

Variable speed drives Altivar Process ATV600

Catalog

May **2018**



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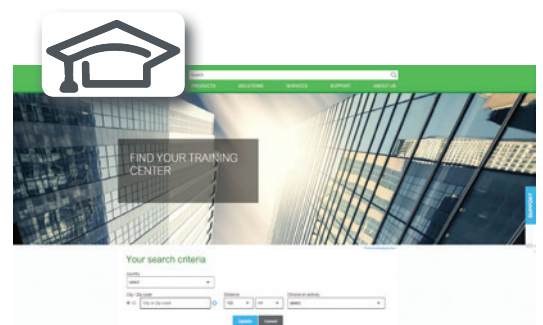
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General contents

| | |
|-------------------------------|---|
| Presentation | 1 |
| Drive products | 2 |
| Cabinet integration | 3 |
| Drive systems | 4 |
| Services, index | 5 |

- **General presentation**..... page 1/2
- IP 20, IP 21, IP 54, or IP 55 variable speed drive selection guide* page 1/4
- Altivar Process Modular single drives selection guide for cabinet integration* page 1/6
- IP 23 and IP 54 Drive Systems selection guide for asynchronous and synchronous motors* page 1/7
- **Altivar Process variable speed drives presentation** page 1/8



1

Altivar Process

Provides the efficiency you deserve

Altivar Process drives offer extensive flexibility in water & wastewater, mining, minerals & metals, oil & gas and food & beverage applications. Depending on customer requirements, Altivar Process drives are available as wall-mounting, floor standing and optimized solutions for integration into cabinets.



Wall mounting drives
from 0.75 kW up to 315 kW
(1...100 HP)

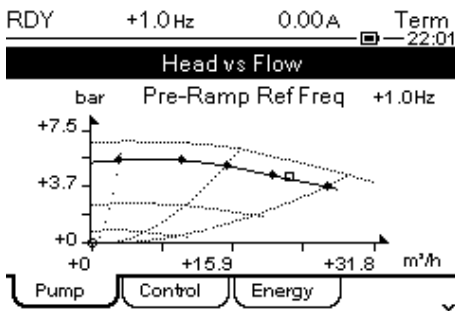


Enclosed drives solutions
from 110 kW up to 800 kW
(150...1100 HP)



Cabinet integration drives
from 110 kW up to 800 kW
(150...1100 HP)

Altivar Process range



Display screen

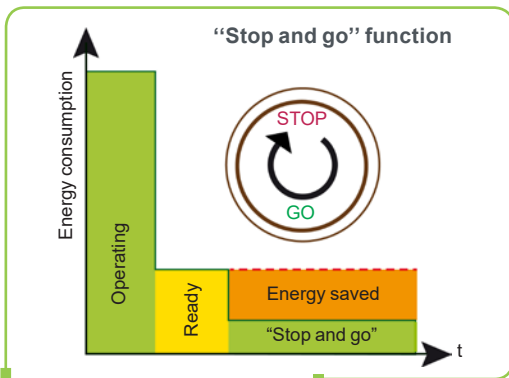
Business optimization

Optimum monitoring of your process

- > Instant reaction if pump efficiency drops thanks to the 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 life cycle
- > Data logging and graphic display of the power consumption



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.

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

 **FDT Technology:** an international standard with broad acceptance in the automation industry



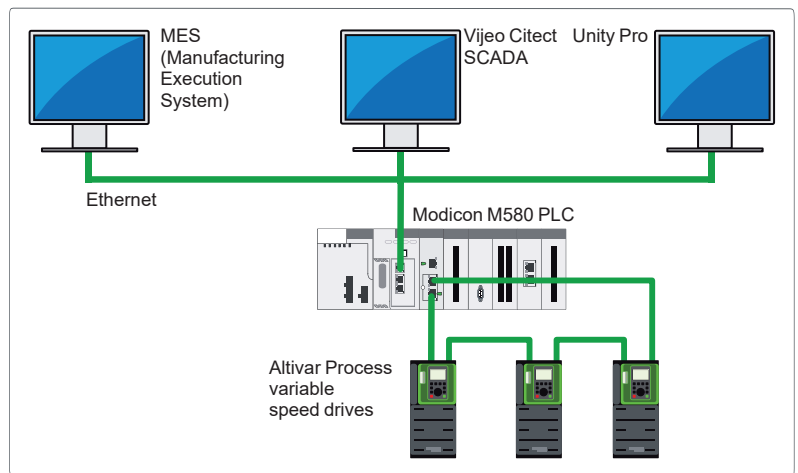
Achilles™ Level2 certified



User-friendliness

Simple integration in PLC environments

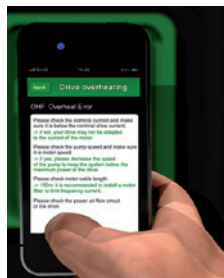
- > Easy integration thanks to standardized FDT/DTM and ODVA technology
- > Supported by predefined Unity Pro libraries
- > Easy access via PC, tablet, or smartphone
- > Robust connection via Ethernet



Integration in EcoStruxure Plant



Scanning the QR code from a smartphone or tablet



Instant access to online help

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-2 according to EU directive C€ 2002/95
 - > REACH according to EU regulation 1907/2006
 - > IEC 62635: the end-of-life instructions comply with the latest recycling rules, 70% of the product components can be recycled.



IP 20, IP 21, IP 55, or IP 54 variable speed drives for asynchronous and synchronous motors

Market segments

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



| | |
|---|--|
| Mounting type | Wall mounting |
| Degree of protection | IP 20 and IP 21/UL Type 1 IP 55 |
| Power range for 50...60 Hz line supply | Three-phase: 200...240 V (kW/HP) 0.75...75/1...100 |
| | Three-phase: 380...440 V (kW) - |
| | Three-phase: 380...480 V (kW/HP) 0.75...315/1...500 |
| | Three-phase: 500...690 V (kW/HP) 2.2...90/3...125 |
| Drive | Output frequency 0.1... 500 Hz |
| | Control type Asynchronous motor Synchronous motor Standard constant torque, variable standard torque, optimized torque mode PM (permanent magnet) motor |
| Functions | Advanced functions <ul style="list-style-type: none"> 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.: temperatures with PT100/1000 probe, fan monitoring) |
| | Integrated safety function 1: STO (Safe Torque Off) SIL3 |
| Number of integrated I/O | Number of preset speeds 16 |
| | Analog inputs 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) |
| | Digital inputs 6: Voltage 24 V --- (positive or negative logic) |
| | Analog outputs 2: Configurable as voltage (0...10 V) or current (0-20 mA) |
| | Relay outputs 3: 1 with NO/NC contacts and 2 with NO contacts |
| I/O expansion modules (optional) | Safety function inputs 2: For safety function STO |
| | Analog inputs 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 |
| | Digital inputs 6: Voltage 24 V --- (positive or negative logic) |
| Relay output module (optional) | Digital outputs 2: Assignable |
| | Relay outputs 3: NO contacts |
| Communication | Integrated Modbus/TCP, Modbus serial link |
| | Option modules EtherNet/IP and Modbus/TCP Dual port, ProfiNet, CANopen RJ45 Daisy Chain, Sub-D, and screw terminals, Profibus DP V1, DeviceNet, and BACnet MS/TP |
| Configuration and runtime tools | Graphic display terminal, embedded Web server, DTM (Device Type Manager), SoMove software |
| Standards and certifications | 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 DNV-GL Marine certification, ATEX 2/22, ATEX 1/21, SEMI F47-0706 |

| | | |
|-------------------|-------------|-------------|
| References | ATV630●●●●● | ATV650●●●●● |
| Page | 2/2 | 2/5 |

(1) Evaluated UL standards may differ as per drive reference numbers. Please refer to our website for more details.

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



| | |
|--|--|
| Wall mounting | Floor standing |
| IP 55 with Vario disconnect switch | IP 21 IP 54 |
| - | - |
| - | 110...315/150...500 |
| 0.75...90/1...125 | - |
| - | 2.2...90/3...125 |
| 0.1... 500 Hz | - |
| Standard constant torque, variable standard torque, optimized torque mode | Standard constant torque, variable standard torque, optimized torque mode |
| PM (permanent magnet) motor | PM (permanent magnet) motor |
| <ul style="list-style-type: none"> 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.: temperatures with PT100/1000 probe, fan monitoring) | <ul style="list-style-type: none"> 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.: temperatures with PT100/1000 probe, fan monitoring) |
| | |
| 16 | 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) | 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) | 6: Voltage 24 V --- (positive or negative logic) |
| 2: Configurable as voltage (0...10 V) or current (0-20 mA) | 2: Configurable as voltage (0...10 V) or current (0-20 mA) |
| 3: 1 with NO/NC contacts and 2 with NO contacts | 3: 1 with NO/NC contacts and 2 with NO contacts |
| 2: For safety function STO | 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 | 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 |
| 6: Voltage 24 V --- (positive or negative logic) | 6: Voltage 24 V --- (positive or negative logic) |
| 2: Assignable | 2: Assignable |
| 3: NO contacts | 3: NO contacts |
| Modbus/TCP, Modbus serial link | Modbus/TCP, Modbus serial link |
| EtherNet/IP and Modbus/TCP Dual port, ProfiNet, CANopen Daisy Chain RJ45, Sub-D, and screw terminals, Profibus DP V1, DeviceNet, and BACnet MS/TP | EtherNet/IP and Modbus/TCP Dual port, ProfiNet, CANopen Daisy Chain RJ45, Sub-D, and screw terminals, Profibus DP V1, DeviceNet bus, and BACnet MS/TP |
| Graphic display terminal, embedded Web server, DTM (Device Type Manager), SoMove software | 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 DNV-GL Marine certification, 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 |

| | | |
|--------------|--------------|--------------|
| ATV650●●●●●E | ATV630●●●●●F | ATV650●●●●●F |
| 2/6 | 2/8 | 2/9 |

(1) Evaluated UL standards may differ as per drive reference numbers. Please refer to our website for more details.

Altivar Process Modular single drives for cabinet integration

Market segments

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



| | |
|---|---|
| Mounting type | Cabinet integration |
| Degree of protection | IP 00 |
| Power range for 50...60 Hz line supply | Three-phase: 400 V (kW) |
| | Three-phase: 440 V (kW) |
| | Three-phase: 480 V (HP) |
| Drive | Output frequency |
| | Control type |
| Functions | Advanced functions |
| | Integrated safety function |
| Number of integrated I/O | Analog inputs |
| | Digital inputs |
| | Digital output |
| | Analog outputs |
| | Relay outputs |
| | Safety function inputs |
| I/O extension modules (optional) | Analog inputs |
| | Digital inputs |
| Relay output module (optional) | Relay outputs |
| | Relay outputs |
| Communication | Integrated |
| | Option modules |
| 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, CE marking |
| References | ATV6AOC●●Q4 ATV6AOC●●R4 ATV6AOC●●T4 |
| Page | 3/5 3/6 3/7 |

IP 23 and IP 54 Drive Systems for asynchronous and synchronous motors

Market segments

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



| | |
|---|---|
| Power range for 50...60 Hz line supply | Three-phase: 315...415 V, 480 V (kW) |
| Main characteristics | |
| Variants | |
| Degree of protection | IP 23 IP 54 with separate air flows as an option |
| Drive | Output frequency |
| | Type of control |
| Communication | Integrated |
| | As an option |
| Interfaces and runtime tools | Graphic display terminal in the enclosure door Control terminals inside the enclosure Control terminals can be extended Reading of the parameters via USB interface on the keypad Embedded Web server, DTM (Device Type Manager), SoMove software |
| Standards and certifications | 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 |
| References | ATV660●●●●4X1 ATV680●●●●4X1 |
| Page | 4/4 4/10 |

| | | |
|----------|---|--|
| 90...800 | 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% |
| | Compact standard offer Modular with integrated options (CTO) User-definable on request (ETO, Full ETO) | Low Harmonic standard offer Modular with integrated options (CTO) User-definable on request (ETO, Full ETO) |
| | IP 23 IP 54 with separate air flows as an option | |
| | 0.1...500 Hz | |
| | Standard constant torque, variable standard torque, optimized torque mode | |
| | PM (permanent magnet) motor | |
| | Modbus/TCP Modbus serial link Ethernet | |
| | EtherNet/IP and Modbus/TCP Dual port PROFINET CANopen RJ45 Daisy Chain, SUB-D9 and screw terminals Profibus DP V1 DeviceNet | |
| | Graphic display terminal in the enclosure door Control terminals inside the enclosure Control terminals can be extended Reading of the parameters via USB interface on the keypad Embedded Web server, DTM (Device Type Manager), SoMove software | |
| | 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 |
| | ATV660●●●●4X1 | ATV680●●●●4X1 |
| | 4/4 | 4/10 |

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Altivar Process range

Process

Altivar Process drives are specifically designed for meeting the requirements of the following market segments:

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



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





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



Food & beverage applications

- Pumping
- Drying fans

Use

- Conveyors
- Mixers
- Centrifuges
- Pumps

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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
- Altivar Process drives are designed for IT systems

Depending on the power range, Altivar Process is available with several mounting types and protection indices:

- Wall-mounting IP 20/21/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 IP 55 from 0.75 to 90 kW/1 HP to 125 HP, ready-to-use for easy integration in harsh environment and installations close to the system to reduce the length of the motor cable. The wall-mounting IP 55 offer is available with and without a disconnect switch.
- Floor-standing IP 21 and IP 54 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
- Cabinet integration from 110 kW to 800 kW/150 to 1100 HP, designed for easy and cost effective integration of power intensive drives into cabinets.

Cabinet integration

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

- Standardized integration with power rating through module paralleling up to 800 kW/1100 HP at 480 V supply voltage
- Integrated category C3 EMC filter
- Reduced harmonics with integrated line choke
- Integrated high efficient motor filter allowing longer motor cable lengths
- Ready to connect mains 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 and power fan inside a drawer accessible from front face

Enclosed high-power drives solutions

The floor-standing IP 21/IP 54 fully customisable 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 IP 54 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 parts, 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 110 to 1000 kW, 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 < 5%.



ATV630D45Y6 equipped with IP20/UL Type 1 wall mounting kit

General presentation of the offer (continued)

Rugged

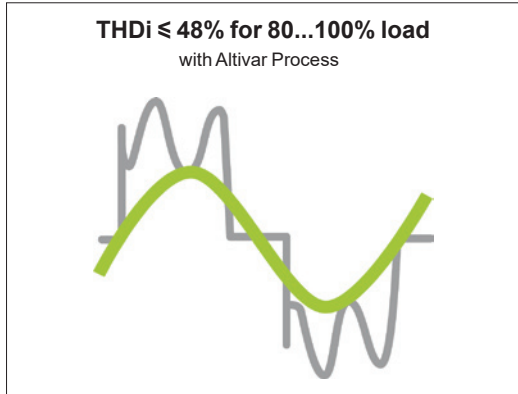
Altivar Process drives are designed to adapt to the harshest environments.

- Ambient operating temperature
- Wall-mounting drives:
 - IP 20/21: up to 160 kW, -15...+50 °C/+ 5...122 °F as standard, up to 60 °C/140 °F with derating; above 160 kW, -10...+40 °C/+ 14...104 °F as standard, up to 60 °C/140 °F with derating
 - IP 55: -15...+40 °C/5...104 °F as standard, up to 50 °C/122 °F with derating
- Floor-standing IP 21/IP 54 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...2,000 m/3,281...6,561 ft with derating of 1% per 100 m/328 ft
- Withstand to harsh environments:
 - Chemical class 3C3 conforming to IEC/EN 60721-3-3 (1)
 - Mechanical class 3S3 conforming to IEC/EN 60721-3-3 (1)
 - Electronic cards with protective coating
- Protection to suit requirements:
 - IP 00 for mounting in an enclosure, depending on the model
 - IP 20/21/UL type 1 for wall mounting in a plant room and in an enclosure
 - IP 55 for wall mounting, with protection against dust and water jets
 - Floor-standing IP 21
 - Floor-standing IP 54, with protection against dust and water jets

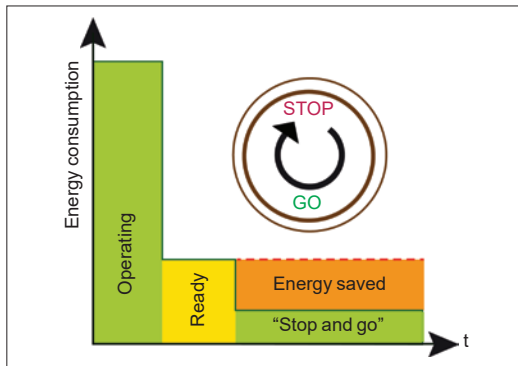
A large number of external options can be combined with the Altivar 600:

- Line chokes and passive filters (see page 2/40)
- Additional EMC input filters for reducing conducted emissions on the line (see pages 2/37 to 2/39)
- Dv/dt filters and sinus filters for long cable runs or to remove the need for shielding (see pages 2/41 to 2/45)
- 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. IP 20/21 UL Type 1 conformity can be achieved by using kits, for drives above 110 kW at 380...480 V and for drives from 2.2 to 90 kW at 500...690 V a supply voltage (see page 2/10)
- Optimized enclosures: A patented flange mounting kit allows to remove the heat generated by the power unit outside the enclosure when the variable speed drive is integrated in a cabinet (see page 2/11)

(1) Altivar Process ATV630C22...C31N4 drives are certified as chemical class 3C2 and mechanical class 3S2 conforming to IEC/EN 60721.



Altivar Process drive THDi



"Stop and 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 $\le 48\%$ 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 wall mounting offer
 - Embedded line choke for cabinet integration and floor standing drives solutions
- Passive filter options
 - Low harmonic offer compatible with standard IEEE 519

In addition, thanks to the "stop and 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 and 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 the drive, 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 2/33).

Altivar Process Modular drives have category C3 EMC filters that allow 300 m/984.25 ft of shielded motor cables.

(1) European directive 2002/95/EC Restriction Of Hazardous Substances (applicable in 2016).

(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
- IP 00, IP 20/21, UL type 1; IP 55, IP 54
- IP 00 modules that can be integrated in cabinets with an IP 21 or IP 54 protection degree 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
 - Color code for connections to the removable terminal blocks on the HMI block
 - Long cable for wall mounting and floor standing offer: Up to 150 m with category C3 EMC filter
 - Long cable for cabinet integration: highly efficient integrated motor filters for du/dt and common mode reduction and voltage peak limitation allows motor cable length up to 300 m/984.25 ft with shielded cable (category C3 environment) and 500 m/1640 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.: 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.: temperatures 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:

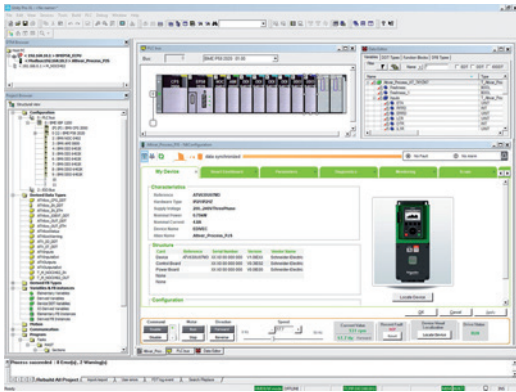
- Process drift detection for installation reliability throughout its entire service life
- Useful system performance information provided by comparing the energy used with the energy produced:
- Typical KPIs:
 - Specific energy consumption
 - kWh/m³
 - kWh/mWc/m³

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.

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, 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)



Altivar Process DTM in Unity Pro

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 Unity Pro software

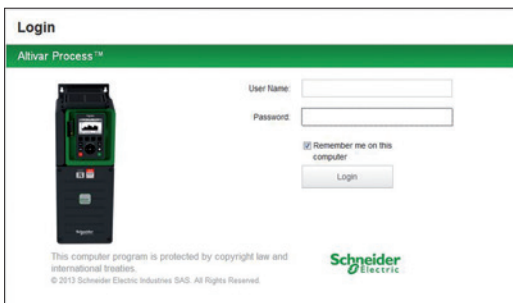
Configuration and runtime tools

- 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:
 - 1: Access to the Customer Care Center application and product data sheet
 - 2: Direct access to description of the functions
 - 3: 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 variable speed drives

- Altivar Process variable speed drives presentation page 2/2
- 200...240 V 50/60 Hz supply, IP 21/UL Type 1 page 2/4
- 380...480 V 50/60 Hz supply, wall-mounting page 2/5
- IP 21/UL Type 1, with integrated category C2 or C3 EMC filter page 2/5
- IP 55, with integrated category C2 or C3 EMC filter page 2/7
- IP 55, with Vario disconnect switch and integrated category C2 or C3 EMC filter page 2/8
- 500...690 V 50/60 Hz supply, IP 00 page 2/9
- 380...440 V 50/60 Hz supply, floor-standing page 2/10
- IP 21, with integrated category C3 EMC filter page 2/10
- IP 54, with integrated category C3 EMC filter page 2/11
- Replacement parts page 2/12
- Accessories page 2/13
- Graphic display terminal page 2/14
- Accessories for graphic display terminal page 2/15
- Web server page 2/16
- DTM libraries and SoMove setup software page 2/17

Options

- Drive/option combinations page 2/18
- I/O expansion modules page 2/22
- Communication buses and networks page 2/24
- Passive filters page 2/32
- EMC filters page 2/37
- AC line chokes page 2/40
- dv/dt filters page 2/41
- Sinus filters page 2/44
- Common mode filters page 2/46

Motor starters

- 200...240 V 50/60 Hz supply page 2/48
- 380...415 V 50/60 Hz supply page 2/49
- 440 V 50/60 Hz supply page 2/51
- 500...690 V 50/60 Hz supply page 2/53

Dimensions

- Drives page 2/54
- Options page 2/58

2



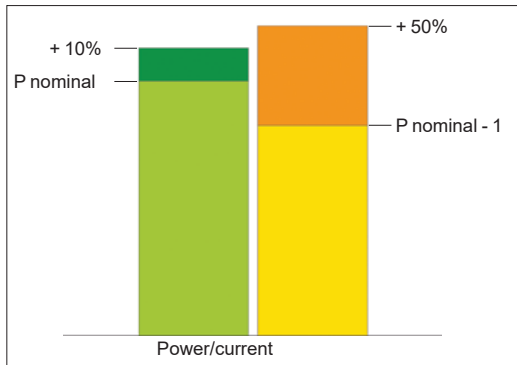
ATV630...N4F, ATV630...M3, ATV630...Y6, ATV650...N4, ATV650...N4E

Extensive offer

The Altivar Process wall mounting and floor standing products offer covers 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 | 0.75 kW...75 kW 1...100 HP | IP 21 UL type 1 | ATV630U07M3...D75M3 |
| 380...480 V | 0.75 kW...315 kW 1...500 HP | IP 21 UL type 1 | ATV630U07N4...C31N4 |
| | | IP 55 | ATV650U07N4...D90N4 |
| | | IP 55 | ATV650U07N4E...D90N4E (1) |
| 380...440 V | 110 kW...315 kW 150...500 HP | IP 21 | ATV630C11N4F...C31N4F |
| | | IP 54 | ATV650C11N4F...C31N4F |
| 500...690 V | 2.2...90 kW 3...125 HP | IP 20 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 2/10)
- 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 2/22):
- I/O expansion:
 - 2 analog inputs
 - 6 digital inputs
 - 2 digital outputs
- With relay output:
 - 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 2/32)
- Additional EMC input filters for reducing conducted emissions on the line (see page 2/37)
- Output filters:
 - dv/dt filters (see page 2/42)
 - Sinus filters (see page 2/44)

Motor starters

Schneider Electric offers combinations of circuit breakers and contactors to be able to use Altivar Process drives in optimum conditions (see page 2/48).

Variable speed drives

Altivar Process

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

Wall-mounting drives

2



ATV630D11M3



ATV630D15M3



ATV630D30M3



ATV630D75M3

| 200...240 V IP 21/UL Type 1 drives (1) | | | | | | | | | | |
|---|-----------------|-----|------------------|-------|----------------|--|--------------------------------|---------------------------------|-----------------|----------------|
| Motor | | | Line supply | | | | Altivar Process | | | |
| Power indicated on rating plate (2) | | | Line current (3) | | Apparent power | Maximum prospective line I _{sc} | 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 on our website www.schneider-electric.com).

(3) Typical value for the indicated motor power and for the maximum prospective line I_{sc}.

(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 IP 00 for mounting in an enclosure. For IP 21 wall mounting, order the IP 21/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

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

Wall-mounting Drives



ATV630D15N4



ATV630D30N4

| 380...480 V IP 21/UL Type 1 drives | | | | | | | | | | |
|---|-----------------|------------------|-------|----------------|------------------------------|-----------------------------|---------------------------------|-------|-------------|---------------|
| Motor | | Line supply | | | | Altivar Process | | | Reference | Weight |
| 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 | | | |
| | | 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 integrated EMC filter | | | | | | | | | | |
| ND | 0.75 | 1 | 1.5 | 1.3 | 1.1 | 50 | 2.2 | 2.4 | ATV630U07N4 | 4.500/9.921 |
| 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 | ATV630U15N4 | 4.500/9.921 |
| 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 | ATV630U22N4 | 4.500/9.921 |
| 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 | ATV630U30N4 | 4.600/10.141 |
| 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 | ATV630U40N4 | 4.600/10.141 |
| 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 | ATV630U55N4 | 4.700/10.362 |
| 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 | ATV630U75N4 | 7.700/16.976 |
| 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 | ATV630D11N4 | 7.700/16.976 |
| 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 | ATV630D15N4 | 13.600/29.983 |
| 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 | ATV630D18N4 | 14.200/31.306 |
| 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 | ATV630D22N4 | 14.300/31.526 |
| 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 | ATV630D30N4 | 28.000/61.729 |
| 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 | ATV630D37N4 | 28.200/62.170 |
| 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 | ATV630D45N4 | 28.700/63.273 |
| 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 it 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 available on www.schneider-electric.com.
- (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 summary tables of possible drive, option, and accessory combinations (see page 2/18).

Variable speed drives

Altivar Process

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

Wall-mounting drives

2



ATV630D55N4



ATV630C25N4

| 380...480 V IP 21/UL Type 1 drives | | | | | | | | | | |
|---|-----------------|------------------|-------|-------------------------|------------------------------|-----------------------------|---------------------------------|-----------|-----------------|-----------------|
| Motor | | Line supply | | | | Altivar Process | | | | |
| Power indicated on rating plate (1) | | Line current (2) | | Apparent power 380 V | Maximum prospective line Isc | Max. continuous current (1) | Max. transient current for 60 s | Reference | 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 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 (5) | 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 (5) | 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 (5) | 82.000/180.779 |
| HD | 132 | 200 | 237 | 213 | 161.4 | 50 | 250 | 375 | | |
| ND | 220 | 350 | 397 | 324 | 247 | 50 | 427 | 470 | ATV630C22N4 (5) | 163.000/359.353 |
| HD | 160 | 250 | 296 | 246 | 187 | 50 | 302 | 453 | | |
| ND | 250 | 400 | 451 | 366 | 279 | 50 | 481 | 529 | ATV630C25N4 (5) | 207.000/456.357 |
| HD | 220 | 300 | 365 | 301 | 229 | 50 | 387 | 581 | | |
| ND | 315 | 500 | 569 | 461 | 351 | 50 | 616 | 678 | ATV630C31N4 (5) | 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 it 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 available on www.schneider-electric.com.
- (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) Product supplied as IP 00 for mounting in an enclosure. For IP 21/UL Type1 wall mounting, an adaptation kit should be ordered separately (see page 2/11).

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

Variable speed drives

Altivar Process

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

Wall-mounting drives



ATV650D15N4



ATV650D30N4



ATV650D55N4

380...480 V IP 55 drives with category C2 or C3 integrated EMC filter ⁽¹⁾

| Motor | Line supply | | | | Altivar Process | | | | Reference (6) | Weight |
|--|-------------------------------------|-----|------------------|----------------|------------------------------|--------------------------------|---------------------------------|-------|------------------|--------------------|
| | 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 | kg/lb | | |
| | kW | HP | | | | | | | | |
| ND: Normal duty (4) | | | | | | | | | | |
| HD: Heavy duty (5) | | | | | | | | | | |
| THDi ≤ 44% at 100% load in Normal duty (4) | | | | | | | | | | |
| ND | 0.75 | 1 | 1.5 | 1.3 | 1.1 | 50 | 2.2 | 2.4 | ATV650U07N4 | 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 | ATV650U15N4 | 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 | ATV650U22N4 | 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 | ATV650U30N4 | 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 | ATV650U40N4 | 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 | ATV650U55N4 | 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 | ATV650U75N4 | 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 | ATV650D11N4 | 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 | ATV650D15N4 | 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 | ATV650D18N4 | 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 | ATV650D22N4 | 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 | ATV650D30N4 | 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 | ATV650D37N4 | 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 | ATV650D45N4 | 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 | ATV650D55N4 | 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 | ATV650D75N4 | 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 | ATV650D90N4 | 87.000/ 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 on our website www.schneider-electric.com).

(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 2/18).

Variable speed drives

Altivar Process

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

Wall-mounting drives

2



ATV650D15N4E



ATV650D30N4E



ATV650D55N4E

| 380...480 V IP 55 drives with Vario disconnect EMC switch and category C2 or C3 integrated EMC filter (1) | | | | | | | | | | |
|---|------------------|-------|-------------------------|--|--------------------------------|---------------------------------|-----------------|--------|--------------|--------------------|
| Motor Power indicated on rating plate (2) | Line supply | | | | | | Altivar Process | | | |
| | Line current (3) | | Apparent power 380 V | Maximum prospective line I _{sc} | Maximum continuous current (2) | Max. transient current for 60 s | Reference (6) | Weight | | |
| | 380 V | 480 V | | | | | | | kVA | kA |
| 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 on our website www.schneider-electric.com).

(3) Typical value for the indicated motor power and for the maximum prospective line I_{sc}.

(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 2/18).

Variable speed drives

Altivar Process

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

Wall-mounting drives



ATV630U22Y6



ATV630D37Y6

500...690 V IP 00 drives (1)

| Motor | | Line supply | | | | Altivar Process | | Reference | Weight | | | |
|---|-----------------|------------------|-------|----------------|------------------------------|-----------------------------|---------------------------------|-----------|--------|-------|-------------|----------------|
| 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 | | | | | |
| 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 IP 00 for mounting in an enclosure. For IP 20/UL Type1 wall mounting, an adaptation kit should be ordered separately (see page 2/11).

(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 it 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 available on www.schneider-electric.com.

(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

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

Floor-standing drives

2



ATV630C16N4F

| 380...440 V IP 21 drives with category C3 integrated EMC filter (5) | | | | | | | | | | |
|---|-----------------|------------------|-------|----------------|------------------------------|--------------------------------|---------------------------------|-----------|--------------|---------------------|
| Motor | | Line supply | | | | Altivar Process | | | | |
| Power indicated on rating plate (1) | | Line current (2) | | Apparent power | Maximum prospective line Isc | Maximum continuous current (1) | Max. transient current for 60 s | Reference | Weight | |
| | | 380 V | 400 V | | | | | | | 380 V |
| ND: | Normal duty (3) | | | | | | | | | |
| HD: | Heavy duty (4) | | | | | | | | | |
| | kW | HP | A | A | kVA | kA | A | A | kg/lb | |
| THDi ≤ 44% at 100% load in Normal duty (3) | | | | | | | | | | |
| 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) 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 on our website www.schneider-electric.com).

(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) 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.

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

Variable speed drives

Altivar Process

Three-phase supply voltage: 380...440 V 50/60 Hz,
Floor-standing drives

ATV650C31N4F

| 380...440 V IP 54 drives with switch and category C3 integrated EMC filter ⁽⁵⁾ | | | | | | | | | | |
|---|----------------------------|-----------------------------|-------|----------------|------------------------------|---|---------------------------------|-----------|--------------|---------------------|
| Motor | | Line supply | | | | Altivar Process | | | | |
| Power indicated on rating plate ⁽¹⁾ | | Line current ⁽²⁾ | | Apparent power | Maximum prospective line Isc | Maximum continuous current ⁽¹⁾ | Max. transient current for 60 s | Reference | Weight | |
| | | 380 V | 400 V | | | | | | | |
| ND: | Normal duty ⁽³⁾ | | | | | | | | | |
| HD: | Heavy duty ⁽⁴⁾ | | | | | | | | | |
| kW | HP | A | A | kVA | kA | A | A | | kg/lb | |
| THDi ≤ 44% at 100% load in Normal duty ⁽³⁾ | | | | | | | | | | |
| 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⁾ 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 on our website www.schneider-electric.com).

⁽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⁾ 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.

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

F19_FAN_CPSC17001



VX5VPS3002

F19_FAN_CPSC17002



VX5VPS5002

Replacement parts

| Description | For drive | Reference | Weight kg/lb |
|--|---|---------------------|-----------------|
| Fan kit for wall-mounting drives | | | |
| Power fan for IP 21 and IP 55 drives, bracket, instruction sheets | ATV630U07M3...U40M3, ATV630U07N4...U55N4, ATV650U07N4...U55N4, ATV650U07N4E...U55N4E | VX5VPS1001 | – |
| | ATV630U55M3, ATV630U75N4...D11N4, ATV650U75N4...D11N4, ATV650U75N4E...D11N4E | VX5VPS2001 | – |
| | ATV630U75M3...D11M3, ATV630D15N4...D22N4, ATV650D15N4...D22N4, ATV650D15N4E...D22N4E | VX5VPS3001 | – |
| | ATV630U22Y6...D30Y6 | VX5VPS3002 | – |
| | ATV630D15M3...D22M3, ATV630D30N4...D45N4, ATV650D30N4...D45N4, ATV650D30N4E...D45N4E | VX5VPS4001 | – |
| | ATV630D30M3...D45M3, ATV630D30M3C...D45M3C, ATV630D55N4...D90N4, ATV650D55N4...D90N4, ATV650D55N4E...D90N4E | VX5VPS5001 | – |
| | ATV630D37Y6...D90Y6 | VX5VPS5002 | – |
| | ATV630D55M3C...D75M3C, ATV630C11N4...C16N4 | VX5VPS6001 | – |
| | ATV630C22N4...C31N4 | VZ3V1212 (1) | – |
| | | VZ3V1213 (2) | – |
| Control fan for IP 55 drives, bracket, instruction sheets | ATV650U07N4...D22N4, ATV650U07N4E...D22N4E | VX5VP50A001 | – |
| | ATV650D30N4...D90N4, ATV650D30N4E...D90N4E | VX5VP50BC001 | – |
| Fan kit for floor-standing drives | | | |
| Power fan, bracket, instruction sheets | ATV630C11N4F...C31N4F, ATV650C11N4F...C31N4F | VX5VPM001 | – |
| Door fan, bracket, instruction sheets | ATV630C11N4F...C31N4F, ATV650C11N4F...C31N4F | VX5VPM002 | – |
| Enclosure grid filter pads | | | |
| 223 x 223 mm/ 8.78 x 8.78 in. enclosure grid filter pad | ATV650C11N4F...C16N4F | NSYCAF223 | – |
| 291 x 291 mm/ 11.46 x 11.46 in. enclosure grid filter pad | ATV650C20N4F...C31N4F | NSYCAF291 | – |

(1) Fan power electronic 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.

F19_ACC_CPSCCT7009



VW3A95116

Accessories for flange-mounting

| Description | For use with | Enclosure max.height (mm/in.) | Enclosure max. width (mm/in.) | Reference | Weight kg/lb |
|---|--|-------------------------------|-------------------------------|-------------|--------------|
| Mounting bracket for flange-mounting kit | NSYPTDS1, NSYPTDS2, NSYPTDS3 | – | – | NSYAEFPFPTD | – |
| Flange-mounting kit for separate air flow (1) | ATV630U07M3...U40M3, ATV630U07N4...U55N4 | 360/14.17 | 235/9.25 | NSYPTDS1 | – |
| | ATV630U55M3, ATV630U75N4...D11N4 | 420/16.54 | 265/10.43 | NSYPTDS2 | – |
| | ATV630U75M3...D11M3, ATV630D15N4...D22N4 | 555/21.85 | 295/11.61 | NSYPTDS3 | – |
| | ATV630D15M3...D22M3, ATV630D30N4...D45N4 | 800/31.50 | 385/15.16 | NSYPTDS4 | – |
| | ATV630D30M3...D45M3, ATV630D55N4...D90N4 | 975/38.39 | 427/16.81 | NSYPTDS5 | – |
| | ATV630C11N4...C16N4, ATV630D55M3...D75M3 | – | – | VW3A95116 | – |
| | ATV630C22N4 | – | – | VW3A9513 | – |
| ATV630C25N4, ATV630C31N4 | – | – | VW3A9514 | – | |

F19_ACC_CPSCCT7006



VW3A9705

IP 20 and IP 21/UL Type 1 conformity kits

| Description | For use with | Reference | Weight kg/lb |
|--------------------------------|--|-----------|--------------|
| IP 20/UL Type 1 conformity kit | ATV630U22Y6...D30Y6 | VW3A9705 | – |
| | ATV630D37Y6...D90Y6 | VW3A9706 | – |
| IP 21/UL Type 1 conformity kit | ATV630D55M3...D75M3, ATV630C11N4...C16N4 | VW3A9704 | – |
| UL Type 1 conformity kit | ATV630C22N4 | VW3A9212 | – |
| | ATV630C25N4, ATV630C31N4 | VW3A9213 | – |

IP 31 conformity kits

| Description | For use with | Reference | Weight kg/lb |
|----------------------|--------------------------|-----------|--------------|
| IP 31 conformity kit | ATV630C22N4 | VW3A9112 | – |
| | ATV630C25N4, ATV630C31N4 | VW3A9113 | – |

(1) RUE-2192 patented system.



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



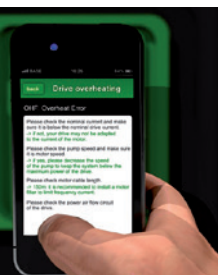
Detected fault: The screen's red backlight is activated automatically



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; please consult our website www.schneider-electric.com)
- 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: IP 65
- 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

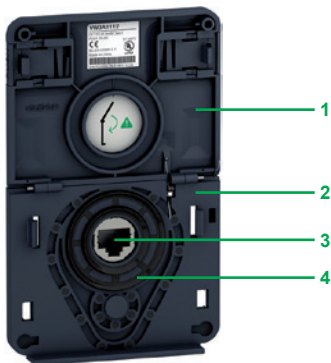
References

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

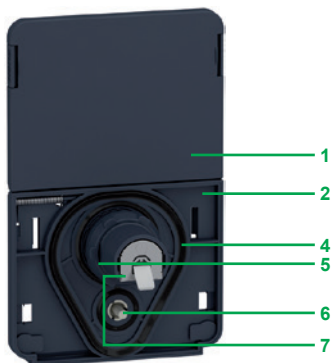
Communication accessory

| Description | Reference | Weight kg/ lb |
|--|-------------|---------------------|
| IP 20 Wi-Fi dongle Remote mounting of the Ethernet port for connection of Wi-Fi equipment (PC, tablet, smartphone, etc.) powered by internal rechargeable battery | TCSEGW13FA0 | 0.350/ 0.772 |

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



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



Remote mounting kit for graphic display terminal (rear panel)

Accessories for graphic display terminal

- Remote mounting kit for mounting on enclosure door with IP 65/UL Type 12 degree of protection as standard

The kit comprises:

- Tightening tool (also sold separately under the reference ZB5AZ905)
- 1 Cover plate to maintain IP 65 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/32.81 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 m/ ft | IP | Reference | Weight kg/ lb |
|--|--------------------|------------------|---------------------|---------------------|
| Remote mounting kit Order with remote-mounting cordset VW3A1104R●●● | – | 65/UL Type 12 | VW3A1112 | – |
| Tightening tool for remote mounting kit | – | – | ZB5AZ905 | 0.016/ 0.035 |
| Remote-mounting cordset equipped with 2 RJ45 connectors | 1/ 3.28 | – | VW3A1104R10 | 0.050/ 0.110 |
| | 3/ 9.84 | – | VW3A1104R30 | 0.150/ 0.331 |
| | 5/ 16.40 | – | VW3A1104R50 | 0.250/ 0.551 |
| | 10/ 32.81 | – | VW3A1104R100 | 0.500/ 1.102 |
| | – | – | TCSXCNAMUM3P | – |

USB/Mini B USB cable

for connecting the display terminal to a PC

| | | | | |
|---|---|----|-----------------|-----------------|
| IP 65 remote mounting kit for Ethernet port (1) Ø 22 RJ45 female/female adapter with seal | – | 65 | VW3A1115 | 0.200/ 0.441 |
|---|---|----|-----------------|-----------------|

| | | | | |
|--|---|----|-----------------|-----------------|
| Set of 10 x IP55 shutters for ATV650: to keep IP55 protection level when the graphic display terminal is removed | – | 55 | VW3A1116 | 0.640/ 1.411 |
|--|---|----|-----------------|-----------------|

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.

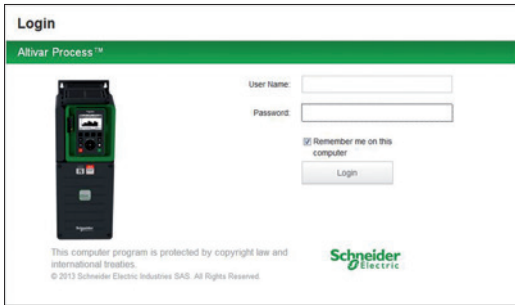
Connection accessories

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

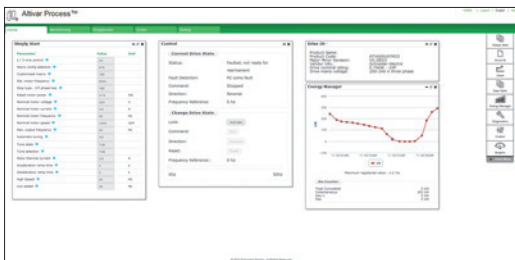
Cordsets (equipped with 2 RJ45 connectors)

| Used for | Length m/ ft | Reference | Weight kg/ lb |
|--------------------|--------------------|--------------------|---------------------|
| Serial link | 0.3/ 0.98 | VW3A8306R03 | 0.025/ 0.055 |
| | 1/ 3.28 | VW3A8306R10 | 0.060/ 0.132 |
| | 3/ 9.84 | VW3A8306R30 | 0.130/ 0.287 |
| | – | – | – |

(1) Used to connect a remote PC to the RJ45 port on an IP 21 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).



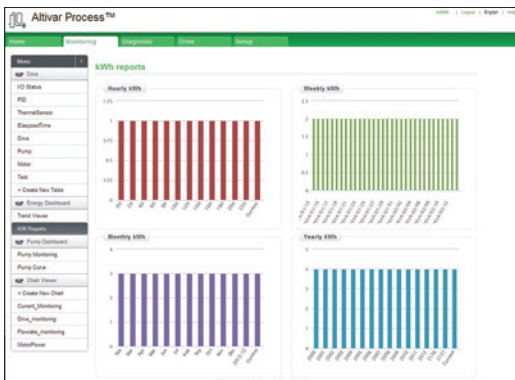
Login screen



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)

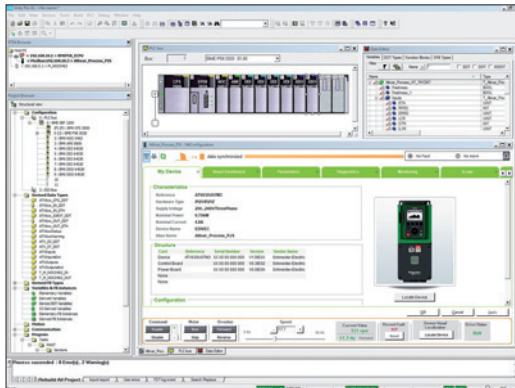
Description

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 warning and detected error 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)



Altivar Process DTM in Unity

DTM

Presentation

Using FDT/DTM technology it is possible to configure, control, and diagnose Altivar Process drives directly in Unity Pro 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
- Drive firmware updates
- Transfer of configuration files from and to 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 Unity Pro:

- 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 Unity Pro 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 Unity Pro
- 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 www.schneider-electric.com.

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:

- A Bluetooth® wireless connection with the Bluetooth/Modbus adapter TCSWAAC13FB
- Ethernet Modbus and Wi-Fi connection with the Wi-Fi dongle TCSEGWB13FA0
- Ethernet Modbus TCP connection

For more information on SoMove setup software, please consult the “SoMove: Setup Software” catalog available on our website www.schneider-electric.com.



SoMove software

Table showing possible combinations of options for ATV630...M3 and ATV630...N4, ATV630...Y6 drives

| Motor | Drive | Wear parts | | | Options | | | | Line chokes | EMC filters | IP 21 kit for EMC filter | dv/dt filters | IP 20 and IP 21 kit for dv/dt filter | Sinus filter | IP 21 kit for sinus filter | Common mode filter (3) |
|---|-------|-------------|---------------------------------|---------------------|-------------------------|-----------|-------------------------|-----------|-------------|-------------|--------------------------|---------------|--------------------------------------|--------------|----------------------------|------------------------|
| | | Fan kit | UL Type 1 (IP21) conformity kit | Flange-mounting kit | Passive filters (50 Hz) | | Passive filters (60 Hz) | | | | | | | | | |
| kW | HP | | | | THDi < 10% | THDi < 5% | THDi < 10% | THDi < 5% | THDi < 48% | | | | | | | |
| Three-phase supply voltage: 200...240 V 50/60 Hz - IP 21/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 | VW3A5306 | VW3A53905 | VW3A5406 | - | 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 (1) | - | VW3A5506 |

| Three-phase supply voltage: 380...480 V 50/60 Hz - IP 21/UL Type 1 | | | | | | | | | | | | | | | | | |
|---|-------|-------------|---------------------------------|---------------------|------------------------------------|-----------------------------------|------------------------------------|-----------------------------------|------------------------|-------------|--------------------------|---------------|--------------------------------------|--------------|----------------------------|------------------------|----------|
| Motor | Drive | Fan kit | UL Type 1 (IP21) conformity kit | Flange-mounting kit | Passive filters (50 Hz) THDi < 10% | Passive filters (50 Hz) THDi < 5% | Passive filters (60 Hz) THDi < 10% | Passive filters (60 Hz) THDi < 5% | Line chokes THDi < 48% | EMC filters | IP 21 kit for EMC filter | dv/dt filters | IP 20 and IP 21 kit for dv/dt filter | Sinus filter | IP 21 kit for sinus filter | Common mode filter (3) | |
| 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 (1) | - | VW3A5506 |
| 160 | 250 | ATV630C16N4 | VX5VPS6001 | VW3A9704 | VW3A95116 | VW3A46116 | VW3A46135 | VW3A46154 | VW3A46173 | - | VW3A4710 | - | VW3A5307 | - | VW3A5407 (1) | - | VW3A5506 |
| 220 | 350 | ATV630C22N4 | VZ3V1212 (2) | VW3A9212 | VW3A9513 | VW3A46118 | VW3A46137 | VW3A46155 | VW3A46174 | - | VW3A4411 | VW3A9601 | VW3A5106 | - | VW3A5209 | - | - |
| 250 | 400 | ATV630C25N4 | VZ3V1212 (2) | VW3A9213 (5) | VW3A9514 | VW3A46119 | VW3A46138 | VW3A46157 | VW3A46176 | - | VW3A4411 | VW3A9601 | VW3A5107 | - | VW3A5210 | - | - |
| 315 | 500 | ATV630C31N4 | VZ3V1212 (2) | VW3A9213 (5) | VW3A9514 | VW3A46116 x 2 | VW3A46135 x 2 | VW3A46153 x 2 | VW3A46172 x 2 | - | VW3A4411 | VW3A9601 | VW3A5107 | - | VW3A5210 | - | - |

| Three-phase supply voltage: 500...690 V 50/60 Hz - IP 00 | | | | | | | | | | | | | | | | |
|---|-------|-------------|---------------------------------|---------------------|------------------------------------|-----------------------------------|------------------------------------|-----------------------------------|------------------------|-------------|--------------------------|---------------------|--------------------------------------|--------------|----------------------------|------------------------|
| Motor | Drive | Fan kit | UL Type 1 (IP21) conformity kit | Flange-mounting kit | Passive filters (50 Hz) THDi < 10% | Passive filters (50 Hz) THDi < 5% | Passive filters (60 Hz) THDi < 10% | Passive filters (60 Hz) THDi < 5% | Line chokes THDi < 48% | EMC filters | IP 21 kit for EMC filter | dv/dt filters | IP 20 and IP 21 kit for dv/dt filter | Sinus filter | IP 21 kit for sinus filter | Common mode filter (3) |
| 2.2 | 3 | ATV630U22Y6 | VX5VPS3002 | VW3A9705 | - | - | - | - | VW3A4551 | (4) | - | VW3A5103 / VW3A5104 | VW3A9612 | VW3A5215 | - | - |
| 3 | - | ATV630U30Y6 | VX5VPS3002 | VW3A9705 | - | - | - | - | VW3A4551 | (4) | - | VW3A5103 / VW3A5104 | VW3A9612 | VW3A5215 | - | - |
| 4 | 5 | ATV630U40Y6 | VX5VPS3002 | VW3A9705 | - | - | - | - | VW3A4551 | (4) | - | VW3A5103 / VW3A5104 | VW3A9612 | VW3A5215 | - | - |
| 5.5 | 7.5 | ATV630U55Y6 | VX5VPS3002 | VW3A9705 | - | - | - | - | VW3A4552 | (4) | - | VW3A5103 / VW3A5104 | VW3A9612 | VW3A5215 | - | - |
| 7.5 | 10 | ATV630U75Y6 | VX5VPS3002 | VW3A9705 | - | - | - | - | VW3A4552 | (4) | - | VW3A5103 / VW3A5104 | VW3A9612 | VW3A5215 | - | - |
| 11 | 15 | ATV630D11Y6 | VX5VPS3002 | VW3A9705 | - | - | - | - | VW3A4553 | (4) | - | VW3A5103 / VW3A5104 | VW3A9612 | VW3A5216 | - | - |
| 15 | 20 | ATV630D15Y6 | VX5VPS3002 | VW3A9705 | - | - | - | - | VW3A4553 | (4) | - | VW3A5104 | VW3A9612 | VW3A5216 | - | - |
| 18.5 | 25 | ATV630D18Y6 | VX5VPS3002 | VW3A9705 | - | - | - | - | VW3A4554 | (4) | - | VW3A5104 | VW3A9612 | VW3A5216 | - | - |
| 22.0 | 30 | ATV630D22Y6 | VX5VPS3002 | VW3A9705 | - | - | - | - | VW3A4554 | (4) | - | VW3A5104 | VW3A9612 | VW3A5216 | - | - |
| 30.0 | 40 | ATV630D30Y6 | VX5VPS3002 | VW3A9705 | - | - | - | - | VW3A4555 | (4) | - | VW3A5104 | VW3A9612 | VW3A5217 | - | - |
| 37.0 | 50 | ATV630D37Y6 | VX5VPS5002 | VW3A9706 | - | - | - | - | VW3A4555 | (4) | - | VW3A5104 | VW3A9612 | VW3A5217 | - | - |
| 45.0 | 60 | ATV630D45Y6 | VX5VPS5002 | VW3A9706 | - | - | - | - | VW3A4555 | (4) | - | VW3A5104 | VW3A9612 | VW3A5218 | - | - |
| 55.0 | 75 | ATV630D55Y6 | VX5VPS5002 | VW3A9706 | - | - | - | - | VW3A4556 | (4) | - | VW3A5104 | VW3A9612 | VW3A5218 | - | - |
| 75.0 | 100 | ATV630D75Y6 | VX5VPS5002 | VW3A9706 | - | - | - | - | VW3A4556 | (4) | - | VW3A5104 | VW3A9612 | VW3A5219 | - | - |
| 90.0 | 125 | ATV630D90Y6 | VX5VPS5002 | VW3A9706 | - | - | - | - | VW3A4556 | (4) | - | VW3A5104 | VW3A9612 | VW3A5219 | - | - |

Pages 2/2 2/10 2/11 2/11 2/33 2/34 2/35 2/36

(1) 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.
 (2) Fan power electronic for drive, with 1 unit for ATV630C22N4, 2 units for ATV630C25N4, and 3 units for ATV630C31N4.
 (3) This combination table is given for a maximum length of 300 m with an unshielded cable. For other lengths, or for shielded cables, see page 2/46.

2/40 2/37 2/39 2/42 2/43 2/44 2/45 2/46

(4) Please, consult our Customer Care Center.
 (5) Without braking resistor

Table showing possible combinations of options for ATV650●●●N4 and ATV650●●●N4E drives

| Motor kW HP | Drive | Wear parts | | | Options | | | | EMC filters | IP 21 kit for EMC filter | dv/dt filters | IP 20 and IP 21 kit for dv/dt filter | Sinus filter | IP 21 kit for sinus filter | Common mode filter (5) | |
|---|-------|-------------|--------------------------|---------------------|-------------------------|---------------|-------------------------|---------------|---------------|--------------------------|---------------|--------------------------------------|--------------|----------------------------|------------------------|----------|
| | | Fan kit | UL Type 1 conformity kit | Flange-mounting kit | Passive filters (50 Hz) | | Passive filters (60 Hz) | | | | | | | | | |
| | | | | | THDi < 10% | THDi < 5% | THDi < 10% | THDi < 5% | | | | | | | | |
| Three-phase supply voltage: 380...480 V 50/60 Hz - IP 55 | | | | | | | | | | | | | | | | |
| 0.75 | 1 | ATV650U07N4 | VX5VPS1001 | – | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4701 | – | VW3A5301 | – | VW3A5401 (1) | – | VW3A5502 |
| 1.5 | 2 | ATV650U15N4 | VX5VPS1001 | – | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4701 | – | VW3A5301 | – | VW3A5401 (1) | – | VW3A5502 |
| 2.2 | 3 | ATV650U22N4 | VX5VPS1001 | – | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4701 | – | VW3A5301 | – | VW3A5401 (1) | – | VW3A5502 |
| 3 | – | ATV650U30N4 | VX5VPS1001 | – | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4702 | – | VW3A5302 | – | VW3A5402 (1) | – | VW3A5502 |
| 4 | 5 | ATV650U40N4 | VX5VPS1001 | – | – | VW3A46102 (1) | VW3A46121 (1) | VW3A46140 (1) | VW3A46159 (1) | VW3A4702 | – | VW3A5302 | – | VW3A5402 (1) | – | VW3A5502 |
| 5.5 | 7.5 | ATV650U55N4 | VX5VPS1001 | – | – | VW3A46102 (1) | VW3A46121 (1) | VW3A46140 (1) | VW3A46159 (1) | VW3A4702 | – | VW3A5302 | – | VW3A5402 (1) | – | VW3A5502 |
| 7.5 | 10 | ATV650U75N4 | VX5VPS2001 | – | – | VW3A46103 (1) | VW3A46122 (1) | VW3A46141 (1) | VW3A46160 (1) | VW3A4703 | – | VW3A5303 | – | VW3A5403 (1) | – | VW3A5502 |
| 11 | 15 | ATV650D11N4 | VX5VPS2001 | – | – | VW3A46104 (1) | VW3A46123 (1) | VW3A46142 (1) | VW3A46161 (1) | VW3A4703 | – | VW3A5303 | – | VW3A5403 (1) | – | VW3A5502 |
| 15 | 20 | ATV650D15N4 | VX5VPS3001 | – | – | VW3A46105 (1) | VW3A46124 (1) | VW3A46143 (1) | VW3A46162 (1) | VW3A4703 | – | VW3A5304 | – | VW3A5404 (1) | – | VW3A5504 |
| 18.5 | 25 | ATV650D18N4 | VX5VPS3001 | – | – | VW3A46106 (1) | VW3A46125 (1) | VW3A46144 (1) | VW3A46163 (1) | VW3A4704 | – | VW3A5304 | – | VW3A5404 (1) | – | VW3A5504 |
| 22 | 30 | ATV650D22N4 | VX5VPS3001 | – | – | VW3A46107 (1) | VW3A46126 (1) | VW3A46145 (1) | VW3A46164 (1) | VW3A4704 | – | VW3A5304 | – | VW3A5404 (1) | – | VW3A5504 |
| 30 | 40 | ATV650D30N4 | VX5VPS4001 | – | – | VW3A46108 (1) | VW3A46127 (1) | VW3A46146 (1) | VW3A46165 (1) | VW3A4705 | – | VW3A5305 | – | VW3A5405 (1) | – | VW3A5504 |
| 37 | 50 | ATV650D37N4 | VX5VPS4001 | – | – | VW3A46109 (1) | VW3A46128 (1) | VW3A46147 (1) | VW3A46166 (1) | VW3A4706 | – | VW3A5305 | – | VW3A5405 (1) | – | VW3A5504 |
| 45 | 60 | ATV650D45N4 | VX5VPS4001 | – | – | VW3A46110 (1) | VW3A46129 (1) | VW3A46148 (1) | VW3A46167 (1) | VW3A4706 | – | VW3A5305 | – | VW3A5405 (1) | – | VW3A5504 |
| 55 | 75 | ATV650D55N4 | VX5VPS5001 | – | – | VW3A46111 (1) | VW3A46130 (1) | VW3A46149 (1) | VW3A46168 (1) | VW3A4707 | – | VW3A5306 | – | VW3A5406 (1) | – | VW3A5504 |
| 75 | 100 | ATV650D75N4 | VX5VPS5001 | – | – | VW3A46112 (1) | VW3A46131 (1) | VW3A46150 (1) | VW3A46169 (1) | VW3A4708 | – | VW3A5306 | – | VW3A5406 (1) | – | VW3A5504 |
| 90 | 125 | ATV650D90N4 | VX5VPS5001 | – | – | VW3A46113 (1) | VW3A46132 (1) | VW3A46151 (1) | VW3A46170 (1) | VW3A4708 | – | VW3A5306 | – | VW3A5406 (1) | – | VW3A5504 |

Three-phase supply voltage: 380...480 V 50/60 Hz - IP 55 with Vario disconnect switch

| | | | | | | | | | | | | | | | | |
|--------------|-----|--------------|------------|------|------|---------------|---------------|---------------|---------------|----------|------|----------|------|--------------|------|----------|
| 0.75 | 1 | ATV650U07N4E | VX5VPS1001 | – | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4701 | – | VW3A5301 | – | VW3A5401 (1) | – | VW3A5502 |
| 1.5 | 2 | ATV650U15N4E | VX5VPS1001 | – | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4701 | – | VW3A5301 | – | VW3A5401 (1) | – | VW3A5502 |
| 2.2 | 3 | ATV650U22N4E | VX5VPS1001 | – | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4701 | – | VW3A5301 | – | VW3A5401 (1) | – | VW3A5502 |
| 3 | – | ATV650U30N4E | VX5VPS1001 | – | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4702 | – | VW3A5302 | – | VW3A5402 (1) | – | VW3A5502 |
| 4 | 5 | ATV650U40N4E | VX5VPS1001 | – | – | VW3A46102 (1) | VW3A46121 (1) | VW3A46140 (1) | VW3A46159 (1) | VW3A4702 | – | VW3A5302 | – | VW3A5402 (1) | – | VW3A5502 |
| 5.5 | 7.5 | ATV650U55N4E | VX5VPS1001 | – | – | VW3A46102 (1) | VW3A46121 (1) | VW3A46140 (1) | VW3A46159 (1) | VW3A4702 | – | VW3A5302 | – | VW3A5402 (1) | – | VW3A5502 |
| 7.5 | 10 | ATV650U75N4E | VX5VPS2001 | – | – | VW3A46103 (1) | VW3A46122 (1) | VW3A46141 (1) | VW3A46160 (1) | VW3A4703 | – | VW3A5303 | – | VW3A5403 (1) | – | VW3A5502 |
| 11 | 15 | ATV650D11N4E | VX5VPS2001 | – | – | VW3A46104 (1) | VW3A46123 (1) | VW3A46142 (1) | VW3A46161 (1) | VW3A4703 | – | VW3A5303 | – | VW3A5403 (1) | – | VW3A5502 |
| 15 | 20 | ATV650D15N4E | VX5VPS3001 | – | – | VW3A46105 (1) | VW3A46124 (1) | VW3A46143 (1) | VW3A46162 (1) | VW3A4703 | – | VW3A5304 | – | VW3A5404 (1) | – | VW3A5504 |
| 18.5 | 25 | ATV650D18N4E | VX5VPS3001 | – | – | VW3A46106 (1) | VW3A46125 (1) | VW3A46144 (1) | VW3A46163 (1) | VW3A4704 | – | VW3A5304 | – | VW3A5404 (1) | – | VW3A5504 |
| 22 | 30 | ATV650D22N4E | VX5VPS3001 | – | – | VW3A46107 (1) | VW3A46126 (1) | VW3A46145 (1) | VW3A46164 (1) | VW3A4704 | – | VW3A5304 | – | VW3A5404 (1) | – | VW3A5504 |
| 30 | 40 | ATV650D30N4E | VX5VPS4001 | – | – | VW3A46108 (1) | VW3A46127 (1) | VW3A46146 (1) | VW3A46165 (1) | VW3A4705 | – | VW3A5305 | – | VW3A5405 (1) | – | VW3A5504 |
| 37 | 50 | ATV650D37N4E | VX5VPS4001 | – | – | VW3A46109 (1) | VW3A46128 (1) | VW3A46147 (1) | VW3A46166 (1) | VW3A4706 | – | VW3A5305 | – | VW3A5405 (1) | – | VW3A5504 |
| 45 | 60 | ATV650D45N4E | VX5VPS4001 | – | – | VW3A46110 (1) | VW3A46129 (1) | VW3A46148 (1) | VW3A46167 (1) | VW3A4706 | – | VW3A5305 | – | VW3A5405 (1) | – | VW3A5504 |
| 55 | 75 | ATV650D55N4E | VX5VPS5001 | – | – | VW3A46111 (1) | VW3A46130 (1) | VW3A46149 (1) | VW3A46168 (1) | VW3A4707 | – | VW3A5306 | – | VW3A5406 (1) | – | VW3A5504 |
| 75 | 100 | ATV650D75N4E | VX5VPS5001 | – | – | VW3A46112 (1) | VW3A46131 (1) | VW3A46150 (1) | VW3A46169 (1) | VW3A4708 | – | VW3A5306 | – | VW3A5406 (1) | – | VW3A5504 |
| 90 | 125 | ATV650D90N4E | VX5VPS5001 | – | – | VW3A46113 (1) | VW3A46132 (1) | VW3A46151 (1) | VW3A46170 (1) | VW3A4708 | – | VW3A5306 | – | VW3A5406 (1) | – | VW3A5504 |
| Pages | 2/2 | 2/10 | 2/11 | 2/11 | 2/33 | 2/34 | 2/35 | 2/36 | | 2/37 | 2/39 | 2/42 | 2/43 | 2/44 | 2/45 | 2/46 |

I/O expansion modules

| Description | Reference | Page |
|------------------------------------|-----------|------|
| Module with digital and analog I/O | VW3A3203 | 2/23 |
| Module with relay outputs | VW3A3204 | 2/23 |

List of communication modules (2)

| Description | Reference | Page |
|---|-----------|------|
| EtherNet/IP and Modbus TCP dual port | VW3A3720 | 2/27 |
| EtherNet/IP, Modbus TCP and MD-Link dual port | VW3A3721 | 2/27 |
| CANopen Daisy chain | VW3A3608 | 2/28 |
| CANopen SUB-D | VW3A3618 | 2/28 |
| CANopen screw terminal block | VW3A3628 | 2/29 |
| PROFINET | VW3A3627 | 2/30 |
| PROFIBUS DP V1 | VW3A3607 | 2/30 |
| DeviceNet | VW3A3609 | 2/31 |
| BACnet MS/TP | VW3A3725 | 2/31 |

(1) When used with ATV650U07N4/N4E...D90N4/N4E drives, the filter must be mounted in a separate enclosure to maintain IP 55 protection for the installation.

(2) For module compatibility table, see opposite.

Module compatibility table

| Module type | Digital and analog I/O VW3A3203 (3) | Relay outputs VW3A3204 (3) | Communication VW3A372● and VW3A36●● (4) |
|-------------------------------------|-------------------------------------|----------------------------|---|
| Digital and analog I/O VW3A3203 | | | |
| Relay outputs VW3A3204 | | | |
| Communication VW3A372● and VW3A36●● | | | |

 Combination possible

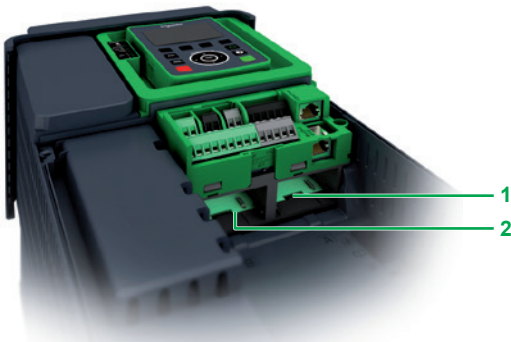
 Combination impossible

(3) Maximum combination involving two types of module is 2.

(4) Maximum combination involving two types of module is 1.

(5) This combination table is given for a maximum length of 300 m with an unshielded cable. For other lengths, or for shielded cables, see page 2/46.

PF140354



2

I/O expansion modules

Presentation

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

2 expansion modules are available:

- Module with digital and analog I/O
- Module with relay outputs

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

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

Module with digital and analog I/O

- 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
- 14-bit resolution
- 6 x 24 V $\bar{}$ positive or negative digital inputs
- Sampling: 1 ms max
- 2 assignable digital outputs
- 2 removable spring terminal blocks

Module with relay outputs

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

Note: Digital and analog I/O modules and relay output modules 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 digital and analog I/O modules or 2 relay output modules).

PF130896



VW3A3203

PF130897



VW3A3204

I/O expansion modules

| Description | I/O type | | | | Reference | Weight kg/ lb |
|------------------------------------|-------------------|--------------------|------------------|------------------|-----------|---------------------|
| | Digital inputs | Digital outputs | Analog inputs | Relay outputs | | |
| Module with digital and analog I/O | 6 | 2 | 2 (1) | – | VW3A3203 | – |
| Module with relay outputs | – | – | – | 3 (2) | VW3A3204 | – |

(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. When configured as PTC probe inputs, they must never be used to monitor the temperature of an ATEX motor for applications in explosive atmospheres. Please refer to the ATEX guide on our website www.schneider-electric.com.

(2) NO contacts.

Presentation

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

- 1 Ethernet 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 PLC). 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, Unity 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 the Ethernet port mean that Altivar Process drives can be integrated into Schneider Electric solutions.

■ 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 Unity setup software

The detailed specifications for the Ethernet or serial communication ports, and the Modbus and Modbus TCP protocols are available on our website www.schneider-electric.com.

Description

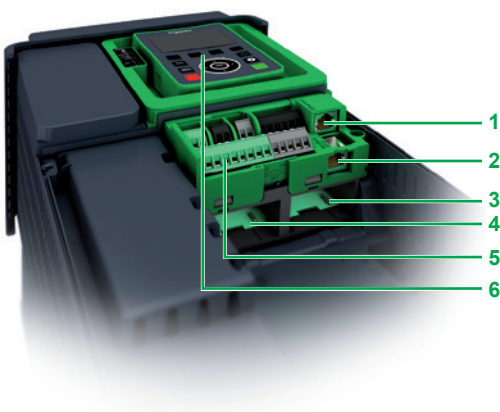
- 1 RJ45 Ethernet port
- 2 RJ45 serial port
- 3 Slot A for I/O expansion or communication modules
- 4 Slot B for I/O expansion modules
- 5 Removable screw terminal blocks for 24 V $\bar{\text{m}}$ power supply and integrated I/O
- 6 RJ45 serial link for HMI (remote graphic display terminal, Magelis terminal, 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 digital and analog I/O modules or 2 relay output modules).

The drives can take 1 digital and analog I/O module and 1 relay output 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 www.schneider-electric.com.

PF140354



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
- 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

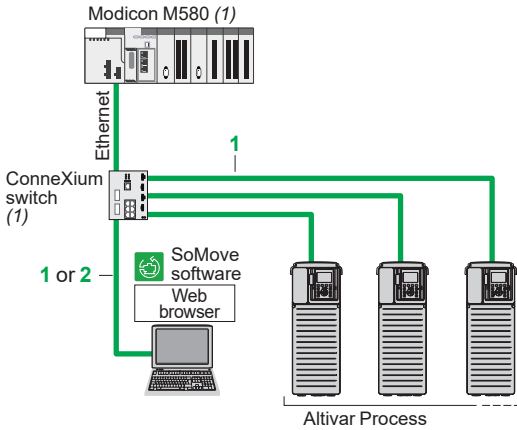
Altivar Process drives offer a high degree of interfacing flexibility with the possibility to assign, by configuration, the different control sources (I/O, communication networks, and HMI terminal) to control functions in order to meet the requirements of complex applications.

Network services and parameters are configured using the SoMove drive setup software, or using Unity software if the drive is being integrated into a PlantStruXure architecture.

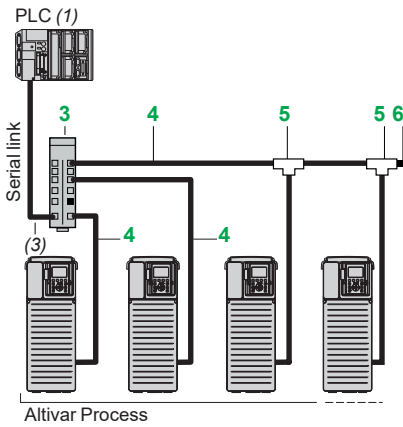
Communication is monitored according to the specific criteria for each protocol. However, regardless of the protocol, it is possible to configure how the drive responds to a detected communication interruption, as follows:

- 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

2



Example of Ethernet architecture



Example of serial link architecture

Integrated Ethernet port

| Description | Item | Length m/ft | Unit reference | Weight kg/lb |
|--|------|-------------|----------------|--------------|
| ConneXium cordsets (2) | | | | |
| Straight shielded twisted pair cables equipped with 2 RJ45 connectors conforming to EIA/TIA-568 category 5 and IEC 11801/EN 50173-1, class D | 1 | 2/6.56 | 490NTW00002 | – |
| | | 5/16.40 | 490NTW00005 | – |
| | | 12/39.37 | 490NTW00012 | – |
| Crossover shielded twisted pair cables equipped with 2 RJ45 connectors conforming to EIA/TIA-568 category 5 and IEC 11801/EN 50173-1, class D | 2 | 5/16.40 | 490NTC00005 | – |
| | | 15/49.21 | 490NTC00015 | – |
| Straight shielded twisted pair cables equipped with 2 RJ45 connectors conforming to UL and CSA 22.1 | 1 | 2/6.56 | 490NTW00002U | – |
| | | 5/16.40 | 490NTW00005U | – |
| | | 12/39.37 | 490NTW00012U | – |
| Crossover shielded twisted pair cables equipped with 2 RJ45 connectors conforming to UL and CSA 22.1 | 2 | 5/16.40 | 490NTC00005U | – |
| | | 15/49.21 | 490NTC00015U | – |

Integrated serial port

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

(1) Please refer to the "Modicon automation platform" catalogs on our website www.schneider-electric.com.
 (2) Also exist in 40 and 80 m/131 and 262 ft lengths. For other ConneXium connection accessories, please consult our website www.schneider-electric.com.
 (3) Cable depends on the PLC.
 (4) Sold in lots of 2.

Variable speed drives

Altivar Process

Communication buses and networks

Option: Communication modules

PF130914A



VW3A3720

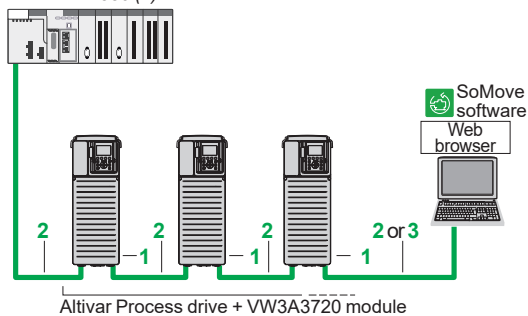
EtherNet/IP and Modbus TCP networks (1)

| Description | Item | Length m/ ft | Unit reference | Weight kg/ lb |
|---|------|--------------------|-------------------|---------------------|
| Communication module | | | | |
| EtherNet/IP and Modbus TCP dual port module 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 | 1 | – | VW3A3720 | 0.020/ 0.044 |
| EtherNet/IP, Modbus TCP, and MD-Link dual port module 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 | 4 | – | VW3A3721 | 0.020/ 0.044 |

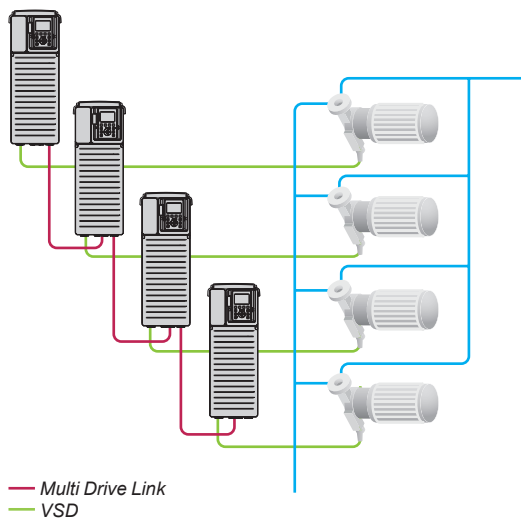
ConneXium cordsets (3)

| | | | | |
|---|---|--------------|--------------|---|
| Straight shielded twisted pair cables equipped with 2 RJ45 connectors conforming to EIA/TIA-568 category 5 and IEC 11801/EN 50173-1, class D | 2 | 2/ 6.56 | 490NTW00002 | – |
| | | 5/ 16.40 | 490NTW00005 | – |
| | | 12/ 39.37 | 490NTW00012 | – |
| Crossover shielded twisted pair cables equipped with 2 RJ45 connectors conforming to EIA/TIA-568 category 5 and IEC 11801/EN 50173-1, class D | 3 | 5/ 16.40 | 490NTC00005 | – |
| | | 15/ 49.21 | 490NTC00015 | – |
| Straight shielded twisted pair cables equipped with 2 RJ45 connectors conforming to UL and CSA 22.1 | 2 | 2/ 6.56 | 490NTW00002U | – |
| | | 5/ 16.40 | 490NTW00005U | – |
| | | 12/ 39.37 | 490NTW00012U | – |
| Crossover shielded twisted pair cables equipped with 2 RJ45 connectors conforming to UL and CSA 22.1 | 3 | 5/ 16.40 | 490NTC00005U | – |
| | | 15/ 49.21 | 490NTC00015U | – |

Modicon M580 (2)



Example of connection on an EtherNet/IP network



(1) Altivar Process drives can only take one communication module.
 (2) Please refer to the "M580 automation platform" catalog on our website www.schneider-electric.com.
 (3) Also exist in 40 and 80 m/131 and 262 ft lengths. For other ConneXium connection accessories, please consult our website www.schneider-electric.com.

Variable speed drives

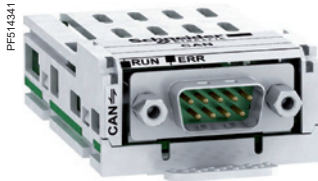
Altivar Process

Communication buses and networks

Option: Communication modules

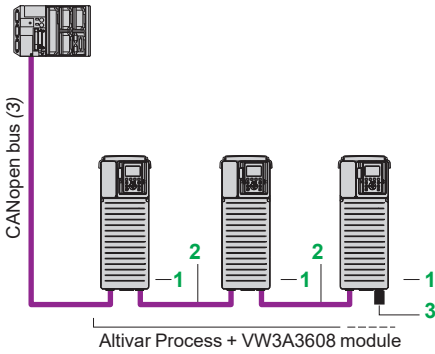


VW3A3608



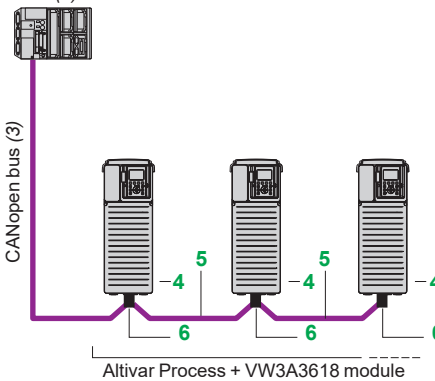
VW3A3618

PLC (2)



Optimized solution for daisy chain connection to the CANopen bus

PLC (2)



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

CANopen bus (1)

| Description | Item | Length m/ ft | Unit reference | Weight kg/ lb |
|---|------|--------------------|-------------------|---------------------|
| Communication module | | | | |
| CANopen Daisy chain module Ports: 2 RJ45 connectors | 1 | - | VW3A3608 | - |

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

| | | | | |
|--|---|--------------|---------------|-----------------|
| CANopen cordsets equipped with 2 RJ45 connectors | 2 | 0.3/ 0.98 | VW3CANCARR03 | 0.050/ 0.110 |
| | | 1/ 3.28 | VW3CANCARR1 | 0.500/ 1.102 |
| CANopen line terminator for RJ45 connector | 3 | - | TCSCAR013M120 | - |

Communication module

| | | | | |
|--|---|---|----------|---|
| CANopen SUB-D module Ports: 1 x 9-way male SUB-D connector | 4 | - | VW3A3618 | - |
|--|---|---|----------|---|

Connection to SUB-D connector

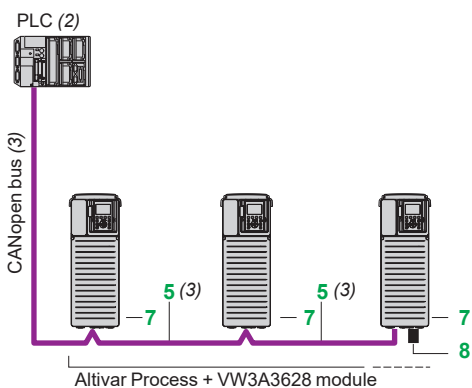
| | | | | |
|--|---|----------------|-------------|-------------------|
| CANopen cables (3) (4) Standard cable, C€ mark Low smoke zero halogen. Flame-retardant (IEC 60332-1) | 5 | 50/ 164.04 | TSXCANCA50 | 4.930/ 10.869 |
| | | 100/ 328.08 | TSXCANCA100 | 8.800/ 19.401 |
| | | 300/ 984.25 | TSXCANCA300 | 24.560/ 54.145 |
| CANopen cables (3) (4) UL certification, C€ mark Flame-retardant (IEC 60332-2) | 5 | 50/ 164.04 | TSXCANCB50 | 3.580/ 7.893 |
| | | 100/ 328.08 | TSXCANCB100 | 7.840/ 17.284 |
| | | 300/ 984.25 | TSXCANCB300 | 21.870/ 48.215 |
| CANopen cables (3) (4) Cable for harsh environments or mobile installations, C€ mark Low smoke zero halogen Flame-retardant (IEC 60332-1) | 5 | 50/ 164.04 | TSXCANCD50 | 3.510/ 7.738 |
| | | 100/ 328.08 | TSXCANCD100 | 7.770/ 17.130 |
| | | 300/ 984.25 | TSXCANCD300 | 7.770/ 17.130 |

| | | | | |
|--|---|---|----------------|-----------------|
| IP 20 straight CANopen connector (5) 9-way female SUB-D connector with line terminator that can be deactivated For connecting CAN-H, CAN-L, CAN-GND | 6 | - | TSXCANKCDF180T | 0.049/ 0.108 |
|--|---|---|----------------|-----------------|

- (1) Altivar Process drives can only take one communication module.
- (2) Please refer to the "Modicon automation platform" catalogs on our website www.schneider-electric.com.
- (3) Cable depends on the PLC.
- (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 m/ ft | Unit reference | Weight kg/ lb |
|--|------|--------------------|-------------------|---------------------|
| Communication module | | | | |
| CANopen module Port: 1 x 5-way screw terminal block | 7 | – | VW3A3628 | – |
| Connection to screw terminal block | | | | |
| CANopen IP 20 cordsets (3) equipped with 2 x 9-way female SUB-D connectors Standard cable, CE mark. Low smoke zero halogen Flame-retardant (IEC 60332-1) | 5 | 0.3/ 0.98 | TSXCANCADD03 | 0.091/ 0.201 |
| | | 1/ 3.28 | TSXCANCADD1 | 0.143/ 0.315 |
| | | 3/ 9.84 | TSXCANCBDD3 | 0.268/ 0.591 |
| | | 5/ 16.40 | TSXCANCBDD5 | 0.400/ 0.882 |
| IP 20 CANopen tap junction boxes equipped with: ■ 4 x 9-way male SUB-D connectors + screw terminal block for trunk cable tap link ■ Line terminator | – | – | TSXCANTDM4 | 0.196/ 0.432 |
| IP 20 CANopen tap junction boxes equipped with: ■ 2 screw terminal blocks for trunk cable tap link ■ 2 RJ45 connectors for connecting drives ■ 1 RJ45 connector for connecting a PC | – | – | VW3CANTAP2 | – |
| CANopen line terminator for screw terminal connector (4) | 8 | – | TCSCAR01NM120 | – |

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

(2) Please refer to the "Modicon automation platform" catalogs on our website www.schneider-electric.com.

(3) Cable depends on the PLC.

(4) Sold in lots of 2.

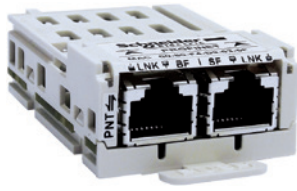
Variable speed drives

Altivar Process

Communication buses and networks

Option: Communication modules

PF 514350



VW3A3627

PF095130



VW3A3607

PROFINET bus (1) (2)

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

PROFIBUS DP V1 bus (1) (3)

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

SUB-D connection

| | | |
|--|---------------|---|
| IP 20 straight connectors (4) for Profibus module | LU9AD7 | – |
|--|---------------|---|

(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.

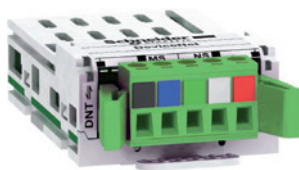
Variable speed drives

Altivar Process

Communication buses and networks

Option: Communication modules

PF514345



VW3A3609

ATVp0_02317_CPMFS17001B



VW3A3725

DeviceNet bus (1) (2)

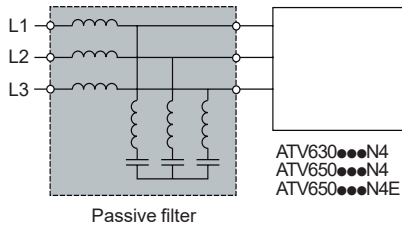
| Description | Reference | Weight kg/ lb |
|---|-----------------|---------------------|
| Communication module | | |
| DeviceNet module | VW3A3609 | 0.300/ 0.661 |
| Port: 1 removable 5-way screw connector | | |
| Profiles supported: | | |
| ■ CIP AC DRIVE | | |
| ■ CiA 402 drive | | |

BACnet MSTP (1) (2)

| Description | Reference | Weight kg/ lb |
|---|-----------------|---------------------|
| Communication module | | |
| BACnet module | VW3A3725 | 0.035/ 0.08 |
| Port: RS485 5-pin removable terminal block - 2 twistedpairs | | |

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

(2) Minimum version compatible with Altivar Process: v1.7.



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 www.schneider-electric.com). Passive filters provide IP 20 protection.

Applications

Reduction of current harmonics in order to use drives in the first environment (restricted distribution, domestic applications, sale conditional on the competence of the user and the distributor in terms of reducing current harmonics).



VW3A46106

Passive filters: 400 V 50 Hz three-phase supply

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

(1) When used with ATV650U07N4/N4E...D90N4/N4E drives, the filter must be mounted in a separate enclosure to maintain IP 55 protection for the installation.

Variable speed drives

Altivar Process

Option: Passive filters

2

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

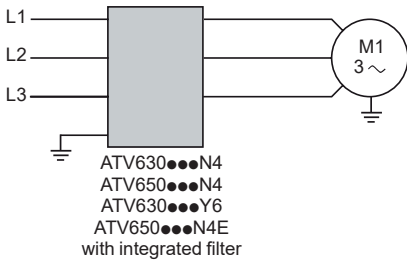
(1) When used with ATV650U07N4/N4E...D90N4/N4E drives, the filter must be mounted in a separate enclosure to maintain IP 55 protection for the installation.

| Passive filters: 460 V 60 Hz three-phase supply | | | | | | | |
|---|-----|--|-----------------|--------|-----------------------------|---------------|---------------------|
| Motor rating | | For Altivar Process drives | Filter | | Quantity required per drive | Reference (1) | Weight |
| kW | HP | | Nominal current | | | | |
| | | | input | output | | | |
| | | A | A | | | kg/lb | |
| THDi < 10% | | | | | | | |
| 0.75 | 1 | ATV630U07N4 ATV650U07N4 ATV650U07N4E | 6 | 6.2 | 1 | VW3A46139 | 12.000/ 26.455 |
| 1.5 | 2 | ATV630U15N4 ATV650U15N4 ATV650U15N4E | | | | | |
| 2.2 | 3 | ATV630U22N4 ATV650U22N4 ATV650U22N4E | | | | | |
| 3 | – | ATV630U30N4 ATV650U30N4 ATV650U30N4E | | | | | |
| 4 | 5 | ATV630U40N4 ATV650U40N4 ATV650U40N4E | 10 | 10.4 | 1 | VW3A46140 | 13.500/ 29.762 |
| 5.5 | 7.5 | ATV630U55N4 ATV650U55N4 ATV650U55N4E | | | | | |
| 7.5 | 10 | ATV630U75N4 ATV650U75N4 ATV650U75N4E | 14 | 14.5 | 1 | VW3A46141 | 16.300/ 35.935 |
| 11 | 15 | ATV630D11N4 ATV650D11N4 ATV650D11N4E | 19 | 19.5 | 1 | VW3A46142 | 22.000/ 48.502 |
| 15 | 20 | ATV630D15N4 ATV650D15N4 ATV650D15N4E | 25 | 26 | 1 | VW3A46143 | 23.000/ 50.706 |
| 18.5 | 25 | ATV630D18N4 ATV650D18N4 ATV650D18N4E | 31 | 32 | 1 | VW3A46144 | 33.000/ 72.752 |
| 22 | 30 | ATV630D22N4 ATV650D22N4 ATV650D22N4E | 36 | 37 | 1 | VW3A46145 | 37.000/ 81.571 |
| 30 | 40 | ATV630D30N4 ATV650D30N4 ATV650D30N4E | 48 | 50 | 1 | VW3A46146 | 39.000/ 85.980 |
| 37 | 50 | ATV630D37N4 ATV650D37N4 ATV650D37N4E | 60 | 62 | 1 | VW3A46147 | 43.000/ 94.799 |
| 45 | 60 | ATV630D45N4 ATV650D45N4 ATV650D45N4E | 73 | 76 | 1 | VW3A46148 | 55.000/ 121.254 |
| 55 | 75 | ATV630D55N4 ATV650D55N4 ATV650D55N4E | 95 | 99 | 1 | VW3A46149 | 62.000/ 136.686 |
| 75 | 100 | ATV630D75N4 ATV650D75N4 ATV650D75N4E | 118 | 122 | 1 | VW3A46150 | 74.000/ 163.142 |
| 90 | 125 | ATV630D90N4 ATV650D90N4 ATV650D90N4E | 154 | 160 | 1 | VW3A46151 | 85.000/ 187.393 |
| 110 | 150 | ATV630C11N4 | 183 | 190 | 1 | VW3A46152 | 102.000/ 224.871 |
| 132 | 200 | ATV630C13N4 | 231 | 240 | 1 | VW3A46153 | 119.000/ 262.350 |
| 160 | 250 | ATV630C16N4 | 291 | 302.5 | 1 | VW3A46154 | 142.000/ 313.056 |
| 220 | 350 | ATV630C22N4 | 355 | 369 | 1 | VW3A46155 | 162.000/ 357.149 |
| 250 | 400 | ATV630C25N4 | 436 | 450 | 1 | VW3A46157 | 205.000/ 451.948 |
| 315 | 500 | ATV630C31N4 | 231 | 240 | 2 | VW3A46153 | 119.000/ 262.35 |

(1) When used with ATV650U07N4/N4E...D90N4/N4E drives, the filter must be mounted in a separate enclosure to maintain IP 55 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 (1) | Weight |
| kW | HP | | Nominal current | | | | |
| | | | input | output | | | |
| | | A | A | | | kg/lb | |
| THDi < 5% | | | | | | | |
| 0.75 | 1 | ATV630U07N4 ATV650U07N4 ATV650U07N4E | 6 | 6.2 | 1 | VW3A46158 | 16.000/ 35.274 |
| 1.5 | 2 | ATV630U15N4 ATV650U15N4 ATV650U15N4E | | | | | |
| 2.2 | 3 | ATV630U22N4 ATV650U22N4 ATV650U22N4E | | | | | |
| 3 | – | ATV630U30N4 ATV650U30N4 ATV650U30N4E | | | | | |
| 4 | 5 | ATV630U40N4 ATV650U40N4 ATV650U40N4E | 10 | 10.4 | 1 | VW3A46159 | 18.000/ 39.683 |
| 5.5 | 7.5 | ATV630U55N4 ATV650U55N4 ATV650U55N4E | | | | | |
| 7.5 | 10 | ATV630U75N4 ATV650U75N4 ATV650U75N4E | 14 | 14.5 | 1 | VW3A46160 | 20.000/ 44.092 |
| 11 | 15 | ATV630D11N4 ATV650D11N4 ATV650D11N4E | 19 | 19.5 | 1 | VW3A46161 | 30.000/ 66.139 |
| 15 | 20 | ATV630D15N4 ATV650D15N4 ATV650D15N4E | 25 | 26 | 1 | VW3A46162 | 34.000/ 74.957 |
| 18.5 | 25 | ATV630D18N4 ATV650D18N4 ATV650D18N4E | 31 | 32 | 1 | VW3A46163 | 52.000/ 114.640 |
| 22 | 30 | ATV630D22N4 ATV650D22N4 ATV650D22N4E | 36 | 37 | 1 | VW3A46164 | 53.000/ 116.845 |
| 30 | 40 | ATV630D30N4 ATV650D30N4 ATV650D30N4E | 48 | 50 | 1 | VW3A46165 | 57.000/ 125.663 |
| 37 | 50 | ATV630D37N4 ATV650D37N4 ATV650D37N4E | 60 | 62 | 1 | VW3A46166 | 75.000/ 165.347 |
| 45 | 60 | ATV630D45N4 ATV650D45N4 ATV650D45N4E | 73 | 76 | 1 | VW3A46167 | 97.000/ 213.848 |
| 55 | 75 | ATV630D55N4 ATV650D55N4 ATV650D55N4E | 95 | 99 | 1 | VW3A46168 | 104.000/ 229.281 |
| 75 | 100 | ATV630D75N4 ATV650D75N4 ATV650D75N4E | 118 | 122 | 1 | VW3A46169 | 106.000/ 233.690 |
| 90 | 125 | ATV630D90N4 ATV650D90N4 ATV650D90N4E | 154 | 160 | 1 | VW3A46170 | 126.000/ 277.782 |
| 110 | 150 | ATV630C11N4 | 183 | 190 | 1 | VW3A46171 | 135.000/ 297.624 |
| 132 | 200 | ATV630C13N4 | 231 | 240 | 1 | VW3A46172 | 172.000/ 379.195 |
| 160 | 250 | ATV630C16N4 | 291 | 316 | 1 | VW3A46173 | 221.000/ 487.221 |
| 220 | 350 | ATV630C22N4 | 355 | 369 | 1 | VW3A46174 | 229.000/ 504.858 |
| 250 | 400 | ATV630C25N4 | 436 | 450 | 1 | VW3A46176 | 272.000/ 599.657 |
| 315 | 500 | ATV630C31N4 | 231 | 240 | 2 | VW3A46172 | 172.000/ 379.195 |

(1) When used with ATV650U07N4/N4E...D90N4/N4E drives, the filter must be mounted in a separate enclosure to maintain IP 55 protection for the installation.



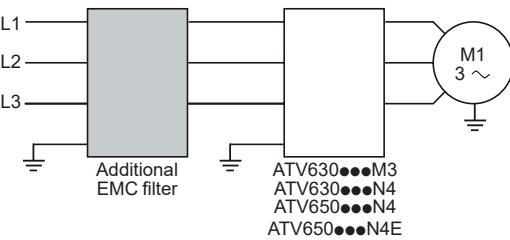
Altivar Process drive with integrated EMC filter

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 the leakage current to ground. The leakage current can be reduced by disconnecting the filter capacitors (please refer to the installation guide on our website www.schneider-electric.com). In this configuration, the product does not comply with the European EMC directive.

| For drives | Maximum length of shielded cable (1) acc. to | |
|--|--|----------------------------|
| | IEC/EN 61800-3 category C2 | IEC/EN 61800-3 category C3 |
| | m | m |
| Three-phase supply voltage: 380...480 V IP 21 | | |
| ATV630U07N4... D45N4 | 50 | 150 |
| ATV630D55N4... C16N4 | – | 150 |
| ATV630C22N4... C31N4 | – | 50 |
| Three-phase supply voltage: 380...480 V IP 55 | | |
| ATV650U07N4/N4E...D45N4/N4E | 50 | 150 |
| ATV650D55N4/N4E...D90N4/N4E | – | 150 |
| Three-phase supply voltage: 500...690 V IP 00 | | |
| ATV630U22Y6...D90Y6 | – | 25 |



Altivar Process drive with additional EMC filter

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.

(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



VW3A4701



VW3A4411

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

(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.

IP 21 protection kit for IP 20 filters

Additional input filters provide IP 20 protection as standard. This kit can be used to provide IP 21 or UL type 1 protection.

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

IP 30 protection kit for IP 00 filters

Additional input filters provide IP 00 protection as standard. This kit can be used to provide IP 30 protection.

| Description | For filters | Reference | Weight kg/ lb |
|--|-------------|-----------|---------------------|
| Mechanical device consisting of an IP 30 cover and cable clips | VW3A4411 | VW3A9601 | – |

PFI42110



VW3A4556

2

Line chokes

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

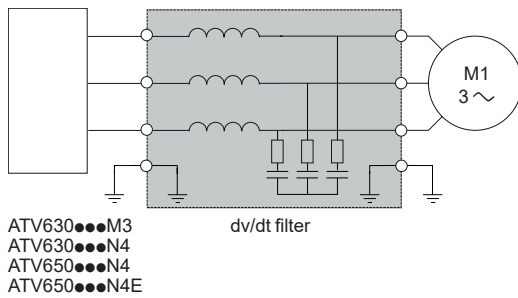
The choke values are defined for a voltage drop between phases of 3% and 5% of the nominal supply voltage. Values higher than this will cause loss of torque.

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

| For drives | Line Supply Isc | Line chokes | | | Reference | Weight |
|---|-----------------|------------------|-----------------|--------|-----------------|-------------------|
| | | Inductance value | Nominal Current | Losses | | |
| | kA | mH | A | W | | kg/ lb |
| Three-phase supply voltage: 500...690 V 50/60 Hz | | | | | | |
| ATV630U22Y6...40Y6 | 22 | 10 | 4 | 45 | VW3A4551 | 1.500/ 2.204 |
| ATV630U55Y6...75Y6 | 22 | 4 | 10 | 65 | VW3A4552 | 3.000/ 6.613 |
| ATV630D11Y6...15Y6 | 22 | 2 | 16 | 75 | VW3A4553 | 3.500/ 7.716 |
| ATV630D18Y6...22Y6 | 22 | 1 | 30 | 90 | VW3A4554 | 6.000/ 13.227 |
| ATV630D30Y6...45Y6 | 22 | 0.5 | 60 | 94 | VW3A4555 | 11.000/ 24.250 |
| ATV630D55Y6...90Y6 | 22 | 0.3 | 100 | 260 | VW3A4556 | 16.000/ 35.274 |



Altivar Process drive with dv/dt filter

Presentation

Altivar Process drives with supply voltage 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 supply voltage of 500...690 V 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 for cables longer than 50 m/164 ft, that an output filter is added if the motor insulation type does not conform to IEC60034-25.

For further information, please consult the "An Improved Approach for Connecting VSD and Electric Motors" White Paper available on our website www.schneider-electric.com.

Output filters are used to limit dv/dt at the motor terminals to 500 V/μs maximum for supply voltages up to 480 V, to 750 V/μs maximum for supply voltage of 500 V and to 1000 V/μs maximum for 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, with a 400 V supply voltage
- 1,000 V with a shielded cable 50 to 150 m (164 to 492 ft) long, with a 400 V supply voltage
- 1,500 V with a shielded cable 150 to 300 m (492 to 984 ft) long, with a 400 V supply voltage (up to 500 m (1,640 ft) with an unshielded cable)
- 1,300 V with 500 V supply voltage, cable length depending on the dv/dt filter combination
- 1,600 V with 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

| For drives | Maximum length of motor cable | | Degree of protection (3) | In | Reference | Weight |
|--|---------------------------------|------------------------------|--------------------------|-----|-----------|---------------|
| | Maximum switching frequency (1) | Shielded cable frequency (2) | | | | |
| | kHz | m/ft | IP | A | | kg/lb |
| Three-phase supply voltage: 200...240 V | | | | | | |
| 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.

IDP121624



VW3A5104

2

| dv/dt output filters (continued) | | | | | | |
|--|---------------------------------|--------------------|--------------------------|--------|---------------|---------|
| For drives | Maximum length of motor cable | | Degree of protection (3) | In (4) | Reference (4) | Weight |
| | Maximum switching frequency (1) | Shielded cable (2) | | | | |
| | kHz | m/ft | IP | A | | kg/lb |
| Three-phase supply voltage: 380...480 V | | | | | | |
| ATV630U07N4...U22N4 | 4 | 300/ | 20 | 6 | VW3A5301 | 11.000/ |
| ATV650U07N4...U22N4 | | 984 | | | | 24.251 |
| ATV650U07N4E...U22N4E | | | | | | |
| ATV630U30N4...U55N4 | 4 | 300/ | 20 | 15 | VW3A5302 | 12.000/ |
| ATV650U30N4...U55N4 | | 984 | | | | 26.455 |
| ATV650U30N4E...U55N4E | | | | | | |
| ATV630U75N4...D11N4 | 4 | 300/ | 20 | 25 | VW3A5303 | 12.000/ |
| ATV650U75N4...D11N4 | | 984 | | | | 26.455 |
| ATV650U75N4E...D11N4E | | | | | | |
| ATV630D15N4...D22N4 | 4 | 300/ | 20 | 50 | VW3A5304 | 18.000/ |
| ATV650D15N4...D22N4 | | 984 | | | | 39.683 |
| ATV650D15N4E...D22N4E | | | | | | |
| ATV630D30N4...D45N4 | 4 | 300/ | 20 | 95 | VW3A5305 | 19.000/ |
| ATV650D30N4...D45N4 | | 984 | | | | 41.888 |
| ATV650D30N4E...D45N4E | | | | | | |
| ATV630D55N4...D90N4 | 2.5 | 300/ | 00 | 180 | VW3A5306 | 22.000/ |
| ATV650D55N4...D90N4 | | 984 | | | | 48.502 |
| ATV650D55N4E...D90N4E | | | | | | |
| ATV630C11N4...C16N4 | 2.5 | 300/ | 00 | 305 | VW3A5307 | 40.000/ |
| | | 984 | | | | 88.185 |
| ATV630C22N4 | 2.5 | 250/ | 00 | 481 | VW3A5106 | 58.000/ |
| | | 820 | | | | 127.868 |
| ATV630C25N4...C31N4 | 2.5 | 200/ | 00 | 759 | VW3A5107 | 93.000/ |
| | | 656 | | | | 205.230 |
| Three-phase supply voltage: 500...690 V | | | | | | |
| ATV630U22Y6...U55Y6 | 6 | 50/ | 00 | 90 | VW3A5103 | 10.000/ |
| | | 164 | | | | 22.046 |
| ATV630U75Y6, ATV630D11Y6 | 6 | 50/ | 00 | 90 | VW3A5103 | 10.000/ |
| | | 164 | | | | 22.046 |
| | 6 | 100/ | 00 | 215 | VW3A5104 | 15.500/ |
| | | 328 | | | | 34.171 |
| ATV630D15Y6...30Y6 | 2.5 | 50/ | 00 | 90 | VW3A5103 | 10.000/ |
| | | 164 | | | | 22.046 |
| | 2.5 | 70/ | 00 | 90 | 2 x VW3A5103 | 20.000/ |
| | | 230 | | | | 44.001 |
| | 4 | 35/ | 00 | 90 | | |
| | | 115 | | | | |
| | 4 | 150/ | 00 | 215 | VW3A5104 | 15.500/ |
| | | 492 | | | | 34.171 |
| | 6 | 100/ | 00 | 215 | | |
| | | 328 | | | | |
| | 6 | 150/ | 00 | 215 | 2 x VW3A5104 | 31.000/ |
| | | 492 | | | | 68.342 |
| ATV630D37Y6...D90Y6 | 4 | 100/ | 00 | 215 | VW3A5104 | 15.500/ |
| | | 328 | | | | 34.171 |
| | 4 | 150/ | 00 | 215 | 2 x VW3A5104 | 31.000/ |
| | | 492 | | | | 68.342 |

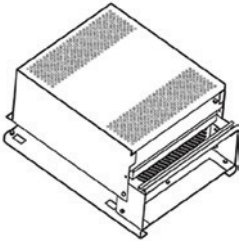
(1) The filters are designed to operate in a switching frequency range of between 2 and 8 kHz.

(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 IP 55 protection for the installation.

PF152807



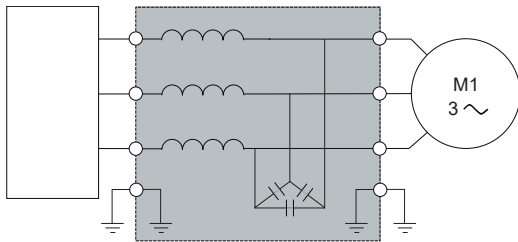
VW3A9612

IP 20 protection kit for IP 00 filters

| Description | For dv/dt filters | Reference | Weight kg/ lb |
|---|----------------------|-----------|---------------------|
| Mechanical kit including cover and cable clamps | VW3A5104 | VW3A9612 | – |
| | VW3A5106 VW3A5107 | VW3A9613 | – |

IP 21 protection kit for IP 20 filters

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



ATV630●●●M3
ATV630●●●N4
ATV630●●●Y6
ATV650●●●N4
ATV650●●●N4E

Sinus filter

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 4 kHz. This is the default value when the sinus filter function is activated on the variable speed drive (please refer to the programming guide on our website www.schneider-electric.com).

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

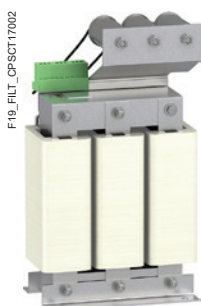
Sinus filters

| For drives | Maximum length of unshielded motor cable | Nominal current | Degree of protection | Reference (1) | Weight |
|--|--|-----------------|----------------------|-----------------|---------------------|
| | m/ ft | A | IP | | kg/ lb |
| Three-phase supply voltage: 200...240 V | | | | | |
| ATV630U07M3 | 1000/ 3.280 | 6 | 20 | VW3A5401 | 10.000/ 22.046 |
| ATV630U15M3...U30M3 | 1000/ 3.280 | 15 | 20 | VW3A5402 | 13.500/ 29.762 |
| ATV630U40M3 | 1000/ 3.280 | 25 | 20 | VW3A5403 | 20.000/ 44.092 |
| ATV630U55M3...D11M3 | 1000/ 3.280 | 50 | 20 | VW3A5404 | 35.000/ 77.162 |
| ATV630D15M3...D22M3 | 1000/ 3.280 | 95 | 20 | VW3A5405 | 60.000/ 132.277 |
| ATV630D30M3...D45M3 | 1000/ 3.280 | 180 | 00 | VW3A5406 | 90.000/ 198.416 |
| ATV630D75M3 (2) | 1000/ 3.280 | 305 | 00 | VW3A5407 | 134.000/ 295.419 |

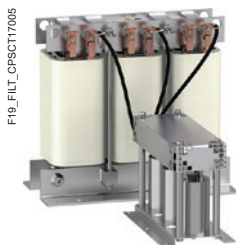
(1) The filters are designed to operate in a switching frequency range of between 4 and 8 kHz.

(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.



VW3A5216



VW3A5219

Sinus filters (continued)

| For drives | Maximum length of unshielded motor cable | Nominal current | Degree of protection | Reference (1) (2) | Weight |
|---|--|-----------------|----------------------|-------------------|---------------------|
| | | | | | |
| Three-phase supply voltage: 380...480 V | | | | | |
| ATV630U07N4...U22N4 ATV650U07N4...U22N4 ATV650U07N4E...U22N4E | 1000/ 3.280 | 6 | 20 | VW3A5401 | 10.000/ 22.046 |
| ATV630U30N4...U55N4 ATV650U30N4...U55N4 ATV650U30N4E...U55N4E | 1000/ 3.280 | 15 | 20 | VW3A5402 | 13.500/ 29.762 |
| ATV630U75N4...D11N4 ATV650U75N4...D11N4 ATV650U75N4E...D11N4E | 1000/ 3.280 | 25 | 20 | VW3A5403 | 20.000/ 44.092 |
| ATV630D15N4...D22N4 ATV650D15N4...D22N4 ATV650D15N4E...D22N4E | 1000/ 3.280 | 50 | 20 | VW3A5404 | 35.000/ 77.162 |
| ATV630D30N4...D45N4 ATV650D30N4...D45N4 ATV650D30N4E...D45N4E | 1000/ 3.280 | 95 | 20 | VW3A5405 | 60.000/ 132.277 |
| ATV630D55N4...D90N4 ATV650D55N4...D90N4 ATV650D55N4E...D90N4E | 1000/ 3.280 | 180 | 00 | VW3A5406 | 90.000/ 198.416 |
| ATV630C13N4...C16N4 (3) | 1000/ 3.280 | 305 | 00 | VW3A5407 | 134.000/ 295.419 |
| ATV630C22N4 | 1000/ 3.280 | 400 | 00 | VW3A5209 | 190.000/ 418.878 |
| ATV630C25N4...C31N4 | 1000/ 3.280 | 600 | 00 | VW3A5210 | 260.000/ 573.202 |

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

| | | | | | |
|---------------------|---------------|-----|----|-----------------|---------------------|
| ATV630U22Y6...U75Y6 | 500/ 1.640 | 13 | 20 | VW3A5215 | 13.500/ 29.762 |
| ATV630D11Y6...D22Y6 | 500/ 1.640 | 28 | 20 | VW3A5216 | 25.400/ 55.997 |
| ATV630D30Y6...D37Y6 | 500/ 1.640 | 45 | 20 | VW3A5217 | 38.000/ 83.776 |
| ATV630D45Y6...D55Y6 | 750/ 2.460 | 75 | 20 | VW3A5218 | 75.000/ 165.347 |
| ATV630D75Y6...D90Y6 | 750/ 2.460 | 115 | 20 | VW3A5219 | 106.000/ 233.690 |

IP 21 protection kit for IP 20 filters

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

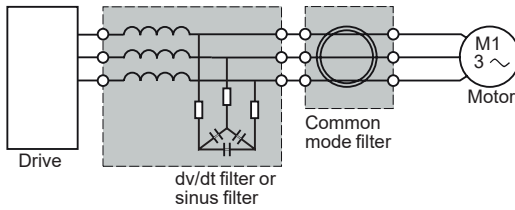
(1) The filters are designed to operate in a switching frequency range of between 4 and 8 kHz.

(2) When used with ATV650U07N4/N4E...D90N4/N4E drives, the filter must be mounted in a separate enclosure to maintain IP 55 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, and between the windings and the stator/rotor of the motor.

Common mode filters bring 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 bearings of the motor and protection of the bearings (to help prevent damage).

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 of the temperature indicates a possible saturation. Additional filters shall be used to avoid it.

Common mode filters

| For drives | Maximum length of unshielded cable | | | |
|---------------------|------------------------------------|---------------------|------------------------|-------------------------|
| | 150 m/ 492.12 ft | 300 m/ 984.25 ft | 500 m/ 1,640.42 ft | 1,000 m/ 3,280.83 ft |
| ATV630U07M3...U40M3 | VW3A5501 | VW3A5502 | 2 x VW3A5501 | VW3A5501 + VW3A5502 |
| ATV630U55M3 | VW3A5501 | VW3A5502 | VW3A5501 + VW3A5502 | 2 x VW3A5502 |
| ATV630U75M3...D11M3 | VW3A5503 | VW3A5504 | 2 x VW3A5503 | VW3A5503 + VW3A5504 |
| ATV630D15M3...D45M3 | VW3A5503 | VW3A5504 | VW3A5503 + VW3A5504 | 2 x VW3A5504 |
| ATV630D55M3...D75M3 | VW3A5505 | VW3A5506 | 2 x VW3A5505 | 2 x VW3A5506 |

Variable speed drives

Altivar Process: Output filters

Option: Common mode filters

Common mode filters (continued)

| For drives | Maximum length of unshielded cable | | | |
|---|------------------------------------|---------------------|------------------------|-------------------------|
| | 150 m/ 492.12 ft | 300 m/ 984.25 ft | 500 m/ 1,640.42 ft | 1,000 m/ 3,280.83 ft |
| ATV630U07N4...U40N4 ATV650U07N4...U40N4 ATV650U07N4E...U40N4E | VW3A5501 | VW3A5502 | 2 x VW3A5501 | VW3A5501 + VW3A5502 |
| ATV630U55N4 ATV650U55N4 ATV650U55N4E | VW3A5501 | VW3A5502 | VW3A5501 + VW3A5502 | VW3A5501 + VW3A5502 |
| ATV630U75N4...D11N4 ATV650U75N4...D11N4 ATV650U75N4E...D11N4E | VW3A5501 | VW3A5502 | VW3A5501 + VW3A5502 | 2 x VW3A5502 |
| ATV630D15N4...D22N4 ATV650D15N4...D22N4 ATV650D15N4E...D22N4E | VW3A5503 | VW3A5504 | 2 x VW3A5503 | VW3A5503 + VW3A5504 |
| ATV630D30N4...D90N4 ATV650D30N4...D90N4 ATV650D30N4E...D90N4E | VW3A5503 | VW3A5504 | VW3A5503 + VW3A5504 | 2 x VW3A5504 |
| ATV630C11N4...C16N4 | VW3A5505 | VW3A5506 | 2 x VW3A5505 | 2 x VW3A5506 |

| For drives | Maximum length of shielded cable | | |
|---|----------------------------------|------------------------|-----------------------|
| | 150 m/ 492.12 ft | 300 m/ 984.25 ft | 500 m/ 1,640.42 ft |
| ATV630U07N4...U40N4 ATV650U07N4...U40N4 ATV650U07N4E...U40N4E | VW3A5501 | VW3A5502 | 2 x VW3A5501 |
| ATV630U55N4 ATV650U55N4 ATV650U55N4E | VW3A5502 | 2 x VW3A5501 | 2 x VW3A5502 |
| ATV630U75N4...D11N4 ATV650U75N4...D11N4 ATV650U75N4E...D11N4E | VW3A5502 | 2 x VW3A5501 | 2 x VW3A5502 |
| ATV630D15N4...D22N4 ATV650D15N4...D22N4 ATV650D15N4E...D22N4E | VW3A5503 | 2 x VW3A5503 | VW3A5503 + VW3A5504 |
| ATV630D30N4...D90N4 ATV650D30N4...D90N4 ATV650D30N4E...D90N4E | VW3A5504 | VW3A5503 + 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 should be provided.

The circuit breaker helps protect the drive's power cables against short-circuits.



GV3L40

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LC1D40A●●

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ATV630D11M3

IEC standard motor starters

| Motor | Drive | Circuit breaker | | Line contactor | | |
|---|-----------|-----------------|--------------------------|-----------------|-------------------|-----------|
| Power (1) | Reference | Reference (2) | Rating | I _{rm} | 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 | LC1D09●● |
| 2.2 | 3 | ATV630U22M3 | GV2L14 | 10 | 138 | LC1D09●● |
| 3 | – | ATV630U30M3 | GV2L16 | 14 | 170 | LC1D18●● |
| 4 | 5 | ATV630U40M3 | GV2L20 | 18 | 223 | LC1D18●● |
| 5.5 | 7.5 | ATV630U55M3 | GV2L22 | 25 | 327 | LC1D25●● |
| 7.5 | 10 | ATV630U75M3 | GV2L32 | 32 | 448 | LC1D40A●● |
| 11 | 15 | ATV630D11M3 | GV3L40 | 40 | 560 | LC1D40A●● |
| 15 | 20 | ATV630D15M3 | GV3L65 | 65 | 910 | LC1D65A●● |
| 18.5 | 25 | ATV630D18M3 | NS80HMA | 80 | 1,000 | LC1D65A●● |
| 22 | 30 | ATV630D22M3 | NS80HMA | 80 | 1,000 | LC1D80●● |
| 30 | 40 | ATV630D30M3 | NSX100●MA100 | 100 | 600 | LC1D95●● |
| 37 | 50 | ATV630D37M3 | NSX160●MA150 | 150 | 1,350 | LC1D115●● |
| 45 | 60 | ATV630D45M3 | NSX160●MA150 | 150 | 1,350 | LC1D150●● |
| 55 | 75 | ATV630D55M3 | NSX250●MA220 | 220 | 1,980 | LC1F185●● |
| 75 | 100 | ATV630D75M3 | NSX400● Micrologic 1.3-M | 320 | 1,600 | LC1F265●● |

(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 the dot with the letter corresponding to the breaking performance of the circuit breaker (F, N, H, S, or L).

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

| Circuit breaker | I _{cu} (kA) for 200...240 V | Icu (kA) for 200...240 V | | | | | |
|--------------------------|--------------------------------------|--------------------------|----|-----|-----|-----|-----|
| | | F | N | H | S | F | L |
| GV2L08...L20 | >100 | – | – | – | – | – | – |
| GV2L22...L32 | 50 | – | – | – | – | – | – |
| GV3L40...L65 | 50 | – | – | – | – | – | – |
| NS80HMA | 100 | – | – | – | – | – | – |
| NSX100●MA100 | – | 85 | 90 | 100 | 120 | 150 | 150 |
| NSX160●MA150 | – | 85 | 90 | 100 | 120 | 150 | 150 |
| NSX250●MA220 | – | 85 | 90 | 100 | 120 | 150 | 150 |
| NSX400● Micrologic 1.3-M | – | 40 | 85 | 100 | 120 | 150 | 150 |

(3) Composition of contactors:

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

LC1F185...F265: 3 poles

To add auxiliary contacts or other accessories, please refer to the "Motor-starter solutions - Control and protection components" catalog.

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

| Circuit breaker | Volts ~ | 24 | 48 | 110 | 220 | 230 | 240 |
|-----------------|------------------------|----|----|-----|-----|-----|-----|
| | | B5 | E5 | F5 | M5 | P5 | U5 |
| 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 |
| LC1F185 | 50 Hz (LX1 coil) | B5 | E5 | F5 | M5 | P5 | U5 |
| | 60 Hz (LX1 coil) | – | E6 | F6 | M6 | – | U6 |
| | 40...400 Hz (LX9 coil) | – | E7 | F7 | M7 | P7 | U7 |
| LC1F265 | 40...400 Hz (LX1 coil) | B7 | E7 | F7 | M7 | P7 | U7 |

For other voltages available between 24 V and 660 V, or a DC control circuit, please contact our Customer Care Center.



NSX100FMA100

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LC1D80●●

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ATV630D45N4

IEC standard motor starters

| Motor Power (1) | Drive Reference | Circuit breaker Reference (2) | Rating | I _{rm} | Line contactor 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 | LC1D09●● |
| 2.2 | 3 | ATV630U22N4 | GV2L10 | 6.3 | 78 | LC1D09●● |
| 3 | – | ATV630U30N4 | GV2L14 | 10 | 138 | LC1D09●● |
| 4 | 5 | ATV630U40N4 | GV2L14 | 10 | 138 | LC1D09●● |
| 5.5 | 7.5 | ATV630U55N4 | GV2L16 | 14 | 170 | LC1D18●● |
| 7.5 | 10 | ATV630U75N4 | GV2L20 | 18 | 223 | LC1D18●● |
| 11 | 15 | ATV630D11N4 | GV2L22 | 25 | 327 | LC1D25●● |
| 15 | 20 | ATV630D15N4 | GV3L32 | 32 | 448 | LC1D25●● |
| 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 | NS80HMA | 80 | 1,000 | LC1D65A●● |
| 45 | 60 | ATV630D45N4 | NSX100●MA100 | 100 | 600 | LC1D80●● |
| 55 | 75 | ATV630D55N4 | NSX160●MA150 | 150 | 1,350 | LC1D115●● |
| 75 | 100 | ATV630D75N4 | NSX160●MA150 | 150 | 1,350 | LC1D115●● |
| 90 | 125 | ATV630D90N4 | NSX250●MA220 | 220 | 1,980 | LC1F185●● |
| 110 | 150 | ATV630C11N4 | NSX250●MA220 | 220 | 1,980 | LC1F185●● |
| 132 | 200 | ATV630C13N4 | NSX400● Micrologic 1.3-M | 320 | 1,600 | LC1F265●● |
| 160 | 250 | ATV630C16N4 | NSX400● Micrologic 1.3-M | 320 | 1,600 | LC1F265●● |
| 220 | 350 | ATV630C22N4 | NSX630● Micrologic 1.3-M | 500 | 3,000 | LC1F400●● |
| 250 | 400 | ATV630C25N4 | NSX630● Micrologic 1.3-M | 500 | 3,000 | LC1F500●● |
| 310 | 500 | ATV630C31N4 | NS800L Micrologic 2 or 5 | 800 | 1,600 | LC1F630●● |

(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 the dot with the letter corresponding to the breaking performance of the circuit breaker (F, N, H, S, or L).

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

| Circuit breaker | I _{cu} (kA) for 380...415 V | | | | | |
|--------------------------|--------------------------------------|----|----|----|-----|-----|
| | F | N | H | S | L | |
| GV2L07...L14 | >100 | – | – | – | – | |
| GV2L16...L22 | 50 | – | – | – | – | |
| GV3L32...L65 | 50 | – | – | – | – | |
| NS80HMA | 70 | – | – | – | – | |
| NSX100●MA100 | – | 36 | 50 | 70 | 100 | 150 |
| NSX160●MA150 | – | 36 | 50 | 70 | 100 | 150 |
| NSX250●MA220 | – | 36 | 50 | 70 | 100 | 150 |
| NSX400●, NSX630● | – | 36 | 50 | 70 | 100 | 150 |
| NS800L Micrologic 2 or 5 | – | – | – | – | – | 150 |

(3) Composition of contactors:

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

LC1F185...F265: 3 poles

To add auxiliary contacts or other accessories, please refer to the "Motor-starter solutions - Control and protection components" 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 |
| LC1F185 | 50 Hz (LX1 coil) | B5 | E5 | F5 | M5 | P5 | U5 |
| | 60 Hz (LX1 coil) | – | E6 | F6 | M6 | – | U6 |
| | 40...400 Hz (LX9 coil) | – | E7 | F7 | M7 | P7 | U7 |
| LC1F265 | 40...400 Hz (LX1 coil) | B7 | E7 | F7 | M7 | P7 | U7 |
| LC1F400...F800 | 40...400 Hz (LX1 coil) | – | E7 | F7 | M7 | P7 | U7 |

For other voltages available between 24 V and 660 V, or a DC control circuit, please contact our Customer Care Center.



NSX100FMA100

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LC1D80

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ATV650D45N4

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IEC standard motor starters

| Motor Power (1) | Drive Reference | Circuit breaker Reference (2) | Rating | I _{rm} | Line contactor 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 | LC1D09●● |
| 2.2 | 3 | ATV650U22N4/N4E | GV2L10 | 6.3 | 78 | LC1D09●● |
| 3 | – | ATV650U30N4/N4E | GV2L14 | 10 | 138 | LC1D09●● |
| 4 | 5 | ATV650U40N4/N4E | GV2L14 | 10 | 138 | LC1D09●● |
| 5.5 | 7.5 | ATV650U55N4/N4E | GV2L16 | 14 | 170 | LC1D18●● |
| 7.5 | 10 | ATV650U75N4/N4E | GV2L20 | 18 | 223 | LC1D18●● |
| 11 | 15 | ATV650D11N4/N4E | GV2L22 | 25 | 327 | LC1D25●● |
| 15 | 20 | ATV650D15N4/N4E | GV3L32 | 32 | 448 | LC1D25●● |
| 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 | NS80HMA | 80 | 1,000 | LC1D65A●● |
| 45 | 60 | ATV650D45N4/N4E | NSX100●MA100 | 100 | 600 | LC1D80●● |
| 55 | 75 | ATV650D55N4/N4E | NSX160●MA150 | 150 | 1,350 | LC1D115●● |
| 75 | 100 | ATV650D75N4/N4E | NSX160●MA150 | 150 | 1,350 | LC1D115●● |
| 90 | 125 | ATV650D90N4/N4E | NSX250●MA220 | 220 | 1,980 | LC1F185●● |

(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 the dot with the letter corresponding to the breaking performance of the circuit breaker (F, N, H, S, or L).

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

| Circuit breaker | I _{cu} (kA) for 380...415 V | Icu (kA) for 380...415 V | | | | |
|-----------------|--------------------------------------|--------------------------|----|----|-----|-----|
| | | F | N | H | S | L |
| GV2L07...L14 | >100 | – | – | – | – | – |
| GV2L16...L22 | 50 | – | – | – | – | – |
| GV3L32...L65 | 50 | – | – | – | – | – |
| NS80HMA | 70 | – | – | – | – | – |
| NSX100●MA100 | – | 36 | 50 | 70 | 100 | 150 |
| NSX160●MA150 | – | 36 | 50 | 70 | 100 | 150 |
| NSX250●MA220 | – | 36 | 50 | 70 | 100 | 150 |

(3) Composition of contactors:

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

LC1F185: 3 poles

To add auxiliary contacts or other accessories, please refer to the "Motor-starter solutions - Control and protection components" 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 |
| LC1F185 | 50 Hz (LX1 coil) | B5 | E5 | F5 | M5 | P5 | U5 |
| | 60 Hz (LX1 coil) | – | E6 | F6 | M6 | – | U6 |
| | 40...400 Hz (LX9 coil) | – | E7 | F7 | M7 | P7 | U7 |

For other voltages available between 24 V and 660 V, or a DC control circuit, please contact our Customer Care Center.

(5) When they are used with ATV650U07N4/N4E...D90N4/N4E drives, the motor starters must be installed in a separate enclosure to maintain the IP 55 protection rating of the installation.



GV2L08

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LC1D09●●

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ATV630U15N4

IEC standard motor starters

| Motor Power (1) kW HP | Drive Reference | Circuit breaker | | | Line contactor Reference (3) (4) |
|--|-----------------|--------------------------|----------|-------------------|----------------------------------|
| | | Reference (2) | Rating A | I _{rm} 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 | LC1D09●● |
| 2.2 3 | ATV630U22N4 | GV2L10 | 6.3 | 78 | LC1D09●● |
| 3 - | ATV630U30N4 | GV2L10 | 6.3 | 78 | LC1D09●● |
| 4 5 | ATV630U40N4 | GV2L14 | 10 | 138 | LC1D09●● |
| 5.5 7.5 | ATV630U55N4 | GV2L16 | 14 | 170 | LC1D18●● |
| 7.5 10 | ATV630U75N4 | GV2L16 | 14 | 170 | LC1D18●● |
| 11 15 | ATV630D11N4 | GV2L22 | 25 | 327 | LC1D25●● |
| 15 20 | ATV630D15N4 | GV3L32 | 32 | 448 | LC1D25●● |
| 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 | GV3L66 | 65 | 910 | LC1D65A●● |
| 45 60 | ATV630D45N4 | NS80HMA | 80 | 1,000 | LC1D80●● |
| 55 75 | ATV630D55N4 | NSX100●MA100 | 100 | 600 | LC1D95●● |
| 75 100 | ATV630D75N4 | NSX160●MA150 | 150 | 1,350 | LC1D115●● |
| 90 125 | ATV630D90N4 | NSX250●MA220 | 150 | 1,350 | LC1D115●● |
| 110 150 | ATV630C11N4 | NSX250●MA220 | 220 | 1,980 | LC1F185●● |
| 132 200 | ATV630C13N4 | NSX400● Micrologic 1.3-M | 220 | 1,980 | LC1F185●● |
| 160 250 | ATV630C16N4 | NSX400● Micrologic 1.3-M | 320 | 1,600 | LC1F265●● |
| 220 350 | ATV630C22N4 | NSX630● Micrologic 1.3-M | 500 | 3,000 | LC1F400●● |
| 250 400 | ATV630C25N4 | NSX630● Micrologic 1.3-M | 500 | 3,000 | LC1F500●● |
| 310 500 | ATV630C31N4 | NS800L Micrologic 2 or 5 | 800 | 1,600 | LC1F630●● |

(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 the dot with the letter corresponding to the breaking performance of the circuit breaker (F, N, H, S, or L).

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

| Circuit breaker | I _{cu} (kA) for 440 V | Icu (kA) for 440 V | | | | | |
|--------------------------|--------------------------------|--------------------|----|----|----|-----|--|
| | | F | N | H | S | L | |
| GV2L07...L10 | >100 | - | - | - | - | - | |
| GV2L14...L22 | 50 | - | - | - | - | - | |
| GV3L32...L66 | 50 | - | - | - | - | - | |
| NS80HMA | 65 | - | - | - | - | - | |
| NSX100●MA100 | - | 35 | 50 | 65 | 90 | 130 | |
| 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 "Motor-starter solutions - Control and protection components" catalog.

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

| | Volts ~ | Control circuit voltage code | | | | | |
|----------------|------------------------|------------------------------|----|-----|-----|-----|-----|
| | | 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 |
| LC1F185 | 50 Hz (LX1 coil) | B5 | E5 | F5 | M5 | P5 | U5 |
| | 60 Hz (LX1 coil) | - | E6 | F6 | M6 | - | U6 |
| | 40...400 Hz (LX9 coil) | - | E7 | F7 | M7 | P7 | U7 |
| LC1F265 | 40...400 Hz (LX1 coil) | B7 | E7 | F7 | M7 | P7 | U7 |
| LC1F400...F630 | 40...400 Hz (LX1 coil) | - | E7 | F7 | M7 | P7 | U7 |

For other voltages available between 24 V and 660 V, or a DC control circuit, please contact our Customer Care Center.



NSX250•MA220

+



LC1D115••

+



ATV650D90N4

2

IEC standard motor starters

| Motor Power (1) | Drive Reference | Circuit breaker Reference (2) | Rating | I _{rm} | Line contactor 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 | LC1D09•• |
| 2.2 | 3 | ATV650U22N4/N4E | GV2L10 | 6.3 | 78 | LC1D09•• |
| 3 | – | ATV650U30N4/N4E | GV2L10 | 6.3 | 78 | LC1D09•• |
| 4 | 5 | ATV650U40N4/N4E | GV2L14 | 10 | 138 | LC1D09•• |
| 5.5 | 7.5 | ATV650U55N4/N4E | GV2L16 | 14 | 170 | LC1D18•• |
| 7.5 | 10 | ATV650U75N4/N4E | GV2L16 | 14 | 170 | LC1D18•• |
| 11 | 15 | ATV650D11N4/N4E | GV2L22 | 25 | 327 | LC1D25•• |
| 15 | 20 | ATV650D15N4/N4E | GV3L32 | 32 | 448 | LC1D25•• |
| 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 | GV3L66 | 65 | 910 | LC1D65A•• |
| 45 | 60 | ATV650D45N4/N4E | NS80HMA | 80 | 1,000 | LC1D80•• |
| 55 | 75 | ATV650D55N4/N4E | NSX100•MA100 | 100 | 600 | LC1D95•• |
| 75 | 100 | ATV650D75N4/N4E | NSX160•MA150 | 150 | 1,350 | LC1D115•• |
| 90 | 125 | ATV650D90N4/N4E | NSX250•MA220 | 150 | 1,350 | LC1D115•• |

(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 the dot with the letter corresponding to the breaking performance of the circuit breaker (F, N, H, S, or L).
Breaking capacity of circuit breakers according to standard IEC 60947-2:

| Circuit breaker | I _{cu} (kA) for 440 V | I _{cu} (kA) for 440 V | | | | |
|-----------------|--------------------------------|--------------------------------|----|----|----|-----|
| | | F | N | H | S | L |
| GV2L07...L10 | >100 | – | – | – | – | – |
| GV2L14...L22 | 50 | – | – | – | – | – |
| GV3L32...L66 | 50 | – | – | – | – | – |
| NS80HMA | 65 | – | – | – | – | – |
| NSX100•MA100 | – | 35 | 50 | 65 | 90 | 130 |
| NSX160•MA150 | – | 35 | 50 | 65 | 90 | 130 |
| NSX250•MA220 | – | 35 | 50 | 65 | 90 | 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 "Motor-starter solutions - Control and protection components" catalog.
(4) Replace •• with the control circuit voltage code indicated in the table below:

| LC1D09...D115 | Volts ~ | 24 | 48 | 110 | 220 | 230 | 240 |
|---------------|---------|----|----|-----|-----|-----|-----|
| | 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 contact our Customer Care Center.



GV2L10

+



LC1D09●●

+



ATV630U22Y6

IEC standard motor starters

| Motor Power | | Drive | Circuit breaker | | | Line contactor |
|---|-----|-------------|-----------------|--------|-----------------|----------------|
| kW HP | | Reference | Reference (1) | Rating | I _{rm} | Reference |
| | | | | A | A | |
| Three-phase supply voltage: 500 V 50/60 Hz | | | | | | |
| 1.5 | 2 | ATV630U22Y6 | GV2L10 | 6.3 | 78 | LC1D09●● |
| 2.2 | 3 | ATV630U30Y6 | GV2L10 | 6.3 | 78 | LC1D09●● |
| 3 | – | ATV630U40Y6 | GV2L14 | 10 | 138 | LC1D18●● |
| 4 | 5 | ATV630U55Y6 | GV2L14 | 10 | 138 | LC1D18●● |
| 5.5 | 7.5 | ATV630U75Y6 | GV2L16 | 14 | 170 | LC1D25●● |
| 7.5 | 10 | ATV630D11Y6 | GV2L20 | 18 | 223 | LC1D25●● |
| 11 | 15 | ATV630D15Y6 | GV2L22 | 25 | 327 | LC1D40A●● |
| 15 | 20 | ATV630D18Y6 | GV3L25 | 25 | 350 | LC1D40A●● |
| 18.5 | 25 | ATV630D22Y6 | GV3L32 | 32 | 448 | LC1D40A●● |
| 22 | 30 | ATV630D30Y6 | GV3L40 | 40 | 560 | LC1D40A●● |
| 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 | NSX100●MA100 | 100 | 600 | LC1D80●● |
| 75 | 100 | ATV630D90Y6 | NSX160●MA150 | 150 | 1,350 | LC1D150●● |
| Three-phase supply voltage: 690 V 50/60 Hz | | | | | | |
| 2.2 | 3 | ATV630U22Y6 | GV2L08 | 6.3 | 78 | LC1D09●● |
| 3 | – | ATV630U30Y6 | GV2L10 | 10 | 138 | LC1D09●● |
| 4 | 5 | ATV630U40Y6 | GV2L14 | 10 | 138 | LC1D18●● |
| 5.5 | 7.5 | ATV630U55Y6 | GV2L14 | 14 | 170 | LC1D18●● |
| 7.5 | 10 | ATV630U75Y6 | GV2L16 | 18 | 223 | LC1D18●● |
| 11 | 15 | ATV630D11Y6 | GV2L20 | 25 | 327 | LC1D18●● |
| 15 | 20 | ATV630D15Y6 | GV2L22 | 25 | 327 | LC1D25●● |
| 18.5 | 25 | ATV630D18Y6 | GV3L25 | 32 | 416 | LC1D40A●● |
| 22 | 30 | ATV630D22Y6 | GV3L32 | 40 | 560 | LC1D40A●● |
| 30 | 40 | ATV630D30Y6 | GV3L40 | 50 | 700 | LC1D40A●● |
| 37 | 50 | ATV630D37Y6 | GV3L50 | 65 | 910 | LC1D50A●● |
| 45 | 60 | ATV630D45Y6 | GV3L65 | 100 | 1,100 | LC1D65A●● |
| 55 | 75 | ATV630D55Y6 | NSX100●MA100 | 100 | 600 | LC1D80●● |
| 75 | 100 | ATV630D75Y6 | NSX100●MA100 | 150 | 600 | LC1D80●● |
| 90 | 125 | ATV630D90Y6 | NSX250●MA150 | 150 | 1,980 | 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:

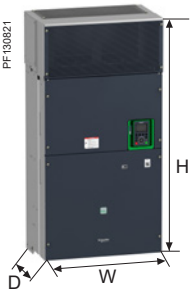
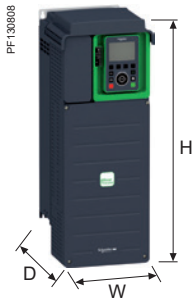
| Circuit breaker | Supply voltage (V) | I _{cu} (kA) for 440 V | H | | |
|-----------------|--------------------|--------------------------------|-----|-----|-----|
| | | | HB1 | HB2 | |
| GV2L07...L10 | 500 | >100 | – | – | – |
| | 690 | 4 | – | – | – |
| GV2L14...L22 | 500 | 10 | – | – | – |
| | 690 | 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 |

Variable speed drives

Altivar Process

IP 21 drives: 200...240 V, 380...480 V

2



200...240 V IP 21/UL Type 1 drives

Overall dimensions

| Drives | 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 IP 21/UL Type 1 conformity kit | 320 x 1160 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 IP 21/UL Type 1 conformity kit | 320 x 1160 x 390 | 12.60 x 45.67 x 15.35 |

380...480 V IP 21/UL Type 1 drives

Overall dimensions

| Drives | W x H x D | |
|-------------------------------------|------------------|-----------------------|
| | mm | in. |
| ATV630U07N4 | 144 x 350 x 203 | 5.67 x 13.78 x 7.99 |
| ATV630U15N4 | 144 x 350 x 203 | 5.67 x 13.78 x 7.99 |
| ATV630U22N4 | 144 x 350 x 203 | 5.67 x 13.78 x 7.99 |
| ATV630U30N4 | 144 x 350 x 203 | 5.67 x 13.78 x 7.99 |
| ATV630U40N4 | 144 x 350 x 203 | 5.67 x 13.78 x 7.99 |
| ATV630U55N4 | 144 x 350 x 203 | 5.67 x 13.78 x 7.99 |
| ATV630U75N4 | 171 x 409 x 233 | 6.73 x 16.10 x 9.17 |
| ATV630D11N4 | 171 x 409 x 233 | 6.73 x 16.10 x 9.17 |
| ATV630D15N4 | 211 x 546 x 232 | 8.31 x 21.50 x 9.13 |
| ATV630D18N4 | 211 x 546 x 232 | 8.31 x 21.50 x 9.13 |
| ATV630D22N4 | 211 x 546 x 232 | 8.31 x 21.50 x 9.13 |
| ATV630D30N4 | 226 x 673 x 271 | 8.90 x 26.50 x 10.67 |
| ATV630D37N4 | 226 x 673 x 271 | 8.90 x 26.50 x 10.67 |
| ATV630D45N4 | 226 x 673 x 271 | 8.90 x 26.50 x 10.67 |
| ATV630D55N4 | 290 x 922 x 323 | 11.42 x 36.30 x 12.72 |
| ATV630D75N4 | 290 x 922 x 323 | 11.42 x 36.30 x 12.72 |
| ATV630D90N4 | 290 x 922 x 323 | 11.42 x 36.30 x 12.72 |
| ATV630C11N4 | 320 x 852 x 390 | 12.60 x 33.54 x 15.35 |
| With IP 21/UL Type 1 conformity kit | 320 x 1157 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 IP 21/UL Type 1 conformity kit | 320 x 1160 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 IP 21/UL Type 1 conformity kit | 320 x 1160 x 390 | 12.60 x 45.67 x 15.35 |
| ATV630C22N4 | 440 x 1190 x 377 | 17.32 x 46.85 x 14.84 |
| With IP 21/UL Type 1 conformity kit | 440 x 1498 x 377 | 17.32 x 58.98 x 14.84 |
| ATV630C25N4 | 598 x 1190 x 377 | 23.43 x 46.85 x 14.84 |
| With IP 21/UL Type 1 conformity kit | 598 x 1498 x 377 | 23.43 x 58.98 x 14.84 |
| ATV630C31N4 | 598 x 1190 x 377 | 23.43 x 46.85 x 14.84 |
| With IP 21/UL Type 1 conformity kit | 598 x 1498 x 377 | 23.43 x 58.98 x 14.84 |



500...690 V IP 00 drives

Overall dimensions

| EMC filters | W x H x D | |
|---|-----------------|-----------------------|
| | mm | in. |
| ATV630U22Y6 | 246 x 420 x 242 | 9.68 x 16.5 x 9.52 |
| With kit for IP 20/UL Type 1 conformity | 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 kit for IP 20/UL Type 1 conformity | 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 kit for IP 20/UL Type 1 conformity | 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 kit for IP 20/UL Type 1 conformity | 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 kit for IP 20/UL Type 1 conformity | 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 kit for IP 20/UL Type 1 conformity | 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 kit for IP 20/UL Type 1 conformity | 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 kit for IP 20/UL Type 1 conformity | 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 kit for IP 21/UL Type 1 conformity | 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 kit for IP 20/UL Type 1 conformity | 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 kit for IP 20/UL Type 1 conformity | 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 kit for IP 20/UL Type 1 conformity | 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 kit for IP 20/UL Type 1 conformity | 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 kit for IP 20/UL Type 1 conformity | 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 kit for IP 20/UL Type 1 conformity | 331 x 822 x 297 | 13.03 x 32.36 x 11.69 |



2



380...480 V IP 55 drives

Overall dimensions

| Drives | 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 1250 x 375 | 13.58 x 49.21 x 14.76 |
| ATV650D75N4 | 345 x 1250 x 375 | 13.58 x 49.21 x 14.76 |
| ATV650D90N4 | 345 x 1250 x 375 | 13.58 x 49.21 x 14.76 |

380...480 V IP 55 drives with Vario disconnect switch

Overall dimensions

| Drives | W x H x D (1) | |
|--------------|------------------|-----------------------|
| | mm | in. |
| 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 1250 x 436 | 13.58 x 49.21 x 17.17 |
| ATV650D75N4E | 345 x 1250 x 436 | 13.58 x 49.21 x 17.17 |
| ATV650D90N4E | 345 x 1250 x 436 | 13.58 x 49.21 x 17.17 |

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



Floor-standing 380...440 V IP 21 drives

Overall dimensions

| Drives | W x H x D (1) | |
|--------------|------------------|-----------------------|
| | mm | in. |
| ATV630C11N4F | 400 x 2150 x 605 | 15.75 x 84.65 x 23.82 |
| ATV630C13N4F | 400 x 2150 x 605 | 15.75 x 84.65 x 23.82 |
| ATV630C16N4F | 400 x 2150 x 605 | 15.75 x 84.65 x 23.82 |
| ATV630C20N4F | 600 x 2150 x 605 | 23.62 x 84.65 x 23.82 |
| ATV630C25N4F | 600 x 2150 x 605 | 23.62 x 84.65 x 23.82 |
| ATV630C31N4F | 600 x 2150 x 605 | 23.62 x 84.65 x 23.82 |

Floor-standing 380...440 V IP 54 drives

Overall dimensions

| Drives | W x H x D (2) | |
|--------------|------------------|-----------------------|
| | mm | in. |
| ATV650C11N4F | 400 x 2350 x 605 | 15.75 x 92.52 x 23.82 |
| ATV650C13N4F | 400 x 2350 x 605 | 15.75 x 92.52 x 23.82 |
| ATV650C16N4F | 400 x 2350 x 605 | 15.75 x 92.52 x 23.82 |
| ATV650C20N4F | 600 x 2350 x 605 | 23.62 x 92.52 x 23.82 |
| ATV650C25N4F | 600 x 2350 x 605 | 23.62 x 92.52 x 23.82 |
| ATV650C31N4F | 600 x 2350 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 | | |
| Passive filters | 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 | | |
| Passive filters | 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

| EMC filters | W x H x D | |
|-------------------------------------|-----------------|----------------------|
| | mm | in. |
| VW3A4701 | 75 x 220 x 130 | 2.95 x 8.66 x 5.12 |
| With IP 21/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 IP 21/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 IP 21/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 IP 21/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 IP 21/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 IP 21/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 IP 21/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 IP 21/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

| dv/dt filters | 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 IP 21/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 IP 21/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 IP 21/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 IP 21/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 IP 21/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**

| AC Chokes | 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**

| Sinus filters | 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 filter**Overall dimensions**

| Common mode filter | 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 |

Drives for Cabinet Integration

- Altivar Process variable speed drives presentation page 3/2
- Modular single drives page 3/4
- 400 V 50/60 Hz supply page 3/5
- 440 V 50/60 Hz supply page 3/6
- 480 V 50/60 Hz supply page 3/7



3



Drives for cabinet integration

General presentation of the offer

Altivar Process for cabinet integration is a cost effective drives solution for installation into cabinets and separate enclosures with its compact and robust design. These drives variants simplify cabinet design and allows quick installation and commissioning.

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 110 kW up to 800 kW (150...1100 HP) can be created by combining sub-assemblies and accessories such as power modules, control units, options, and mechanical accessories.

Altivar Process Modular brings a new approach using sub-assemblies to build locally single drives:

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

Optimized cabinet design

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.

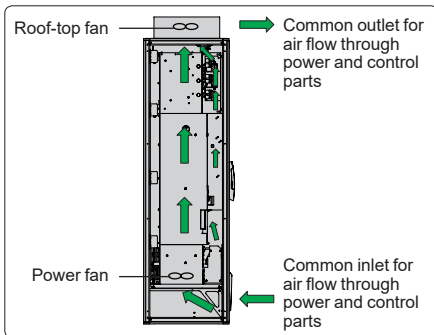
Altivar Process Modular brings flexible solutions for special integration constraints as well as standard integration in 2 m/6.56 ft height and 600 mm/23.62 in. depth cabinets with IP 21/IP 54 protection and robust design.

These power intensive single drives offers integrate:

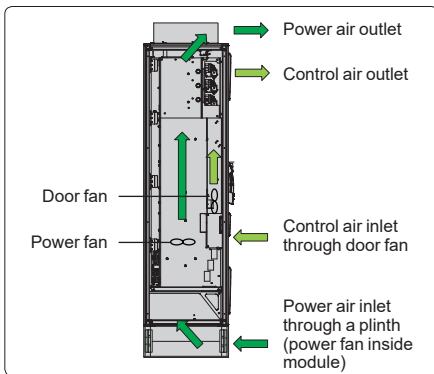
- Drive power and control modules
- Line chokes to limit THDi levels
- A filter to help protect the motor against the effects of dv/dt
- Accessible busbars to simplify the motor wiring and power wiring

IP21 integration type creates a common cooling air flow for the power and control parts.

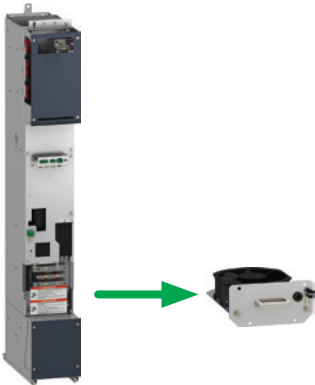
The IP 54 mechanical option introduces a system for separating the cooling air flow between the power and control parts, allowing operation in a highly polluted environment as well as optimum management of thermal stress in the plant room. Both designs allow incoming air temperature up to + 50 °C/122 °F with derating (class 3K3 according to IEC/EN 60721-3-3).



IP 20, 21, 23, 40, 41, 43/Type 1 integration common cooling air flow



IP54/Type 12 integration separated cooling air flow



Power module and power fan inside drawer

Product features

The Altivar Process Modular drives offer has been developed to meet 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/984.25 ft of shielded motor cables (category C3 environment) and 500 m/1640 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, tested electric core components 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 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

Altivar Process Modular program

The Altivar Process modular program is dedicated to trained and qualified partners within Schneider Electric Partner Network, bringing Schneider Electric high quality power intensive drive solutions to End Users.

This program recognizes our partners as they are able to:

- Build customized panels and high power drives solutions by paralleling drive modules up to 800 kw (1100 HP) in 380...480 V supply voltage
- Access the download area of partner portal and find all datasheets, dimensions and drawing in different file formats, EPLAN marcos, selection tool for electric and mechanical parts, external components for line side of the drive: <http://www.schneider-electric.com/en/partners/>

Altivar Process Modular

Drive Integration Partner Program

Life Is On | Schneider Electric

3



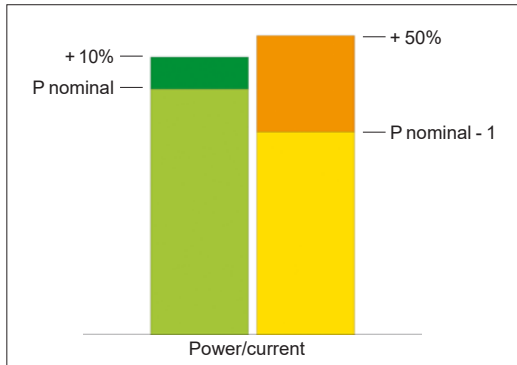
Altivar Process Modular architecture from 1 to 5 modules

Modular single drives

Modular single drives solutions can be built using power modules, control units and accessories. They cover motor power ratings from 110...800 kW/150...1100 HP for 380...480 V three-phase voltages.

Three-phase power supply - 380...480 V

| Motor power | Degree of protection | Reference |
|---------------|----------------------|---------------------------|
| 110...800 kW | IP 00 | ATV6A0C11Q4...ATV6A0C80Q4 |
| 150...1100 HP | | ATV6A0C11R4...ATV6A0C80R4 |
| | | ATV6A0C11T4...ATV6A0C80T4 |



Normal duty and Heavy duty modes

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 Modular

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

Cabinet integration drives

ATVPro_06317_CPSCTT7006



ATV6A0C11Q4

| 400 V IP 00 Modular single drives | | | | | | | | |
|---|-------------|------|--------------|----------------|------------------------------|----------------------------|---------------------------------|---------------|
| Motor | | | Line supply | | | Altivar Process | | |
| Power indicated on rating plate | | | Line current | Apparent power | Maximum prospective line Isc | Maximum continuous current | Max. transient current for 60 s | Reference (1) |
| | | | 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 | 150 | 198 | 137 | 50 | 211 | 232 | ATV6A0C11Q4 |
| HD | 90 | 125 | 167 | 116 | 50 | 173 | 260 | |
| ND | 132 | 200 | 233 | 161 | 50 | 250 | 275 | ATV6A0C13Q4 |
| HD | 110 | 150 | 198 | 137 | 50 | 211 | 317 | |
| ND | 160 | 250 | 278 | 193 | 50 | 302 | 332 | ATV6A0C16Q4 |
| HD | 132 | 200 | 233 | 161 | 50 | 250 | 375 | |
| ND | 200 | 300 | 352 | 244 | 50 | 370 | 407 | ATV6A0C20Q4 |
| HD | 160 | 250 | 290 | 201 | 50 | 302 | 453 | |
| ND | 250 | 400 | 432 | 299 | 50 | 477 | 525 | ATV6A0C25Q4 |
| HD | 200 | 300 | 353 | 245 | 50 | 370 | 555 | |
| ND | 315 | 500 | 538 | 373 | 50 | 590 | 649 | ATV6A0C31Q4 |
| HD | 250 | 400 | 432 | 299 | 50 | 477 | 716 | |
| ND | 355 | 550 | 611 | 423 | 50 | 660 | 726 | ATV6A0C35Q4 |
| HD | 280 | 450 | 489 | 339 | 50 | 520 | 780 | |
| ND | 400 | 600 | 681 | 472 | 50 | 730 | 803 | ATV6A0C40Q4 |
| HD | 315 | 500 | 545 | 378 | 50 | 590 | 885 | |
| ND | 450 | 650 | 764 | 529 | 50 | 830 | 913 | ATV6A0C45Q4 |
| HD | 355 | 550 | 611 | 423 | 50 | 660 | 990 | |
| ND | 500 | 700 | 846 | 586 | 50 | 900 | 990 | ATV6A0C50Q4 |
| HD | 400 | 600 | 681 | 472 | 50 | 730 | 1095 | |
| ND | 560 | 800 | 948 | 657 | 50 | 1020 | 1122 | ATV6A0C56Q4 |
| HD | 450 | 650 | 767 | 531 | 50 | 830 | 1245 | |
| ND | 630 | 900 | 1058 | 733 | 50 | 1140 | 1254 | ATV6A0C63Q4 |
| HD | 500 | 700 | 849 | 588 | 50 | 900 | 1350 | |
| ND | 710 | 1000 | 1192 | 826 | 50 | 1260 | 1386 | ATV6A0C71Q4 |
| HD | 560 | 800 | 951 | 659 | 50 | 1020 | 1530 | |
| ND | 800 | 1100 | 1335 | 925 | 50 | 1420 | 1562 | ATV6A0C80Q4 |
| HD | 630 | 900 | 1061 | 735 | 50 | 1140 | 1710 | |

(1) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members.



Variable speed drives

Altivar Process Modular

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

Cabinet integration drives

ATVPro_02317_CP_SCT17009



ATV6A0C20R4

3

ATVPro_02317_CP_SCT17009



ATV6A0C35R4

| 440 V IP 00 Modular single drives | | | | | | | | |
|---|-------------|------|--------------|----------------|------------------------------|----------------------------|---------------------------------|---------------|
| Motor | | | Line supply | | | Altivar Process | | |
| Power indicated on rating plate | | | Line current | Apparent power | Maximum prospective line Isc | Maximum continuous current | Max. transient current for 60 s | Reference (1) |
| | | | 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 | 150 | 183 | 139 | 50 | 211 | 232 | ATV6A0C11R4 |
| HD | 90 | 125 | 155 | 118 | 50 | 173 | 260 | |
| ND | 132 | 200 | 214 | 163 | 50 | 250 | 275 | ATV6A0C13R4 |
| HD | 110 | 150 | 183 | 139 | 50 | 211 | 317 | |
| ND | 160 | 250 | 255 | 194 | 50 | 302 | 332 | ATV6A0C16R4 |
| HD | 132 | 200 | 214 | 163 | 50 | 250 | 375 | |
| ND | 160 | 300 | 325 | 248 | 50 | 370 | 407 | ATV6A0C20R4 |
| HD | 160 | 250 | 269 | 205 | 50 | 302 | 453 | |
| ND | 250 | 400 | 396 | 302 | 50 | 477 | 525 | ATV6A0C25R4 |
| HD | 200 | 300 | 325 | 248 | 50 | 370 | 555 | |
| ND | 315 | 500 | 493 | 376 | 50 | 590 | 649 | ATV6A0C31R4 |
| HD | 250 | 400 | 396 | 302 | 50 | 477 | 716 | |
| ND | 355 | 550 | 559 | 426 | 50 | 660 | 726 | ATV6A0C35R4 |
| HD | 280 | 450 | 450 | 343 | 50 | 520 | 780 | |
| ND | 400 | 600 | 623 | 475 | 50 | 730 | 803 | ATV6A0C40R4 |
| HD | 315 | 500 | 501 | 382 | 50 | 590 | 885 | |
| ND | 450 | 650 | 697 | 531 | 50 | 830 | 913 | ATV6A0C45R4 |
| HD | 355 | 550 | 559 | 426 | 50 | 660 | 990 | |
| ND | 500 | 700 | 771 | 588 | 50 | 900 | 990 | ATV6A0C50R4 |
| HD | 400 | 600 | 623 | 475 | 50 | 730 | 1095 | |
| ND | 560 | 800 | 865 | 659 | 50 | 1020 | 1122 | ATV6A0C56R4 |
| HD | 450 | 650 | 703 | 536 | 50 | 830 | 1245 | |
| ND | 630 | 900 | 965 | 735 | 50 | 1140 | 1254 | ATV6A0C63R4 |
| HD | 500 | 700 | 776 | 591 | 50 | 900 | 1350 | |
| ND | 710 | 1000 | 1087 | 828 | 50 | 1260 | 1386 | ATV6A0C71R4 |
| HD | 580 | 800 | 869 | 662 | 50 | 1020 | 1530 | |
| ND | 800 | 1100 | 1216 | 927 | 50 | 1420 | 1562 | ATV6A0C80R4 |
| HD | 630 | 900 | 968 | 738 | 50 | 1140 | 1710 | |

(1) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members.

Variable speed drives

Altivar Process Modular

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

Cabinet integration drives



ATV6A0C56T4



ATV6A0C80T4

| 480 V IP 00 Modular single drives | | | | | | | | |
|---|--------------|----------------|------------------------------|----------------------------|---------------------------------|------|---------------|-------------|
| Motor | Line supply | | | Altivar Process | | | Reference (1) | |
| Power indicated on rating plate | Line current | Apparent power | Maximum prospective line Isc | Maximum continuous current | Max. transient current for 60 s | | | |
| ND: Normal duty | 480 V | 480 V | | | | | | |
| 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) These references are built by combining sub-assemblies and accessories that are integrated by Altivar Process Modular Program members.



Altivar Process Drive Systems

- Altivar Process Drive Systems presentation..... page 4/2
- Compact Drive Systems..... page 4/4
- Low Harmonic Drive Systems page 4/10
- Options..... page 4/16

Variable speed drives

Altivar Process Drive Systems



ATV660C31Q4X1

4

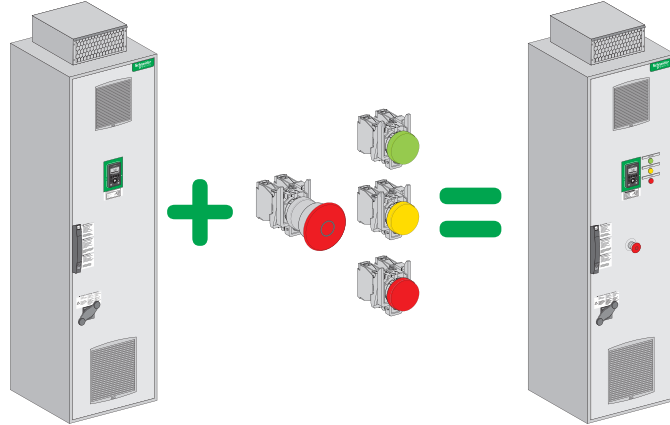
Engineered Drive Systems

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)

In the CTO variant, Altivar Process Drive Systems can be quickly equipped via predefined CTO options to fit customer requirements.



Thanks to its predefined CTO options, the CTO variant allows the minimum delivery time for individually adapted enclosures, ready to connect.

The available CTO options are:

- Increased IP 54 protection degree
- Enclosure plinth for basic device
- Additional enclosure allowing cabling from the top or from the bottom
- Enclosure lighting, heating
- "Local/remote" key switch
- Ethernet port on front door
- Digital and analog I/O modules and relay output 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 disconnection
- Setting for 415 V + 10%
- Safety labels in the local language
- Design for IT mains
- Seaworthy packaging



Engineered Drive System based on the ATV660C50Q4X1 drive

Engineered Drive Systems (continued)

Engineered to order (ETO)

The ETO variant offers, in addition to the predefined CTO options, the possibility of implementing customer-specific adaptations in Drive Systems.

The following adaptations are available:

- 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.



Full ETO Drive System

Full engineered to order (Full ETO)

With the Full ETO variant it is possible to design bespoke system solutions for the customer.

Typical design variations are:

- Multi-drive systems (several frequency inverters in the same enclosure)
- Other cooling systems
- Other enclosure types
- Other dimensions
- Etc.

For further information, please consult our Customer Care Center.

Variable speed drives

Altivar Process

Compact Drive Systems



ATV660C31Q4X1

4

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 installation and commissioning of the drive.

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 protect the motor and spacious mains and motor bars for connecting the power cables.

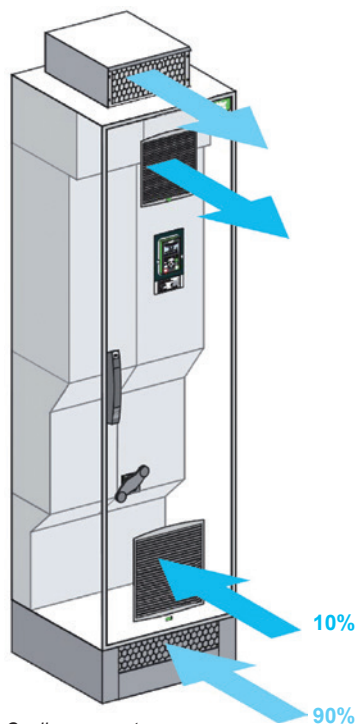
The design is based on the ready-assembled Sarel "Spacial SF" enclosures with a graphic operating panel integrated in the enclosure door.

Compact dimensions

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

Variable speed drives

Altivar Process Compact Drive Systems



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 at the same time.

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.

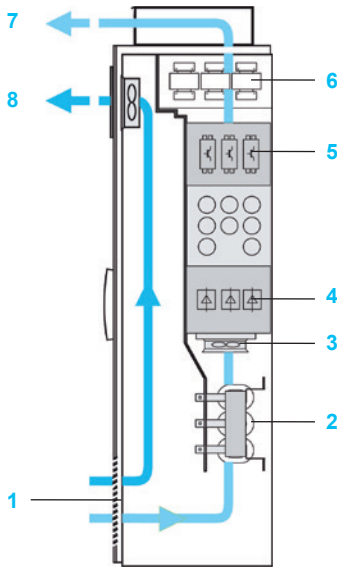
When using the "IP 54 increased protection degree" option, the separate air supply for the power section comes through the enclosure plinth.

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.

Variable speed drives

Altivar Process Compact Drive Systems



IP 23 enclosure

Protection degrees

The standard design of Altivar Process Compact Drive Systems complies with the IP 23 protection degree. 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, the increased IP 54 protection degree 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 IP 23 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 and 40°C (- 10°C with enclosure heating) and can reach + 50°C with derating (class 3K3 according to IEC/EN 60721-3-3).

IP 23 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 IP 54 protection degree

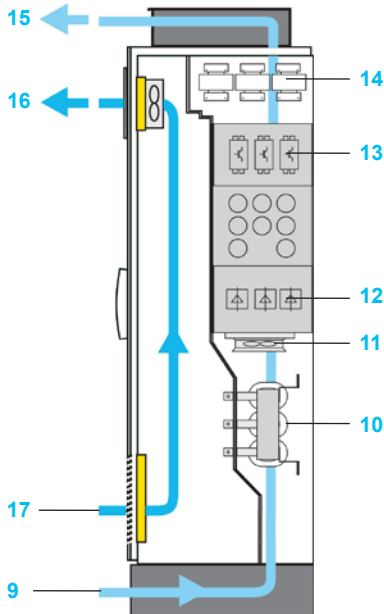
With the increased IP 54 protection degree with separate channels, the cooling air intake comes from the floor and goes out through the enclosure roof.

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

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

IP 54 enclosures are composed of:

- 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



IP 54 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 IP 54 protection degree
- Enclosure plinth for basic device
- Additional enclosure allowing cabling from the top or from the bottom
- Enclosure lighting, heating
- "Local/remote" key switch
- Ethernet port on front door
- Digital and analog I/O modules and relay output 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 disconnection
- Setting for 415 V + 10%
- Safety labels in the local language
- Design for IT mains
- 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.

Variable speed drives

Altivar Process

Compact Drive Systems



ATV660C16Q4X1

4

| IP 23 three-phase 380...415 V 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 |
| | | 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 | 300.000/661.386 |
| HD | 90 | 164 | 113 | 50 | 173 | 260 | | |
| ND | 132 | 232 | 161 | 50 | 250 | 275 | ATV660C13Q4X1 | 300.000/661.386 |
| HD | 110 | 197 | 136 | 50 | 211 | 317 | | |
| ND | 160 | 277 | 192 | 50 | 302 | 332 | ATV660C16Q4X1 | 300.000/661.386 |
| HD | 132 | 232 | 161 | 50 | 250 | 375 | | |
| ND | 200 | 349 | 242 | 50 | 370 | 407 | ATV660C20Q4X1 | 400.000/881.848 |
| HD | 160 | 286 | 198 | 50 | 302 | 453 | | |
| ND | 250 | 432 | 299 | 50 | 477 | 525 | ATV660C25Q4X1 | 400.000/881.848 |
| HD | 200 | 353 | 244 | 50 | 370 | 555 | | |
| ND | 315 | 538 | 373 | 50 | 590 | 649 | ATV660C31Q4X1 | 400.000/881.848 |
| HD | 250 | 432 | 299 | 50 | 477 | 716 | | |
| ND | 355 | 611 | 423 | 50 | 660 | 726 | ATV660C35Q4X1 | 650.000/1433.004 |
| HD | 280 | 489 | 339 | 50 | 520 | 780 | | |
| ND | 400 | 681 | 472 | 50 | 730 | 803 | ATV660C40Q4X1 | 650.000/1433.004 |
| HD | 315 | 545 | 378 | 50 | 590 | 885 | | |
| ND | 450 | 764 | 529 | 50 | 830 | 913 | ATV660C45Q4X1 | 650.000/1433.004 |
| HD | 355 | 611 | 423 | 50 | 660 | 990 | | |
| ND | 500 | 846 | 586 | 50 | 900 | 990 | ATV660C50Q4X1 | 650.000/1433.004 |
| HD | 400 | 681 | 472 | 50 | 730 | 1095 | | |
| ND | 560 | 948 | 656 | 50 | 1020 | 1122 | ATV660C56Q4X1 | 850.000/1873.928 |
| HD | 450 | 767 | 531 | 50 | 830 | 1245 | | |
| ND | 630 | 1058 | 733 | 50 | 1140 | 1254 | ATV660C63Q4X1 | 850.000/1873.928 |
| HD | 500 | 849 | 588 | 50 | 900 | 1350 | | |
| ND | 710 | 1192 | 826 | 50 | 1260 | 1386 | ATV660C71Q4X1 | 1100.00/2425.083 |
| HD | 560 | 951 | 659 | 50 | 1020 | 1530 | | |
| ND | 800 | 1335 | 925 | 50 | 1420 | 1562 | ATV660C80Q4X1 | 1100.00/2425.083 |
| 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 on our website www.schneider-electric.com).

(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 summary tables of possible drive, option, and accessory combinations (see page 4/16).

Variable speed drives

Altivar Process

Compact Drive Systems



ATV660C25T4X1

| IP 23 three-phase 480 V 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 |
| ND: Normal duty (3) | | 480 V | 480 V | | | | | |
| 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 | 300.000/ 661.386 |
| HD | 110 | 168 | 139 | 50 | 173 | 260 | | |
| ND | 160 | 233 | 194 | 50 | 250 | 275 | ATV660C13T4X1 | 300.000/ 661.386 |
| HD | 132 | 198 | 164 | 50 | 211 | 317 | | |
| ND | 180 | 258 | 194 | 50 | 302 | 332 | ATV660C16T4X1 | 300.000/ 661.386 |
| HD | 160 | 233 | 215 | 50 | 250 | 375 | | |
| ND | 220 | 320 | 266 | 50 | 370 | 407 | ATV660C20T4X1 | 400.000/ 881.848 |
| HD | 180 | 267 | 222 | 50 | 302 | 453 | | |
| ND | 280 | 400 | 333 | 50 | 477 | 525 | ATV660C25T4X1 | 400.000/ 881.848 |
| HD | 220 | 323 | 268 | 50 | 370 | 555 | | |
| ND | 355 | 503 | 418 | 50 | 590 | 649 | ATV660C31T4X1 | 400.000/ 881.848 |
| HD | 280 | 400 | 333 | 50 | 477 | 716 | | |
| ND | 400 | 572 | 475 | 50 | 660 | 726 | ATV660C35T4X1 | 650.000/ 1433.004 |
| HD | 315 | 456 | 379 | 50 | 520 | 780 | | |
| ND | 450 | 637 | 530 | 50 | 730 | 803 | ATV660C40T4X1 | 650.000/ 1433.004 |
| HD | 355 | 510 | 424 | 50 | 590 | 885 | | |
| ND | 500 | 706 | 587 | 50 | 830 | 913 | ATV660C45T4X1 | 650.000/ 1433.004 |
| HD | 400 | 572 | 475 | 50 | 660 | 990 | | |
| ND | 560 | 789 | 656 | 50 | 900 | 990 | ATV660C50T4X1 | 650.000/ 1433.004 |
| HD | 450 | 637 | 530 | 50 | 730 | 1095 | | |
| ND | 630 | 888 | 739 | 50 | 1020 | 1122 | ATV660C56T4X1 | 850.000/ 1873.928 |
| HD | 500 | 711 | 591 | 50 | 830 | 1245 | | |
| ND | 710 | 993 | 826 | 50 | 1140 | 1254 | ATV660C63T4X1 | 850.000/ 1873.928 |
| HD | 560 | 794 | 660 | 50 | 900 | 1350 | | |
| ND | 800 | 1119 | 931 | 50 | 1260 | 1386 | ATV660C71T4X1 | 1100.00/ 2425.083 |
| HD | 630 | 893 | 742 | 50 | 1020 | 1530 | | |
| ND | 900 | 1257 | 1045 | 50 | 1420 | 1562 | ATV660C80T4X1 | 1100.00/ 2425.083 |
| 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 on our website www.schneider-electric.com).

(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 summary tables of possible drive, option, and accessory combinations (see page 4/16).

Variable speed drives

Altivar Process

Low Harmonic Drive Systems



ATV680C16Q4X1

4

Presentation

Concept

The ATV680 Low Harmonic Drive Systems are used when drives need to have particularly low mains harmonics.

In comparison with the classic circuit structure of active mains rectifiers, the 3-level technology allows an increase of the switching frequency and the current load is reduced at the same time. This new technology reaches a total distortion factor THDi of around 2% and thus fulfills the requirements according to IEEE 519 of THDi < 5% also in case of distorted mains. Additionally, the $\cos \Phi \approx 1$ in each load situation helps to reduce the load of the mains.

The ATV680 range is an optimum solution for energy efficiency and process optimization.

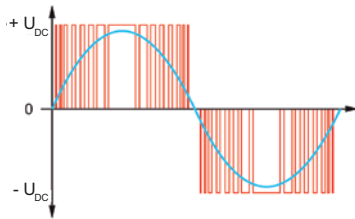
The modular design makes it possible to adapt the enclosure unit to individual requirements. It simplifies planning and allows quick installation and commissioning of the drive.

Standard equipment

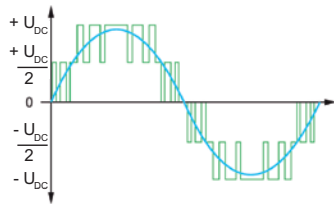
The Low Harmonic offer contains active infeed modules as well as frequency inverter modules, filter components, semiconductor fuses, a main switch, a dv/dt filter choke for motor protection and spacious mains and motor bars for connecting the power cables.

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. It has compact dimensions, nevertheless there is enough space for additional extensions and accessibility for maintenance.



2-level technology



ATV680 with 3-level technology

Device features

Enhanced motor lifetime due to the 3-level concept

The 3-level technology of the active mains rectifier reduces the voltage load at the motor significantly, compared to other Low Harmonic frequency inverters. The fluctuating adaptation of the DC link voltage helps extend the motor lifetime.

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.

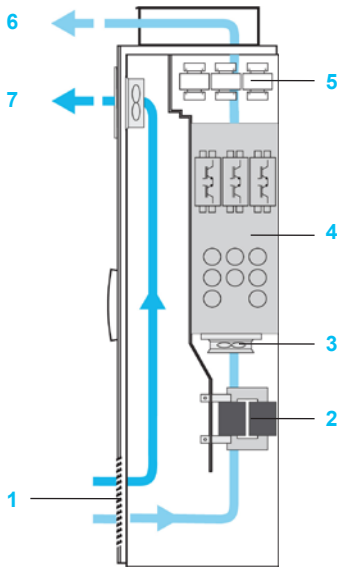
Compact dimensions due to the 3-level concept

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

Variable speed drives

Altivar Process

Low Harmonic Drive Systems



IP 23 enclosure

Protection degrees

The standard design of the Altivar Process Low Harmonic Drive Systems complies with the IP 23 protection degree. 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, the increased IP 54 protection degree 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 IP 23 enclosure design

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

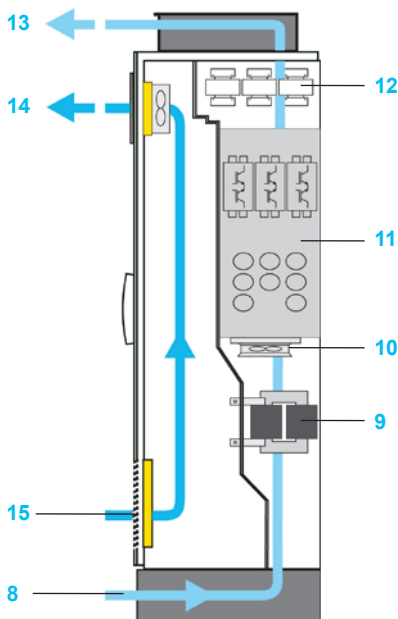
The cooling air intake comes from a grid located in the bottom of the enclosure door. The internal fan, which is in a separate air channel, provides cooling of the power section. The air then comes out through the top of the enclosure.

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 and 40°C (- 10°C with enclosure heating) and can reach + 50°C with derating (class 3K3 according to IEC/EN 60721-3-3).

IP 23 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 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



IP 54 enclosure

Increased IP 54 protection degree

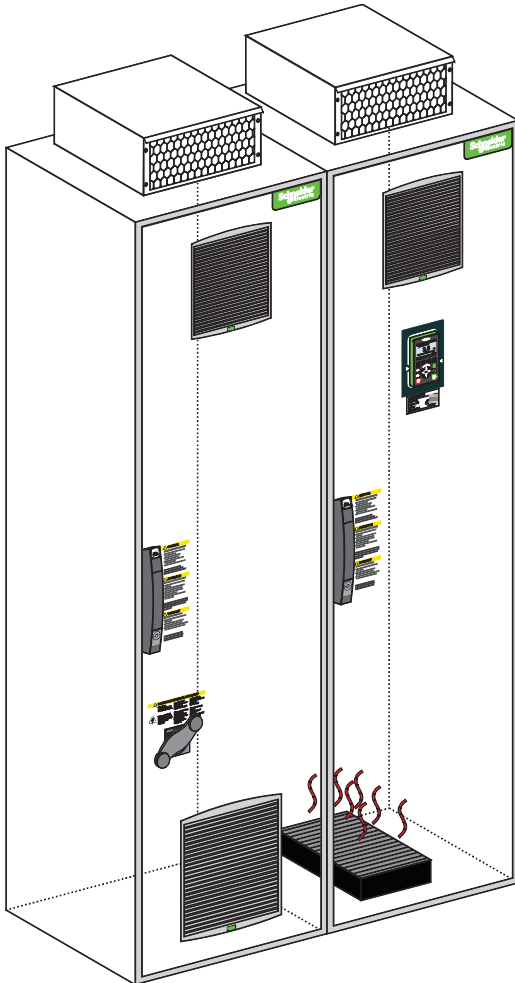
With the increase IP 54 protection degree with separate channels the cooling air intake comes from the floor and goes out through the enclosure roof.

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

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

IP 54 enclosures comprise:

- 8 An air intake for the power section via the enclosure plinth
- 9 Filter components
- 10 Fans for the power section
- 11 An Active Front End module
- 12 A dv/dt filter choke
- 13 An air outlet via a metal cover with protection against water splashes on the enclosure roof
- 14 An air outlet (with filter mat) with fans for the control section
- 15 An air intake grid (with filter mat) for the control section



Enclosure heating

Modular offer

This consists of:

- The standard Low Harmonic 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 IP 54 protection degree
- Enclosure plinth for basic device
- Additional enclosure allowing cabling from the top or from the bottom
- Enclosure lighting, heating
- "Local/remote" key switch
- Ethernet port on front door
- Digital and analog I/O modules and relay output 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 disconnection
- Setting for 415 V + 10%
- Design for IT mains
- 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.

Variable speed drives

Altivar Process

Low Harmonic Drive Systems



ATV680C16Q4X1

4

| IP 23 three-phase 380...415 V Low Harmonic 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 |
| | | | | | | | |
| 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 | 400.000/ 881.848 |
| HD 90 | 144 | 100 | 50 | 173 | 260 | | |
| ND 132 | 208 | 144 | 50 | 250 | 275 | ATV680C13Q4X1 | 400.000/ 881.848 |
| HD 110 | 174 | 121 | 50 | 211 | 317 | | |
| ND 160 | 252 | 174 | 50 | 302 | 332 | ATV680C16Q4X1 | 400.000/ 881.848 |
| HD 132 | 208 | 144 | 50 | 250 | 375 | | |
| ND 200 | 313 | 217 | 50 | 370 | 407 | ATV680C20Q4X1 | 700.000/ 1543.235 |
| HD 160 | 252 | 174 | 50 | 302 | 453 | | |
| ND 250 | 389 | 270 | 50 | 477 | 525 | ATV680C25Q4X1 | 700.000/ 1543.235 |
| HD 200 | 313 | 217 | 50 | 370 | 555 | | |
| ND 315 | 491 | 340 | 50 | 590 | 649 | ATV680C31Q4X1 | 700.000/ 1543.235 |
| HD 250 | 389 | 270 | 50 | 477 | 716 | | |
| ND 355 | 553 | 383 | 50 | 660 | 726 | ATV680C35Q4X1 | 1150.000/ 2535.314 |
| HD 280 | 436 | 302 | 50 | 520 | 780 | | |
| ND 400 | 620 | 429 | 50 | 730 | 803 | ATV680C40Q4X1 | 1150.000/ 2535.314 |
| HD 315 | 491 | 340 | 50 | 590 | 885 | | |
| ND 450 | 697 | 483 | 50 | 830 | 913 | ATV680C45Q4X1 | 1150.000/ 2535.314 |
| HD 355 | 553 | 383 | 50 | 660 | 990 | | |
| ND 500 | 775 | 537 | 50 | 900 | 990 | ATV680C50Q4X1 | 1150.000/ 2535.314 |
| HD 400 | 620 | 429 | 50 | 730 | 1095 | | |
| ND 560 | 868 | 601 | 50 | 1020 | 1122 | ATV680C56Q4X1 | 1450.000/ 3196.700 |
| HD 450 | 697 | 483 | 50 | 830 | 1245 | | |
| ND 630 | 971 | 673 | 50 | 1140 | 1254 | ATV680C63Q4X1 | 1450.000/ 3196.700 |
| HD 500 | 775 | 537 | 50 | 900 | 1350 | | |
| ND 710 | 1094 | 758 | 50 | 1260 | 1386 | ATV680C71Q4X1 | 1950.000/ 4299.011 |
| HD 560 | 868 | 601 | 50 | 1020 | 1530 | | |
| ND 800 | 1227 | 850 | 50 | 1420 | 1562 | ATV680C80Q4X1 | 1950.000/ 4299.011 |
| 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 on our website www.schneider-electric.com).

(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 summary tables of possible drive, option, and accessory combinations (see page 4/16).

Variable speed drives

Altivar Process

Low Harmonic Drive Systems



ATV680C31T4X1

| IP 23 three-phase 480 V Low Harmonic Drive Systems | | | | | | | | |
|--|------------------|----------------|---------------------------|-----------------------------|---------------------------------|---------------|-----------------------|--------|
| Motor | Line supply | | | Altivar Process | | | Reference (1) | 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 | | | |
| | 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 | 400.000/ 881.848 | |
| HD 110 | 147 | 123 | 50 | 173 | 260 | | | |
| ND 160 | 211 | 175 | 50 | 250 | 275 | ATV680C13T4X1 | 400.000/ 881.848 | |
| HD 132 | 175 | 145 | 50 | 211 | 317 | | | |
| ND 180 | 236 | 196 | 50 | 302 | 332 | ATV680C16T4X1 | 400.000/ 881.848 | |
| HD 160 | 211 | 175 | 50 | 250 | 375 | | | |
| ND 220 | 287 | 239 | 50 | 370 | 407 | ATV680C20T4X1 | 700.000/ 1543.235 | |
| HD 180 | 236 | 196 | 50 | 302 | 453 | | | |
| ND 280 | 363 | 302 | 50 | 477 | 525 | ATV680C25T4X1 | 700.000/ 1543.235 | |
| HD 220 | 287 | 239 | 50 | 370 | 555 | | | |
| ND 355 | 461 | 383 | 50 | 590 | 649 | ATV680C31T4X1 | 700.000/ 1543.235 | |
| HD 280 | 363 | 302 | 50 | 477 | 716 | | | |
| ND 400 | 519 | 432 | 50 | 660 | 726 | ATV680C35T4X1 | 1150.000/ 2535.314 | |
| HD 315 | 409 | 340 | 50 | 520 | 780 | | | |
| ND 450 | 581 | 483 | 50 | 730 | 803 | ATV680C40T4X1 | 1150.000/ 2535.314 | |
| HD 355 | 461 | 383 | 50 | 590 | 885 | | | |
| ND 500 | 646 | 537 | 50 | 830 | 913 | ATV680C45T4X1 | 1150.000/ 2535.314 | |
| HD 400 | 519 | 432 | 50 | 660 | 990 | | | |
| ND 560 | 723 | 601 | 50 | 900 | 990 | ATV680C50T4X1 | 1150.000/ 2535.314 | |
| HD 450 | 581 | 483 | 50 | 730 | 1095 | | | |
| ND 630 | 813 | 676 | 50 | 1020 | 1122 | ATV680C56T4X1 | 1450.000/ 3196.700 | |
| HD 500 | 646 | 537 | 50 | 830 | 1245 | | | |
| ND 710 | 912 | 758 | 50 | 1140 | 1254 | ATV680C63T4X1 | 1450.000/ 3196.700 | |
| HD 560 | 723 | 601 | 50 | 900 | 1350 | | | |
| ND 800 | 1028 | 854 | 50 | 1260 | 1386 | ATV680C71T4X1 | 1950.000/ 4299.011 | |
| HD 630 | 813 | 676 | 50 | 1020 | 1530 | | | |
| ND 900 | 1150 | 956 | 50 | 1420 | 1562 | ATV680C80T4X1 | 1950.000/ 4299.011 | |
| 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.

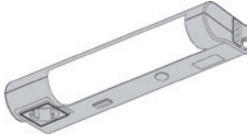
Above 2.5 kHz, the drive will automatically reduce the switching frequency in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see the derating curves on our website www.schneider-electric.com).

(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 summary tables of possible drive, option, and accessory combinations (see page 4/16).



VW3AP1601

Common options (1)

| Description | Reference | Weight kg/lb |
|---|-----------|-----------------|
| Enclosure options | | |
| Enclosure lighting (2) | VW3AP1601 | 0.500/ 1.102 |
| Control options | | |
| “Local/remote” key switch | VW3AP1801 | 0.200/ 0.441 |
| Ethernet port on front door | VW3AP1807 | 0.200/ 0.441 |
| I/O expansion modules | | |
| Expansion module with additional I/O | VW3AP3203 | 0.200/ 0.441 |
| Expansion module with relay outputs | VW3AP3204 | 0.200/ 0.441 |
| Communication modules | | |
| Profibus DP communication module | VW3AP3607 | 0.200/ 0.441 |
| CANopen Daisy Chain communication module | VW3AP3608 | 0.200/ 0.441 |
| DeviceNet communication module | VW3AP3609 | 0.200/ 0.441 |
| CANopen SUB-D9 communication module | VW3AP3618 | 0.200/ 0.441 |
| CANopen communication module with screw terminals | VW3AP3628 | 0.200/ 0.441 |
| PROFINET communication module | VW3AP3627 | 0.200/ 0.441 |
| Modbus TCP and EtherNet/IP communication module | VW3AP3720 | 0.200/ 0.441 |
| Communication Card Ethernet/IP, Modbus TCP, MultiDrive-Link | VW3AP3721 | 0.200/ 0.441 |
| Safety functions | | |
| Safe Torque Off STO - SIL 3 Stop category 0 | VW3AP1502 | 0.200/ 0.441 |
| Safe Torque Off STO - SIL 3 Stop category 1 | VW3AP1503 | 0.500/ 1.102 |
| Display options | | |
| Indicator lights on front door | VW3AP0421 | 0.200/ 0.441 |
| Motor options | | |
| PTC relay for motor monitoring | VW3AP2001 | 0.200/ 0.441 |
| PTC relay with ATEX certification for motor monitoring (3) | VW3AP2002 | 0.200/ 0.441 |
| PT100/1000/KTY relay for motor monitoring | VW3AP2003 | 0.200/ 0.441 |
| PT100/1000/KTY relay for bearing monitoring | VW3AP2004 | 0.200/ 0.441 |
| Motor heating | VW3AP2101 | 0.300/ 0.661 |
| Mains supply | | |
| Setting for 415 V + 10% | VW3AP0415 | – |
| Ready for IT mains | VW3AP2701 | – |
| Safety labels (4) | | |
| 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



(1) These options cannot be ordered alone. For any other configuration, please contact our Customer Care Center.

(2) Not available for ATV660C11•4X1...C16•4X1.

(3) ATEX: please refer to the ATEX guide available on our website www.schneider-electric.com.

(4) English and French as standards

Variable speed drives

Altivar Process

Drive Systems

CTO options dependent on the drive rating



VW3AP0801

| Options dependent on the drive rating (1) | | | |
|---|-------------------------|-----------|--------------------|
| Description | For enclosure (2) | Reference | Weight kg/lb |
| Enclosure options | | | |
| Enclosure heating | ATV660C11●4X1...C16●4X1 | VW3AP0501 | 1.500/ 3.307 |
| | ATV660C20●4X1...C50●4X1 | VW3AP0502 | 3.000/ 6.614 |
| | ATV660C56●4X1...C80●4X1 | VW3AP0503 | 4.500/ 9.921 |
| | ATV680C11●4X1...C31●4X1 | VW3AP0551 | 2.000/ 4.409 |
| | ATV680C35●4X1...C80●4X1 | VW3AP0552 | 3.000/ 6.614 |
| Increased IP 54 protection degree | ATV660C11●4X1...C16●4X1 | VW3AP0301 | 13.000/ 28.660 |
| | ATV660C20●4X1...C31●4X1 | VW3AP0302 | 16.000/ 35.274 |
| | ATV660C35●4X1...C50●4X1 | VW3AP0303 | 19.000/ 41.888 |
| | ATV660C56●4X1...C63●4X1 | VW3AP0304 | 32.000/ 70.548 |
| | ATV660C71●4X1...C80●4X1 | VW3AP0305 | 35.000/ 77.162 |
| | ATV680C11●4X1...C16●4X1 | VW3AP0351 | 16.000/ 35.274 |
| | ATV680C20●4X1...C31●4X1 | VW3AP0352 | 29.000/ 63.934 |
| | ATV680C35●4X1...C50●4X1 | VW3AP0353 | 45.000/ 99.208 |
| | ATV680C56●4X1...C63●4X1 | VW3AP0354 | 58.000/ 127.668 |
| | ATV680C71●4X1...C80●4X1 | VW3AP0355 | 74.000/ 163.142 |
| Enclosure plinth for basic device | ATV660C11●4X1...C16●4X1 | VW3AP0801 | 9.000/ 19.842 |
| | ATV660C20●4X1...C31●4X1 | VW3AP0802 | 11.000/ 24.251 |
| | ATV660C35●4X1...C50●4X1 | VW3AP0803 | 13.000/ 28.660 |
| | ATV660C56●4X1...C63●4X1 | VW3AP0804 | 22.000/ 48.502 |
| | ATV660C71●4X1...C80●4X1 | VW3AP0805 | 24.000/ 52.911 |
| | ATV680C11●4X1...C16●4X1 | VW3AP0851 | 11.000/ 24.251 |
| | ATV680C20●4X1...C31●4X1 | VW3AP0852 | 20.000/ 44.093 |
| | ATV680C35●4X1...C50●4X1 | VW3AP0853 | 31.000/ 68.343 |
| | ATV680C56●4X1...C63●4X1 | VW3AP0854 | 40.000/ 88.185 |
| | ATV680C71●4X1...C80●4X1 | VW3AP0855 | 54.000/ 119.050 |

(1) These options cannot be ordered alone. For any other configuration, please contact our Customer Care Center.

(2) Replace ● with Q for 380...415 V mains voltage or with T for 480 V mains voltage.

Variable speed drives

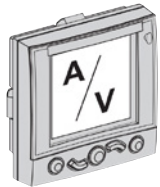
Altivar Process

Drive Systems

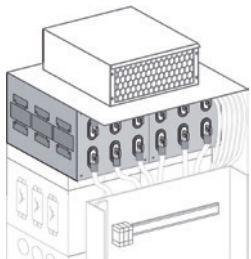
CTO options dependent on the drive rating



VW3AP0707



VW3AP0403



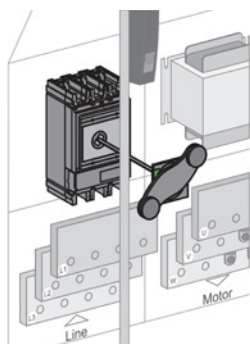
VW3AP0612

Options dependent on the drive rating (continued) (1)

| Description | For enclosure (2) | Reference | Weight kg/lb |
|---|-------------------------|-----------|---------------------|
| Enclosure options | | | |
| Additional enclosure allowing cabling from the top | ATV660C11●4X1...C31●4X1 | VW3AP0701 | 85.000/ 187.393 |
| | ATV680C11●4X1...C31●4X1 | | |
| Additional enclosure allowing cabling from the top with plinth | ATV660C35●4X1...C80●4X1 | VW3AP0702 | 100.000/ 220.462 |
| | ATV680C35●4X1...C80●4X1 | | |
| Additional enclosure allowing cabling from the bottom | ATV660C11●4X1...C31●4X1 | VW3AP0704 | 94.000/ 207.234 |
| | ATV680C11●4X1...C31●4X1 | | |
| Additional enclosure allowing cabling from the bottom with plinth | ATV660C35●4X1...C80●4X1 | VW3AP0705 | 111.000/ 244.713 |
| | ATV680C35●4X1...C80●4X1 | | |
| Additional enclosure allowing cabling from the bottom | ATV660C11●4X1...C31●4X1 | VW3AP0707 | 85.000/ 187.393 |
| | ATV680C11●4X1...C31●4X1 | | |
| Additional enclosure allowing cabling from the bottom with plinth | ATV660C35●4X1...C80●4X1 | VW3AP0708 | 100.000/ 220.462 |
| | ATV680C35●4X1...C80●4X1 | | |
| Additional enclosure allowing cabling from the bottom with plinth | ATV660C11●4X1...C31●4X1 | VW3AP0710 | 94.000/ 207.234 |
| | ATV680C11●4X1...C31●4X1 | | |
| Additional enclosure allowing cabling from the bottom with plinth | ATV660C35●4X1...C80●4X1 | VW3AP0711 | 111.000/ 244.713 |
| | ATV680C35●4X1...C80●4X1 | | |
| Display options | | | |
| Front display module (FDM) | ATV660C11●4X1...C13●4X1 | VW3AP0401 | 0.500/ 1.102 |
| | ATV680C11●4X1...C13●4X1 | | |
| Front display module (FDM) | ATV660C16●4X1...C20●4X1 | VW3AP0402 | 0.500/ 1.102 |
| | ATV680C16●4X1...C20●4X1 | | |
| Front display module (FDM) | ATV660C25●4X1...C31●4X1 | VW3AP0403 | 0.500/ 1.102 |
| | ATV680C25●4X1...C31●4X1 | | |
| Front display module (FDM) | ATV660C35●4X1...C50●4X1 | VW3AP0404 | 0.500/ 1.102 |
| | ATV680C35●4X1...C50●4X1 | | |
| Front display module (FDM) | ATV660C56●4X1...C80●4X1 | VW3AP0405 | 0.500/ 1.102 |
| | ATV680C56●4X1...C80●4X1 | | |
| Motor options | | | |
| 150 m dv/dt filter choke | ATV660C11●4X1...C16●4X1 | VW3AP0601 | 25.000/ 55.116 |
| | ATV680C11●4X1...C16●4X1 | | |
| 150 m dv/dt filter choke | ATV660C20●4X1...C31●4X1 | VW3AP0602 | 50.000/ 110.231 |
| | ATV680C20●4X1...C31●4X1 | | |
| 300 m dv/dt filter choke | ATV660C11●4X1...C16●4X1 | VW3AP0611 | 28.000/ 61.729 |
| | ATV680C11●4X1...C16●4X1 | | |
| 300 m dv/dt filter choke | ATV660C20●4X1...C31●4X1 | VW3AP0612 | 56.000/ 123.459 |
| | ATV680C20●4X1...C31●4X1 | | |
| 300 m dv/dt filter choke | ATV660C35●4X1...C50●4X1 | VW3AP0613 | 84.000/ 185.188 |
| | ATV680C35●4X1...C50●4X1 | | |
| 300 m dv/dt filter choke | ATV660C56●4X1...C63●4X1 | VW3AP0614 | 112.000/ 246.918 |
| | ATV680C56●4X1...C63●4X1 | | |
| 300 m dv/dt filter choke | ATV660C71●4X1...C80●4X1 | VW3AP0615 | 140.000/ 308.647 |
| | ATV680C71●4X1...C80●4X1 | | |

(1) These options cannot be ordered alone. For any other configuration, please contact our Customer Care Center.

(2) Replace ● with Q for 380...415 V mains voltage or with T for 480 V mains voltage.



VW3AP0104

Options dependent on the drive rating (continued) (1)

| Description | For enclosure (2) | Reference | Weight kg/lb | |
|--|--------------------------------------|-------------------------|----------------------|-----------------|
| Mains supply | | | | |
| Circuit breaker | ATV660C11●4X1...C16●4X1 | VW3AP0101 | 2.000/ 4.409 | |
| | ATV680C11●4X1...C16●4X1 | | | |
| | ATV660C20●4X1...C31●4X1 | VW3AP0102 | 2.000/ 4.409 | |
| | ATV680C20●4X1...C31●4X1 | | | |
| | ATV660C35●4X1...C40●4X1 | VW3AP0103 | 1.000/ 2.204 | |
| | ATV680C35●4X1...C40●4X1 | | | |
| | ATV660C45●4X1...C50●4X1 | VW3AP0104 | 1.000/ 2.204 | |
| | ATV680C45●4X1...C50●4X1 | | | |
| | ATV660C56●4X1...C63●4X1 | VW3AP0105 | 1.000/ 2.204 | |
| | ATV680C56●4X1...C63●4X1 | | | |
| | ATV660C71●4X1...C80●4X1 | VW3AP0106 | 1.000/ 2.204 | |
| | ATV680C71●4X1...C80●4X1 | | | |
| Circuit breaker with MicroLogic | ATV660C11●4X1...C16●4X1 | VW3AP0111 | 2.000/ 4.409 | |
| | ATV680C11●4X1...C16●4X1 | | | |
| | ATV660C20●4X1...C31●4X1 | VW3AP0112 | 2.000/ 4.409 | |
| | ATV680C20●4X1...C31●4X1 | | | |
| | ATV660C35●4X1...C40●4X1 | VW3AP0113 | 1.000/ 2.204 | |
| | ATV680C35●4X1...C40●4X1 | | | |
| | ATV660C45●4X1...C50●4X1 | VW3AP0114 | 1.000/ 2.204 | |
| | ATV680C45●4X1...C50●4X1 | | | |
| | ATV660C56●4X1...C63●4X1 | VW3AP0115 | 1.000/ 2.204 | |
| | ATV680C56●4X1...C63●4X1 | | | |
| | ATV660C71●4X1...C80●4X1 | VW3AP0116 | 1.000/ 2.204 | |
| | ATV680C71●4X1...C80●4X1 | | | |
| Undervoltage coil for circuit breaker 230 V | ATV660C11●4X1...C31●4X1 | VW3AP0201 | 0.100/ 0.220 | |
| | ATV680C11●4X1...C31●4X1 | | | |
| | ATV660C35●4X1...C80●4X1 | VW3AP0202 | 0.100/ 0.220 | |
| | ATV680C35●4X1...C80●4X1 | | | |
| Motor for circuit breaker 230 V | ATV660C11●4X1...C31●4X1 | VW3AP0251 | 4.000/ 8.818 | |
| | ATV680C11●4X1...C31●4X1 | | | |
| | ATV660C35●4X1...C40●4X1 | VW3AP0252 | 4.000/ 8.818 | |
| | ATV680C35●4X1...C40●4X1 | | | |
| | ATV660C45●4X1...C50●4X1 | VW3AP0253 | 7.000/ 15.432 | |
| | ATV680C45●4X1...C50●4X1 | | | |
| | ATV660C56●4X1...C63●4X1 | VW3AP0254 | 7.000/ 15.432 | |
| | ATV680C56●4X1...C63●4X1 | | | |
| | ATV660C71●4X1...C80●4X1 | VW3AP0255 | 7.000/ 15.432 | |
| | ATV680C71●4X1...C80●4X1 | | | |
| | Automated mains disconnection | ATV660C11●4X1...C16●4X1 | VW3AP0271 | 0.500/ 1.102 |
| | | ATV660C20●4X1...C31●4X1 | VW3AP0272 | 0.500/ 1.102 |
| ATV660C35●4X1...C40●4X1 | | VW3AP0273 | 0.500/ 1.102 | |
| ATV660C45●4X1...C50●4X1 | | VW3AP0274 | 0.500/ 1.102 | |
| ATV660C56●4X1...C63●4X1 | | VW3AP0275 | 0.500/ 1.102 | |
| ATV660C71●4X1...C80●4X1 | | VW3AP0276 | 0.500/ 1.102 | |
| | | | | |
| Packaging | | | | |
| Seaworthy packaging | ATV660C11●4X1...C16●4X1 | VW3AP0811 | 105.000/ 231.485 | |
| | ATV660C20●4X1...C31●4X1 | VW3AP0812 | 124.000/ 273.373 | |
| | ATV660C35●4X1...C50●4X1 | VW3AP0813 | 138.000/ 3024.237 | |
| | ATV660C56●4X1...C63●4X1 | VW3AP0815 | 192.000/ 423.287 | |
| | ATV660C71●4X1...C80●4X1 | VW3AP0816 | 205.000/ 451.947 | |
| | ATV680C11●4X1...C16●4X1 | VW3AP0812 | 124.000/ 273.373 | |
| | ATV680C20●4X1...C31●4X1 | VW3AP0814 | 155.000/ 341.716 | |
| | ATV680C35●4X1...C50●4X1 | VW3AP0817 | 225.000/ 496.040 | |
| | ATV680C56●4X1...C63●4X1 | VW3AP0819 | 255.000/ 562.178 | |
| | ATV680C71●4X1...C80●4X1 | VW3AP0821 | 352.000/ 776.027 | |
| | | | | |



(1) These options cannot be ordered alone. For any other configuration, please contact our Customer Care Center.

(2) Replace ● with Q for 380...415 V mains voltage or with T for 480 V mains voltage.

Services

- A whole world of services for your drives..... page 5/2

Index

- Product reference index..... page 5/4

Variable speed drives

Altivar Process

A whole world of services for your drives by Schneider Electric



Presentation

Schneider Electric offers an extensive range of support services to help ensure the reliability of your installation in the long term, control your maintenance costs, and keep your process running at peak performance for maximum efficiency. Altivar Process has been designed in harmony with a whole range of services offered by Schneider Electric.

| | | | |
|---|--|--|----------------------------|
| A worldwide network, 24/7: <ul style="list-style-type: none"> 400 highly qualified and certified experts Field service engineers, online experts | | A digital world of services: <ul style="list-style-type: none"> Schneider Electric Customer Care app Remote technical support | |
| People | | | Digitized support material |
| Spare parts | | | Service provisions |
| A dedicated supply chain: <ul style="list-style-type: none"> All the spare parts you need Designed and manufactured by Schneider Electric | | An optimal life cycle model: <ul style="list-style-type: none"> Spare parts management, exchange and repairs Extended warranties, maintenance plans | |

Schneider Electric drive maintenance expert certification

- A worldwide network, 24/7:
- 400 highly qualified and certified experts
 - Our field service engineers follow a proven drives certification program designed to support you with maximum expertise and efficiency.
 - They use a range of professional tools and software to provide fast, in-depth diagnostics and repairs.

| | Repair centers | Low voltage (LV) drives field service engineers | Medium voltage (MV) drives field service engineers |
|----------|---|---|--|
| Module A | LV drive safety training | | MV drive safety training |
| Module B | Technical training for LV drives | | Technical training for MV drives |
| Module C | Repair center audit | Skills assessment | On-site start-up |
| Module D | Internal certification procedure | | |
| Module E | Registration in Schneider Electric's international directory of Drives skills | | |
| Module F | Re-certification every 3 years | | |

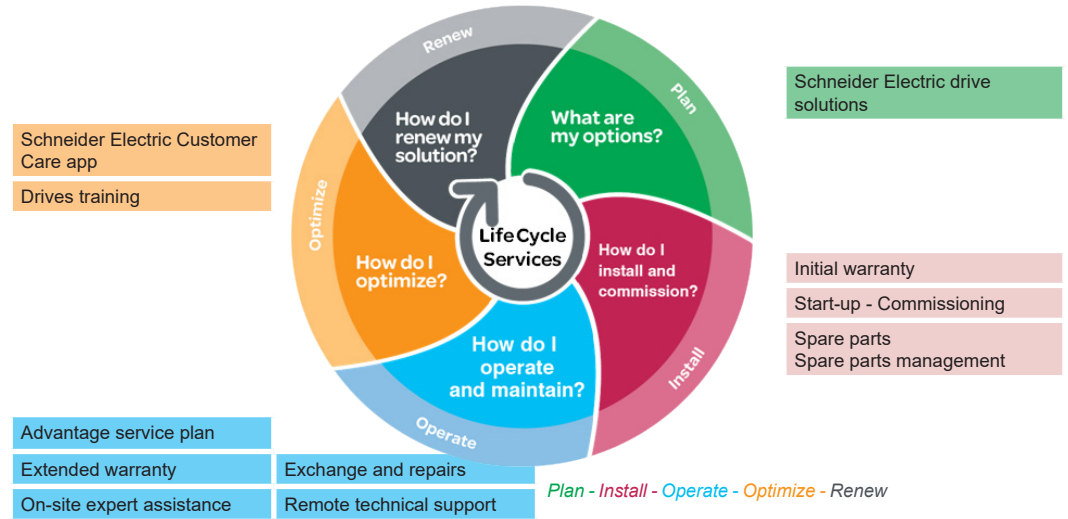
Variable speed drives

Altivar Process

A whole world of services for your drives by Schneider Electric

Drives support and services offer by Schneider Electric

Schneider Electric has developed a generic services offer to assist you throughout the life cycle of your product. From the planning stage right through to renewal, whether for standard or critical operations, you will find the solution you need in our set of standardized offers.



| The offer | Contact, How to order | Description |
|--------------------------------------|--|--|
| Schneider Electric drive solutions | Contact your local Customer Care Center | Our Schneider Electric experts can help you design your installation, offering whatever type of assistance you need from technical support to turnkey solutions. |
| Start-up - Commissioning | Contact your local Customer Care Center | Our team of experts are specialists in installation commissioning and start-up whatever the conditions and for any application. |
| Spare parts - Spare parts management | Contact your local Customer Care Center | Our spare parts are available for the lifetime of your equipment. They are designed and manufactured to the same high quality standards as our products. They are available via a dedicated supply chain for emergency shipments. Our team can help you identify critical parts and define the right level of stock required. Whether stored in your premises (on-site) or in a central store (off-site), it is reassuring to know that critical spare parts are available 24/7. |
| Exchange and repairs | Contact your local Customer Care Center | Schneider Electric offers high-quality repair services via a global network of certified repair centers and certified field service engineers to cover any need: repairs in Schneider Electric repair centers, exchanges with refurbished products, or on-site repairs (Schneider Electric intervention on your premises). |
| Remote technical support | Contact your local Customer Care Center | Direct priority access to our experts to help you solve any technical difficulties. Our experts have extensive field experience and have fully mastered the technologies implemented. A simple phone conversation or on-line chat is usually sufficient to help you find the optimal solution and can help keep your costs down by avoiding on-site intervention. |
| On-site technical support | Contact your local Customer Care Center | Our field service engineers can support your maintenance staff in their everyday operations, or engage when requested in the event of an emergency. |
| Extended warranty | Contact your local Customer Care Center | Spare parts and repairs performed by Schneider Electric experts on duty. |
| Advantage service plan | Contact your local Customer Care Center | The Advantage Service plan combines the Preventive Maintenance program (annual visit for inspection, checks, and replacement of worn parts) with the extended warranty (covering spare parts and repairs), plus remote technical support. |
| Drives training | Contact your local Customer Care Center | A comprehensive suite of training courses to master your Altivar Process drive at any stage in the life cycle of your installation. |
| mySchneider Customer Care app | Download from the Apple Store® or Google Play Store™ | Free download from the Apple Store® or Google Play Store™. Immediate access to Schneider Electric Customer Care Centers, product documentation, FAQs, Cloud services, etc. and plenty of other services yet to come. |

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|--------------|--------------|-----------|------|-----------|--------------|-----------|------|--------------|------|
| VW3A4706 | 2/38 | VW3A9704 | 2/13 | VW3A46157 | 2/35 | VW3AP0274 | 4/19 | VW3AP0813 | 4/19 |
| VW3A4707 | 2/38 | VW3A9705 | 2/13 | VW3A46158 | 2/36 | VW3AP0275 | 4/19 | VW3AP0814 | 4/19 |
| VW3A4708 | 2/38 | VW3A9706 | 2/13 | VW3A46159 | 2/36 | VW3AP0276 | 4/19 | VW3AP0815 | 4/19 |
| VW3A4709 | 2/38 | VW3A46101 | 2/33 | VW3A46160 | 2/36 | VW3AP0301 | 4/17 | VW3AP0816 | 4/19 |
| VW3A4710 | 2/38 | VW3A46102 | 2/33 | VW3A46161 | 2/36 | VW3AP0302 | 4/17 | VW3AP0817 | 4/19 |
| VW3A5103 | 2/42 | VW3A46103 | 2/33 | VW3A46162 | 2/36 | VW3AP0303 | 4/17 | VW3AP0819 | 4/19 |
| VW3A5104 | 2/42 | VW3A46104 | 2/33 | VW3A46163 | 2/36 | VW3AP0304 | 4/17 | VW3AP0821 | 4/19 |
| VW3A5106 | 2/42 | VW3A46105 | 2/33 | VW3A46164 | 2/36 | VW3AP0305 | 4/17 | VW3AP0851 | 4/17 |
| VW3A5107 | 2/42 | VW3A46106 | 2/33 | VW3A46165 | 2/36 | VW3AP0351 | 4/17 | VW3AP0852 | 4/17 |
| VW3A5209 | 2/45 | VW3A46107 | 2/33 | VW3A46166 | 2/36 | VW3AP0352 | 4/17 | VW3AP0853 | 4/17 |
| VW3A5210 | 2/45 | VW3A46108 | 2/33 | VW3A46167 | 2/36 | VW3AP0353 | 4/17 | VW3AP0854 | 4/17 |
| VW3A5215 | 2/45 | VW3A46109 | 2/33 | VW3A46168 | 2/36 | VW3AP0354 | 4/17 | VW3AP0855 | 4/17 |
| VW3A5216 | 2/45 | VW3A46110 | 2/33 | VW3A46169 | 2/36 | VW3AP0355 | 4/17 | VW3AP1502 | 4/16 |
| VW3A5217 | 2/45 | VW3A46111 | 2/33 | VW3A46170 | 2/36 | VW3AP0401 | 4/18 | VW3AP1503 | 4/16 |
| VW3A5218 | 2/45 | VW3A46112 | 2/33 | VW3A46171 | 2/36 | VW3AP0402 | 4/18 | VW3AP1601 | 4/16 |
| VW3A5219 | 2/45 | VW3A46113 | 2/33 | VW3A46172 | 2/36 | VW3AP0403 | 4/18 | VW3AP1801 | 4/16 |
| VW3A5301 | 2/41 2/42 | VW3A46114 | 2/33 | VW3A46173 | 2/36 | VW3AP0404 | 4/18 | VW3AP1807 | 4/16 |
| VW3A5302 | 2/41 2/42 | VW3A46115 | 2/33 | VW3A46174 | 2/36 | VW3AP0405 | 4/18 | VW3AP2001 | 4/16 |
| VW3A5303 | 2/41 2/42 | VW3A46116 | 2/33 | VW3A46176 | 2/36 | VW3AP0415 | 4/16 | VW3AP2002 | 4/16 |
| VW3A5304 | 2/41 2/42 | VW3A46118 | 2/33 | VW3A47901 | 2/39 | VW3AP0421 | 4/16 | VW3AP2003 | 4/16 |
| VW3A5305 | 2/41 2/42 | VW3A46119 | 2/33 | VW3A47902 | 2/39 | VW3AP0501 | 4/17 | VW3AP2004 | 4/16 |
| VW3A5306 | 2/41 2/42 | VW3A46120 | 2/34 | VW3A47903 | 2/39 | VW3AP0502 | 4/17 | VW3AP2101 | 4/16 |
| VW3A5307 | 2/41 2/42 | VW3A46121 | 2/34 | VW3A47904 | 2/39 | VW3AP0503 | 4/17 | VW3AP2701 | 4/16 |
| VW3A5308 | 2/41 2/42 | VW3A46122 | 2/34 | VW3A47905 | 2/39 | VW3AP0551 | 4/17 | VW3AP3203 | 4/16 |
| VW3A5309 | 2/41 2/42 | VW3A46123 | 2/34 | VW3A47906 | 2/39 | VW3AP0552 | 4/17 | VW3AP3204 | 4/16 |
| VW3A5310 | 2/41 2/42 | VW3A46124 | 2/34 | VW3A47907 | 2/39 | VW3AP0561 | 4/16 | VW3AP3607 | 4/16 |
| VW3A5311 | 2/41 2/42 | VW3A46125 | 2/34 | VW3A47908 | 2/39 | VW3AP0562 | 4/16 | VW3AP3608 | 4/16 |
| VW3A5401 | 2/44 2/45 | VW3A46126 | 2/34 | VW3A53901 | 2/45 | VW3AP0563 | 4/16 | VW3AP3609 | 4/16 |
| VW3A5402 | 2/44 2/45 | VW3A46127 | 2/34 | VW3A53902 | 2/43 2/45 | VW3AP0564 | 4/16 | VW3AP3618 | 4/16 |
| VW3A5403 | 2/44 2/45 | VW3A46128 | 2/34 | VW3A53903 | 2/43 2/45 | VW3AP0565 | 4/16 | VW3AP3627 | 4/16 |
| VW3A5404 | 2/44 2/45 | VW3A46129 | 2/34 | VW3A53904 | 2/45 | VW3AP0566 | 4/16 | VW3AP3628 | 4/16 |
| VW3A5405 | 2/44 2/45 | VW3A46130 | 2/34 | VW3A53905 | 2/43 | VW3AP0567 | 4/16 | VW3AP3720 | 4/16 |
| VW3A5406 | 2/44 2/45 | VW3A46131 | 2/34 | VW3A95116 | 2/13 | VW3AP0568 | 4/16 | VW3AP3721 | 4/16 |
| VW3A5407 | 2/44 2/45 | VW3A46132 | 2/34 | VW3AP0101 | 4/19 | VW3AP0569 | 4/16 | VW3CANCARR1 | 2/28 |
| VW3A8306R03 | 2/15 2/26 | VW3A46133 | 2/34 | VW3AP0102 | 4/19 | VW3AP0601 | 4/18 | VW3CANCARR03 | 2/28 |
| VW3A8306R10 | 2/15 2/26 | VW3A46134 | 2/34 | VW3AP0103 | 4/19 | VW3AP0602 | 4/18 | VW3CANTAP2 | 2/29 |
| VW3A8306R30 | 2/15 2/26 | VW3A46135 | 2/34 | VW3AP0104 | 4/19 | VW3AP0611 | 4/18 | VX5VP50A001 | 2/12 |
| VW3A8306RC | 2/15 2/26 | VW3A46137 | 2/34 | VW3AP0105 | 4/19 | VW3AP0612 | 4/18 | VX5VP50BC001 | 2/12 |
| VW3A8306TF03 | 2/15 2/26 | VW3A46138 | 2/34 | VW3AP0106 | 4/19 | VW3AP0613 | 4/18 | VX5VPM001 | 2/12 |
| VW3A8306TF10 | 2/15 2/26 | VW3A46139 | 2/35 | VW3AP0107 | 4/19 | VW3AP0614 | 4/18 | VX5VPM002 | 2/12 |
| VW3A9112 | 2/13 | VW3A46140 | 2/35 | VW3AP0111 | 4/19 | VW3AP0615 | 4/18 | VX5VPS1001 | 2/12 |
| VW3A9113 | 2/13 | VW3A46141 | 2/35 | VW3AP0112 | 4/19 | VW3AP0701 | 4/18 | VX5VPS2001 | 2/12 |
| VW3A9212 | 2/13 | VW3A46142 | 2/35 | VW3AP0113 | 4/19 | VW3AP0702 | 4/18 | VX5VPS3001 | 2/12 |
| VW3A9213 | 2/13 | VW3A46143 | 2/35 | VW3AP0114 | 4/19 | VW3AP0704 | 4/18 | VX5VPS3002 | 2/12 |
| VW3A9513 | 2/13 | VW3A46144 | 2/35 | VW3AP0115 | 4/19 | VW3AP0705 | 4/18 | VX5VPS4001 | 2/12 |
| VW3A9514 | 2/13 | VW3A46145 | 2/35 | VW3AP0116 | 4/19 | VW3AP0707 | 4/18 | VX5VPS5001 | 2/12 |
| VW3A9601 | 2/39 | VW3A46146 | 2/35 | VW3AP0201 | 4/19 | VW3AP0708 | 4/18 | VX5VPS5002 | 2/12 |
| VW3A9612 | 2/43 | VW3A46147 | 2/35 | VW3AP0202 | 4/19 | VW3AP0710 | 4/18 | VX5VPS6001 | 2/12 |
| VW3A9613 | 2/43 | VW3A46148 | 2/35 | VW3AP0251 | 4/19 | VW3AP0711 | 4/18 | VZ3V1212 | 2/12 |
| | | VW3A46149 | 2/35 | VW3AP0252 | 4/19 | VW3AP0801 | 4/17 | VZ3V1213 | 2/12 |
| | | VW3A46150 | 2/35 | VW3AP0253 | 4/19 | VW3AP0802 | 4/17 | Z | |
| | | VW3A46151 | 2/35 | VW3AP0254 | 4/19 | VW3AP0803 | 4/17 | ZB5AZ905 | 2/15 |
| | | VW3A46152 | 2/35 | VW3AP0255 | 4/19 | VW3AP0804 | 4/17 | | |
| | | VW3A46153 | 2/35 | VW3AP0271 | 4/19 | VW3AP0805 | 4/17 | | |
| | | VW3A46154 | 2/35 | VW3AP0272 | 4/19 | VW3AP0811 | 4/19 | | |
| | | VW3A46155 | 2/35 | VW3AP0273 | 4/19 | VW3AP0812 | 4/19 | | |



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