Product data sheet

Specifications

Preventa Safety automation- Preventa safety PLC compact - Modbus serial protocol

XPSMF3522

⚠ **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	XPSMF35
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	Closed circuit scanning of input channels for analogue input circuit Measuring 0 to 20 mA currents using shunt for analogue input circuit Monitoring safety actuators for discrete output Monitoring safety detection for discrete input Monitoring safety dialogue for discrete input Monitoring safety dialogue for discrete output Single-pole measuring of 0 to 10 V voltages for analogue input circuit
[Us] Rated Supply Voltage	24 V DC - 15...20 %
No Load Current	0.75 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	24 not isolated discrete input(s)
Voltage State 0 Guaranteed	<= 5 V for discrete input
Voltage State 1 Guaranteed	24...30 V for discrete input
Current State 0 Guaranteed	1...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
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 -4…15 V for analogue input circuit

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Discrete Output Number	8
Discrete Output Voltage	24 V DC
Output Voltage Tolerance	+/- 2 %
Discrete Output Current	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)
Minimum Load	2 mA per discrete output
Maximum Leakage Current	1 mA, at 2 V at state 0 for discrete output
Overload Protection	Shutdown of outputs concerned with cyclic reconnection
Analogue Input Number	8
Analogue Output Type	Not isolated
External Resistance	250 Ohm for analogue input circuit 500 Ohm for analogue input circuit
Analogue Input Range	0...20 mA with 500 Ohm shunt 0...10 V
Input Voltage Limits	0.1...11.5 V analogue input circuit
Input Current Limits	0.4…23 mA 500 Ohm analogue input circuit
Analogue Input Resolution	12 bits
Safety Accuracy	+/- 2 % for analogue input circuit
Maximum Internal Input Resistance	500 MOhm for signal source for analogue input circuit 1 kOhm for analogue input circuit 3.7 Ohm for counting inputs
Counting Input Number	2
Counting Input Type	Non isolated
Counting Frequency	100 kHz
Operating Threshold	0...0.05 V, 5 V low for counting inputs 13...33 V, 24 V high for counting inputs -3...5 V, 24 V low for counting inputs 4...6 V, 5 V high for counting inputs
Counter Inputs Resolution	24 bits
Dv/Dt	1 V/μs counting inputs
Communication Port Protocol	Modbus TCP/IP with 4 RJ45 port(s), transmission rate: 100 Mbps, 10 Mbps, medium: dual twisted pair cable, category 5D or better Safe Ethernet with 4 RJ45 port(s), transmission rate: 100 Mbps, 10 Mbps, medium: dual twisted pair cable, category 5D or better Modbus RTU with 1 SUB-D 9-pin female port(s), RS485, medium: shielded dual twisted pair cable Profibus with 1 SUB-D 9-pin female port(s), RS485, medium: shielded dual twisted pair cable
Exchange Mode	Half duplex, full duplex, autonegotiation Modbus TCP/IP Half duplex, full duplex, autonegotiation safe Ethernet
Method Of Access	Slave Modbus Slave Modbus TCP/IP Slave Profibus
Number Of Addresses	122 for Modbus
Concept	Transparent Ready, Modbus TCP/IP
Web Server	Class A10, Modbus TCP/IP
Web Services	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

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Operating Distance	<= 500 m (between station) shielded dual twisted pair cable counting inputs <= 100 m (between station) discrete input <= 100 m (between station) discrete output <= 300 m (between station) analogue input circuit
Number Of Terminal Blocks	1 for counting inputs 1 for power supply 2 for discrete output 4 for analogue input circuit 5 for discrete input
Connections - Terminals	Analogue input circuit: captive screw clamp terminals, 2 x 0.5 mm² (AWG 20) flexible with cable end Counting inputs: captive screw clamp terminals, 2 x 0.5 mm² (AWG 20) flexible with cable end Discrete input/output circuit: captive screw clamp terminals, 2 x 0.5 mm² (AWG 20) flexible with cable end 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 Discrete input/output circuit: captive screw clamp terminals, 1 x 0.14...1 x 1.5 mm² (AWG 28...AWG 16) solid without cable end Power supply: captive screw clamp terminals, 1 x 0.2...1 x 2.5 mm² (AWG 24...AWG 12) flexible without cable end Power supply: captive screw clamp terminals, 1 x 0.2...1 x 2.5 mm² (AWG 24...AWG 12) solid without cable end Discrete input/output circuit: captive screw clamp terminals, 1 x 0.25...1 x 0.5 mm² (AWG 22...AWG 20) flexible with cable end Discrete input/output circuit: captive screw clamp terminals, 1 x 0.25...1 x 1.5 mm² (AWG 22...AWG 16) flexible without cable end Power supply: captive screw clamp terminals, 1 x 0.25...1 x 2.5 mm² (AWG 22...AWG 16) flexible with cable end Power supply: captive screw clamp terminals, 1 x 0.25...1 x 2.5 mm² (AWG 22...AWG 16) flexible without cable end Discrete input/output circuit: captive screw clamp terminals, 2 x 0.14...2 x 0.5 mm² (AWG 28...AWG 20) solid without cable end Discrete input/output circuit: captive screw clamp terminals, 2 x 0.14...2 x 0.75 mm² (AWG 28...AWG 18) flexible without cable end Power supply: captive screw clamp terminals, 2 x 0.2...2 x 1.5 mm² (AWG 24...AWG 12) flexible without cable end Power supply: captive screw clamp terminals, 2 x 0.2...2 x 1.5 mm² (AWG 24...AWG 12) solid without cable end Discrete input/output circuit: captive screw clamp terminals, 2 x 0.25...2 x 0.34 mm² (AWG 22) flexible without cable end Power supply: captive screw clamp terminals, 2 x 0.25...2 x 1 mm² (AWG 22...AWG 18) flexible without cable end Power supply: captive screw clamp terminals, 2 x 0.5...2 x 1.5 mm² (AWG 22...AWG 16) flexible with cable end Analogue input circuit: captive screw clamp terminals, 1 x 0.14...1 x 1.5 mm² (AWG 28...AWG 16) flexible without cable end Counting inputs: captive screw clamp terminals, 1 x 0.14...1 x 1.5 mm² (AWG 28...AWG 16) flexible without cable end Analogue input circuit: captive screw clamp terminals, 1 x 0.14...1 x 1.5 mm² (AWG 28...AWG 16) solid without cable end Counting inputs: captive screw clamp terminals, 1 x 0.14...1 x 1.5 mm² (AWG 28...AWG 16) solid without cable end Analogue input circuit: captive screw clamp terminals, 1 x 0.25...1 x 0.5 mm² (AWG 22...AWG 20) flexible with cable end Counting inputs: captive screw clamp terminals, 1 x 0.25...1 x 0.5 mm² (AWG 22...AWG 20) flexible with cable end Analogue input circuit: captive screw clamp terminals, 1 x 0.25...1 x 1.5 mm² (AWG 22...AWG 16) flexible without cable end Counting inputs: captive screw clamp terminals, 1 x 0.25...1 x 1.5 mm² (AWG 22...AWG 16) flexible without cable end Analogue input circuit: captive screw clamp terminals, 2 x 0.14...2 x 0.5 mm² (AWG 28...AWG 20) solid without cable end Counting inputs: captive screw clamp terminals, 2 x 0.14...2 x 0.5 mm² (AWG 28...AWG 20) solid without cable end Analogue input circuit: captive screw clamp terminals, 2 x 0.14...2 x 0.75 mm² (AWG 28...AWG 18) flexible without cable end Counting inputs: captive screw clamp terminals, 2 x 0.14...2 x 0.75 mm² (AWG 28...AWG 18) flexible without cable end Analogue input circuit: captive screw clamp terminals, 2 x 0.25...2 x 0.34 mm² (AWG 22) flexible without cable end Counting inputs: captive screw clamp terminals, 2 x 0.25...2 x 0.34 mm² (AWG 22) flexible without cable end
Tightening Torque	0.22…0.25 N.m
Wire Stripping Length	9 mm

Current Consumption	9 A at 24 V DC on power supply
Mounting Support	35 mm symmetrical DIN rail
Depth	66.5 mm
Height	113 mm
Width	253 mm
Net Weight	1.2 kg

Environment

Standards	DIN V 19250 EN 50156 pending DIN V 0801 IEC 61131
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	17.5 cm
Package 1 Width	19.0 cm
Package 1 Length	30.0 cm
Package 1 Weight	1.84 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	7.034 kg

Contractual warranty

Warranty	18 months

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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) 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
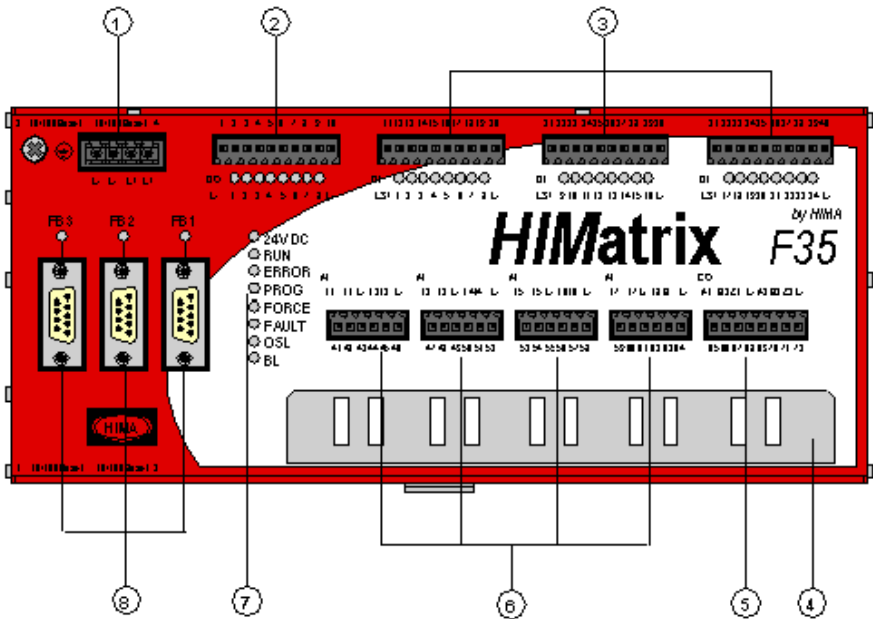
No.	Description
1	Power Supply Input
2	Digital Outputs
3	Digital Inputs
4	Earth Rail
5	Counter Inputs
6	Analog Inputs
7	Indicators
8	Field Bus Connections

Top View

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Ethernet communications

Bottom View

Ethernet communications
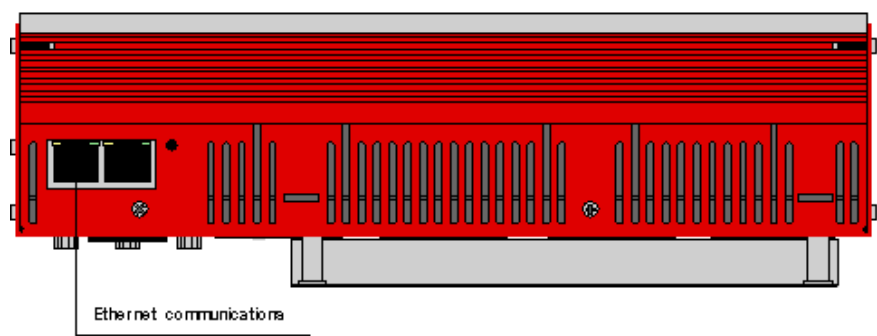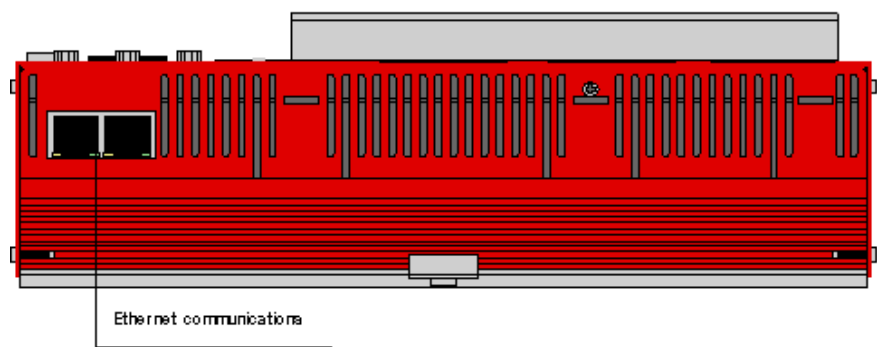
Dimensions Drawings

Dimensions

Front View

Side View

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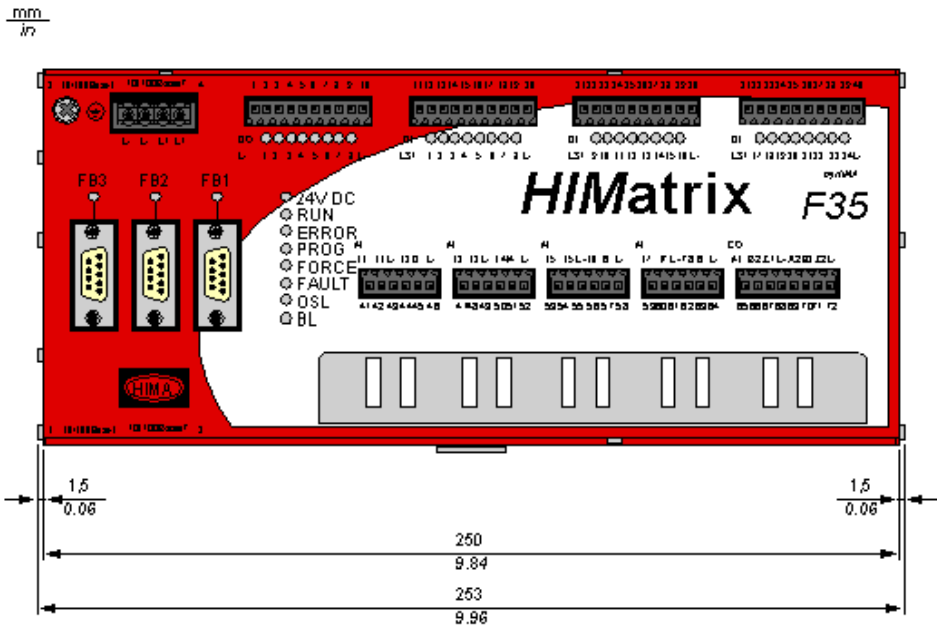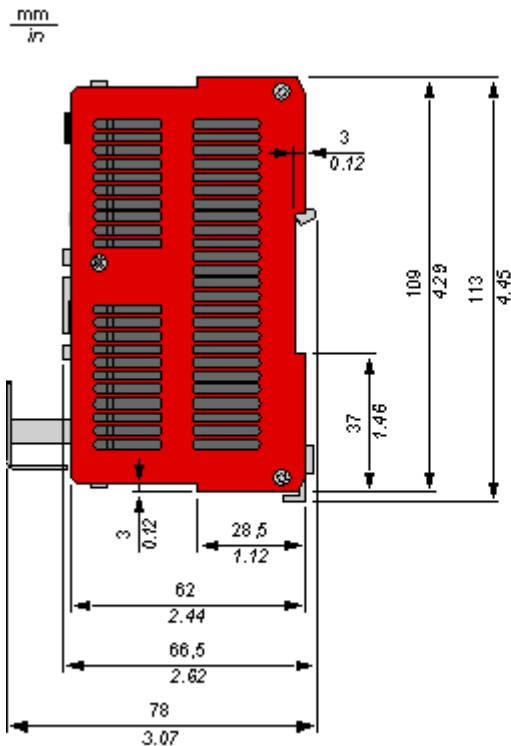
Mounting and Clearance

Mounting

Minimum Clearances

Air Circulation

XPSMF3522
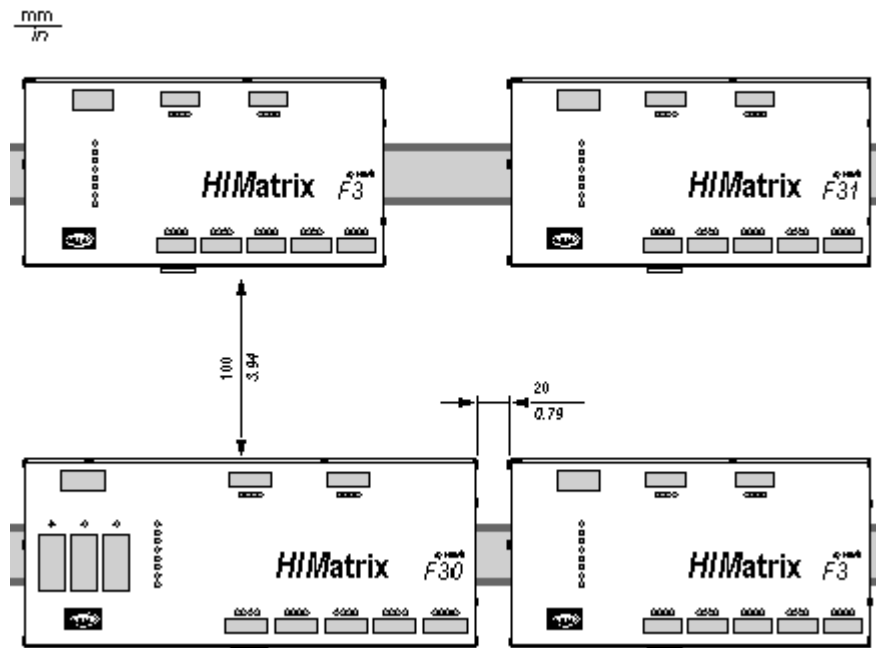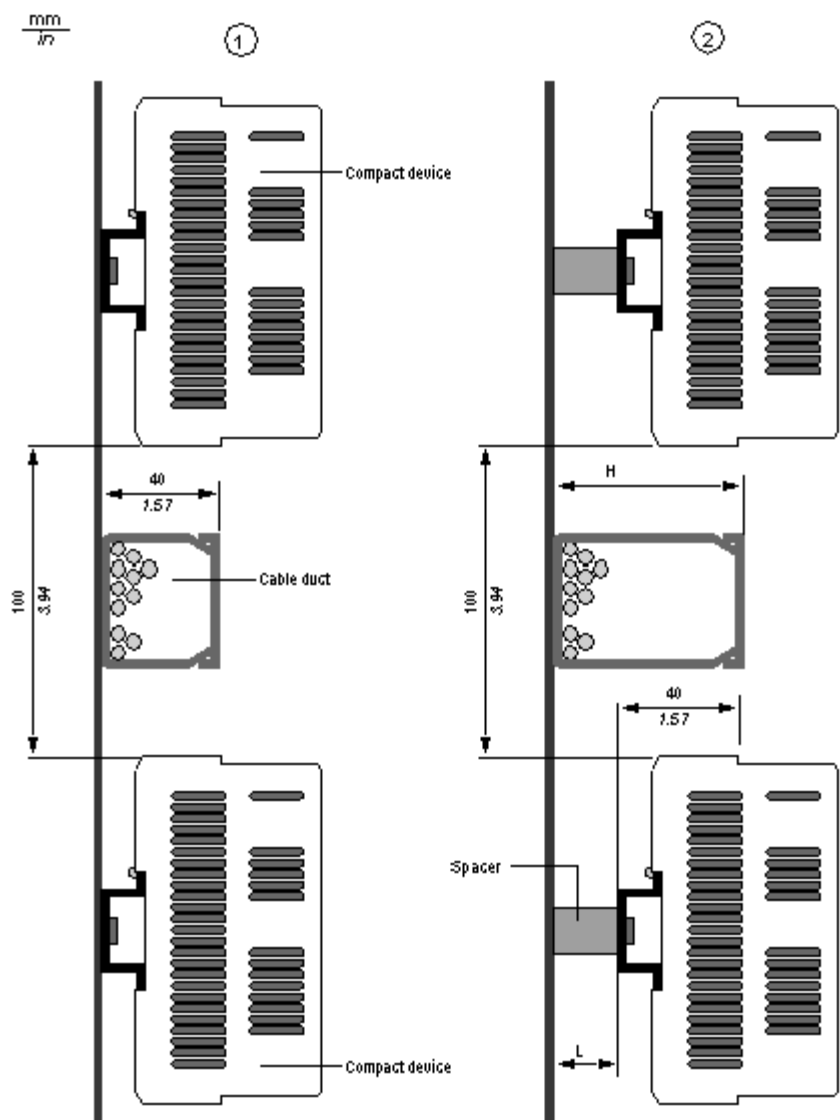
No.	Description
1	The height of the cable ducts is less than 40 mm / 1.57 in.
2	The height of the cable ducts is greater than 40 mm / 1.57 in.

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

mm
in

①

40
1.57

80
3.15

80
3.15
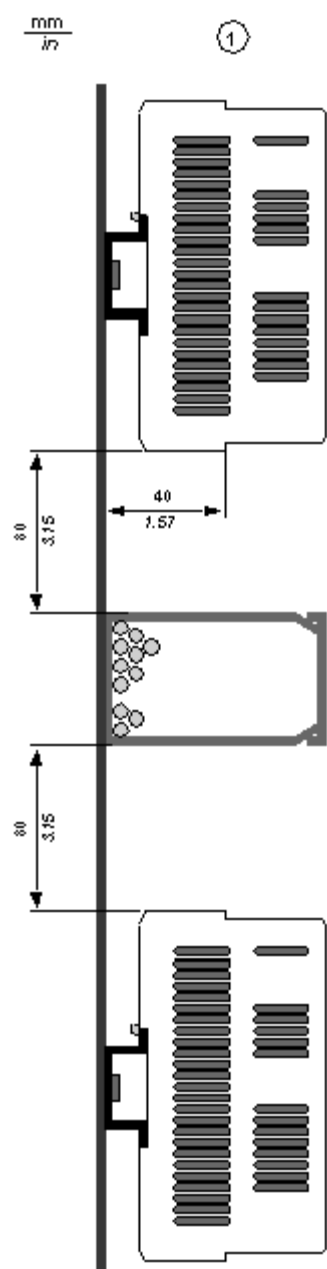
Mounting Precautions Relating to Connectors

Access to Modbus Serial Link (RTU)

SUB-D 9-pin connector

$\dfrac{mm}{in.}$

r 22,5 (1)
r 0.89 (1)

103 (1)
4.06 (1)
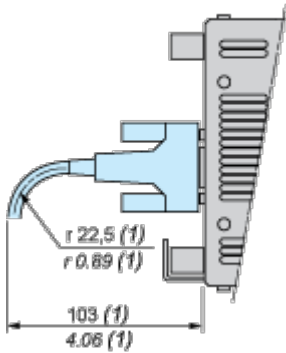
(1)   minimum value

Adaptor XPS MFADAPT

$\dfrac{mm}{in.}$

r 22,5 (1)
r 0.89 (1)

100 (1)
3.94 (1)
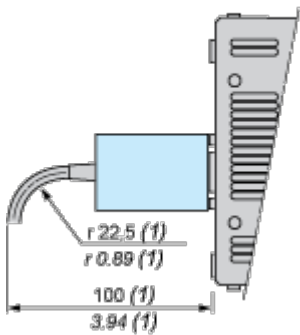
(1)   minimum value

Access to PROFIBUS DP

$\dfrac{mm}{in.}$

45
1.77
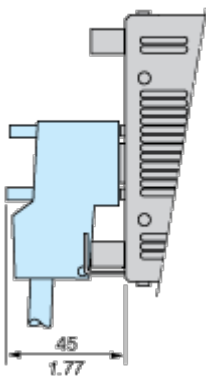
Access to Ethernet Network
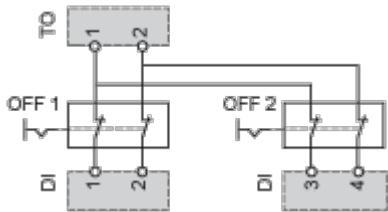
mm
in.

r 22.5 (1)
r 0.89 (1)
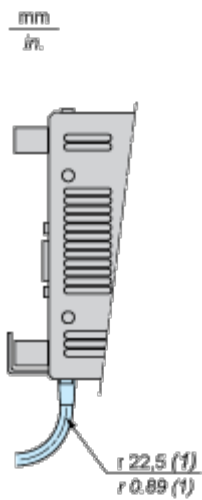
(1)   minimum value

Connections and Schema

Wiring Diagrams

Emergency Stop Connections (Line Control)

Actuator Connections to the Outputs