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

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Selection guide

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.

User memory

- Application
- Data
- Depending on size of application
- 8 KB
- 8 A
- 8 KB
- 14 A
- 8 KB
- 8 A

Response time

- Depending on size of application
- 8 KB
- 8 A
- 8 KB
- 14 A
- 8 KB
- 8 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
- 8, not electrically isolated

- Range: voltage/current
- 0…10 V/0…20 mA (1)

- Counting
- Number of channels
- 8 single-pole

Outputs

- Digital
- Number of channels
- 4, not electrically isolated

- Current at state 0
- < 2 mA at ≥ 15 V

- Analogue
- Number of channels
- 8 non safety related outputs

- Range: voltage/current
- 0…20 mA

- Relay
- Number
- 8

- Switching voltage
- 5 V

- 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

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<thead>
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<th>XPSMF1D1601</th>
<th>XPSMF2D0401</th>
<th>XPSMF2D01601</th>
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<tr>
<td>4</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

(1) 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)

**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)**

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<thead>
<tr>
<th>For use with</th>
<th>Digital inputs</th>
<th>Line control outputs</th>
<th>Ports</th>
<th>Reference</th>
<th>Weight kg/lb</th>
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<tbody>
<tr>
<td>Safety PLCs, modular XPSMF60 or compact XPSMF40 and XPSMF31/30/35</td>
<td>16</td>
<td>4</td>
<td>Integrated 2 RJ45 switched Ethernet communications ports</td>
<td>XPSMF1DI1601</td>
<td>0.700/1.543</td>
</tr>
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</table>
Presentation, description

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

**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.

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<th>Safety remote output modules XPSMF2DO</th>
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<tr>
<td>XPSMF2DO1601 : 16 digital outputs</td>
</tr>
<tr>
<td>XPSMF2DO801 : 8 relay outputs</td>
</tr>
<tr>
<td>XPSMF2DO1602 : 16 relay outputs</td>
</tr>
</tbody>
</table>

**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.

Products referenced

XPSMF2DO are marked HIMatrix F2 DO...
Description, references

Safety remote I/O modules

**type XPSMF1/2/3**

for Preventa safety PLCs XPSMF (compact and modular)

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**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.

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**References**

**Safety remote output modules (24 V supply)**

<table>
<thead>
<tr>
<th>For use with</th>
<th>Outputs</th>
<th>Ports</th>
<th>Reference</th>
<th>Weight kg/lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety PLCs, modular 4 XPSMF60 or compact XPSMF40 and XPSMF31/30/35</td>
<td>–</td>
<td>Integrated 2 RJ45 switched Ethernet communications ports</td>
<td>XPSMF2DO401</td>
<td>0.800/1.764</td>
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<tr>
<td></td>
<td>16</td>
<td>Integrated 2 RJ45 switched Ethernet communications ports</td>
<td>XPSMF2DO1601</td>
<td>0.850/1.874</td>
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<tr>
<td></td>
<td>–</td>
<td>8 Integrated 2 RJ45 switched Ethernet communications ports</td>
<td>XPSMF2DO801</td>
<td>1.300/2.866</td>
</tr>
<tr>
<td></td>
<td>–</td>
<td>16 Integrated 2 RJ45 switched Ethernet communications ports</td>
<td>XPSMF2DO1602</td>
<td>2.000/4.409</td>
</tr>
</tbody>
</table>
Safety remote I/O modules
type XPSMF1/2/3
for Preventa safety PLCs XPSMF (compact and modular)

Presentation

**Safety remote I/O modules** 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.

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<thead>
<tr>
<th>Safety remote mixed I/O modules XPSMF3DIO/AIO</th>
<th>Remote inputs</th>
<th>Remote outputs</th>
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<tr>
<td>Mixed I/O safety modules</td>
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<td>XPSMF3DIO8801</td>
<td>8</td>
<td>Digital</td>
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<td>XPSMF3DIO16801</td>
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<tr>
<td>XPSMF3DIO20802</td>
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<td>Digital</td>
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<tr>
<td>XPSMF3AIO8401</td>
<td>8</td>
<td>Analogue</td>
</tr>
</tbody>
</table>

Safety communication on Ethernet network

The safety remote mixed I/O modules XPSMF3DIO/AIO 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).

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

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

**Safety remote I/O modules**

*type XPSMF1/2/3*

for Preventa safety PLCs XPSMF (compact and modular)

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

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<tr>
<th>For use with</th>
<th>Inputs</th>
<th>Outputs</th>
<th>Ports</th>
<th>Reference</th>
<th>Weight kg/ lb</th>
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</thead>
<tbody>
<tr>
<td>Safety PLCs, modular 8</td>
<td>Digital</td>
<td>Analogue</td>
<td>Digital</td>
<td>Line control</td>
<td>XPSMF3DIO8801</td>
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<tr>
<td>XPSMF60 or compact XPSMF40 and XPSMF31/30/35</td>
<td>–</td>
<td>8 DO+</td>
<td>2</td>
<td>–</td>
<td>Integrated 2 RJ45 switched Ethernet communications ports</td>
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<tr>
<td></td>
<td></td>
<td>2 DO-</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Digital</td>
<td>Analogue</td>
<td>Digital</td>
<td>Line control</td>
<td>XPSMF3DIO16801</td>
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<tr>
<td></td>
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<td>8 x 2 or 16 x 1</td>
<td>2</td>
<td>–</td>
<td>Integrated 2 RJ45 switched Ethernet communications ports</td>
</tr>
<tr>
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</tr>
<tr>
<td></td>
<td>Digital</td>
<td>Analogue</td>
<td>Digital</td>
<td>Line control</td>
<td>XPSMF3DIO20802</td>
</tr>
<tr>
<td></td>
<td>–</td>
<td>8 (1)</td>
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<td>Integrated 2 RJ45 switched Ethernet communications ports</td>
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<td>Digital</td>
<td>Analogue</td>
<td>Digital</td>
<td>Line control</td>
<td>XPSMF3AIO8401</td>
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<tr>
<td></td>
<td>–</td>
<td>8</td>
<td>–</td>
<td>4</td>
<td>Integrated 2 RJ45 switched Ethernet communications ports</td>
</tr>
</tbody>
</table>

(1) Configurable for line control.

Products referenced XPSMF3******** are marked HIMatrix F3...
### Safety remote I/O modules

**type XPSMF1/2/3**

for Preventa safety PLCs XPSMF (compact and modular)

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<tr>
<td>XPSMF2DO801</td>
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<td></td>
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<tr>
<td>XPSMF2DO1601</td>
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<td>XPSMF2DO1602</td>
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<td>XPSMF3AIO8401</td>
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