

## Main

|                           |                             |
|---------------------------|-----------------------------|
| Range of Product          | Modicon TM5                 |
| Product or Component Type | Compact I/O expansion block |

## Complementary

|                                  |  |
|----------------------------------|--|
| Enclosure Material               | Plastic  |
| Color                            | White  |
| Input/output number              | 20   |
| For enclosure nominal dimensions | 12 I + 8 O   |
| Number of modules                | Digital input 3 x 4<br>Digital output 2 x 4  |
| Discrete input number            | 12   |
| Discrete input voltage           | 24 V   |
| Discrete input voltage type      | DC   |
| Input voltage limits             | 20.4...28.8 V  |
| Discrete input logic             | Sink   |
| Discrete input current           | 3.75 mA  |
| Input impedance                  | 6.4 kOhm   |
| Analogue input number            | 0  |
| Discrete output number           | 8  |
| Discrete output type             | Transistor   |
| Wiring mode                      | 3-wire discrete input<br>3-wire discrete output                                      |
| Output voltage                   | 24 V DC  |
| Output voltage limits            | 20.4...28.8 V DC   |
| Discrete output logic            | Source   |
| Discrete output current          | 0.5 A per output   |
| Peak output current              | 4 A  |
| Voltage state 0 guaranteed       | <= 5 V   |
| Voltage state 1 guaranteed       | >= 15 V  |
| Input filtering                  | <= 100 ms hardware<br><= 25 ms configurable by software                              |
| Response time                    | <= 300 µs from state 0 to state 1 output<br><= 300 µs from state 1 to state 0 output |
| Maximum leakage current          | 5 µA when switched off) output   |
| Isolation                        | 500 Vrms AC insulation between channel and bus<br>No insulation between channels     |
| Maximum voltage drop             | <0.3 V at 500 mA output  |
| Current consumption              | 68 mA 5 V DC bus<br>80 mA 24 V DC input/output                                       |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. 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. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

|                                |   |
|--------------------------------|---|
| Max current                    | 1000 mA sensor supply<br>1500 mA actuator supply<br>4000 mA loads on I/O power segment  |
| Maximum power dissipation in W | 2.36 W  |
| Local signalling               | For power supply 5 LEDs (green)<br>For power supply 5 LEDs (red)<br>For input status 12 LEDs (green)<br>For output status 8 LEDs (yellow) |
| Sensor power supply            | 24 V, 500 mA for all channels overload, short-circuit and reverse polarity protection   |
| Electrical Connection          | Removable spring terminal block   |
| Marking                        | CE  |
| Surge withstand                | 0.5 kV differential mode 24 V DC EN/IEC 61000-4-5<br>1 kV common mode 24 V DC EN/IEC 61000-4-5  |
| Electromagnetic compatibility  | EN/IEC 61000-4-6  |
| Disturbance radiated/conducted | CISPR 11  |

## Environment

|                                       |   |
|---------------------------------------|---|
| Standards                             | IEC 61131-2<br>UL 508<br>CSA C22.2 No 213<br>CSA C22.2 No 142   |
| Product Certifications                | C-tick<br>GOST-R<br>CSA<br>cULus  |
| Ambient air temperature for operation | 14...122 °F (-10...50 °C) vertical installation)<br>14...140 °F (-10...60 °C) horizontal installation)    |
| Ambient Air Temperature for Storage   | -40...158 °F (-40...70 °C)  |
| Relative Humidity                     | 5...95 % without condensation   |
| IP degree of protection               | IP20/IEC 61131-2  |
| Pollution degree                      | 2 IEC 60664   |
| Operating altitude                    | 0...6561.68 ft (0...2000 m)   |
| Storage altitude                      | 0.00...9842.52 ft (0...3000 m)  |
| Vibration resistance                  | 1 gn 8.4...150 Hz DIN rail<br>3.5 mm 5...8.4 Hz DIN rail  |
| Shock resistance                      | 15 gn 11 ms   |
| Resistance to electrostatic discharge | 4 kV on contact EN/IEC 61000-4-2<br>8 kV in air EN/IEC 61000-4-2  |
| Resistance to electromagnetic fields  | 0.91 V/m (1 V/m) 2...2.7 GHz EN/IEC 61000-4-3<br>9.14 V/m (10 V/m) 80...2000 MHz EN/IEC 61000-4-3         |
| Resistance to fast transients         | 1 kV EN/IEC 61000-4-4 I/O)<br>1 kV EN/IEC 61000-4-4 shielded cable)<br>2 kV EN/IEC 61000-4-4 power lines) |
| Mounting Support                      | DIN rail  |
| Net Weight                            | 0.53 lb(US) (0.24 kg)   |

## Ordering and shipping details

|                       |                  |
|-----------------------|------------------|
| Category              | 22532 - M258 PLC |
| Discount Schedule     | PC12             |
| GTIN                  | 3595864074368    |
| Nbr. of units in pkg. | 1                |
| Package weight(Lbs)   | 9.63 oz (273 g)  |
| Returnability         | No               |
| Country of origin     | AT               |

## Packing Units

|                              |                        |
|------------------------------|------------------------|
| Unit Type of Package 1       | PCE                    |
| Package 1 Height             | 2.76 in (7 cm)         |
| Package 1 width              | 3.58 in (9.1 cm)       |
| Package 1 Length             | 4.33 in (11 cm)        |
| Unit Type of Package 2       | S03                    |
| Number of Units in Package 2 | 36                     |
| Package 2 Weight             | 22.49 lb(US) (10.2 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)       |

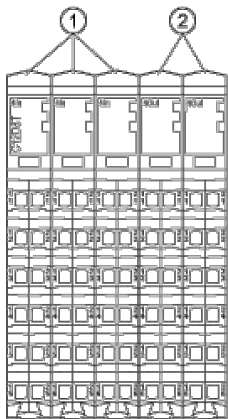
## Offer Sustainability

|                            |   |
|----------------------------|---|
| 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>  |
| Toxic heavy metal free     | Yes   |
| 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   |

## Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

TM5 Compact I/O Module



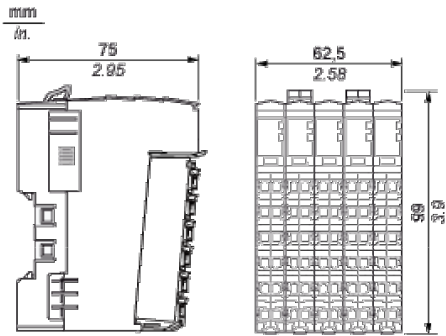
| N° | Designation                                  |
|----|--|
| 1  | Input electronic module / 4 digital inputs   |
| 2  | Output electronic module / 4 digital outputs |

---

Compact I/O Module

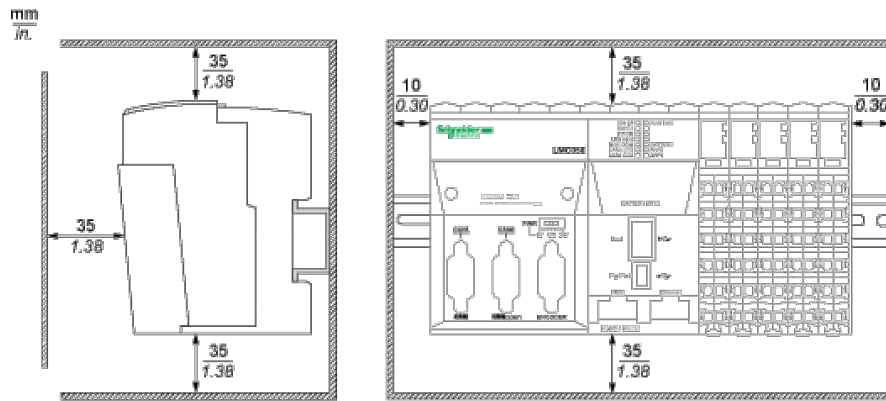
---

Dimensions

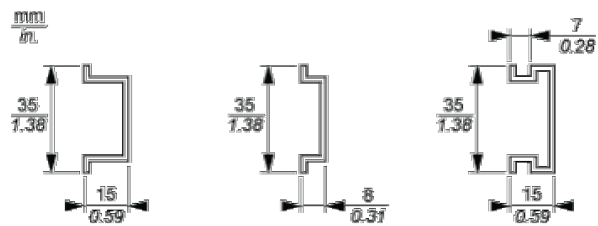


## TM5 System

### Spacing Requirements





### Mounting on a DIN Rail



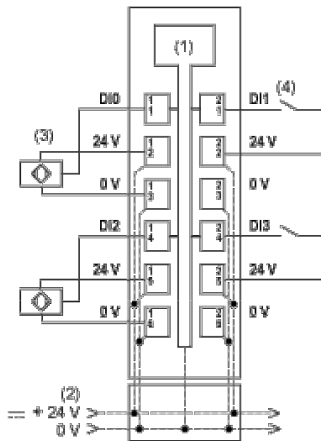
TM5 System Wiring Recommendations

Wire Sizes to Use with the Removable Spring Terminal Blocks

| $\frac{\text{mm}}{\text{in.}}$<br> |  |  |  |  |
|---|---|---|---|---|
| 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   |

Digital Input 4In

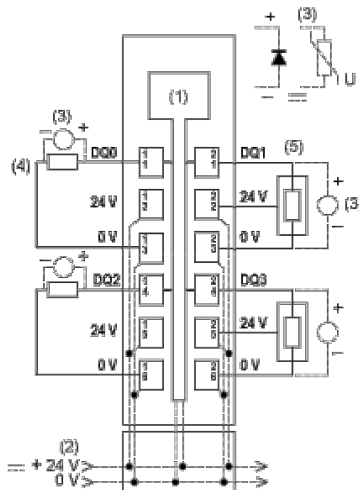
Wiring Diagram



- 1 Internal electronics
- 2 24 Vdc I/O power segment integrated into the bus bases
- 3 3-wire sensor
- 4 2-wire sensor

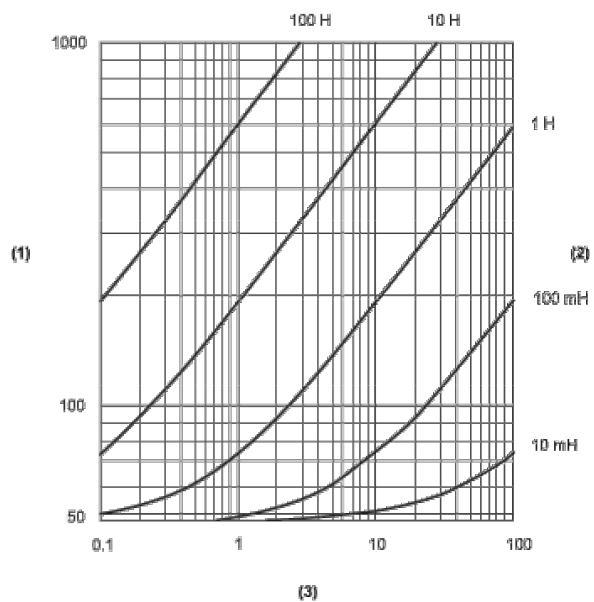
Digital Output 4Out

Wiring Diagram



- 1 Internal electronics
- 2 24 Vdc I/O power segment integrated into the bus bases
- 3 Inductive load protection
- 4 2-wire load
- 5 3-wire load

Switching Inductive Load Characteristics



- (1) Load resistance in  $\Omega$
- (2) Load inductance in H
- (3) Max. operating cycles / second