



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
System Voltage	24 V DC
Input/output number	16
Input/output number of splitter box	16 I/O

Complementary

Discrete input number	0...16 input(s) 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 CANopen bus IN 1 female connector M12 - B coding - 4 ways TM7 bus OUT 1 male connector M8 - 4 ways power IN 1 female connector M8 - 4 ways power OUT 1 female connector M12 - A coding - 5 ways CANopen bus OUT 16 female connectors M8 - 3 ways sensor or actuator
Local signalling	2 LEDs bus diagnostic 1 LED actuator power supply diagnostics 1 LED sensor power supply diagnostics
Operating position	Any position
Fixing mode	By 2 screws
Product weight	0.71 lb(US) (0.32 kg)

Environment

standards	IEC 61131-2
product certifications	C-Tick CURus GOST-R ATEX II 3g EEx nA II T5
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 conforming to IEC 60664
IP degree of protection	IP67 conforming to IEC 61131-2
operating altitude	0...6561.68 ft (0...2000 m)

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.

storage altitude	0...9842.52 ft (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 11 ms conforming to IEC 60721-3-5 Class 5M3
resistance to electrostatic discharge	8 kV in air conforming to EN/IEC 61000-4-2 6 kV in contact conforming to EN/IEC 61000-4-2
resistance to electromagnetic fields	9.14 V/yd (10 V/m) (f = 0.08...2 Hz conforming to EN/IEC 61000-4-3 0.91 V/yd (1 V/m) (f = 2...2.7 Hz conforming to EN/IEC 61000-4-3
resistance to fast transients	1 kV shielded cable conforming to EN/IEC 61000-4-4 2 kV power supply conforming to EN/IEC 61000-4-4 1 kV input/output conforming to EN/IEC 61000-4-4
surge withstand	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

Offer Sustainability

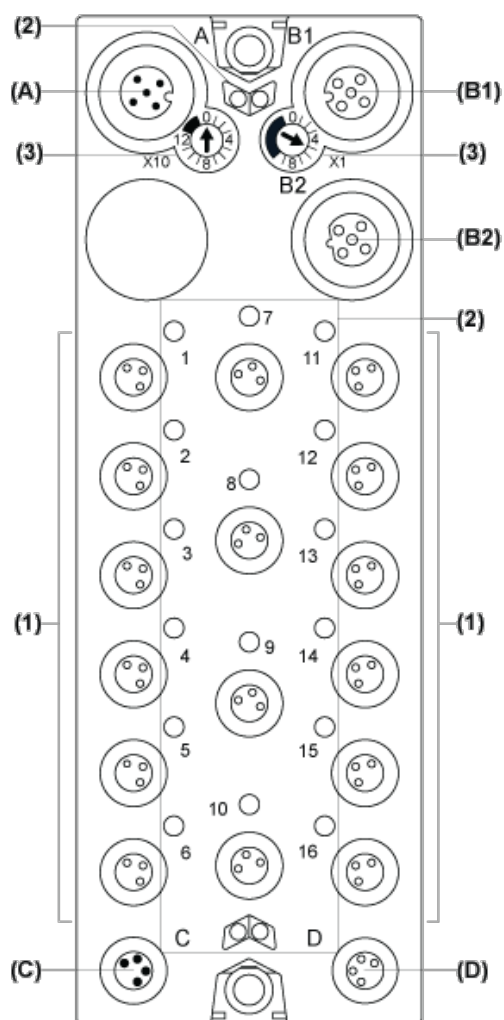
Green Premium product	Green Premium product
Compliant - since 1039 - Schneider Electric declaration of conformity	Compliant - since 1039 - Schneider Electric declaration of conformity
Reference not containing SVHC above the threshold	Reference not containing SVHC above the threshold
Available	Available
Available	Available
WARNING: This product can expose you to chemicals including:	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.	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	For more information go to www.p65warnings.ca.gov

Contractual warranty

Warranty period	18 months
-----------------	-----------

TM7 CANopen Interface I/O Block

Description



- (A) CANopen bus IN connector
- (B1) CANopen bus OUT connector
- (B2) TM7 bus OUT connector
- (C) 24 Vdc power IN connector
- (D) 24 Vdc power OUT connector
- (1) Input / Output connectors
- (2) Status and channel LEDs
- (3) CANopen address settings rotary switches

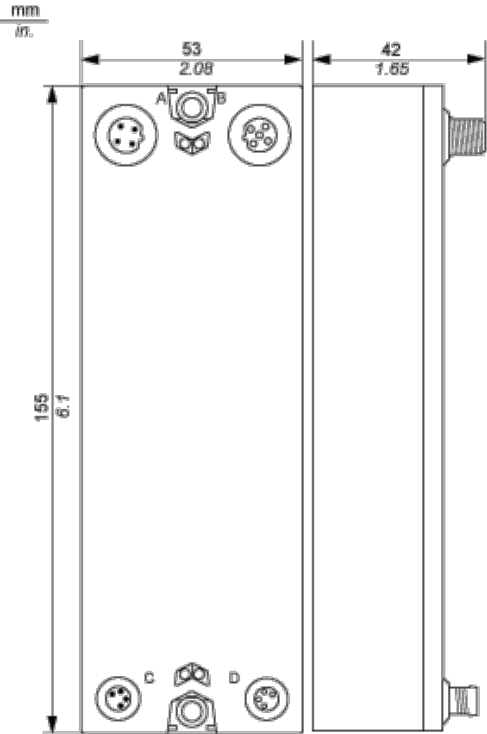
Connector and Channel Assignments

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

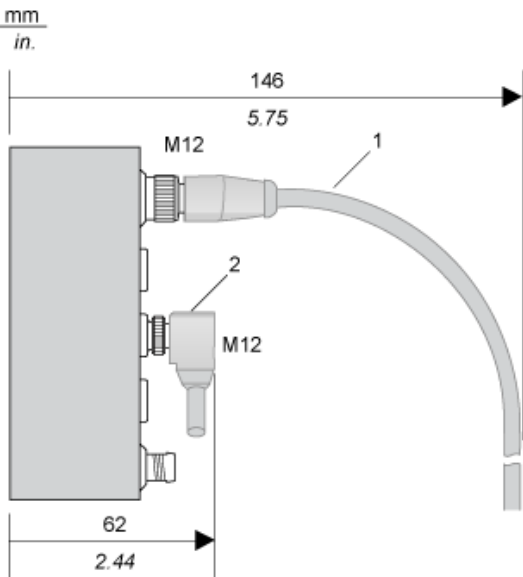
13	Input/Output	I12/Q12
14	Input/Output	I13/Q13
15	Input/Output	I14/Q14
16	Input/Output	I15/Q15

TM7 Block, Size 2

Dimensions



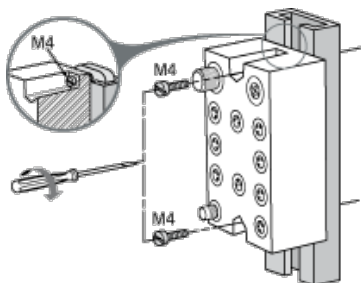
Spacing Requirements



- 1 Straight cable
- 2 Elbowed cable

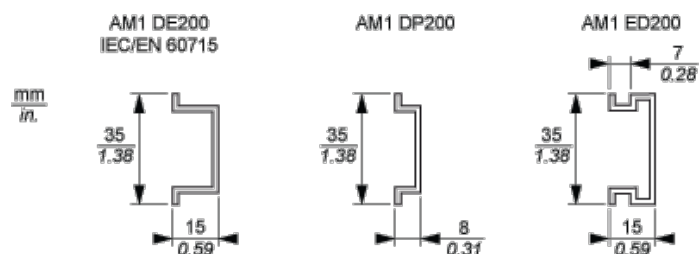
Installation Guidelines

TM7 Block on an Aluminium Frame



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

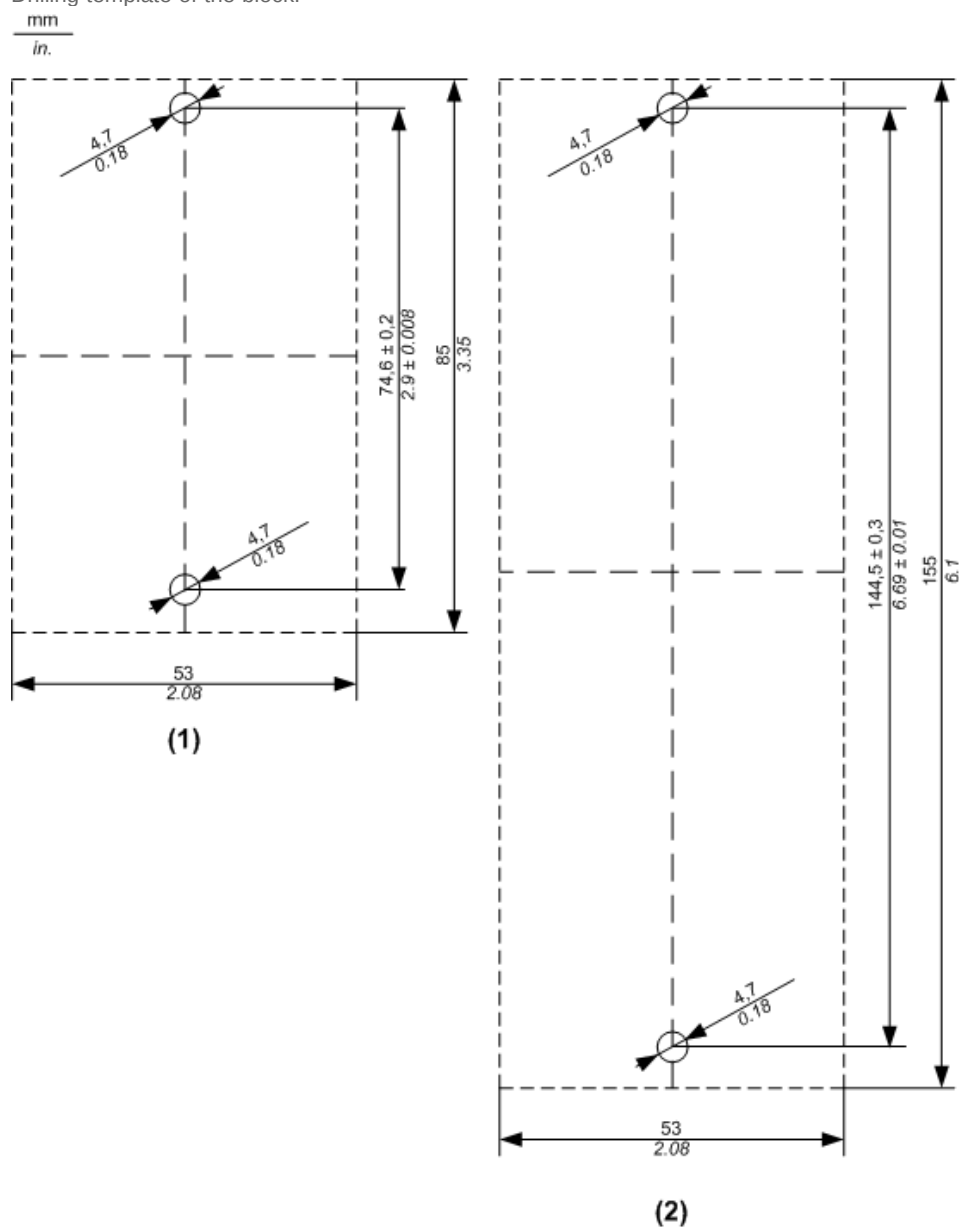
TM7 Block on a DIN Rail



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

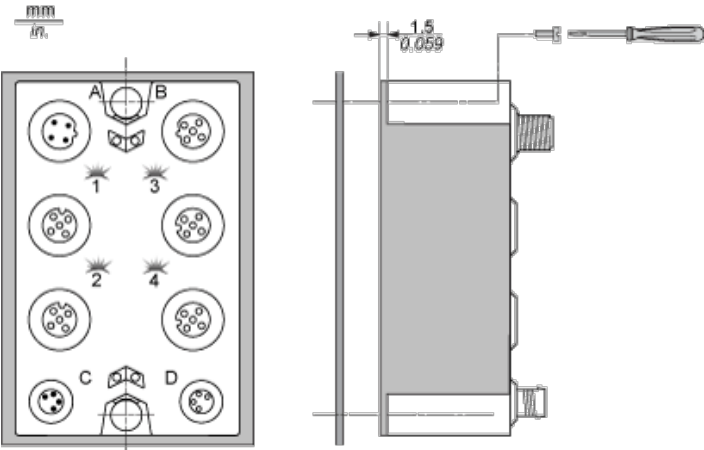
TM7 Block Directly on the Machine

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).

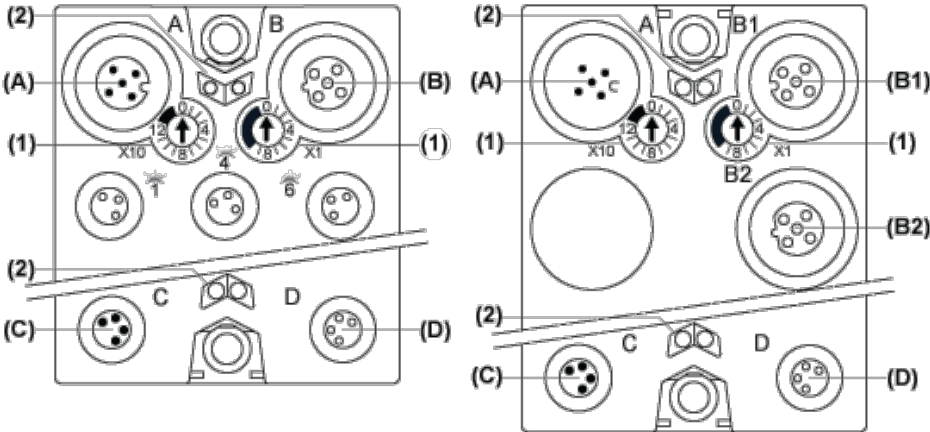
Wiring Diagram

Pin Assignments for I/O Connectors

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

CANopen Pins and Connectors

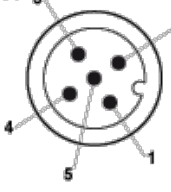
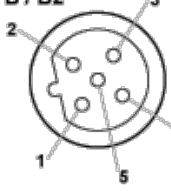
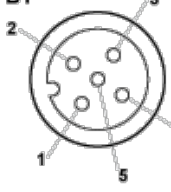
Connector Assignments

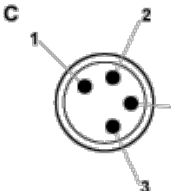
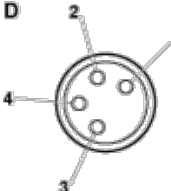


- (A) Field bus IN connector
- (B) TM7 bus OUT connector M12 and (B2)
- (B1) CANopen bus OUT connector M12
- (C) 24 Vdc power IN connector
- (D) 24 Vdc power OUT connector
- (1) Address settings rotary switches
- (2) Status LEDs

Pin Assignments

Connectors	Pin	Designation
------------	-----	-------------

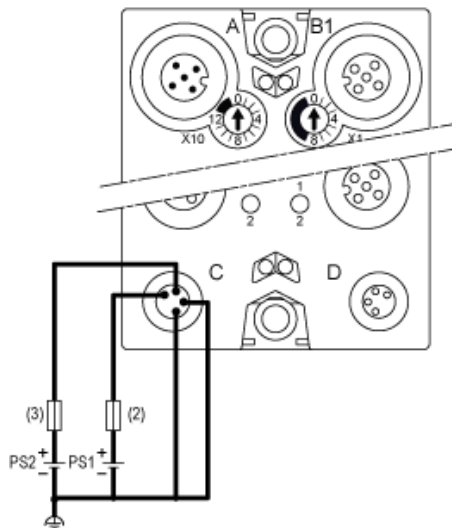
A 	1	CAN_SHLD
	2	(CAN_V+)
	3	CAN_GND
	4	CAN_H
	5	CAN_L
B / B2 	1	TM7 V+
	2	TM7 Bus Data
	3	TM7 0V
	4	TM7 Bus $\overline{\text{Data}}$
	5	N.C.
B1 	1	CAN_SHLD
	2	(CAN_V+)
	3	CAN_GND
	4	CAN_H
	5	CAN_L

Connectors	Pin	Designation
C 	1	24 Vdc main power
	2	24 Vdc I/O power segment
	3	0 Vdc
	4	0 Vdc
D 	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

TM7NCOM●●



(2) External fuse, Type T slow-blow, 1 A, 250 V ¹

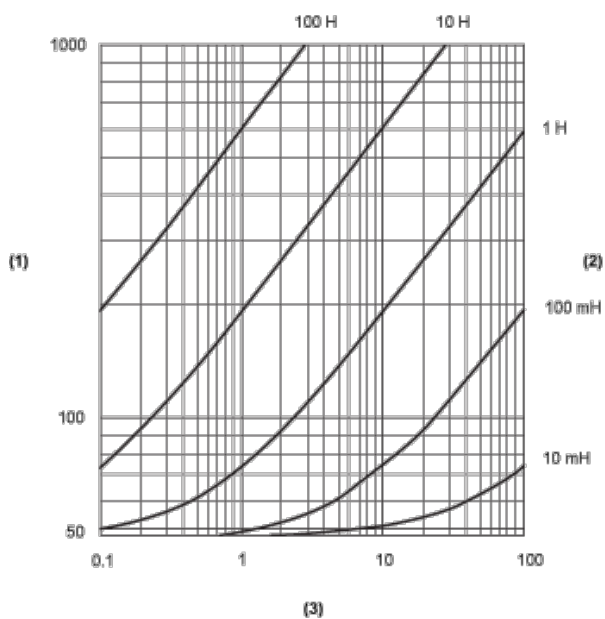
(3) External fuse, Type T slow-blow, 4 A max., 250 V

PS1 External isolated main power supply, 24 Vdc

PS2 External isolated I/O power supply, 24 Vdc

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

Switching Inductive Load Characteristics



(1) Load resistance in Ω

(2) Load inductance in H

(3) Max. operating cycles / second