

# Product data sheet

Specifications



## Soft starter, Altistart 480, 410A, 208 to 690V AC, control supply 110 to 230V AC

ATS480C41Y

**Product availability: Stock - Normally stocked in distribution facility**

### Main

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range of Product               | Altivar Soft Starter ATS480                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Product or Component Type      | Soft starter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Product destination            | Asynchronous motors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Product Specific Application   | Process and infrastructures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Device short name              | ATS480                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Phase                          | 3 phase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Utilisation category           | AC-3A<br>AC-53A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Ue power supply voltage        | 208...690 V - 15...10 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| power supply frequency         | 50...60 Hz - 20...20 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| [Ie] rated operational current | Normal duty 410.0 A 104 °F (40 °C))                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| rated current in heavy duty    | 320.0 A at 104 °F (40 °C) heavy duty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IP Degree of Protection        | IP00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Motor power kW                 | 110.0 kW 230 V in the motor supply line normal duty<br>90.0 kW 230 V in the motor supply line heavy duty<br>220.0 kW 400 V in the motor supply line normal duty<br>160.0 kW 400 V in the motor supply line heavy duty<br>220.0 kW 440 V in the motor supply line normal duty<br>160.0 kW 440 V in the motor supply line heavy duty<br>250.0 kW 500 V in the motor supply line normal duty<br>220.0 kW 500 V in the motor supply line heavy duty<br>250.0 kW 525 V in the motor supply line normal duty<br>220.0 kW 525 V in the motor supply line heavy duty<br>355.0 kW 660 V in the motor supply line normal duty<br>250.0 kW 660 V in the motor supply line heavy duty<br>400.0 kW 690 V in the motor supply line normal duty<br>315.0 kW 690 V in the motor supply line heavy duty<br>220.0 kW 230 V to the motor delta terminals normal duty<br>160.0 kW 230 V to the motor delta terminals heavy duty<br>315.0 kW 400 V to the motor delta terminals normal duty<br>250.0 kW 400 V to the motor delta terminals heavy duty |
| Maximum Horse Power Rating     | 125.0 hp 208 V normal duty<br>100.0 hp 208 V heavy duty<br>150.0 hp 230 V normal duty<br>125.0 hp 230 V heavy duty<br>300.0 hp 460 V normal duty<br>250.0 hp 460 V heavy duty<br>350.0 hp 575 V normal duty<br>300.0 hp 575 V heavy duty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Option card                    | Communication module Profibus DP V1<br>Communication module Modbus TCP/EtherNet/IP<br>Communication module CANopen daisy chain<br>Communication module CANopen Sub-D<br>Communication module CANopen open style<br>Communication module PROFINET                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

# Complementary

|                                         |                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Device connection                       | In the motor supply line<br>To the motor delta terminals                                                                                                                                                                                                                                                 |
| [Us] control circuit voltage            | 110...230 V AC 50/60 Hz - 15...10 %                                                                                                                                                                                                                                                                      |
| Apparent power                          | 0.106 kVA                                                                                                                                                                                                                                                                                                |
| Integrated motor overload protection    | True                                                                                                                                                                                                                                                                                                     |
| motor thermal protection class          | Class 10E                                                                                                                                                                                                                                                                                                |
| Protection type                         | Phase failure line<br>Integrated thermal protection motor<br>Thermal protection starter<br>Current overload motor<br>Underload motor<br>Excessive starting time, locked rotor motor<br>Motor phase loss motor<br>Line supply phase loss line<br>Line supply phase loss motor<br>Thermal protection motor |
| current limiting %In (5 x Ie maximum)   | 150...700 %                                                                                                                                                                                                                                                                                              |
| [In] Rated current pwr loss specifctn   | 410.0 A                                                                                                                                                                                                                                                                                                  |
| Power loss static current independent   | 25.0 W                                                                                                                                                                                                                                                                                                   |
| Power loss per device current dependent | 1319.0 W                                                                                                                                                                                                                                                                                                 |
| Standards                               | IEC 60947-4-2<br>UL 60947-4-2<br>IEC 60664-1                                                                                                                                                                                                                                                             |
| Product Certifications                  | CE<br>cULus<br>CCC<br>UKCA<br>RCM<br>EAC<br>DNV<br>ABS<br>BV<br>CCS                                                                                                                                                                                                                                      |
| Marking                                 | CE<br>CCC<br>UKCA<br>EAC<br>RCM<br>CULus                                                                                                                                                                                                                                                                 |
| [Uc] control circuit voltage            | 24 V DC                                                                                                                                                                                                                                                                                                  |
| Discrete input number                   | 4                                                                                                                                                                                                                                                                                                        |
| Discrete input type                     | STOP) logic inputs, 3500 Ohm<br>RUN) logic inputs, 3500 Ohm<br>DI3) programmable as logic input, 3500 Ohm<br>DI4) programmable as logic input, 3500 Ohm                                                                                                                                                  |
| Input compatibility                     | STOP discrete input level 1 PLC IEC 61131-2<br>RUN discrete input level 1 PLC IEC 61131-2<br>DI3 discrete input level 1 PLC IEC 61131-2<br>DI4 discrete input level 1 PLC IEC 61131-2                                                                                                                    |
| Discrete input logic                    | Programmable digital input < 5 V                                                                                                                                                                                                                                                                         |
| Relay output number                     | 3                                                                                                                                                                                                                                                                                                        |
| Relay output type                       | Relay outputs R1A 1 NO<br>Relay outputs R1B 1 NO<br>Relay outputs RIC NO/NC programmable                                                                                                                                                                                                                 |
| Minimum switching current               | 100 mA 12 V DC relay outputs                                                                                                                                                                                                                                                                             |

|                             |                                                                                                                                                                                                                                       |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum switching current   | Relay outputs 2 A 250 V AC<br>Relay outputs 2 A 30 V DC<br>Relay outputs                                                                                                                                                              |
| Discrete output number      | 2                                                                                                                                                                                                                                     |
| Discrete output type        | DQ1) programmable digital output <= 30 V<br>DQ2) programmable digital output <= 30 V                                                                                                                                                  |
| Output compatibility        | Open collector level 1 PLC IEC 65A-68                                                                                                                                                                                                 |
| Analogue input number       | 1                                                                                                                                                                                                                                     |
| Analogue input type         | AI1/PTC PTC/Pt 100 temperature probe<br>PTC2 PTC/Pt 100 temperature probe<br>PTC3 PTC/Pt 100 temperature probe                                                                                                                        |
| Analogue output number      | 1                                                                                                                                                                                                                                     |
| Analogue output type        | Current output AQ1 0...20 mA or 0...10 V 500 Ohm                                                                                                                                                                                      |
| Communication Port Protocol | Modbus serial                                                                                                                                                                                                                         |
| Connector Type              | 1 RJ45                                                                                                                                                                                                                                |
| Communication data link     | Serial                                                                                                                                                                                                                                |
| Physical interface          | 2-wire RS 485                                                                                                                                                                                                                         |
| Transmission Rate           | 1200...256000 bit/s                                                                                                                                                                                                                   |
| Transmission frame          | RTU                                                                                                                                                                                                                                   |
| Data format                 | 8 bits, configurable odd, even or no parity                                                                                                                                                                                           |
| Type of polarization        | No impedance Modbus serial                                                                                                                                                                                                            |
| Number of addresses         | 0...227 Modbus serial                                                                                                                                                                                                                 |
| Method of access            | Slave Modbus serial                                                                                                                                                                                                                   |
| Function Available          | External bypass control<br>Pre-heating<br>Smoke extraction<br>Multi-motor cascade<br>Second motor set<br>User management<br>Ports and services hardening<br>Security event logging<br>Cybersecure firmware update<br>Single direction |
| Display screen available    | True                                                                                                                                                                                                                                  |
| Operating position          | Vertical +/- 10 degree                                                                                                                                                                                                                |
| Height                      | 26.4 in (670.0 mm)                                                                                                                                                                                                                    |
| Width                       | 15.7 in (400.0 mm)                                                                                                                                                                                                                    |
| Depth                       | 12.4 in (314.0 mm)                                                                                                                                                                                                                    |
| Net Weight                  | 113.3 lb(US) (51.4 kg)                                                                                                                                                                                                                |

## Environment

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electromagnetic compatibility          | Conducted and radiated emissions level A conforming to IEC 60947-4-2<br>Conducted and radiated emissions with bypass level B conforming to IEC 60947-4-2<br>Damped oscillating waves level 3 conforming to IEC 61000-4-12<br>Electrostatic discharge level 3 conforming to IEC 61000-4-11<br>Immunity to electrical transients level 4 conforming to IEC 61000-4-4<br>Immunity to radiated radio-electrical interference level 3 conforming to IEC 61000-4-3<br>Voltage/current impulse level 3 conforming to IEC 61000-4-5 |
| Pollution degree                       | Level 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [Uimp] rated impulse withstand voltage | 6 kV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                  |                                                                                                                          |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| [Ui] rated insulation voltage                                    | 690 V                                                                                                                    |
| Environmental class (during operation)                           | Class 3C3 according to IEC 60721-3-3<br>Class 3S2 according to IEC 60721-3-3                                             |
| Relative humidity                                                | 0...95 % without condensation or dripping water IEC 60068-2-3                                                            |
| Ambient air temperature for operation                            | 104...140 °F (40...60 °C) (with current derating of 2 % per °C)<br>5...104 °F (-15...40 °C) (without derating)           |
| Ambient Air Temperature for Storage                              | -13...158 °F (-25...70 °C)                                                                                               |
| Operating altitude                                               | <= 3280.84 ft (1000 m) without derating<br>> 3280.84...13123.36 ft (> 1000...4000 m) with current derating 1 % per 100 m |
| Maximum deflection under vibratory load (during operation)       | 1.5 mm at 2...13 Hz                                                                                                      |
| Maximum deflection under vibratory load (during storage)         | 1.75 mm at 2...9 Hz                                                                                                      |
| Maximum deflection under vibratory load (during transport)       | 1.75 mm at 2...9 Hz                                                                                                      |
| Maximum acceleration under vibrational stress (during operation) | 10 m/s² at 13...200 Hz                                                                                                   |
| Maximum acceleration under vibratory load (during storage)       | 15 m/s² at 200...500 Hz<br>10 m/s² at 9...200 Hz                                                                         |
| Maximum acceleration under vibratory load (during transport)     | 15 m/s² at 200...500 Hz<br>10 m/s² at 9...200 Hz                                                                         |
| Maximum acceleration under shock impact (during operation)       | 150 m/s² at 11 ms                                                                                                        |
| Maximum acceleration under shock load (during storage)           | 100 m/s² at 11 ms                                                                                                        |
| Maximum acceleration under shock load (during transport)         | 100 m/s² at 11 ms                                                                                                        |

## Ordering and shipping details

|                   |               |
|-------------------|---------------|
| Category          | US1CP1G22588  |
| Discount Schedule | CP1G          |
| GTIN              | 3606481089137 |
| Returnability     | Yes           |
| Country of origin | CN            |

## Packing Units

|                        |                        |
|------------------------|------------------------|
| Unit Type of Package 1 | PCE                    |
| Nbr. of units in pkg.  | 1                      |
| Package 1 Height       | 21.7 in (55.0 cm)      |
| Package 1 Width        | 20.9 in (53.0 cm)      |
| Package 1 Length       | 31.9 in (81.0 cm)      |
| Package weight(Lbs)    | 132.3 lb(US) (60.0 kg) |

Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

| Environmental footprint                        |                                               |
|------------------------------------------------|-----------------------------------------------|
| Carbon footprint (kg CO2 eq, Total Life cycle) | 32367                                         |
| Environmental Disclosure                       | <a href="#">Product Environmental Profile</a> |

Use Better

| Materials and Substances               |                                                                                                                                                                                                                                                                                             |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging made with recycled cardboard | Yes                                                                                                                                                                                                                                                                                         |
| Packaging without single use plastic   | No                                                                                                                                                                                                                                                                                          |
| <a href="#">EU RoHS Directive</a>      | Pro-active compliance (Product out of EU RoHS legal scope)                                                                                                                                                                                                                                  |
| SCIP Number                            | 4a414825-09af-4572-9f8d-eb756d062409                                                                                                                                                                                                                                                        |
| REACH Regulation                       | <a href="#">REACH Declaration</a>                                                                                                                                                                                                                                                           |
| California proposition 65              | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |

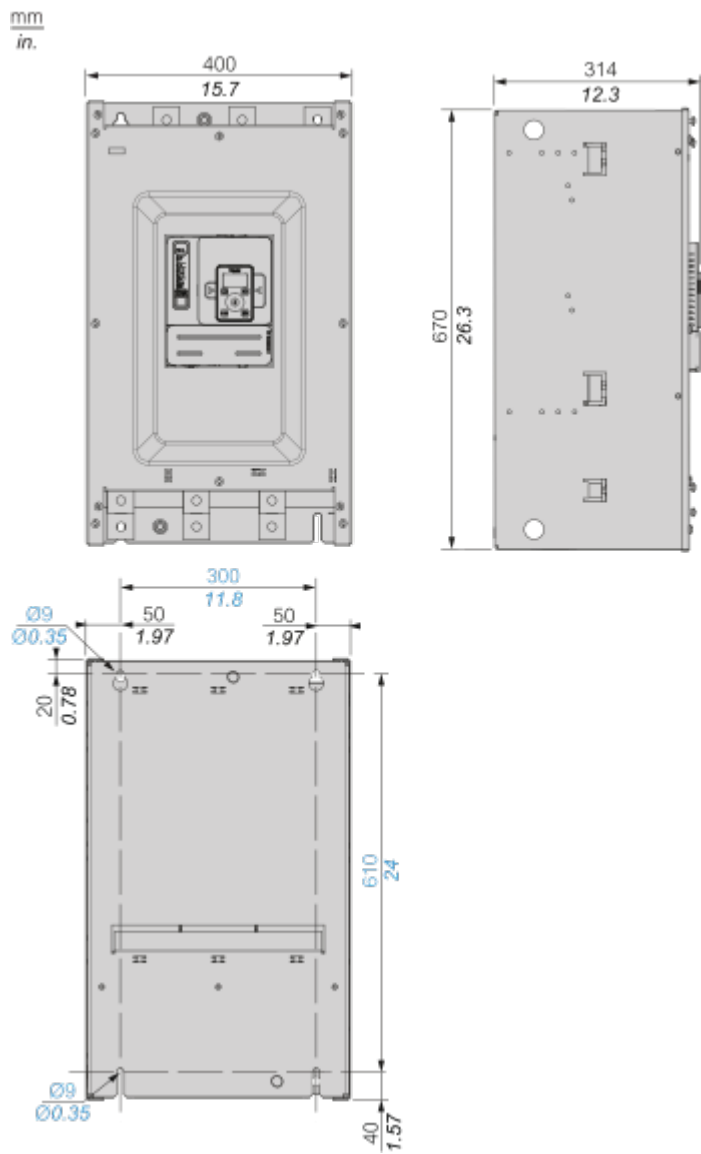
Use Again

| Repack and remanufacture |                                                                                                                                                                                                                  |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Circularity Profile      | <a href="#">End of Life Information</a>                                                                                                                                                                          |
| Take-back                | No                                                                                                                                                                                                               |
| WEEE Label               |  The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins. |

Dimensions Drawings

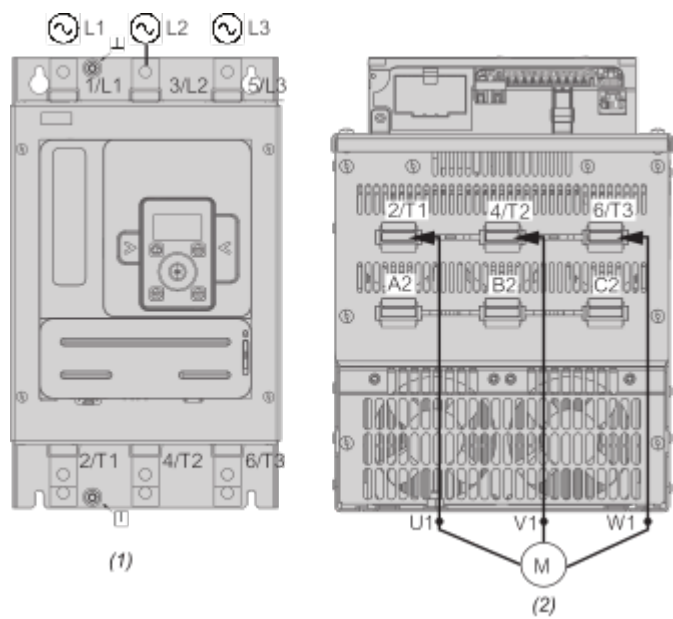
Dimensions

Front, Side and Rear View



Connections and Schema

Power Connections



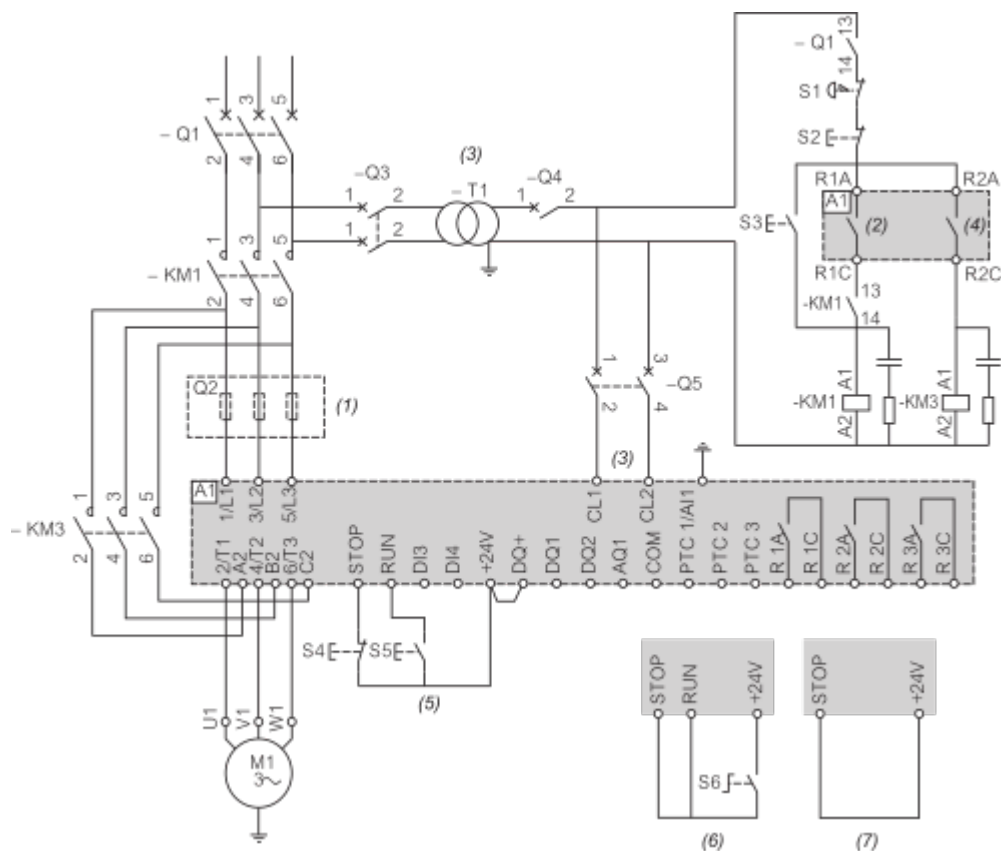
- (1) : Mains side  
(2) : Motor side  
1/L1, 3/L2, 5/L3 : Mains supply inputs  
2/T1, 4/T2, 6/T3 : Outputs to motor  
A2, B2, C2 : Soft starter bypass

Connection in line, with line contactor, no bypass, type 1 or 2 coordination, non-reversing, 2-wire or 3-wire control



- (1) : Installation of additional fast-acting fuses to upgrade to type 2 coordination according to IEC 60947-4-2.
- (2) : Take into account the electrical characteristics of the relays (Control Terminal Characteristics).
- (3) : The transformer must supply 110...230 VAC +10% — 15%, 50/60Hz.
- (4) : RUN and STOP Management (3-wire control).
- (5) : RUN and STOP Management (2-wire control).

**Connection in line, with line and bypass contactor, freewheel or controlled stop, type 1 or 2 coordination, non reversing, 2-wire or 3-wire**



- (1) : Installation of additional fast-acting fuses to upgrade to type 2 coordination according to IEC 60947–4–2.
- (2) : Take into account the electrical characteristics of the relays (Control Terminal Characteristics).
- (3) : The transformer must supply 110...230 VAC +10% – 15%, 50/60Hz.
- (4) : Take into account the electrical characteristics of the relays, especially when connecting to high rating contactor (Control Terminal Characteristics).
- (5) : RUN and STOP Management (3-wire control).
- (6) : RUN and STOP Management (2-wire control).
- (7) : PC or PLC control

**Connection inside the delta, with line and bypass contactor, type 1 and 2 coordination, non reversing, 2 wire or 3 wire**



- (1) : Installation of additional fast-acting fuses to upgrade to type 2 coordination according to IEC 60947-4-2.
- (2) : Take into account the electrical characteristics of the relays (Control Terminal Characteristics).
- (3) : The transformer must supply 110...230 VAC +10% – 15%, 50/60Hz.
- (4) : Take into account the electrical characteristics of the relays, especially when connecting to high rating contactor (Control Terminal Characteristics).
- (5) : RUN and STOP Management (3-wire control).
- (6) : RUN and STOP Management (2-wire control).
- (7) : PC or PLC control

Control block wiring diagram



(1) : Control power supply 110-230 VAC

(2) : External supply 24 VDC

(3) : 2 Wires PTC/PT100

R1A, R1C, R3A, R3C : Sequence relay

R2A, R2C : End of start

STOP, RUN, DI3, DI4 : Digital inputs

AQ1 : Analogue output

PTC1/AI1, PTC2, PTC3 : PTC or PT100 connection

DQ1, DQ2, DQ+ : Digital outputs

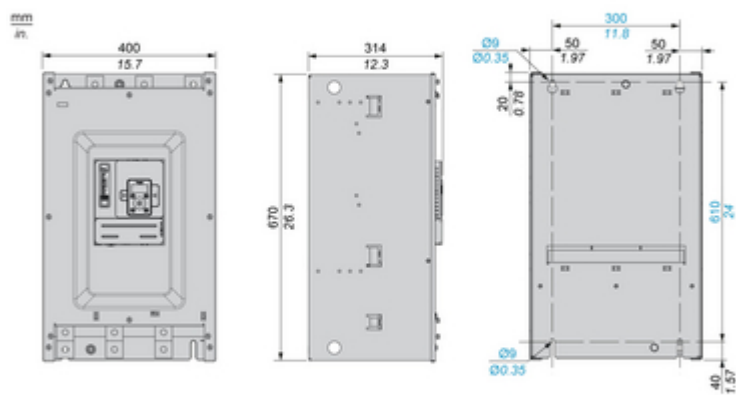
Mounting and Clearance

Mounting Position



Technical Illustration

Dimensions



Technical Illustration

Wiring diagram



Image of product / Alternate images

Alternative

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