

# Product data sheet

Specifications



## Discrete I/O expansion block, Modicon TM7, IP67, 16 DI, 24 V DC, M8 connector

TM7BDI16B

**Product availability : Stock - Normally stocked in distribution facility**

### Main

Range of Product	Modicon TM7
Product or Component Type	Discrete I/O expansion block
Range Compatibility	Modicon LMC058 Modicon M258
Enclosure Material	Plastic
Bus type	TM7 bus
[Ue] rated operational voltage	24 V DC
Input/Output number	16
Input/Output number of block	16 I

### Complementary

Discrete input number	16
Discrete input voltage	24 V
Discrete input voltage type	DC
Discrete input current	7 mA
Discrete input logic	Positive
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 1 female connector M12 - B coding - 4 ways bus OUT 1 male connector M8 - 4 ways power IN 1 female connector M8 - 4 ways power OUT 16 female connectors M8 - 3 ways sensor
Local signalling	for bus diagnostic 2 LEDs for sensor power supply diagnostics 2 LEDs
Operating position	Any position
Fixing Mode	By 2 screws
Net Weight	0.71 lb(US) (0.32 kg)

### Environment

Standards	IEC 61131-2
Product Certifications	GOST-R C-tick cURus

<b>Marking</b>	CE
<b>Ambient Air Temperature for Operation</b>	14...140 °F (-10...60 °C)
<b>Ambient Air Temperature for Storage</b>	-13...185 °F (-25...85 °C)
<b>Relative humidity</b>	5...95 % without condensation or dripping water
<b>Pollution degree</b>	2 IEC 60664
<b>IP degree of protection</b>	IP67 conforming to IEC 61131-2
<b>Operating altitude</b>	0...6561.68 ft (0...2000 m)
<b>Storage altitude</b>	0.00...9842.52 ft (0...3000 m)
<b>Vibration resistance</b>	7.5 mm constant amplitude 2...8 Hz)IEC 60721-3-5 Class 5M3 2 gn constant acceleration 8...200 Hz)IEC 60721-3-5 Class 5M3 4 gn constant acceleration 200...500 Hz)IEC 60721-3-5 Class 5M3
<b>Shock resistance</b>	30 gn 11 ms IEC 60721-3-5 Class 5M3
<b>Electromagnetic compatibility</b>	Electrostatic discharge immunity test, 4 kV on contact EN/IEC 61000-4-2 Electrostatic discharge immunity test, 8 kV in air EN/IEC 61000-4-2 Susceptibility to electromagnetic fields, 1 V/m 2...2.7 GHz EN/IEC 61000-4-3 Susceptibility to electromagnetic fields, 10 V/m 80...2000 MHz EN/IEC 61000-4-3 Electrical fast transient/burst immunity test, 2 kV power supply EN/IEC 61000-4-4 Electrical fast transient/burst immunity test, 1 kV input/output EN/IEC 61000-4-4 Electrical fast transient/burst immunity test, 1 kV shielded cable EN/IEC 61000-4-4 1.2/50 µs shock waves immunity test, 0.5 kV power supply (common mode) EN/IEC 61000-4-5 1.2/50 µs shock waves immunity test, 1 kV power supply (differential mode) EN/IEC 61000-4-5 1.2/50 µs shock waves immunity test, 0.5 kV unshielded links (common mode) EN/IEC 61000-4-5 1.2/50 µs shock waves immunity test, 1 kV unshielded links (differential mode) EN/IEC 61000-4-5 1.2/50 µs shock waves immunity test, 0.5 kV shielded links (common mode) EN/IEC 61000-4-5 1.2/50 µs shock waves immunity test, 1 kV shielded links (differential mode) EN/IEC 61000-4-5 Conducted RF disturbances EN/IEC 61000-4-6 Conducted and radiated emissions CISPR 11

## Ordering and shipping details

<b>Category</b>	22532-M258 PLC
<b>Discount Schedule</b>	PC12
<b>GTIN</b>	3595864093055
<b>Returnability</b>	No
<b>Country of origin</b>	AT

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	1.81 in (4.600 cm)
<b>Package 1 Width</b>	2.17 in (5.500 cm)
<b>Package 1 Length</b>	6.93 in (17.600 cm)
<b>Package 1 Weight</b>	11.92 oz (338.000 g)
<b>Unit Type of Package 2</b>	S03
<b>Number of Units in Package 2</b>	24
<b>Package 2 Height</b>	11.81 in (30.000 cm)
<b>Package 2 Width</b>	11.81 in (30.000 cm)
<b>Package 2 Length</b>	15.75 in (40.000 cm)
<b>Package 2 Weight</b>	3.11 lb(US) (1.410 kg)

## Offer Sustainability

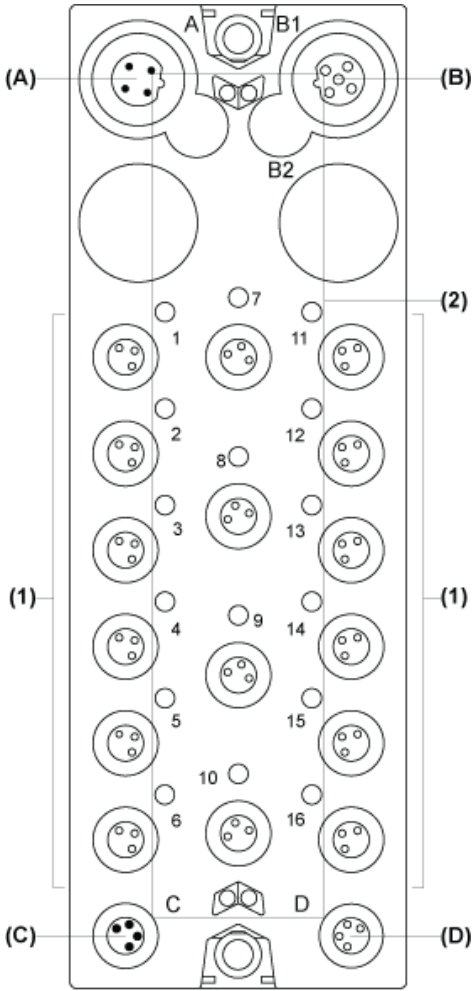
<b>Sustainable offer status</b>	Green Premium product
<b>California proposition 65</b>	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>
<b>REACH Regulation</b>	<a href="#">REACH Declaration</a>
<b>EU RoHS Directive</b>	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
<b>Toxic heavy metal free</b>	Yes
<b>Mercury free</b>	Yes
<b>China RoHS Regulation</b>	<a href="#">China RoHS declaration</a>
<b>RoHS exemption information</b>	Yes
<b>Environmental Disclosure</b>	<a href="#">Product Environmental Profile</a>
<b>Circularity Profile</b>	<a href="#">End of Life Information</a>
<b>WEEE</b>	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.
<b>PVC free</b>	Yes

## Contractual warranty

<b>Warranty</b>	18 months
-----------------	-----------

Digital Input Block

Description



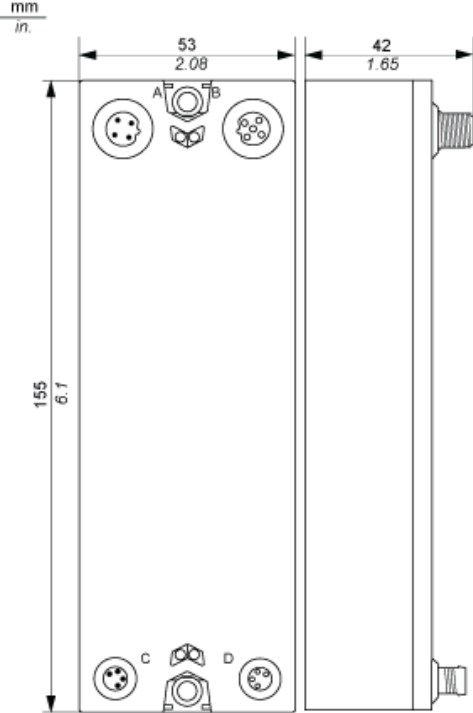
- (A) TM7 bus IN connector
- (B) TM7 bus OUT connector
- (C) 24 Vdc power IN connector
- (D) 24 Vdc power OUT connector
- (1) Input connectors
- (2) Status LEDs

Connector and Channel Assignments

Input connectors	Channel type	Channels
1	Input	I0
2	Input	I1
3	Input	I2
4	Input	I3
5	Input	I4
6	Input	I5
7	Input	I6
8	Input	I7
9	Input	I8
10	Input	I9
11	Input	I10
12	Input	I11
13	Input	I12
14	Input	I13
15	Input	I14
16	Input	I15

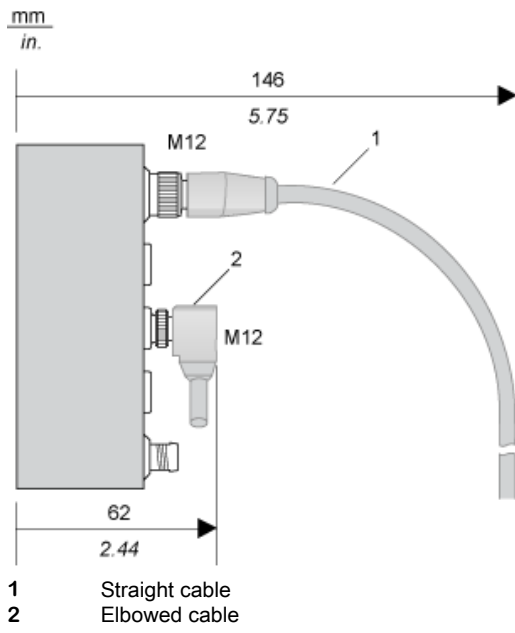
TM7 Block, Size 2

Dimensions



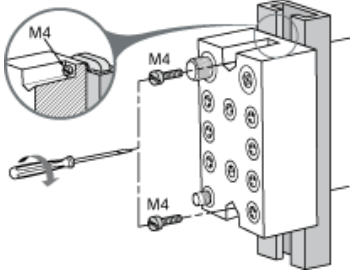
**Spacing Requirements**

---



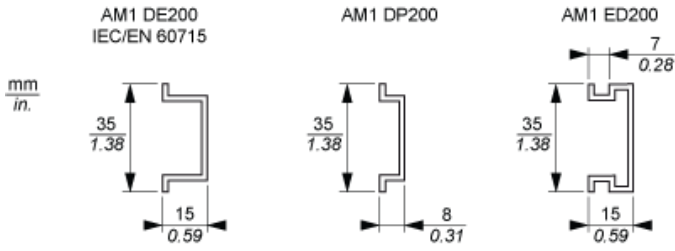
**Installation Guidelines**

**TM7 Block on an Aluminium Frame**



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

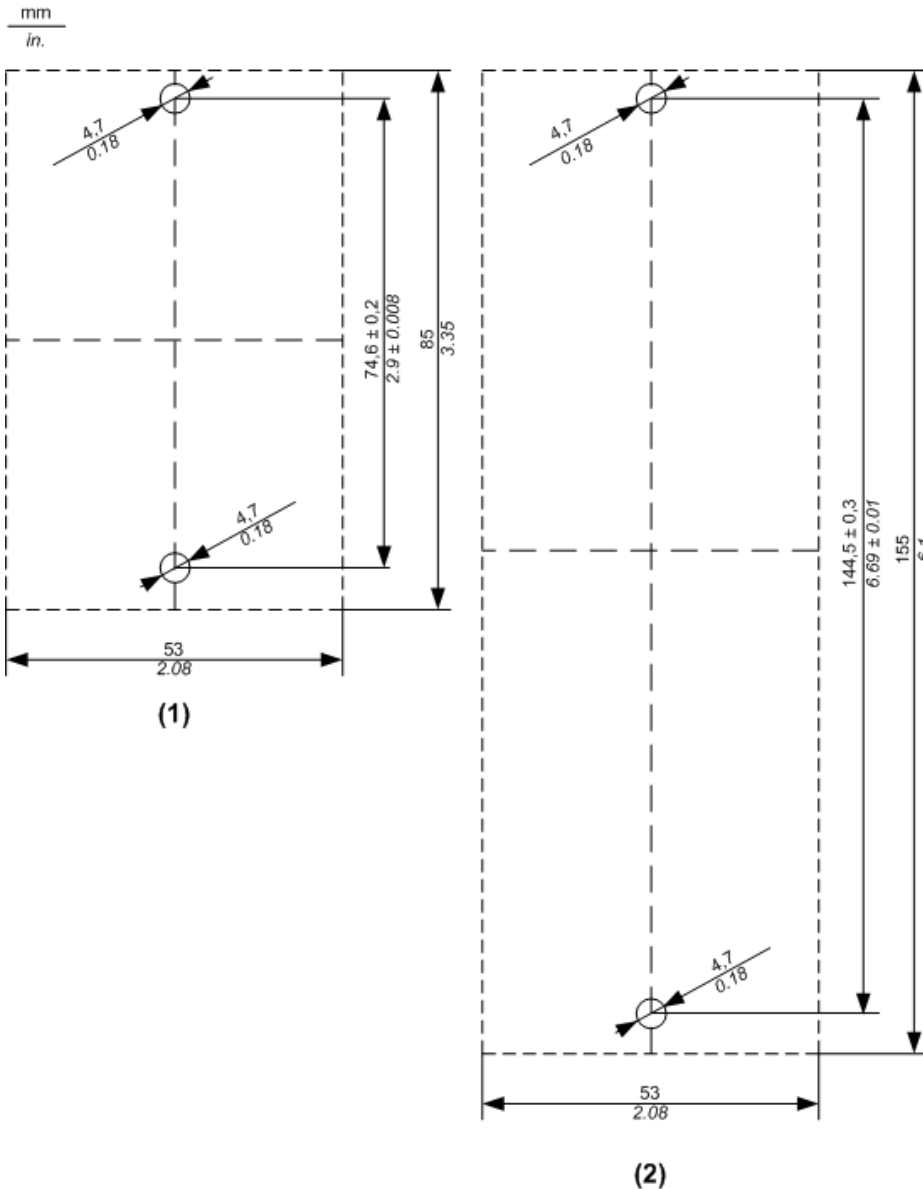
**TM7 Block on a DIN Rail**



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

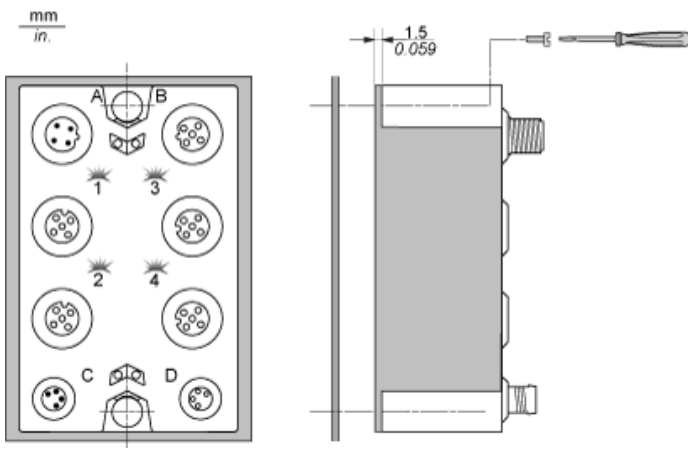
**TM7 Block Directly on the Machine**

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.



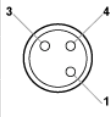
NOTE: Maximum torque to fasten the required M4 screws is 0.6 N.m (5.3 lbf-in).



**Wiring Diagram**

---

**Pin Assignments for Input Connectors**

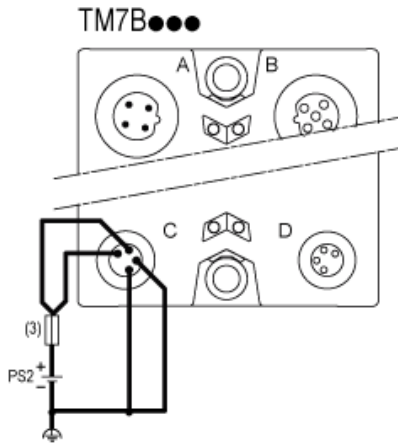
Connection	Pin	M8 Input
	1	24 Vdc sensor supply
	3	0 Vdc
	4	DI: input signal

**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

**Recommended replacement(s)**