 800         | – | 1335                        | 925            | 50                           | 1420                                      | 1562                            | ATV6A0C80Q4              |
| HD                                                            | 630         | – | 1061                        | 735            | 50                           | 1140                                      | 1710                            |                          |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information on possible drive architectures.

**Note:** Altivar Process Modular Standard drives can be designed as Reduced Height versions for integration in cabinets with a height of 1.6 m/5.25 ft. Contact your APM partner for more information.

## Variable speed drives

Altivar Process ATV600

Modular drives

Three-phase supply voltage: 440 V 50/60 Hz



ATV6A0C20R4



ATV6A0C35R4

| 440 V (-15...10%) IP00 Modular Standard drives <sup>(1)</sup> |     |   |                             |                |                              |                                           |                                 |                          |
|---------------------------------------------------------------|-----|---|-----------------------------|----------------|------------------------------|-------------------------------------------|---------------------------------|--------------------------|
| Motor                                                         |     |   | Line supply                 |                |                              | Altivar Process                           |                                 |                          |
| Power indicated on rating plate <sup>(2)</sup>                |     |   | Line current <sup>(3)</sup> | Apparent power | Maximum prospective line Isc | Maximum continuous current <sup>(2)</sup> | Max. transient current for 60 s | Reference <sup>(4)</sup> |
|                                                               |     |   | 440 V                       | 440 V          |                              |                                           |                                 |                          |
| ND: Normal duty                                               |     |   |                             |                |                              |                                           |                                 |                          |
| HD: Heavy duty                                                |     |   |                             |                |                              |                                           |                                 |                          |
| kW                                                            | HP  |   | A                           | kVA            | kA                           | A                                         | A                               |                          |
| Altivar Process Modular for fluid management                  |     |   |                             |                |                              |                                           |                                 |                          |
| THDi ≤ 48% at 100% load in Normal duty                        |     |   |                             |                |                              |                                           |                                 |                          |
| ND                                                            | 110 | – | 183                         | 139            | 50                           | 211                                       | 232                             | ATV6A0C11R4              |
| HD                                                            | 90  | – | 155                         | 118            | 50                           | 173                                       | 260                             |                          |
| ND                                                            | 132 | – | 214                         | 163            | 50                           | 250                                       | 275                             | ATV6A0C13R4              |
| HD                                                            | 110 | – | 183                         | 139            | 50                           | 211                                       | 317                             |                          |
| ND                                                            | 160 | – | 255                         | 194            | 50                           | 302                                       | 332                             | ATV6A0C16R4              |
| HD                                                            | 132 | – | 214                         | 163            | 50                           | 250                                       | 375                             |                          |
| ND                                                            | 160 | – | 325                         | 248            | 50                           | 370                                       | 407                             | ATV6A0C20R4              |
| HD                                                            | 160 | – | 269                         | 205            | 50                           | 302                                       | 453                             |                          |
| ND                                                            | 250 | – | 396                         | 302            | 50                           | 477                                       | 525                             | ATV6A0C25R4              |
| HD                                                            | 200 | – | 325                         | 248            | 50                           | 370                                       | 555                             |                          |
| ND                                                            | 315 | – | 493                         | 376            | 50                           | 590                                       | 649                             | ATV6A0C31R4              |
| HD                                                            | 250 | – | 396                         | 302            | 50                           | 477                                       | 716                             |                          |
| ND                                                            | 355 | – | 559                         | 426            | 50                           | 660                                       | 726                             | ATV6A0C35R4              |
| HD                                                            | 280 | – | 450                         | 343            | 50                           | 520                                       | 780                             |                          |
| ND                                                            | 400 | – | 623                         | 475            | 50                           | 730                                       | 803                             | ATV6A0C40R4              |
| HD                                                            | 315 | – | 501                         | 382            | 50                           | 590                                       | 885                             |                          |
| ND                                                            | 450 | – | 697                         | 531            | 50                           | 830                                       | 913                             | ATV6A0C45R4              |
| HD                                                            | 355 | – | 559                         | 426            | 50                           | 660                                       | 990                             |                          |
| ND                                                            | 500 | – | 771                         | 588            | 50                           | 900                                       | 990                             | ATV6A0C50R4              |
| HD                                                            | 400 | – | 623                         | 475            | 50                           | 730                                       | 1095                            |                          |
| ND                                                            | 560 | – | 865                         | 659            | 50                           | 1020                                      | 1122                            | ATV6A0C56R4              |
| HD                                                            | 450 | – | 703                         | 536            | 50                           | 830                                       | 1245                            |                          |
| ND                                                            | 630 | – | 965                         | 735            | 50                           | 1140                                      | 1254                            | ATV6A0C63R4              |
| HD                                                            | 500 | – | 776                         | 591            | 50                           | 900                                       | 1350                            |                          |
| ND                                                            | 710 | – | 1087                        | 828            | 50                           | 1260                                      | 1386                            | ATV6A0C71R4              |
| HD                                                            | 580 | – | 869                         | 662            | 50                           | 1020                                      | 1530                            |                          |
| ND                                                            | 800 | – | 1216                        | 927            | 50                           | 1420                                      | 1562                            | ATV6A0C80R4              |
| HD                                                            | 630 | – | 968                         | 738            | 50                           | 1140                                      | 1710                            |                          |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information on possible drive architectures.

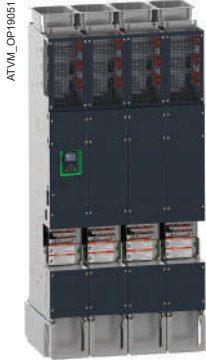
**Note:** Altivar Process Modular Standard drives can be designed as Reduced Height versions for integration in cabinets with a height of 1.6 m/5.25 ft. Contact your APM partner for more information.

## Variable speed drives

Altivar Process ATV600

Modular drives

Three-phase supply voltage: 480 V 50/60 Hz



ATV6A0C56T4



ATV6A0C80T4

480 V (-15...10%) IP00 Modular Standard drives <sup>(1)</sup>

| Motor                                        |             |      | Line supply      |                |                              | Altivar Process                |                                 |               |
|----------------------------------------------|-------------|------|------------------|----------------|------------------------------|--------------------------------|---------------------------------|---------------|
| Power indicated on rating plate (2)          |             |      | Line current (3) | Apparent power | Maximum prospective line Isc | Maximum continuous current (2) | Max. transient current for 60 s | Reference (4) |
|                                              |             |      |                  |                |                              |                                |                                 |               |
| ND:                                          | Normal duty |      |                  |                |                              |                                |                                 |               |
| HD:                                          | Heavy duty  |      |                  |                |                              |                                |                                 |               |
|                                              | kW          | HP   | A                | kVA            | kA                           | A                              | A                               |               |
| Altivar Process Modular for fluid management |             |      |                  |                |                              |                                |                                 |               |
| THDi ≤ 48% at 100% load in Normal duty       |             |      |                  |                |                              |                                |                                 |               |
| ND                                           | –           | 150  | 168              | 140            | 50                           | 211                            | 232                             | ATV6A0C11T4   |
| HD                                           | –           | 125  | 145              | 121            | 50                           | 173                            | 260                             |               |
| ND                                           | –           | 200  | 218              | 181            | 50                           | 250                            | 275                             | ATV6A0C13T4   |
| HD                                           | –           | 150  | 168              | 140            | 50                           | 211                            | 317                             |               |
| ND                                           | –           | 250  | 268              | 223            | 50                           | 302                            | 332                             | ATV6A0C16T4   |
| HD                                           | –           | 200  | 218              | 181            | 50                           | 250                            | 375                             |               |
| ND                                           | –           | 300  | 328              | 273            | 50                           | 370                            | 407                             | ATV6A0C20T4   |
| HD                                           | –           | 250  | 280              | 233            | 50                           | 302                            | 453                             |               |
| ND                                           | –           | 400  | 427              | 355            | 50                           | 477                            | 525                             | ATV6A0C25T4   |
| HD                                           | –           | 300  | 328              | 273            | 50                           | 370                            | 555                             |               |
| ND                                           | –           | 500  | 528              | 439            | 50                           | 590                            | 649                             | ATV6A0C31T4   |
| HD                                           | –           | 400  | 427              | 355            | 50                           | 477                            | 716                             |               |
| ND                                           | –           | 550  | 586              | 487            | 50                           | 660                            | 726                             | ATV6A0C35T4   |
| HD                                           | –           | 450  | 486              | 404            | 50                           | 520                            | 780                             |               |
| ND                                           | –           | 600  | 634              | 527            | 50                           | 730                            | 803                             | ATV6A0C40T4   |
| HD                                           | –           | 500  | 536              | 446            | 50                           | 590                            | 885                             |               |
| ND                                           | –           | 650  | 685              | 569            | 50                           | 830                            | 913                             | ATV6A0C45T4   |
| HD                                           | –           | 550  | 586              | 487            | 50                           | 660                            | 990                             |               |
| ND                                           | –           | 700  | 736              | 612            | 50                           | 900                            | 990                             | ATV6A0C50T4   |
| HD                                           | –           | 600  | 634              | 527            | 50                           | 730                            | 1095                            |               |
| ND                                           | –           | 800  | 842              | 700            | 50                           | 1020                           | 1122                            | ATV6A0C56T4   |
| HD                                           | –           | 650  | 690              | 574            | 50                           | 830                            | 1245                            |               |
| ND                                           | –           | 900  | 939              | 781            | 50                           | 1140                           | 1254                            | ATV6A0C63T4   |
| HD                                           | –           | 700  | 740              | 615            | 50                           | 900                            | 1350                            |               |
| ND                                           | –           | 1000 | 1044             | 868            | 50                           | 1260                           | 1386                            | ATV6A0C71T4   |
| HD                                           | –           | 800  | 846              | 703            | 50                           | 1020                           | 1530                            |               |
| ND                                           | –           | 1100 | 1146             | 953            | 50                           | 1420                           | 1562                            | ATV6A0C80T4   |
| HD                                           | –           | 900  | 942              | 783            | 50                           | 1140                           | 1710                            |               |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information on possible drive architectures.

**Note:** Altivar Process Modular Standard drives can be designed as Reduced Height versions for integration in cabinets with a height of 1.6 m/5.25 ft. Contact your APM partner for more information.



ATV6A0C11N6



ATV6A0C25N6

| 500 V (-10...15%) IP00 Modular Standard drives <sup>(1)</sup> |     |   |                             |                |                              |                                           |                                 |                          |
|---------------------------------------------------------------|-----|---|-----------------------------|----------------|------------------------------|-------------------------------------------|---------------------------------|--------------------------|
| Motor                                                         |     |   | Line supply                 |                |                              | Altivar Process                           |                                 |                          |
| Power indicated on rating plate <sup>(2)</sup>                |     |   | Line current <sup>(3)</sup> | Apparent power | Maximum prospective line Isc | Maximum continuous current <sup>(2)</sup> | Max. transient current for 60 s | Reference <sup>(4)</sup> |
|                                                               |     |   | 500 V                       | 500 V          |                              |                                           |                                 |                          |
| ND: Normal duty                                               |     |   |                             |                |                              |                                           |                                 |                          |
| HD: Heavy duty                                                |     |   |                             |                |                              |                                           |                                 |                          |
| kW                                                            | HP  |   | A                           | kVA            | kA                           | A                                         | A                               |                          |
| Altivar Process Modular for fluid management                  |     |   |                             |                |                              |                                           |                                 |                          |
| THDi ≤ 48% at 100% load in Normal duty                        |     |   |                             |                |                              |                                           |                                 |                          |
| ND                                                            | 75  | — | 110                         | 95             | 50                           | 125                                       | 138                             | ATV6A0C11N6              |
| HD                                                            | 55  | — | 83                          | 72             | 50                           | 105                                       | 158                             |                          |
| ND                                                            | 90  | — | 129                         | 112            | 50                           | 145                                       | 160                             | ATV6A0C13N6              |
| HD                                                            | 75  | — | 110                         | 95             | 50                           | 125                                       | 188                             |                          |
| ND                                                            | 110 | — | 154                         | 133            | 50                           | 175                                       | 193                             | ATV6A0C16N6              |
| HD                                                            | 90  | — | 129                         | 112            | 50                           | 145                                       | 218                             |                          |
| ND                                                            | 132 | — | 183                         | 158            | 50                           | 215                                       | 237                             | ATV6A0C20N6              |
| HD                                                            | 110 | — | 154                         | 133            | 50                           | 175                                       | 263                             |                          |
| ND                                                            | 160 | — | 225                         | 195            | 50                           | 275                                       | 303                             | ATV6A0C25N6              |
| HD                                                            | 132 | — | 190                         | 165            | 50                           | 215                                       | 323                             |                          |
| ND                                                            | 220 | — | 303                         | 262            | 50                           | 340                                       | 374                             | ATV6A0C31N6              |
| HD                                                            | 160 | — | 225                         | 195            | 50                           | 275                                       | 413                             |                          |
| ND                                                            | 280 | — | 380                         | 329            | 50                           | 425                                       | 468                             | ATV6A0C40N6              |
| HD                                                            | 220 | — | 303                         | 262            | 50                           | 340                                       | 510                             |                          |
| ND                                                            | 355 | — | 484                         | 419            | 50                           | 520                                       | 572                             | ATV6A0C50N6              |
| HD                                                            | 280 | — | 385                         | 333            | 50                           | 425                                       | 638                             |                          |
| ND                                                            | 450 | — | 607                         | 526            | 50                           | 650                                       | 715                             | ATV6A0C63N6              |
| HD                                                            | 355 | — | 484                         | 419            | 50                           | 520                                       | 780                             |                          |
| ND                                                            | 560 | — | 756                         | 655            | 50                           | 830                                       | 913                             | ATV6A0C80N6              |
| HD                                                            | 450 | — | 610                         | 528            | 50                           | 650                                       | 975                             |                          |
| ND                                                            | 710 | — | 954                         | 826            | 50                           | 1030                                      | 1133                            | ATV6A0M10N6              |
| HD                                                            | 560 | — | 758                         | 656            | 50                           | 830                                       | 1245                            |                          |
| ND                                                            | 800 | — | 1070                        | 927            | 50                           | 1230                                      | 1353                            | ATV6A0M12N6              |
| HD                                                            | 710 | — | 954                         | 826            | 50                           | 1030                                      | 1545                            |                          |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information on possible drive architectures.

**Note:** Altivar Process Modular Standard drives can be designed as Reduced Height versions for integration in cabinets with a height of 1.6 m/5.25 ft. Contact your APM partner for more information.

## Variable speed drives

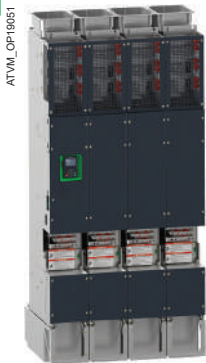
Altivar Process ATV600

Modular drives

Three-phase supply voltage: 600 V 50/60 Hz



ATV6A0C50T6



ATV6A0C80T6

| 600 V (-15...10%) IP00 Modular Standard drives <sup>(1)</sup> |    |      |                             |                |                                             |                                           |                                 |                          |
|---------------------------------------------------------------|----|------|-----------------------------|----------------|---------------------------------------------|-------------------------------------------|---------------------------------|--------------------------|
| Motor                                                         |    |      | Line supply                 |                |                                             | Altivar Process                           |                                 |                          |
| Power indicated on rating plate <sup>(2)</sup>                |    |      | Line current <sup>(3)</sup> | Apparent power | Maximum prospective line Isc <sup>(4)</sup> | Maximum continuous current <sup>(2)</sup> | Max. transient current for 60 s | Reference <sup>(5)</sup> |
|                                                               |    |      | 600 V                       | 600 V          |                                             |                                           |                                 |                          |
| ND: Normal duty                                               |    |      |                             |                |                                             |                                           |                                 |                          |
| HD: Heavy duty                                                |    |      |                             |                |                                             |                                           |                                 |                          |
| kW                                                            | HP |      | A                           | kVA            | kA                                          | A                                         | A                               |                          |
| Altivar Process Modular for fluid management                  |    |      |                             |                |                                             |                                           |                                 |                          |
| THDi ≤ 48% at 100% load in Normal duty                        |    |      |                             |                |                                             |                                           |                                 |                          |
| ND                                                            | —  | 125  | 112                         | 116            | 50                                          | 125                                       | 138                             | ATV6A0C11T6              |
| HD                                                            | —  | 100  | 92                          | 96             | 50                                          | 105                                       | 158                             |                          |
| ND                                                            | —  | 150  | 131                         | 136            | 50                                          | 145                                       | 160                             | ATV6A0C13T6              |
| HD                                                            | —  | 125  | 112                         | 116            | 50                                          | 125                                       | 188                             |                          |
| ND                                                            | —  | 175  | 152                         | 158            | 50                                          | 175                                       | 193                             | ATV6A0C16T6              |
| HD                                                            | —  | 150  | 131                         | 136            | 50                                          | 145                                       | 218                             |                          |
| ND                                                            | —  | 200  | 172                         | 179            | 50                                          | 215                                       | 237                             | ATV6A0C20T6              |
| HD                                                            | —  | 175  | 152                         | 158            | 50                                          | 175                                       | 263                             |                          |
| ND                                                            | —  | 250  | 218                         | 227            | 50                                          | 275                                       | 303                             | ATV6A0C25T6              |
| HD                                                            | —  | 200  | 179                         | 186            | 50                                          | 215                                       | 323                             |                          |
| ND                                                            | —  | 350  | 298                         | 310            | 50                                          | 340                                       | 374                             | ATV6A0C31T6              |
| HD                                                            | —  | 250  | 218                         | 227            | 50                                          | 275                                       | 413                             |                          |
| ND                                                            | —  | 450  | 379                         | 394            | 50                                          | 425                                       | 468                             | ATV6A0C40T6              |
| HD                                                            | —  | 350  | 298                         | 310            | 50                                          | 340                                       | 510                             |                          |
| ND                                                            | —  | 550  | 464                         | 482            | 50                                          | 520                                       | 572                             | ATV6A0C50T6              |
| HD                                                            | —  | 450  | 383                         | 398            | 50                                          | 425                                       | 638                             |                          |
| ND                                                            | —  | 650  | 544                         | 565            | 50                                          | 650                                       | 715                             | ATV6A0C63T6              |
| HD                                                            | —  | 550  | 464                         | 482            | 50                                          | 520                                       | 780                             |                          |
| ND                                                            | —  | 800  | 670                         | 696            | 50                                          | 830                                       | 913                             | ATV6A0C80T6              |
| HD                                                            | —  | 650  | 547                         | 568            | 50                                          | 650                                       | 975                             |                          |
| ND                                                            | —  | 1000 | 833                         | 866            | 50                                          | 1030                                      | 1133                            | ATV6A0M10T6              |
| HD                                                            | —  | 800  | 673                         | 699            | 50                                          | 830                                       | 1245                            |                          |
| ND                                                            | —  | 1200 | 994                         | 1033           | 50                                          | 1230                                      | 1353                            | ATV6A0M12T6              |
| HD                                                            | —  | 1000 | 835                         | 835            | 50                                          | 1030                                      | 1545                            |                          |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

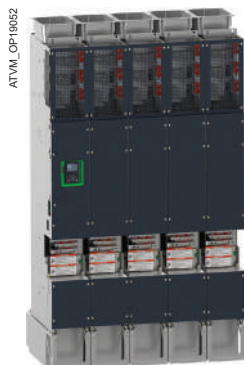
For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

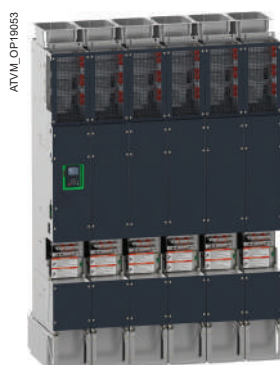
(4) For 600V UL certified drives, a higher SCCR is possible under some conditions. Consult your APM Partner for customized solutions.

(5) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information on possible drive architectures.

**Note:** Altivar Process Modular Standard drives can be designed as Reduced Height versions for integration in cabinets with a height of 1.6 m/5.25 ft. Contact your APM partner for more information.



ATV6A0M10Q6



ATV6A0M12Q6

690 V (-15...10%) IP00 Modular Standard drives <sup>(1)</sup>

| Motor                                        |            |    |      | Line supply         |                   |                                    | Altivar Process                      |                                          |                  |
|----------------------------------------------|------------|----|------|---------------------|-------------------|------------------------------------|--------------------------------------|------------------------------------------|------------------|
| Power indicated on rating plate<br>(2)       |            |    |      | Line<br>current (3) | Apparent<br>power | Maximum<br>prospective<br>line Isc | Maximum<br>continuous<br>current (2) | Max.<br>transient<br>current for<br>60 s | Reference<br>(4) |
|                                              |            |    |      | 690 V               | 690 V             |                                    |                                      |                                          |                  |
|                                              |            |    |      | ND:                 | Normal duty       |                                    |                                      |                                          |                  |
| HD:                                          | Heavy duty |    |      |                     |                   |                                    |                                      |                                          |                  |
| kW                                           |            | HP | A    | kVA                 | kA                | A                                  | A                                    |                                          |                  |
| Altivar Process Modular for fluid management |            |    |      |                     |                   |                                    |                                      |                                          |                  |
| THDi ≤ 48% at 100% load in Normal duty       |            |    |      |                     |                   |                                    |                                      |                                          |                  |
| ND                                           | 110        | —  | 118  | 141                 | 50                | 125                                | 138                                  | ATV6A0C11Q6                              |                  |
| HD                                           | 90         | —  | 100  | 120                 | 50                | 105                                | 158                                  |                                          |                  |
| ND                                           | 132        | —  | 138  | 165                 | 50                | 145                                | 160                                  | ATV6A0C13Q6                              |                  |
| HD                                           | 110        | —  | 118  | 141                 | 50                | 125                                | 188                                  |                                          |                  |
| ND                                           | 160        | —  | 163  | 195                 | 50                | 175                                | 193                                  | ATV6A0C16Q6                              |                  |
| HD                                           | 132        | —  | 138  | 165                 | 50                | 145                                | 218                                  |                                          |                  |
| ND                                           | 200        | —  | 200  | 239                 | 50                | 215                                | 237                                  | ATV6A0C20Q6                              |                  |
| HD                                           | 160        | —  | 163  | 195                 | 50                | 175                                | 263                                  |                                          |                  |
| ND                                           | 250        | —  | 255  | 305                 | 50                | 275                                | 303                                  | ATV6A0C25Q6                              |                  |
| HD                                           | 200        | —  | 211  | 252                 | 50                | 215                                | 323                                  |                                          |                  |
| ND                                           | 315        | —  | 316  | 378                 | 50                | 340                                | 374                                  | ATV6A0C31Q6                              |                  |
| HD                                           | 250        | —  | 255  | 305                 | 50                | 275                                | 413                                  |                                          |                  |
| ND                                           | 400        | —  | 394  | 471                 | 50                | 425                                | 468                                  | ATV6A0C40Q6                              |                  |
| HD                                           | 315        | —  | 316  | 378                 | 50                | 340                                | 510                                  |                                          |                  |
| ND                                           | 500        | —  | 495  | 592                 | 50                | 520                                | 572                                  | ATV6A0C50Q6                              |                  |
| HD                                           | 400        | —  | 401  | 479                 | 50                | 425                                | 638                                  |                                          |                  |
| ND                                           | 630        | —  | 615  | 735                 | 50                | 650                                | 715                                  | ATV6A0C63Q6                              |                  |
| HD                                           | 500        | —  | 495  | 592                 | 50                | 520                                | 780                                  |                                          |                  |
| ND                                           | 800        | —  | 776  | 927                 | 50                | 830                                | 913                                  | ATV6A0C80Q6                              |                  |
| HD                                           | 630        | —  | 619  | 740                 | 50                | 650                                | 975                                  |                                          |                  |
| ND                                           | 1000       | —  | 969  | 1158                | 50                | 1030                               | 1133                                 | ATV6A0M10Q6                              |                  |
| HD                                           | 800        | —  | 779  | 931                 | 50                | 830                                | 1245                                 |                                          |                  |
| ND                                           | 1200       | —  | 1161 | 1388                | 50                | 1230                               | 1353                                 | ATV6A0M12Q6                              |                  |
| HD                                           | 1000       | —  | 971  | 1160                | 50                | 1030                               | 1545                                 |                                          |                  |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information on possible drive architectures.

**Note:** Altivar Process Modular Standard drives can be designed as Reduced Height versions for integration in cabinets with a height of 1.6 m/5.25 ft. Contact your APM partner for more information.

## Variable speed drives

Altivar Process ATV600

Modular Low Harmonic drives

Three-phase supply voltage: 400 V 50/60 Hz



ATV6B0C11Q4



ATV6B0C20Q4

| 400 V (-15...10%) IP00 Modular Low Harmonic drives <sup>(1)</sup> |             |   |                             |                |                              |                                           |                                 |                          |
|-------------------------------------------------------------------|-------------|---|-----------------------------|----------------|------------------------------|-------------------------------------------|---------------------------------|--------------------------|
| Motor                                                             |             |   | Line supply                 |                |                              | Altivar Process                           |                                 |                          |
| Power indicated on rating plate <sup>(2)</sup>                    |             |   | Line current <sup>(3)</sup> | Apparent power | Maximum prospective line Isc | Maximum continuous current <sup>(2)</sup> | Max. transient current for 60 s | Reference <sup>(4)</sup> |
|                                                                   |             |   | 400 V                       | 400 V          |                              |                                           |                                 |                          |
| ND:                                                               | Normal duty |   |                             |                |                              |                                           |                                 |                          |
| HD:                                                               | Heavy duty  |   |                             |                |                              |                                           |                                 |                          |
| kW                                                                | HP          |   | A                           | kVA            | kA                           | A                                         | A                               |                          |
| Altivar Process Modular for fluid management                      |             |   |                             |                |                              |                                           |                                 |                          |
| THDi ≤ 5% at 100% load in Normal duty                             |             |   |                             |                |                              |                                           |                                 |                          |
| ND                                                                | 110         | – | 175                         | 121            | 50                           | 211                                       | 232                             | ATV6B0C11Q4              |
| HD                                                                | 90          | – | 144                         | 100            | 50                           | 173                                       | 260                             |                          |
| ND                                                                | 132         | – | 208                         | 144            | 50                           | 250                                       | 275                             | ATV6B0C13Q4              |
| HD                                                                | 110         | – | 174                         | 121            | 50                           | 211                                       | 317                             |                          |
| ND                                                                | 160         | – | 252                         | 174            | 50                           | 302                                       | 332                             | ATV6B0C16Q4              |
| HD                                                                | 132         | – | 208                         | 144            | 50                           | 250                                       | 375                             |                          |
| ND                                                                | 200         | – | 313                         | 217            | 50                           | 370                                       | 407                             | ATV6B0C20Q4              |
| HD                                                                | 160         | – | 252                         | 174            | 50                           | 302                                       | 453                             |                          |
| ND                                                                | 250         | – | 389                         | 270            | 50                           | 477                                       | 525                             | ATV6B0C25Q4              |
| HD                                                                | 200         | – | 313                         | 217            | 50                           | 370                                       | 555                             |                          |
| ND                                                                | 315         | – | 491                         | 340            | 50                           | 590                                       | 649                             | ATV6B0C31Q4              |
| HD                                                                | 250         | – | 389                         | 270            | 50                           | 477                                       | 716                             |                          |
| ND                                                                | 355         | – | 553                         | 383            | 50                           | 660                                       | 726                             | ATV6B0C35Q4              |
| HD                                                                | 280         | – | 436                         | 302            | 50                           | 520                                       | 780                             |                          |
| ND                                                                | 400         | – | 620                         | 429            | 50                           | 730                                       | 803                             | ATV6B0C40Q4              |
| HD                                                                | 315         | – | 491                         | 340            | 50                           | 590                                       | 885                             |                          |
| ND                                                                | 450         | – | 697                         | 483            | 50                           | 830                                       | 913                             | ATV6B0C45Q4              |
| HD                                                                | 355         | – | 553                         | 383            | 50                           | 660                                       | 990                             |                          |
| ND                                                                | 500         | – | 775                         | 537            | 50                           | 900                                       | 990                             | ATV6B0C50Q4              |
| HD                                                                | 400         | – | 620                         | 429            | 50                           | 730                                       | 1095                            |                          |
| ND                                                                | 560         | – | 868                         | 601            | 50                           | 1020                                      | 1122                            | ATV6B0C56Q4              |
| HD                                                                | 450         | – | 697                         | 483            | 50                           | 830                                       | 1245                            |                          |
| ND                                                                | 630         | – | 971                         | 673            | 50                           | 1140                                      | 1254                            | ATV6B0C63Q4              |
| HD                                                                | 500         | – | 775                         | 537            | 50                           | 900                                       | 1350                            |                          |
| ND                                                                | 710         | – | 1094                        | 758            | 50                           | 1260                                      | 1386                            | ATV6B0C71Q4              |
| HD                                                                | 560         | – | 868                         | 601            | 50                           | 1020                                      | 1530                            |                          |
| ND                                                                | 800         | – | 1227                        | 850            | 50                           | 1420                                      | 1562                            | ATV6B0C80Q4              |
| HD                                                                | 630         | – | 971                         | 673            | 50                           | 1140                                      | 1710                            |                          |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information on possible drive architectures.

## Variable speed drives

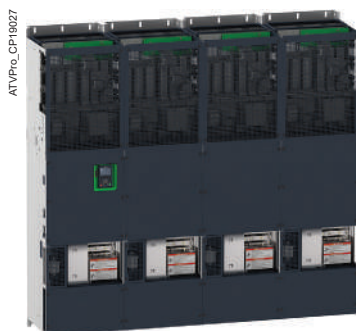
Altivar Process ATV600

Modular Low Harmonic drives

Three-phase supply voltage: 440 V 50/60 Hz



ATV6B0C31R4



ATV6B0C56R4

440 V (-15...10%) IP00 Modular Low Harmonic drives <sup>(1)</sup>

| Motor                                        |             | Line supply         |                |                              | Altivar Process                   |                                 |                  |
|----------------------------------------------|-------------|---------------------|----------------|------------------------------|-----------------------------------|---------------------------------|------------------|
| Power indicated on rating plate<br>(2)       |             | Line current<br>(3) | Apparent power | Maximum prospective line Isc | Maximum continuous current<br>(2) | Max. transient current for 60 s | Reference<br>(4) |
|                                              |             | 440 V               | 440 V          |                              |                                   |                                 |                  |
| ND:                                          | Normal duty |                     |                |                              |                                   |                                 |                  |
| HD:                                          | Heavy duty  |                     |                |                              |                                   |                                 |                  |
|                                              |             | kW                  | HP             | A                            | kVA                               | kA                              | A                |
| Altivar Process Modular for fluid management |             |                     |                |                              |                                   |                                 |                  |
| THDi ≤ 5% at 100% load in Normal duty        |             |                     |                |                              |                                   |                                 |                  |
| ND                                           | 110         | —                   | 159            | 121                          | 50                                | 211                             | 232              |
| HD                                           | 90          | —                   | 132            | 100                          | 50                                | 173                             | 260              |
| ND                                           | 132         | —                   | 190            | 145                          | 50                                | 250                             | 275              |
| HD                                           | 110         | —                   | 159            | 121                          | 50                                | 211                             | 317              |
| ND                                           | 160         | —                   | 229            | 174                          | 50                                | 302                             | 332              |
| HD                                           | 132         | —                   | 190            | 145                          | 50                                | 250                             | 375              |
| ND                                           | 200         | —                   | 285            | 217                          | 50                                | 370                             | 407              |
| HD                                           | 160         | —                   | 229            | 174                          | 50                                | 302                             | 453              |
| ND                                           | 250         | —                   | 354            | 270                          | 50                                | 477                             | 525              |
| HD                                           | 200         | —                   | 285            | 217                          | 50                                | 370                             | 555              |
| ND                                           | 315         | —                   | 446            | 340                          | 50                                | 590                             | 649              |
| HD                                           | 250         | —                   | 354            | 270                          | 50                                | 477                             | 716              |
| ND                                           | 355         | —                   | 503            | 383                          | 50                                | 660                             | 726              |
| HD                                           | 280         | —                   | 396            | 302                          | 50                                | 520                             | 780              |
| ND                                           | 400         | —                   | 563            | 429                          | 50                                | 730                             | 803              |
| HD                                           | 315         | —                   | 446            | 340                          | 50                                | 590                             | 885              |
| ND                                           | 450         | —                   | 634            | 483                          | 50                                | 830                             | 913              |
| HD                                           | 355         | —                   | 503            | 383                          | 50                                | 660                             | 990              |
| ND                                           | 500         | —                   | 704            | 537                          | 50                                | 900                             | 990              |
| HD                                           | 400         | —                   | 563            | 429                          | 50                                | 730                             | 1095             |
| ND                                           | 560         | —                   | 789            | 601                          | 50                                | 1020                            | 1122             |
| HD                                           | 450         | —                   | 634            | 483                          | 50                                | 830                             | 1245             |
| ND                                           | 630         | —                   | 883            | 673                          | 50                                | 1140                            | 1254             |
| HD                                           | 500         | —                   | 704            | 537                          | 50                                | 900                             | 1350             |
| ND                                           | 710         | —                   | 995            | 758                          | 50                                | 1260                            | 1386             |
| HD                                           | 560         | —                   | 789            | 601                          | 50                                | 1020                            | 1530             |
| ND                                           | 800         | —                   | 1115           | 850                          | 50                                | 1420                            | 1562             |
| HD                                           | 630         | —                   | 883            | 673                          | 50                                | 1140                            | 1710             |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information on possible drive architectures.

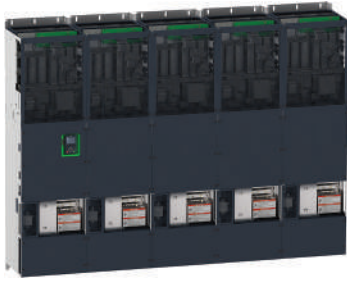
## Variable speed drives

Altivar Process ATV600

Modular Low Harmonic drives

Three-phase supply voltage: 480 V 50/60 Hz

ATVPro\_CP19028



ATV6B0C45T4

3

ATVPro\_CP19023



ATV6B0C71T4

480 V (-10...10%) IP00 Modular Low Harmonic drives <sup>(1)</sup>

| Motor                                        |             |      | Line supply         |                |                              | Altivar Process                   |                                 |                  |
|----------------------------------------------|-------------|------|---------------------|----------------|------------------------------|-----------------------------------|---------------------------------|------------------|
| Power indicated on rating plate<br>(2)       |             |      | Line current<br>(3) | Apparent power | Maximum prospective line Isc | Maximum continuous current<br>(2) | Max. transient current for 60 s | Reference<br>(4) |
|                                              |             |      | 480 V               | 480 V          |                              |                                   |                                 |                  |
| ND:                                          | Normal duty |      |                     |                |                              |                                   |                                 |                  |
| HD:                                          | Heavy duty  |      |                     |                |                              |                                   |                                 |                  |
|                                              | kW          | HP   | A                   | kVA            | kA                           | A                                 | A                               |                  |
| Altivar Process Modular for fluid management |             |      |                     |                |                              |                                   |                                 |                  |
| THDi ≤ 5% at 100% load in Normal duty        |             |      |                     |                |                              |                                   |                                 |                  |
| ND                                           | –           | 150  | 148                 | 123            | 50                           | 211                               | 232                             | ATV6B0C11T4      |
| HD                                           | –           | 125  | 125                 | 104            | 50                           | 173                               | 260                             |                  |
| ND                                           | –           | 200  | 197                 | 164            | 50                           | 250                               | 275                             | ATV6B0C13T4      |
| HD                                           | –           | 150  | 148                 | 123            | 50                           | 211                               | 317                             |                  |
| ND                                           | –           | 250  | 245                 | 203            | 50                           | 302                               | 332                             | ATV6B0C16T4      |
| HD                                           | –           | 200  | 197                 | 164            | 50                           | 250                               | 375                             |                  |
| ND                                           | –           | 300  | 292                 | 243            | 50                           | 370                               | 407                             | ATV6B0C20T4      |
| HD                                           | –           | 250  | 245                 | 203            | 50                           | 302                               | 453                             |                  |
| ND                                           | –           | 400  | 387                 | 322            | 50                           | 477                               | 525                             | ATV6B0C25T4      |
| HD                                           | –           | 300  | 292                 | 243            | 50                           | 370                               | 555                             |                  |
| ND                                           | –           | 500  | 484                 | 402            | 50                           | 590                               | 649                             | ATV6B0C31T4      |
| HD                                           | –           | 400  | 387                 | 322            | 50                           | 477                               | 716                             |                  |
| ND                                           | –           | 550  | 533                 | 443            | 50                           | 660                               | 726                             | ATV6B0C35T4      |
| HD                                           | –           | 450  | 436                 | 362            | 50                           | 520                               | 780                             |                  |
| ND                                           | –           | 600  | 578                 | 480            | 50                           | 730                               | 803                             | ATV6B0C40T4      |
| HD                                           | –           | 500  | 484                 | 402            | 50                           | 590                               | 885                             |                  |
| ND                                           | –           | 650  | 626                 | 520            | 50                           | 830                               | 913                             | ATV6B0C45T4      |
| HD                                           | –           | 550  | 533                 | 443            | 50                           | 660                               | 990                             |                  |
| ND                                           | –           | 700  | 674                 | 561            | 50                           | 900                               | 990                             | ATV6B0C50T4      |
| HD                                           | –           | 600  | 578                 | 480            | 50                           | 730                               | 1095                            |                  |
| ND                                           | –           | 800  | 771                 | 641            | 50                           | 1020                              | 1122                            | ATV6B0C56T4      |
| HD                                           | –           | 650  | 626                 | 520            | 50                           | 830                               | 1245                            |                  |
| ND                                           | –           | 900  | 862                 | 717            | 50                           | 1140                              | 1254                            | ATV6B0C63T4      |
| HD                                           | –           | 700  | 674                 | 561            | 50                           | 900                               | 1350                            |                  |
| ND                                           | –           | 1000 | 958                 | 797            | 50                           | 1260                              | 1386                            | ATV6B0C71T4      |
| HD                                           | –           | 800  | 771                 | 641            | 50                           | 1020                              | 1530                            |                  |
| ND                                           | –           | 1100 | 1049                | 872            | 50                           | 1420                              | 1562                            | ATV6B0C80T4      |
| HD                                           | –           | 900  | 862                 | 717            | 50                           | 1140                              | 1710                            |                  |

<sup>(1)</sup> Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.<sup>(2)</sup> These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

<sup>(3)</sup> Typical value for the indicated motor power and for the maximum prospective line Isc.<sup>(4)</sup> These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information on possible drive architectures.

## Variable speed drives

Altivar Process ATV600

Modular Low Harmonic drives

Three-phase supply voltage: 500 V 50/60 Hz



ATV6B0C11N6



ATV6B0C25N6

| 500 V (-15...10%) IP00 Modular Low Harmonic drives <sup>(1)</sup> |     |   |                             |                |                              |                                           |                                 |                          |
|-------------------------------------------------------------------|-----|---|-----------------------------|----------------|------------------------------|-------------------------------------------|---------------------------------|--------------------------|
| Motor                                                             |     |   | Line supply                 |                |                              | Altivar Process                           |                                 |                          |
| Power indicated on rating plate <sup>(2)</sup>                    |     |   | Line current <sup>(3)</sup> | Apparent power | Maximum prospective line Isc | Maximum continuous current <sup>(2)</sup> | Max. transient current for 60 s | Reference <sup>(4)</sup> |
|                                                                   |     |   | 500 V                       | 500 V          |                              |                                           |                                 |                          |
| ND: Normal duty                                                   |     |   |                             |                |                              |                                           |                                 |                          |
| HD: Heavy duty                                                    |     |   |                             |                |                              |                                           |                                 |                          |
| kW                                                                | HP  |   | A                           | kVA            | kA                           | A                                         | A                               |                          |
| Altivar Process Modular for fluid management                      |     |   |                             |                |                              |                                           |                                 |                          |
| THDi ≤ 5% at 100% load in Normal duty                             |     |   |                             |                |                              |                                           |                                 |                          |
| ND                                                                | 75  | — | 98                          | 85             | 50                           | 125                                       | 138                             | ATV6B0C11N6              |
| HD                                                                | 55  | — | 72                          | 62             | 50                           | 105                                       | 158                             |                          |
| ND                                                                | 90  | — | 117                         | 101            | 50                           | 145                                       | 160                             | ATV6B0C13N6              |
| HD                                                                | 75  | — | 98                          | 85             | 50                           | 125                                       | 188                             |                          |
| ND                                                                | 110 | — | 141                         | 122            | 50                           | 175                                       | 193                             | ATV6B0C16N6              |
| HD                                                                | 90  | — | 117                         | 101            | 50                           | 145                                       | 218                             |                          |
| ND                                                                | 132 | — | 169                         | 146            | 50                           | 215                                       | 237                             | ATV6B0C20N6              |
| HD                                                                | 110 | — | 141                         | 122            | 50                           | 175                                       | 263                             |                          |
| ND                                                                | 160 | — | 204                         | 176            | 50                           | 275                                       | 303                             | ATV6B0C25N6              |
| HD                                                                | 132 | — | 169                         | 146            | 50                           | 215                                       | 323                             |                          |
| ND                                                                | 220 | — | 278                         | 241            | 50                           | 340                                       | 374                             | ATV6B0C31N6              |
| HD                                                                | 160 | — | 204                         | 176            | 50                           | 275                                       | 413                             |                          |
| ND                                                                | 280 | — | 352                         | 305            | 50                           | 425                                       | 468                             | ATV6B0C40N6              |
| HD                                                                | 220 | — | 278                         | 241            | 50                           | 340                                       | 510                             |                          |
| ND                                                                | 355 | — | 446                         | 386            | 50                           | 520                                       | 572                             | ATV6B0C50N6              |
| HD                                                                | 280 | — | 352                         | 305            | 50                           | 425                                       | 638                             |                          |
| ND                                                                | 450 | — | 562                         | 487            | 50                           | 650                                       | 715                             | ATV6B0C63N6              |
| HD                                                                | 355 | — | 446                         | 386            | 50                           | 520                                       | 780                             |                          |
| ND                                                                | 560 | — | 701                         | 607            | 50                           | 830                                       | 913                             | ATV6B0C80N6              |
| HD                                                                | 450 | — | 564                         | 488            | 50                           | 650                                       | 975                             |                          |
| ND                                                                | 710 | — | 884                         | 766            | 50                           | 1030                                      | 1133                            | ATV6B0M10N6              |
| HD                                                                | 560 | — | 701                         | 607            | 50                           | 830                                       | 1245                            |                          |
| ND                                                                | 800 | — | 991                         | 859            | 50                           | 1230                                      | 1353                            | ATV6B0M12N6              |
| HD                                                                | 710 | — | 884                         | 766            | 50                           | 1030                                      | 1545                            |                          |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information on possible drive architectures.

## Variable speed drives

Altivar Process ATV600

Modular Low Harmonic drives

Three-phase supply voltage: 600 V 50/60 Hz



ATV6B0C50T6



ATV6B0C80T6

| 600 V (-10...10%) IP00 Modular Low Harmonic drives <sup>(1)</sup> |             |      |                             |                |                                             |                                           |                                 |                          |
|-------------------------------------------------------------------|-------------|------|-----------------------------|----------------|---------------------------------------------|-------------------------------------------|---------------------------------|--------------------------|
| Motor                                                             |             |      | Line supply                 |                |                                             | Altivar Process                           |                                 |                          |
| Power indicated on rating plate <sup>(2)</sup>                    |             |      | Line current <sup>(3)</sup> | Apparent power | Maximum prospective line Isc <sup>(4)</sup> | Maximum continuous current <sup>(2)</sup> | Max. transient current for 60 s | Reference <sup>(5)</sup> |
|                                                                   |             |      | 600 V                       | 600 V          |                                             |                                           |                                 |                          |
| ND:                                                               | Normal duty |      |                             |                |                                             |                                           |                                 |                          |
| HD:                                                               | Heavy duty  |      |                             |                |                                             |                                           |                                 |                          |
| kW                                                                | HP          |      | A                           | kVA            | kA                                          | A                                         | A                               |                          |
| Altivar Process Modular for fluid management                      |             |      |                             |                |                                             |                                           |                                 |                          |
| THDi ≤ 5% at 100% load in Normal duty                             |             |      |                             |                |                                             |                                           |                                 |                          |
| ND                                                                | —           | 125  | 102                         | 106            | 50                                          | 125                                       | 138                             | ATV6B0C11T6              |
| HD                                                                | —           | 100  | 82                          | 86             | 50                                          | 105                                       | 158                             |                          |
| ND                                                                | —           | 150  | 121                         | 126            | 50                                          | 145                                       | 160                             | ATV6B0C13T6              |
| HD                                                                | —           | 125  | 102                         | 106            | 50                                          | 125                                       | 188                             |                          |
| ND                                                                | —           | 175  | 142                         | 147            | 50                                          | 175                                       | 193                             | ATV6B0C16T6              |
| HD                                                                | —           | 150  | 121                         | 126            | 50                                          | 145                                       | 218                             |                          |
| ND                                                                | —           | 200  | 161                         | 167            | 50                                          | 215                                       | 237                             | ATV6B0C20T6              |
| HD                                                                | —           | 175  | 142                         | 147            | 50                                          | 175                                       | 263                             |                          |
| ND                                                                | —           | 250  | 199                         | 207            | 50                                          | 275                                       | 303                             | ATV6B0C25T6              |
| HD                                                                | —           | 200  | 160                         | 166            | 50                                          | 215                                       | 323                             |                          |
| ND                                                                | —           | 350  | 277                         | 288            | 50                                          | 340                                       | 374                             | ATV6B0C31T6              |
| HD                                                                | —           | 250  | 199                         | 207            | 50                                          | 275                                       | 413                             |                          |
| ND                                                                | —           | 450  | 355                         | 369            | 50                                          | 425                                       | 468                             | ATV6B0C40T6              |
| HD                                                                | —           | 350  | 277                         | 288            | 50                                          | 340                                       | 510                             |                          |
| ND                                                                | —           | 550  | 434                         | 451            | 50                                          | 520                                       | 572                             | ATV6B0C50T6              |
| HD                                                                | —           | 450  | 355                         | 369            | 50                                          | 425                                       | 638                             |                          |
| ND                                                                | —           | 650  | 511                         | 531            | 50                                          | 650                                       | 715                             | ATV6B0C63T6              |
| HD                                                                | —           | 550  | 434                         | 451            | 50                                          | 520                                       | 780                             |                          |
| ND                                                                | —           | 800  | 628                         | 652            | 50                                          | 830                                       | 913                             | ATV6B0C80T6              |
| HD                                                                | —           | 650  | 513                         | 533            | 50                                          | 650                                       | 975                             |                          |
| ND                                                                | —           | 1000 | 785                         | 815            | 50                                          | 1030                                      | 1133                            | ATV6B0M10T6              |
| HD                                                                | —           | 800  | 628                         | 652            | 50                                          | 830                                       | 1245                            |                          |
| ND                                                                | —           | 1200 | 937                         | 973            | 50                                          | 1230                                      | 1353                            | ATV6B0M12T6              |
| HD                                                                | —           | 1000 | 785                         | 815            | 50                                          | 1030                                      | 1545                            |                          |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) For 600V UL certified drives, a higher SCCR is possible under some conditions. Consult your APM Partner for customized solutions.

(5) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information on possible drive architectures.

## Variable speed drives

Altivar Process ATV600

Modular Low Harmonic drives

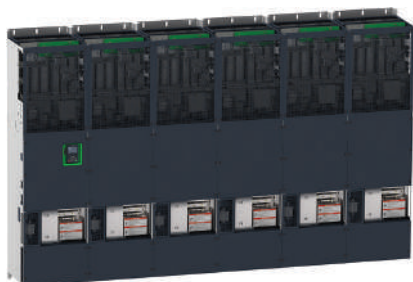
Three-phase supply voltage: 690 V 50/60 Hz

ATVPro\_CPI18028



ATV6B0M10Q6

ATVPro\_CPI18023



ATV6B0M12Q6

690 V (-10...10%) IP00 Modular Low Harmonic drives <sup>(1)</sup>

| Motor                                        |             |    | Line supply         |                |                              | Altivar Process                   |                                 |                  |
|----------------------------------------------|-------------|----|---------------------|----------------|------------------------------|-----------------------------------|---------------------------------|------------------|
| Power indicated on rating plate<br>(2)       |             |    | Line current<br>(3) | Apparent power | Maximum prospective line Isc | Maximum continuous current<br>(2) | Max. transient current for 60 s | Reference<br>(4) |
|                                              |             |    | 690 V               | 690 V          |                              |                                   |                                 |                  |
| ND:                                          | Normal duty |    |                     |                |                              |                                   |                                 |                  |
| HD:                                          | Heavy duty  |    |                     |                |                              |                                   |                                 |                  |
|                                              | kW          | HP | A                   | kVA            | kA                           | A                                 | A                               |                  |
| Altivar Process Modular for fluid management |             |    |                     |                |                              |                                   |                                 |                  |
| THDi ≤ 5% at 100% load in Normal duty        |             |    |                     |                |                              |                                   |                                 |                  |
| ND                                           | 110         | —  | 102                 | 122            | 50                           | 125                               | 138                             | ATV6B0C11Q6      |
| HD                                           | 90          | —  | 85                  | 101            | 50                           | 105                               | 158                             |                  |
| ND                                           | 132         | —  | 122                 | 146            | 50                           | 145                               | 160                             | ATV6B0C13Q6      |
| HD                                           | 110         | —  | 102                 | 122            | 50                           | 125                               | 188                             |                  |
| ND                                           | 160         | —  | 148                 | 177            | 50                           | 175                               | 193                             | ATV6B0C16Q6      |
| HD                                           | 132         | —  | 122                 | 146            | 50                           | 145                               | 218                             |                  |
| ND                                           | 200         | —  | 183                 | 219            | 50                           | 215                               | 237                             | ATV6B0C20Q6      |
| HD                                           | 160         | —  | 148                 | 177            | 50                           | 175                               | 263                             |                  |
| ND                                           | 250         | —  | 228                 | 273            | 50                           | 275                               | 303                             | ATV6B0C25Q6      |
| HD                                           | 200         | —  | 183                 | 219            | 50                           | 215                               | 323                             |                  |
| ND                                           | 315         | —  | 287                 | 343            | 50                           | 340                               | 374                             | ATV6B0C31Q6      |
| HD                                           | 250         | —  | 228                 | 273            | 50                           | 275                               | 413                             |                  |
| ND                                           | 400         | —  | 363                 | 434            | 50                           | 425                               | 468                             | ATV6B0C40Q6      |
| HD                                           | 315         | —  | 287                 | 343            | 50                           | 340                               | 510                             |                  |
| ND                                           | 500         | —  | 453                 | 541            | 50                           | 520                               | 572                             | ATV6B0C50Q6      |
| HD                                           | 400         | —  | 362                 | 433            | 50                           | 425                               | 638                             |                  |
| ND                                           | 630         | —  | 568                 | 678            | 50                           | 650                               | 715                             | ATV6B0C63Q6      |
| HD                                           | 500         | —  | 453                 | 541            | 50                           | 520                               | 780                             |                  |
| ND                                           | 800         | —  | 718                 | 859            | 50                           | 830                               | 913                             | ATV6B0C80Q6      |
| HD                                           | 630         | —  | 569                 | 680            | 50                           | 650                               | 975                             |                  |
| ND                                           | 1000        | —  | 898                 | 1073           | 50                           | 1030                              | 1133                            | ATV6B0M10Q6      |
| HD                                           | 800         | —  | 718                 | 859            | 50                           | 830                               | 1245                            |                  |
| ND                                           | 1200        | —  | 1078                | 1288           | 50                           | 1230                              | 1353                            | ATV6B0M12Q6      |
| HD                                           | 1000        | —  | 898                 | 1073           | 50                           | 1030                              | 1545                            |                  |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information on possible drive architectures.

## Variable speed drives

Altivar Process ATV600

Modular Liquid-cooled drives

Three-phase supply voltage: 400 V 50/60 Hz



ATV6L0C13Q4



ATV6L0C50Q4

| 400 V (-15...10%) IP00 Modular Liquid-cooled drives (1)        |      |   |                  |                |                              |                                |                                 |               |
|----------------------------------------------------------------|------|---|------------------|----------------|------------------------------|--------------------------------|---------------------------------|---------------|
| Motor                                                          |      |   | Line supply      |                |                              | Altivar Process                |                                 |               |
| Power indicated on rating plate (2)                            |      |   | Line current (3) | Apparent power | Maximum prospective line Isc | Maximum continuous current (2) | Max. transient current for 60 s | Reference (4) |
|                                                                |      |   | 400 V            | 400 V          |                              |                                |                                 |               |
| ND: Normal duty                                                |      |   |                  |                |                              |                                |                                 |               |
| HD: Heavy duty                                                 |      |   |                  |                |                              |                                |                                 |               |
| kW                                                             | HP   |   | A                | kVA            | kA                           | A                              | A                               |               |
| Altivar Process Modular Liquid-cooled                          |      |   |                  |                |                              |                                |                                 |               |
| THDi ≤ 48% at 100% load in Normal duty with 6-pulse supply (5) |      |   |                  |                |                              |                                |                                 |               |
| ND                                                             | 132  | - | 244              | 169            | 50                           | 250                            | 275                             | ATV6L0C13Q4   |
| HD                                                             | 110  | - | 210              | 145            | 50                           | 211                            | 317                             |               |
| ND                                                             | 160  | - | 287              | 199            | 50                           | 302                            | 332                             | ATV6L0C16Q4   |
| HD                                                             | 132  | - | 244              | 169            | 50                           | 250                            | 375                             |               |
| ND                                                             | 200  | - | 350              | 242            | 50                           | 370                            | 407                             | ATV6L0C20Q4   |
| HD                                                             | 160  | - | 287              | 199            | 50                           | 302                            | 453                             |               |
| ND                                                             | 250  | - | 429              | 297            | 50                           | 477                            | 525                             | ATV6L0C25Q4   |
| HD                                                             | 200  | - | 350              | 242            | 50                           | 370                            | 555                             |               |
| ND                                                             | 315  | - | 536              | 371            | 50                           | 590                            | 649                             | ATV6L0C31Q4   |
| HD                                                             | 250  | - | 429              | 297            | 50                           | 477                            | 716                             |               |
| ND                                                             | 400  | - | 684              | 474            | 50                           | 730                            | 803                             | ATV6L0C40Q4   |
| HD                                                             | 315  | - | 549              | 380            | 50                           | 590                            | 885                             |               |
| ND                                                             | 500  | - | 847              | 587            | 50                           | 900                            | 990                             | ATV6L0C50Q4   |
| HD                                                             | 400  | - | 684              | 474            | 50                           | 730                            | 1095                            |               |
| ND                                                             | 630  | - | 1056             | 732            | 50                           | 1140                           | 1254                            | ATV6L0C63Q4   |
| HD                                                             | 500  | - | 847              | 587            | 50                           | 900                            | 1350                            |               |
| ND                                                             | 800  | - | 1335             | 925            | 50                           | 1420                           | 1562                            | ATV6L0C80Q4   |
| HD                                                             | 630  | - | 1062             | 736            | 50                           | 1140                           | 1710                            |               |
| ND                                                             | 900  | - | 1502             | 1041           | 50                           | 1600                           | 1760                            | ATV6L0C90Q4   |
| HD                                                             | 710  | - | 1188             | 823            | 50                           | 1260                           | 1890                            |               |
| ND                                                             | 1000 | - | 1669             | 1156           | 50                           | 1770                           | 1947                            | ATV6L0M10Q4   |
| HD                                                             | 800  | - | 1339             | 928            | 50                           | 1420                           | 2130                            |               |
| ND                                                             | 1200 | - | 2005             | 1389           | 50                           | 2140                           | 2354                            | ATV6L0M12Q4   |
| HD                                                             | 1000 | - | 1669             | 1156           | 50                           | 1770                           | 2655                            |               |
| ND                                                             | 1500 | - | 2513             | 1741           | 50                           | 2680                           | 2948                            | ATV6L0M15Q4   |
| HD                                                             | 1200 | - | 2005             | 1389           | 50                           | 2140                           | 3210                            |               |
| ND                                                             | 1800 | - | 3028             | 2098           | 50                           | 3200                           | 3520                            | ATV6L0M18Q4   |
| HD                                                             | 1400 | - | 2341             | 1622           | 50                           | 2470                           | 3705                            |               |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information.

(5) APM-L architecture is ready for 12-pulse supply which allows a THDi ≤ 9%.

## Variable speed drives

Altivar Process ATV600

Modular Liquid-cooled drives

Three-phase supply voltage: 440 V 50/60 Hz



ATV6L0C80R4



ATV6L0M10R4

## 440 V (-15...10%) IP00 Modular Liquid-cooled drives (1)

| Motor                                                         |             |   | Line supply      |                |                              | Altivar Process                |                                 |               |
|---------------------------------------------------------------|-------------|---|------------------|----------------|------------------------------|--------------------------------|---------------------------------|---------------|
| Power indicated on rating plate (2)                           |             |   | Line current (3) | Apparent power | Maximum prospective line Isc | Maximum continuous current (2) | Max. transient current for 60 s | Reference (4) |
|                                                               |             |   | 440 V            | 440 V          |                              |                                |                                 |               |
| ND:                                                           | Normal duty |   |                  |                |                              |                                |                                 |               |
| HD:                                                           | Heavy duty  |   |                  |                |                              |                                |                                 |               |
| kW                                                            | HP          |   | A                | kVA            | kA                           | A                              | A                               |               |
| Altivar Process Modular Liquid-cooled                         |             |   |                  |                |                              |                                |                                 |               |
| THDi ≤48% at 100% load in Normal duty with 6-pulse supply (5) |             |   |                  |                |                              |                                |                                 |               |
| ND                                                            | 132         | - | 228              | 174            | 50                           | 250                            | 275                             | ATV6L0C13R4   |
| HD                                                            | 110         | - | 198              | 151            | 50                           | 211                            | 317                             |               |
| ND                                                            | 160         | - | 266              | 203            | 50                           | 302                            | 332                             | ATV6L0C16R4   |
| HD                                                            | 132         | - | 228              | 174            | 50                           | 250                            | 375                             |               |
| ND                                                            | 200         | - | 323              | 246            | 50                           | 370                            | 407                             | ATV6L0C20R4   |
| HD                                                            | 160         | - | 266              | 203            | 50                           | 302                            | 453                             |               |
| ND                                                            | 250         | - | 394              | 300            | 50                           | 477                            | 525                             | ATV6L0C25R4   |
| HD                                                            | 200         | - | 323              | 246            | 50                           | 370                            | 555                             |               |
| ND                                                            | 315         | - | 490              | 373            | 50                           | 590                            | 649                             | ATV6L0C31R4   |
| HD                                                            | 250         | - | 394              | 300            | 50                           | 477                            | 716                             |               |
| ND                                                            | 400         | - | 627              | 478            | 50                           | 730                            | 803                             | ATV6L0C40R4   |
| HD                                                            | 315         | - | 506              | 386            | 50                           | 590                            | 885                             |               |
| ND                                                            | 500         | - | 774              | 590            | 50                           | 900                            | 990                             | ATV6L0C50R4   |
| HD                                                            | 400         | - | 627              | 478            | 50                           | 730                            | 1095                            |               |
| ND                                                            | 630         | - | 963              | 734            | 50                           | 1140                           | 1254                            | ATV6L0C63R4   |
| HD                                                            | 500         | - | 774              | 590            | 50                           | 900                            | 1350                            |               |
| ND                                                            | 800         | - | 1217             | 927            | 50                           | 1420                           | 1562                            | ATV6L0C80R4   |
| HD                                                            | 630         | - | 969              | 738            | 50                           | 1140                           | 1710                            |               |
| ND                                                            | 900         | - | 1365             | 1040           | 50                           | 1600                           | 1760                            | ATV6L0C90R4   |
| HD                                                            | 710         | - | 1083             | 825            | 50                           | 1260                           | 1890                            |               |
| ND                                                            | 1000        | - | 1518             | 1157           | 50                           | 1770                           | 1947                            | ATV6L0M10R4   |
| HD                                                            | 800         | - | 1220             | 930            | 50                           | 1420                           | 2130                            |               |
| ND                                                            | 1200        | - | 1820             | 1387           | 50                           | 2140                           | 2354                            | ATV6L0M12R4   |
| HD                                                            | 1000        | - | 1518             | 1157           | 50                           | 1770                           | 2655                            |               |
| ND                                                            | 1500        | - | 2279             | 1737           | 50                           | 2680                           | 2948                            | ATV6L0M15R4   |
| HD                                                            | 1200        | - | 1820             | 1387           | 50                           | 2140                           | 3210                            |               |
| ND                                                            | 1800        | - | 2741             | 2089           | 50                           | 3200                           | 3520                            | ATV6L0M18R4   |
| HD                                                            | 1400        | - | 2125             | 1619           | 50                           | 2470                           | 3705                            |               |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information.

(5) APM-L architecture is ready for 12-pulse supply which allows a THDi ≤9%.

## Variable speed drives

Altivar Process ATV600

Modular Liquid-cooled drives

Three-phase supply voltage: 480 V 50/60 Hz

ATVM\_CP20136



ATV6L0M15T4

ATVM\_CP20137



ATV6L0M18T4

## 480 V (-15...10%) IP00 Modular Liquid-cooled drives (1)

| Motor                                                         |             | Line supply      |                |                              | Altivar Process                |                                 |               |
|---------------------------------------------------------------|-------------|------------------|----------------|------------------------------|--------------------------------|---------------------------------|---------------|
| Power indicated on rating plate (2)                           |             | Line current (3) | Apparent power | Maximum prospective line Isc | Maximum continuous current (2) | Max. transient current for 60 s | Reference (4) |
|                                                               |             | 480 V            | 480 V          |                              |                                |                                 |               |
| ND:                                                           | Normal duty |                  |                |                              |                                |                                 |               |
| HD:                                                           | Heavy duty  |                  |                |                              |                                |                                 |               |
|                                                               | kW HP       | A                | kVA            | kA                           | A                              | A                               |               |
| Altivar Process Modular Liquid-cooled                         |             |                  |                |                              |                                |                                 |               |
| THDi ≤48% at 100% load in Normal duty with 6-pulse supply (5) |             |                  |                |                              |                                |                                 |               |
| ND                                                            | - 200       | 230              | 191            | 50                           | 250                            | 275                             | ATV6L0C13T4   |
| HD                                                            | - 150       | 183              | 152            | 50                           | 211                            | 317                             |               |
| ND                                                            | - 250       | 278              | 231            | 50                           | 302                            | 332                             | ATV6L0C16T4   |
| HD                                                            | - 200       | 230              | 191            | 50                           | 250                            | 375                             |               |
| ND                                                            | - 300       | 327              | 272            | 50                           | 370                            | 407                             | ATV6L0C20T4   |
| HD                                                            | - 250       | 278              | 231            | 50                           | 302                            | 453                             |               |
| ND                                                            | - 400       | 425              | 353            | 50                           | 477                            | 525                             | ATV6L0C25T4   |
| HD                                                            | - 300       | 327              | 272            | 50                           | 370                            | 555                             |               |
| ND                                                            | - 500       | 527              | 438            | 50                           | 590                            | 649                             | ATV6L0C31T4   |
| HD                                                            | - 400       | 425              | 353            | 50                           | 477                            | 716                             |               |
| ND                                                            | - 600       | 638              | 530            | 50                           | 730                            | 803                             | ATV6L0C40T4   |
| HD                                                            | - 500       | 540              | 449            | 50                           | 590                            | 885                             |               |
| ND                                                            | - 700       | 738              | 614            | 50                           | 900                            | 990                             | ATV6L0C50T4   |
| HD                                                            | - 600       | 638              | 530            | 50                           | 730                            | 1095                            |               |
| ND                                                            | - 900       | 938              | 780            | 50                           | 1140                           | 1254                            | ATV6L0C63T4   |
| HD                                                            | - 700       | 738              | 614            | 50                           | 900                            | 1350                            |               |
| ND                                                            | - 1100      | 1148             | 954            | 50                           | 1420                           | 1562                            | ATV6L0C80T4   |
| HD                                                            | - 900       | 944              | 785            | 50                           | 1140                           | 1710                            |               |
| ND                                                            | - 1300      | 1345             | 1118           | 50                           | 1600                           | 1760                            | ATV6L0C90T4   |
| HD                                                            | - 1000      | 1045             | 869            | 50                           | 1260                           | 1890                            |               |
| ND                                                            | - 1400      | 1451             | 1206           | 50                           | 1770                           | 1947                            | ATV6L0M10T4   |
| HD                                                            | - 1100      | 1151             | 957            | 50                           | 1420                           | 2130                            |               |
| ND                                                            | - 1700      | 1761             | 1464           | 50                           | 2140                           | 2354                            | ATV6L0M12T4   |
| HD                                                            | - 1400      | 1451             | 1206           | 50                           | 1770                           | 2655                            |               |
| ND                                                            | - 2200      | 2282             | 1897           | 50                           | 2680                           | 2948                            | ATV6L0M15T4   |
| HD                                                            | - 1700      | 1761             | 1464           | 50                           | 2140                           | 3210                            |               |
| ND                                                            | - 2500      | 2598             | 2160           | 50                           | 3200                           | 3520                            | ATV6L0M18T4   |
| HD                                                            | - 2000      | 2073             | 1723           | 50                           | 2470                           | 3705                            |               |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current.

Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information.

(5) APM-L architecture is ready for 12-pulse supply which allows a THDi ≤9%.

## Variable speed drives

Altivar Process ATV600

Modular Liquid-cooled drives

Three-phase supply voltage: 500 V 50/60 Hz



ATV6L0C40N6



ATV6L0C71N6

## 500 V (-15...10%) IP00 Modular Liquid-cooled drives (1)

| Motor                                                          |             |    | Line supply      |                |                              | Altivar Process                |                                 |               |
|----------------------------------------------------------------|-------------|----|------------------|----------------|------------------------------|--------------------------------|---------------------------------|---------------|
| Power indicated on rating plate (2)                            |             |    | Line current (3) | Apparent power | Maximum prospective line Isc | Maximum continuous current (2) | Max. transient current for 60 s | Reference (4) |
|                                                                |             |    | 500 V            | 500 V          |                              |                                |                                 |               |
| ND:                                                            | Normal duty |    |                  |                |                              |                                |                                 |               |
| HD:                                                            | Heavy duty  |    |                  |                |                              |                                |                                 |               |
|                                                                | kW          | HP | A                | kVA            | kA                           | A                              | A                               |               |
| Altivar Process Modular Liquid-cooled                          |             |    |                  |                |                              |                                |                                 |               |
| THDi ≤ 48% at 100% load in Normal duty with 6-pulse supply (5) |             |    |                  |                |                              |                                |                                 |               |
| ND                                                             | 132         | -  | 196              | 170            | 50                           | 215                            | 237                             | ATV6L0C20N6   |
| HD                                                             | 110         | -  | 169              | 146            | 50                           | 175                            | 263                             |               |
| ND                                                             | 200         | -  | 281              | 243            | 50                           | 308                            | 339                             | ATV6L0C28N6   |
| HD                                                             | 160         | -  | 230              | 199            | 50                           | 240                            | 360                             |               |
| ND                                                             | 220         | -  | 307              | 266            | 50                           | 340                            | 374                             | ATV6L0C31N6   |
| HD                                                             | 180         | -  | 256              | 222            | 50                           | 275                            | 413                             |               |
| ND                                                             | 250         | -  | 344              | 298            | 50                           | 425                            | 468                             | ATV6L0C40N6   |
| HD                                                             | 220         | -  | 307              | 266            | 50                           | 340                            | 510                             |               |
| ND                                                             | 315         | -  | 429              | 372            | 50                           | 480                            | 528                             | ATV6L0C45N6   |
| HD                                                             | 250         | -  | 344              | 298            | 50                           | 384                            | 576                             |               |
| ND                                                             | 400         | -  | 549              | 475            | 50                           | 590                            | 649                             | ATV6L0C56N6   |
| HD                                                             | 315         | -  | 442              | 383            | 50                           | 480                            | 720                             |               |
| ND                                                             | 500         | -  | 679              | 588            | 50                           | 740                            | 814                             | ATV6L0C71N6   |
| HD                                                             | 400         | -  | 549              | 475            | 50                           | 590                            | 885                             |               |
| ND                                                             | 630         | -  | 846              | 733            | 50                           | 930                            | 1023                            | ATV6L0C90N6   |
| HD                                                             | 500         | -  | 679              | 588            | 50                           | 740                            | 1110                            |               |
| ND                                                             | 800         | -  | 1070             | 927            | 50                           | 1230                           | 1353                            | ATV6L0M12N6   |
| HD                                                             | 710         | -  | 957              | 829            | 50                           | 1030                           | 1545                            |               |
| ND                                                             | 1000        | -  | 1335             | 1156           | 50                           | 1425                           | 1568                            | ATV6L0M14N6   |
| HD                                                             | 800         | -  | 1070             | 927            | 50                           | 1130                           | 1695                            |               |
| ND                                                             | 1200        | -  | 1603             | 1388           | 50                           | 1620                           | 1782                            | ATV6L0M16N6   |
| HD                                                             | 900         | -  | 1204             | 1043           | 50                           | 1330                           | 1995                            |               |
| ND                                                             | 1300        | -  | 1737             | 1504           | 50                           | 1820                           | 2002                            | ATV6L0M18N6   |
| HD                                                             | 1000        | -  | 1335             | 1156           | 50                           | 1425                           | 2138                            |               |
| ND                                                             | 1600        | -  | 2141             | 1854           | 50                           | 2220                           | 2442                            | ATV6L0M22N6   |
| HD                                                             | 1200        | -  | 1602             | 1387           | 50                           | 1720                           | 2580                            |               |
| ND                                                             | 1900        | -  | 2550             | 2208           | 50                           | 2620                           | 2882                            | ATV6L0M26N6   |
| HD                                                             | 1500        | -  | 2005             | 1736           | 50                           | 2120                           | 3180                            |               |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information.

(5) APM-L architecture is ready for 12-pulse supply which allows a THDi ≤ 9%.

## Variable speed drives

Altivar Process ATV600

Modular Liquid-cooled drives

Three-phase supply voltage: 600 V 50/60 Hz

ATVM\_CP20134



ATV6L0M14T6

3

ATVM\_CP20135



ATV6L0M16T6

## 600 V (-15...10%) IP00 Modular Liquid-cooled drives (1)

| Motor                                                         |             |      | Line supply      |                |                              | Altivar Process                |                                 |               |
|---------------------------------------------------------------|-------------|------|------------------|----------------|------------------------------|--------------------------------|---------------------------------|---------------|
| Power indicated on rating plate (2)                           |             |      | Line current (3) | Apparent power | Maximum prospective line Isc | Maximum continuous current (2) | Max. transient current for 60 s | Reference (4) |
|                                                               |             |      | 600 V            | 600 V          |                              |                                |                                 |               |
|                                                               |             |      |                  |                |                              |                                |                                 |               |
| ND:                                                           | Normal duty |      |                  |                |                              |                                |                                 |               |
| HD:                                                           | Heavy duty  |      |                  |                |                              |                                |                                 |               |
|                                                               | kW          | HP   | A                | kVA            | kA                           | A                              | A                               |               |
| Altivar Process Modular Liquid-cooled                         |             |      |                  |                |                              |                                |                                 |               |
| THDi ≤48% at 100% load in Normal duty with 6-pulse supply (5) |             |      |                  |                |                              |                                |                                 |               |
| ND                                                            | -           | 200  | 184              | 191            | 50                           | 215                            | 237                             | ATV6L0C20T6   |
| HD                                                            | -           | 150  | 146              | 152            | 50                           | 175                            | 263                             |               |
| ND                                                            | -           | 300  | 261              | 271            | 50                           | 308                            | 339                             | ATV6L0C28T6   |
| HD                                                            | -           | 200  | 184              | 191            | 50                           | 240                            | 360                             |               |
| ND                                                            | -           | 350  | 302              | 314            | 50                           | 340                            | 374                             | ATV6L0C31T6   |
| HD                                                            | -           | 250  | 223              | 232            | 50                           | 275                            | 413                             |               |
| ND                                                            | -           | 450  | 381              | 396            | 50                           | 425                            | 468                             | ATV6L0C40T6   |
| HD                                                            | -           | 350  | 302              | 314            | 50                           | 340                            | 510                             |               |
| ND                                                            | -           | 500  | 422              | 439            | 50                           | 480                            | 528                             | ATV6L0C45T6   |
| HD                                                            | -           | 400  | 340              | 353            | 50                           | 384                            | 576                             |               |
| ND                                                            | -           | 600  | 512              | 532            | 50                           | 590                            | 649                             | ATV6L0C56T6   |
| HD                                                            | -           | 500  | 434              | 451            | 50                           | 480                            | 720                             |               |
| ND                                                            | -           | 700  | 592              | 615            | 50                           | 740                            | 814                             | ATV6L0C71T6   |
| HD                                                            | -           | 600  | 512              | 532            | 50                           | 590                            | 885                             |               |
| ND                                                            | -           | 900  | 751              | 780            | 50                           | 930                            | 1023                            | ATV6L0C90T6   |
| HD                                                            | -           | 700  | 592              | 615            | 50                           | 740                            | 1110                            |               |
| ND                                                            | -           | 1200 | 996              | 1035           | 50                           | 1230                           | 1353                            | ATV6L0M12T6   |
| HD                                                            | -           | 1000 | 838              | 871            | 50                           | 1030                           | 1545                            |               |
| ND                                                            | -           | 1400 | 1159             | 1204           | 50                           | 1425                           | 1568                            | ATV6L0M14T6   |
| HD                                                            | -           | 1100 | 919              | 955            | 50                           | 1130                           | 1695                            |               |
| ND                                                            | -           | 1600 | 1325             | 1377           | 50                           | 1620                           | 1782                            | ATV6L0M16T6   |
| HD                                                            | -           | 1300 | 1081             | 1123           | 50                           | 1330                           | 1995                            |               |
| ND                                                            | -           | 1800 | 1490             | 1548           | 50                           | 1820                           | 2002                            | ATV6L0M18T6   |
| HD                                                            | -           | 1400 | 1162             | 1208           | 50                           | 1425                           | 2138                            |               |
| ND                                                            | -           | 2200 | 1823             | 1895           | 50                           | 2220                           | 2442                            | ATV6L0M22T6   |
| HD                                                            | -           | 1700 | 1409             | 1464           | 50                           | 1720                           | 2580                            |               |
| ND                                                            | -           | 2600 | 2156             | 2241           | 50                           | 2620                           | 2882                            | ATV6L0M26T6   |
| HD                                                            | -           | 2100 | 1740             | 1808           | 50                           | 2120                           | 3180                            |               |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current. Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information.

(5) APM-L architecture is ready for 12-pulse supply which allows a THDi ≤9%.

## Variable speed drives

Altivar Process ATV600

Modular Liquid-cooled drives

Three-phase supply voltage: 690 V 50/60 Hz

ATVM\_CP20136



ATV6L0M22Q6

ATVM\_CP20137



ATV6L0M26Q6

## 690 V (-15...10%) IP00 Modular Liquid-cooled drives (1)

| Motor                                                                              |      |   | Line supply      |                |                              | Altivar Process                |                                 |               |
|------------------------------------------------------------------------------------|------|---|------------------|----------------|------------------------------|--------------------------------|---------------------------------|---------------|
| Power indicated on rating plate (2)<br><br>ND:    Normal duty<br>HD:    Heavy duty |      |   | Line current (3) | Apparent power | Maximum prospective line Isc | Maximum continuous current (2) | Max. transient current for 60 s | Reference (4) |
|                                                                                    |      |   | 690 V            | 690 V          |                              |                                |                                 |               |
|                                                                                    |      |   |                  |                |                              |                                |                                 |               |
| kW                                                                                 | HP   | A | kVA              | kA             | A                            | A                              |                                 |               |
| Altivar Process Modular Liquid-cooled                                              |      |   |                  |                |                              |                                |                                 |               |
| THDi ≤48% at 100% load in Normal duty with 6-pulse supply (5)                      |      |   |                  |                |                              |                                |                                 |               |
| ND                                                                                 | 200  | - | 218              | 261            | 50                           | 215                            | 237                             | ATV6L0C20Q6   |
| HD                                                                                 | 160  | - | 184              | 220            | 50                           | 175                            | 263                             |               |
| ND                                                                                 | 280  | - | 290              | 347            | 50                           | 308                            | 339                             | ATV6L0C28Q6   |
| HD                                                                                 | 220  | - | 236              | 282            | 50                           | 240                            | 360                             |               |
| ND                                                                                 | 315  | - | 322              | 385            | 50                           | 340                            | 374                             | ATV6L0C31Q6   |
| HD                                                                                 | 250  | - | 262              | 313            | 50                           | 275                            | 413                             |               |
| ND                                                                                 | 400  | - | 399              | 477            | 50                           | 425                            | 468                             | ATV6L0C40Q6   |
| HD                                                                                 | 315  | - | 322              | 385            | 50                           | 340                            | 510                             |               |
| ND                                                                                 | 450  | - | 446              | 533            | 50                           | 480                            | 528                             | ATV6L0C45Q6   |
| HD                                                                                 | 355  | - | 359              | 429            | 50                           | 384                            | 576                             |               |
| ND                                                                                 | 560  | - | 563              | 673            | 50                           | 590                            | 649                             | ATV6L0C56Q6   |
| HD                                                                                 | 450  | - | 462              | 552            | 50                           | 480                            | 720                             |               |
| ND                                                                                 | 710  | - | 700              | 837            | 50                           | 740                            | 814                             | ATV6L0C71Q6   |
| HD                                                                                 | 560  | - | 563              | 673            | 50                           | 590                            | 885                             |               |
| ND                                                                                 | 900  | - | 875              | 1046           | 50                           | 930                            | 1023                            | ATV6L0C90Q6   |
| HD                                                                                 | 710  | - | 700              | 837            | 50                           | 740                            | 1110                            |               |
| ND                                                                                 | 1200 | - | 1260             | 1506           | 50                           | 1230                           | 1353                            | ATV6L0M12Q6   |
| HD                                                                                 | 1000 | - | 976              | 1166           | 50                           | 1030                           | 1545                            |               |
| ND                                                                                 | 1400 | - | 1355             | 1619           | 50                           | 1425                           | 1568                            | ATV6L0M14Q6   |
| HD                                                                                 | 1100 | - | 1070             | 1279           | 50                           | 1130                           | 1695                            |               |
| ND                                                                                 | 1600 | - | 1547             | 1849           | 50                           | 1620                           | 1782                            | ATV6L0M16Q6   |
| HD                                                                                 | 1300 | - | 1262             | 1508           | 50                           | 1330                           | 1995                            |               |
| ND                                                                                 | 1800 | - | 1740             | 2080           | 50                           | 1820                           | 2002                            | ATV6L0M18Q6   |
| HD                                                                                 | 1400 | - | 1357             | 1622           | 50                           | 1425                           | 2138                            |               |
| ND                                                                                 | 2200 | - | 2128             | 2543           | 50                           | 2220                           | 2442                            | ATV6L0M22Q6   |
| HD                                                                                 | 1700 | - | 1644             | 1965           | 50                           | 1720                           | 2580                            |               |
| ND                                                                                 | 2600 | - | 2517             | 3008           | 50                           | 2620                           | 2882                            | ATV6L0M26Q6   |
| HD                                                                                 | 2100 | - | 2030             | 2426           | 50                           | 2120                           | 3180                            |               |

(1) Integrated motor chokes allowing a shielded motor cable length up to 300 m/984 ft in category C3.

(2) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2 to 4.9 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise.

For continuous operation above the nominal switching frequency, derate the nominal drive current.

Contact your APM partner for more information.

(3) Typical value for the indicated motor power and for the maximum prospective line Isc.

(4) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members. Contact your APM partner for more information.

(5) APM-L architecture is ready for 12-pulse supply which allows a THDi ≤9%.

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**Altivar Process Drive Systems**

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# Variable speed drives

## Altivar Process ATV600

### Drive Systems



ATV660C31Q4X1

4

#### Engineered Drive Systems

Altivar Process Drive Systems offer extensive flexibility for customers from different segments and for various applications.

Several solutions are available depending on customer requirements.

#### Configured to order (CTO)

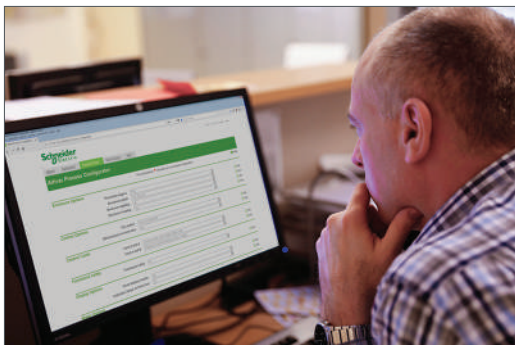
**Configured Drive Systems (CTO)** can be quickly customized to fit your requirements via our Altivar Process Configurator Tool.



Thanks to pre-defined CTO options, the CTO variant significantly reduces the delivery time for individually adapted drives, ready to connect.

The available CTO options are:

- Increased IP54 protection rating
- Enclosure plinth for basic device
- Additional enclosure allowing cabling from the top or from the bottom
- Enclosure lighting and heating
- "Local/remote" key switch
- Ethernet port on front door
- Extended I/O modules and extended relay modules
- Communication modules for various fieldbus systems
- STO - SIL 3 Stop category 0 or 1 Emergency stop
- Front display module (FDM)
- Indicator lights on front door
- Motor/bearing temperature monitoring
- dv/dt filters for long motor cables
- Motor heating
- Circuit breaker
- Undervoltage coil for circuit breaker
- Motor for circuit breaker
- Automated mains disconnect
- Setting for 415 V + 10%
- Safety labels in the local language
- Design for IT systems
- Seaworthy packaging



Altivar Process Configuration Tool



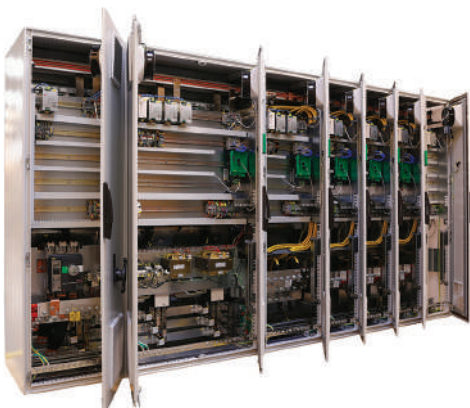
Configure your drive system with the  
**Altivar Process Configurator Tool**  
[altivar-process-configurator.schneider-electric.com](http://altivar-process-configurator.schneider-electric.com)



Outdoor design



Multipulse design



Multidrive

#### Engineered Drive Systems (continued)

##### Engineered to order (ETO)

Our experts help you to find an effective Drive Systems (ETO) solution for your application. Starting from the integration of small drives up to individual enclosure design for harsh environments.

##### Enclosure modifications

- Different enclosure types
- Drives with reduced enclosure dimensions
- E-house integration
- Special colors
- Customer branded solutions
- Design for marine, automotive, and special applications
- Etc.

##### Cooling adaptations

- Separate air flow
- Connection to cooling channels
- Liquid-cooled drives
- Outdoor installations for harsh environments
- Different protection ratings
- Etc.

##### Electrical adaptations

- AC or DC multidrive
- Bypass solutions
- Multipulse or Active Front End (AFE)
- Various motor protection solutions
- Adaption to individual mains conditions
- Braking and regenerative solutions
- Etc.

To inquire about your individual drive solution, contact your local Schneider Electric drives expert or consult our [Customer Care Teams](#).



ATV660C31Q4X1

### Presentation

#### Concept

The ATV660 Compact Drive Systems range offers standard enclosures ready to connect. The modular construction makes it possible to adapt the enclosure unit to individual requirements. The low-cost enclosure variant simplifies design and allows quick drive installation and commissioning.

#### Power versus overload

For optimum adaptation to the application you can choose between two overload modes:

- Normal duty: High continuous power with an overload capability of 10% (for pumps, fans, etc.)
- Heavy duty: Reduced continuous power with an increased overload capability of 50% for drives with enhanced requirements regarding overload capability, starting torque, load impacts, and control performance (such as compressors, mixers, rotary blowers, etc.)

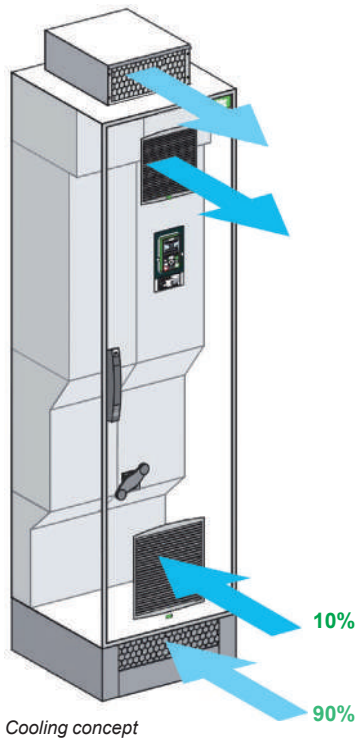
#### Standard equipment

The standard compact offer contains frequency inverter modules, semiconductor fuses, a main switch, a line reactor to reduce the harmonics, a motor choke to limit overvoltage on the motor due to long cables, and spacious mains and motor bars for connecting the power cables.

The design is based on the ready-assembled Sarel "Spacial SF" enclosures with a graphic operating panel integrated in the enclosure door.

#### Compact dimensions

Inside the enclosure there is an easily accessible and spaciouly designed control panel with the control components. Despite its compact dimensions, the enclosure has enough space for additional extensions and is easily accessible for maintenance purposes.



### Device features

#### Enclosure system

The ready-assembled Sarel "Spacial SF" enclosure with additional internal reinforcing elements and separate cooling air channels provides optimum cooling of the built-in frequency inverter modules and maximum compactness.

#### Cooling concept

The power section components are cooled in a separate cooling air channel. About 90% of the heat losses are evacuated via this channel. The inside of the enclosure is cooled via fans in the enclosure door.

When using the "increased IP54 protection rating" option, the separate air supply for the power section comes through the enclosure plinth.

#### Connection

The power cables are connected on the mains side and motor side to spaciouly designed bars. The cable strain relief is realized via another bar with solid metal clamps. Each device is equipped with an EMC screen bar for correct shielding connection. In the standard design, the cables are connected at the bottom.

### Protection ratings

The standard design of Altivar Process Compact Drive Systems complies with IP23 protection. This solution provides optimum cooling of the built-in frequency inverter modules and power components, as well as maximum compactness.

For operation in harsh ambient conditions, increased IP54 protection is available as an option. This solution consists of a clearly specified and tested cooling system with a separate cooling air channel, which provides excellent reliability.

About 90% of the heat losses are evacuated via the separate cooling air channel. The inside of the enclosure is cooled via fans located in the enclosure door.

### Standard IP23 enclosure design

In order to avoid internal air short-circuits, the power sections of the components are located in the main cooling air channel.

The cooling air intake comes from a grid located in the bottom of the enclosure door. The internal fan, which is in a separate air channel, provides cooling of the power section. The air then comes out through the top of the enclosure.

The heat losses from the control section are evacuated by a fan in the enclosure door.

The incoming air temperature must be between 0 °C/32 °F and 40 °C/104 °F (-10 °C/14 °F with enclosure heating) and can reach 50 °C/122 °F with derating (class 3K3 according to IEC/EN 60721-3-3).

IP23 enclosures comprise:

- 1 An air intake (without filter mat) via a grid on the bottom of the enclosure door
- 2 A line reactor
- 3 Fans for the power section
- 4 A rectifier module
- 5 An inverter module
- 6 A dv/dt filter choke
- 7 An air outlet via a metal cover with protection against water splashes on the enclosure roof
- 8 An air outlet (without filter mat) with fans for the control section

### Increased IP54 protection rating

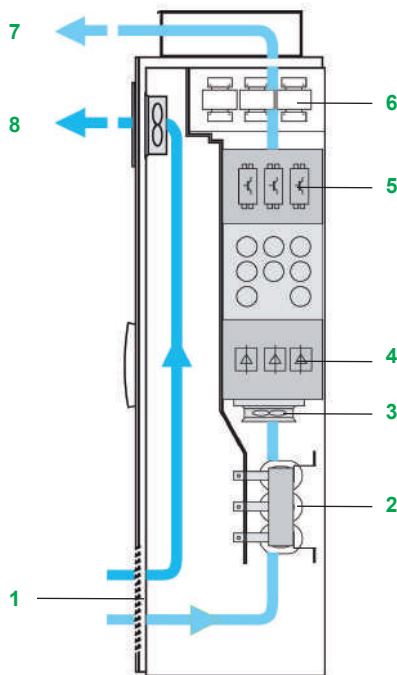
With increased IP54 protection with separate channels, the cooling air intake comes from the floor and goes out through the enclosure roof.

The control section is cooled by filter fans located in the enclosure door.

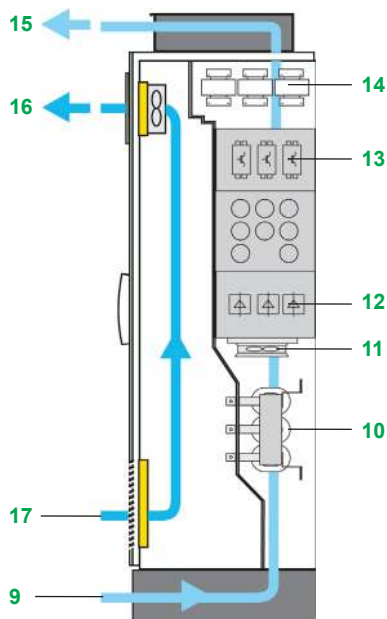
The incoming air temperature must be between 0 °C/32 °F and 40 °C/104 °F (-10 °C/14 °F with enclosure heating) and can reach 50 °C/122 °F with derating (class 3K3 according to IEC/EN 60721-3-3).

IP54 enclosures comprise:

- 9 An air intake for the power section via the enclosure plinth
- 10 A line reactor
- 11 Fans for the power section
- 12 A rectifier module
- 13 An inverter module
- 14 A dv/dt filter choke
- 15 An air outlet via a metal cover with protection against water splashes on the enclosure roof
- 16 An air outlet (with filter mat) with fans for the control section
- 17 An air intake grid (with filter mat) for the control section



IP23 enclosure



IP54 enclosure



Additional enclosure allowing cabling from the bottom

### Modular offer

This consists of:

- The standard compact offer
- One or more options (see pages 4/16 to 4/19)

### Options (CTO)

Some of these options depend on the drive rating. They can be integrated without any need for modifications to the enclosure:

- Increased IP54 protection rating
- Enclosure plinth for basic device
- Additional enclosure allowing cabling from the top or from the bottom
- Enclosure lighting and heating
- "Local/remote" key switch
- Ethernet port on front door
- Extended I/O modules and extended relay modules
- Communication modules for various fieldbus systems
- STO - SIL 3 Stop category 0 or 1 Emergency stop
- Front display module (FDM)
- Indicator lights on front door
- Motor/bearing temperature monitoring
- dv/dt filters for long motor cables
- Motor heating
- Circuit breaker
- Undervoltage coil for circuit breaker
- Motor for circuit breaker
- Automated mains disconnect
- Setting for 415 V + 10%
- Safety information labels in the local language
- Design for IT systems
- Seaworthy packaging

### Further design variations (ETO)

These adaptations depend on the drive rating. Some may lead to modification of the size of the enclosure:

- Modified wiring colors
- Remote monitoring
- Different ranges of supply voltages
- Multipulse supply (12-pulse)
- Design without a main switch
- Increased short-circuit strength up to 100 kA
- Air intake from the back
- Other enclosure colors
- Customized documentation and labeling
- Motor contactor
- Etc.



Configure your drive system with the

**Altivar Process Configurator Tool**

[altivar-process-configurator.schneider-electric.com](http://altivar-process-configurator.schneider-electric.com)

## Variable speed drives

Altivar Process ATV600

Compact Drive Systems

Three-phase supply voltage: 380...415 V 50/60 Hz



ATV660C16Q4X1

## 380...415 V IP23 Compact Drive Systems

| Motor                               |     | Line supply      |                |                           | Altivar Process             |                                 |               | Weight      |
|-------------------------------------|-----|------------------|----------------|---------------------------|-----------------------------|---------------------------------|---------------|-------------|
| Power indicated on rating plate (1) |     | Line current (2) | Apparent power | Max. prospective line Isc | Max. continuous current (1) | Max. transient current for 60 s | Reference (1) |             |
| 400 V                               |     | 400 V            |                |                           |                             |                                 |               |             |
| ND: Normal duty (3)                 |     |                  |                |                           |                             |                                 |               |             |
| HD: Heavy duty (4)                  |     |                  |                |                           |                             |                                 |               |             |
| kW                                  |     | A                | kVA            | kA                        | A                           | A                               |               | kg/lb       |
| THDi ≤ 44% at 100% load             |     |                  |                |                           |                             |                                 |               |             |
| ND                                  | 110 | 195              | 135            | 50                        | 211                         | 232                             | ATV660C11Q4X1 | 300/661     |
| HD                                  | 90  | 164              | 113            | 50                        | 173                         | 260                             |               |             |
| ND                                  | 132 | 232              | 161            | 50                        | 250                         | 275                             | ATV660C13Q4X1 | 300/661     |
| HD                                  | 110 | 197              | 136            | 50                        | 211                         | 317                             |               |             |
| ND                                  | 160 | 277              | 192            | 50                        | 302                         | 332                             | ATV660C16Q4X1 | 300/661     |
| HD                                  | 132 | 232              | 161            | 50                        | 250                         | 375                             |               |             |
| ND                                  | 200 | 349              | 242            | 50                        | 370                         | 407                             | ATV660C20Q4X1 | 400/881     |
| HD                                  | 160 | 286              | 198            | 50                        | 302                         | 453                             |               |             |
| ND                                  | 250 | 432              | 299            | 50                        | 477                         | 525                             | ATV660C25Q4X1 | 400/881     |
| HD                                  | 200 | 353              | 244            | 50                        | 370                         | 555                             |               |             |
| ND                                  | 315 | 538              | 373            | 50                        | 590                         | 649                             | ATV660C31Q4X1 | 400/881     |
| HD                                  | 250 | 432              | 299            | 50                        | 477                         | 716                             |               |             |
| ND                                  | 355 | 611              | 423            | 50                        | 660                         | 726                             | ATV660C35Q4X1 | 650/1,433   |
| HD                                  | 280 | 489              | 339            | 50                        | 520                         | 780                             |               |             |
| ND                                  | 400 | 681              | 472            | 50                        | 730                         | 803                             | ATV660C40Q4X1 | 650/1,433   |
| HD                                  | 315 | 545              | 378            | 50                        | 590                         | 885                             |               |             |
| ND                                  | 450 | 764              | 529            | 50                        | 830                         | 913                             | ATV660C45Q4X1 | 650/1,433   |
| HD                                  | 355 | 611              | 423            | 50                        | 660                         | 990                             |               |             |
| ND                                  | 500 | 846              | 586            | 50                        | 900                         | 990                             | ATV660C50Q4X1 | 650/1,433   |
| HD                                  | 400 | 681              | 472            | 50                        | 730                         | 1095                            |               |             |
| ND                                  | 560 | 948              | 656            | 50                        | 1020                        | 1122                            | ATV660C56Q4X1 | 850/1,873   |
| HD                                  | 450 | 767              | 531            | 50                        | 830                         | 1245                            |               |             |
| ND                                  | 630 | 1058             | 733            | 50                        | 1140                        | 1254                            | ATV660C63Q4X1 | 850/1,873   |
| HD                                  | 500 | 849              | 588            | 50                        | 900                         | 1350                            |               |             |
| ND                                  | 710 | 1192             | 826            | 50                        | 1260                        | 1386                            | ATV660C71Q4X1 | 1,100/2,425 |
| HD                                  | 560 | 951              | 659            | 50                        | 1020                        | 1530                            |               |             |
| ND                                  | 800 | 1335             | 925            | 50                        | 1420                        | 1562                            | ATV660C80Q4X1 | 1,100/2,425 |
| HD                                  | 630 | 1061             | 735            | 50                        | 1140                        | 1710                            |               |             |

(1) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2...8 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see the derating curves in the [Handbook](#)).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) Values given for applications requiring a slight overload (up to 110%).

(4) Values given for applications requiring a significant overload (up to 150%).

**Note:** Consult the CTO options tables of possible combinations with the drives (see [page 4/16](#)).

## Variable speed drives

Altivar Process ATV600

Compact Drive Systems

Three-phase supply voltage: 480 V 50/60 Hz



ATV600C25T4X1

| 480 V IP23 Compact Drive Systems    |     |                  |                |                           |                             |                                 |               |             |
|-------------------------------------|-----|------------------|----------------|---------------------------|-----------------------------|---------------------------------|---------------|-------------|
| Motor                               |     | Line supply      |                |                           | Altivar Process             |                                 |               |             |
| Power indicated on rating plate (1) |     | Line current (2) | Apparent power | Max. prospective line Isc | Max. continuous current (1) | Max. transient current for 60 s | Reference (1) | Weight      |
|                                     |     | 480 V            | 480 V          |                           |                             |                                 |               |             |
| ND: Normal duty (3)                 |     |                  |                |                           |                             |                                 |               |             |
| HD: Heavy duty (4)                  |     |                  |                |                           |                             |                                 |               |             |
| kW                                  |     | A                | kVA            | kA                        | A                           | A                               |               | kg/lb       |
| THDi ≤ 44% at 100% load             |     |                  |                |                           |                             |                                 |               |             |
| ND                                  | 132 | 196              | 163            | 50                        | 211                         | 232                             | ATV660C11T4X1 | 300/661     |
| HD                                  | 110 | 168              | 139            | 50                        | 173                         | 260                             |               |             |
| ND                                  | 160 | 233              | 194            | 50                        | 250                         | 275                             | ATV660C13T4X1 | 300/661     |
| HD                                  | 132 | 198              | 164            | 50                        | 211                         | 317                             |               |             |
| ND                                  | 180 | 258              | 194            | 50                        | 302                         | 332                             | ATV660C16T4X1 | 300/661     |
| HD                                  | 160 | 233              | 215            | 50                        | 250                         | 375                             |               |             |
| ND                                  | 220 | 320              | 266            | 50                        | 370                         | 407                             | ATV660C20T4X1 | 400/881     |
| HD                                  | 180 | 267              | 222            | 50                        | 302                         | 453                             |               |             |
| ND                                  | 280 | 400              | 333            | 50                        | 477                         | 525                             | ATV660C25T4X1 | 400/881     |
| HD                                  | 220 | 323              | 268            | 50                        | 370                         | 555                             |               |             |
| ND                                  | 355 | 503              | 418            | 50                        | 590                         | 649                             | ATV660C31T4X1 | 400/881     |
| HD                                  | 280 | 400              | 333            | 50                        | 477                         | 716                             |               |             |
| ND                                  | 400 | 572              | 475            | 50                        | 660                         | 726                             | ATV660C35T4X1 | 650/1,433   |
| HD                                  | 315 | 456              | 379            | 50                        | 520                         | 780                             |               |             |
| ND                                  | 450 | 637              | 530            | 50                        | 730                         | 803                             | ATV660C40T4X1 | 650/1,433   |
| HD                                  | 355 | 510              | 424            | 50                        | 590                         | 885                             |               |             |
| ND                                  | 500 | 706              | 587            | 50                        | 830                         | 913                             | ATV660C45T4X1 | 650/1,433   |
| HD                                  | 400 | 572              | 475            | 50                        | 660                         | 990                             |               |             |
| ND                                  | 560 | 789              | 656            | 50                        | 900                         | 990                             | ATV660C50T4X1 | 650/1,433   |
| HD                                  | 450 | 637              | 530            | 50                        | 730                         | 1095                            |               |             |
| ND                                  | 630 | 888              | 739            | 50                        | 1020                        | 1122                            | ATV660C56T4X1 | 850/1,873   |
| HD                                  | 500 | 711              | 591            | 50                        | 830                         | 1245                            |               |             |
| ND                                  | 710 | 993              | 826            | 50                        | 1140                        | 1254                            | ATV660C63T4X1 | 850/1,873   |
| HD                                  | 560 | 794              | 660            | 50                        | 900                         | 1350                            |               |             |
| ND                                  | 800 | 1119             | 931            | 50                        | 1260                        | 1386                            | ATV660C71T4X1 | 1,100/2,425 |
| HD                                  | 630 | 893              | 742            | 50                        | 1020                        | 1530                            |               |             |
| ND                                  | 900 | 1257             | 1045           | 50                        | 1420                        | 1562                            | ATV660C80T4X1 | 1,100/2,425 |
| HD                                  | 710 | 997              | 828            | 50                        | 1140                        | 1710                            |               |             |

(1) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2...8 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see the derating curves in the Handbook).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) Values given for applications requiring a slight overload (up to 110%).

(4) Values given for applications requiring a significant overload (up to 150%).

**Note:** Consult the CTO options tables of possible combinations with the drives (see page 4/16).

# Variable speed drives

## Altivar Process ATV600

### Low Harmonic Drive Systems

4



ATV680C16Q4X1

#### Presentation

##### Concept

ATV680 Low Harmonic Drive Systems are used when drives need to have particularly low mains harmonics.

In comparison with the traditional circuit structure of active mains rectifiers, the 3-level technology allows the switching frequency to be increased at the same time as the current load is reduced. This new technology reaches a total distortion factor (THDi) of around 2% and thus fulfills the requirements of IEEE 519 for a THDi < 5% in case of distorted mains. Additionally, the cosinus Phi is equal to 1 in each load situation (from 30 % Pn), helping to reduce the load on the mains.

The ATV680 range is an optimum solution for energy efficiency and process optimization.

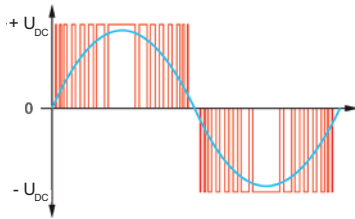
The modular design makes it possible to adapt the enclosure unit to individual requirements. It simplifies planning and allows quick drive installation and commissioning.

##### Standard equipment

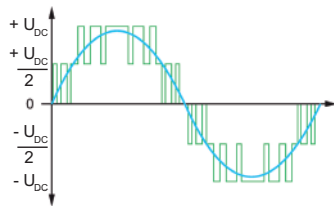
The Low Harmonic offer contains active infeed modules as well as frequency inverter modules, filter components, semiconductor fuses, a main switch, a dv/dt filter choke to limit overvoltage on the motor due to long cables, and spacious mains and motor bars for connecting the power cables.

The design is based on the ready-assembled Sarel "Spacial SF" enclosures with a graphic operating panel integrated in the enclosure door.

Inside the enclosure there is an easily accessible and spaciouly designed control panel with the control components. Despite its compact dimensions, the enclosure has enough space for additional extensions and provides easy access for maintenance purposes.



2-level technology



ATV600 with 3-level technology

#### Device features

##### Enhanced motor service life due to the 3-level concept

The 3-level technology of the active mains rectifier reduces the voltage load at the motor significantly, compared with other low harmonic frequency inverters. The fluctuating adaptation of the DC link voltage helps extend the motor service life.

##### Reduced losses due to the 3-level concept

In comparison with the traditional circuit structure of active mains rectifiers, the switching frequency is increased and the current load is reduced at the same time when using 3-level technology.

##### Compact dimensions due to the 3-level concept

A significant advantage of the 3-level technology is the reduced dimensions of the integrated filter components. Due to the increased switching frequency and its location inside the forced cooling air channel, the dimensions of the filter can be almost halved.

# Variable speed drives

## Altivar Process ATV600

### Low Harmonic Drive Systems

#### Protection ratings

The standard design of Altivar Process Low Harmonic Drive Systems complies with IP23 protection. This solution provides optimum cooling of the built-in frequency inverter modules and power components, as well as maximum compactness.

For operation in harsh ambient conditions, increased IP54 protection is available as an option. This solution consists of a clearly specified and tested cooling system with a separate cooling air channel, which provides excellent reliability.

About 90% of the heat losses are evacuated via the separate cooling air channel. The inside of the enclosure is cooled via fans located in the enclosure door.

#### Standard IP23 enclosure design

In order to avoid internal air short-circuits, the power sections of the components are located in the main cooling air channel.

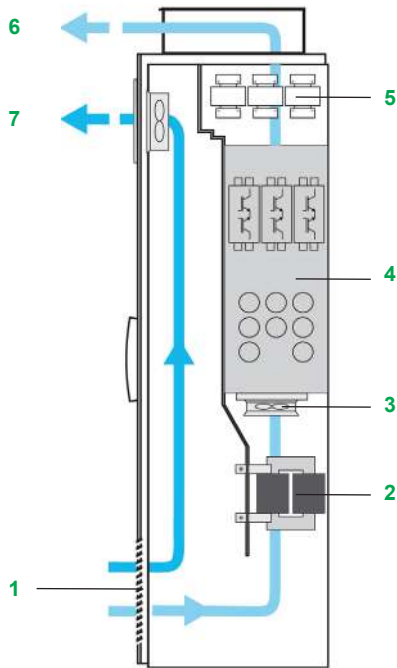
The cooling air intake comes from a grid located in the bottom of the enclosure door. The internal fan, which is in a separate air channel, provides cooling of the power section. The air then comes out through the top of the enclosure.

The heat losses from the control section are evacuated by a fan in the enclosure door.

The incoming air temperature must be between 0 °C/32 °F and 40 °C/104 °F (-10 °C/14 °F with enclosure heating) and can reach 50 °C/122 °F with derating (class 3K3 according to IEC/EN 60721-3-3).

IP23 enclosures comprise:

- 1 An air intake (without filter mat) via a grid on the bottom of the enclosure door
- 2 Filter components
- 3 Fans for the power section
- 4 An active front end (AFE) module
- 5 A dv/dt filter choke
- 6 An air outlet via a metal cover with protection against water splashes on the enclosure roof
- 7 An air outlet (without filter mat) with fans for the control section



IP23 enclosure

#### Increased IP54 protection rating

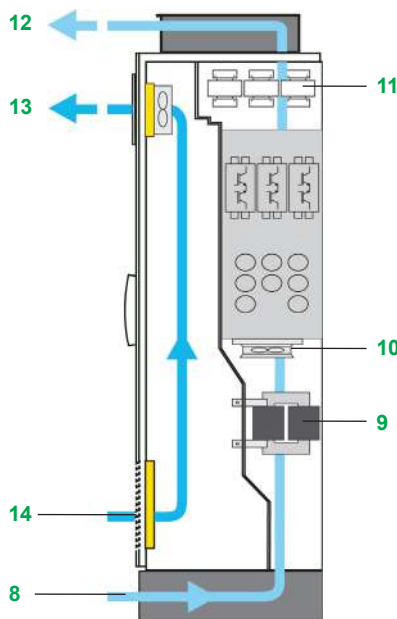
With increased IP54 protection with separate channels, the cooling air intake comes from the floor and goes out through the enclosure roof.

The control section is cooled by filter fans located in the enclosure door.

The incoming air temperature must be between 0 °C/32 °F and 40 °C/104 °F (-10 °C/14 °F with enclosure heating) and can reach 50 °C/122 °F with derating (class 3K3 according to IEC/EN 60721-3-3).

IP54 enclosures comprise:

- 8 An air intake for the power section via the enclosure plinth
- 9 Filter components
- 10 Fans for the power section
- 11 A dv/dt filter choke
- 12 An air outlet via a metal cover with protection against water splashes on the enclosure roof
- 13 An air outlet (with filter mat) with fans for the control section
- 14 An air intake grid (with filter mat) for the control section



IP54 enclosure



Enclosure heating

#### Modular offer

This consists of:

- The Low Harmonic Drive offer
- One or more options (see [pages 4/16 to 4/19](#))

#### Options (CTO)

Some of these options depend on the drive rating. They can be integrated without any need for modifications to the enclosure:

- Increased IP54 protection rating
- Enclosure plinth for basic device
- Additional enclosure allowing cabling from the top or from the bottom
- Enclosure lighting and heating
- "Local/remote" key switch
- Ethernet port on front door
- Extended I/O modules and extended relay modules
- Communication modules for various fieldbus systems
- STO - SIL 3 Stop category 0 or 1 Emergency stop
- Front display module (FDM)
- Indicator lights on front door
- Motor/bearing temperature monitoring
- dv/dt filters for long motor cables
- Motor heating
- Circuit breaker
- Undervoltage coil for circuit breaker
- Motor for circuit breaker
- Automated mains disconnect
- Setting for 415 V + 10%
- Design for IT systems
- Seaworthy packaging

#### Further design variations (ETO)

These adaptations depend on the drive rating. Some will lead to modification of the size of the enclosure:

- Modified wiring colors
- Remote monitoring
- Different ranges of supply voltages
- Design without a main switch
- Increased short-circuit strength up to 100 kA
- Air intake from the back
- Other enclosure colors
- Customized documentation and labeling
- Motor contactor
- Etc.



Configure your drive system with the  
**Altivar Process Configurator Tool**  
[altivar-process-configurator.se.com](http://altivar-process-configurator.se.com)

## Variable speed drives

Altivar Process ATV600

Low Harmonic Drive Systems

Three-phase supply voltage: 380...415 V 50/60 Hz



ATV680C16Q4X1

## 380...415 V IP23 Low Harmonic Drive Systems

| Motor                  | Line supply         |                |                           | Altivar Process                |                                 |               | Reference<br>(1) | Weight      |
|------------------------|---------------------|----------------|---------------------------|--------------------------------|---------------------------------|---------------|------------------|-------------|
|                        | Line current<br>(2) | Apparent power | Max. prospective line Isc | Max. continuous current<br>(1) | Max. transient current for 60 s |               |                  |             |
|                        | 400 V               | 400 V          |                           |                                |                                 |               |                  |             |
| ND: Normal duty (3)    |                     |                |                           |                                |                                 |               |                  |             |
| HD: Heavy duty (4)     |                     |                |                           |                                |                                 |               |                  |             |
| kW                     | A                   | kVA            | kA                        | A                              | A                               |               |                  | kg/lb       |
| THDi ≤ 5% at 100% load |                     |                |                           |                                |                                 |               |                  |             |
| ND 110                 | 175                 | 121            | 50                        | 211                            | 232                             | ATV680C11Q4X1 |                  | 400/881     |
| HD 90                  | 144                 | 100            | 50                        | 173                            | 260                             |               |                  |             |
| ND 132                 | 208                 | 144            | 50                        | 250                            | 275                             | ATV680C13Q4X1 |                  | 400/881     |
| HD 110                 | 174                 | 121            | 50                        | 211                            | 317                             |               |                  |             |
| ND 160                 | 252                 | 174            | 50                        | 302                            | 332                             | ATV680C16Q4X1 |                  | 400/881     |
| HD 132                 | 208                 | 144            | 50                        | 250                            | 375                             |               |                  |             |
| ND 200                 | 313                 | 217            | 50                        | 370                            | 407                             | ATV680C20Q4X1 |                  | 700/1,543   |
| HD 160                 | 252                 | 174            | 50                        | 302                            | 453                             |               |                  |             |
| ND 250                 | 389                 | 270            | 50                        | 477                            | 525                             | ATV680C25Q4X1 |                  | 700/1,543   |
| HD 200                 | 313                 | 217            | 50                        | 370                            | 555                             |               |                  |             |
| ND 315                 | 491                 | 340            | 50                        | 590                            | 649                             | ATV680C31Q4X1 |                  | 700/1,543   |
| HD 250                 | 389                 | 270            | 50                        | 477                            | 716                             |               |                  |             |
| ND 355                 | 553                 | 383            | 50                        | 660                            | 726                             | ATV680C35Q4X1 |                  | 1,150/2,535 |
| HD 280                 | 436                 | 302            | 50                        | 520                            | 780                             |               |                  |             |
| ND 400                 | 620                 | 429            | 50                        | 730                            | 803                             | ATV680C40Q4X1 |                  | 1,150/2,535 |
| HD 315                 | 491                 | 340            | 50                        | 590                            | 885                             |               |                  |             |
| ND 450                 | 697                 | 483            | 50                        | 830                            | 913                             | ATV680C45Q4X1 |                  | 1,150/2,535 |
| HD 355                 | 553                 | 383            | 50                        | 660                            | 990                             |               |                  |             |
| ND 500                 | 775                 | 537            | 50                        | 900                            | 990                             | ATV680C50Q4X1 |                  | 1,150/2,535 |
| HD 400                 | 620                 | 429            | 50                        | 730                            | 1095                            |               |                  |             |
| ND 560                 | 868                 | 601            | 50                        | 1020                           | 1122                            | ATV680C56Q4X1 |                  | 1,450/3,196 |
| HD 450                 | 697                 | 483            | 50                        | 830                            | 1245                            |               |                  |             |
| ND 630                 | 971                 | 673            | 50                        | 1140                           | 1254                            | ATV680C63Q4X1 |                  | 1,450/3,196 |
| HD 500                 | 775                 | 537            | 50                        | 900                            | 1350                            |               |                  |             |
| ND 710                 | 1094                | 758            | 50                        | 1260                           | 1386                            | ATV680C71Q4X1 |                  | 1,950/4,299 |
| HD 560                 | 868                 | 601            | 50                        | 1020                           | 1530                            |               |                  |             |
| ND 800                 | 1227                | 850            | 50                        | 1420                           | 1562                            | ATV680C80Q4X1 |                  | 1,950/4,299 |
| HD 630                 | 971                 | 673            | 50                        | 1140                           | 1710                            |               |                  |             |

(1) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2...8 kHz for all ratings.

Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see the derating curves in the [Handbook](#)).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) Values given for applications requiring a slight overload (up to 110%).

(4) Values given for applications requiring a significant overload (up to 150%).

**Note:** Consult the CTO options tables of possible combinations with the drives (see [page 4/16](#)).

## Variable speed drives

Altivar Process ATV600

Low Harmonic Drive Systems

Three-phase supply voltage: 480 V 50/60 Hz



ATV680C31T4X1

| 480 V IP23 Low Harmonic Drive Systems |                  |                |                           |                             |                                 |               |             |
|---------------------------------------|------------------|----------------|---------------------------|-----------------------------|---------------------------------|---------------|-------------|
| Motor                                 | Line supply      |                |                           | Altivar Process             |                                 |               | Weight      |
| Power indicated on rating plate (1)   | Line current (2) | Apparent power | Max. prospective line Isc | Max. continuous current (1) | Max. transient current for 60 s | Reference (1) |             |
|                                       | 480 V            | 480 V          |                           |                             |                                 |               |             |
| ND: Normal duty (3)                   |                  |                |                           |                             |                                 |               |             |
| HD: Heavy duty (4)                    |                  |                |                           |                             |                                 |               |             |
| kW                                    | A                | kVA            | kA                        | A                           | A                               |               | kg/lb       |
| THDi ≤ 5% at 100% load                |                  |                |                           |                             |                                 |               |             |
| ND 132                                | 175              | 145            | 50                        | 211                         | 232                             | ATV680C11T4X1 | 400/881     |
| HD 110                                | 147              | 123            | 50                        | 173                         | 260                             |               |             |
| ND 160                                | 211              | 175            | 50                        | 250                         | 275                             | ATV680C13T4X1 | 400/881     |
| HD 132                                | 175              | 145            | 50                        | 211                         | 317                             |               |             |
| ND 180                                | 236              | 196            | 50                        | 302                         | 332                             | ATV680C16T4X1 | 400/881     |
| HD 160                                | 211              | 175            | 50                        | 250                         | 375                             |               |             |
| ND 220                                | 287              | 239            | 50                        | 370                         | 407                             | ATV680C20T4X1 | 700/1,543   |
| HD 180                                | 236              | 196            | 50                        | 302                         | 453                             |               |             |
| ND 280                                | 363              | 302            | 50                        | 477                         | 525                             | ATV680C25T4X1 | 700/1,543   |
| HD 220                                | 287              | 239            | 50                        | 370                         | 555                             |               |             |
| ND 355                                | 461              | 383            | 50                        | 590                         | 649                             | ATV680C31T4X1 | 700/1,543   |
| HD 280                                | 363              | 302            | 50                        | 477                         | 716                             |               |             |
| ND 400                                | 519              | 432            | 50                        | 660                         | 726                             | ATV680C35T4X1 | 1,150/2,535 |
| HD 315                                | 409              | 340            | 50                        | 520                         | 780                             |               |             |
| ND 450                                | 581              | 483            | 50                        | 730                         | 803                             | ATV680C40T4X1 | 1,150/2,535 |
| HD 355                                | 461              | 383            | 50                        | 590                         | 885                             |               |             |
| ND 500                                | 646              | 537            | 50                        | 830                         | 913                             | ATV680C45T4X1 | 1,150/2,535 |
| HD 400                                | 519              | 432            | 50                        | 660                         | 990                             |               |             |
| ND 560                                | 723              | 601            | 50                        | 900                         | 990                             | ATV680C50T4X1 | 1,150/2,535 |
| HD 450                                | 581              | 483            | 50                        | 730                         | 1095                            |               |             |
| ND 630                                | 813              | 676            | 50                        | 1020                        | 1122                            | ATV680C56T4X1 | 1,450/3,196 |
| HD 500                                | 646              | 537            | 50                        | 830                         | 1245                            |               |             |
| ND 710                                | 912              | 758            | 50                        | 1140                        | 1254                            | ATV680C63T4X1 | 1,450/3,196 |
| HD 560                                | 723              | 601            | 50                        | 900                         | 1350                            |               |             |
| ND 800                                | 1028             | 854            | 50                        | 1260                        | 1386                            | ATV680C71T4X1 | 1,950/4,299 |
| HD 630                                | 813              | 676            | 50                        | 1020                        | 1530                            |               |             |
| ND 900                                | 1150             | 956            | 50                        | 1420                        | 1562                            | ATV680C80T4X1 | 1,950/4,299 |
| HD 710                                | 912              | 758            | 50                        | 1140                        | 1710                            |               |             |

(1) These values are given for a nominal switching frequency of 2.5 kHz for use in continuous operation.

The switching frequency is adjustable from 2...8 kHz for all ratings.

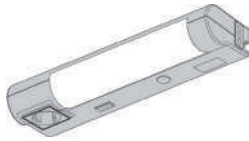
Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see the derating curves in the Handbook).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) Values given for applications requiring a slight overload (up to 110%).

(4) Values given for applications requiring a significant overload (up to 150%).

**Note:** Consult the CTO options tables of possible combinations with the drives (see page 4/16).



VW3AP1601

**Common options (1)**

| Description                                                 | Reference | Weight<br>kg/lb |
|-------------------------------------------------------------|-----------|-----------------|
| <b>Enclosure options</b>                                    |           |                 |
| Enclosure lighting (2)                                      | VW3AP1601 | 0.500/<br>1.102 |
| <b>Control options</b>                                      |           |                 |
| "Local/remote" key switch                                   | VW3AP1801 | 0.200/<br>0.441 |
| Ethernet port on front door                                 | VW3AP1807 | 0.200/<br>0.441 |
| <b>Additional I/O modules</b>                               |           |                 |
| Extended I/O module                                         | VW3AP3203 | 0.200/<br>0.441 |
| Extended relay module                                       | VW3AP3204 | 0.200/<br>0.441 |
| <b>Communication modules</b>                                |           |                 |
| Profibus DP communication module                            | VW3AP3607 | 0.200/<br>0.441 |
| CANopen Daisy Chain communication module                    | VW3AP3608 | 0.200/<br>0.441 |
| DeviceNet communication module                              | VW3AP3609 | 0.200/<br>0.441 |
| CANopen SUB-D9 communication module                         | VW3AP3618 | 0.200/<br>0.441 |
| CANopen communication module with screw terminals           | VW3AP3628 | 0.200/<br>0.441 |
| PROFINET communication module                               | VW3AP3627 | 0.200/<br>0.441 |
| Modbus TCP and EtherNet/IP communication module             | VW3AP3720 | 0.200/<br>0.441 |
| Communication Card Ethernet/IP, Modbus TCP, MultiDrive-Link | VW3AP3721 | 0.200/<br>0.441 |
| <b>Safety functions</b>                                     |           |                 |
| Emergency stop button (STO) with SIL 3 stop category 0      | VW3AP1502 | 0.200/<br>0.441 |
| Emergency stop button (STO) with SIL 3 stop category 1      | VW3AP1503 | 0.500/<br>1.102 |
| <b>Display options</b>                                      |           |                 |
| Indicator lights on front door                              | VW3AP0421 | 0.200/<br>0.441 |
| <b>Motor options</b>                                        |           |                 |
| PTC relay for motor monitoring                              | VW3AP2001 | 0.200/<br>0.441 |
| PTC relay with ATEX certification for motor monitoring (3)  | VW3AP2002 | 0.200/<br>0.441 |
| PT100/1000/KTY relay for motor monitoring                   | VW3AP2003 | 0.200/<br>0.441 |
| PT100/1000/KTY relay for bearing monitoring                 | VW3AP2004 | 0.200/<br>0.441 |
| Motor heating                                               | VW3AP2101 | 0.300/<br>0.661 |
| <b>Line supply</b>                                          |           |                 |
| Setting for 415 V + 10%                                     | VW3AP0415 | —               |
| Ready for IT systems                                        | VW3AP2701 | —               |
| <b>Safety labels (4)</b>                                    |           |                 |
| English and German safety labels                            | VW3AP0561 | —               |
| English and Italian safety labels                           | VW3AP0562 | —               |
| English and Spanish safety labels                           | VW3AP0563 | —               |
| English and Dutch safety labels                             | VW3AP0564 | —               |
| English and Chinese safety labels                           | VW3AP0565 | —               |
| English and Russian safety labels                           | VW3AP0566 | —               |
| English and Turkish safety labels                           | VW3AP0567 | —               |
| English and Polish safety labels                            | VW3AP0568 | —               |
| English and Portuguese safety labels                        | VW3AP0569 | —               |



VW3AP1502



Safety label

(1) These options cannot be ordered alone. For any other configuration, please consult our [Customer Care Teams](#).

(2) Not available for ATV660C11•4X1...C16•4X1 drives.

(3) To make an installation compliant with ATEX recommendations, please refer to the Installation Manual for each product.

(4) English and French as standard.

## Variable speed drives

Altivar Process ATV600

Drive Systems

CTO options dependent on the drive rating



VW3AP0801

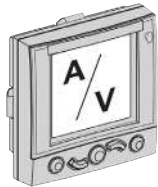
| Options dependent on the drive rating (1) |                             |           |                    |
|-------------------------------------------|-----------------------------|-----------|--------------------|
| Description                               | Corresponding enclosure (2) | Reference | Weight<br>kg/lb    |
| <b>Enclosure options</b>                  |                             |           |                    |
| Enclosure heating                         | ATV660C11●4X1...C16●4X1     | VW3AP0501 | 1.500/<br>3.307    |
|                                           | ATV660C20●4X1...C50●4X1     | VW3AP0502 | 3.000/<br>6.614    |
|                                           | ATV660C56●4X1...C80●4X1     | VW3AP0503 | 4.500/<br>9.921    |
|                                           | ATV680C11●4X1...C31●4X1     | VW3AP0551 | 2.000/<br>4.409    |
|                                           | ATV680C35●4X1...C80●4X1     | VW3AP0552 | 3.000/<br>6.614    |
| Increased IP54 protection                 | ATV660C11●4X1...C16●4X1     | VW3AP0301 | 13.000/<br>28.660  |
|                                           | ATV660C20●4X1...C31●4X1     | VW3AP0302 | 16.000/<br>35.274  |
|                                           | ATV660C35●4X1...C50●4X1     | VW3AP0303 | 19.000/<br>41.888  |
|                                           | ATV660C56●4X1...C63●4X1     | VW3AP0304 | 32.000/<br>70.548  |
|                                           | ATV660C71●4X1...C80●4X1     | VW3AP0305 | 35.000/<br>77.162  |
|                                           | ATV680C11●4X1...C16●4X1     | VW3AP0351 | 16.000/<br>35.274  |
|                                           | ATV680C20●4X1...C31●4X1     | VW3AP0352 | 29.000/<br>63.934  |
|                                           | ATV680C35●4X1...C50●4X1     | VW3AP0353 | 45.000/<br>99.208  |
|                                           | ATV680C56●4X1...C63●4X1     | VW3AP0354 | 58.000/<br>127.668 |
|                                           | ATV680C71●4X1...C80●4X1     | VW3AP0355 | 74.000/<br>163.142 |
| Enclosure plinth for basic device         | ATV660C11●4X1...C16●4X1     | VW3AP0801 | 9.000/<br>19.842   |
|                                           | ATV660C20●4X1...C31●4X1     | VW3AP0802 | 11.000/<br>24.251  |
|                                           | ATV660C35●4X1...C50●4X1     | VW3AP0803 | 13.000/<br>28.660  |
|                                           | ATV660C56●4X1...C63●4X1     | VW3AP0804 | 22.000/<br>48.502  |
|                                           | ATV660C71●4X1...C80●4X1     | VW3AP0805 | 24.000/<br>52.911  |
|                                           | ATV680C11●4X1...C16●4X1     | VW3AP0851 | 11.000/<br>24.251  |
|                                           | ATV680C20●4X1...C31●4X1     | VW3AP0852 | 20.000/<br>44.093  |
|                                           | ATV680C35●4X1...C50●4X1     | VW3AP0853 | 31.000/<br>68.343  |
|                                           | ATV680C56●4X1...C63●4X1     | VW3AP0854 | 40.000/<br>88.185  |
|                                           | ATV680C71●4X1...C80●4X1     | VW3AP0855 | 54.000/<br>119.050 |

(1) These options cannot be ordered alone. For any other configuration, please consult our [Customer Care Teams](#).

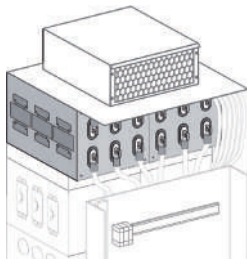
(2) Replace ● with Q for 380...415 V supply voltage or with T for 480 V supply voltage.



VW3AP0707



VW3AP0403



VW3AP0612

## Options dependent on the drive rating (continued) (1)

| Description                                                       | Corresponding enclosure (2) | Reference | Weight<br>kg/lb     |
|-------------------------------------------------------------------|-----------------------------|-----------|---------------------|
| <b>Enclosure options</b>                                          |                             |           |                     |
| Additional enclosure allowing cabling from the top                | ATV660C11●4X1...C31●4X1     | VW3AP0701 | 85.000/<br>187.393  |
|                                                                   | ATV680C11●4X1...C31●4X1     |           |                     |
|                                                                   | ATV660C35●4X1...C80●4X1     | VW3AP0702 | 100.000/<br>220.462 |
|                                                                   | ATV680C35●4X1...C80●4X1     |           |                     |
| Additional enclosure allowing cabling from the top with plinth    | ATV660C11●4X1...C31●4X1     | VW3AP0704 | 94.000/<br>207.234  |
|                                                                   | ATV680C11●4X1...C31●4X1     |           |                     |
|                                                                   | ATV660C35●4X1...C80●4X1     | VW3AP0705 | 111.000/<br>244.713 |
|                                                                   | ATV680C35●4X1...C80●4X1     |           |                     |
| Additional enclosure allowing cabling from the bottom             | ATV660C11●4X1...C31●4X1     | VW3AP0707 | 85.000/<br>187.393  |
|                                                                   | ATV680C11●4X1...C31●4X1     |           |                     |
|                                                                   | ATV660C35●4X1...C80●4X1     | VW3AP0708 | 100.000/<br>220.462 |
|                                                                   | ATV680C35●4X1...C80●4X1     |           |                     |
| Additional enclosure allowing cabling from the bottom with plinth | ATV660C11●4X1...C31●4X1     | VW3AP0710 | 94.000/<br>207.234  |
|                                                                   | ATV680C11●4X1...C31●4X1     |           |                     |
|                                                                   | ATV660C35●4X1...C80●4X1     | VW3AP0711 | 111.000/<br>244.713 |
|                                                                   | ATV680C35●4X1...C80●4X1     |           |                     |
| <b>Display options</b>                                            |                             |           |                     |
| Front display module (FDM)                                        | ATV660C11●4X1...C13●4X1     | VW3AP0401 | 0.500/<br>1.102     |
|                                                                   | ATV680C11●4X1...C13●4X1     |           |                     |
|                                                                   | ATV660C16●4X1...C20●4X1     | VW3AP0402 | 0.500/<br>1.102     |
|                                                                   | ATV680C16●4X1...C20●4X1     |           |                     |
|                                                                   | ATV660C25●4X1...C31●4X1     | VW3AP0403 | 0.500/<br>1.102     |
|                                                                   | ATV680C25●4X1...C31●4X1     |           |                     |
|                                                                   | ATV660C35●4X1...C50●4X1     | VW3AP0404 | 0.500/<br>1.102     |
|                                                                   | ATV680C35●4X1...C50●4X1     |           |                     |
|                                                                   | ATV660C56●4X1...C80●4X1     | VW3AP0405 | 0.500/<br>1.102     |
|                                                                   | ATV680C56●4X1...C80●4X1     |           |                     |
| <b>Motor options</b>                                              |                             |           |                     |
| 150 m dv/dt filter choke                                          | ATV660C11●4X1...C16●4X1     | VW3AP0601 | 25.000/<br>55.116   |
|                                                                   | ATV680C11●4X1...C16●4X1     |           |                     |
|                                                                   | ATV660C20●4X1...C31●4X1     | VW3AP0602 | 50.000/<br>110.231  |
| 300 m dv/dt filter choke                                          | ATV660C11●4X1...C16●4X1     | VW3AP0611 | 28.000/<br>61.729   |
|                                                                   | ATV680C11●4X1...C16●4X1     |           |                     |
|                                                                   | ATV660C20●4X1...C31●4X1     | VW3AP0612 | 56.000/<br>123.459  |
|                                                                   | ATV680C20●4X1...C31●4X1     |           |                     |
|                                                                   | ATV660C35●4X1...C50●4X1     | VW3AP0613 | 84.000/<br>185.188  |
|                                                                   | ATV680C35●4X1...C50●4X1     |           |                     |
|                                                                   | ATV660C56●4X1...C63●4X1     | VW3AP0614 | 112.000/<br>246.918 |
|                                                                   | ATV680C56●4X1...C63●4X1     |           |                     |
|                                                                   | ATV660C71●4X1...C80●4X1     | VW3AP0615 | 140.000/<br>308.647 |
|                                                                   | ATV680C71●4X1...C80●4X1     |           |                     |

(1) These options cannot be ordered alone. For any other configuration, please consult our [Customer Care Teams](#).

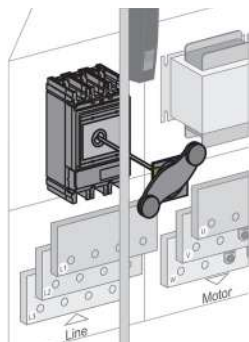
(2) Replace ● with Q for 380...415 V supply voltage or with T for 480 V supply voltage.

## Variable speed drives

Altivar Process ATV600

Drive Systems

CTO options dependent on the drive rating



VW3AP0104

## Options dependent on the drive rating (continued) (1)

| Description                                        | Corresponding enclosure (2) | Reference | Weight<br>kg/lb  |
|----------------------------------------------------|-----------------------------|-----------|------------------|
| <b>Line supply</b>                                 |                             |           |                  |
| <b>Circuit breaker</b>                             | ATV660C11●4X1...C16●4X1     | VW3AP0101 | 2.000/<br>4.409  |
|                                                    | ATV680C11●4X1...C16●4X1     |           |                  |
|                                                    | ATV660C20●4X1...C31●4X1     | VW3AP0102 | 2.000/<br>4.409  |
|                                                    | ATV680C20●4X1...C31●4X1     |           |                  |
|                                                    | ATV660C35●4X1...C40●4X1     | VW3AP0103 | 1.000/<br>2.204  |
|                                                    | ATV680C35●4X1...C40●4X1     |           |                  |
|                                                    | ATV660C45●4X1...C50●4X1     | VW3AP0104 | 1.000/<br>2.204  |
|                                                    | ATV680C45●4X1...C50●4X1     |           |                  |
|                                                    | ATV660C56●4X1...C63●4X1     | VW3AP0105 | 1.000/<br>2.204  |
|                                                    | ATV680C56●4X1...C63●4X1     |           |                  |
|                                                    | ATV660C71●4X1...C80●4X1     | VW3AP0106 | 1.000/<br>2.204  |
|                                                    | ATV680C71●4X1...C80●4X1     |           |                  |
| <b>Circuit breaker with MicroLogic</b>             | ATV660C11●4X1...C16●4X1     | VW3AP0111 | 2.000/<br>4.409  |
|                                                    | ATV680C11●4X1...C16●4X1     |           |                  |
|                                                    | ATV660C20●4X1...C31●4X1     | VW3AP0112 | 2.000/<br>4.409  |
|                                                    | ATV680C20●4X1...C31●4X1     |           |                  |
|                                                    | ATV660C35●4X1...C40●4X1     | VW3AP0113 | 1.000/<br>2.204  |
|                                                    | ATV680C35●4X1...C40●4X1     |           |                  |
|                                                    | ATV660C45●4X1...C50●4X1     | VW3AP0114 | 1.000/<br>2.204  |
|                                                    | ATV680C45●4X1...C50●4X1     |           |                  |
|                                                    | ATV660C56●4X1...C63●4X1     | VW3AP0115 | 1.000/<br>2.204  |
|                                                    | ATV680C56●4X1...C63●4X1     |           |                  |
|                                                    | ATV660C71●4X1...C80●4X1     | VW3AP0116 | 1.000/<br>2.204  |
|                                                    | ATV680C71●4X1...C80●4X1     |           |                  |
| <b>Undervoltage coil for circuit breaker 230 V</b> | ATV660C11●4X1...C31●4X1     | VW3AP0201 | 0.100/<br>0.220  |
|                                                    | ATV680C11●4X1...C31●4X1     |           |                  |
|                                                    | ATV660C35●4X1...C80●4X1     | VW3AP0202 | 0.100/<br>0.220  |
|                                                    | ATV680C35●4X1...C80●4X1     |           |                  |
| <b>Motor for circuit breaker 230 V</b>             | ATV660C11●4X1...C31●4X1     | VW3AP0251 | 4.000/<br>8.818  |
|                                                    | ATV680C11●4X1...C31●4X1     |           |                  |
|                                                    | ATV660C35●4X1...C40●4X1     | VW3AP0252 | 4.000/<br>8.818  |
|                                                    | ATV680C35●4X1...C40●4X1     |           |                  |
|                                                    | ATV660C45●4X1...C50●4X1     | VW3AP0253 | 7.000/<br>15.432 |
|                                                    | ATV680C45●4X1...C50●4X1     |           |                  |
|                                                    | ATV660C56●4X1...C63●4X1     | VW3AP0254 | 7.000/<br>15.432 |
|                                                    | ATV680C56●4X1...C63●4X1     |           |                  |
|                                                    | ATV660C71●4X1...C80●4X1     | VW3AP0255 | 7.000/<br>15.432 |
|                                                    | ATV680C71●4X1...C80●4X1     |           |                  |
| <b>Automated mains disconnect</b>                  | ATV660C11●4X1...C16●4X1     | VW3AP0271 | 0.500/<br>1.102  |
|                                                    | ATV660C20●4X1...C31●4X1     | VW3AP0272 | 0.500/<br>1.102  |
|                                                    | ATV660C35●4X1...C40●4X1     | VW3AP0273 | 0.500/<br>1.102  |
|                                                    | ATV660C45●4X1...C50●4X1     | VW3AP0274 | 0.500/<br>1.102  |
|                                                    | ATV660C56●4X1...C63●4X1     | VW3AP0275 | 0.500/<br>1.102  |
|                                                    | ATV660C71●4X1...C80●4X1     | VW3AP0276 | 0.500/<br>1.102  |
|                                                    |                             |           |                  |
| <b>Packaging</b>                                   |                             |           |                  |
| <b>Seaworthy packaging</b>                         | ATV660C11●4X1...C16●4X1     | VW3AP0811 | 105/<br>231      |
|                                                    | ATV660C20●4X1...C31●4X1     | VW3AP0812 | 124/<br>273      |
|                                                    | ATV660C35●4X1...C50●4X1     | VW3AP0813 | 138/<br>304      |
|                                                    | ATV660C56●4X1...C63●4X1     | VW3AP0815 | 192/<br>423      |
|                                                    | ATV660C71●4X1...C80●4X1     | VW3AP0816 | 205/<br>451      |
|                                                    | ATV680C11●4X1...C16●4X1     | VW3AP0812 | 124/<br>273      |
|                                                    | ATV680C20●4X1...C31●4X1     | VW3AP0814 | 155/<br>341      |
|                                                    | ATV680C35●4X1...C50●4X1     | VW3AP0817 | 225/<br>496      |
|                                                    | ATV680C56●4X1...C63●4X1     | VW3AP0819 | 255/<br>562      |
|                                                    | ATV680C71●4X1...C80●4X1     | VW3AP0821 | 352/<br>776      |
|                                                    |                             |           |                  |
|                                                    |                             |           |                  |

(1) These options cannot be ordered alone. For any other configuration, please consult our [Customer Care Teams](#).

(2) Replace ● with Q for 380...415 V supply voltage or with T for 480 V supply voltage.



| 380...415 V Compact IP23 Drive Systems |                     |                       |
|----------------------------------------|---------------------|-----------------------|
| Overall dimensions                     |                     |                       |
| Reference                              | W x H x D (1)       |                       |
|                                        | mm                  | in.                   |
| ATV660C11Q4X1                          | 400 x 2,150 x 664   | 15.75 x 84.65 x 26.14 |
| ATV660C13Q4X1                          | 400 x 2,150 x 664   | 15.75 x 84.65 x 26.14 |
| ATV660C16Q4X1                          | 400 x 2,150 x 664   | 15.75 x 84.65 x 26.14 |
| ATV660C20Q4X1                          | 600 x 2,150 x 664   | 23.62 x 84.65 x 26.14 |
| ATV660C25Q4X1                          | 600 x 2,150 x 664   | 23.62 x 84.65 x 26.14 |
| ATV660C31Q4X1                          | 600 x 2,150 x 664   | 23.62 x 84.65 x 26.14 |
| ATV660C35Q4X1                          | 800 x 2,150 x 664   | 31.50 x 84.65 x 26.14 |
| ATV660C40Q4X1                          | 800 x 2,150 x 664   | 31.50 x 84.65 x 26.14 |
| ATV660C45Q4X1                          | 800 x 2,150 x 664   | 31.50 x 84.65 x 26.14 |
| ATV660C50Q4X1                          | 800 x 2,150 x 664   | 31.50 x 84.65 x 26.14 |
| ATV660C56Q4X1                          | 1,200 x 2,150 x 664 | 47.24 x 84.65 x 26.14 |
| ATV660C63Q4X1                          | 1,200 x 2,150 x 664 | 47.24 x 84.65 x 26.14 |
| ATV660C71Q4X1                          | 1,400 x 2,150 x 664 | 55.12 x 84.65 x 26.14 |
| ATV660C80Q4X1                          | 1,400 x 2,150 x 664 | 55.12 x 84.65 x 26.14 |

(1) The total depth includes a door handle of 64 mm/2.54 in. The dimensions can differ depending on the chosen options. For further information, please consult our [Customer Care Teams](#).



## 380...415 V Low Harmonic IP23 Drive Systems

## Overall dimensions

| Reference     | W x H x D (1)       |                        |
|---------------|---------------------|------------------------|
|               | mm                  | in.                    |
| ATV680C11Q4X1 | 600 x 2,150 x 664   | 23.62 x 84.65 x 26.14  |
| ATV680C13Q4X1 | 600 x 2,150 x 664   | 23.62 x 84.65 x 26.14  |
| ATV680C16Q4X1 | 600 x 2,150 x 664   | 23.62 x 84.65 x 26.14  |
| ATV680C20Q4X1 | 1,000 x 2,150 x 664 | 39.37 x 84.65 x 26.14  |
| ATV680C25Q4X1 | 1,000 x 2,150 x 664 | 39.37 x 84.65 x 26.14  |
| ATV680C31Q4X1 | 1,000 x 2,150 x 664 | 39.37 x 84.65 x 26.14  |
| ATV680C35Q4X1 | 1,600 x 2,150 x 664 | 62.99 x 84.65 x 26.14  |
| ATV680C40Q4X1 | 1,600 x 2,150 x 664 | 62.99 x 84.65 x 26.14  |
| ATV680C45Q4X1 | 1,600 x 2,150 x 664 | 62.99 x 84.65 x 26.14  |
| ATV680C50Q4X1 | 1,600 x 2,150 x 664 | 62.99 x 84.65 x 26.14  |
| ATV680C56Q4X1 | 2,000 x 2,150 x 664 | 78.74 x 84.65 x 26.14  |
| ATV680C63Q4X1 | 2,000 x 2,150 x 664 | 78.74 x 84.65 x 26.14  |
| ATV680C71Q4X1 | 2,600 x 2,150 x 664 | 102.36 x 84.65 x 26.14 |
| ATV680C80Q4X1 | 2,600 x 2,150 x 664 | 102.36 x 84.65 x 26.14 |

(1) The total depth includes a door handle of 64 mm/2.54 in. The dimensions can differ depending on the chosen options. For further information, please consult our [Customer Care Teams](#).

Drives Field Services

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# Variable speed drives

## Altivar Process

A whole world of services for your drives by Schneider Electric



### Drives support and services offer by Schneider Electric

Variable speed drives are an important part of your operation, with downtime having a significant impact on your business. Protecting that investment through comprehensive drive services means that you can continue to deliver optimally throughout the lifecycle of your drive. Our range of services is designed to help you get more out of your drives, your operation, and to improve your environmental impact.



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#### Install

- **Extended Warranty** service helps you control your maintenance costs. Schneider Electric will provide a replacement drive or repair the drive on site during a period of 1 or 3 years more than the standard warranty, in all conditions covered by the extended warranty.
- **Start-up** service is the first essential step in maintenance and optimal operational performance of the drive. Our comprehensive review checks up to 100 parameters and is especially designed for drives in simple applications.
- **Commissioning** service helps to ensure a reliable start for operations with more complex applications and drive systems. The unique requirements of your process need to be carefully considered to ensure efficient operations.

#### Operate

- **Preventive Maintenance** service performs predetermined maintenance actions according to a drive product-specific schedule. The work is carried out by certified technical experts following Schneider Electric instructions. This service minimizes unplanned downtime and extends your equipment lifetime.
- **Remote Technical Support** brings you expert product assistance over phone, email, chat, or Web for any technical questions relating to your drives, including configuration, diagnostics, and maintenance. Our global support team is multi-lingual with support available up to R&D level experts if needed.
- **On-Site Expert Assistance** service offers you highly skilled field service experts to troubleshoot and resolve drive equipment-related matters at your site, as a back-up source of expertise for your personnel.
- **Spare Part Management** service identifies and manages your critical spare parts either on your site or offsite. This service ensures that you have access to the spares you need without you having to invest in capital to maintain the stock.

(1) Services available in countries that have the right structure and capabilities.

## Variable speed drives

### Altivar Process

A whole world of services for your drives by Schneider Electric



#### Drives support and services offer by Schneider Electric (continued)

##### Optimize

- **Training** service offers eLearning, classroom, and onsite training provision to enhance the technical installation, commissioning, and maintenance competencies of your personnel. Added competence translates into further process efficiency and reliability, as well as employee satisfaction.
- **EcoStruxure Asset Advisor** service enables you to move from reactive to predictive maintenance and access actionable insight provided by the advisor. The service predicts drive- and motor-related actions through connected devices and advanced algorithms monitored by Schneider Electric's experts.

##### Renew

- **Drive Revitalization** is an excellent choice if you prefer to use your aging drives longer and want to extend their service life with affordable and comprehensive inspection and replacement of all critical parts.
- **Drive Replacement** involves modernizing equipment by replacing the previous aged or obsolete drive with a new one matched to the purpose. The service can be extended with engineering in case the device and process requires more advanced engineering.

##### Circular economy with drives

- **Spare Parts** are available from our local, regional, and global stocks. Original equipment parts from Schneider Electric are reliable and easily available. They will help to keep your drive in operation for longer.
- **Repair** allows you to extend the life of your drive. The affected drive can be replaced, or repaired on site or at our repair centers, depending on the type of drive in question.
- **Fast exchange by refurbished drive (1)** gives a second life to inoperative drives. In this case, we offer an immediate exchange with a replacement refurbished drive and take back the product, repair it, and keep it ready for the next exchange..
- **Take-back and recycling (1)** is the last step to improve your environmental impact. Unreparable products are dismantled, and raw materials are collected and given a second life. Up to 85% of the product components can be recycled.

#### Service contracts secure recovery, availability and outcome

**Service contracts** manage the safety and performance of your assets through well-defined maintenance plans tailored to your operational needs. The predefined service contract – Advantage Service Plan – and fully customizable “à la carte” service contract are built from services in the “Operate” and “Optimize” phases and service levels defining availability, response, and lead times matching your particular needs. You will enjoy priority access to Schneider Electric support when you need it, as well as having an expert partner to plan the long-term evolution of your drives.

#### mySchneider app

With the mySchneider app you have easy 24/7 access to product information and expert support. All registered users have access to additional features, such as real-time notifications, order tracking, product pricing, and availability. The mySchneider app is available for download from the IOS and Android app store.

#### Schneider Electric – helping you succeed

Schneider Electric, the leader in digital transformation of energy management and automation, has operations in more than 100 countries. With this global footprint we have certified drives field service representatives, regional expert and advanced level support up to product R&D to provide you the right support across the lifecycle of your drives. Furthermore, we offer an extensive network of local and global repair centers and a logistics chain that underpins our ability to respond to your needs.

To order services or find out more, please contact your local Schneider Electric service center.

(1) Services available in countries that have the right structure and capabilities.

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| ATV6L0C20N6 | 3/23 | ATV6L0M18R4 | 3/21 | VW3A4555     | 2/41 | VW3A46171 | 2/37 |              | 2/46 |
| ATV6L0C20Q4 | 3/20 | ATV6L0M18T4 | 3/22 | VW3A4556     | 2/41 | VW3A46172 | 2/37 | VW3A5406     | 2/45 |
| ATV6L0C20Q6 | 3/25 | ATV6L0M18T6 | 3/24 | VW3A46101    | 2/34 | VW3A46173 | 2/37 |              | 2/46 |
| ATV6L0C20R4 | 3/21 | ATV6L0M22N6 | 3/23 | VW3A46102    | 2/34 | VW3A46174 | 2/37 | VW3A8306R03  | 2/15 |
| ATV6L0C20T4 | 3/22 | ATV6L0M22Q6 | 3/25 | VW3A46103    | 2/34 | VW3A46176 | 2/37 |              | 2/27 |
| ATV6L0C20T6 | 3/24 | ATV6L0M22T6 | 3/24 | VW3A46104    | 2/34 | VW3A46177 | 2/37 | VW3A8306R10  | 2/15 |
| ATV6L0C25Q4 | 3/20 | ATV6L0M26N6 | 3/23 | VW3A46105    | 2/34 | VW3A4701  | 2/39 |              | 2/27 |
| ATV6L0C25R4 | 3/21 | ATV6L0M26Q6 | 3/25 | VW3A46106    | 2/34 | VW3A4702  | 2/39 | VW3A8306R30  | 2/15 |
| ATV6L0C25T4 | 3/22 | ATV6L0M26T6 | 3/24 | VW3A46107    | 2/34 | VW3A4703  | 2/39 |              | 2/27 |
| ATV6L0C28N6 | 3/23 |             |      | VW3A46108    | 2/34 | VW3A4704  | 2/39 | VW3A8306RC   | 2/15 |
| ATV6L0C28Q6 | 3/25 |             |      | VW3A46109    | 2/34 | VW3A4705  | 2/39 |              | 2/27 |
| ATV6L0C28T6 | 3/24 |             |      | VW3A46110    | 2/34 | VW3A4706  | 2/39 | VW3A8306TF03 | 2/15 |
| ATV6L0C31N6 | 3/23 |             |      | VW3A46111    | 2/34 | VW3A4707  | 2/39 |              | 2/27 |
| ATV6L0C31Q4 | 3/20 |             |      | VW3A46112    | 2/34 | VW3A4708  | 2/39 | VW3A8306TF10 | 2/15 |
| ATV6L0C31Q6 | 3/25 |             |      | VW3A46113    | 2/34 | VW3A4709  | 2/39 |              | 2/27 |
| ATV6L0C31R4 | 3/21 |             |      | VW3A46114    | 2/34 | VW3A4710  | 2/39 | VW3A9112     | 2/13 |
| ATV6L0C31T4 | 3/22 |             |      | VW3A46115    | 2/34 | VW3A47801 | 3/7  | VW3A9113     | 2/13 |
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| ATV6L0C40Q4 | 3/20 |             |      | VW3A46119    | 2/34 | VW3A47804 | 3/7  | VW3A93111    | 2/40 |
| ATV6L0C40Q6 | 3/25 |             |      | VW3A46120    | 2/35 | VW3A47805 | 3/7  | VW3A93112    | 2/40 |
| ATV6L0C40R4 | 3/21 |             |      | VW3A46121    | 2/35 | VW3A47901 | 2/40 | VW3A93113    | 2/40 |
| ATV6L0C40T4 | 3/22 |             |      | VW3A46122    | 2/35 | VW3A47902 | 2/40 | VW3A93114    | 2/40 |
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| ATV6L0C45N6 | 3/23 |             |      | VW3A46124    | 2/35 | VW3A47904 | 2/40 | VW3A93116    | 2/40 |
| ATV6L0C45Q6 | 3/25 |             |      | VW3A46125    | 2/35 | VW3A47905 | 2/40 | VW3A93117    | 2/40 |
| ATV6L0C45T6 | 3/24 |             |      | VW3A46126    | 2/35 | VW3A47906 | 2/40 | VW3A93118    | 2/40 |
| ATV6L0C50Q4 | 3/20 |             |      | VW3A46127    | 2/35 | VW3A47907 | 2/40 | VW3A93119    | 2/40 |
| ATV6L0C50R4 | 3/21 |             |      | VW3A46128    | 2/35 | VW3A47908 | 2/40 | VW3A93120    | 2/40 |
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| ATV6L0C56T6 | 3/24 |             |      | VW3A46132    | 2/35 | VW3A5107  | 2/43 | VW3A9704     | 2/13 |
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**Schneider Electric Industries SAS**

Head Office  
35, rue Joseph Monier - CS 30323  
F-92500 Rueil-Malmaison Cedex  
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