



### Main

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range of Product          | Modicon Safety automation                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Product or Component Type | Safety controller CPU                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Device short name         | XPSMCM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Electrical Connection     | Screw terminal                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| [Us] rated supply voltage | 24 V - 20...20 % DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Number of inputs          | 8 digital input connection<br>2 digital interlock start/restart or external device monitoring                                                                                                                                                                                                                                                                                                                                                                                           |
| Number of outputs         | 2 safety outputs OSSD contactor/drive connection<br>4 test line control outputs<br>2 configurable diagnostic connection                                                                                                                                                                                                                                                                                                                                                                 |
| Discrete input voltage    | 24 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Discrete output current   | 400 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Discrete input current    | 400 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Discrete input type       | Safety input<br>PNP                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Discrete output type      | PNP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Function of module        | Emergency stop EN/ISO 13850<br>Guard monitoring EN/ISO 14119<br>Enabling switch monitoring EN/IEC 60947-5-1<br>Light curtain monitoring EN/IEC 61496-1<br>Foot switch monitoring EN/IEC 60947-5-1<br>Magnetic switch monitoring EN/ISO 14119<br>Two-hand control EN 574<br>Safety mat monitoring EN/ISO 14119<br>Enabling switch monitoring EN 61326-1<br>Muting function of light curtains EN/IEC 60947-5-1<br>Counter functions EN/IEC 61800-5-2<br>Speed monitoring EN/IEC 61800-5-2 |

### Complementary

|                                        |                                                                                                                      |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Synchronisation time between inputs    | < 0.5 ms                                                                                                             |
| Power dissipation in W                 | 3 W                                                                                                                  |
| Maximum number of I/O expansion module | 14 128 input<br>14 16 output                                                                                         |
| Integrated connection type             | Backplane expansion bus<br>USB 2.0 port                                                                              |
| Data storage equipment                 | SD card optional)                                                                                                    |
| Inductive load                         | 30 mH                                                                                                                |
| Load capacitance                       | 0.82 µF                                                                                                              |
| Safety level                           | Can reach category 4 EN/ISO 13849-1<br>Can reach PL = e EN/ISO 13849-1<br>Type 4 EN/IEC 61496-1<br>SILCL 3 IEC 62061 |
| Quality labels                         | CE                                                                                                                   |

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Local signalling        | 1 LED green PWR power ON<br>1 LED green RUN RUN (status)<br>1 LED red E IN internal error<br>1 LED red E EX external error<br>1 LED orange COM communication<br>1 LED blue EN master enable<br>8 LEDs yellow IN input status<br>2 LEDs green/red OUT output status<br>2 LEDs yellow RST restart signal<br>2 LEDs yellow STATUS output channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Connections - terminals | 2 captive screw terminals, removable terminal block<br>1 captive screw terminals, removable terminal block                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Cable cross section     | 0.00...0.00 In <sup>2</sup> (0.2...1.5 mm <sup>2</sup> ) - AWG 24...AWG 16 flexible without cable end<br>0.00...0.00 In <sup>2</sup> (0.2...2.5 mm <sup>2</sup> ) - AWG 24...AWG 14 flexible without cable end<br>0.00...0.00 In <sup>2</sup> (0.25...1 mm <sup>2</sup> ) - AWG 23...AWG 18 flexible with cable end, without bezel<br>0.00...0.00 In <sup>2</sup> (0.25...2.5 mm <sup>2</sup> ) - AWG 23...AWG 14 flexible with cable end, with bezel<br>0.00...0.00 In <sup>2</sup> (0.25...1.5 mm <sup>2</sup> ) - AWG 23...AWG 16 flexible with cable end, without bezel<br>0.00...0.00 In <sup>2</sup> (0.5...1.5 mm <sup>2</sup> ) - AWG 20...AWG 16 flexible with cable end, with double bezel<br>0.00...0.00 In <sup>2</sup> (0.2...1 mm <sup>2</sup> ) - AWG 24...AWG 18 solid without cable end<br>0.00...0.00 in <sup>2</sup> (0.2...2.5 mm <sup>2</sup> ) - AWG 24...AWG 14 solid without cable end |
| Mounting support        | Omega 35 mm DIN rail EN 50022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Depth                   | 4.51 in (114.5 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Height                  | 3.90 in (99 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Width                   | 0.89 in (22.5 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Net Weight              | 0.55 lb(US) (0.25 kg)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Environment

|                                        |                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                              | EN/IEC 61508<br>EN/ISO 13849-1<br>EN/IEC 61496-1<br>EN/IEC 61800-5-1<br>IEC 62061                                                                                                                                                                                                                                       |
| Product Certifications                 | CULus<br>RCM<br>TÜV                                                                                                                                                                                                                                                                                                     |
| IP degree of protection                | IP20                                                                                                                                                                                                                                                                                                                    |
| Ambient air temperature for operation  | 14...131 °F (-10...55 °C)                                                                                                                                                                                                                                                                                               |
| Ambient Air Temperature for Storage    | -4...185 °F (-20...85 °C)                                                                                                                                                                                                                                                                                               |
| Relative humidity                      | 10...95 %                                                                                                                                                                                                                                                                                                               |
| Pollution degree                       | 2                                                                                                                                                                                                                                                                                                                       |
| [Uimp] rated impulse withstand voltage | 4 kV EN/IEC 61800-5-1                                                                                                                                                                                                                                                                                                   |
| Safety reliability data                | PFHd = 6.06E-9 1/h<br>DC > 99 %<br>MTTFd < 100 years high                                                                                                                                                                                                                                                               |
| Insulation                             | 250 V AC between power supply and housing EN/IEC 61800-5-1                                                                                                                                                                                                                                                              |
| Overvoltage category                   | II                                                                                                                                                                                                                                                                                                                      |
| Electromagnetic compatibility          | Electrostatic discharge immunity test 6 kV on contact) EN/IEC 61000-4-2<br>Electrostatic discharge immunity test 20 kV on air) EN/IEC 61000-4-2<br>Susceptibility to electromagnetic fields 10 V/m 80...1000 MHz) EN/IEC 61000-4-3<br>Susceptibility to electromagnetic fields 30 V/m 1.4 GHz...2 GHz) EN/IEC 61000-4-3 |
| Vibration resistance                   | +/-0.35 mm 10...55 Hz)EN/IEC 61496-1                                                                                                                                                                                                                                                                                    |
| Shock resistance                       | 10 gn 16 ms) 1000 shocks on each axis EN/IEC 61496-1                                                                                                                                                                                                                                                                    |
| Service Life                           | 20 year(s)                                                                                                                                                                                                                                                                                                              |

## Ordering and shipping details

|                       |                                   |
|-----------------------|-----------------------------------|
| Category              | 22477 - SAFETY MODULES (PREVENTA) |
| Discount Schedule     | SAF2                              |
| GTIN                  | 3606480748561                     |
| Nbr. of units in pkg. | 1                                 |
| Package weight(Lbs)   | 8.61 oz (244 g)                   |

|                   |     |
|-------------------|-----|
| Returnability     | Yes |
| Country of origin | IT  |

## Packing Units

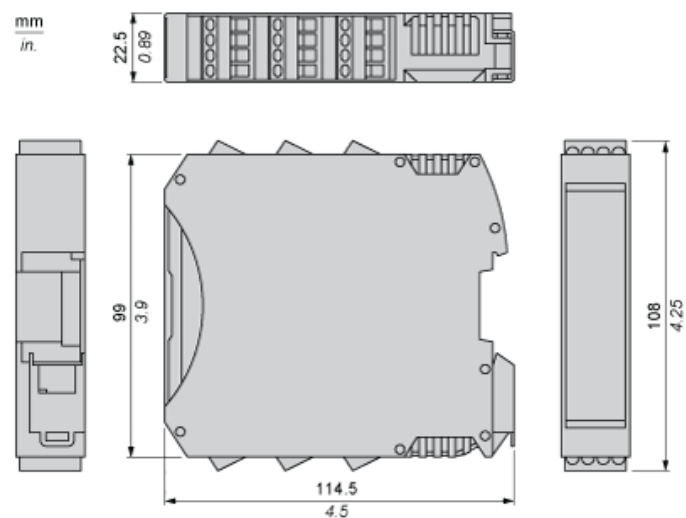
|                              |                         |
|------------------------------|-------------------------|
| Unit Type of Package 1       | PCE                     |
| Package 1 Height             | 1.77 in (4.5 cm)        |
| Package 1 width              | 4.92 in (12.5 cm)       |
| Package 1 Length             | 6.50 in (16.5 cm)       |
| Unit Type of Package 2       | S03                     |
| Number of Units in Package 2 | 26                      |
| Package 2 Weight             | 15.30 lb(US) (6.938 kg) |
| Package 2 Height             | 11.81 in (30 cm)        |
| Package 2 width              | 11.81 in (30 cm)        |
| Package 2 Length             | 15.75 in (40 cm)        |

## Offer Sustainability

|                            |                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                                                                                                                                                                                       |
| 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 cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                                                                                                                                                                                           |
| REACH free of SVHC         | Yes                                                                                                                                                                                                                                                                                         |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>                                                                                                                                                                                              |
| Mercury free               | Yes                                                                                                                                                                                                                                                                                         |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                                                                                                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>                                                                                                                                                                                                                                                      |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                                                                                                                                                                                               |
| Circularity Profile        | <a href="#">End Of Life Information</a>                                                                                                                                                                                                                                                     |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.                                                                                                                                                                |
| PVC free                   | Yes                                                                                                                                                                                                                                                                                         |

## Dimensions

### Screw Terminal

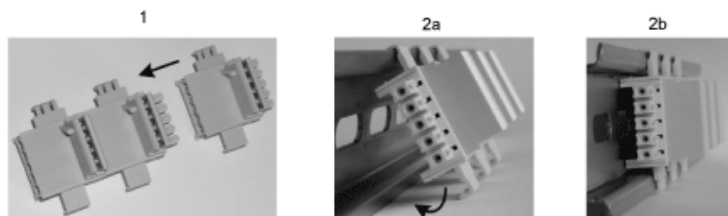


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## Mounting Safety Controller CPU with Module(s)

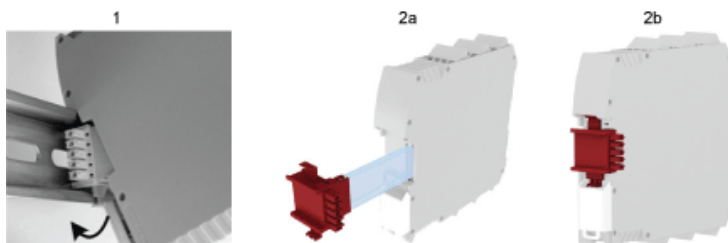
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### Mount BackPlane Connector on Rail



- 1 : Connect as much Backplane Connector as module to be install.
- 2 : Fix the connectors to the rail (Top first).

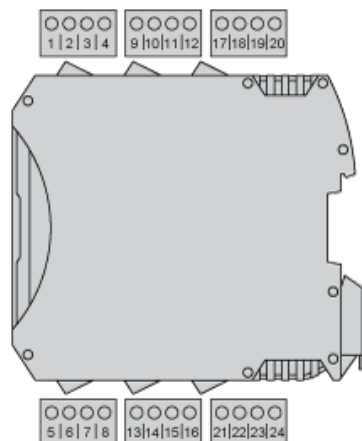
### Mount Safety Controller CPU with Other Module(s)



- 1 : Mount controller CPU and modules on rail.
- 2 : Make sure that the controller CPU or the module(s) are plugged on the BackPlane connector.

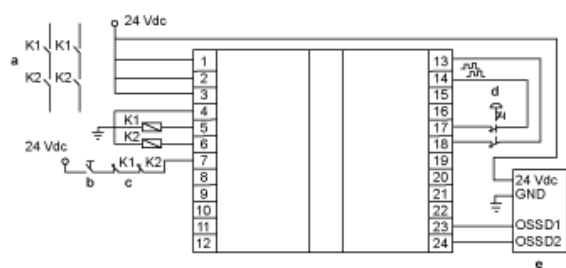
## Wiring

### Terminal Designation



| Terminal | Signal         | Description                   |
|----------|----------------|-------------------------------|
| 1        | 24 VDC         | 24 Vdc power supply           |
| 2        | MASTER_ENABLE1 | Master enable 1               |
| 3        | MASTER_ENABLE2 | Master enable 2               |
| 4        | 0 VDC          | 0 Vdc power supply            |
| 5        | OSSD1_A        | Static output 1               |
| 6        | OSSD1_B        |                               |
| 7        | RESTART1       | Feedback/Restart 1            |
| 8        | OUT_STATUS 1   | Programmable digital output   |
| 9        | OSSD2_A        | Static output 2               |
| 10       | OSSD2_B        |                               |
| 11       | RESTART2       | Feedback/Restart 2            |
| 12       | OUT_STATUS 2   | Programmable digital output   |
| 13       | OUT_TEST1      | Short circuit detected output |
| 14       | OUT_TEST2      |                               |
| 15       | OUT_TEST3      |                               |
| 16       | OUT_TEST4      |                               |
| 17       | INPUT1         | Digital input 1               |
| 18       | INPUT2         | Digital input 2               |
| 19       | INPUT3         | Digital input 3               |
| 20       | INPUT4         | Digital input 4               |
| 21       | INPUT5         | Digital input 5               |
| 22       | INPUT6         | Digital input 6               |
| 23       | INPUT7         | Digital input 7               |
| 24       | INPUT8         | Digital input 8               |

## Wiring Example



- a : Contactors
- b : Restart
- c : Feedback
- d : Emergency stop
- e : Light curtain

# Mouser Electronics

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