

# Product data sheet

Specifications



## CANopen interface I/O block, Modicon TM7, IP67, 16 M8

TM7NCOM16B

### Main

Range of product	Modicon TM7
Product or component type	CANopen interface I/O block
Range compatibility	Modicon LMC058 Modicon M258
Enclosure material	Plastic
Bus type	CANopen
[Ue] rated operational voltage	24 V DC
Input/Output number	16
Input/Output number of block	16 I/O

### Complementary

Discrete input number	0...16 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...16 output(s) configurable by software
Discrete output voltage	24 V
Discrete output voltage type	DC
Discrete output current	<= 0.5 A
Discrete output type	Transistor
Sensor power supply	24 V, 500 mA for all channels with overload, short-circuit and reverse polarity protection
Electrical connection	1 male connector M12 - A coding - 5 ways for CANopen bus IN 1 female connector M12 - B coding - 4 ways for TM7 bus OUT 1 male connector M8 - 4 ways for power IN 1 female connector M8 - 4 ways for power OUT 1 female connector M12 - A coding - 5 ways for CANopen bus OUT 16 female connectors M8 - 3 ways for sensor or actuator
Local signalling	2 LEDs for bus diagnostic 1 LED for actuator power supply diagnostics 1 LED for sensor power supply diagnostics
Operating position	Any position
Fixing mode	By 2 screws

Net weight	0.32 kg
<b>Environment</b>	
Standards	IEC 61131-2
Product certifications	GOST-R C-Tick ATEX II 3g EEx nA II T5 cURus
Marking	CE
Ambient air temperature for operation	-10...60 °C
Ambient air temperature for storage	-25...85 °C
Relative humidity	5...95 % without condensation or dripping water
Pollution degree	2 conforming to IEC 60664
IP degree of protection	IP67 conforming to IEC 61131-2
Operating altitude	0...2000 m
Storage altitude	0...3000 m
Vibration resistance	7.5 mm constant amplitude (f= 2...8 Hz) conforming to IEC 60721-3-5 Class 5M3 2 gn constant acceleration (f= 8...200 Hz) conforming to IEC 60721-3-5 Class 5M3 4 gn constant acceleration (f= 200...500 Hz) conforming to IEC 60721-3-5 Class 5M3
Shock resistance	30 gn for 11 ms conforming to IEC 60721-3-5 Class 5M3
Resistance to electrostatic discharge	6 kV in contact conforming to EN/IEC 61000-4-2 8 kV in air conforming to EN/IEC 61000-4-2
Resistance to electromagnetic fields	10 V/m 0.08...2 Hz conforming to EN/IEC 61000-4-3 1 V/m 2...2.7 Hz conforming to EN/IEC 61000-4-3
Resistance to fast transients	2 kV (power supply) conforming to EN/IEC 61000-4-4 1 kV (input/output) conforming to EN/IEC 61000-4-4 1 kV (shielded cable) conforming to EN/IEC 61000-4-4
Surge withstand for DC 24 V circuit	1 kV power supply (common mode) conforming to EN/IEC 61000-4-5 0.5 kV power supply (differential mode) conforming to EN/IEC 61000-4-5 1 kV unshielded links (common mode) conforming to EN/IEC 61000-4-5 0.5 kV unshielded links (differential mode) conforming to EN/IEC 61000-4-5 1 kV shielded links (common mode) conforming to EN/IEC 61000-4-5 0.5 kV shielded links (differential mode) conforming to EN/IEC 61000-4-5
Electromagnetic compatibility	EN/IEC 61000-4-6
Disturbance radiated/ conducted	CISPR 11
<b>Packing Units</b>	
Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	4.600 cm
Package 1 Width	5.500 cm
Package 1 Length	17.800 cm
Package 1 Weight	397.0 g
Unit Type of Package 2	S02
Number of Units in Package 2	24
Package 2 Height	15.000 cm
Package 2 Width	30.000 cm
Package 2 Length	40.000 cm
Package 2 Weight	9.969 kg

Offer Sustainability

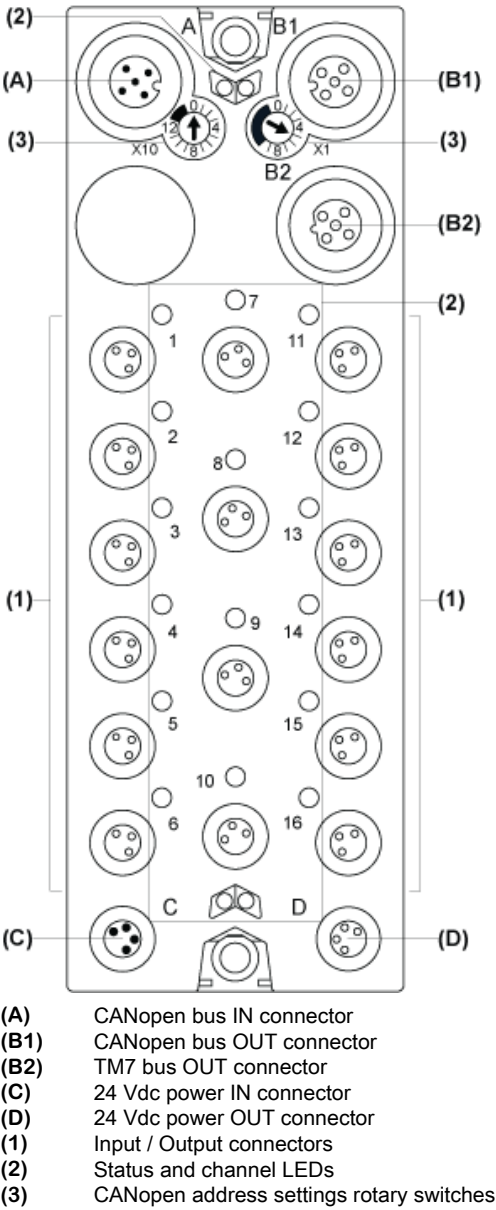
Sustainable offer status	Green Premium product
REACH Regulation	<a href="#">REACH Declaration</a>
REACH free of SVHC	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Toxic heavy metal free	Yes
Mercury free	Yes
China RoHS Regulation	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

Contractual warranty

Warranty	18 months
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TM7 CANopen Interface I/O Block

Description

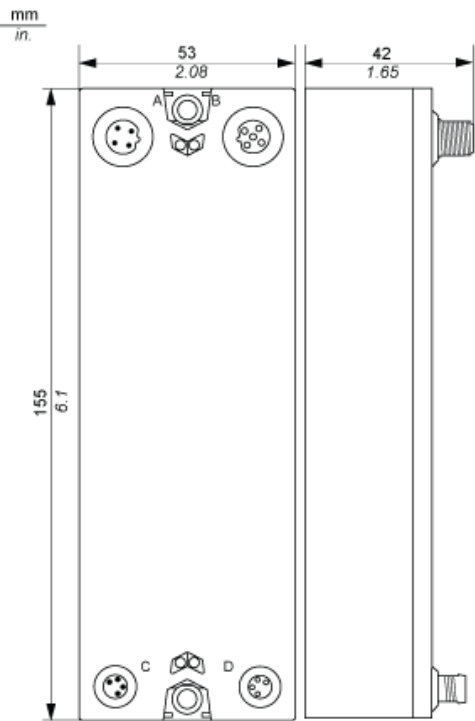


Connector and Channel Assignments

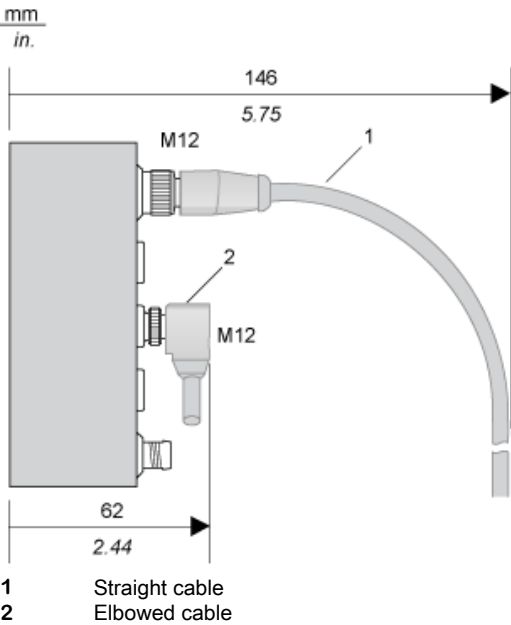
I/O connectors	Channel types	Channels
1	Input/Output	I0/Q0
2	Input/Output	I1/Q1
3	Input/Output	I2/Q2
4	Input/Output	I3/Q3
5	Input/Output	I4/Q4
6	Input/Output	I5/Q5
7	Input/Output	I6/Q6
8	Input/Output	I7/Q7
9	Input/Output	I8/Q8
10	Input/Output	I9/Q9
11	Input/Output	I10/Q10
12	Input/Output	I11/Q11
13	Input/Output	I12/Q12
14	Input/Output	I13/Q13
15	Input/Output	I14/Q14
16	Input/Output	I15/Q15

TM7 Block, Size 2

Dimensions

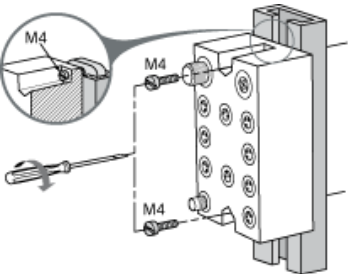


Spacing Requirements



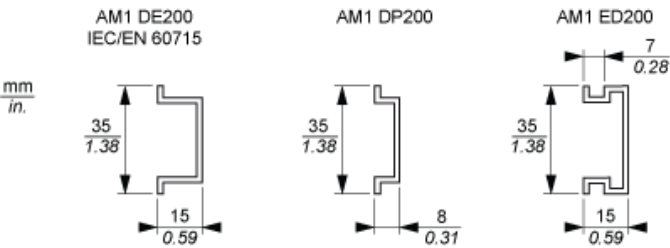
Installation Guidelines

TM7 Block on an Aluminium Frame



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

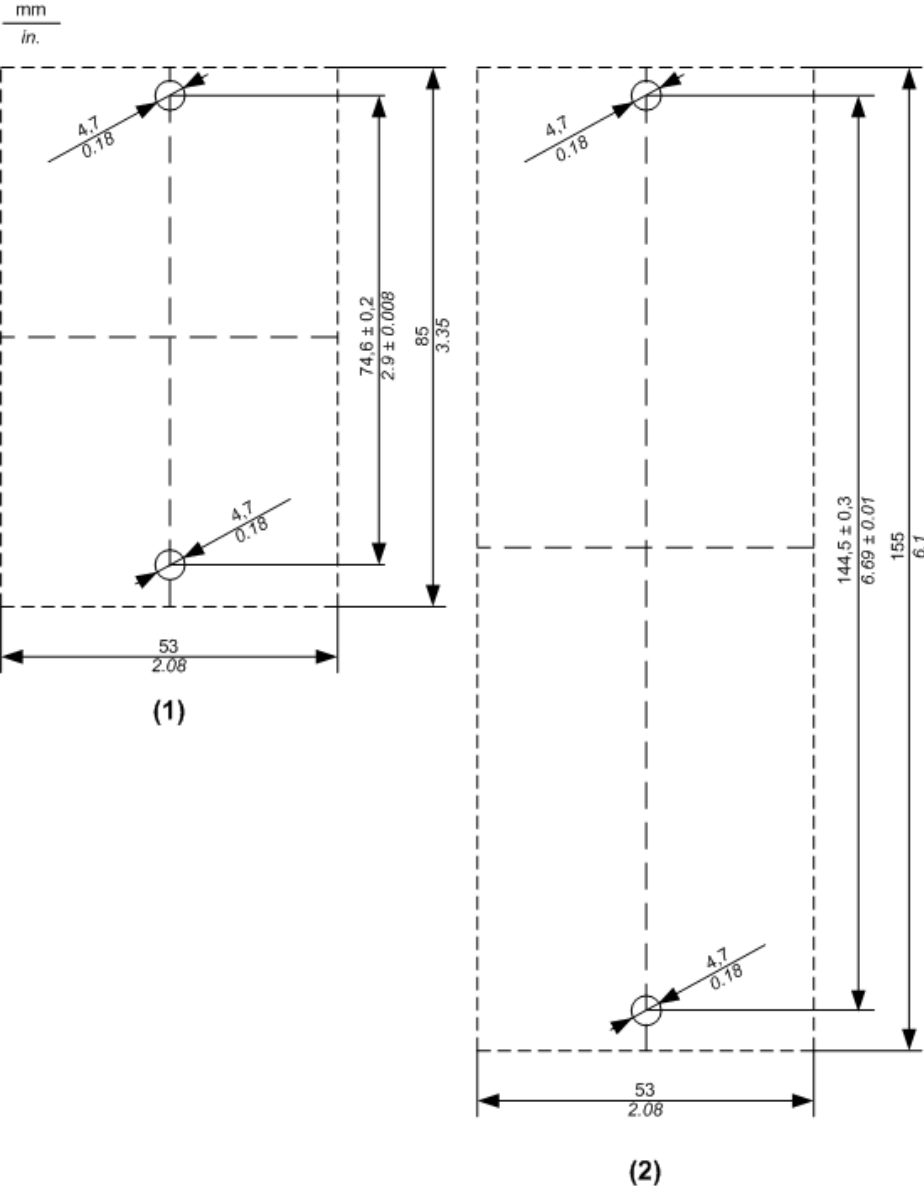
TM7 Block on a DIN Rail



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

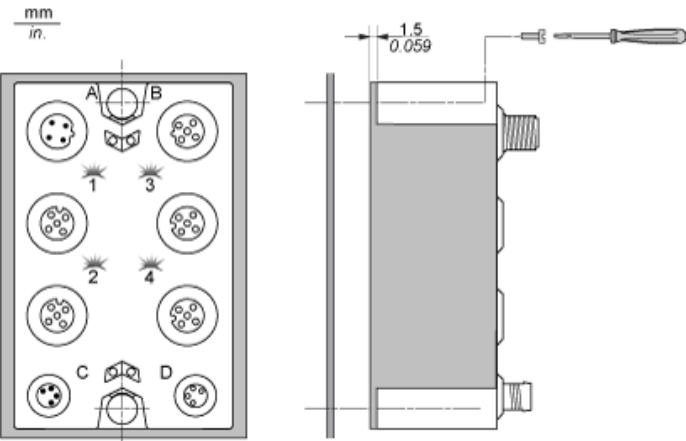
TM7 Block Directly on the Machine

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.

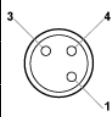


NOTE: Maximum torque to fasten the required M4 screws is 0.6 N.m (5.3 lbf-in).



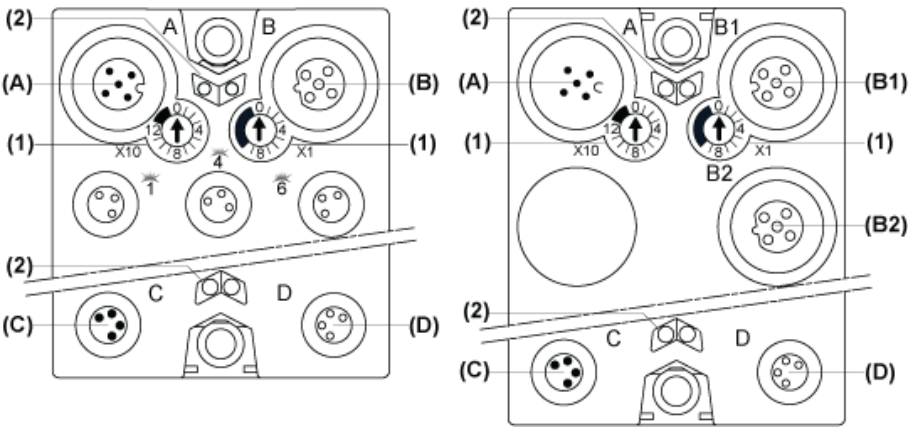
Wiring Diagram

Pin Assignments for I/O Connectors

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

CANopen Pins and Connectors

Connector Assignments



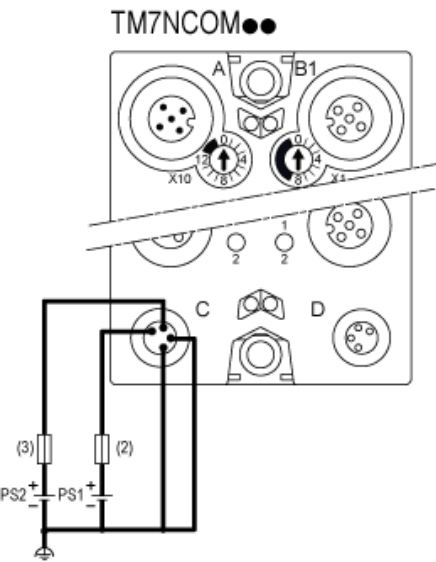
- (A) Field bus IN connector
- (B) and (B2) 7 bus OUT connector M12
- (B1) CANopen bus OUT connector M12
- (C) 24 Vdc power IN connector
- (D) 24 Vdc power OUT connector
- (1) Address settings rotary switches
- (2) Status LEDs

Pin Assignments

Connectors	Pin	Designation
	1	CAN_SHLD
	2	(CAN_V+)
	3	CAN_GND
	4	CAN_H
	5	CAN_L
	1	TM7 V+
	2	TM7 Bus Data
	3	TM7 0V
	4	TM7 Bus Data
	5	N.C.
	1	CAN_SHLD
	2	(CAN_V+)
	3	CAN_GND
	4	CAN_H
	5	CAN_L
Connectors	Pin	Designation
	1	24 Vdc main power
	2	24 Vdc I/O power segment
	3	0 Vdc
	4	0 Vdc
	1	24 Vdc I/O power segment
	2	24 Vdc I/O power segment
	3	0 Vdc
	4	0 Vdc

Wiring the Power Supply

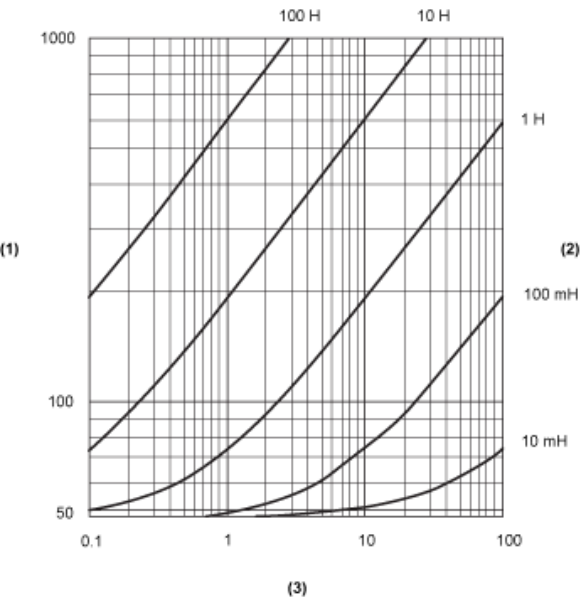
Connections	2 Power Supplies
24 Vdc main power that generates power for TM7 power bus	PS1
24 Vdc I/O power segment	PS2



- (2) External fuse, Type T slow-blow, 1 A, 250 V <sup>1</sup>
- (3) External fuse, Type T slow-blow, 4 A max., 250 V
- PS1 External isolated main power supply, 24 Vdc
- PS2 External isolated I/O power supply, 24 Vdc

<sup>1</sup> Fuse limited to 1 A per PDB, maximum fuse limited to 5 A with maximum 4 PDB interconnected. If less then 4 PDBs size the fuse in accordance with the number of PDBs.

Switching Inductive Load Characteristics



- (1)

Load resistance in  $\Omega$
- (2)

Load inductance in H
- (3)

Max. operating cycles / second

Recommended replacement(s)