



Main

Range of product	Modicon TM7
Product or component type	Analog 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	4
Input/Output number of block	4 I

Complementary

Analogue input number	4
Analogue input type	Voltage Thermocouple J, K, S
Analogue input range	0...65536 μ V
Analogue input resolution	16 bits
Sensor power supply	24 V with overload, short-circuit and reverse polarity protection
Electrical connection	1 female connector M8 - 4 ways for power OUT 1 male connector M8 - 4 ways for power IN 4 female connectors M12 - A coding - 5 ways for sensor 1 female connector M12 - B coding - 4 ways for bus OUT 1 male connector M12 - B coding - 4 ways for bus IN
Local signalling	2 LEDs for sensor/actuator power supply status 2 LEDs for bus diagnostic
Operating position	Any position
Fixing mode	By 2 screws
Product weight	0.2 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	-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	4 gn constant acceleration (f = 200...500 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 7.5 mm constant amplitude (f = 2...8 Hz) conforming to IEC 60721-3-5 Class 5M3

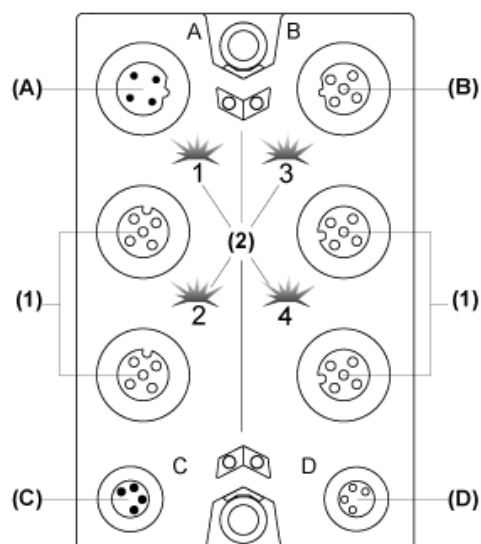
Shock resistance	30 gn for 11 ms conforming to IEC 60721-3-5 Class 5M3
Resistance to electrostatic discharge	8 kV in air conforming to EN/IEC 61000-4-2 6 kV in contact conforming to EN/IEC 61000-4-2
Resistance to electromagnetic fields	1 V/m (f = 2...2.7 Hz conforming to EN/IEC 61000-4-3 10 V/m (f = 0.08...2 Hz conforming to EN/IEC 61000-4-3
Resistance to fast transients	1 kV shielded cable conforming to EN/IEC 61000-4-4 1 kV input/output conforming to EN/IEC 61000-4-4 2 kV power supply conforming to EN/IEC 61000-4-4
Surge withstand for DC 24 V circuit	0.5 kV shielded 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 unshielded links (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 power supply (differential mode) conforming to EN/IEC 61000-4-5 1 kV power supply (common mode) conforming to EN/IEC 61000-4-5
Electromagnetic compatibility	EN/IEC 61000-4-6
Disturbance radiated/conducted	CISPR 11

Offer Sustainability

Sustainable offer status	Green Premium product
RoHS (date code: YYWW)	Compliant - since 1039 - Schneider Electric declaration of conformity
REACH	Reference not containing SVHC above the threshold
Product environmental profile	Available Download Product Environmental
Product end of life instructions	Available Download End Of Life Manual

Analog Temperature 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

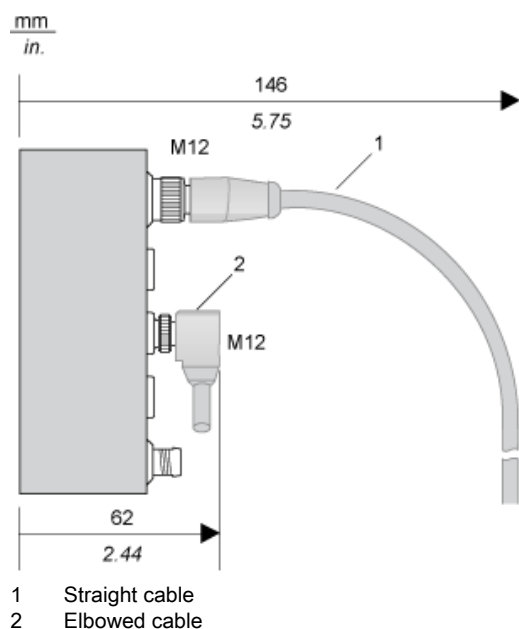
Input connectors	Channel type	Channels
1	Input	I0
2	Input	I1
3	Input	I2
4	Input	I3

TM7 Block, Size 1

Dimensions

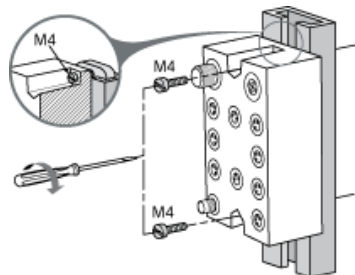


Spacing Requirements



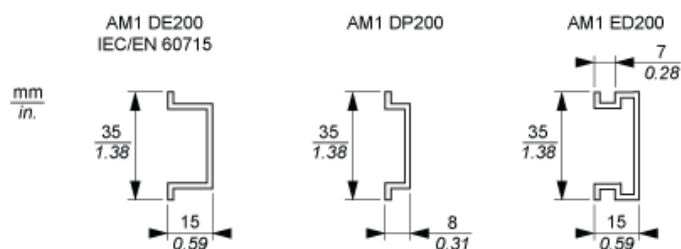
Installation Guidelines

TM7 Block on an Aluminium Frame



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

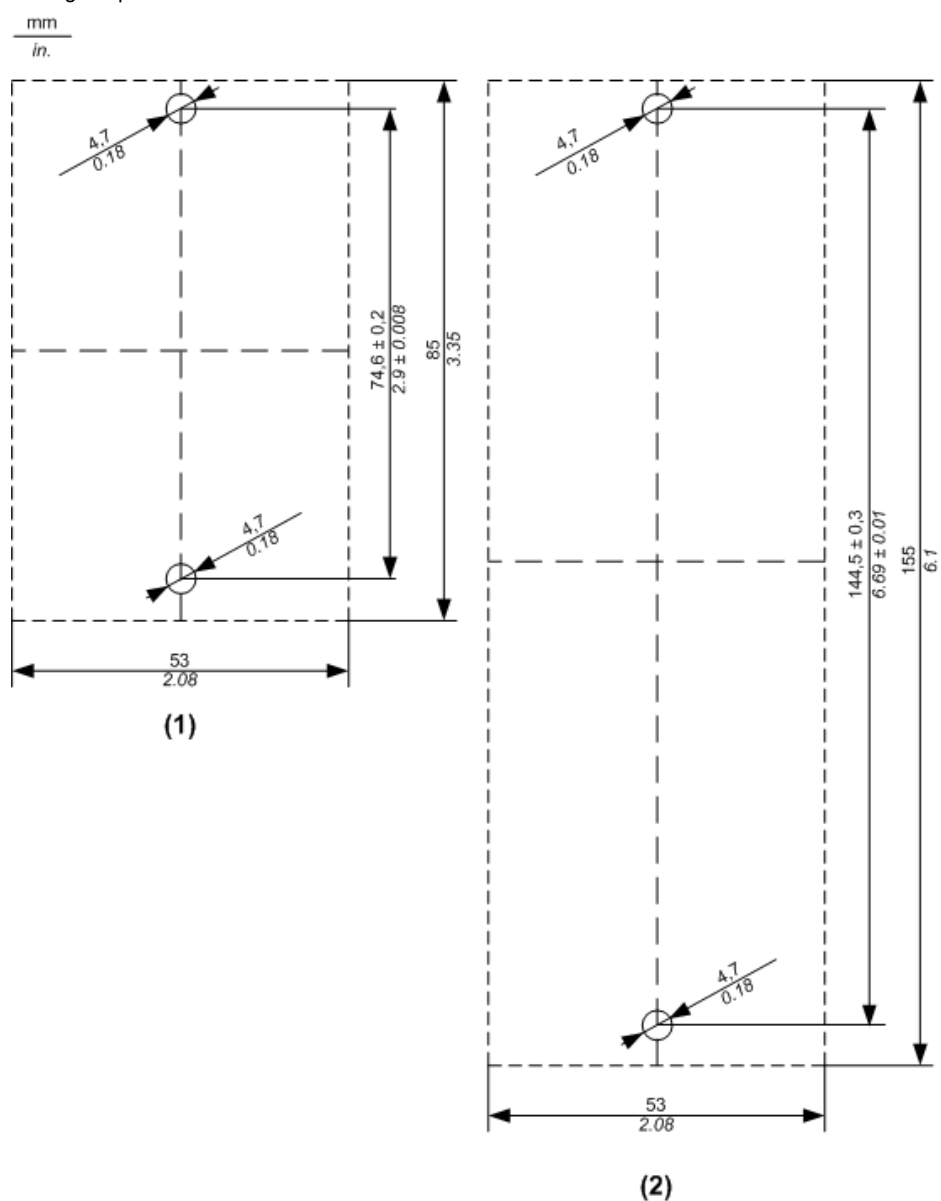
TM7 Block on a DIN Rail



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

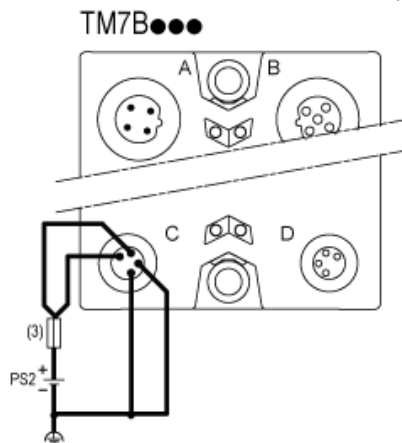
Pin	M12 input connectors	TM7ACTHA thermocouple plug
1	N.C.	Temperature compensation input
2	Analog input +	Analog input +
3	0 Vdc	0 Vdc
4	Analog input -	Analog input -
5	Shield	Shield

The TM7ACTHA thermocouple plug is used for compensation of the temperature at measurements points. The sensor to measure the terminal temperature is integrated in the thermocouple plug.

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