



## Main

|                           |                            |
|---------------------------|----------------------------|
| Range of product          | Modicon TM5                |
| Product or component type | Safety discrete I/O module |
| Discrete input number     | 2                          |
| Discrete input voltage    | 24 V                       |
| Discrete output number    | 2                          |
| Discrete output type      | Relay                      |

## Complementary

|                                |  |
|--------------------------------|--|
| Range compatibility            | PacDrive LMC motion controller   |
| Product compatibility          | PacDrive LMC Pro<br>PacDrive LMC Pro 2<br>PacDrive LMC Eco   |
| Discrete input voltage type    | DC   |
| Input voltage limits           | 20.4...28.8 V  |
| Discrete input logic           | Sink   |
| Discrete input current         | 3.3 mA   |
| Input impedance                | 7.3 kOhm   |
| Output voltage                 | 24 V DC  |
| Output voltage limits          | 20.4...28.8 V  |
| Discrete output logic          | Source   |
| Colour                         | Red  |
| Voltage state 0 guaranteed     | $\leq 5$ V   |
| Voltage state 1 guaranteed     | $\geq 15$ V  |
| Input filtering                | $\leq 500$ ms configurable by software<br>$\leq 150$ ms hardware   |
| Protection type                | Short-circuit protection<br>Overload protection  |
| Isolation                      | No insulation between channels<br>500 Vrms AC insulation between channel and bus   |
| Maximum power consumption in W | 1.15 W for internal<br>0.26 W for bus  |
| Local signalling               | 1 LED green for power supply<br>1 LED red for power supply<br>2 LEDs green/red for input status<br>2 LEDs red for safety status<br>2 LEDs red/orange for output status |
| Electrical connection          | 2 wires  |
| Marking                        | CE   |
| Safety level                   | SIL 3 conforming to IEC 61508<br>SIL 3 conforming to IEC 62061<br>PL = e conforming to EN 13849-1  |
| Safety reliability data        | MTTFd > 100 years<br>PFD < 1E-5<br>PFH < 1E-9  |
| Product weight                 | 0.025 kg   |




## Environment

|                                       |   |
|---------------------------------------|---|
| Standards                             | CSA C22.2 No 142<br>IEC 62061<br>IEC 61131-2<br>IEC 61508<br>UL 508<br>EN 13849-1   |
| Product certifications                | CSA<br>CULus<br>GOST-R  |
| Ambient air temperature for operation | -10...50 °C (vertical installation)<br>-10...55 °C (horizontal installation)  |
| Ambient air temperature for storage   | -40...70 °C   |
| Relative humidity                     | 5...95 % without condensation   |
| IP degree of protection               | IP20 conforming to EN 60529   |
| Pollution degree                      | 2 conforming to IEC 60664   |
| Operating altitude                    | 0...2000 m  |
| Storage altitude                      | 0...3000 m  |
| Vibration resistance                  | 1 gn at 8.4...150 Hz on DIN rail<br>3.5 mm at 5...8.4 Hz on DIN rail  |
| Shock resistance                      | 15 gn for 11 ms   |
| Electromagnetic compatibility         | Electrostatic discharge immunity test, 4 kV on contact conforming to EN/IEC 61000-4-2<br>Electrostatic discharge immunity test, 8 kV in air conforming to EN/IEC 61000-4-2<br>Susceptibility to electromagnetic fields, 10 V/m 80...2000 MHz conforming to EN/IEC 61000-4-3<br>Electrical fast transient/burst immunity test, 1 kV I/O conforming to EN/IEC 61000-4-4<br>Electrical fast transient/burst immunity test, 1 kV shielded cable conforming to EN/IEC 61000-4-4<br>Electrical fast transient/burst immunity test, 2 kV power lines conforming to EN/IEC 61000-4-4<br>1.2/50 µs shock waves immunity test, 0.5 kV differential mode conforming to EN/IEC 61000-4-5<br>1.2/50 µs shock waves immunity test, 1 kV common mode conforming to EN/IEC 61000-4-5<br>Conducted RF disturbances conforming to EN/IEC 61000-4-6<br>Conducted and radiated emissions conforming to CISPR 11 |

## Packing Units

|                              |           |
|------------------------------|-----------|
| Unit Type of Package 1       | PCE       |
| Number of Units in Package 1 | 1         |
| Package 1 Height             | 3.200 cm  |
| Package 1 Width              | 6.000 cm  |
| Package 1 Length             | 10.800 cm |
| Package 1 Weight             | 102.000 g |
| Unit Type of Package 2       | S02       |
| Number of Units in Package 2 | 50        |
| Package 2 Height             | 15.000 cm |
| Package 2 Width              | 30.000 cm |
| Package 2 Length             | 40.000 cm |
| Package 2 Weight             | 5.395 kg  |

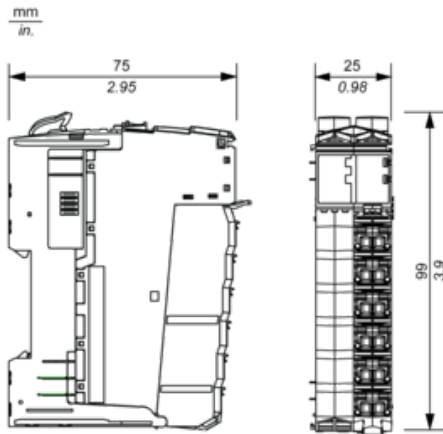
## Offer Sustainability

|                          |  |
|--------------------------|--|
| Sustainable offer status | Green Premium product  |
| REACH Regulation         |  <a href="#">REACH Declaration</a>  |
| EU RoHS Directive        | Pro-active compliance (Product out of EU RoHS legal scope)  <a href="#">EU RoHS Declaration</a> |
| Toxic heavy metal free   | Yes  |
| Mercury free             | Yes  |
| China RoHS Regulation    |  <a href="#">China RoHS Declaration</a>   |

|                            |   |
|----------------------------|---|
| RoHS exemption information | <a href="#">Yes</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   |

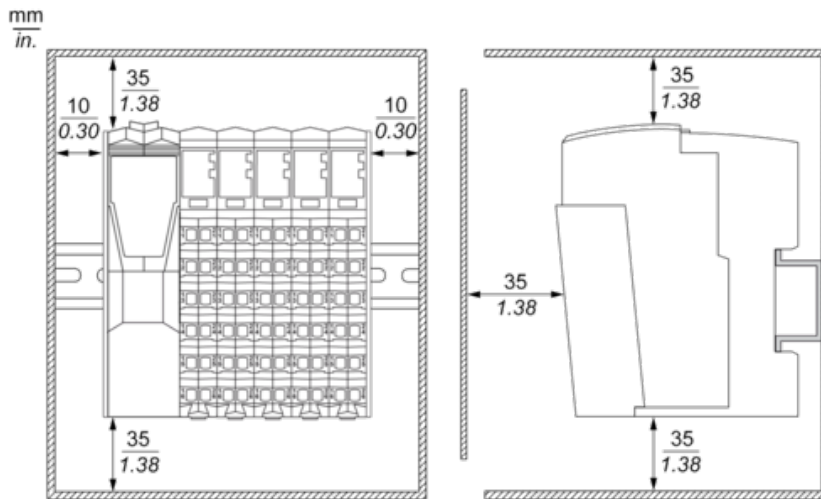
TM5 Slice

Dimensions

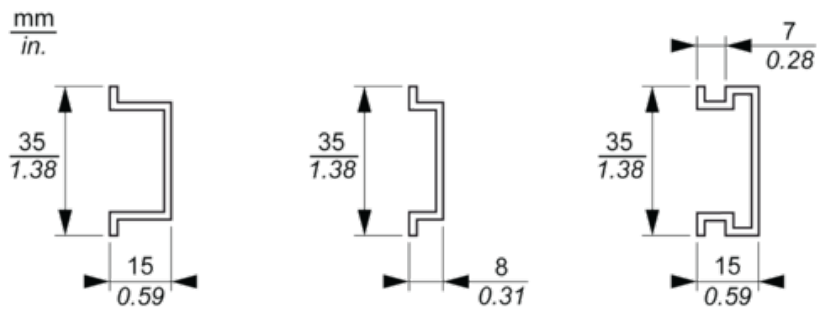


TM5 Safety System

Spacing Requirements



Mounting on a DIN Rail



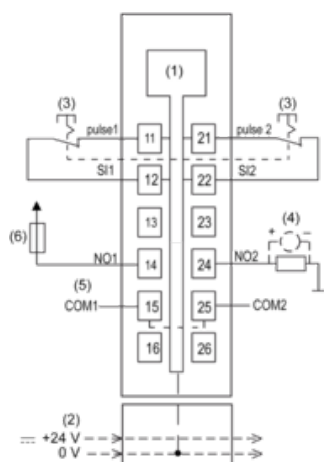
TM5 System Wiring Recommendations

Wire Sizes to Use with the Removable Spring Terminal Blocks

| $\frac{\text{mm}}{\text{in.}}$<br>9<br>0.35 |            |            |            |                     |
|---|------------|------------|------------|---------------------|
| mm <sup>2</sup>                             | 0,08...2,5 | 0,25...2,5 | 0,25...1,5 | 2 x 0,25...2 x 0,75 |
| AWG   | 28...14    | 24...14    | 24...16    | 2 x 24...2 x 18     |

Electronic Module 2DI/2DO Tr 2 Wires

Wiring Diagram



- (1) Internal electronics
- (2) 24 Vdc I/O power segment integrated into the bus bases
- (3) 2-wire sensor
- (4) relay outputs: NO1, COM1 and NO2, COM2; switching voltage range, 5 ... 24 Vdc, 5 ... 48 Vac switching current range, 5 mA ... 6 A
- (5) external bridge, COM1 - COM2
- (6) external fuse, type gL/gG, 6 A