

# Product datasheet

Specifications



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

ATS480C41Y

## 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
Network Number Of Phases	3 phases
Utilisation Category	AC-3A 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 (at <40 °C)
Rated Current In Heavy Duty	320.0 A at 40 °C for heavy duty
Torque Control	True
Ip Degree Of Protection	IP00
Motor Power Kw	110.0 kW at 230 V in the motor supply line normal duty 90.0 kW at 230 V in the motor supply line heavy duty 220.0 kW at 400 V in the motor supply line normal duty 160.0 kW at 400 V in the motor supply line heavy duty 220.0 kW at 440 V in the motor supply line normal duty 160.0 kW at 440 V in the motor supply line heavy duty 250.0 kW at 500 V in the motor supply line normal duty 220.0 kW at 500 V in the motor supply line heavy duty 250.0 kW at 525 V in the motor supply line normal duty 220.0 kW at 525 V in the motor supply line heavy duty 355.0 kW at 660 V in the motor supply line normal duty 250.0 kW at 660 V in the motor supply line heavy duty 400.0 kW at 690 V in the motor supply line normal duty 315.0 kW at 690 V in the motor supply line heavy duty 220.0 kW at 230 V to the motor delta terminals normal duty 160.0 kW at 230 V to the motor delta terminals heavy duty 315.0 kW at 400 V to the motor delta terminals normal duty 250.0 kW at 400 V to the motor delta terminals heavy duty
Motor Power Hp	125.0 hp at 208 V normal duty 100.0 hp at 208 V heavy duty 150.0 hp at 230 V normal duty 125.0 hp at 230 V heavy duty 300.0 hp at 460 V normal duty 250.0 hp at 460 V heavy duty 350.0 hp at 575 V normal duty 300.0 hp at 575 V heavy duty

Option Card	Communication module for Profibus DP V1 Communication module for PROFINET Communication module for Modbus TCP/EtherNet/IP Communication module for CANopen daisy chain Communication module for CANopen Sub-D Communication module for CANopen open style
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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

<b>Device Connection</b>	In the motor supply line To the motor delta terminals
<b>[Us] Control Circuit Voltage</b>	110...250 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>Rated Current Pwr Loss Specification</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 conforming to IEC 61131-2 RUN: discrete input level 1 PLC conforming to IEC 61131-2 DI3: discrete input level 1 PLC conforming to IEC 61131-2 DI4: discrete input level 1 PLC conforming to IEC 61131-2
<b>Discrete Input Logic</b>	Programmable digital input at State 0: < 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 at 12 V DC for relay outputs

<b>Maximum Switching Current</b>	Relay outputs 2 A at 250 V AC Relay outputs 2 A at 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 conforming to 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, impedance <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 for Modbus serial
<b>Number Of Addresses</b>	0...227 for 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>	670.0 mm
<b>Width</b>	400.0 mm
<b>Depth</b>	314.0 mm
<b>Net Weight</b>	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 conforming to IEC 60068-2-3
<b>Ambient Air Temperature For Operation</b>	40...60 °C (with current derating of 2 % per °C) -15...40 °C (without derating)
<b>Ambient Air Temperature For Storage</b>	-25...70 °C
<b>Operating Altitude</b>	<= 1000 m without derating > 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

## Packing Units

<b>Unit Type Of Package 1</b>	PCE
<b>Number Of Units In Package 1</b>	1
<b>Package 1 Height</b>	55.0 cm
<b>Package 1 Width</b>	53.0 cm
<b>Package 1 Length</b>	81.0 cm
<b>Package 1 Weight</b>	60.0 kg

## Sustainability

**Green Premium™ label** is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO<sub>2</sub> products.

**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

[Learn more about Green Premium >](#)

[Guide to assess a product's sustainability >](#)



Transparency RoHS/REACH

## Resource performance

Upgraded Components Available

## Well-being performance

Mercury Free

Rohs Exemption Information Yes

## Certifications & Standards

Reach Regulation [REACH Declaration](#)

Eu Rohs Directive Pro-active compliance (Product out of EU RoHS legal scope)

China Rohs Regulation [China RoHS declaration](#)

Environmental Disclosure [Product Environmental Profile](#)

Weee The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

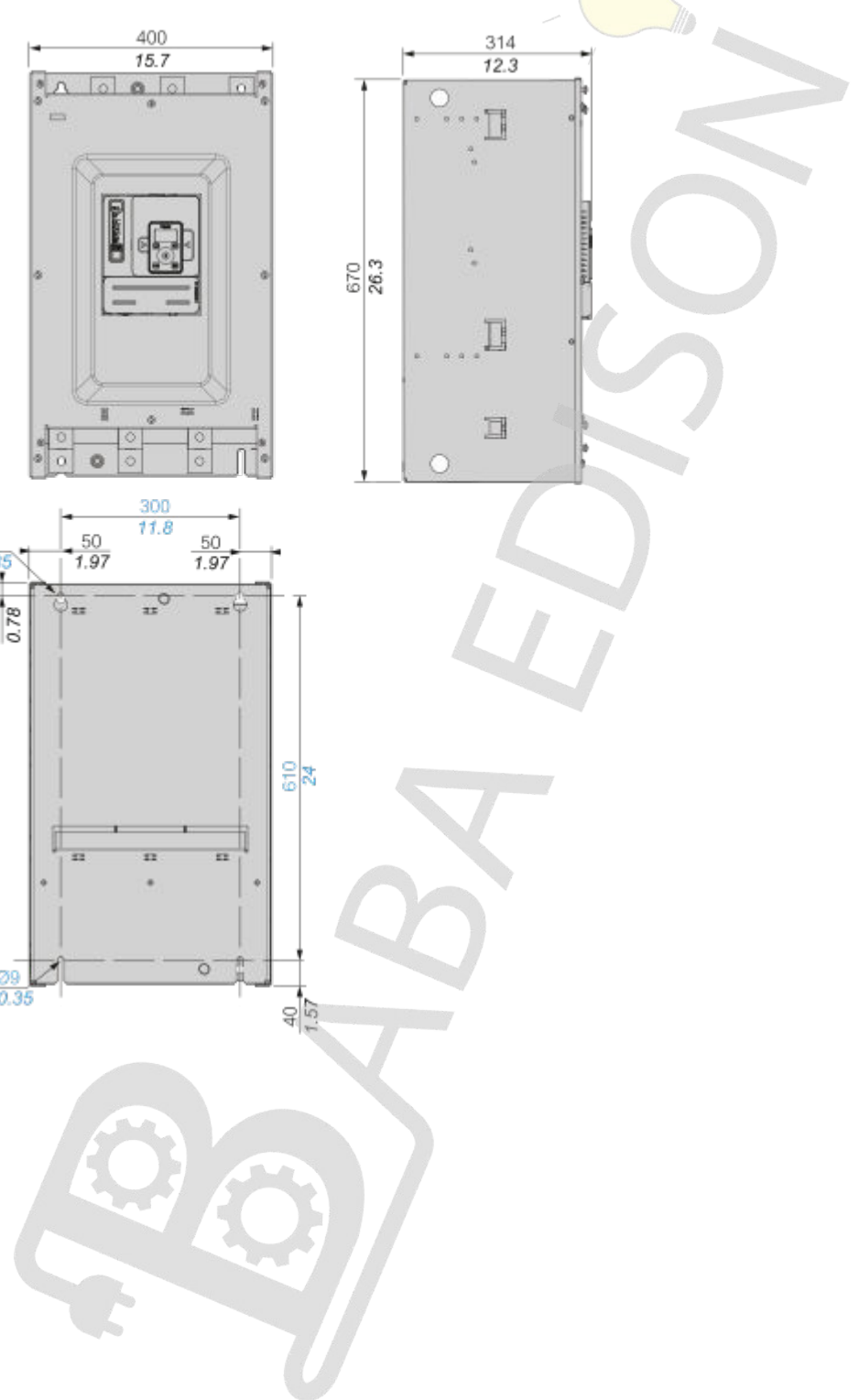
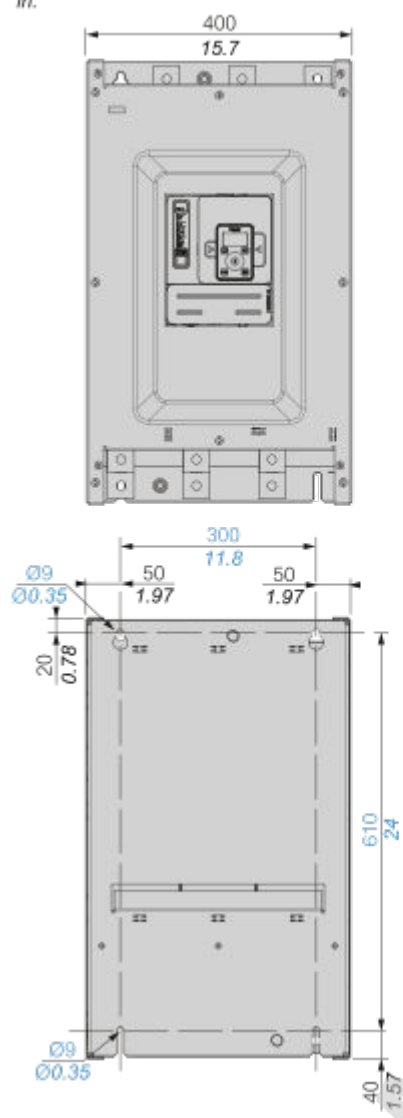
Circularity Profile [End of Life Information](#)

Dimensions Drawings

Dimensions

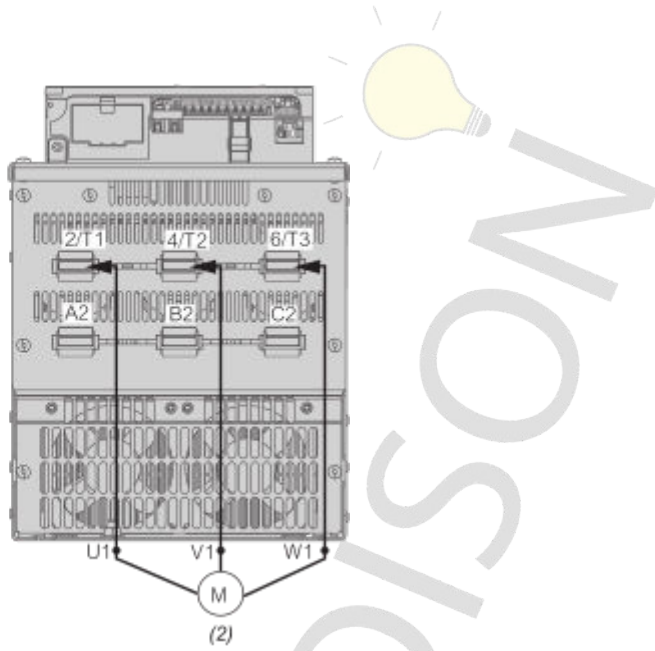
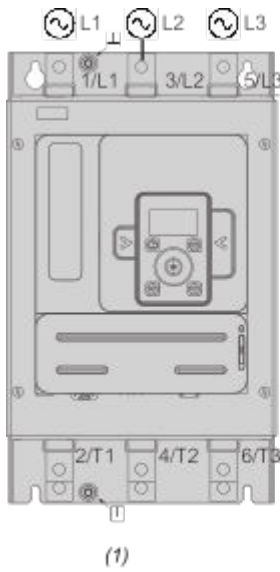
Front, Side and Rear View

mm  
in.



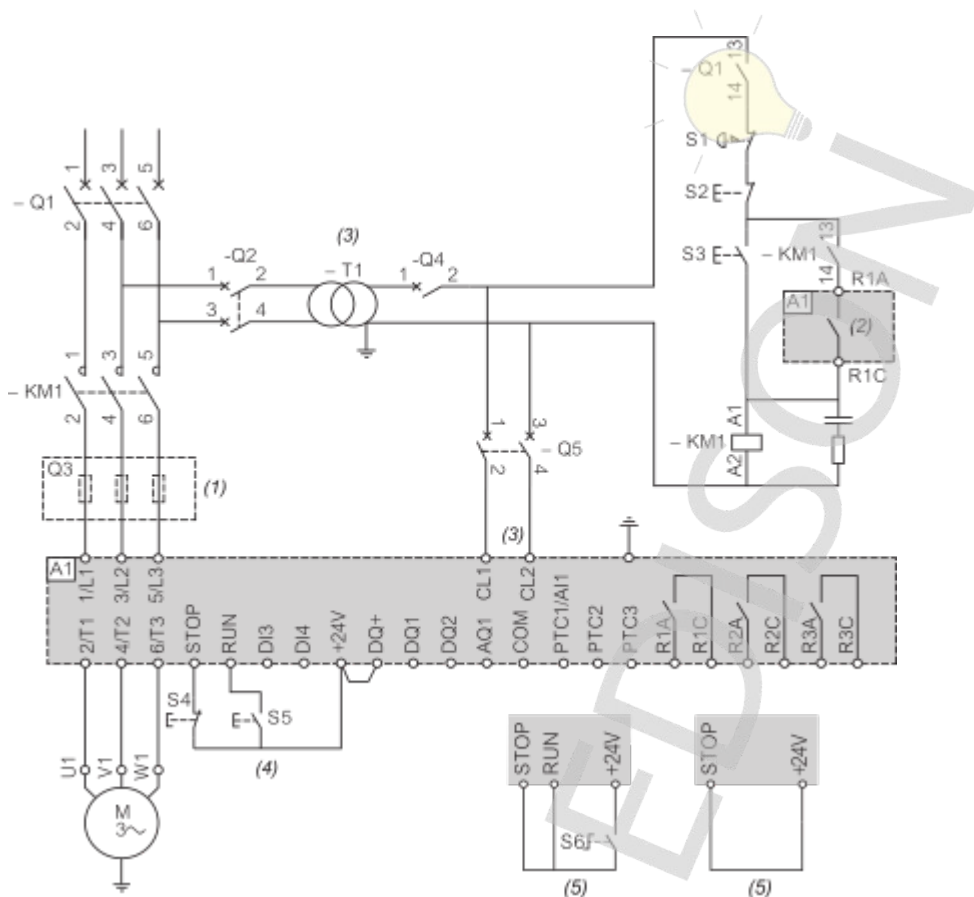
Connections and Schema

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

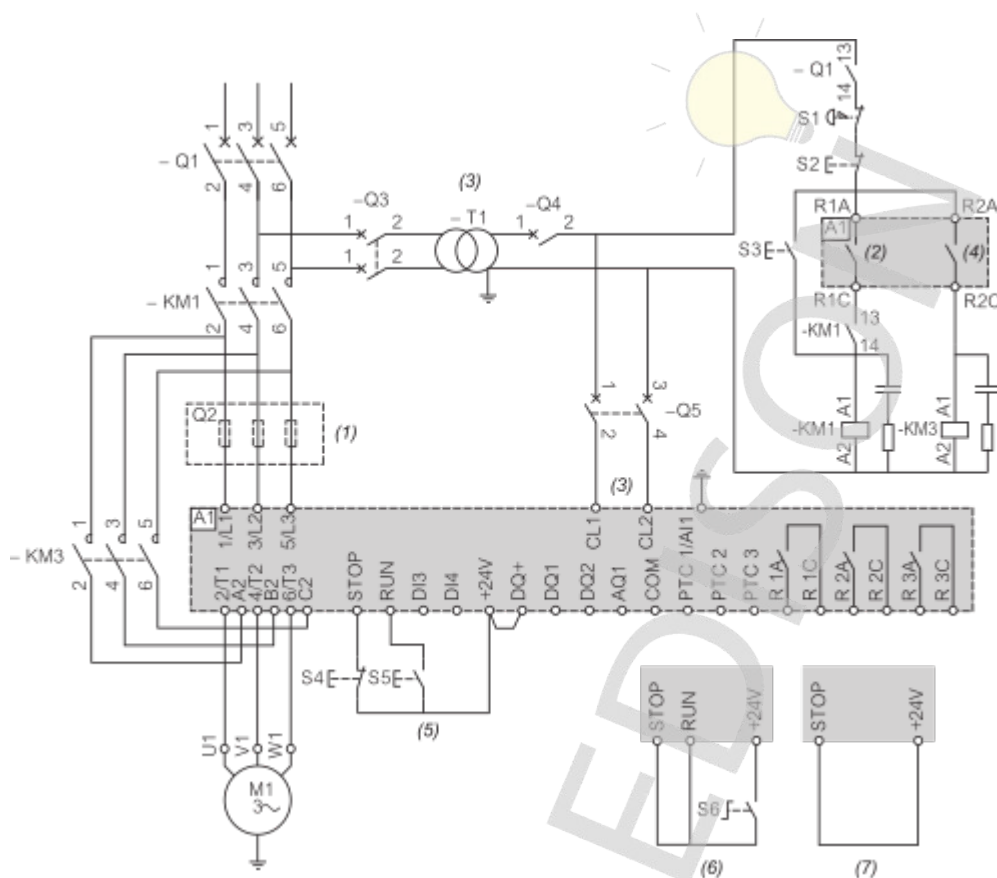
Connection in line, with line contactor, no bypass, type 1 or 2 coordination, non-reversing, 2-wire or 3-wire control



- (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).

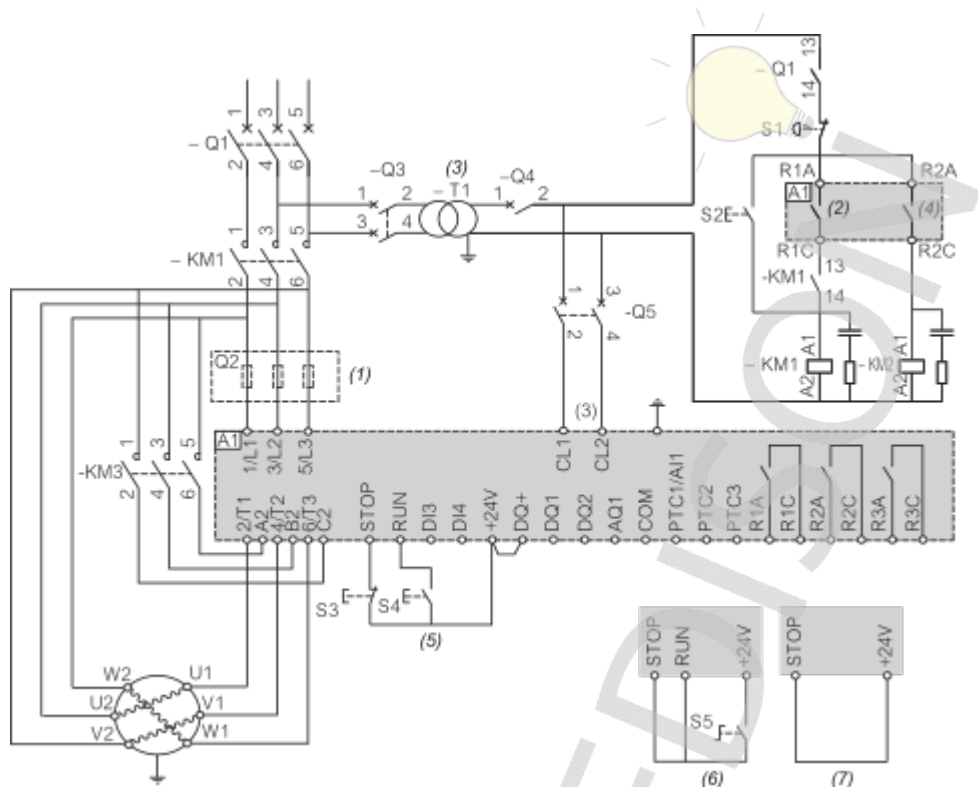


Connection in line, with line and bypass contactor, freewheel or controlled stop, type 1 or 2 coordination, non reversing, 2-wire or 3-wire



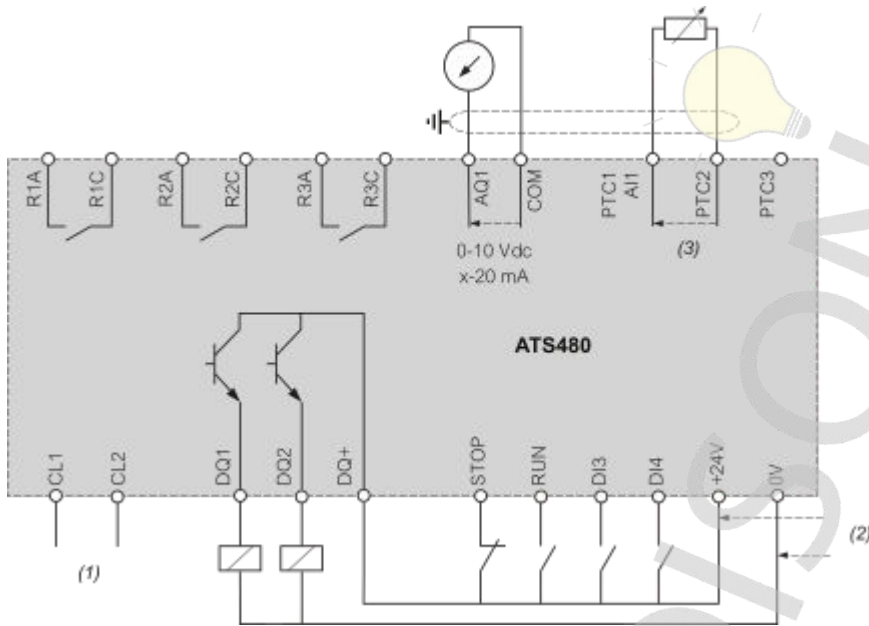
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- (2) : Take into account the electrical characteristics of the relays (Control Terminal Characteristics).
- (3) : The transformer must supply 110...230 VAC +10% - 15%, 50/60Hz.
- (4) : Take into account the electrical characteristics of the relays, 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

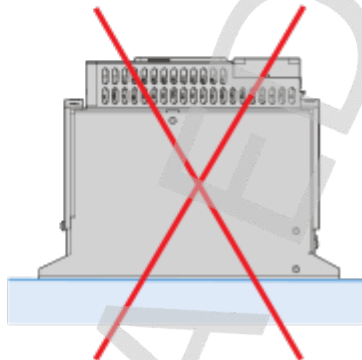
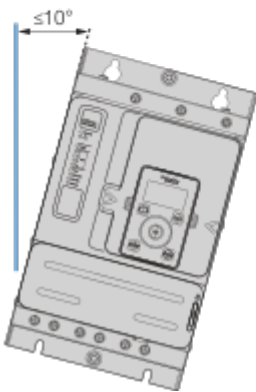
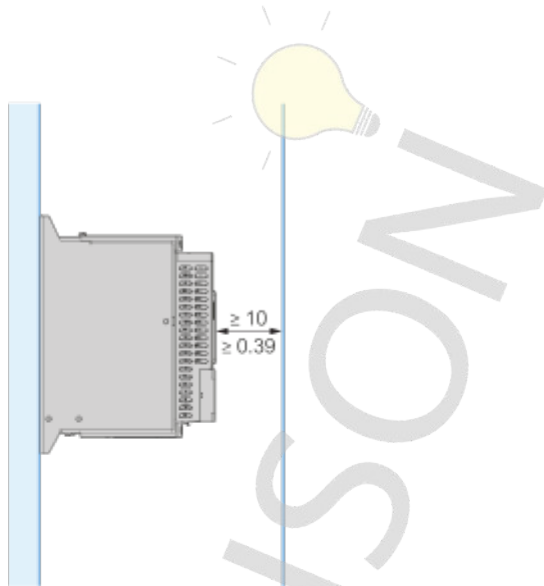
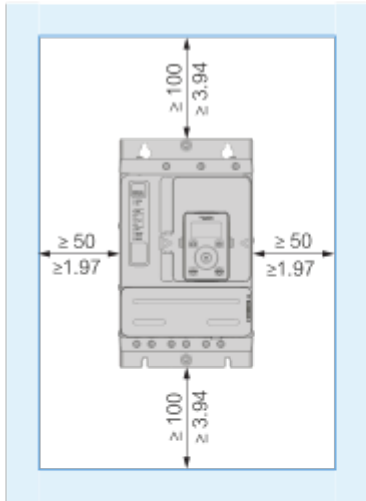


- (1) : Control power supply 110-230 VAC
- (2) : External supply 24 VDC
- (3) : 2 Wires PTC/PT100
- R1A, R1C, R3A, R3C : Sequence relay
- R2A, R2C : End of start
- STOP, RUN, DI3, DI4 : Digital inputs
- AQ1 : Analogue output
- PTC1/AI1, PTC2, PTC3 : PTC or PT100 connection
- DQ1, DQ2, DQ+ : Digital outputs

Mounting and Clearance

Mounting Position

mm  
in.



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