

Variable speed drives Altivar Process ATV600

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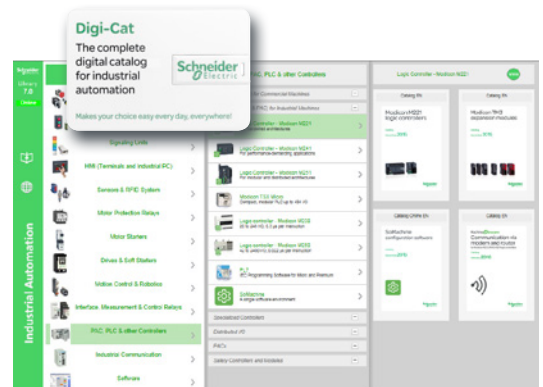
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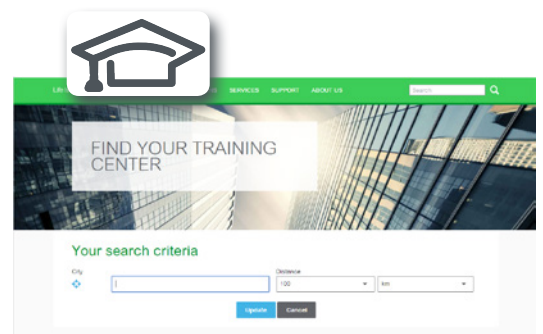
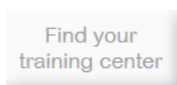


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Life Is On



Contents

| | |
|-------------------------------------------------------------------------------------------|---------------|
| ■ General presentation..... | page 2 |
| <i>IP 21, IP 54, or IP 55 variable speed drive selection guide.....</i> | <i>page 4</i> |
| ■ Altivar Process variable speed drives presentation | page 6 |
| ■ Altivar Process drive systems presentation | page 14 |
| Altivar Process variable speed drives | |
| ■ 200...240 V 50/60 Hz supply, IP 21/UL Type 1 | page 16 |
| ■ 380...480 V 50/60 Hz supply | page 17 |
| □ IP 21/UL Type 1, with integrated category C2 or C3 EMC filter..... | page 17 |
| □ IP 55, with integrated category C2 or C3 EMC filter | page 19 |
| □ IP 55, with Vario disconnect switch and integrated category C2 or C3 EMC filter..... | page 20 |
| ■ 380...440 V 50/60 Hz supply | page 21 |
| □ IP 21, floor-standing, with integrated category C3 EMC filter | page 21 |
| □ IP 54, floor-standing, with integrated category C3 EMC filter | page 21 |
| ■ Replacement parts | page 22 |
| ■ Accessories | page 23 |
| ■ Graphic display terminal..... | page 24 |
| ■ Accessories | page 25 |
| ■ Web server | page 26 |
| ■ DTM libraries and SoMove setup software | page 27 |
| Options | |
| ■ Drive/option combinations | page 28 |
| ■ I/O expansion modules | page 32 |
| ■ Communication buses and networks | page 34 |
| ■ Passive filters | page 42 |
| ■ EMC filters | page 47 |
| ■ dv/dt filters | page 50 |
| ■ Sinus filters | page 52 |
| ■ Common mode filters..... | page 54 |
| Motor starters | |
| ■ 200...240 V 50/60 Hz supply..... | page 56 |
| ■ 380...415 V 50/60 Hz supply..... | page 57 |
| ■ 440 V 50/60 Hz supply..... | page 59 |
| Dimensions | |
| ■ Drives | page 62 |
| ■ Options..... | page 65 |
| Services | |
| ■ A whole world of services for your drives..... | page 70 |
| Index | |
| ■ Product reference index..... | page 72 |

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, wall-mounting drives, built-in cabinet and floor-standing solutions are available with IP 21, IP 23, IP 54, and IP 55 protection.

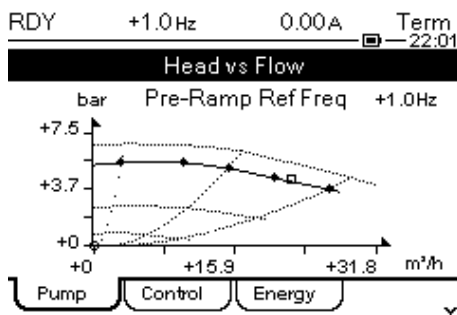
Wall-mounting drives from 0.75 kW to 315 kW

Floor-standing drives from 110 kW to 315 kW

Drive systems from 110 kW to 800 kW



From basic design to customized offer



Display screen

Altivar Process drives

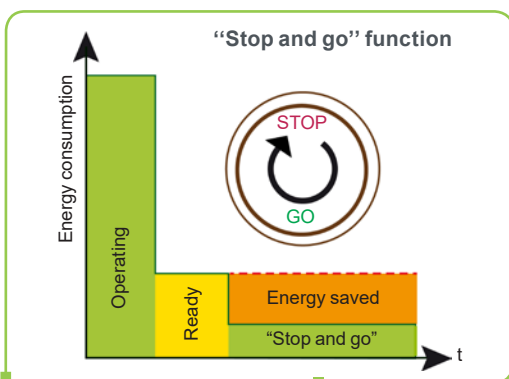
Business optimization

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

The 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



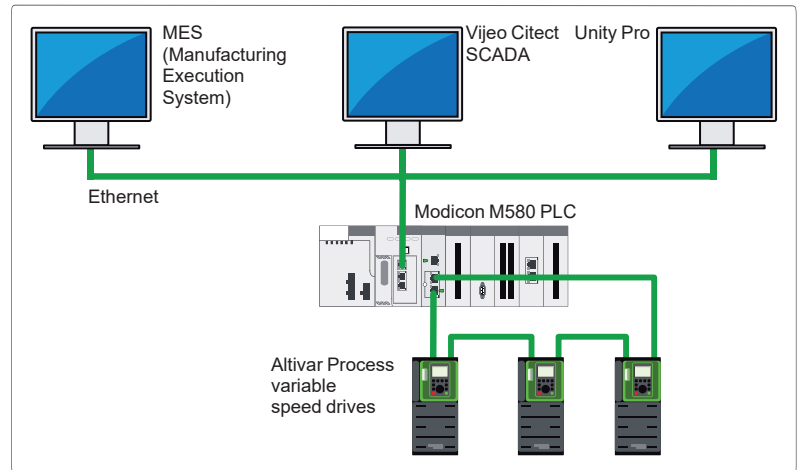
Achilles™ Level2 certified



User-friendliness

Simple integration in PLC environments

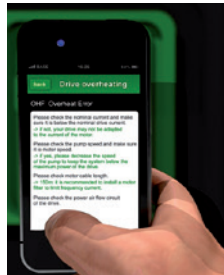
- > Easy integration thanks to standardized FDT/DTM and ODVA technology
- > Supported by predefined Unity Pro libraries
- > Easy access via PC, tablet, or smartphone
- > Secure connection via “Cyber-secure Ethernet”



Integration in the Modicon M580 automation platform



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 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 | Floor standing |
| Degree of protection | IP 21/UL Type 1 | IP 21 |
| Power range for 50...60 Hz line supply | Three-phase: 200...240 V (kW/HP) | – |
| | Three-phase: 380...440 V (kW) | 110...315/150...500 |
| | Three-phase: 380...480 V (kW/HP) | – |
| Drive | Output frequency | 0.1...500 Hz |
| | Control type | Asynchronous motor Synchronous 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: 2 configurable as voltage (0...10 V) or current (0-20 mA/4-20 mA) including probes (PTC, PT100, PT1000 or KTY84) and 1 configurable as voltage (0±10V) |
| | Digital inputs | 6 |
| | Analog outputs | 2: Configurable as voltage (0...10 V) or current (0-20 mA) |
| | Relay outputs | 3 |
| 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, 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 | EN/IEC 61800-3, EN/IEC 61800-3 environment 2 category C3, EN/IEC 61800-5-1, IEC 61000-3-12, IEC 60721-3, IEC 61508, ATEX 2/22, ATEX 1/21 |
| | 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 | 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 | ATV630●●●●● | ATV630●●●●●F |
| Page | 16 | 18 |

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



| | | | |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Mounting type | Wall mounting | Wall mounting | Floor standing |
| Degree of protection | IP 55 | IP 55 with Vario disconnect switch | IP 54 |
| Power range for 50...60 Hz line supply | – | – | – |
| | – | – | 110...315/150...500 |
| | 0.75...90/1...125 | – | – |
| Drive | Output frequency | 0.1...500 Hz | – |
| | Control type | Standard constant torque, variable standard torque, optimized torque mode | – |
| 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: 2 configurable as voltage (0...10 V) or current (0-20 mA/4-20 mA) including probes (PTC, PT100, PT1000 or KTY84) and 1 configurable as voltage (0±10V) | – |
| | Digital inputs | 6 | – |
| | Analog outputs | 2: Configurable as voltage (0...10 V) or current (0-20 mA) | – |
| | Relay outputs | 3 | – |
| 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 Daisy Chain RJ45, Sub-D, and screw terminals, Profibus DP V1, DeviceNet bus, 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, 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 | EN/IEC 61800-3, EN/IEC 61800-3 environment 2 category C3, EN/IEC 61800-5-1, IEC 61000-3-12, IEC 60721-3, IEC 61508, ATEX 2/22, ATEX 1/21 | 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 |
| | 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 | 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 | 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 | ATV650●●●●● | ATV650●●●●●E | ATV650●●●●●F |
| Page | 19 | 20 | 21 |



Altivar Process range

Process

The Altivar Process drive is an IP 21, IP 54, or IP 55 frequency inverter for three-phase synchronous and asynchronous motors, specially designed for 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



10% (control)

90% (power)

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 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 a harsh environment or in an outdoor installation 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

Floor-standing high-power drives

The floor-standing IP 21/IP 54 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 also be supplied as engineered drive system variants from 110 to 800 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%.

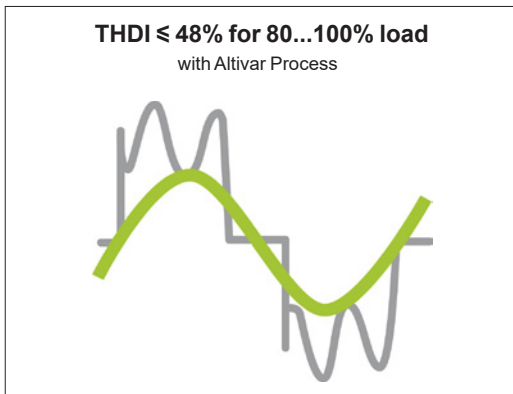
Rugged

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

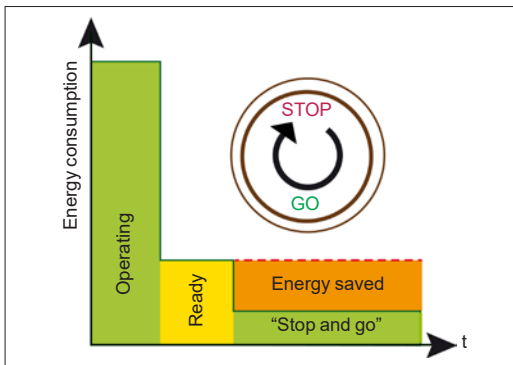
- Ambient operating temperature
- Wall-mounting drives:
 - IP 21: up to 160 kW, -15...+50 °C/+ 5...122 °F as standard, up to 60 °C/140 °F with derating; above 160 kW, -10...+40 °C/+ 14...104 °F as standard, up to 60 °C/140 °F with derating (1)
 - IP 55: -15...+40 °C/5...104 °F as standard, up to 50 °C/122 °F with derating
- Floor-standing IP 21/IP 54 drives:
 - 0... 40 °C/32... 104 °F as standard
 - 40...50 °C/104... 122 °F with derating
- Storage and transport temperature: -40...+70 °C/-40...+158 °F
- Operating altitude:
 - 0...1,000 m/0...3,281 ft without derating
 - 1,000...4,800 m/3,281...15,748 ft with derating of 1% per 100 m/328 ft
- Withstand to harsh environments:
 - Chemical class 3C3 conforming to IEC/EN 60721 (2)
 - Mechanical class 3S3 conforming to IEC/EN 60721 (2)
 - Electronic cards with protective coating
- Protection to suit requirements:
 - IP 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

(1) 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 23).

(2) 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 $\leq 48\%$ for 80 to 100% load, which is used to maintain an optimum power factor on the most common operating range
- 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 44).

Installation/Maintenance

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

- Products, systems, or integrated in iMCC
- IP 21, UL type 1; IP 55, IP 54
- 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: Up to 150 m with category C3 EMC filter
- 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

(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.

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:

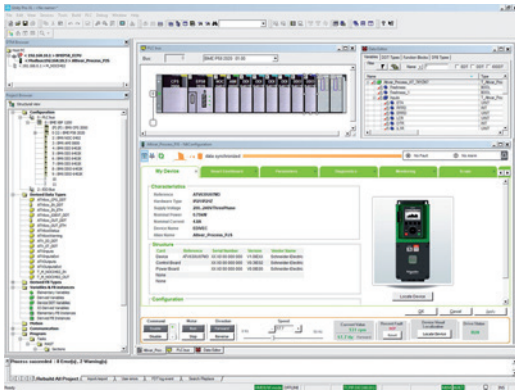
- Process drift detection for installation reliability throughout its entire service life
- Useful system performance information provided by comparing the energy used with the energy produced:
- Typical KPIs:
 - Specific energy consumption
 - kWh/m³
 - kWh/mWc/m³

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

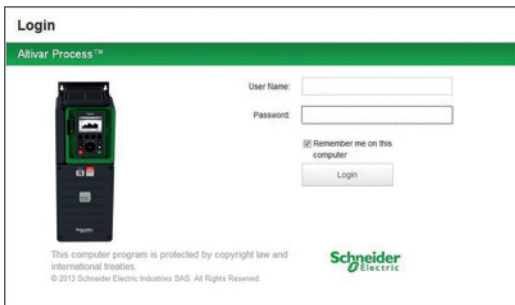
- Modbus/TCP, EtherNet/IP, and Modbus serial link:
 - Standard Modbus and Ethernet protocols
 - Connection of configuration and runtime tools
 - Control and supervision of the Altivar Process in process architectures (controllers, SCADA systems, HMIs, etc.) in industrial networks (read/write data)
 - 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 27):
 - Drive configuration, diagnostics, and control using Unity Pro software

Configuration and runtime tools

- Graphic display terminal (see page 24):
 - 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 25)
 - Connection to several drives using multidrop link components (see page 25)
- Embedded Web server (see page 26):
 - 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 27):
 - Advanced functions for configuration, setup, and maintenance of Altivar Process drives



Embedded Web server login screen

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



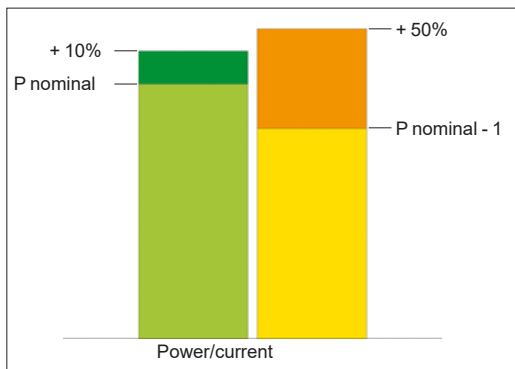
ATV630...N4F, ATV630...M3, ATV650...N4, ATV650...N4E

Extensive offer

The Altivar Process offer covers motor power ratings from 0.75...315 kW/1...500 HP for three-phase voltages between 200...240 V and 380...480 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 |

(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 19)
- Graphic display terminal:
- Remote mounting kit for mounting on enclosure door (see page 25)
- Multidrop connection accessories for connecting several drives to the RJ45 terminal port (see page 25)

Options

- Modules (see page 32):
- 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 42)
- Additional EMC input filters for reducing conducted emissions on the line (see page 47)
- Output filters:
 - dv/dt filters (see page 50)
 - Sinus filters (see page 52)

Motor starters

Schneider Electric offers combinations of circuit breakers and contactors to be able to use Altivar Process drives in optimum conditions (see page 56).



Engineered drive system based on the ATV660C50Q4X1 drive

Engineered drive systems

Engineered drive systems from 0.75 to 800 kW based on the Altivar Process platform offer solutions ranging from compact enclosed systems to complex outdoor skids including third-party components or transformers, independent of the power range.

All engineered drive systems are fully tested and ready-to-connect drive solutions.

Several solutions are available depending on customer requirements.

Compact drive systems

Compact drive systems are enclosure units with a built-in variable speed drive to control the speed of asynchronous or synchronous motors. The modular construction makes it possible to adapt the enclosure unit to particular requirements.

Compact design

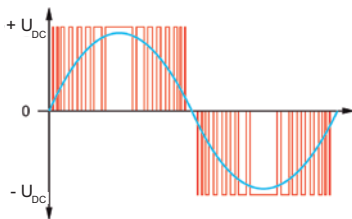
- Less space required in the control room
- Generous connection area for power cables
- Easy access to components
- Control panel for numerous options

The energy-saving drive solution

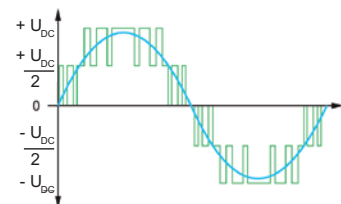
- Up to 60% energy savings without additional costs
- Intelligent control of internal fans, depending on the operation
- Optimal energy efficiency over the entire life cycle
- Logging and graphic presentation of absorbed power



Full ETO drive system



2-level technology



3-level technology

Low harmonic drive systems

This new technology reaches a total harmonic distortion (THD(i)) of ~ 2%, and fulfills the requirements of the IEEE 519 standard for THD(i) < 5% in the event of distorted AC supply.

Extended motor lifetime with 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 variable speed drives. The fluctuating adaptation of the DC link voltage helps extend the motor lifetime.

Reduced losses with 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 thanks to 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.



People
- Worldwide network, 24/7:
- 400 highly qualified and certified experts
- Field service engineers, online experts

Engineered Drive Systems (continued)

Superior services

Our industry experts help you get the maximum return from your investments and optimize the value of your installations throughout their life cycle. Whether you need a brief telephone consultation, an on-site analysis, or the development of an entire system solution, our experts are at your disposal.

Audits and consultancy services

- From the selection of drives and accessories to the development of entire system solutions
- On-site analysis
- Line supply consultancy (compensation, filtering, harmonics, etc.)

Bespoke project management

- Measurement and analysis of your site
- Target definition
- Identification of opportunities to save energy and reduce costs
- Calculation of return on investment

Customized training

- Our experienced specialists offer training, either at our premises or at your site

Commissioning and on-site services

- Our specialists, experienced in a wide range of industrial sectors, leverage their extensive product and application knowledge to commission your systems

Digital services

- On-screen and event-specific QR codes help operators diagnose detected errors quickly
- Online troubleshooting with step-by-step procedures
- Track and analyze events related to your drive
- Automatic creation of technical support requests

For further information, please consult your local Schneider Electric drives expert.

Variable speed drives

Altivar Process

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

Wall-mounting drives



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 28).

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 |
| ND: | HP | 380 V | 480 V | 380 V | kVA | | | A | A | |
| HD: | HP | | | | | | | | | |
| 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 28).

Variable speed drives

Altivar Process

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

Wall-mounting drives



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 23).

Note: Consult the summary tables of possible drive, option, and accessory combinations (see page 28).

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 | | | | |
| | Power indicated on rating plate ⁽²⁾ | | Line current ⁽³⁾ | | Apparent power | Maximum prospective line Isc | Maximum continuous current ⁽²⁾ | Max. transient current for 60 s | Reference ⁽⁶⁾ | Weight |
| ND: | HP | 380 V | 480 V | 380 V | A | | | | | |
| HD: | HP | A | A | kVA | kA | A | A | | | |
| 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 28).

Variable speed drives

Altivar Process

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

Wall-mounting drives



ATV650D15N4E



ATV650D30N4E



ATV650D55N4E

| 380...480 V IP 55 drives with Vario disconnect 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 | Maximum prospective line I _{sc} | Maximum continuous current (2) | Max. transient current for 60 s | Reference (6) | Weight | | |
| | 380 V | 480 V | | | | | | | 380 V | |
| ND: Normal duty (4) HD: Heavy duty (5) | kW | HP | A | A | kVA | kA | A | A | kg/lb | |
| THDI ≤ 44% at 100% load in Normal duty (4) | | | | | | | | | | |
| ND | 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 28).

Variable speed drives

Altivar Process

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



ATV630C16N4F

380...440 V IP 21 drives with category C3 integrated EMC filter (5)

| Motor | Line supply | | | | Altivar Process | | | Reference | Weight | |
|---------------------------------------------------|-------------------------------------|------------------|-------|----------------|------------------------------|--------------------------------|---------------------------------|-----------|--------------|---------------------|
| | 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 | | | |
| | | 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 | | |

380...440 V IP 54 drives with switch and category C3 integrated EMC filter (5)

| Motor | Line supply | | | | Altivar Process | | | Reference | Weight | |
|---------------------------------------------------|-------------------------------------|------------------|-------|----------------|------------------------------|--------------------------------|---------------------------------|-----------|--------------|---------------------|
| | 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 | | | |
| | | 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 | 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 | | |



ATV650C31N4F

(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 28).

Variable speed drives

Altivar Process

Replacement parts

| 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 | – |
| | ATV630D15M3...D22M3, ATV630D30N4...D45N4, ATV650D30N4...D45N4, ATV650D30N4E...D45N4E | VX5VPS4001 | – |
| | ATV630D30M3...D45M3, ATV630D30M3C...D45M3C, ATV630D55N4...D90N4, ATV650D55N4...D90N4, ATV650D55N4E...D90N4E | VX5VPS5001 | – |
| | 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.

| 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 | 555/2.85 | 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 | – |
| | ATV630C22N4 | – | – | VW3A9513 | – |
| | ATV630C25N4, ATV630C31N4 | – | – | VW3A9514 | – |
| IP 21/UL Type 1 conformity kits | | | | | |
| Description | For use with | | | Reference | Weight kg/lb |
| 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)



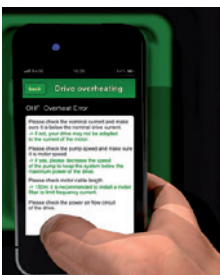
Detected fault: The screen's red backlight is activated automatically



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 25)

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

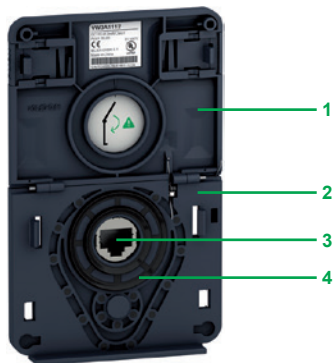
References

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

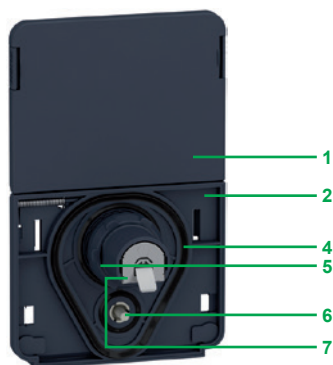
Communication accessory

| 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)

- Cover plate to maintain IP 65 protection when there is no terminal connected
- Mounting plate
- RJ45 port for the graphic display terminal
- Seal
- Fixing nut
- Anti-rotation pin
- RJ45 port for connecting the remote-mounting cordset (10 m/32.81 ft maximum)
Cordsets should be ordered separately depending on the length required.
- 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 3/ 9.84 5/ 16.40 10/ 32.81 | – | VW3A1104R10 VW3A1104R30 VW3A1104R50 VW3A1104R100 | 0.050/ 0.110 0.150/ 0.331 0.250/ 0.551 0.500/ 1.102 |
| USB/Mini B USB cable for connecting the display terminal to a PC | – | – | TCSXCNAMUM3P | – |
| 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.

| 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 | 2 VW3A8306RC | 0.010/ 0.022 |

Cordsets (equipped with 2 RJ45 connectors)

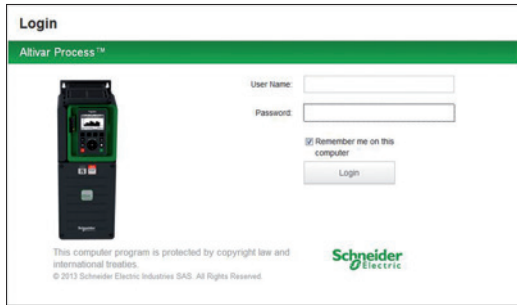
| Used for | Length m/ ft | Reference | Weight kg/ lb |
|--------------------|--------------------|--------------------|---------------------|
| Serial link | 0.3/ 0.98 | VW3A8306R03 | 0.025/ 0.055 |
| | 1/ 3.28 | VW3A8306R10 | 0.060/ 0.132 |
| | 3/ 9.84 | VW3A8306R30 | 0.130/ 0.287 |

(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).

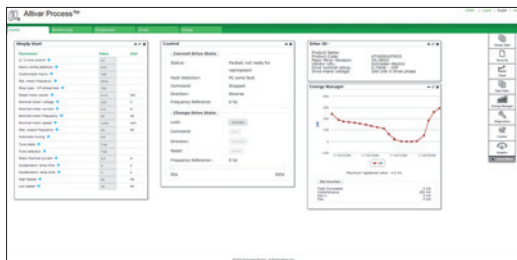
Variable speed drives

Altivar Process

Option: Configuration and runtime tools



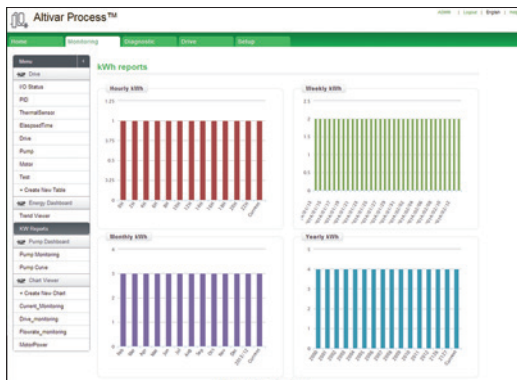
Login screen



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)

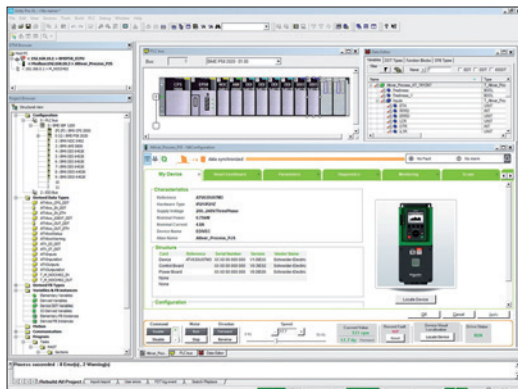
Description

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 drives

| Motor kW HP | Drive | Wear parts Fan kit | Options Flange-mounting kit | Passive filters (50 Hz) | | | | Passive filters (60 Hz) | | | | EMC filters | IP 21 kit for EMC filter | dv/dt filters | IP 21 kit for dv/dt filter | Sinus filter | IP 21 kit for sinus filter | Common mode filter (3) |
|---------------------------------------------------------------------------|-------|-----------------------|--------------------------------|-------------------------|-----------|------------|-----------|-------------------------|-----------|---|---|-------------|--------------------------|---------------|----------------------------|--------------|----------------------------|------------------------|
| | | | | THDI < 10% | THDI < 5% | THDI < 10% | THDI < 5% | THDI < 10% | THDI < 5% | | | | | | | | | |
| Three-phase supply voltage: 200...240 V 50/60 Hz - IP 21/UL Type 1 | | | | | | | | | | | | | | | | | | |
| 0.75 | 1 | ATV630U07M3 | VX5VP50BC001 | NSYPTDS1 | - | - | - | - | - | - | - | VW3A4701 | VW3A47901 | VW3A5301 | VW3A53902 | VW3A5401 | VW3A53901 | VW3A5502 |
| 1.5 | 2 | ATV630U15M3 | VX5VP50BC001 | NSYPTDS1 | - | - | - | - | - | - | - | VW3A4701 | VW3A47901 | VW3A5302 | VW3A53902 | VW3A5402 | VW3A53901 | VW3A5502 |
| 2.2 | 3 | ATV630U22M3 | VX5VP50BC001 | NSYPTDS1 | - | - | - | - | - | - | - | VW3A4702 | VW3A47902 | VW3A5302 | VW3A53902 | VW3A5402 | VW3A53901 | VW3A5502 |
| 3 | - | ATV630U30M3 | VX5VP50BC001 | NSYPTDS1 | - | - | - | - | - | - | - | VW3A4702 | VW3A47902 | VW3A5302 | VW3A53902 | VW3A5402 | VW3A53901 | VW3A5502 |
| 4 | 5 | ATV630U40M3 | VX5VP50BC001 | NSYPTDS1 | - | - | - | - | - | - | - | VW3A4703 | VW3A47903 | VW3A5303 | VW3A53902 | VW3A5403 | VW3A53902 | VW3A5502 |
| 5.5 | 7.5 | ATV630U55M3 | VX5VPS1001 | NSYPTDS2 | - | - | - | - | - | - | - | VW3A4703 | VW3A47903 | VW3A5304 | VW3A53903 | VW3A5404 | VW3A53903 | VW3A5502 |
| 7.5 | 10 | ATV630U75M3 | VX5VPS3001 | NSYPTDS3 | - | - | - | - | - | - | - | VW3A4703 | VW3A47903 | VW3A5304 | VW3A53903 | VW3A5404 | VW3A53903 | VW3A5504 |
| 11 | 15 | ATV630D11M3 | VX5VPS3001 | NSYPTDS3 | - | - | - | - | - | - | - | VW3A4704 | VW3A47904 | VW3A5304 | VW3A53903 | VW3A5404 | VW3A53903 | VW3A5504 |
| 15 | 20 | ATV630D15M3 | VX5VPS4001 | NSYPTDS4 | - | - | - | - | - | - | - | VW3A4705 | VW3A47905 | VW3A5305 | VW3A53905 | VW3A5405 | VW3A53904 | VW3A5504 |
| 18.5 | 25 | ATV630D18M3 | VX5VPS4001 | NSYPTDS4 | - | - | - | - | - | - | - | VW3A4706 | VW3A47906 | VW3A5305 | VW3A53905 | VW3A5405 | VW3A53904 | VW3A5504 |
| 22 | 30 | ATV630D22M3 | VX5VPS4001 | NSYPTDS4 | - | - | - | - | - | - | - | VW3A4706 | VW3A47906 | VW3A5305 | VW3A53905 | VW3A5405 | VW3A53904 | VW3A5504 |
| 30 | 40 | ATV630D30M3 | VX5VPS5001 | NSYPTDS5 | - | - | - | - | - | - | - | VW3A4707 | VW3A47907 | VW3A5306 | - | VW3A5406 | - | VW3A5504 |
| 37 | 50 | ATV630D37M3 | VX5VPS5001 | NSYPTDS5 | - | - | - | - | - | - | - | VW3A4707 | VW3A47907 | VW3A5306 | - | VW3A5406 | - | VW3A5504 |
| 45 | 60 | ATV630D45M3 | VX5VPS5001 | NSYPTDS5 | - | - | - | - | - | - | - | VW3A4708 | VW3A47908 | VW3A5306 | - | VW3A5406 | - | VW3A5504 |
| 55 | 75 | ATV630D55M3 | VX5VPS6001 | - | - | - | - | - | - | - | - | VW3A4709 | - | VW3A5307 | - | - | - | VW3A5506 |
| 75 | 100 | ATV630D75M3 | VX5VPS6001 | - | - | - | - | - | - | - | - | VW3A4710 | - | VW3A5307 | - | VW3A5407 (1) | - | VW3A5506 |

Three-phase supply voltage: 380...480 V 50/60 Hz - IP 21/UL Type 1

| | | | | | | | | | | | | | | | | | | |
|------|-----|-------------|--------------|----------|---------------|---------------|---------------|---------------|---|---|---|----------|-----------|----------|-----------|--------------|-----------|----------|
| 0.75 | 1 | ATV630U07N4 | VX5VP50BC001 | NSYPTDS1 | VW3A46101 | VW3A46120 | VW3A46139 | VW3A46158 | - | - | - | VW3A4701 | VW3A47901 | VW3A5301 | VW3A53902 | VW3A5401 | VW3A53901 | VW3A5502 |
| 1.5 | 2 | ATV630U15N4 | VX5VP50BC001 | NSYPTDS1 | VW3A46101 | VW3A46120 | VW3A46139 | VW3A46158 | - | - | - | VW3A4701 | VW3A47901 | VW3A5301 | VW3A53902 | VW3A5401 | VW3A53901 | VW3A5502 |
| 2.2 | 3 | ATV630U22N4 | VX5VP50BC001 | NSYPTDS1 | VW3A46101 | VW3A46120 | VW3A46139 | VW3A46158 | - | - | - | VW3A4701 | VW3A47901 | VW3A5301 | VW3A53902 | VW3A5401 | VW3A53901 | VW3A5502 |
| 3 | - | ATV630U30N4 | VX5VP50BC001 | NSYPTDS1 | VW3A46101 | VW3A46120 | VW3A46139 | VW3A46158 | - | - | - | VW3A4702 | VW3A47902 | VW3A5302 | VW3A53902 | VW3A5402 | VW3A53901 | VW3A5502 |
| 4 | 5 | ATV630U40N4 | VX5VP50BC001 | NSYPTDS1 | VW3A46102 | VW3A46121 | VW3A46140 | VW3A46159 | - | - | - | VW3A4702 | VW3A47902 | VW3A5302 | VW3A53902 | VW3A5402 | VW3A53901 | VW3A5502 |
| 5.5 | 7.5 | ATV630U55N4 | VX5VP50BC001 | NSYPTDS1 | VW3A46102 | VW3A46121 | VW3A46140 | VW3A46159 | - | - | - | VW3A4702 | VW3A47902 | VW3A5302 | VW3A53902 | VW3A5402 | VW3A53901 | VW3A5502 |
| 7.5 | 10 | ATV630U75N4 | VX5VPS1001 | NSYPTDS2 | VW3A46103 | VW3A46122 | VW3A46141 | VW3A46160 | - | - | - | VW3A4703 | VW3A47903 | VW3A5303 | VW3A53902 | VW3A5403 | VW3A53902 | VW3A5502 |
| 11 | 15 | ATV630D11N4 | VX5VPS1001 | 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 | - | VW3A46114 | VW3A46133 | VW3A46152 | VW3A46171 | - | - | - | VW3A4709 | - | VW3A5307 | - | - | - | VW3A5506 |
| 132 | 200 | ATV630C13N4 | VX5VPS6001 | - | VW3A46115 | VW3A46134 | VW3A46153 | VW3A46172 | - | - | - | VW3A4709 | - | VW3A5307 | - | VW3A5407 (1) | - | VW3A5506 |
| 160 | 250 | ATV630C16N4 | VX5VPS6001 | - | VW3A46116 | VW3A46135 | VW3A46154 | VW3A46173 | - | - | - | VW3A4710 | - | VW3A5307 | - | VW3A5407 (1) | - | VW3A5506 |
| 220 | 350 | ATV630C22N4 | VZ3V1212 (2) | - | VW3A46118 | VW3A46137 | VW3A46155 | VW3A46174 | - | - | - | VW3A4411 | - | VW3A5106 | - | VW3A5209 | - | - |
| 250 | 400 | ATV630C25N4 | VZ3V1212 (2) | - | VW3A46119 | VW3A46138 | VW3A46157 | VW3A46176 | - | - | - | VW3A4411 | - | VW3A5107 | - | VW3A5210 | - | - |
| 310 | 500 | ATV630C31N4 | VZ3V1212 (2) | - | VW3A46116 x 2 | VW3A46135 x 2 | VW3A46153 x 2 | VW3A46172 x 2 | - | - | - | VW3A4411 | - | VW3A5107 | - | VW3A5210 | - | - |

Pages 16 21 21 43 44 45 46

(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.

48 49 50 51 52 53 54

(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 54.

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

| Motor kW HP | Drive | Wear parts Fan kit | Options | | | | EMC filters | IP 21 kit for EMC filter | dv/dt filters | IP 21 kit for dv/dt filter | Sinus filter | IP 21 kit for sinus filter | Common mode filter (5) | |
|----------------------------------------------------------------------------------------------|--------------|-----------------------|------------------------|-------------------------|---------------|-------------------------|---------------|-----------------------------|---------------|-------------------------------|--------------|-------------------------------|---------------------------|----------|
| | | | 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 | VX5VP50A001 | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4701 | – | VW3A5301 | – | VW3A5401 (1) | – | VW3A5502 |
| 1.5 2 | ATV650U15N4 | VX5VP50A001 | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4701 | – | VW3A5301 | – | VW3A5401 (1) | – | VW3A5502 |
| 2.2 3 | ATV650U22N4 | VX5VP50A001 | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4701 | – | VW3A5301 | – | VW3A5401 (1) | – | VW3A5502 |
| 3 – | ATV650U30N4 | VX5VP50A001 | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4702 | – | VW3A5302 | – | VW3A5402 (1) | – | VW3A5502 |
| 4 5 | ATV650U40N4 | VX5VP50A001 | – | VW3A46102 (1) | VW3A46121 (1) | VW3A46140 (1) | VW3A46159 (1) | VW3A4702 | – | VW3A5302 | – | VW3A5402 (1) | – | VW3A5502 |
| 5.5 7.5 | ATV650U55N4 | VX5VP50A001 | – | VW3A46102 (1) | VW3A46121 (1) | VW3A46140 (1) | VW3A46159 (1) | VW3A4702 | – | VW3A5302 | – | VW3A5402 (1) | – | VW3A5502 |
| 7.5 10 | ATV650U75N4 | VX5VP50A001 | – | VW3A46103 (1) | VW3A46122 (1) | VW3A46141 (1) | VW3A46160 (1) | VW3A4703 | – | VW3A5303 | – | VW3A5403 (1) | – | VW3A5502 |
| 11 15 | ATV650D11N4 | VX5VP50A001 | – | VW3A46104 (1) | VW3A46123 (1) | VW3A46142 (1) | VW3A46161 (1) | VW3A4703 | – | VW3A5303 | – | VW3A5403 (1) | – | VW3A5502 |
| 15 20 | ATV650D15N4 | VX5VP50A001 | – | VW3A46105 (1) | VW3A46124 (1) | VW3A46143 (1) | VW3A46162 (1) | VW3A4703 | – | VW3A5304 | – | VW3A5404 (1) | – | VW3A5504 |
| 18.5 25 | ATV650D18N4 | VX5VP50A001 | – | VW3A46106 (1) | VW3A46125 (1) | VW3A46144 (1) | VW3A46163 (1) | VW3A4704 | – | VW3A5304 | – | VW3A5404 (1) | – | VW3A5504 |
| 22 30 | ATV650D22N4 | VX5VP50A001 | – | VW3A46107 (1) | VW3A46126 (1) | VW3A46145 (1) | VW3A46164 (1) | VW3A4704 | – | VW3A5304 | – | VW3A5404 (1) | – | VW3A5504 |
| 30 40 | ATV650D30N4 | VX5VP50BC001 | – | VW3A46108 (1) | VW3A46127 (1) | VW3A46146 (1) | VW3A46165 (1) | VW3A4705 | – | VW3A5305 | – | VW3A5405 (1) | – | VW3A5504 |
| 37 50 | ATV650D37N4 | VX5VP50BC001 | – | VW3A46109 (1) | VW3A46128 (1) | VW3A46147 (1) | VW3A46166 (1) | VW3A4706 | – | VW3A5305 | – | VW3A5405 (1) | – | VW3A5504 |
| 45 60 | ATV650D45N4 | VX5VP50BC001 | – | VW3A46110 (1) | VW3A46129 (1) | VW3A46148 (1) | VW3A46167 (1) | VW3A4706 | – | VW3A5305 | – | VW3A5405 (1) | – | VW3A5504 |
| 55 75 | ATV650D55N4 | VX5VP50BC001 | – | VW3A46111 (1) | VW3A46130 (1) | VW3A46149 (1) | VW3A46168 (1) | VW3A4707 | – | VW3A5306 | – | VW3A5406 (1) | – | VW3A5504 |
| 75 100 | ATV650D75N4 | VX5VP50BC001 | – | VW3A46112 (1) | VW3A46131 (1) | VW3A46150 (1) | VW3A46169 (1) | VW3A4708 | – | VW3A5306 | – | VW3A5406 (1) | – | VW3A5504 |
| 90 125 | ATV650D90N4 | VX5VP50BC001 | – | 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 | VX5VP50A001 | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4701 | – | VW3A5301 | – | VW3A5401 (1) | – | VW3A5502 |
| 1.5 2 | ATV650U15N4E | VX5VP50A001 | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4701 | – | VW3A5301 | – | VW3A5401 (1) | – | VW3A5502 |
| 2.2 3 | ATV650U22N4E | VX5VP50A001 | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4701 | – | VW3A5301 | – | VW3A5401 (1) | – | VW3A5502 |
| 3 – | ATV650U30N4E | VX5VP50A001 | – | VW3A46101 (1) | VW3A46120 (1) | VW3A46139 (1) | VW3A46158 (1) | VW3A4702 | – | VW3A5302 | – | VW3A5402 (1) | – | VW3A5502 |
| 4 5 | ATV650U40N4E | VX5VP50A001 | – | VW3A46102 (1) | VW3A46121 (1) | VW3A46140 (1) | VW3A46159 (1) | VW3A4702 | – | VW3A5302 | – | VW3A5402 (1) | – | VW3A5502 |
| 5.5 7.5 | ATV650U55N4E | VX5VP50A001 | – | VW3A46102 (1) | VW3A46121 (1) | VW3A46140 (1) | VW3A46159 (1) | VW3A4702 | – | VW3A5302 | – | VW3A5402 (1) | – | VW3A5502 |
| 7.5 10 | ATV650U75N4E | VX5VP50A001 | – | VW3A46103 (1) | VW3A46122 (1) | VW3A46141 (1) | VW3A46160 (1) | VW3A4703 | – | VW3A5303 | – | VW3A5403 (1) | – | VW3A5502 |
| 11 15 | ATV650D11N4E | VX5VP50A001 | – | VW3A46104 (1) | VW3A46123 (1) | VW3A46142 (1) | VW3A46161 (1) | VW3A4703 | – | VW3A5303 | – | VW3A5403 (1) | – | VW3A5502 |
| 15 20 | ATV650D15N4E | VX5VP50A001 | – | VW3A46105 (1) | VW3A46124 (1) | VW3A46143 (1) | VW3A46162 (1) | VW3A4703 | – | VW3A5304 | – | VW3A5404 (1) | – | VW3A5504 |
| 18.5 25 | ATV650D18N4E | VX5VP50A001 | – | VW3A46106 (1) | VW3A46125 (1) | VW3A46144 (1) | VW3A46163 (1) | VW3A4704 | – | VW3A5304 | – | VW3A5404 (1) | – | VW3A5504 |
| 22 30 | ATV650D22N4E | VX5VP50A001 | – | VW3A46107 (1) | VW3A46126 (1) | VW3A46145 (1) | VW3A46164 (1) | VW3A4704 | – | VW3A5304 | – | VW3A5404 (1) | – | VW3A5504 |
| 30 40 | ATV650D30N4E | VX5VP50BC001 | – | VW3A46108 (1) | VW3A46127 (1) | VW3A46146 (1) | VW3A46165 (1) | VW3A4705 | – | VW3A5305 | – | VW3A5405 (1) | – | VW3A5504 |
| 37 50 | ATV650D37N4E | VX5VP50BC001 | – | VW3A46109 (1) | VW3A46128 (1) | VW3A46147 (1) | VW3A46166 (1) | VW3A4706 | – | VW3A5305 | – | VW3A5405 (1) | – | VW3A5504 |
| 45 60 | ATV650D45N4E | VX5VP50BC001 | – | VW3A46110 (1) | VW3A46129 (1) | VW3A46148 (1) | VW3A46167 (1) | VW3A4706 | – | VW3A5305 | – | VW3A5405 (1) | – | VW3A5504 |
| 55 75 | ATV650D55N4E | VX5VP50BC001 | – | VW3A46111 (1) | VW3A46130 (1) | VW3A46149 (1) | VW3A46168 (1) | VW3A4707 | – | VW3A5306 | – | VW3A5406 (1) | – | VW3A5504 |
| 75 100 | ATV650D75N4E | VX5VP50BC001 | – | VW3A46112 (1) | VW3A46131 (1) | VW3A46150 (1) | VW3A46169 (1) | VW3A4708 | – | VW3A5306 | – | VW3A5406 (1) | – | VW3A5504 |
| 90 125 | ATV650D90N4E | VX5VP50BC001 | – | VW3A46113 (1) | VW3A46132 (1) | VW3A46151 (1) | VW3A46170 (1) | VW3A4708 | – | VW3A5306 | – | VW3A5406 (1) | – | VW3A5504 |
| Pages | 16 | 21 | 21 | 43 | 44 | 45 | 46 | 48 | 49 | 50 | 51 | 52 | 53 | 54 |

I/O expansion modules

| Description | Reference | Page |
|------------------------------------|-----------|------|
| Module with digital and analog I/O | VW3A3203 | 33 |
| Module with relay outputs | VW3A3204 | 33 |

List of communication modules (2)

| Description | Reference | Page |
|-----------------------------------------------|-----------|------|
| EtherNet/IP and Modbus TCP dual port | VW3A3720 | 37 |
| EtherNet/IP, Modbus TCP and MD-Link dual port | VW3A3721 | 37 |
| CANopen Daisy chain | VW3A3608 | 38 |
| CANopen SUB-D | VW3A3618 | 38 |
| CANopen screw terminal block | VW3A3628 | 39 |
| PROFINET | VW3A3627 | 40 |
| PROFIBUS DP V1 | VW3A3607 | 40 |
| DeviceNet | VW3A3609 | 41 |
| BACnet MS/TP | VW3A3725 | 41 |

(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

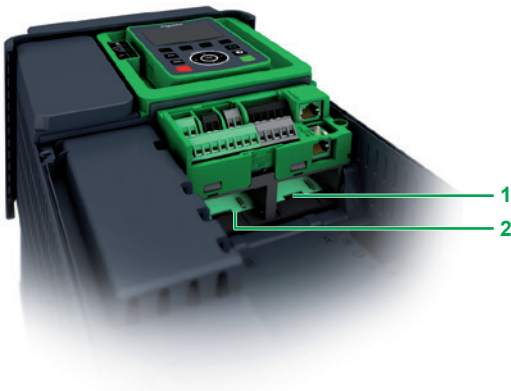
 Combination impossible

(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 54.

PF140354



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 $\overline{\text{V}}$ 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 protect an ATEX motor in 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 security 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 diagnose system elements 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.

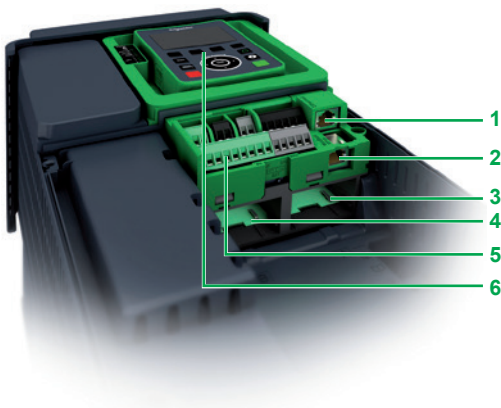
Description

- 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 $\overline{\text{---}}$ 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.

PFI140354



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

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:

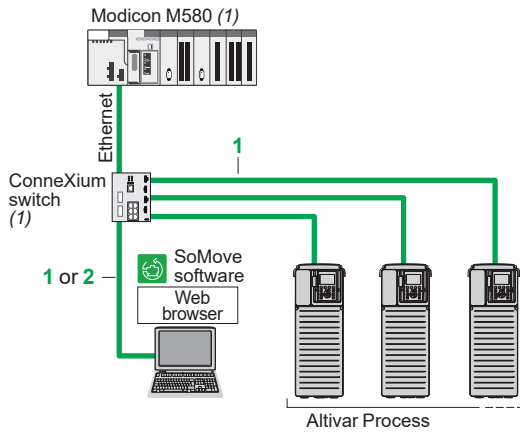
- Define the type of stop when a communication interruption is detected
- Maintain last command received
- Fallback position at preset speed
- Ignore the detected communication interruption

Variable speed drives

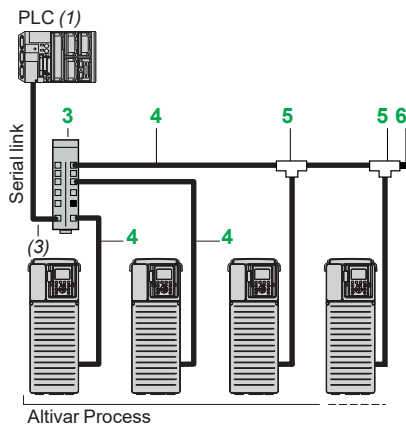
Altivar Process

Communication buses and networks

Integrated ports



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 60603-7-11801/EN 50173-1, class D | 1 | 2/ 6.56 | 490NTW00002 | – |
| | | 5/ 16.40 | 490NTW00005 | – |
| | | 12/ 39.37 | 490NTW00012 | – |
| | | 15/ 49.21 | 490NTC00005 | – |
| Crossover shielded twisted pair cables equipped with 2 RJ45 connectors conforming to EIA/TIA-568 category 5 and IEC 60603-7-11801/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 | – |
| | | 15/ 49.21 | 490NTC00005U | – |
| 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 |
| | | With 1 m/3.28 ft integrated cable | 5 | 1/ 3.28 | VW3A8306TF10 | 0.210/ 0.463 |
| Modbus line terminator (4) For RJ45 connector | 6 | – | VW3A8306RC | 0.010/ 0.022 | | |
| Cordsets equipped with 2 RJ45 connectors | | 0.3/ 0.98 | 4 | 0.3/ 0.98 | VW3A8306R03 | 0.025/ 0.055 |
| | | 1/ 3.28 | | 1/ 3.28 | VW3A8306R10 | 0.060/ 0.132 |
| | | 3/ 9.84 | | 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

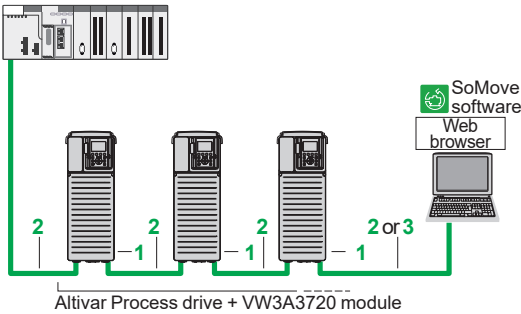
EtherNet/IP and Modbus TCP networks (1)

| 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 |

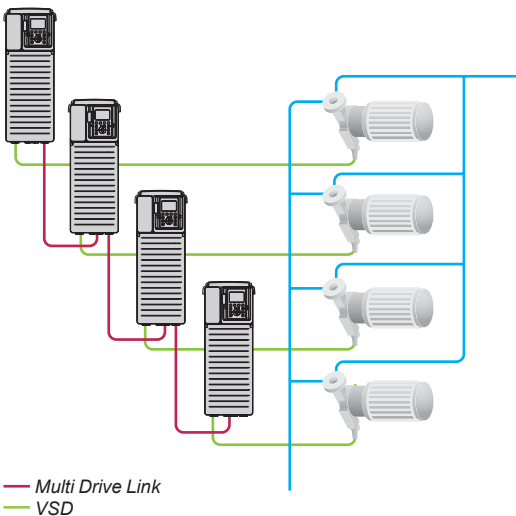
ConneXium cordsets (3)

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------------|--------------|---|
| 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

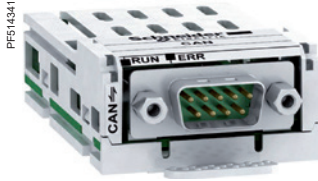
Altivar Process

Communication buses and networks

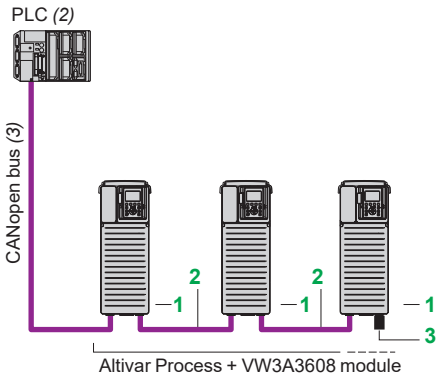
Option: Communication modules



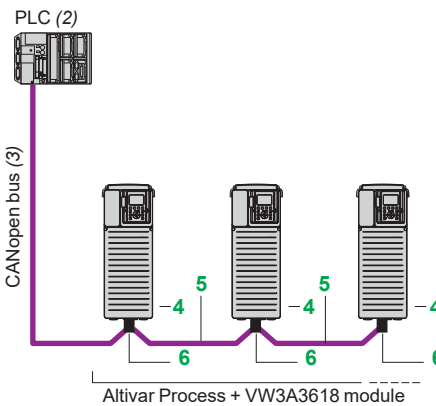
VW3A3608



VW3A3618



Optimized solution for daisy chain connection to the CANopen bus



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.

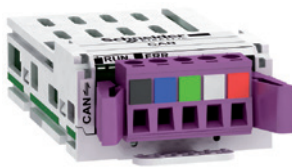
Variable speed drives

Altivar Process

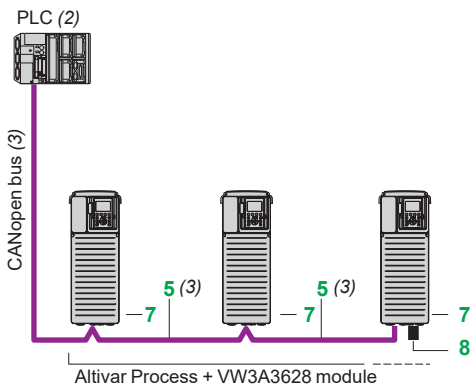
Communication buses and networks

Option: Communication modules

PF095129



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 | 5 | 0.3/ 0.98 | TSXCANCADD03 | 0.091/ 0.201 |
| Standard cable, C€ mark. Low smoke zero halogen Flame-retardant (IEC 60332-1) | | 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.

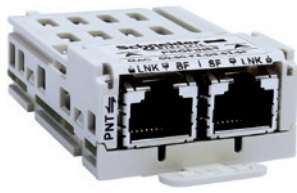
Variable speed drives

Altivar Process

Communication buses and networks

Option: Communication modules

PF 514350



VW3A3627

PROFINET bus (1) (2)

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

PF095130



VW3A3607

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.

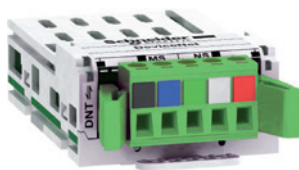
Variable speed drives

Altivar Process

Communication buses and networks

Option: Communication modules

PF514345



VW3A3609

ATVp0_02317_CPMFS17001B



VW3A3725

DeviceNet bus (1) (2)

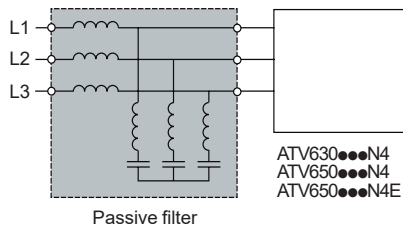
| Description | Reference | Weight kg/ lb |
|--------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------|
| Communication module | | |
| DeviceNet module Port: 1 removable 5-way screw connector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

BACnet MSTP (1) (2)

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

(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

| 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 | | | |
| THDI < 10% | | | A | A | | | kg/ lb |
| 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.

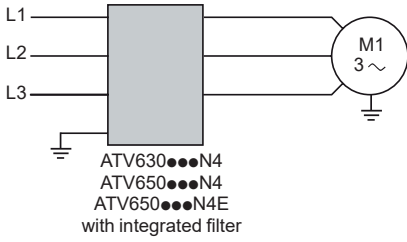
Variable speed drives

Altivar Process

Option: Passive filters

| 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.



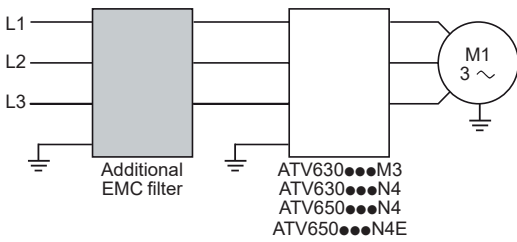
Altivar Process drive with integrated EMC filter

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 |



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.

Variable speed drives

Altivar Process: EMC filters

Option: Additional EMC input filters

| 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.

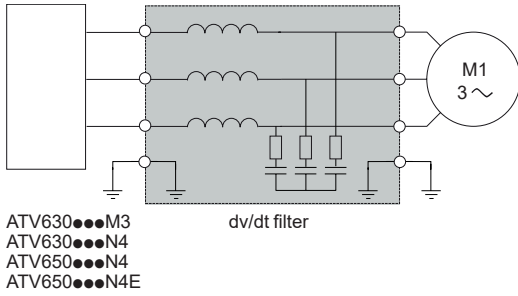
(2) Nominal filter current.

(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 |



Altivar Process drive with dv/dt filter

Presentation

Altivar Process drives operate with the following maximum motor cable lengths: 150 m/492 ft for shielded cables and 300 m/984 ft for unshielded cables.

To limit the impact of dv/dt and overvoltages in the motor, it is recommended, for cables longer than 50 m/164 ft, that you check the motor insulation type and add an output filter if necessary.

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.

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)

They are also used to:

- Limit overvoltages at the motor terminals
- Filter interference caused by opening a contactor placed between the filter and the motor

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 recommended 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.

Variable speed drives

Altivar Process: Output filters

Option: dv/dt filters

| dv/dt output filters (continued) | | | | | | |
|---------------------------------------------------------------------|---------------------------------|--------------------|----------------------|--------|---------------|--------------------|
| For drives | Maximum length of motor cable | | Degree of protection | In (3) | Reference (4) | Weight |
| | Maximum switching frequency (1) | Shielded cable (2) | | | | |
| | kHz | m/ft | IP | A | | kg/lb |
| Three-phase supply voltage: 380...480 V | | | | | | |
| ATV630U07N4...U22N4 ATV650U07N4...U22N4 ATV650U07N4E...U22N4E | 4 | 300/ 984 | 20 | 6 | VW3A5301 | 11.000/ 24.251 |
| ATV630U30N4...U55N4 ATV650U30N4...U55N4 ATV650U30N4E...U55N4E | 4 | 300/ 984 | 20 | 15 | VW3A5302 | 12.000/ 26.455 |
| ATV630U75N4...D11N4 ATV650U75N4...D11N4 ATV650U75N4E...D11N4E | 4 | 300/ 984 | 20 | 25 | VW3A5303 | 12.000/ 26.455 |
| ATV630D15N4...D22N4 ATV650D15N4...D22N4 ATV650D15N4E...D22N4E | 4 | 300/ 984 | 20 | 50 | VW3A5304 | 18.000/ 39.683 |
| ATV630D30N4...D45N4 ATV650D30N4...D45N4 ATV650D30N4E...D45N4E | 4 | 300/ 984 | 20 | 95 | VW3A5305 | 19.000/ 41.888 |
| ATV630D55N4...D90N4 ATV650D55N4...D90N4 ATV650D55N4E...D90N4E | 2.5 | 300/ 984 | 00 | 180 | VW3A5306 | 22.000/ 48.502 |
| ATV630C11N4...C16N4 | 2.5 | 300/ 984 | 00 | 305 | VW3A5307 | 40.000/ 88.185 |
| ATV630C22N4 | 2.5 | 250/ 820 | 00 | 481 | VW3A5106 | 58.000/ 127.868 |
| ATV630C25N4...C31N4 | 2.5 | 200/ 656 | 00 | 759 | VW3A5107 | 93.000/ 205.230 |

| IP 20 protection kit for IP 00 filters | | | |
|-------------------------------------------------|----------------------|-----------|--------------|
| Description | For dv/dt filters | Reference | Weight kg/lb |
| Mechanical kit including cover and cable clamps | VW3A5106 VW3A5107 | VW3A9613 | - |

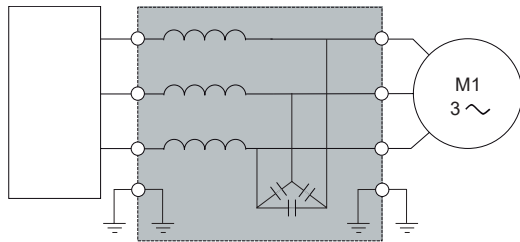
| IP 21 protection kit for IP 20 filters | | | |
|-------------------------------------------------|----------------------------------|-----------|-----------------|
| Description | For dv/dt filters | Reference | Weight kg/lb |
| Mechanical kit including cover and cable clamps | VW3A5301 VW3A5302 VW3A5303 | VW3A53902 | 1.300/ 2.866 |
| | VW3A5304 | VW3A53903 | 1.700/ 3.748 |
| | VW3A5305 | VW3A53905 | 3.200/ 7.055 |
| | | | |

(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.



ATV630●●●M3
ATV630●●●N4
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 | Nominal current | Degree of protection | Reference (1) | Weight |
|------------------------------------------------|-----------------|----------------------|-----------------|---------------------|
| | A | IP | | kg/ lb |
| Three-phase supply voltage: 200...240 V | | | | |
| ATV630U07M3 | 6 | 20 | VW3A5401 | 10.000/ 22.046 |
| ATV630U15M3...U30M3 | 15 | 20 | VW3A5402 | 13.500/ 29.762 |
| ATV630U40M3 | 25 | 20 | VW3A5403 | 20.000/ 44.092 |
| ATV630U55M3...D11M3 | 50 | 20 | VW3A5404 | 35.000/ 77.162 |
| ATV630D15M3...D22M3 | 95 | 20 | VW3A5405 | 60.000/ 132.277 |
| ATV630D30M3...D45M3 | 180 | 00 | VW3A5406 | 90.000/ 198.416 |
| ATV630D75M3 (2) | 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.

Variable speed drives

Altivar Process: Output filters

Option: Sinus filters

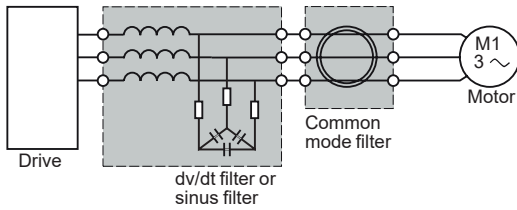
Sinus filters (continued)

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

IP 21 protection kit for IP 20 filters

| Description | For sinus filter | Reference | Weight kg/ lb |
|-------------------------------------------------|----------------------|-----------|---------------------|
| Mechanical kit including cover and cable clamps | VW3A5401 VW3A5402 | VW3A53901 | 1.000/ 2.205 |
| | 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/contactors/drive combinations help to ensure continuity of service in the installation.

The type of circuit breaker/contactors 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 Power (1) | Drive Reference | Circuit breaker Reference (2) | Rating | I _{rm} | Line contactor 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 | 1,300 | LC1D95●● |
| 37 | 50 | ATV630D37M3 | NSX160●MA150 | 150 | 1,500 | LC1D115●● |
| 45 | 60 | ATV630D45M3 | NSX160●MA150 | 150 | 1,500 | LC1D150●● |
| 55 | 75 | ATV630D55M3 | NSX250●MA220 | 220 | 2,420 | LC1F185●● |
| 75 | 100 | ATV630D75M3 | NSX400● Micrologic 1.3-M | 320 | 3,500 | 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 | I _{cu} (kA) for 200...240 V | | | | |
|--------------------------|--------------------------------------|--------------------------------------|----|-----|-----|-----|
| | | F | N | H | S | L |
| GV2L08...L20 | >100 | – | – | – | – | – |
| GV2L22...L32 | 50 | – | – | – | – | – |
| GV3L40...L65 | 50 | – | – | – | – | – |
| NS80HMA | 100 | – | – | – | – | – |
| NSX100●MA100 | – | 85 | 90 | 100 | 120 | 150 |
| NSX160●MA150 | – | 85 | 90 | 100 | 120 | 150 |
| NSX250●MA220 | – | 85 | 90 | 100 | 120 | 150 |
| NSX400● Micrologic 1.3-M | – | 40 | 85 | 100 | 120 | 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:

| | Volts ~ | 24 | 48 | 110 | 220 | 230 | 240 |
|---------------|------------------------|----|----|-----|-----|-----|-----|
| LC1D09...D150 | 50 Hz | B5 | E5 | F5 | M5 | P5 | U5 |
| | 60 Hz | B6 | E6 | F6 | M6 | – | U6 |
| | 50/60 Hz | B7 | E7 | F7 | M7 | P7 | U7 |
| 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 | 1,300 | LC1D80●● |
| 55 | 75 | ATV630D55N4 | NSX160●MA150 | 150 | 1,500 | LC1D115●● |
| 75 | 100 | ATV630D75N4 | NSX160●MA150 | 150 | 1,500 | LC1D115●● |
| 90 | 125 | ATV630D90N4 | NSX250●MA220 | 220 | 2,420 | LC1F185●● |
| 110 | 150 | ATV630C11N4 | NSX250●MA220 | 220 | 2,860 | LC1F185●● |
| 132 | 200 | ATV630C13N4 | NSX400● Micrologic 1.3-M | 320 | 3,500 | LC1F265●● |
| 160 | 250 | ATV630C16N4 | NSX400● Micrologic 1.3-M | 320 | 4,000 | 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

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 | LC1D40 |
| 22 | 30 | ATV650D22N4/N4E | GV3L50 | 50 | 700 | LC1D50 |
| 30 | 40 | ATV650D30N4/N4E | GV3L65 | 65 | 910 | LC1D50 |
| 37 | 50 | ATV650D37N4/N4E | NS80HMA | 80 | 1,000 | LC1D65 |
| 45 | 60 | ATV650D45N4/N4E | NSX100MA100 | 100 | 1,300 | LC1D80 |
| 55 | 75 | ATV650D55N4/N4E | NSX160MA150 | 150 | 1,500 | LC1D115 |
| 75 | 100 | ATV650D75N4/N4E | NSX160MA150 | 150 | 1,500 | LC1D115 |
| 90 | 125 | ATV650D90N4/N4E | NSX250MA220 | 220 | 2,420 | 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 | I _{cu} (kA) for 380...415 V | | | | |
|-----------------|--------------------------------------|--------------------------------------|----|----|-----|-----|
| | | F | N | H | S | L |
| GV2L07...L14 | >100 | – | – | – | – | – |
| GV2L16...L22 | 50 | – | – | – | – | – |
| GV3L32...L65 | 50 | – | – | – | – | – |
| NS80HMA | 70 | – | – | – | – | – |
| NSX100MA100 | – | 36 | 50 | 70 | 100 | 150 |
| NSX160MA150 | – | 36 | 50 | 70 | 100 | 150 |
| NSX250MA220 | – | 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 |
| | 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

+



LC1D09●●

+



ATV630U15N4

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 | 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 | 1,040 | LC1D95●● |
| 75 | 100 | ATV630D75N4 | NSX160●MA150 | 150 | 1,500 | LC1D115●● |
| 90 | 125 | ATV630D90N4 | NSX250●MA220 | 150 | 1,500 | LC1D115●● |
| 110 | 150 | ATV630C11N4 | NSX250●MA220 | 220 | 2,420 | LC1F185●● |
| 132 | 200 | ATV630C13N4 | NSX400● Micrologic 1.3-M | 220 | 2,420 | LC1F185●● |
| 160 | 250 | ATV630C16N4 | NSX400● Micrologic 1.3-M | 320 | 3,500 | 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 | | | | | |
|--------------------------|--------------------------------|----|----|----|----|-----|
| | F | N | H | S | F | 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 ~ | 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

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 | 1,040 | LC1D95•• |
| 75 | 100 | ATV650D75N4/N4E | NSX160•MA150 | 150 | 1,500 | LC1D115•• |
| 90 | 125 | ATV650D90N4/N4E | NSX250•MA220 | 150 | 1,500 | 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:

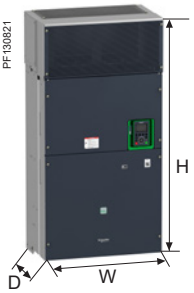
| LC1D09...D115 | Volts ~ | 24 | 48 | 110 | 220 | 230 | 240 |
|---------------|---------|----|----|-----|-----|-----|-----|
| | 50 Hz | B5 | E5 | F5 | M5 | P5 | U5 |
| 60 Hz | B6 | E6 | F6 | M6 | – | U6 | |
| 50/60 Hz | B7 | E7 | F7 | M7 | P7 | U7 | |

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

Variable speed drives

Altivar Process

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



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 |



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.

Variable speed drives

Altivar Process

IP 21 and IP 54 drives: 380...440 V



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 | 420 x 800 x 448.5 | 16.54 x 31.50 x 17.66 |
| VW3A46119 | 420 x 800 x 510 | 16.54 x 31.50 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 | 420 x 800 x 510 | 16.54 x 31.50 x 20.00 |
| VW3A46138 | 420 x 800 x 510 | 16.54 x 31.50 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 | 420 x 800 x 448.5 | 16.54 x 31.50 x 17.66 |
| VW3A46157 | 420 x 800 x 510 | 16.54 x 31.50 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 |
| VW3A46174 | 420 x 800 x 510 | 16.54 x 31.50 x 20.00 |
| VW3A46176 | 420 x 800 x 510 | 16.54 x 31.50 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. |
| 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 |
| 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 |

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 |

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 |

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 | Certification procedure | | |
| Module E | Registration in Schneider Electric's international directory of Drives skills | | |
| Module F | Re-certification every 2 years | | |

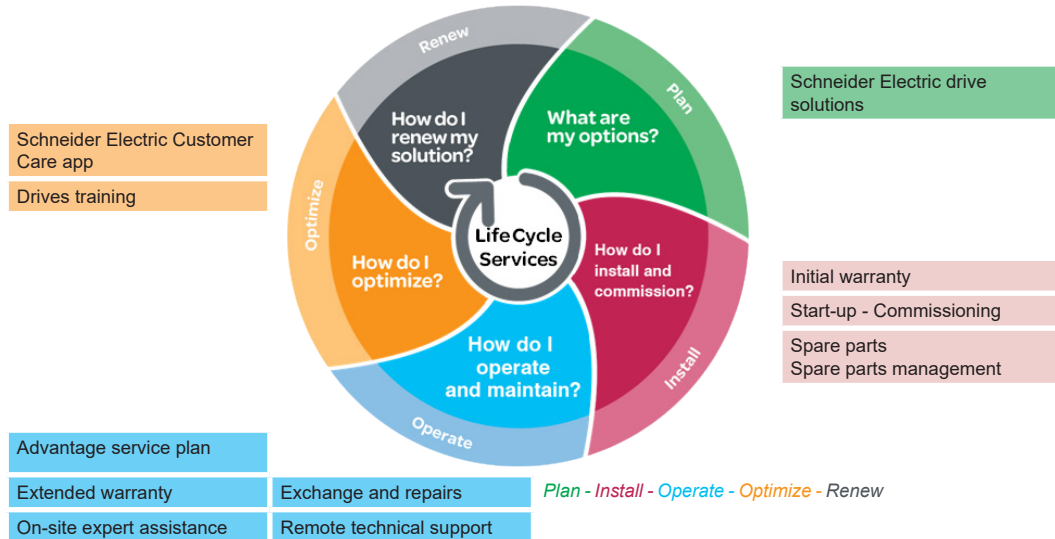
Variable speed drives

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. This will extend your warranty period by an extra 6 months. |
| 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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| 490NTC00005 | 36 | ATV630U30M3 | 16 | NSYCAF223 | 22 | VW3A4707 | 48 |
| | 37 | ATV630U30N4 | 17 | NSYCAF291 | 22 | VW3A4708 | 48 |
| 490NTC00005U | 36 | ATV630U40M3 | 16 | NSYPTDS1 | 23 | VW3A4709 | 48 |
| | 37 | ATV630U40N4 | 17 | NSYPTDS2 | 23 | VW3A4710 | 48 |
| 490NTC00015 | 36 | ATV630U55M3 | 16 | NSYPTDS3 | 23 | VW3A5106 | 51 |
| | 37 | ATV630U55N4 | 17 | NSYPTDS4 | 23 | VW3A5107 | 51 |
| 490NTC00015U | 36 | ATV630U75M3 | 16 | NSYPTDS5 | 23 | VW3A5209 | 53 |
| | 37 | ATV630U75N4 | 17 | | | VW3A5210 | 53 |
| 490NTW00002 | 36 | ATV630U75N4 | 17 | T | | VW3A5301 | 50 |
| | 37 | ATV650C11N4F | 12 | TCSCAR01NM120 | 39 | | 51 |
| 490NTW00002U | 36 | ATV650C13N4F | 21 | TCSCAR013M120 | 38 | VW3A5302 | 50 |
| | 37 | ATV650C16N4F | 21 | TCSEGW13FA0 | 24 | | 51 |
| 490NTW00005 | 36 | ATV650C20N4F | 21 | TCSXCNAMUM3P | 25 | VW3A5303 | 50 |
| | 37 | ATV650C25N4F | 21 | TSXCANCA50 | 38 | | 51 |
| 490NTW00005U | 36 | ATV650C31N4F | 21 | TSXCANCA100 | 38 | VW3A5304 | 50 |
| | 37 | ATV650D11N4 | 19 | TSXCANCA300 | 38 | | 51 |
| 490NTW00012 | 36 | ATV650D11N4E | 20 | TSXCANCA300 | 38 | VW3A5305 | 50 |
| | 37 | ATV650D15N4 | 19 | TSXCANCADD1 | 39 | | 51 |
| 490NTW00012U | 36 | ATV650D15N4E | 20 | TSXCANCADD03 | 39 | VW3A5306 | 50 |
| | 37 | ATV650D18N4 | 19 | TSXCANCADD03 | 39 | | 51 |
| A | | ATV650D18N4E | 20 | TSXCANCB50 | 38 | VW3A5307 | 50 |
| ATV630C11N4 | 18 | ATV650D22N4 | 19 | TSXCANCB100 | 38 | | 51 |
| ATV630C11N4F | 12 | ATV650D22N4E | 20 | TSXCANCB300 | 38 | VW3A5401 | 52 |
| | 21 | ATV650D30N4 | 19 | TSXCANCBDD3 | 39 | | 53 |
| ATV630C13N4 | 18 | ATV650D30N4E | 20 | TSXCANCBDD5 | 39 | VW3A5402 | 52 |
| ATV630C13N4F | 21 | ATV650D37N4 | 19 | TSXCANCBDD5 | 39 | | 53 |
| ATV630C16N4 | 18 | ATV650D37N4E | 20 | TSXCANCD50 | 38 | VW3A5403 | 52 |
| ATV630C16N4F | 21 | ATV650D45N4 | 19 | TSXCANCD100 | 38 | | 53 |
| ATV630C20N4F | 21 | ATV650D45N4E | 20 | TSXCANCD300 | 38 | VW3A5404 | 52 |
| ATV630C22N4 | 18 | ATV650D55N4 | 19 | TSXCANKCDF180T | 38 | | 53 |
| ATV630C25N4 | 18 | ATV650D55N4E | 20 | TSXCANTDM4 | 39 | VW3A5405 | 52 |
| ATV630C25N4F | 21 | ATV650D75N4 | 19 | | | | 53 |
| ATV630C31N4 | 18 | ATV650D75N4E | 20 | V | | VW3A5406 | 52 |
| ATV630C31N4F | 21 | ATV650D90N4 | 19 | VW3A1104R10 | 25 | | 53 |
| ATV630D11M3 | 16 | ATV650D90N4E | 20 | VW3A1104R30 | 25 | VW3A5407 | 52 |
| ATV630D11N4 | 17 | ATV650U07N4 | 12 | VW3A1104R50 | 25 | | 53 |
| ATV630D15M3 | 16 | | 19 | VW3A1104R100 | 25 | VW3A8306R03 | 25 |
| ATV630D15N4 | 17 | ATV650U07N4E | 12 | VW3A1111 | 24 | | 36 |
| ATV630D18M3 | 16 | | 20 | VW3A1112 | 25 | VW3A8306R10 | 25 |
| ATV630D18N4 | 17 | ATV650U15N4 | 19 | VW3A1115 | 25 | | 36 |
| ATV630D22M3 | 16 | ATV650U15N4E | 20 | VW3A1116 | 25 | VW3A8306R30 | 25 |
| ATV630D22N4 | 17 | ATV650U22N4 | 19 | VW3A1116 | 25 | | 36 |
| ATV630D30M3 | 16 | ATV650U22N4E | 20 | VW3A1115 | 25 | VW3A8306RC | 25 |
| ATV630D30N4 | 17 | ATV650U30N4 | 19 | VW3A1112 | 25 | | 36 |
| ATV630D37M3 | 16 | ATV650U30N4E | 20 | VW3A1115 | 25 | VW3A8306TF03 | 25 |
| ATV630D37N4 | 17 | ATV650U40N4 | 19 | VW3A1116 | 25 | | 36 |
| ATV630D45M3 | 16 | ATV650U40N4E | 20 | VW3A3203 | 33 | VW3A8306TF10 | 25 |
| ATV630D45N4 | 17 | ATV650U55N4 | 19 | VW3A3204 | 33 | | 36 |
| ATV630D55M3 | 16 | ATV650U55N4E | 20 | VW3A3607 | 40 | VW3A9112 | 23 |
| ATV630D55N4 | 18 | ATV650U75N4 | 19 | VW3A3608 | 38 | VW3A9113 | 23 |
| ATV630D75M3 | 16 | ATV650U75N4E | 20 | VW3A3609 | 41 | VW3A9212 | 23 |
| ATV630D75N4 | 18 | L | | VW3A3618 | 38 | VW3A9213 | 23 |
| ATV630D90N4 | 18 | LU9AD7 | 40 | VW3A3627 | 40 | VW3A9513 | 23 |
| ATV630U07M3 | 12 | LU9GC3 | 25 | VW3A3628 | 39 | VW3A9514 | 23 |
| | 16 | | 36 | VW3A3720 | 37 | VW3A9613 | 51 |
| ATV630U07N4 | 12 | N | | VW3A3721 | 37 | VW3A9704 | 23 |
| | 17 | NSYAEFPFPTD | 23 | VW3A3725 | 41 | VW3A46101 | 43 |
| ATV630U15M3 | 16 | | | VW3A4411 | 48 | VW3A46102 | 43 |
| ATV630U15N4 | 17 | | | VW3A4701 | 48 | VW3A46103 | 43 |
| ATV630U22M3 | 16 | | | VW3A4702 | 48 | VW3A46104 | 43 |
| ATV630U22N4 | 17 | | | VW3A4703 | 48 | VW3A46105 | 43 |
| | | | | VW3A4704 | 48 | VW3A46106 | 43 |
| | | | | VW3A4705 | 48 | VW3A46107 | 43 |
| | | | | VW3A4706 | 48 | VW3A46108 | 43 |
| | | | | | | VW3A46109 | 43 |
| | | | | | | VW3A46110 | 43 |
| | | | | | | VW3A46111 | 43 |
| | | | | | | VW3A46112 | 43 |
| | | | | | | VW3A46113 | 43 |
| | | | | | | VW3A46114 | 43 |
| | | | | | | VW3A46115 | 43 |
| | | | | | | VW3A46116 | 43 |
| | | | | | | VW3A46118 | 43 |
| | | | | | | VW3A46119 | 43 |
| | | | | | | VW3A46120 | 44 |
| | | | | | | VW3A46121 | 44 |
| | | | | | | VW3A46122 | 44 |
| | | | | | | VW3A46123 | 44 |
| | | | | | | VW3A46124 | 44 |
| | | | | | | VW3A46125 | 44 |
| | | | | | | VW3A46126 | 44 |
| | | | | | | VW3A46127 | 44 |
| | | | | | | VW3A46128 | 44 |
| | | | | | | VW3A46129 | 44 |
| | | | | | | VW3A46130 | 44 |
| | | | | | | VW3A46131 | 44 |
| | | | | | | VW3A46132 | 44 |
| | | | | | | VW3A46133 | 44 |
| | | | | | | VW3A46134 | 44 |
| | | | | | | VW3A46135 | 44 |
| | | | | | | VW3A46137 | 44 |
| | | | | | | VW3A46138 | 44 |
| | | | | | | VW3A46139 | 45 |
| | | | | | | VW3A46140 | 45 |
| | | | | | | VW3A46141 | 45 |
| | | | | | | VW3A46142 | 45 |
| | | | | | | VW3A46143 | 45 |
| | | | | | | VW3A46144 | 45 |
| | | | | | | VW3A46145 | 45 |
| | | | | | | VW3A46146 | 45 |
| | | | | | | VW3A46147 | 45 |
| | | | | | | VW3A46148 | 45 |
| | | | | | | VW3A46149 | 45 |
| | | | | | | VW3A46150 | 45 |
| | | | | | | VW3A46151 | 45 |
| | | | | | | VW3A46152 | 45 |
| | | | | | | VW3A46153 | 45 |
| | | | | | | VW3A46154 | 45 |
| | | | | | | VW3A46155 | 45 |
| | | | | | | VW3A46157 | 45 |
| | | | | | | VW3A46158 | 46 |
| | | | | | | VW3A46159 | 46 |
| | | | | | | VW3A46160 | 46 |
| | | | | | | VW3A46161 | 46 |
| | | | | | | VW3A46162 | 46 |
| | | | | | | VW3A46163 | 46 |
| | | | | | | VW3A46164 | 46 |
| | | | | | | VW3A46165 | 46 |
| | | | | | | VW3A46166 | 46 |
| | | | | | | VW3A46167 | 46 |
| | | | | | | VW3A46168 | 46 |

| | |
|--------------|----------|
| VW3A46169 | 46 |
| VW3A46170 | 46 |
| VW3A46171 | 46 |
| VW3A46172 | 46 |
| VW3A46173 | 46 |
| VW3A46174 | 46 |
| VW3A46176 | 46 |
| VW3A47901 | 49 |
| VW3A47902 | 49 |
| VW3A47903 | 49 |
| VW3A47904 | 49 |
| VW3A47905 | 49 |
| VW3A47906 | 49 |
| VW3A47907 | 49 |
| VW3A47908 | 49 |
| VW3A53901 | 53 |
| VW3A53902 | 51 53 |
| VW3A53903 | 51 53 |
| VW3A53904 | 53 |
| VW3A53905 | 51 |
| VW3CANCARR1 | 38 |
| VW3CANCARR03 | 38 |
| VW3CANTAP2 | 39 |
| VX5VP50A001 | 22 |
| VX5VP50BC001 | 22 |
| VX5VPM001 | 22 |
| VX5VPM002 | 22 |
| VX5VPS1001 | 22 |
| VX5VPS2001 | 22 |
| VX5VPS3001 | 22 |
| VX5VPS4001 | 22 |
| VX5VPS5001 | 22 |
| VX5VPS6001 | 22 |
| VZ3V1212 | 22 |
| VZ3V1213 | 22 |

Z

| | |
|----------|----|
| ZB5AZ905 | 25 |
|----------|----|

Altivar drives



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