Product data sheet

Specifications

Analog I/O expansion block, Modicon TM7, IP67, 4 TC inputs, M12 connector

TM7BAI4PLA

Product availability : Stock - Normally stocked in distribution facility

Main

Range of Product	Modicon TM7
Product or Component Type	Analog I/O expansion block
Range Compatibility	Modicon M258 Modicon LMC058
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	Thermocouple J, K, S Voltage
Analogue input range	0...65536 µV
Analogue input resolution	16 bits
Sensor power supply	24 V 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 4 female connectors M12 - A coding - 5 ways sensor 1 male connector M8 - 4 ways power IN 1 female connector M8 - 4 ways power OUT
Local signalling	for bus diagnostic 2 LEDs for sensor/actuator power supply status 2 LEDs
Operating position	Any position
Fixing Mode	By 2 screws
Net Weight	0.44 lb(US) (0.2 kg)

Environment

Standards	IEC 61131-2
Product Certifications	cURus GOST-R ATEX II 3g EEx nA II T5 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)
Vibration resistance	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
Shock resistance	30 gn 11 ms IEC 60721-3-5 Class 5M3
Resistance to electrostatic discharge	6 kV in contact EN/IEC 61000-4-2 8 kV in air EN/IEC 61000-4-2
Resistance to electromagnetic fields	9.14 V/m (10 V/m) 0.08…2 Hz EN/IEC 61000-4-3 0.91 V/m (1 V/m) 2…2.7 Hz EN/IEC 61000-4-3
Resistance to fast transients	2 kV EN/IEC 61000-4-4 power supply) 1 kV EN/IEC 61000-4-4 input/output) 1 kV EN/IEC 61000-4-4 shielded cable)
Surge withstand for DC 24 V circuit	1 kV power supply (common mode) EN/IEC 61000-4-5 0.5 kV power supply (differential mode) EN/IEC 61000-4-5 1 kV unshielded links (common mode) EN/IEC 61000-4-5 0.5 kV unshielded links (differential mode) EN/IEC 61000-4-5 1 kV shielded links (common mode) EN/IEC 61000-4-5 0.5 kV shielded links (differential mode) EN/IEC 61000-4-5
Electromagnetic compatibility	EN/IEC 61000-4-6
Disturbance radiated/ conducted	CISPR 11

Ordering and shipping details

Category	22532-M258 PLC
Discount Schedule	PC12
GTIN	3595864092966
Returnability	No
Country of origin	AT

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	1.97 in (5.000 cm)
Package 1 Width	2.36 in (6.000 cm)
Package 1 Length	4.33 in (11.000 cm)
Package 1 Weight	8.04 oz (228.000 g)
Unit Type of Package 2	S02
Number of Units in Package 2	24
Package 2 Height	5.91 in (15.000 cm)
Package 2 Width	11.81 in (30.000 cm)
Package 2 Length	15.75 in (40.000 cm)

Package 2 Weight	12.76 lb(US) (5.787 kg)

Offer Sustainability

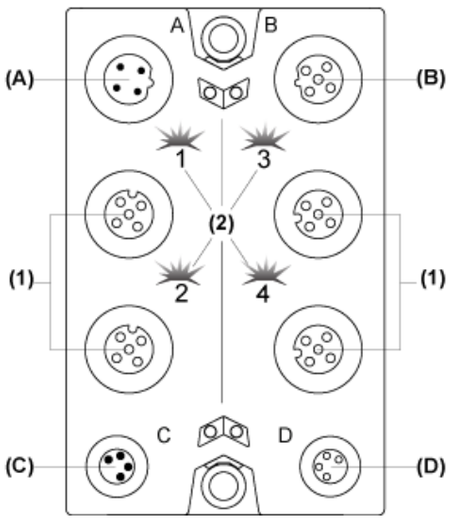
Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
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
China RoHS Regulation	China RoHS declaration
RoHS exemption information	Yes
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

Analog Temperature Input Block

Description



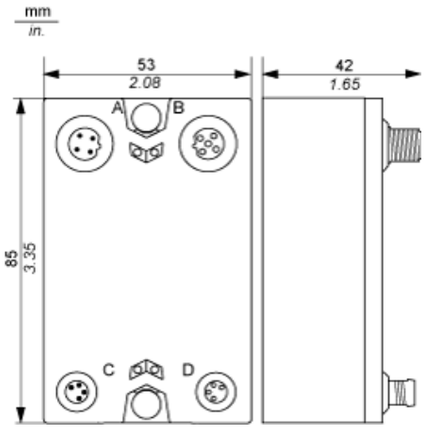
(A) TM7 bus IN connector
(B) TM7 bus OUT connector
(C) 24 Vdc power IN connector
(D) 24 Vdc power OUT connector
(1) Input connectors
(2) Status LEDs

Connector and Channel Assignments

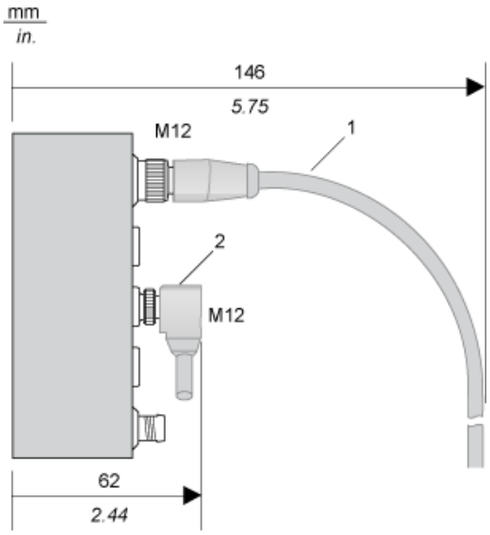
Input connectors	Channel type	Channels
1	Input	I0
2	Input	I1
3	Input	I2
4	Input	I3

TM7 Block, Size 1

Dimensions



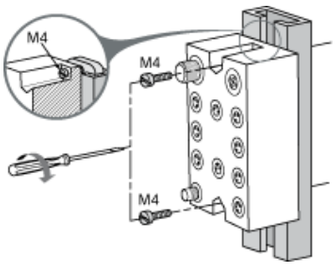
Spacing Requirements



1 Straight cable
2 Elbowed cable

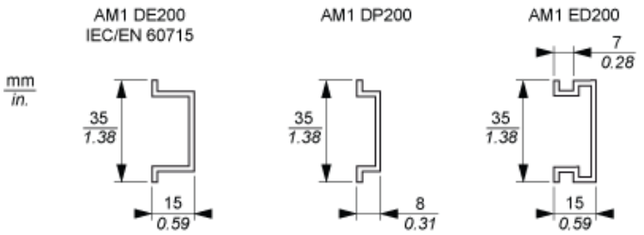
Installation Guidelines

TM7 Block on an Aluminium Frame



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

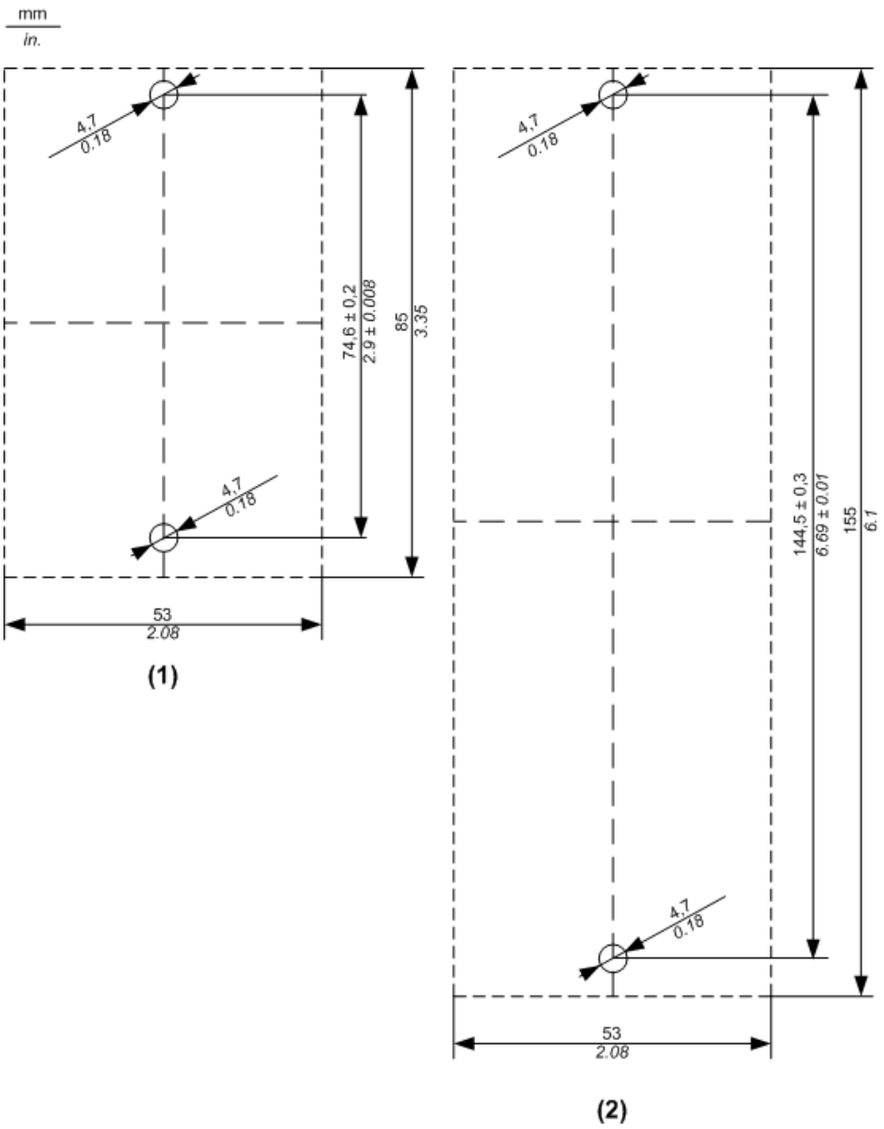
TM7 Block on a DIN Rail



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

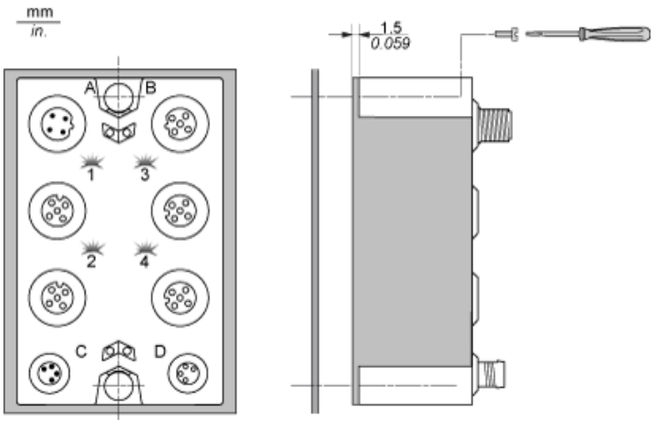
TM7 Block Directly on the Machine

Drilling template of the block:



(1) Size 1
(2) Size 2

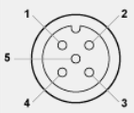
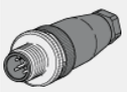
The thickness of the base plate should be taken into consideration when defining the screw length.



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

Wiring Diagram

Pin Assignments

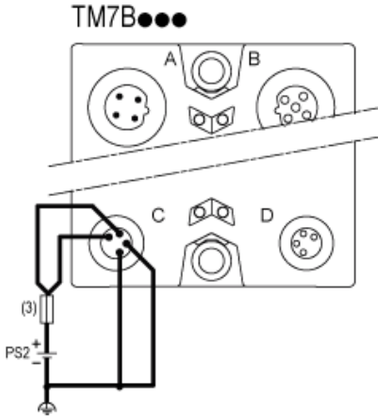
Pin	M12 input connectors 	TM7ACTHA thermocouple plug 
1	N.C.	Temperature compensation input
2	Analog input +	Analog input +
3	0 Vdc	0 Vdc
4	Analog input -	Analog input -
5	Shield	Shield

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

Recommended replacement(s)