

# 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

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

## Complementary

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

<b>Maximum switching current</b>	Relay outputs 2 A 250 V AC Relay outputs 2 A 30 V DC Relay outputs
<b>Discrete output number</b>	2
<b>Discrete output type</b>	DQ1) programmable digital output <= 30 V DQ2) programmable digital output <= 30 V
<b>Output compatibility</b>	Open collector level 1 PLC IEC 65A-68
<b>Analogue input number</b>	1
<b>Analogue input type</b>	A11/PTC PTC/Pt 100 temperature probe PTC2 PTC/Pt 100 temperature probe PTC3 PTC/Pt 100 temperature probe
<b>Analogue output number</b>	1
<b>Analogue output type</b>	Current output AQ1 0...20 mA or 0...10 V 500 Ohm
<b>Communication Port Protocol</b>	Modbus serial
<b>Connector Type</b>	1 RJ45
<b>Communication data link</b>	Serial
<b>Physical interface</b>	2-wire RS 485
<b>Transmission Rate</b>	1200...256000 bit/s
<b>Transmission frame</b>	RTU
<b>Data format</b>	8 bits, configurable odd, even or no parity
<b>Type of polarization</b>	No impedance Modbus serial
<b>Number of addresses</b>	0...227 Modbus serial
<b>Method of access</b>	Slave Modbus serial
<b>Function Available</b>	External bypass control Pre-heating Smoke extraction Multi-motor cascade Second motor set User management Ports and services hardening Security event logging Cybersecure firmware update Single direction
<b>Display screen available</b>	True
<b>Operating position</b>	Vertical +/- 10 degree
<b>Height</b>	26.4 in (670.0 mm)
<b>Width</b>	15.7 in (400.0 mm)
<b>Depth</b>	12.4 in (314.0 mm)
<b>Product Weight</b>	113.3 lb(US) (51.4 kg)

## Environment

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

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

## Ordering and shipping details

<b>Category</b>	US1CP1G22588
<b>Discount Schedule</b>	CP1G
<b>GTIN</b>	3606481089137
<b>Returnability</b>	Yes
<b>Country of origin</b>	CN

## Packing Units

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

## Contractual warranty

<b>Warranty (in months)</b>	18
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## 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

Total lifecycle Carbon footprint	32 367 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	483 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	8 kg CO2 eq.
Carbon footprint of the installation phase [A5]	8 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	31 862 kg CO2 eq.
Carbon footprint of the end-of-life phase [C1 to C4]	7 kg CO2 eq.
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
SCIP Number	4a414825-09af-4572-9f8d-eb756d062409
EU RoHS Directive	<a href="#">Compliant By Exemption</a>
REACH Regulation	<a href="#">Reference contains Substances of Very High Concern above the threshold</a>
California proposition 65	<b>WARNING:</b> 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 Longer




### Lifetime extension

Repair	No
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### Use Again



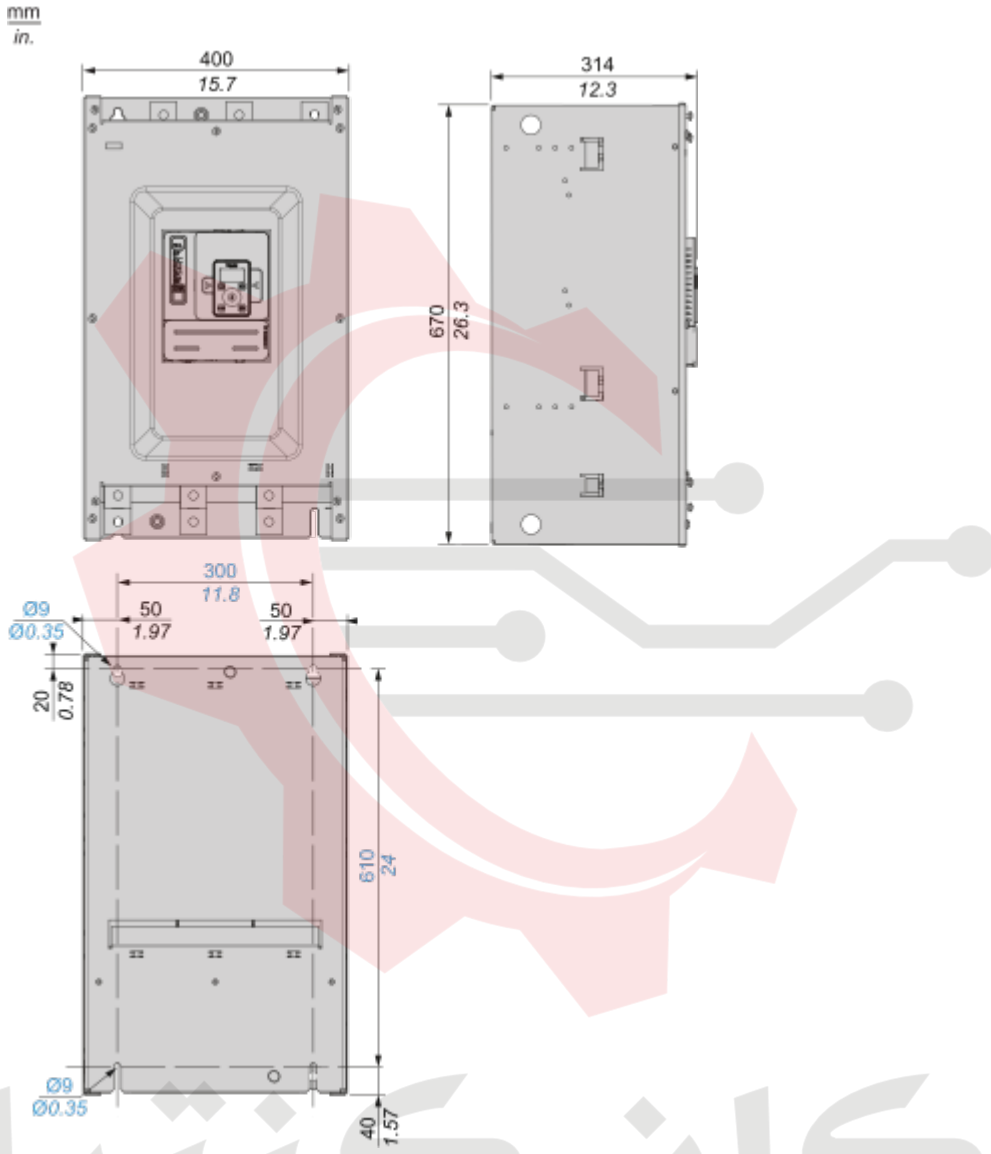
### Repack and remanufacture

Circularity Profile	<a href="#">End of Life Information</a>
Removable battery	Yes
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

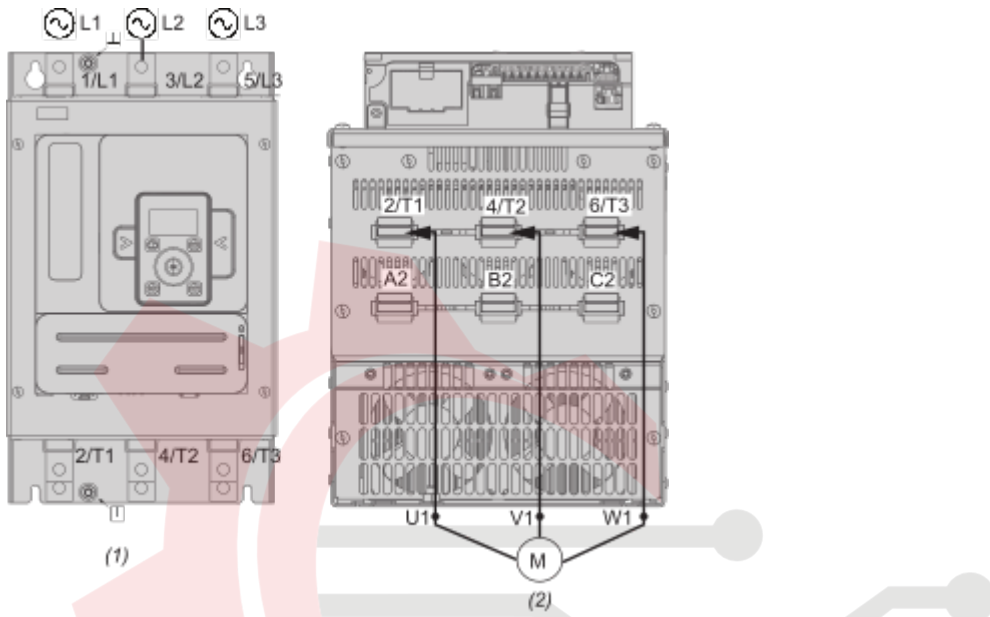
Dimensions

Front, Side and Rear View



Connections and Schema

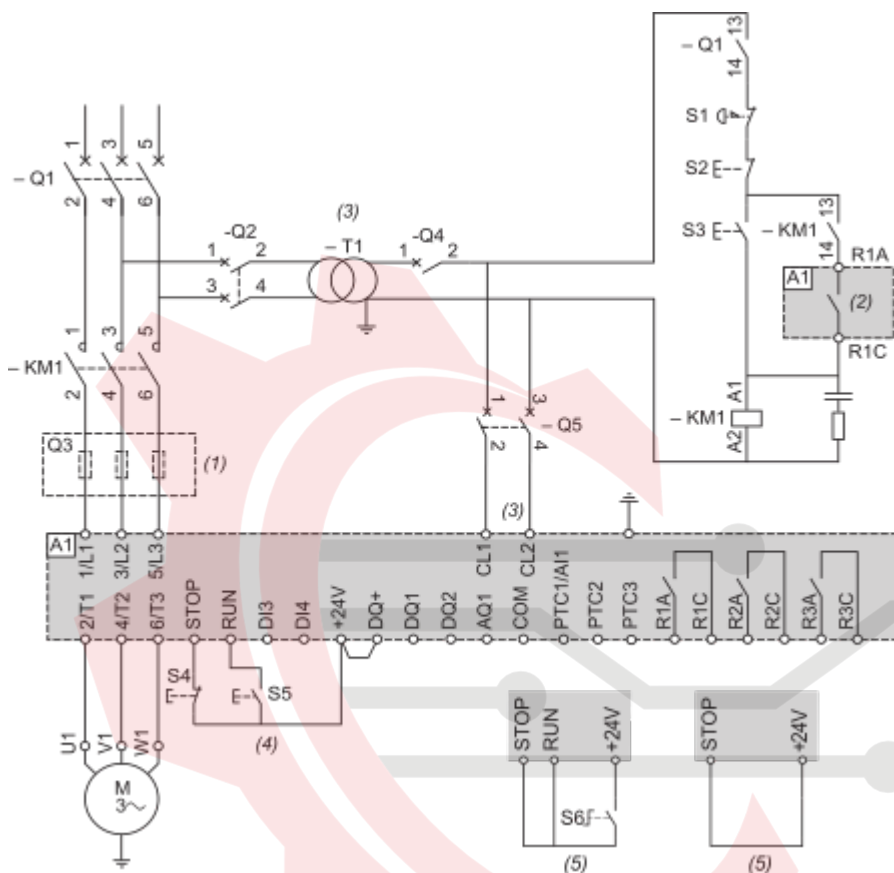
Power Connections



- (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

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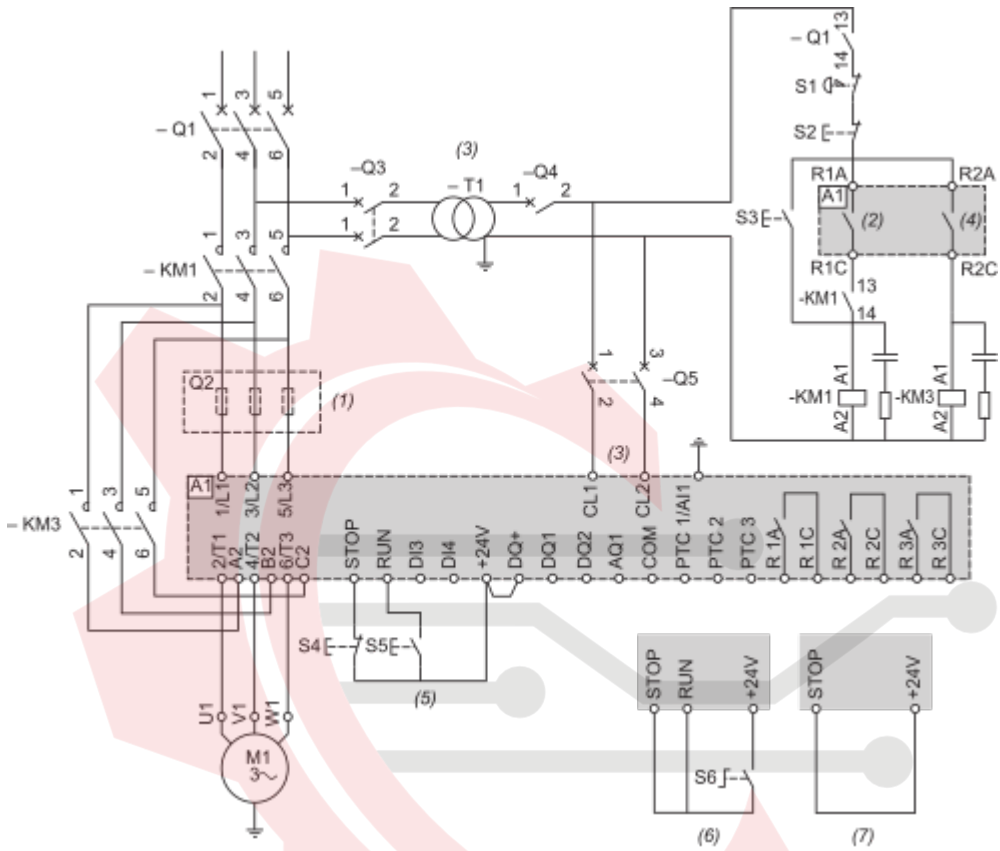
Connection in line, with line contactor, no bypass, type 1 or 2 coordination, non - reversing, 2-wire or 3-wire control



- (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).

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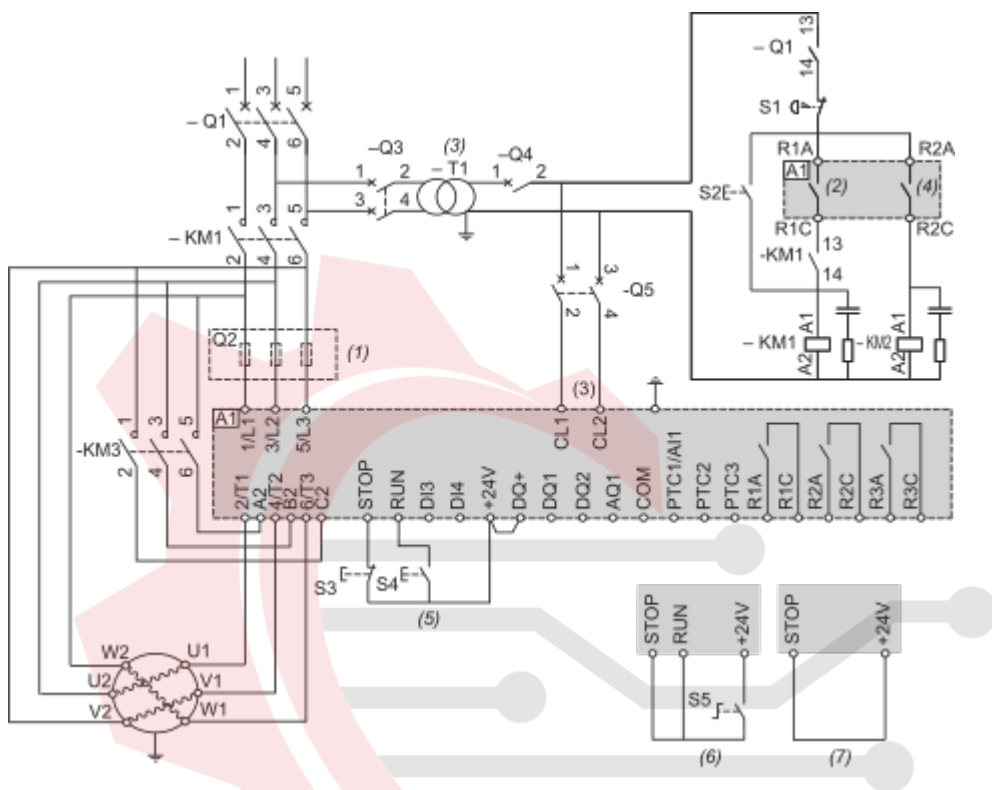
Connection in line, with line and bypass contactor, freewheel or controlled stop, type 1 or 2 coordination, non reversing, 2-wire or 3-wire



- (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

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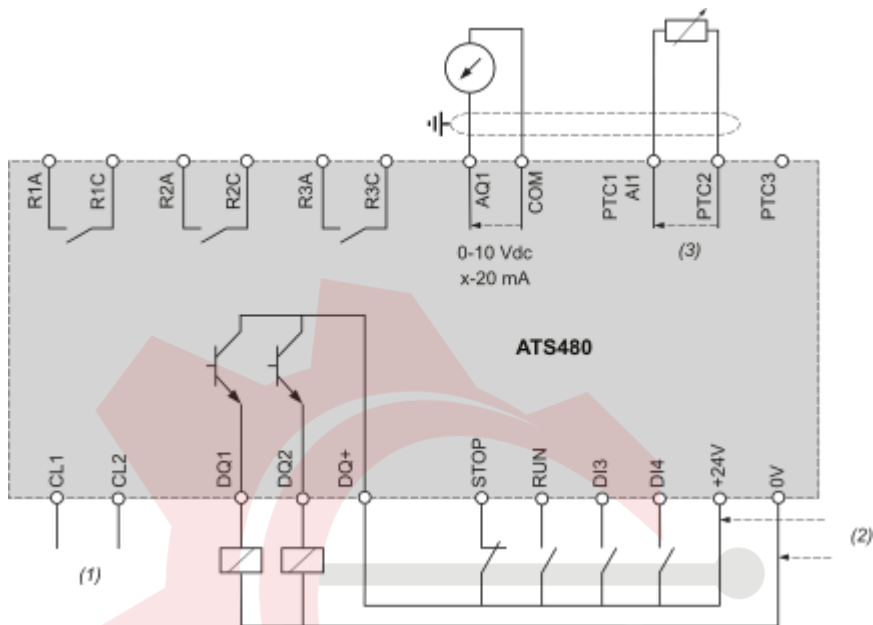
Connection inside the delta, with line and bypass contactor, type 1 and 2 coordination, non reversing, 2 wire or 3 wire



- (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

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Control block wiring diagram

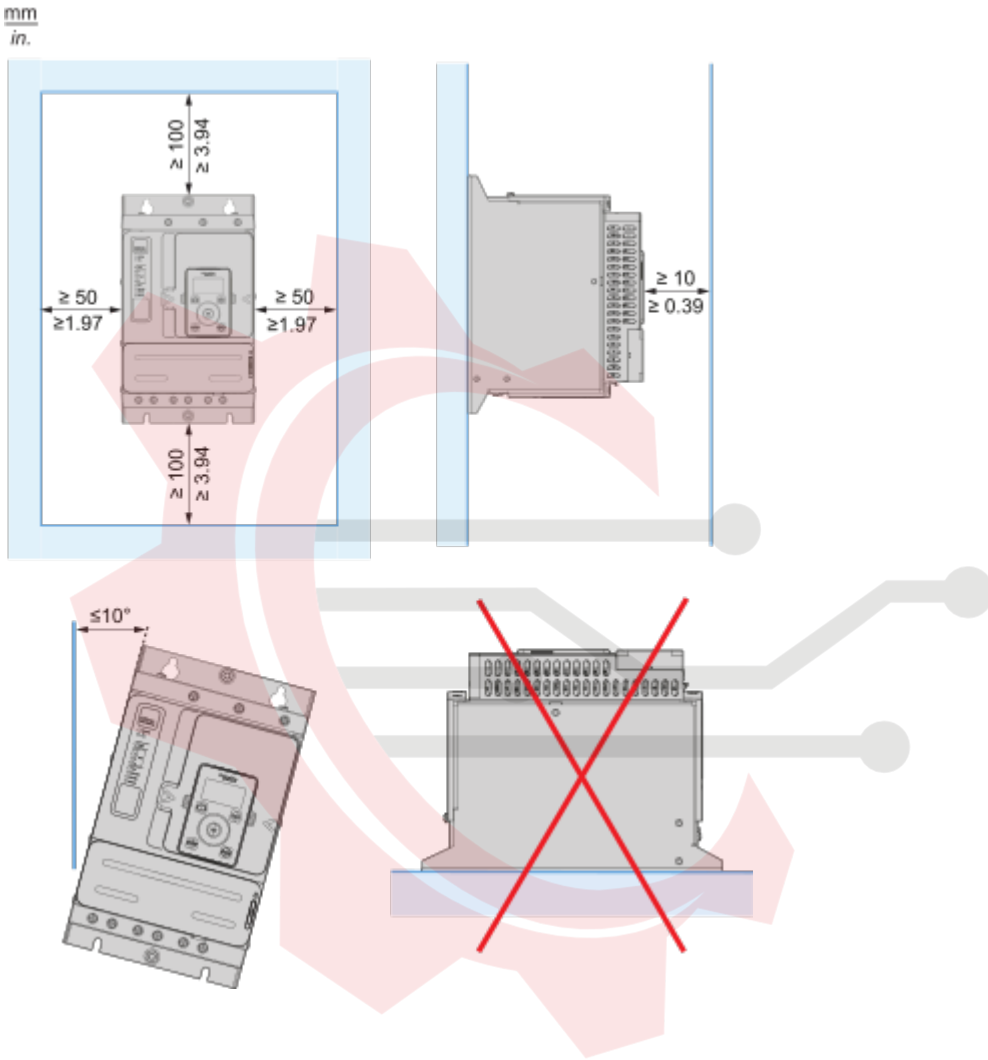


- (1) : Control power supply 110-230 VAC
- (2) : External supply 24 VDC
- (3) : 2 Wires PTC/PT100
- R1A, R1C, R3A, R3C : Sequence relay
- R2A, R2C : End of start
- STOP, RUN, DI3, DI4 : Digital inputs
- AQ1 : Analogue output
- PTC1/AI1, PTC2, PTC3 : PTC or PT100 connection
- DQ1, DQ2, DQ+ : Digital outputs

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Mounting and Clearance

Mounting Position

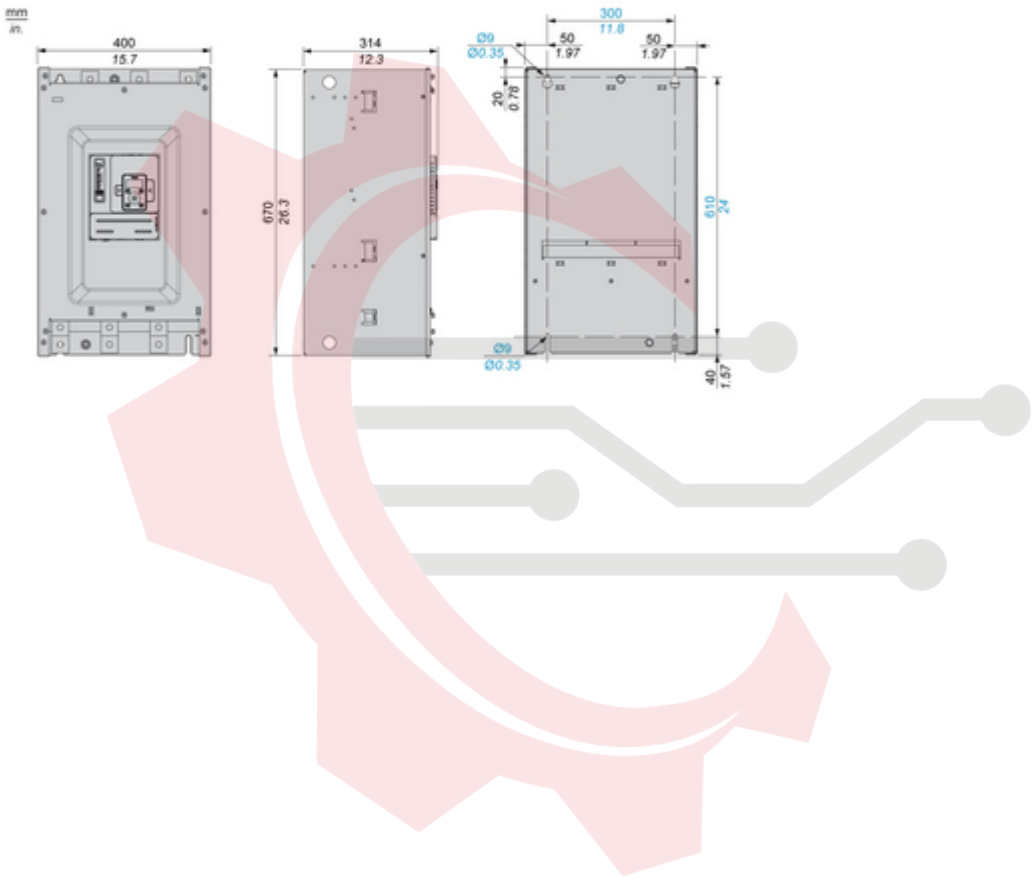


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Technical Illustration

Dimensions

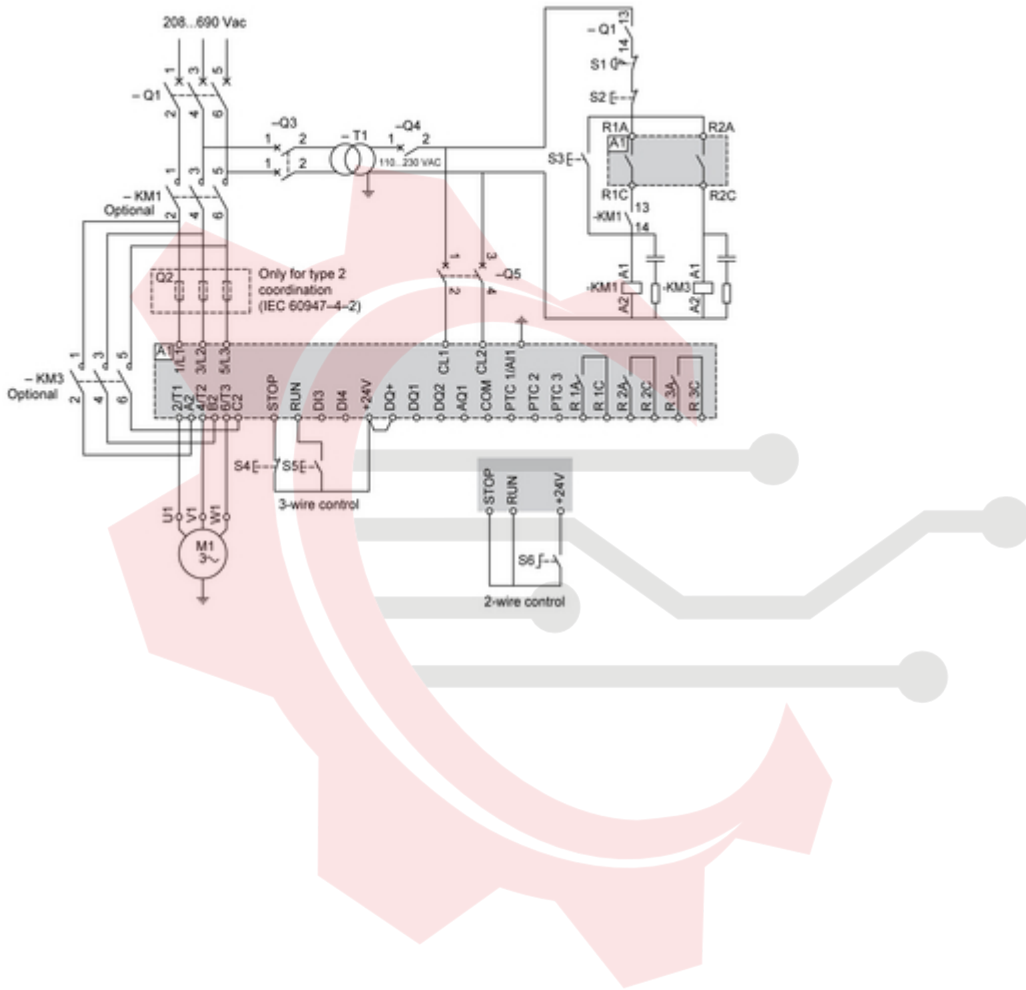
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Technical Illustration

Wiring diagram

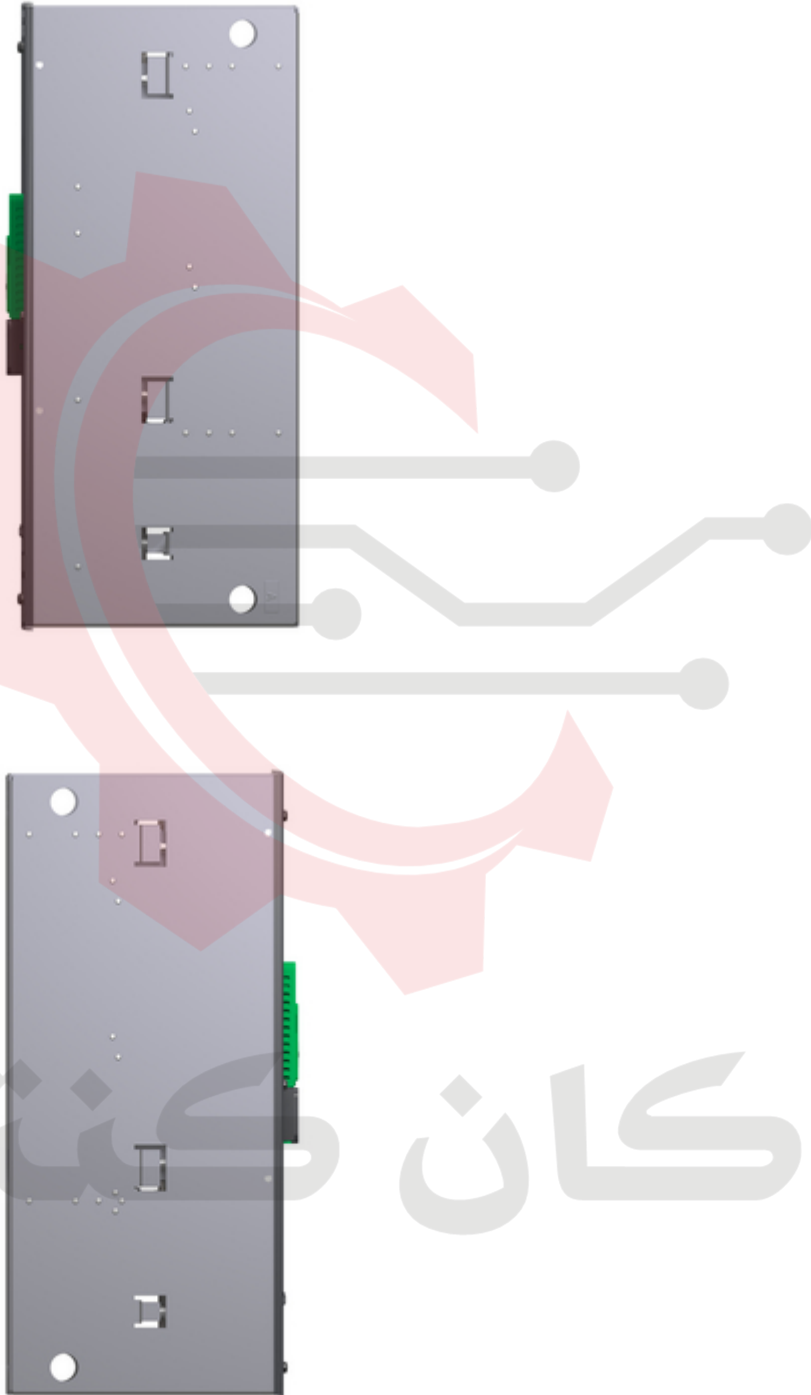


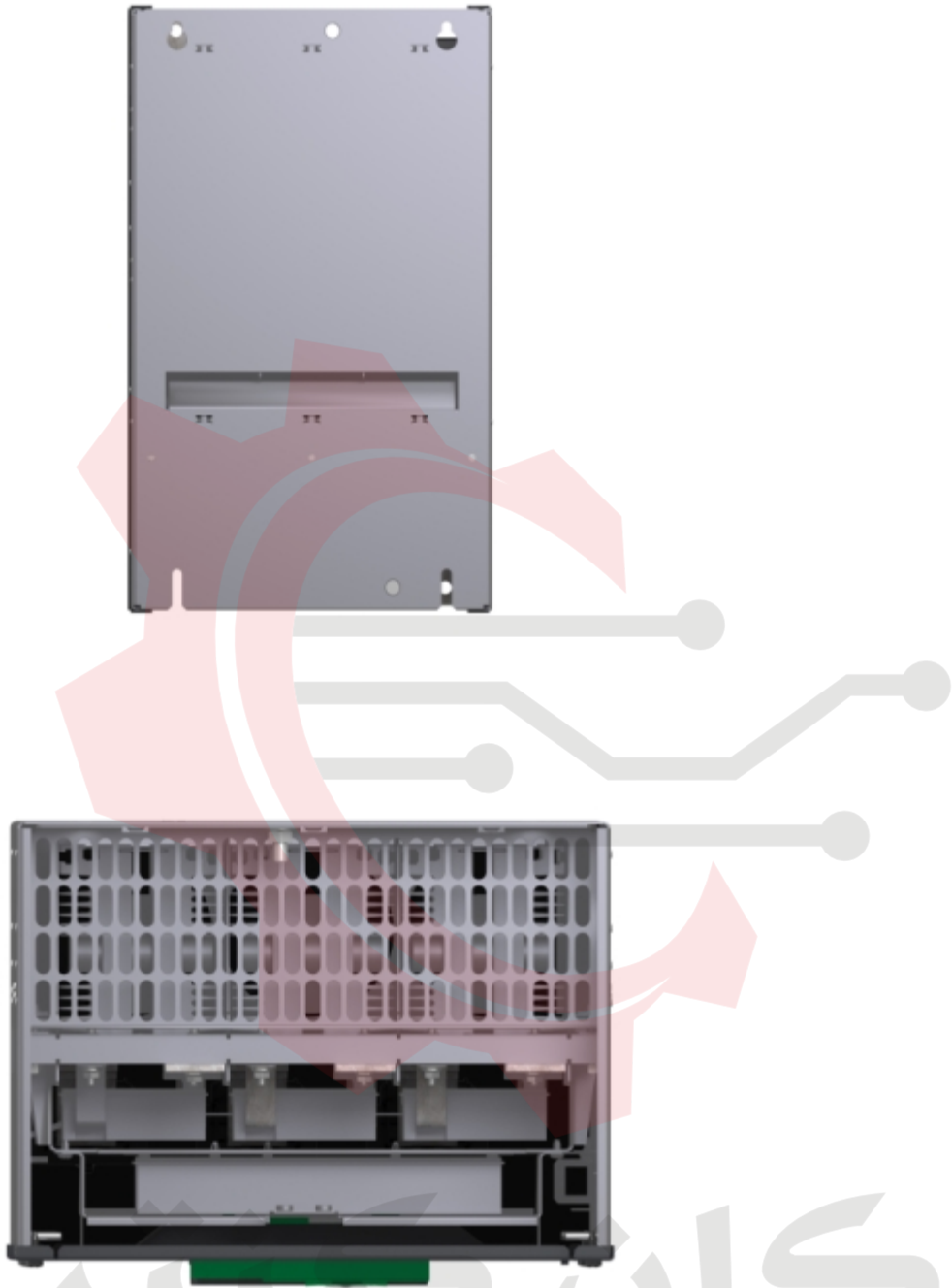
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Image of product / Alternate images

Alternative

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