# Product data sheet
## Characteristics

# TM7BDM8B
## Discrete I/O expansion block, Modicon TM7, IP67, 8 DI/DO, 24 V DC, 0.5 A, M8 connector



## Main

| | |
|---|---|
| Range of Product | Modicon TM7 |
| Product or Component Type | Discrete I/O expansion block |
| Range Compatibility | Modicon M258<br>Modicon LMC058 |
| Enclosure Material | Plastic |
| Bus type | TM7 bus |
| [Ue] rated operational voltage | 24 V DC |
| Input/output number | 8 |
| Input/output number of block | 8 I/O |

## Complementary

| | |
|---|---|
| Discrete input number | 0…8 configurable by software |
| Discrete input voltage | 24 V |
| Discrete input voltage type | DC |
| Discrete input current | 4.4 mA |
| Discrete input logic | Positive |
| Discrete output number | 0…8 <= 0.5 A transistor configurable by software) |
| Discrete output voltage | 24 V |
| Discrete output voltage type | DC |
| Sensor power supply | 24 V, 500 mA for all channels overload, short-circuit and reverse polarity protection |
| Electrical connection | 1 male connector M12 - B coding - 4 ways bus IN<br>1 female connector M12 - B coding - 4 ways bus OUT<br>1 male connector M8 - 4 ways power IN<br>1 female connector M8 - 4 ways power OUT<br>8 female connectors M8 - 3 ways sensor or actuator |
| Local signalling | For bus diagnostic 2 LEDs<br>For sensor power supply diagnostics 2 LEDs |
| Operating position | Any position |
| Fixing Mode | By 2 screws |
| Net Weight | 0.42 lb(US) (0.19 kg) |

## Environment

| | |
|---|---|
| Standards | IEC 61131-2 |
| Product Certifications | CURus<br>ATEX II 3g EEx nA II T5<br>GOST-R<br>C-tick |
| Marking | CE |
| Ambient air temperature for operation | 14…140 °F (-10…60 °C) |
| Ambient Air Temperature for Storage | -13…185 °F (-25…85 °C) |
| Relative humidity | 5…95 % without condensation or dripping water |
| Pollution degree | 2 IEC 60664 |
| IP degree of protection | IP67 conforming to IEC 61131-2 |
| Operating altitude | 0...6561.68 ft (0...2000 m) |
| Storage altitude | 0.00…9842.52 ft (0…3000 m) |

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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.
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| | |
|---|---|
| Vibration resistance | 7.5 mm constant amplitude 2…8 Hz)IEC 60721-3-5 Class 5M3<br>2 gn constant acceleration 8…200 Hz)IEC 60721-3-5 Class 5M3<br>4 gn constant acceleration 200…500 Hz)IEC 60721-3-5 Class 5M3 |
| Shock resistance | 30 gn 11 ms IEC 60721-3-5 Class 5M3 |
| Electromagnetic compatibility | Electrostatic discharge immunity test, 4 kV on contact EN/IEC 61000-4-2<br>Electrostatic discharge immunity test, 8 kV in air EN/IEC 61000-4-2<br>Susceptibility to electromagnetic fields, 1 V/m 2...2.7 GHz EN/IEC 61000-4-3<br>Susceptibility to electromagnetic fields, 10 V/m 80...2000 MHz EN/IEC 61000-4-3<br>Electrical fast transient/burst immunity test, 2 kV power supply EN/IEC 61000-4-4<br>Electrical fast transient/burst immunity test, 1 kV input/output EN/IEC 61000-4-4<br>Electrical fast transient/burst immunity test, 1 kV shielded cable EN/IEC 61000-4-4<br>1.2/50 µs shock waves immunity test, 0.5 kV power supply (common mode) EN/IEC 61000-4-5<br>1.2/50 µs shock waves immunity test, 1 kV power supply (differential mode) EN/IEC 61000-4-5<br>1.2/50 µs shock waves immunity test, 0.5 kV unshielded links (common mode) EN/IEC 61000-4-5<br>1.2/50 µs shock waves immunity test, 1 kV unshielded links (differential mode) EN/IEC 61000-4-5<br>1.2/50 µs shock waves immunity test, 0.5 kV shielded links (common mode) EN/IEC 61000-4-5<br>1.2/50 µs shock waves immunity test, 1 kV shielded links (differential mode) EN/IEC 61000-4-5<br>Conducted RF disturbances EN/IEC 61000-4-6<br>Conducted and radiated emissions CISPR 11 |

## Ordering and shipping details

| | |
|---|---|
| Category | 22532 - M258 PLC |
| Discount Schedule | PC12 |
| GTIN | 3595864093079 |
| Nbr. of units in pkg. | 1 |
| Package weight(Lbs) | 7.23 oz (205 g) |
| Returnability | No |
| Country of origin | AT |

## Packing Units

| | |
|---|---|
| Unit Type of Package 1 | PCE |
| Package 1 Height | 1.97 in (5 cm) |
| Package 1 width | 2.36 in (6 cm) |
| Package 1 Length | 4.17 in (10.6 cm) |
| Unit Type of Package 2 | S02 |
| Number of Units in Package 2 | 35 |
| Package 2 Weight | 16.53 lb(US) (7.5 kg) |
| Package 2 Height | 5.91 in (15 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 www.P65Warnings.ca.gov |
| REACh Regulation | REACh Declaration |
| REACh free of SVHC | Yes |
| EU RoHS Directive | Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration |
| Toxic heavy metal free | Yes |
| Mercury free | Yes |
| RoHS exemption information | Yes |
| China RoHS Regulation | China RoHS Declaration |

| | |
|---|---|
| Environmental Disclosure | Product Environmental Profile |
| Circularity Profile | End Of Life Information |
| WEEE | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins. |
| PVC free | Yes |

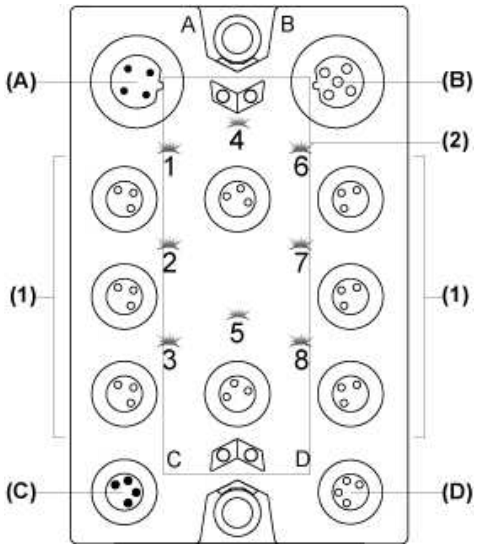
## Contractual warranty

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

# TM7BDM8B

## Digital Mixed Block

### Description



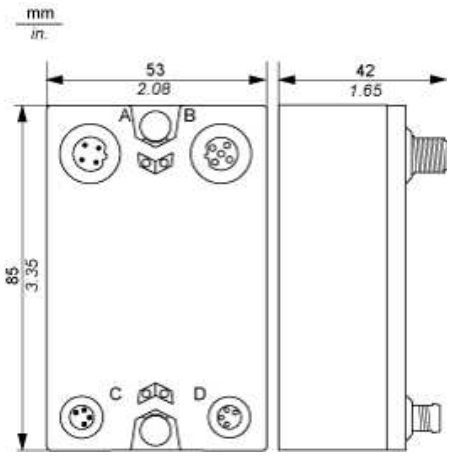

(A) TM7 bus IN connector
(B) TM7 bus OUT connector
(C) 24 Vdc power IN connector
(D) 24 Vdc power OUT connector
(1) Input / Output connectors
(2) Status LEDs

### Connector and Channel Assignments

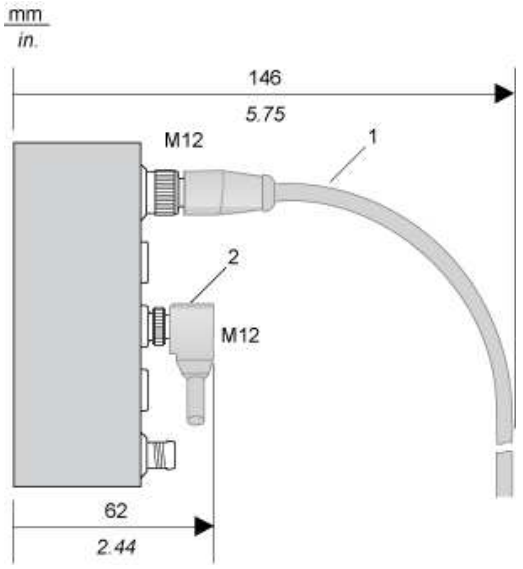
| I/O connectors | Channel types | Channels |
|---|---|---|
| 1 | Input/Output | I0/Q0 |
| 2 | Input/Output | I1/Q1 |
| 3 | Input/Output | I2/Q2 |
| 4 | Input/Output | I3/Q3 |
| 5 | Input/Output | I4/Q4 |
| 6 | Input/Output | I5/Q5 |
| 7 | Input/Output | I6/Q6 |
| 8 | Input/Output | I7/Q7 |

## TM7 Block, Size 1

### Dimensions



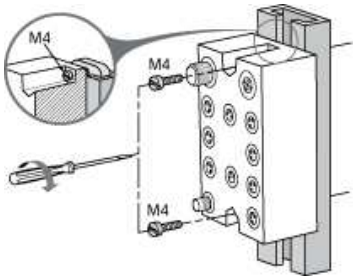
## Spacing Requirements




1 Straight cable
2 Elbowed cable

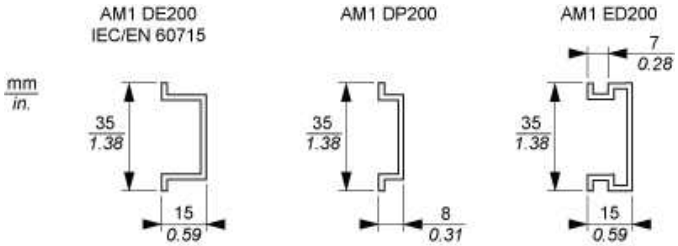
## Installation Guidelines

### TM7 Block on an Aluminium Frame




NOTE: Maximum torque to fasten the required M4 screws is 0.6 N.m (5.3 lbf-in).

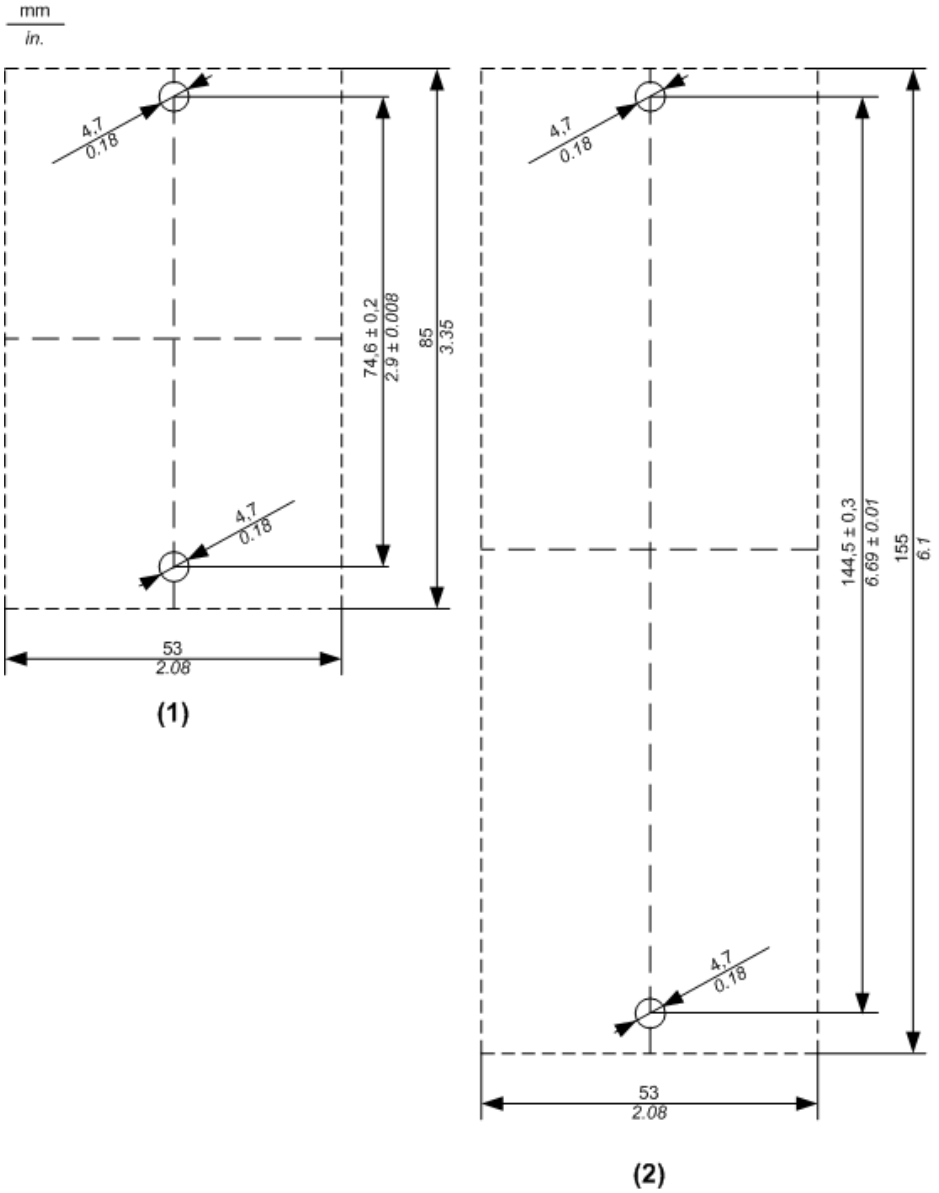
### TM7 Block on a DIN Rail




NOTE: Only size 1 (smallest) blocks can be installed on DIN rail with the TM7ACMP mounting plate.

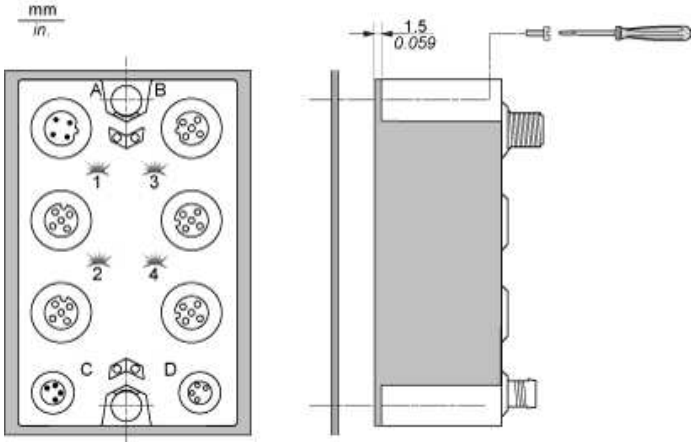
## TM7 Block Directly on the Machine

Drilling template of the block:




(1) Size 1
(2) Size 2

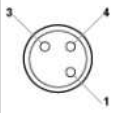
The thickness of the base plate should be taken into consideration when defining the screw length.




NOTE: Maximum torque to fasten the required M4 screws is 0.6 N.m (5.3 lbf-in).

## Wiring Diagram

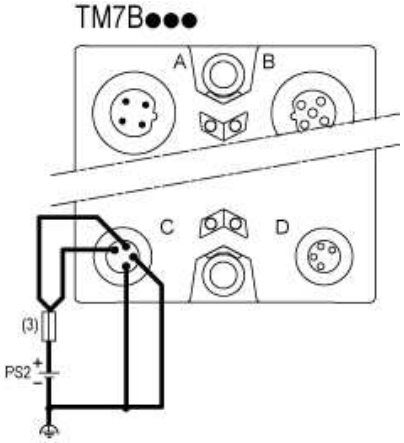
## Pin Assignments for I/O Connectors

| Connection | Pin | M8 input / output |
|---|---|---|
|  | 1 | 24 Vdc sensor / actuator supply |
| 3 | 0 Vdc | |
| 4 | DI/DO: input/ output signal | |

## Wiring the Power Supply

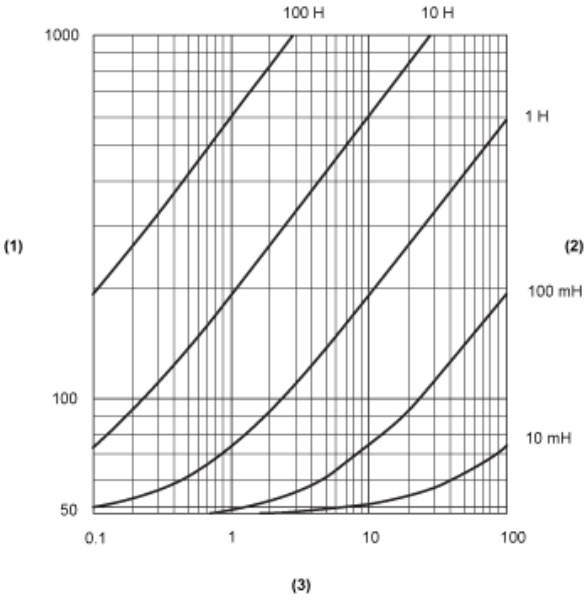
When you provide power to a TM7 I/O block using the 24 VDC Power OUT connector of the preceding I/O block, both blocks occupy the same 24 Vdc I/O power segment. However, if you connect an external isolated power supply to the 24 Vdc Power IN connector of a TM7 I/O block, you establish a new 24 Vdc I/O power segment beginning with that I/O block.

I/O block wired with one external 24 Vdc power supply:




(3) External fuse, Type T slow-blow, 8 A max., 250 V
PS2 External isolated I/O power supply, 24 Vdc

## Switching Inductive Load Characteristics




(1) Load resistance in Ω
(2) Load inductance in H
(3) Max. operating cycles / second