

# Product data sheet

Specifications



## Preventa safety PLC compact - SIL 3 - 20 I not isolated

XPSMF31222

⚠ Discontinued on: Dec 31, 2019

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

⚠ Discontinued - Service only

### Main

Range Of Product	Preventa Safety automation
Product Or Component Type	Preventa safety PLC compact
Safety Module Name	XPSMF31
Safety Module Application	For numerous machine safety functions and for the protection of personnel
Safety Use Category	Category 4 conforming to EN 954-1/ISO 13849-1 SIL 3 conforming to IEC 61508
Structure Type	10BASE-T/100BASE-TX, Modbus TCP/IP 10BASE-T/100BASE-TX, safe Ethernet

### Complementary

Function Of Module	Monitoring safety actuators for discrete output Monitoring safety detection for discrete input Monitoring safety dialogue for discrete input Monitoring safety dialogue for discrete output
[Us] Rated Supply Voltage	24 V DC - 15...20 %
No Load Current	0.4 A
Protection Type	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 User logic 250 kB data
Discrete Input Number	20 not isolated discrete input(s)
Voltage State 0 Guaranteed	<= 5 V for discrete input
Voltage State 1 Guaranteed	>= 15 V for discrete input
Current State 0 Guaranteed	1...1.5 mA (discrete input)
Current State 1 Guaranteed	>= 2 mA (discrete input)
Discrete Input Voltage	20 V
Discrete Input Current	100 mA
Input Protection Type	Protected against short-circuit to earth Protected against short-circuit
Input Overvoltage Protection	500 V for discrete input conforming to IEC 61000-4-5
Switching Voltage	7.5 V
Discrete Output Number	8
Discrete Output Voltage	24 V DC

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

<b>Output Voltage Tolerance</b>	+/- 2 %
<b>Discrete Output Current</b>	1 A at 60 °C (channels 4 and 8) 2 A at 50 °C (channels 4 and 8) 0.5 A at 60 °C (channels 1 to 3 and 5 to 7) <= 7 mA (all channels)
<b>Minimum Load</b>	2 mA per discrete output
<b>Maximum Leakage Current</b>	1 mA, at 2 V at state 0 for discrete output
<b>Overload Protection</b>	Shutdown of outputs concerned with cyclic reconnection
<b>Communication Port Protocol</b>	Safe Ethernet with 4 RJ45 port(s), transmission rate: 100 Mbps, medium: dual twisted pair cable
<b>Exchange Mode</b>	Half duplex, full duplex, autonegotiation Modbus TCP/IP Half duplex, full duplex, autonegotiation safe Ethernet
<b>Method Of Access</b>	Slave Modbus TCP/IP
<b>Concept</b>	Transparent Ready, Modbus TCP/IP
<b>Web Server</b>	Class A10, Modbus TCP/IP
<b>Web Services</b>	Modbus identification request, Modbus TCP/IP Modbus TCP/IP messaging (reading/writing of data words), Modbus TCP/IP Modbus TCP/IP server, Modbus TCP/IP Standard 502, Modbus TCP/IP
<b>Operating Distance</b>	<= 100 m (between station) discrete input <= 100 m (between station) discrete output
<b>Number Of Terminal Blocks</b>	1 for power supply 2 for discrete output 5 for discrete input
<b>Connections - Terminals</b>	Discrete input/output circuit: captive screw clamp terminals, 2 x 0.5 mm <sup>2</sup> (AWG 20) flexible with cable end Discrete input/output circuit: captive screw clamp terminals, 1 x 0.14...1 x 1.5 mm <sup>2</sup> (AWG 28...AWG 16) flexible without cable end Discrete input/output circuit: captive screw clamp terminals, 1 x 0.14...1 x 1.5 mm <sup>2</sup> (AWG 28...AWG 16) solid without cable end Power supply: captive screw clamp terminals, 1 x 0.2...1 x 2.5 mm <sup>2</sup> (AWG 24...AWG 12) flexible without cable end Power supply: captive screw clamp terminals, 1 x 0.2...1 x 2.5 mm <sup>2</sup> (AWG 24...AWG 12) solid without cable end Discrete input/output circuit: captive screw clamp terminals, 1 x 0.25...1 x 0.5 mm <sup>2</sup> (AWG 22...AWG 20) flexible with cable end Discrete input/output circuit: captive screw clamp terminals, 1 x 0.25...1 x 1.5 mm <sup>2</sup> (AWG 22...AWG 16) flexible without cable end Power supply: captive screw clamp terminals, 1 x 0.25...1 x 2.5 mm <sup>2</sup> (AWG 22...AWG 16) flexible with cable end Power supply: captive screw clamp terminals, 1 x 0.25...1 x 2.5 mm <sup>2</sup> (AWG 22...AWG 16) flexible without cable end Discrete input/output circuit: captive screw clamp terminals, 2 x 0.14...2 x 0.5 mm <sup>2</sup> (AWG 28...AWG 20) solid without cable end Discrete input/output circuit: captive screw clamp terminals, 2 x 0.14...2 x 0.75 mm <sup>2</sup> (AWG 28...AWG 18) flexible without cable end Power supply: captive screw clamp terminals, 2 x 0.2...2 x 1.5 mm <sup>2</sup> (AWG 24...AWG 12) flexible without cable end Power supply: captive screw clamp terminals, 2 x 0.2...2 x 1.5 mm <sup>2</sup> (AWG 24...AWG 12) solid without cable end Discrete input/output circuit: captive screw clamp terminals, 2 x 0.25...2 x 0.34 mm <sup>2</sup> (AWG 22) flexible without cable end Power supply: captive screw clamp terminals, 2 x 0.25...2 x 1 mm <sup>2</sup> (AWG 22...AWG 18) flexible without cable end Power supply: captive screw clamp terminals, 2 x 0.5...2 x 1.5 mm <sup>2</sup> (AWG 22...AWG 16) flexible with cable end
<b>Tightening Torque</b>	0.22...0.25 N.m
<b>Wire Stripping Length</b>	9 mm
<b>Current Consumption</b>	8 A at 24 V DC on power supply
<b>Mounting Support</b>	35 mm symmetrical DIN rail
<b>Depth</b>	66.5 mm

Height	113 mm
Width	253 mm
Net Weight	1 kg

## Environment

Standards	IEC 61131 DIN V 19250 EN 50156 pending DIN V 0801
Immunity To Microbreaks	10 ms
Ip Degree Of Protection	IP20 (enclosure)
Ambient Air Temperature For Operation	0...60 °C conforming to EN 61131-2
Ambient Air Temperature For Storage	-40...85 °C conforming to EN 61131-2
Relative Humidity	95 % supply not connected
Operating Altitude	< 2000 m
Pollution Degree	2
Electrical Shock Protection Class	Class II conforming to EN/IEC 61131-2
Electromagnetic Compatibility	EN/IEC 61131-2
Vibration Resistance	1 gn conforming to EN 61131-2 (f = 10...150 Hz)
Shock Resistance	15 gn for 11 ms conforming to EN 61131-2
Resistance To Electrostatic Discharge	4 kV contact conforming to EN/IEC 61000-4-2 8 kV on air conforming to EN/IEC 61000-4-2
Resistance To Electromagnetic Fields	10 V/m 26...1000 MHz conforming to EN/IEC 61000-4-3

## Packing Units

Unit Type Of Package 1	PCE
Number Of Units In Package 1	1
Package 1 Height	15.5 cm
Package 1 Width	18.5 cm
Package 1 Length	29.5 cm
Package 1 Weight	1.664 kg
Unit Type Of Package 2	S04
Number Of Units In Package 2	3
Package 2 Height	30.0 cm
Package 2 Width	40.0 cm
Package 2 Length	60.0 cm
Package 2 Weight	6.559 kg

## Contractual warranty

Warranty	18 months
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# 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 >](#)

## Well-being performance



Mercury Free



Rohs Exemption Information

Yes

Eu Rohs Directive

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

[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

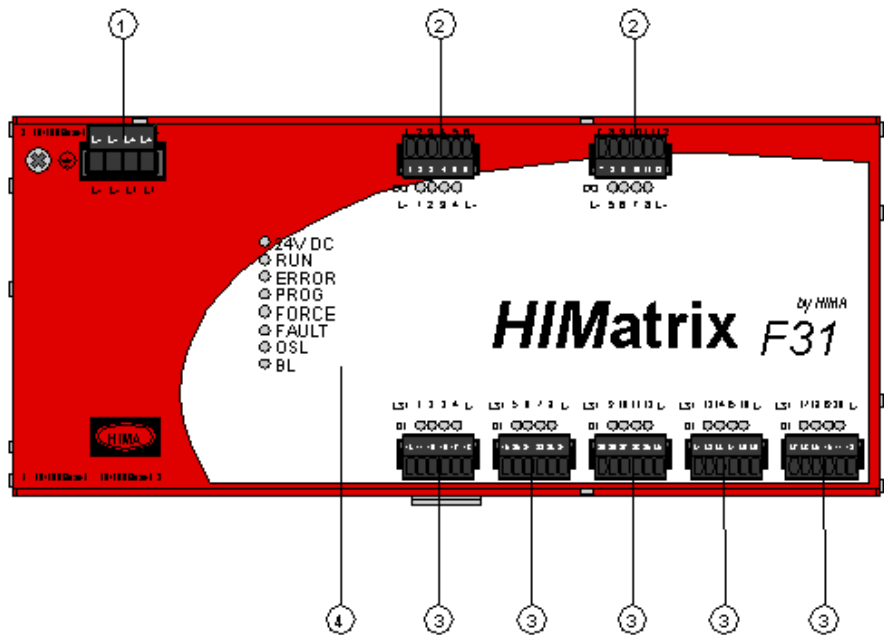
California Proposition 65

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](http://www.p65warnings.ca.gov)

Presentation

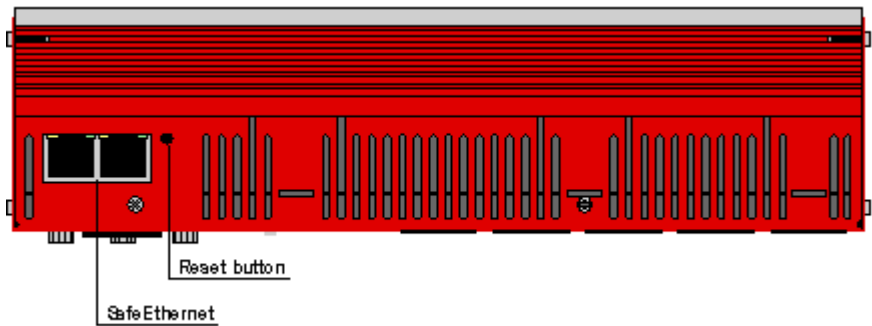
Housing Elements

Front View

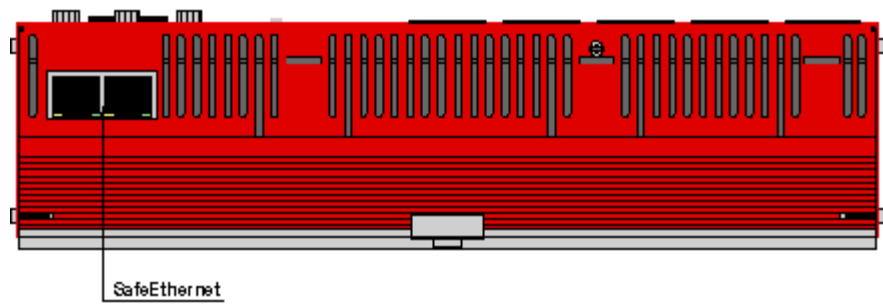


No.	Description
1	power supply input
2	digital outputs
3	digital inputs
4	indicators

Top View



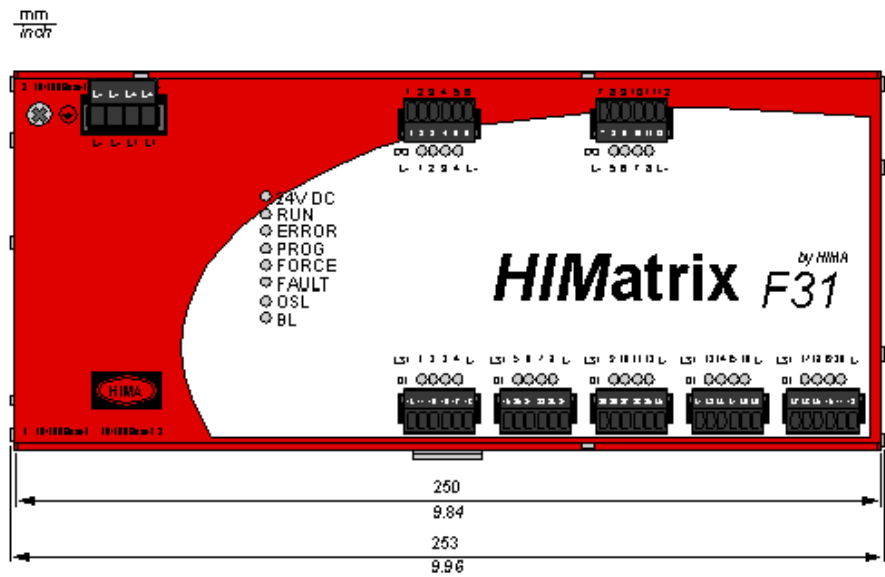
Bottom View



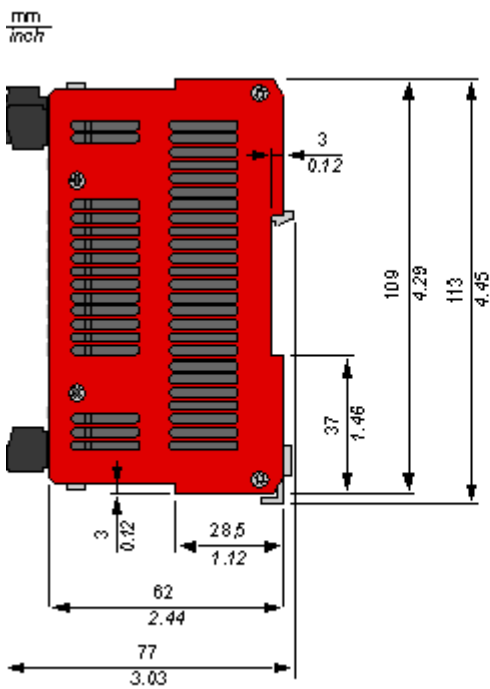
Dimensions Drawings

Dimensions

Front View



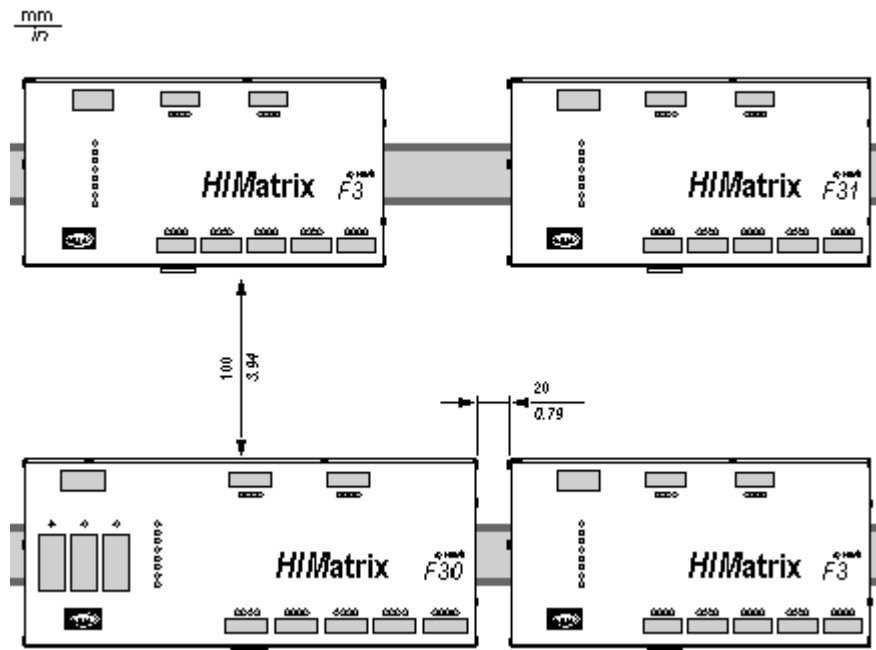
Side View



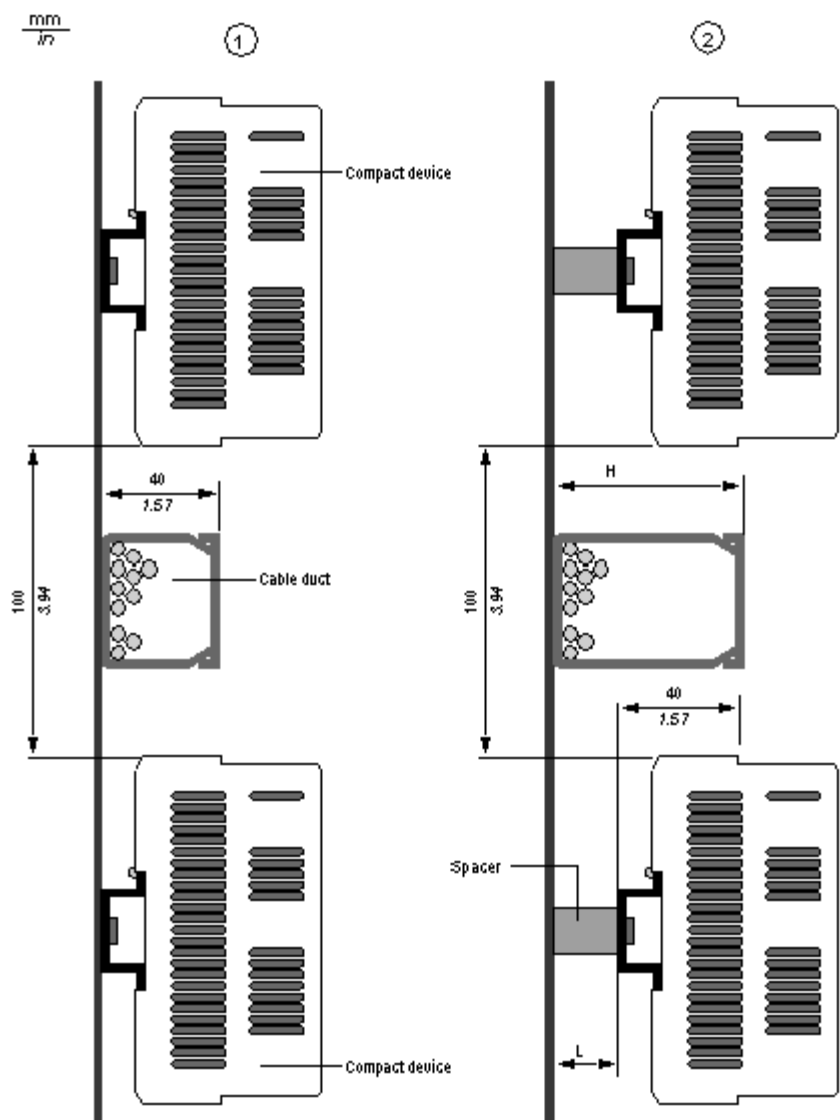
Mounting and Clearance

Mounting

Minimum Clearances

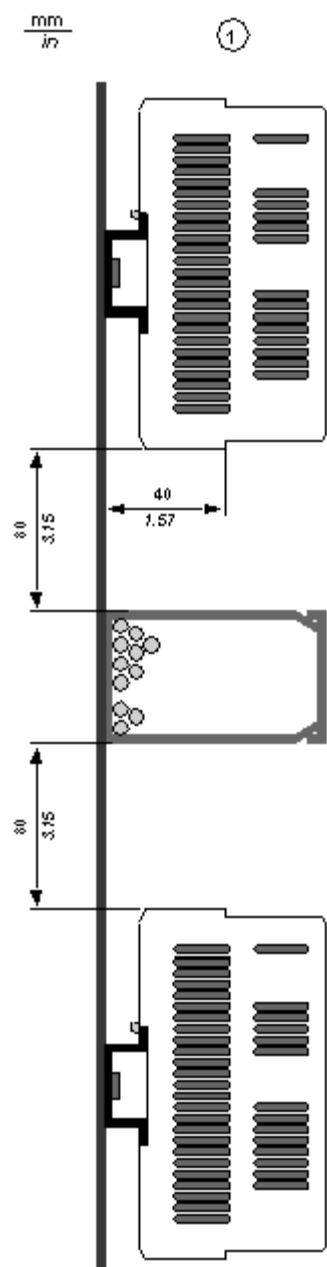


Air Circulation



No.	Description
1	The height of the cable ducts is less than 40 mm / 1.57 in.
2	The height of the cable ducts is greater than 40 mm / 1.57 in.

**L = H - 40 mm / 1.57 in.**  
L = length of the spacer  
H = height of the cable duct  
Minimum clearance when H > 40 mm/1.57 in. and no spacer

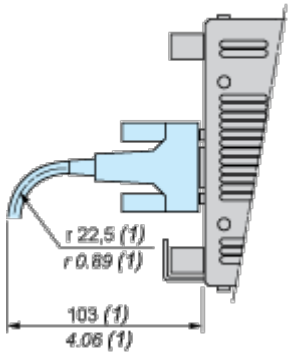


Mounting Precautions Relating to Connectors

Access to Modbus Serial Link (RTU)

SUB-D 9-pin connector

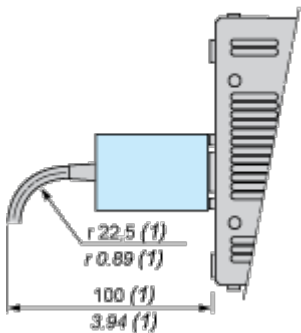
mm  
in.



(1) minimum value

Adaptor XPS MFADAPT

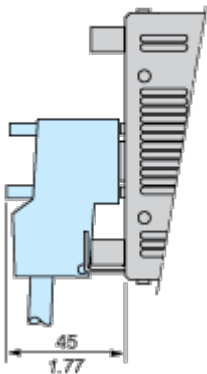
mm  
in.



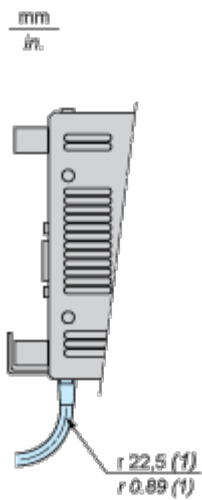
(1) minimum value

Access to PROFIBUS DP

mm  
in.



Access to Ethernet Network



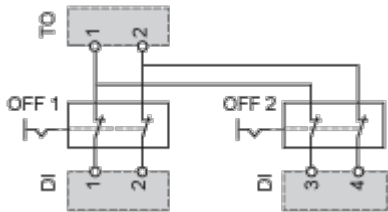
(1) minimum value

Connections and Schema

Wiring Diagrams

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Emergency Stop Connections (Line Control)



Actuator Connections to the Outputs

