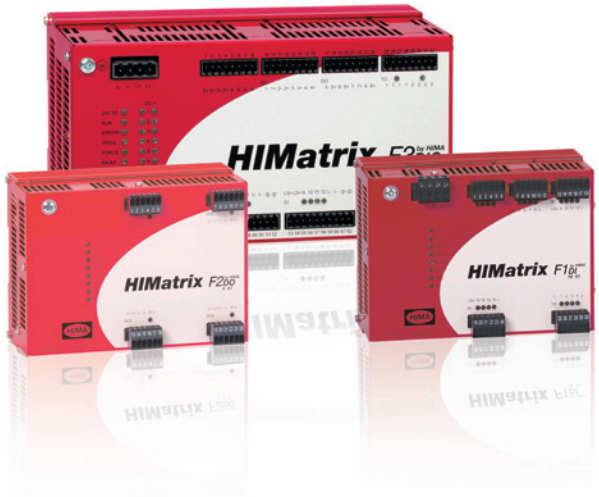
Safety remote I/O modules

XPSMF1/2/3

for Preventa safety PLCs XPSMF (compacts and modular)

Catalogue

January 2015



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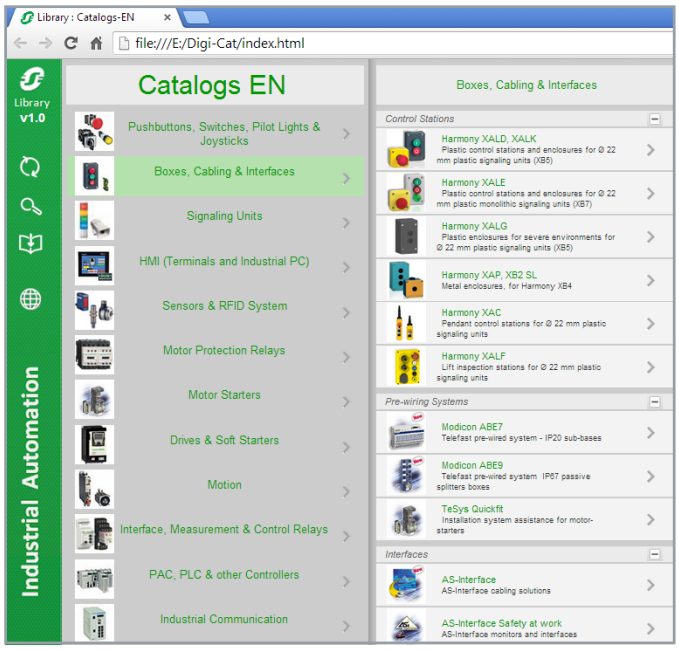

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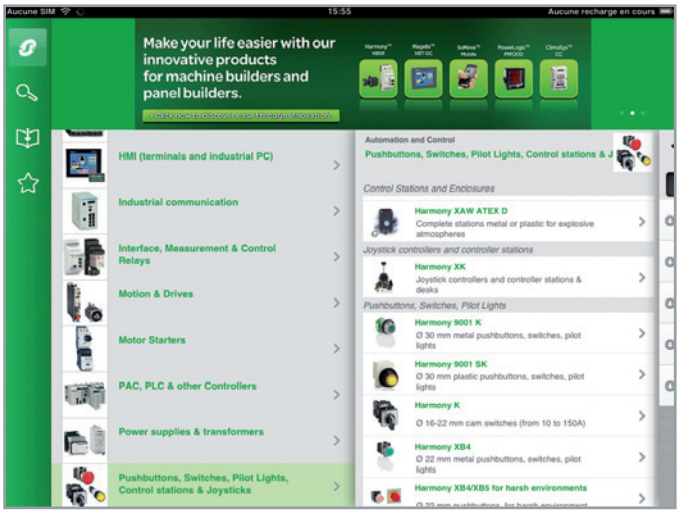


General contents

Safety remote I/O modules type XPSMF1/2/3
for Preventa safety PLCs XPSMF (compact and modular)

Safety remote I/O modules
type XPSMF1/2/3
for Preventa safety PLCs XPSMF (compact and modular)

Presentation

Remote input, output and input/output modules:
- Location: within the vicinity of machines to be monitored.
- Extension of the I/O capacity of compact and modular safety PLCs.
- Designed for use in safety related parts of control systems up to category 4, up to performance level “e”, and up to SIL 3.

*Products referenced **XPSMF1DI1601** and **XPSMF2●●●●●●** are marked **HIMatrix F1DI** and **HIMatrix F2DI** .*

*Products referenced **XPSMF2●●●●●●●** and **XPSMF3●●●●●●●** are marked **HIMatrix F2DO** and **HIMatrix F3...***

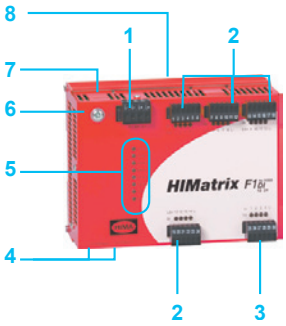
User memory	Application	–			
	Data	–			
Response time		Depending on size of application			
Maximum consumption		0.8 A	0.5 A	9 A	
Supply		External ⎓ 24 V supply (with separate protection conforming to EN/IEC 60950, SELV (Safety Extra Low Voltage) or PELV (Protection Extra Low Voltage) rated)			
Inputs	**Digital** Number of channels	16, not electrically isolated	–	–	
	Current at state 0	1.5 mA max., 1 mA at 5 V	–	–	
	Current at state 1	⩾ 2 mA at ⎓ 15 V	–	–	
	Analogue Number of channels	–	–	–	
	Range: voltage/current	–	–	–	
	Counting Number of channels	–	–	–	
	Current	–	–	–	
Outputs	**Digital** Number of channels	–	4, not electrically isolated	16, not electrically isolated	
	Output current	–	5 A max.	1 A max. at 60 °C, 2 A max. at 40 °C	
	Analogue Number of channels	–	–	–	
	Range: voltage/current	–	–	–	
	Relay Number	–	–	–	
	Switching voltage	–	–	–	
	Line control Number	4, not electrically isolated	–	–	
	Current/Voltage	60 mA/20 V	–	–	
Input/output connections		Removable screw terminal blocks *(1)*			
Safety communication on Ethernet network using SafeEthernet protocol		Yes, access to network via integrated 2 RJ45 switched Ethernet communications ports			
Safety remote I/O module type		**XPSMF1DI1601**	**XPSMF2DO401**	**XPSMF2DO1601**	
See page		4	6		

*(1) Removable screw terminal blocks are provided with safety remote I/O modules **XPSMF1/2/3**.*

–		–					
–		–					
Depending on size of application							
0.6 A	0.6 A	8 A	14 A	8 A	0.8 A		
External ⎓ 24 V supply (with separate protection conforming to EN/IEC 60950, SELV (Safety Extra Low Voltage) or PELV (Protection Extra Low Voltage) rated)							
–	–	8, not electrically isolated	16, not electrically isolated	20, not electrically isolated	–		
–	–	1.5 mA max. 1.25 mA at ⎓ 5 V	1.5 mA max. 1 mA at ⎓ 5 V	1.5 mA max. 1.25 mA at ⎓ 5 V	–		
–	–	> 2 mA at ⎓ 15 V	> 2 mA at ⎓ 15 V	⩾ 2 mA at ⎓ 15 V	–		
–	–	–	–	–	8 single-pole		
–	–	–	–	–	⎓ 0…10 V/0…20 mA *(1)*		
–	–	–	–	–	–		
–	–	–	–	–	–		
–	–	8 DO+ (reference pole L-) 2 DO- (reference pole S+)	8 2-pole or 16 single-pole, not electrically isolated	8, not electrically isolated *(2)*	–		
–	–	DO+: channels 1 to 3 and 5 to 7: 0.5 A at 60 °C channels 4 and 8: 1 A at 60 °C, 2 A at 40 °C DO-: channels 1 and 2: 1 A at 60 °C	2 A max. at 40 °C, 1 A max. at 60 °C, 10 mA min.	Channels 1 to 3 and 5 to 7: 0.5 A at 60 °C Channels 4 and 8: 1 A at 60 °C, 2 A at 50 °C	–		
–	–	–	–	–	4 non safety related outputs		
–	–	–	–	–	Usable range: 0…20 mA Nominal range: 4…20 mA		
8	16	–	–	–	–		
⩾ 5 V, ⩽ ⎓ 250 V/ ∿ 250 V	⩾ 5 V, ⩽ ⎓ 60 V/ ∿ 30 V	–	–	–	–		
–	–	2, not electrically isolated		–	–		
–	–	60 mA/20 V	60 mA/20 V	–	–		
Removable screw terminal blocks *(3)*							
Yes, access to network via integrated 2 RJ45 switched Ethernet communications ports							
XPSMF2DO801	**XPSMF2DO1602**	**XPSMF3DIO8801**	**XPSMF3DIO16801**	**XPSMF3DIO20802**	**XPSMF3AIO8401**		
6		8					

(1) With 500 Ω shunt
(2) Configurable for Line control.
*(3) Removable screw terminal blocks are provided with safety remote I/O modules **XPSMF1/2/3**.*

Safety remote I/O modules
type XPSMF1/2/3
for Preventa safety PLCs XPSMF (compact and modular)



XPSMF1DI1601

*This product, referenced **XPSMF1DI1601**, is marked **HIMatrix F1DI**.*

Presentation

XPSMF1DI1601 is a compact safety remote input module which is designed to extend the input capacity of safety PLCs **XPSMF,** either compact or modular, to which it is associated.
The communication with either the compact or modular safety PLCs is managed via one of its' integrated 2 RJ45 switched Ethernet communications ports.
The safety remote input module **XPSMF1DI1601** does not have a user program: it receives its instructions from its' parent safety PLC.

Safety remote input module XPSMF1DI1601

- Remote digital inputs: 16
- Remote line control outputs: 4 (Short-circuit and line break monitoring)

Safety communication on Ethernet network

The safety input module **XPSMF1DI1601** incorporates two RJ45 (type 10BASE-T/100BASE-TX) integrated switched ports, that enable communication on the Ethernet network using SafeEthernet communication protocol and therefore, data exchange with compact or modular safety PLCs **XPSMF**.

- Baud rate: 100 Mbps Half duplex, 10 Mbps Full duplex, + Autonegotiation,
- Structure: 10BASE-T/100BASE-TX,
- Medium : Dual twisted pair cable, category 5D or better (Ethernet).

Description

Safety remote input module XPSMF1DI1601

On the front face of the metal enclosure:

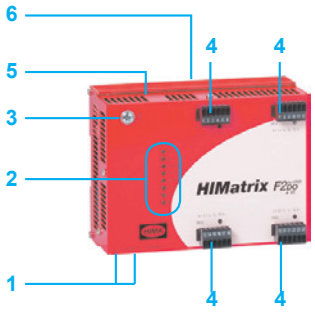
1 One terminal block *(1)* for ⎓ 24 V supply.
2 Four terminal blocks *(1)* for connection of digital inputs, with input status LED (four LEDs per terminal block).
3 One terminal block *(1)* for connection of digital line control outputs, with four digital output status LEDs.
4 Two RJ45 (type 10BASE-T/100BASE-TX) integrated switched ports, for connection on Ethernet network and for configuring IP address.
5 Eight process status LEDs.
6 One earth connection screw.
7 **On the top**: one "Reset" button.
8 **On the rear face**: one spring operated fixing device for mounting on 35 mm ⊔ rail.

References

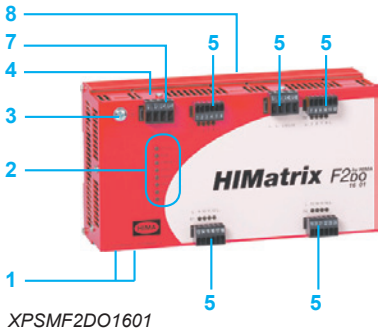
Safety remote input module (⎓ 24 V supply)

For use with	Digital inputs	Line control outputs	Ports	Reference	Weight kg/ *lb*
Safety PLCs, modular XPSMF60 or compact XPSMF40 and XPSMF31/30/35	16	4	Integrated 2 RJ45 switched Ethernet communications ports	**XPSMF1DI1601**	0.700/ *1.543*

Safety remote I/O modules
type XPSMF1/2/3
for Preventa safety PLCs XPSMF (compact and modular)



XPSMF2DO401



XPSMF2DO1601

*Products referenced **XPSMF2●●●●●●** are marked **HIMatrix F2 DO...***

Presentation

XPSMF2DO●●●● are compact safety remote output modules which are designed to extend the output capacity of safety PLCs **XPSMF**, either compact or modular, to which they are associated.
The communication with either the compact or modular safety PLCs is managed via one of its' integrated 2 RJ45 switched Ethernet communications ports.
Safety modules **XPSMF2DO●●●●** do not have a user program: they receive their instructions from its' parent safety PLC.

Safety remote output modules XPSMF2DO●●●●

- **XPSMF2DO401** : 4 digital power outputs
- **XPSMF2DO1601** : 16 digital outputs
- **XPSMF2DO801** : 8 relay outputs
- **XPSMF2DO1602** : 16 relay outputs

Safety communication on Ethernet network

The safety remote output modules **XPSMF2DO●●●●** incorporate two RJ45 (type 10BASE-T/100BASE-TX) integrated switched ports, that enable communication on the Ethernet network using SafeEthernet communication protocol and therefore, data exchange with compact or modular safety PLCs **XPSMF**.

- Baud rate: 100 Mbps Half duplex, 10 Mbps Full duplex, + Autonegotiation,
- Structure: 10BASE-T/100BASE-TX,
- Medium: Dual twisted pair cable, category 5D or better (Ethernet)

Description

Remote output module XPSMF2DO401

On the front face of the metal enclosure:

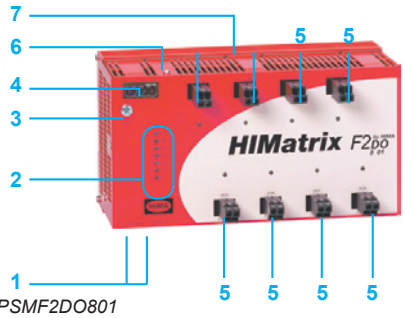
1 Two RJ45 (type 10BASE-T/100BASE-TX) integrated switched ports, for connection on Ethernet network and for configuring IP address.
2 Eight process status LEDs.
3 One earth connection screw.
4 Four terminal blocks *(1)* for connection of digital outputs, with output status LED (one LED per terminal block).
5 **On the top**: one "Reset" button.
6 **On the rear face**: one spring operated fixing device for mounting on 35 mm ⊥ rail.

Remote output module XPSMF2DO1601

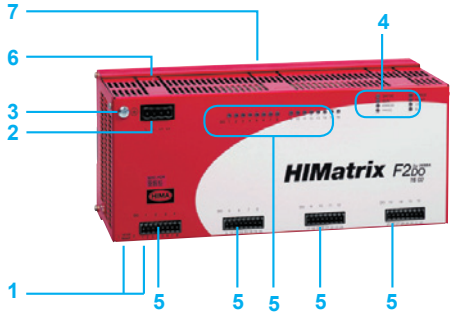
On the front face of the metal enclosure:

1 Two RJ45 (type 10BASE-T/100BASE-TX) integrated switched ports, for connection on Ethernet network and for configuring IP address.
2 Eight process status LEDs.
3 One earth connection screw.
4 One terminal block *(1)* for ⎓ 24 V supply.
5 Four terminal blocks *(1)* for connection of digital outputs, with output status LED (four LEDs per terminal block).
6 One terminal block for connection of output channels.
7 **On the top**: one "Reset" button.
8 **On the rear face**: one spring operated fixing device for mounting on 35 mm ⊥ rail.

Safety remote I/O modules
type XPSMF1/2/3
for Preventa safety PLCs XPSMF (compact and modular)



XPSMF2DO801



XPSMF2DO1602

Description (continued)

Remote output module XPSMF2DO801

On the front face of the metal enclosure:

1 Two RJ45 (type 10BASE-T/100BASE-TX) integrated switched ports, for connection on Ethernet network and for configuring IP address.
2 Eight process status LEDs.
3 One earth connection screw.
4 One terminal block *(1)* for ⎓ 24 V supply.
5 Eight terminal blocks *(1)* for connection of relay outputs, with output status LED (one LED per terminal block).
6 **On the top**: one “Reset” button.
7 **On the rear face**: one spring operated fixing device for mounting on 35 mm ⊔ rail.

Remote output module XPSMF2DO1602

On the front face of the metal enclosure:

1 Two RJ45 (type 10BASE-T/100BASE-TX) integrated switched ports, for connection on Ethernet network and for configuring IP address.
2 One terminal block *(1)* for ⎓ 24 V supply.
3 One earth connection screw.
4 Eight process status LEDs.
5 Four terminal blocks *(1)* for connection of relay outputs, with relay output status LEDs.
6 **On the top**: one “Reset” button.
7 **On the rear face**: one spring operated fixing device for mounting on 35 mm ⊔ rail.

*(1) Removable screw terminals are provided with the safety output modules **XPSMF2**.*

*Products referenced **XPSMF2●●●●●●** are marked **HIMatrix F2 DO...***

References

Safety remote output modules (⎓ 24 V supply)

For use with	Outputs		Ports	Reference	Weight kg/ *lb*
	Digital	Relay			
Safety PLCs, modular XPSMF60 or compact XPSMF40 and XPSMF31/30/35	4	–	Integrated 2 RJ45 switched Ethernet communications ports	**XPSMF2DO401**	0.800/ *1.764*
	16	–	Integrated 2 RJ45 switched Ethernet communications ports	**XPSMF2DO1601**	0.850/ *1.874*
	–	8	Integrated 2 RJ45 switched Ethernet communications ports	**XPSMF2DO801**	1.300/ *2.866*
	–	16	Integrated 2 RJ45 switched Ethernet communications ports	**XPSMF2DO1602**	2.000/ *4.409*

Safety remote I/O modules
type XPSMF1/2/3
for Preventa safety PLCs XPSMF (compact and modular)

XPSMF3DIO8801

XPSMF3DIO16801

XPSMF3DIO20802

XPSMF3AIO8401

*Products referenced **XPSMF2●●●●●●** are marked **HIMatrix F2 DO...***

Presentation

XPSMF3DIO/AIO are compact safety remote input/output modules which are designed to extend the I/O capacity of safety PLCs **XPSMF**, either compact or modular, to which they are associated.
The communication with either the compact or modular safety PLCs is managed via one of its' integrated 2 RJ45 switched Ethernet communications ports.
Safety modules **XPSMF3DIO/AIO** do not have a user program: they receive their instructions from its' parent safety PLC.

Safety remote mixed I/O modules XPSMF3DIO/AIO

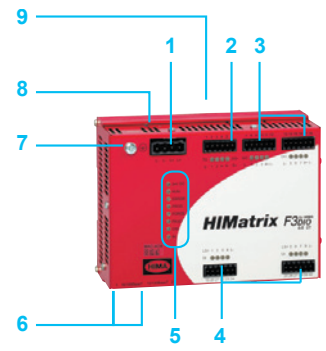
Mixed I/O safety modules	Remote inputs		Remote outputs	
	N°	Type	N°	Type
XPSMF3DIO8801	**8**	Digital	**8 DO+ / 2 DO-**	Digital
			2	Line control
XPSMF3DIO16801	**16**	Digital	**8 2-pole or 16 single-pole**	Digital
			2	Line control
XPSMF3DIO20802	**20**	Digital	**8**	Digital
XPSMF3AIO8401	**8**	Analogue	**4**	Analogue (non safety outputs)

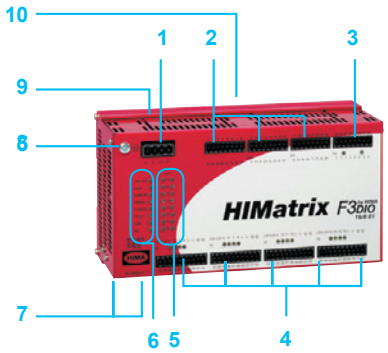
Safety communication on Ethernet network

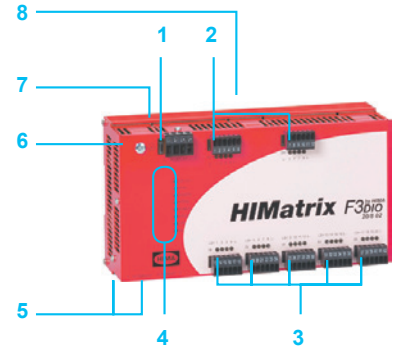
The safety remote mixed I/O modules **XPSMF3●IO●●●●** incorporate two RJ45 (type 10BASE-T/100BASE-TX) integrated switched ports, that enable communication on the Ethernet network using SafeEthernet communication protocol and therefore, data exchange with compact or modular safety PLCs XPSMF.

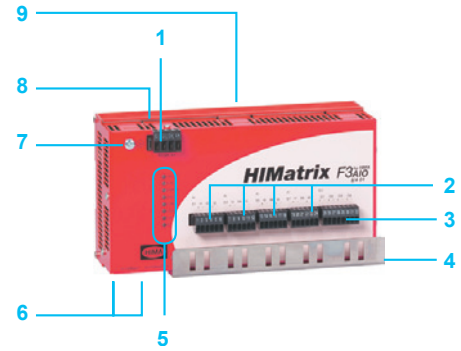
- Baud rate: 100 **Mbps** Half duplex, 10 **Mbps** Full duplex, + Autonegotiation,
- Structure: 10BASE-T/100BASE-TX,
- Medium: Dual twisted pair cable, category 5D or better (Ethernet).

Safety remote I/O modules
type XPSMF1/2/3
for Preventa safety PLCs XPSMF (compact and modular)









Description

Remote mixed I/O module XPSMF3DIO8801

On the front face of the metal enclosure:

1 One terminal block *(1)* for ⎓ 24 V supply.
2 One terminal block *(1)* for connection of line control outputs, with four line control output status LEDs.
3 Two terminal blocks *(1)* for connection of digital outputs, with output status LED (four LEDs per terminal block).
4 Two terminal blocks *(1)* for connection of digital inputs, with input status LED (four LEDs per terminal block).
5 Eight process status LEDs.
6 Two RJ45 (type 10BASE-T/100BASE-TX) integrated switched ports, for connection on Ethernet network and for configuring IP address.
7 One earth connection screw.
8 One “Reset” button (on the top).
9 **On the rear face:** One spring operated fixing device for mounting on 35 mm ⊥ rail.

Remote mixed I/O module XPSMF3DIO16801

On the front face of the metal enclosure:

1 One terminal block *(1)* for ⎓ 24 V supply.
2 Three terminal blocks for connection of digital output channels.
3 One terminal block *(1)* for connection of line control outputs.
4 Four terminal blocks *(1)* for connection of digital inputs, with input status LED (four LEDs per terminal block).
5 Sixteen digital output status LEDs.
6 Eight process status LEDs.
7 Two RJ45 (type 10BASE-T/100BASE-TX) integrated switched ports, for connection on Ethernet network and for configuring IP address.
8 One earth connection screw.
9 One “Reset” button (on the top).
10 **On the rear face:** One spring operated fixing device for mounting on 35 mm ⊥ rail.

Remote mixed I/O module XPSMF3DIO20802

On the front face of the metal enclosure:

1 One terminal block *(1)* for ⎓ 24 V supply.
2 Two terminal blocks *(1)* for connection of digital outputs, with output status LED (four LEDs per terminal block)
3 Five terminal blocks *(1)* for connection of digital inputs, with input status LED (four LEDs per terminal block).
4 Eight process status LEDs.
5 Two RJ45 (type 10BASE-T/100BASE-TX) integrated switched ports, for connection on Ethernet network and for configuring IP address.
6 One earth connection screw.
7 One “Reset” button (on the top).
8 **On the rear face:** One spring operated fixing device for mounting on 35 mm ⊥ rail.

Remote mixed I/O module XPSMF3AIO8401

On the front face of the metal enclosure:

1 One terminal block *(1)* for ⎓ 24 V supply.
2 Four terminal blocks *(1)* for connection of analogue inputs.
3 One terminal block *(1)* for connection of analogue outputs.
4 One metal plate for securing shielded analogue input/output connection cables (EMC).
5 Eight process status LEDs.
6 TwTwo RJ45 (type 10BASE-T/100BASE-TX) integrated switched ports, for connection on Ethernet network and for configuring IP address.
7 One earth connection screw.
8 One “Reset” button (on the top).
9 **On the rear face**: one spring operated fixing device for mounting on 35 mm ⊥ rail.

*(1) Removable screw terminals are provided with the safety remote mixed I/O modules **XPSMF3DIO/AIO**.*

Safety remote I/O modules
type XPSMF1/2/3
for Preventa safety PLCs XPSMF (compact and modular)

XPSMF3DIO8801

XPSMF3DIO16801

XPSMF3DIO20802

XPSMF3AIO8401

Products referenced ***XPSMF3●●●●●●*** *are marked* ***HIMatrix F3...***

References

Safety remote mixed I/O modules (⎓ 24 V supply)

For use with	Inputs		Outputs			Ports	Reference	Weight kg/ *lb*
	Digital	Analogue	Digital	Line control	Analogue			
Safety PLCs, modular XPSMF60 or compact XPSMF40 and XPSMF31/30/35	8	–	8 DO+ 2 DO-	2	–	Integrated 2 RJ45 switched Ethernet communications ports	**XPSMF3DIO8801**	1.000/ *2.205*
	16	–	8 x 2 or 16 x 1	2	–	Integrated 2 RJ45 switched Ethernet communications ports	**XPSMF3DIO16801**	1.300/ 2.866
	20	–	8 *(1)*	–	–	Integrated 2 RJ45 switched Ethernet communications ports	**XPSMF3DIO20802**	1.000/ *2.205*
	–	8	–	–	4	Integrated 2 RJ45 switched Ethernet communications ports	**XPSMF3AIO8401**	0.950/ *2.094*

(1) Configurable for line control.

Safety remote I/O modules
type XPSMF1/2/3
for Preventa safety PLCs XPSMF (compact and modular)
Product reference index

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