

# TM7BAI4CLA

Analog I/O expansion block, Modicon TM7,  
IP67, 4 AI, 0 20 mA, M12 connector



## 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	Current
Analogue input range	0...20 mA
Analogue input resolution	12 bits
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 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	GOST-R ATEX II 3g EEx nA II T5 C-tick cURus
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	3595864093130
Nbr. of units in pkg.	1
Package weight(Lbs)	8.08 oz (229 g)
Returnability	No
Country of origin	AT

## Packing Units

Unit Type of Package 1	PCE
Package 1 Height	1.93 in (4.9 cm)
Package 1 width	2.28 in (5.8 cm)
Package 1 Length	4.06 in (10.3 cm)

## Offer Sustainability

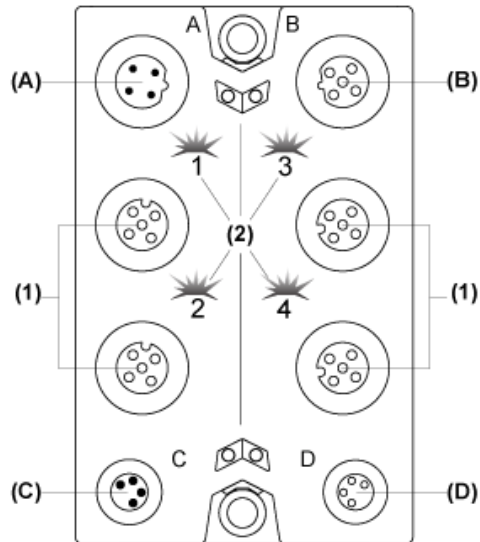
Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov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

## Contractual warranty

Warranty	18 months
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Analog Input Block

Description



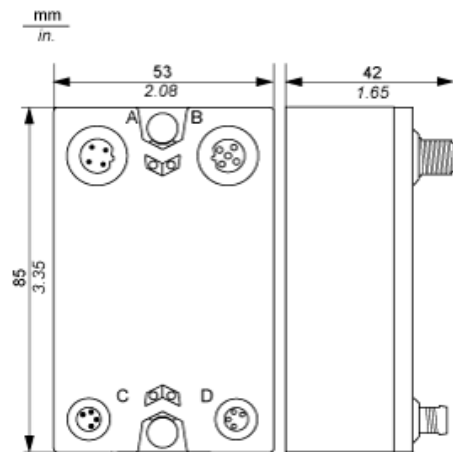
- (A) TM7 bus IN connector
- (B) TM7 bus OUT connector
- (C) 24 Vdc power IN connector
- (D) 24 Vdc power OUT connector
- (1) Input connectors
- (2) Status LEDs

Connector and Channel Assignments

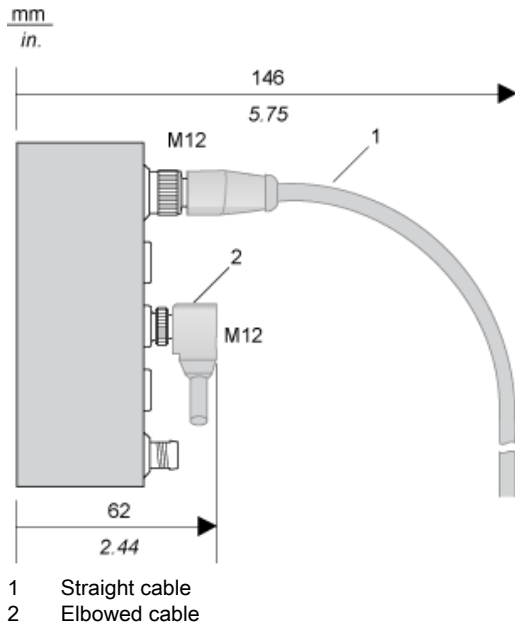
Input connectors	Channel type	Channels
1	Input	I0
2	Input	I1
3	Input	I2
4	Input	I3

TM7 Block, Size 1

Dimensions

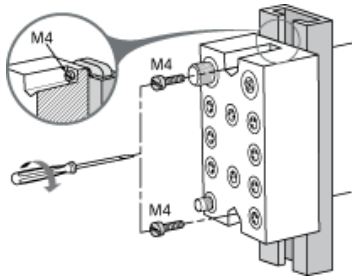


Spacing Requirements



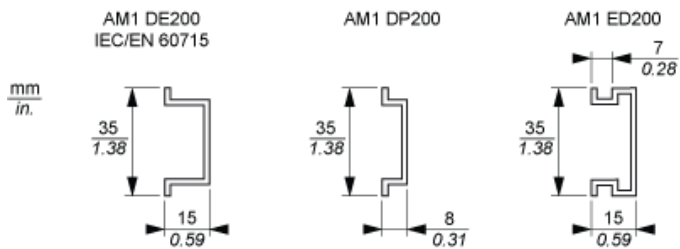
Installation Guidelines

TM7 Block on an Aluminium Frame



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

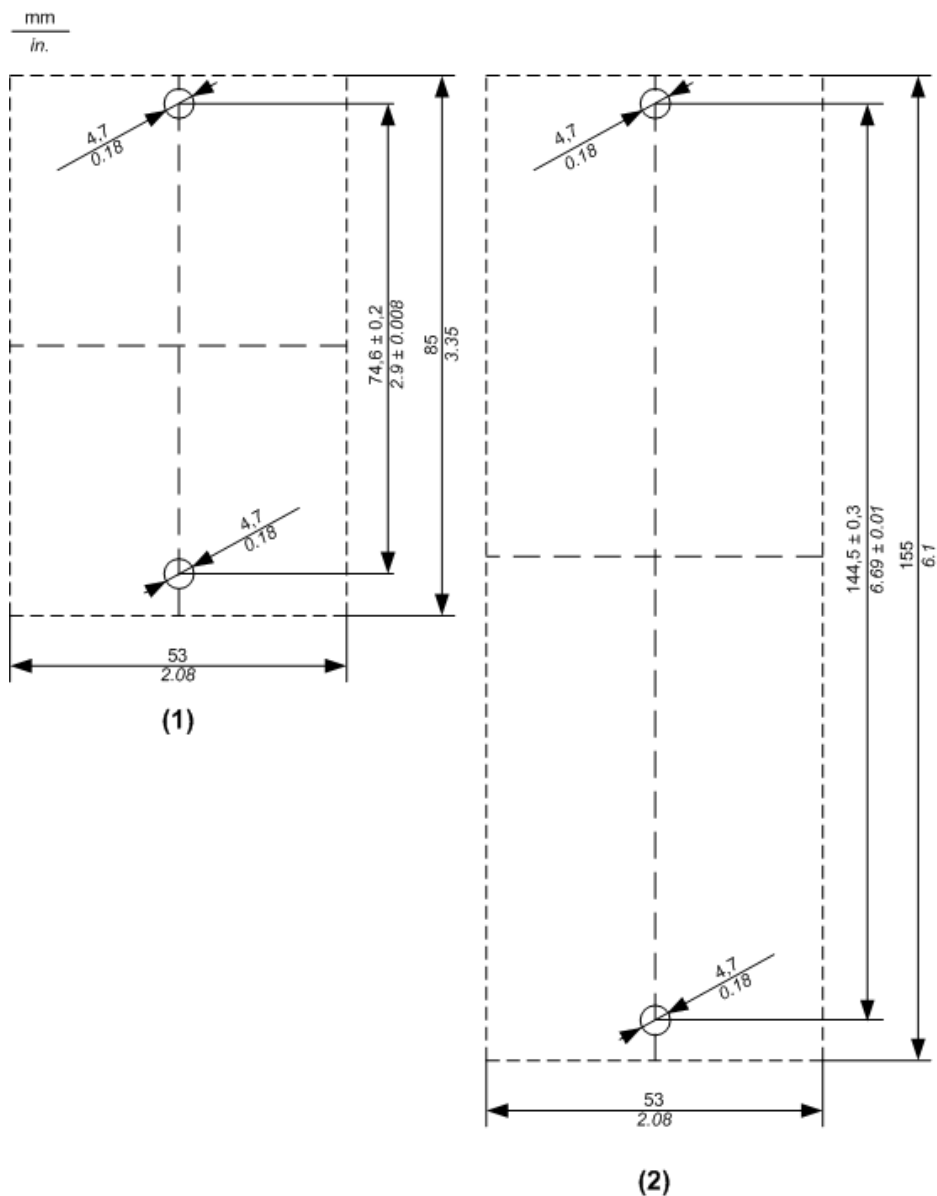
TM7 Block on a DIN Rail



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

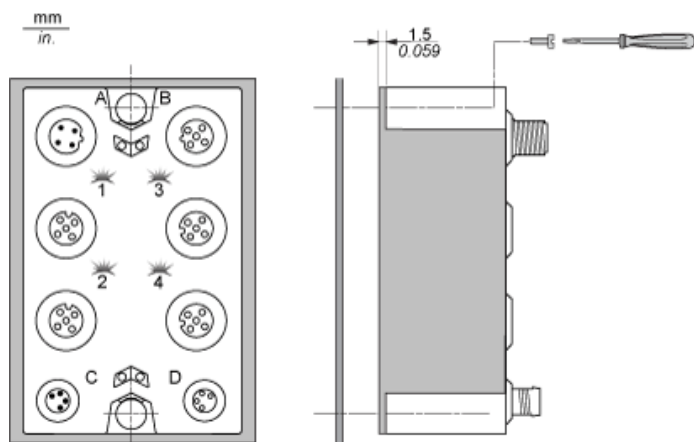
## TM7 Block Directly on the Machine

Drilling template of the block:



- (1) Size 1
- (2) Size 2

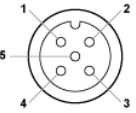
The thickness of the base plate should be taken into consideration when defining the screw length.



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

Wiring Diagram

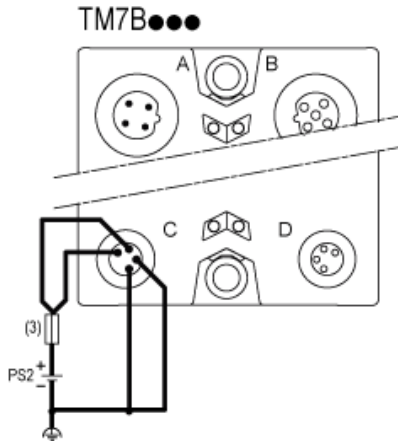
Pin Assignments for Input Connectors

Connection	Pin	M12 input
	1	24 Vdc sensor supply
2	Analog input +	
3	0 Vdc	
4	Analog input -	
5	Shield	

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