

# Product datasheet

Specifications



## safety controller XPS-MC - 24 V DC - 16 input - 32 LEDs signalling

XPSMC16ZCPACK

⚠ Discontinued on: 3 Feb 2022

⚠ Discontinued

### Main

|                             |                                                                                                                                                                                                                                                                |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range of product            | Preventa Safety automation                                                                                                                                                                                                                                     |
| Product or component type   | Kit configurable safety controller                                                                                                                                                                                                                             |
| Safety module name          | XPSMC                                                                                                                                                                                                                                                          |
| Safety use category         | Category 4 maximum conforming to EN 954-1/EN/ISO 13849-1<br>PLE maximum conforming to ISO 13849-1<br>SIL 3 maximum conforming to IEC 61508                                                                                                                     |
| Type of start               | Configurable                                                                                                                                                                                                                                                   |
| Standards                   | IEC 61508<br>EN 954-1/EN/ISO 13849-1<br>IEC 61496-1<br>IEC 60204-1<br>EN 1760-1/ISO 13856-1<br>EN 574/ISO 13851<br>IEC 60947-5-1                                                                                                                               |
| Product certifications      | CSA<br>UL<br>TÜV                                                                                                                                                                                                                                               |
| [Us] rated supply voltage   | 24 V DC - 20...20 %                                                                                                                                                                                                                                            |
| Number of inputs            | 16                                                                                                                                                                                                                                                             |
| Communication port protocol | CANopen with 1 SUB-D 9-pin male port(s), serial link, transmission rate: 20 kbps, 50 kbps, 125 kbps, 250 kbps, 500 kbps, 800 kbps or 1 Mbps<br>Modbus with 1 RJ45 port(s), serial link, transmission rate: 1200 bps, 2400 bps, 4800 bps, 9600 bps or 19200 bps |
| Safety level                | Can reach PL e/category 4 conforming to EN 954-1/EN/ISO 13849-1<br>Can reach SIL 3 conforming to IEC 61508                                                                                                                                                     |

### Complementary

|                 |                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Kit composition | Set of cage clamp terminals<br>Configuration software<br>CANopen SUB-D female connector 180<br>Packaging small model for software configuration<br>Safety controller<br>Ethernet cable 2m<br>CANopen SUB-D female connector 90<br>USB/RS485 converter<br>VDE slot screwdriver 2.5 x 75 mm<br>Set of screw terminals<br>Connection cable<br>Printed packaging label 80 x 50 mm |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function of module                          | Dynamic monitoring of hydraulic valves on linear presses<br>Eccentric press<br>Emergency stop monitoring, with or without time delay, 1 or 2-channel wiring<br>Enabling switch monitoring, 2 or 3 contacts<br>Foot switch monitoring<br>Guard monitoring for injection presses and blowing machines<br>Guard monitoring with 1 or 2 limit switches<br>Hydraulic press<br>Magnetic switch monitoring category 4 conforming to EN/IEC 61496<br>Monitoring safety stop at top dead centre on eccentric press category 3 conforming to EN 574/ISO 13851<br>Muting function of light curtains<br>Position selector<br>Safety mat monitoring<br>Safety time delays<br>Shaft/chain breaking monitor<br>Zero speed detection<br>Light curtain monitoring category 4 conforming to IEC 61496<br>Two-hand control category 3 conforming to EN 574/ISO 13851 |
| Synchronisation time between inputs         | Depending on configuration selected                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Power consumption in W                      | 12 W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Input protection type                       | External fuse 16 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| [Uc] control circuit voltage                | 28.8 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Maximum line resistance                     | 100 Ohm <2000 m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Output type                                 | 2 relays, 2 NO contacts (4 NO total) circuit(s)<br>Solid state, 6 circuit(s), volt-free                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Breaking capacity                           | 180 VA holding AC-15 C300 relay output<br>1800 VA inrush AC-15 C300 relay output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Breaking capacity                           | 2 A at 24 V for static output circuit<br>1.5 A at 24 V (DC-13) time constant: 50 ms for relay output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Output thermal current                      | 4 A for both outputs simultaneously<br>6 A for 1 output and 2 A for the other for relay output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| [Ith] conventional free air thermal current | 16 A for relay output<br>6.5 A for static output circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Associated fuse rating                      | 16 A gL for power supply<br>4 A gL for relay output<br>6 A fast blow for relay output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Minimum output current                      | 10 mA for relay output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Minimum output voltage                      | 17 V for relay output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Response time                               | Configurable : 20 ms or 30 ms with software XPSMCWIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| [Ui] rated insulation voltage               | 300 V (pollution degree 2) conforming to IEC 60647-5-1, DIN VDE 0110 part 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| [Uimp] rated impulse withstand voltage      | 4 kV overvoltage category III conforming to IEC 60647-5-1, DIN VDE 0110 part 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Method of access                            | Slave                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Exchange size                               | 14 words                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Number of addresses                         | 1...127 for CANopen<br>1...247 for Modbus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Parity                                      | Even for Modbus<br>No for Modbus<br>Odd for Modbus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Data format                                 | 1 start bit/8 data bits<br>1 stop bit even or odd<br>2 stop bits without parity<br>RTU (Remote Terminal Unit) mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Supported modbus function                   | 01: 8-bit output data/32-bit input data<br>02: 32-bit input data/8-bit output data<br>03: information and errors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                  |                |
|------------------|----------------|
| Local signalling | 32 LEDs        |
| Mounting support | Mounting plate |
| Depth            | 153 mm         |
| Height           | 151.5 mm       |
| Width            | 74 mm          |
| Net weight       | 0.82 kg        |

## Environment

|                                       |                              |
|---------------------------------------|------------------------------|
| IP degree of protection               | IP20 conforming to IEC 60529 |
| Ambient air temperature for operation | -10...55 °C                  |
| Ambient air temperature for storage   | -25...85 °C                  |

## Packing Units

|                              |          |
|------------------------------|----------|
| Unit Type of Package 1       | PCE      |
| Number of Units in Package 1 | 1        |
| Package 1 Height             | 24.5 cm  |
| Package 1 Width              | 24.5 cm  |
| Package 1 Length             | 27.5 cm  |
| Package 1 Weight             | 2.481 kg |

## Contractual warranty

|                      |    |
|----------------------|----|
| Warranty (in months) | 18 |
|----------------------|----|



## Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)



### Environmental footprint

Environmental Disclosure

[Product Environmental Profile](#)

## Use Better



### Materials and Substances

EU RoHS Directive

[Compliant By Exemption](#)

PVC free

Yes

## Use Longer



### Lifetime extension

Repair

No

## Use Again



### Repack and remanufacture

End of life manual availability

[End of Life Information](#)

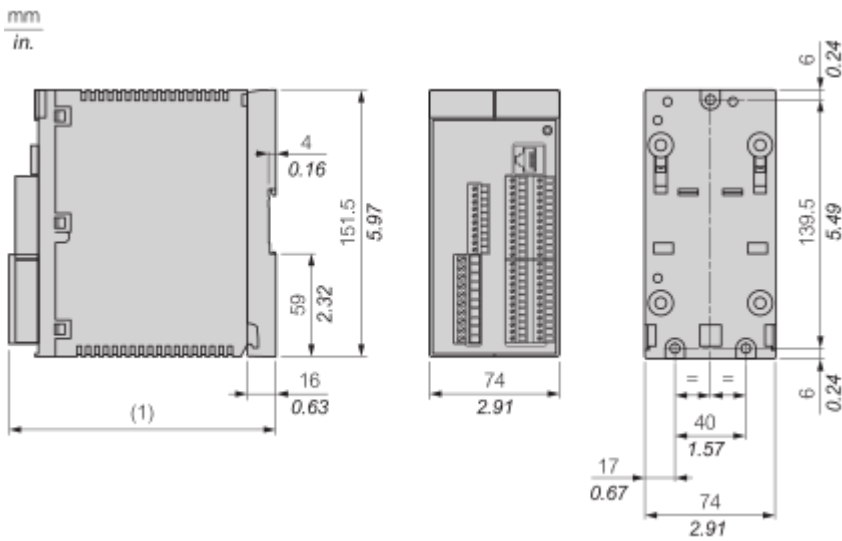
WEEE Label



The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

## Dimensions Drawings

## Dimensions



(1)

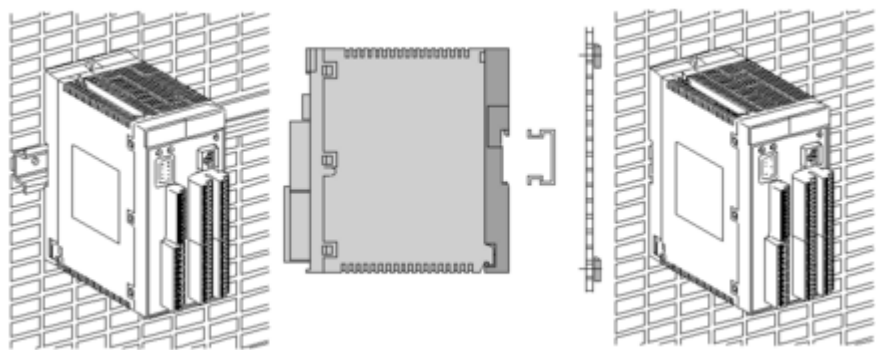
When using XPSMCTS® connectors, this dimension is 153 mm (6.02 in)

When using XPSMCTC• connectors, this dimension is 151.5 mm (5.96 in)

Mounting and Clearance

Installation

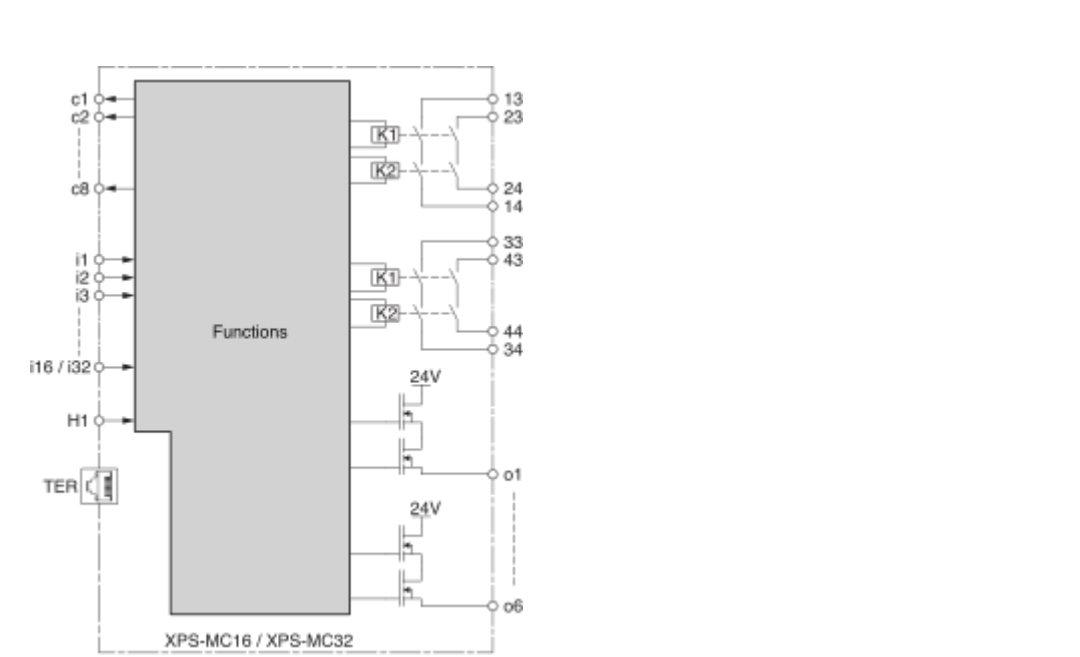
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Metal adaptor for fixing on metal: DIN rail 35 mm/1.38 in.

Connections and Schema

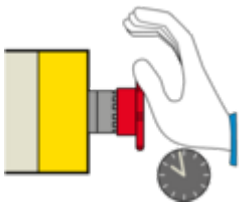
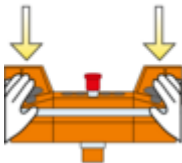
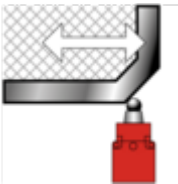
Function Diagram

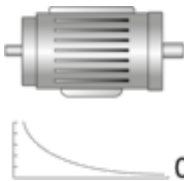
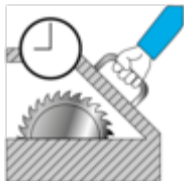


Note: Refer to the instruction sheet available in the documents section for a detailed connection diagram.

Technical Description

Safety Functions

|                                                                                     |                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <ul style="list-style-type: none"><li>Emergency stop monitoring with time delay:<ul style="list-style-type: none"><li>1 channel wiring, with automatic start.</li><li>2 channel wiring, with start button.</li></ul></li></ul>    |
|    | <ul style="list-style-type: none"><li>Emergency stop monitoring without time delay:<ul style="list-style-type: none"><li>1 channel wiring, with automatic start.</li><li>2 channel wiring, with start button.</li></ul></li></ul> |
|   | <ul style="list-style-type: none"><li>Two-hand control.</li></ul>                                                                                                                                                                 |
|  | <ul style="list-style-type: none"><li>Guard monitoring:<ul style="list-style-type: none"><li>with 1 limit switch.</li><li>with 2 limit switches.</li><li>with 2 limit switches, with guard locking.</li></ul></li></ul>           |
|  | <ul style="list-style-type: none"><li>Magnetic switch monitoring.</li></ul>                                                                                                                                                       |

|                                                                                     |                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <ul style="list-style-type: none"><li>• Sensing mat monitoring.</li></ul>                                                                                                                                                           |
|    | <ul style="list-style-type: none"><li>• Light curtains monitoring:<ul style="list-style-type: none"><li>◦ Relay output type.</li><li>◦ Solid-state output type.</li></ul></li><li>• “Muting” function for light curtains.</li></ul> |
|    | <ul style="list-style-type: none"><li>• Zero speed detection.</li></ul>                                                                                                                                                             |
|  | <ul style="list-style-type: none"><li>• Safety time delays.</li></ul>                                                                                                                                                               |
|  | <ul style="list-style-type: none"><li>• Enabling switching monitoring:<ul style="list-style-type: none"><li>◦ 2 contact type.</li><li>◦ 3 contact type.</li></ul></li></ul>                                                         |

Other functions:

- Foot switch monitoring
- Position selector