# Product data sheet

Specifications

## Preventa safety PLC compact, safe ethernet, modbus TCP IP

XPSMF4002

Discontinued on: Dec 2, 2020

To be end-of-service on: Dec 31, 2027

Discontinued - Service only

**Product availability: Non-Stock - Not normally stocked in distribution facility**

## Main

| | |
|---|---|
| **Range Of Product** | Preventa Safety automation |
| **Product Or Component Type** | Preventa safety PLC compact |
| **Safety Module Name** | XPSMF40 |
| **Safety Module Application** | F use with numerous machine safety functions and for the protection of personel |
| **Safety Use Category** | Category 4 maximum EN 954-1<br>Performance level e EN/ISO 13849-1<br>SIL 3 EN/IEC 61508 |
| **Structure Type** | 10BASE-T/100BASE-TX, Modbus TCP/IP<br>10BASE-T/100BASE-TX, safe Ethernet |

## Complementary

| | |
|---|---|
| **Function Of Module** | Monitoring safety actuators discrete output<br>Monitoring safety detection discrete input<br>Monitoring safety dialogue discrete input<br>Monitoring safety dialogue discrete output<br>Monitoring short-circuit and line break line control outputs |
| **[Us] Rated Supply Voltage** | 24 V DC - 15...20 % |
| **Supply** | SELV or PELV EN/IEC 60950 |
| **No Load Current** | 0.5 A |
| **Protection Type** | 10 A internal fuse |
| **Clock** | With, supplied by backup capacitor for 1 week following loss of supply |
| **Response Time** | Depending on size of application |
| **Memory Description** | User logic 250 kB application<br>User logic 250 kB data |
| **Group Of Channels** | 2 groups of 4 line control outputs |
| **Discrete I/O Number** | 24 configurable |
| **Maximum Discrete Input Number** | 24 not isolated |
| **Voltage State 0 Guaranteed** | <= 24 V discrete input |
| **Voltage State 1 Guaranteed** | 24...30 V discrete input |
| **Current State 0 Guaranteed** | <= 1.5 mA discrete input) |
| **Current State 1 Guaranteed** | 3.5...4.5 mA discrete input) |
| **Discrete Input Voltage** | 20 V |
| **Discrete Input Current** | 100 mA |

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

| | |
|---|---|
| **Maximum Input Resistance** | 7 kOhm |
| **Input Overvoltage Protection** | -10…35 V discrete input |
| **Maximum Discrete Output Number** | 24 not isolated |
| **Discrete Output Voltage** | 24 V DC |
| **Output Voltage Tolerance** | +/- 2% |
| **Discrete Output Current** | 1 A 140 °F (60 °C) channels 4, 8, 12, 16, 20 and 24)<br>2 A 122 °F (50 °C) channels 4, 8, 12, 16, 20 and 24)<br>0.5 A 140 °F (60 °C) channels 1 to 3, 5 to 7, 9 to 11,13 to 15, 17 to 19, 21 to 23)<br><= 7 A all channels) |
| **Minimum Load** | 2 mA per discrete output |
| **Maximum Leakage Current** | 1 mA 2 V at state 0 discrete output |
| **Overload Protection** | Shutdown of outputs concerned with cyclic reconnection |
| **Output Voltage** | 20 V line control outputs |
| **Nominal Output Current** | 60 mA line control outputs |
| **Communication Port Protocol** | Safe Ethernet 2 RJ45 100 Mbps, 10 Mbps dual twisted pair cable, category 5D or better<br>Modbus TCP/IP 2 RJ45 100 Mbps, 10 Mbps dual twisted pair cable, category 5D or better |
| **Exchange Mode** | Half duplex, full duplex, autonegotiation Modbus TCP/IP<br>Half duplex, full duplex, autonegotiation safe Ethernet |
| **Method Of Access** | Slave Modbus TCP/IP |
| **Concept** | Transparent Ready, Modbus TCP/IP |
| **Web Server** | Class A10, Modbus TCP/IP |
| **Web Services** | Modbus identification request, Modbus TCP/IP<br>Modbus TCP/IP messaging (reading/writing of data words), Modbus TCP/IP<br>Modbus TCP/IP server, Modbus TCP/IP<br>Standard 502, Modbus TCP/IP |
| **Maximum Number Of Connections** | 1 to 20, Modbus TCP/IP |
| **Operating Distance** | <= 300 m between station discrete input<br><= 300 m between station discrete output |
| **Number Of Terminal Blocks** | 1 power supply<br>2 line control outputs<br>6 discrete input/output circuit<br>8 line control outputs |

| | |
|---|---|
| **Connections - Terminals** | Discrete input/output circuit captive spring terminals, 1 x 0.5 mm² AWG 20) flexible with cable end<br>Line control outputs captive spring terminals, 1 x 0.5 mm² AWG 20) flexible with cable end<br>Discrete input/output circuit captive screw clamp terminals, 1 x 0.14...1 x 1.5 mm² AWG 25...AWG 15) solid without cable end<br>Line control outputs captive screw clamp terminals, 1 x 0.14...1 x 1.5 mm² AWG 25...AWG 15) solid without cable end<br>Discrete input/output circuit captive screw clamp terminals, 1 x 0.14...1 x 1.5 mm² AWG 28...AWG 16) flexible without cable end<br>Line control outputs captive screw clamp terminals, 1 x 0.14...1 x 1.5 mm² AWG 28...AWG 16) flexible without cable end<br>Power supply captive screw clamp terminals, 1 x 0.2...1 x 2.5 mm² AWG 24...AWG 12) flexible without cable end<br>Power supply captive screw clamp terminals, 1 x 0.2...1 x 2.5 mm² AWG 24...AWG 12) solid without cable end<br>Discrete input/output circuit captive screw clamp terminals, 1 x 0.25...1 x 0.5 mm² AWG 23...AWG 20) flexible with cable end<br>Line control outputs captive screw clamp terminals, 1 x 0.25...1 x 0.5 mm² AWG 23...AWG 20) flexible with cable end<br>Discrete input/output circuit captive screw clamp terminals, 1 x 0.25...1 x 1.5 mm² AWG 23...AWG 15) flexible without cable end<br>Line control outputs captive screw clamp terminals, 1 x 0.25...1 x 1.5 mm² AWG 23...AWG 15) flexible without cable end<br>Power supply captive screw clamp terminals, 1 x 0.25...1 x 2.5 mm² AWG 23...AWG 14) flexible with cable end<br>Power supply captive screw clamp terminals, 1 x 0.25...1 x 2.5 mm² AWG 23...AWG 14) flexible without cable end<br>Discrete input/output circuit captive spring terminals, 1 x 0.14...1 x 1.5 mm² AWG 26...AWG 16) solid without cable end<br>Line control outputs captive spring terminals, 1 x 0.14...1 x 1.5 mm² AWG 26...AWG 16) solid without cable end<br>Discrete input/output circuit captive spring terminals, 1 x 0.14...1 x 1.5 mm² AWG 26...AWG 17) flexible without cable end<br>Line control outputs captive spring terminals, 1 x 0.14...1 x 1.5 mm² AWG 26...AWG 17) flexible without cable end<br>Power supply captive spring terminals, 1 x 0.2...1 x 2.5 mm² AWG 24...AWG 12) flexible without cable end<br>Power supply captive spring terminals, 1 x 0.2...1 x 2.5 mm² AWG 24...AWG 12) solid without cable end<br>Discrete input/output circuit captive spring terminals, 1 x 0.25...1 x 0.34 mm² AWG 22) flexible without cable end<br>Line control outputs captive spring terminals, 1 x 0.25...1 x 0.34 mm² AWG 22) flexible without cable end<br>Power supply captive spring terminals, 1 x 0.25...1 x 2.5 mm² AWG 23...AWG 12) flexible with cable end<br>Power supply captive spring terminals, 1 x 0.25...1 x 2.5 mm² AWG 23...AWG 12) flexible without cable end |
| **Tightening Torque** | Discrete input/output circuit 1.95…2.21 lbf.in (0.22…0.25 N.m) captive screw clamp terminals<br>Line control outputs 1.95…2.21 lbf.in (0.22…0.25 N.m) captive screw clamp terminals<br>Power supply 4.43 lbf.in (0.5 N.m) captive screw clamp terminals |
| **Wire Stripping Length** | 0.39 in (10 mm) power supply captive screw clamp terminals<br>0.35 in (9 mm) discrete input/output circuit captive screw clamp terminals<br>0.35 in (9 mm) discrete input/output circuit captive spring terminals<br>0.35 in (9 mm) line control outputs captive screw clamp terminals<br>0.35 in (9 mm) line control outputs captive spring terminals<br>0.35 in (9 mm) power supply captive spring terminals |
| **Current Consumption** | 8 A 24 V DC on power supply |
| **Mounting Support** | 35 mm symmetrical DIN rail |
| **Depth** | 6.02 in (153 mm) |
| **Height** | 5.96 in (151.5 mm) |
| **Width** | 2.91 in (74 mm) |
| **Net Weight** | 2.20 lb(US) (1 kg) |

# Environment

| | |
|---|---|
| **Standards** | EN 298 : 2003<br>DIN VDE 0116 : 1989<br>EN 12067-2 : 2004<br>EN/IEC 61131-2 : 2003<br>NFPA 85 : 2001<br>EN 50156-1 : 2004<br>EN 61000-6-2 : 2001<br>EN 230 : 1990<br>IEC 61511 part 1-3 : 2004<br>EN 61000-6-4 : 2001 |
| **Immunity To Microbreaks** | 10 ms |
| **Ip Degree Of Protection** | IP20 enclosure) |
| **Ambient Air Temperature For Operation** | 32…140 °F (0…60 °C) EN 61131-2 |
| **Ambient Air Temperature For Storage** | -40…185 °F (-40…85 °C) EN 61131-2 |
| **Relative Humidity** | 95 % supply not connected |
| **Operating Altitude** | < 6561.68 ft (2000 m) |
| **Pollution Degree** | 2 |
| **Electrical Shock Protection Class** | Class II IEC 61131-2 |
| **Electromagnetic Compatibility** | EN/IEC 61131-2 |
| **Vibration Resistance** | 1 gn 9…150 Hz)EN 61131-2 |
| **Shock Resistance** | 15 gn 11 ms EN 61131-2 |
| **Resistance To Electrostatic Discharge** | 4 kV contact EN/IEC 61000-4-2<br>8 kV on air EN/IEC 61000-4-2 |
| **Resistance To Electromagnetic Fields** | 9.14 V/m (10 V/m) 80…2000 MHz), amplitude modulation 80 % EN/IEC 61000-4-3 |

## Ordering and shipping details

| | |
|---|---|
| **Category** | 22478 - XPS SAFETY PLC |
| **Discount Schedule** | SAF1 |
| **Gtin** | 3389119010566 |
| **Returnability** | No |
| **Country Of Origin** | DE |

## Packing Units

| | |
|---|---|
| **Unit Type Of Package 1** | PCE |
| **Number Of Units In Package 1** | 1 |
| **Package 1 Height** | 3.74 in (9.5 cm) |
| **Package 1 Width** | 7.09 in (18.0 cm) |
| **Package 1 Length** | 10.24 in (26.0 cm) |
| **Package 1 Weight** | 3.02 lb(US) (1.372 kg) |
| **Unit Type Of Package 2** | S03 |
| **Number Of Units In Package 2** | 6 |
| **Package 2 Height** | 11.81 in (30.0 cm) |
| **Package 2 Width** | 11.81 in (30.0 cm) |
| **Package 2 Length** | 15.75 in (40.0 cm) |
| **Package 2 Weight** | 19.56 lb(US) (8.87 kg) |

## Contractual warranty

| | |
|---|---|
| **Warranty** | 18 months |

## Sustainability

**Green Premium$^{TM}$ 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-$CO_2$ 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 >

## Well-being performance

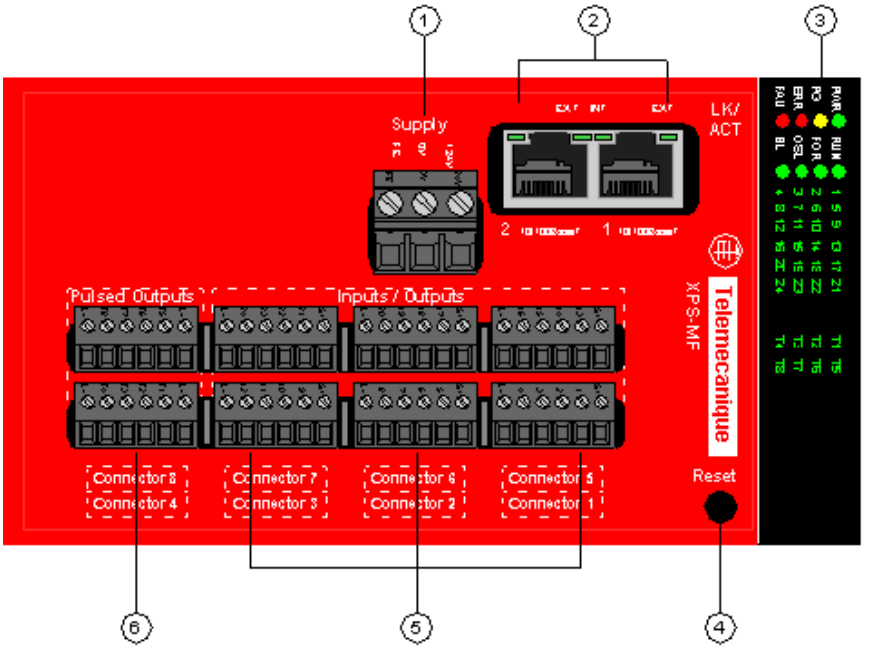
| | |
|---|---|
| Mercury Free | |
| Rohs Exemption Information | Yes |

| | |
|---|---|
| **Eu Rohs Directive** | Pro-active compliance (Product out of EU RoHS legal scope)<br>EU RoHS Declaration |
| **China Rohs Regulation** | China RoHS declaration |
| **Weee** | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins. |
| **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 Carcinogen & Reproductive harm. For more information go to www.p65warnings.ca.gov |

## Presentation

### Housing Elements

#### Front View

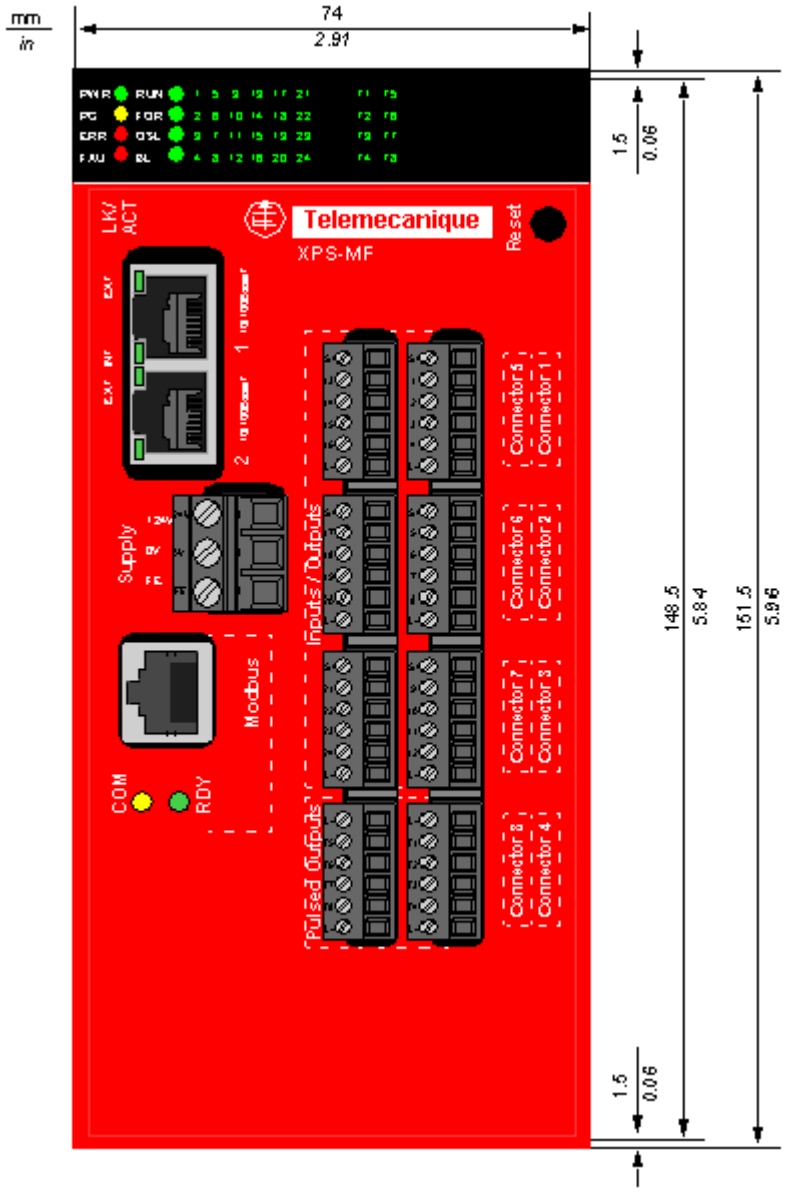



| No. | Description |
|---|---|
| 1 | 24 V DC power supply input<br>• 24 V is the + pole (24 VDC)<br>• 0 V is the – pole (GND)<br>• PE is the functional earth |
| 2 | Ethernet 10/100BaseT RJ-45 connectors |
| 3 | status LEDs |
| 4 | reset button |
| 5 | digital inputs / outputs |
| 6 | pulsed outputs (only use with line control) |

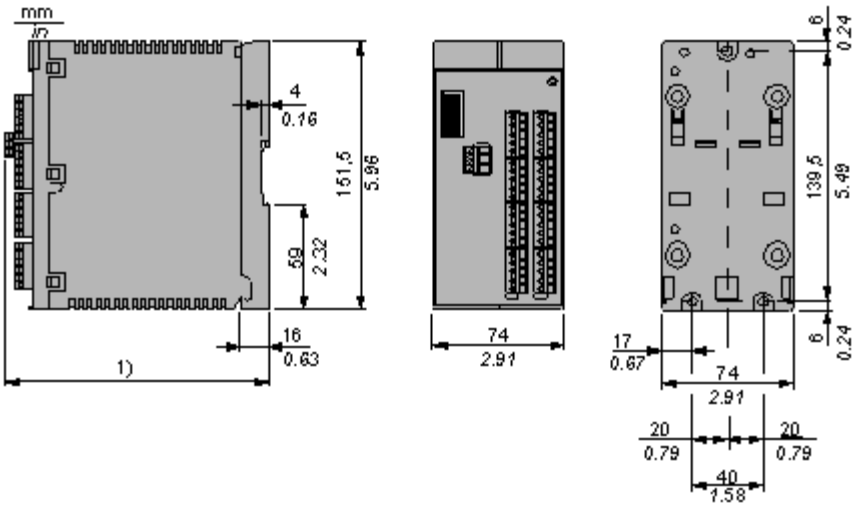
Dimensions Drawings

## Dimensions

### Front View




### Side, Front and Back Views



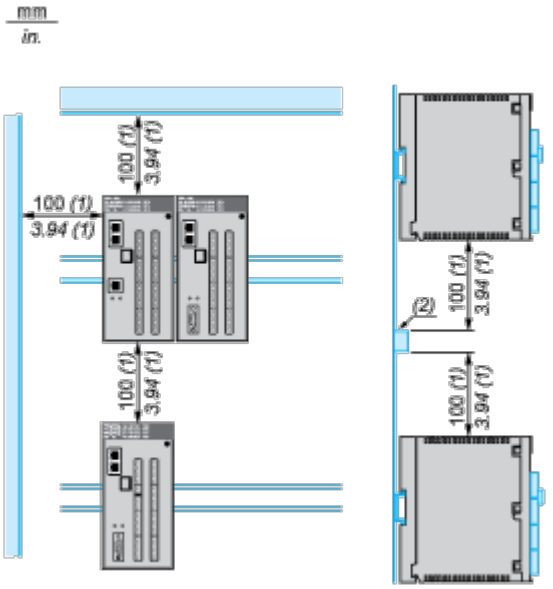

(1) 153 mm (6.02 in) with XPSMCTS•

151.4 mm (5.96 in) with XPSMCTC•

## Mounting and Clearance

### Mounting

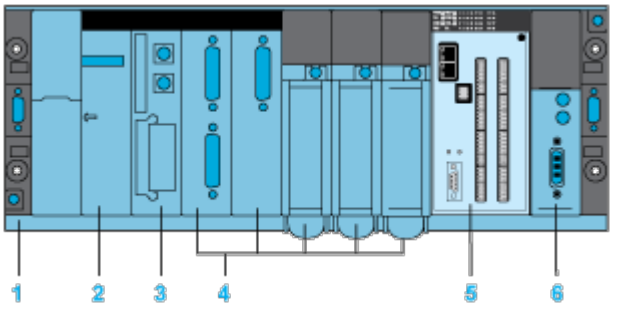
#### Mounting in Panel or Enclosure




(1) Minimum recommended value.

(2) Prefabricated electrical ducting for passage of cables.

#### Mounting on Premium Rack




1 Premium rack

2 Premium supply

3 Premium CPU

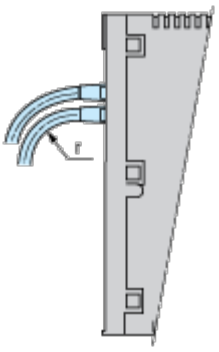
4 Premium I/O module

5 Safety PLC **XPSMF40••** (occupies 2 slots)

6 Premium As-interface master

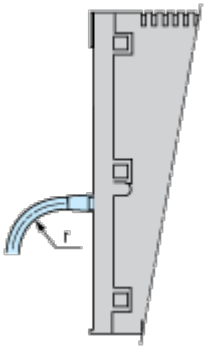
#### Mounting Precautions Relating to Connectors

Access to Ethernet network




r 22.5 mm/0.89 in. min.

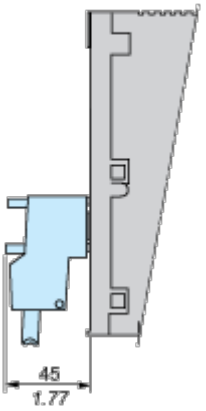
Access to Modbus serial link (RTU)




r 22.5 mm/0.89 in. min.

Access to Profibus DP bus

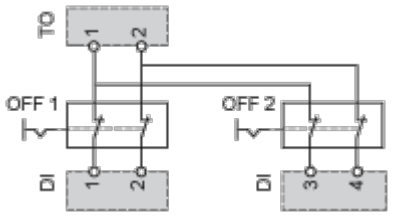
mm
in.



Connections and Schema

## Wiring Diagrams

### Emergency Stop Connections (Line Control)




### Actuator Connections to the Outputs