

# Product data sheet

Specifications



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

TM7BAI4CLA

**Product availability: Non-Stock - Not normally stocked in distribution facility**

### 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	2 LEDs for bus diagnostic 2 LEDs for sensor/actuator power supply status
Operating position	Any position
Fixing Mode	By 2 screws
Net Weight	0.4 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)

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

<b>Relative humidity</b>	5...95 % without condensation or dripping water
<b>Pollution degree</b>	2 IEC 60664
<b>IP degree of protection</b>	IP67 conforming to IEC 61131-2
<b>Operating altitude</b>	0...6561.68 ft (0...2000 m)
<b>Storage altitude</b>	0...9842.5 ft (0...3000 m)
<b>Vibration resistance</b>	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
<b>Shock resistance</b>	30 gn 11 ms IEC 60721-3-5 Class 5M3
<b>Resistance to electrostatic discharge</b>	6 kV in contact IEC 61000-4-2 8 kV in air IEC 61000-4-2
<b>Resistance to electromagnetic fields</b>	9.1 V/m (10 V/m) 0.08...2 Hz IEC 61000-4-3 0.9 V/m (1 V/m) 2...2.7 Hz IEC 61000-4-3
<b>Resistance to fast transients</b>	2 kV IEC 61000-4-4 power supply) 1 kV IEC 61000-4-4 input/output) 1 kV IEC 61000-4-4 shielded cable)
<b>surge withstand for DC 24 V circuit</b>	1 kV power supply (common mode) IEC 61000-4-5 0.5 kV power supply (differential mode) IEC 61000-4-5 1 kV unshielded links (common mode) IEC 61000-4-5 0.5 kV unshielded links (differential mode) IEC 61000-4-5 1 kV shielded links (common mode) IEC 61000-4-5 0.5 kV shielded links (differential mode) IEC 61000-4-5
<b>Electromagnetic compatibility</b>	EN/IEC 61000-4-6
<b>Disturbance radiated/conducted</b>	CISPR 11

## Ordering and shipping details

<b>Category</b>	US1PC1222532
<b>Discount Schedule</b>	PC12
<b>GTIN</b>	3595864093130
<b>Returnability</b>	No
<b>Country of origin</b>	AT

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Nbr. of units in pkg.</b>	1
<b>Package 1 Height</b>	1.97 in (5.000 cm)
<b>Package 1 Width</b>	2.28 in (5.800 cm)
<b>Package 1 Length</b>	4.17 in (10.600 cm)
<b>Package weight(Lbs)</b>	7.654 oz (217.000 g)
<b>Unit Type of Package 2</b>	S02
<b>Number of Units in Package 2</b>	24
<b>Package 2 Height</b>	5.91 in (15.000 cm)
<b>Package 2 Width</b>	11.81 in (30.000 cm)
<b>Package 2 Length</b>	15.75 in (40.000 cm)
<b>Package 2 Weight</b>	12.326 lb(US) (5.591 kg)

## Contractual warranty

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Warranty

18 months



## Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

### Environmental footprint

[Environmental Disclosure](#)

[Product Environmental Profile](#)

## Use Better

### Materials and Substances

Packaging made with recycled cardboard

No

Packaging without single use plastic

Yes

[EU RoHS Directive](#)

Pro-active compliance (Product out of EU RoHS legal scope)

REACH Regulation

[REACH Declaration](#)

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](http://www.P65Warnings.ca.gov)

PVC free

Yes

## Use Again

### Repack and remanufacture

Circularity Profile

[End of Life Information](#)

Take-back

No

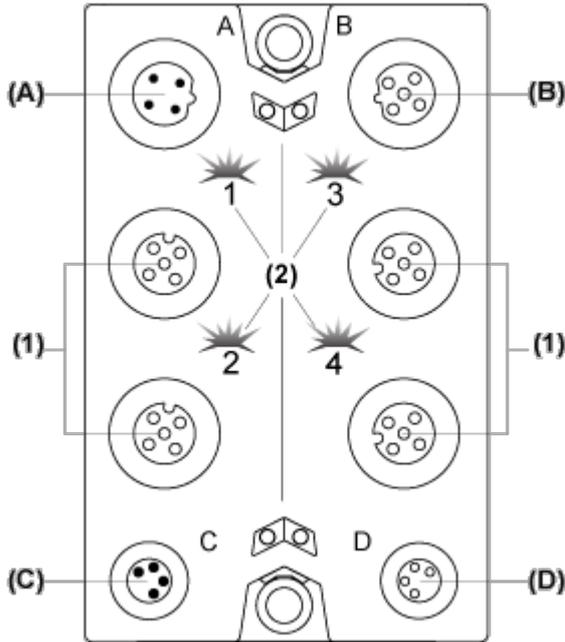
WEEE

 The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.

Presentation

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

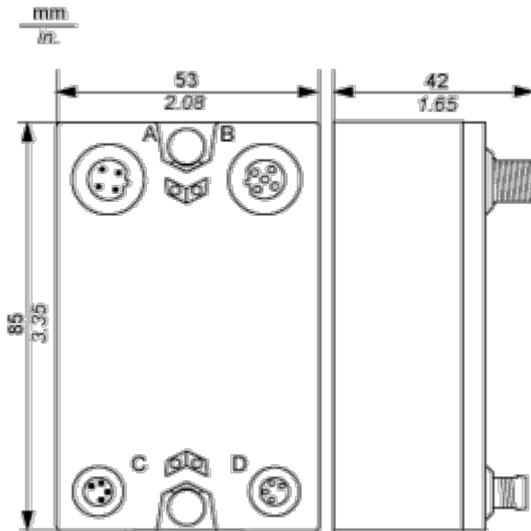
Input connectors	Channel type	Channels
1	Input	I0
2	Input	I1
3	Input	I2
4	Input	I3

Dimensions Drawings

TM7 Block, Size 1

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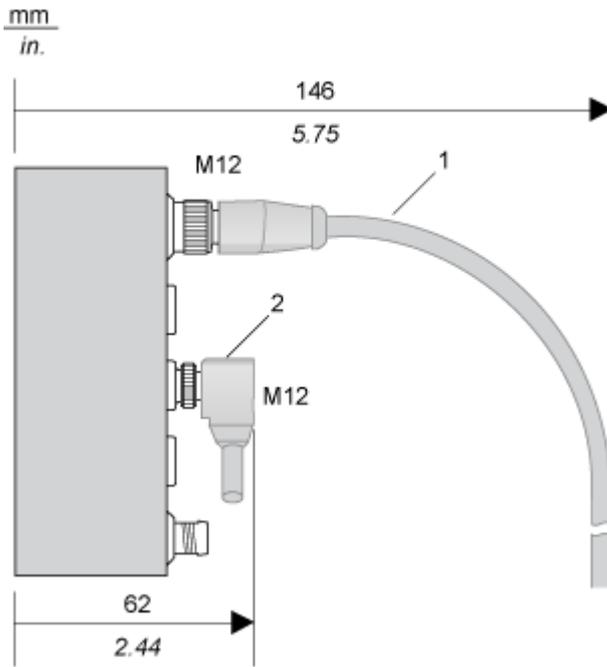
Dimensions



Mounting and Clearance

Spacing Requirements

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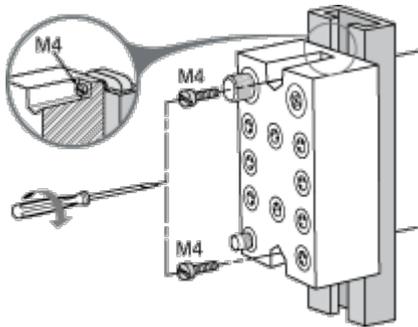


- 1 Straight cable
- 2 Elbowed cable

Installation Guidelines

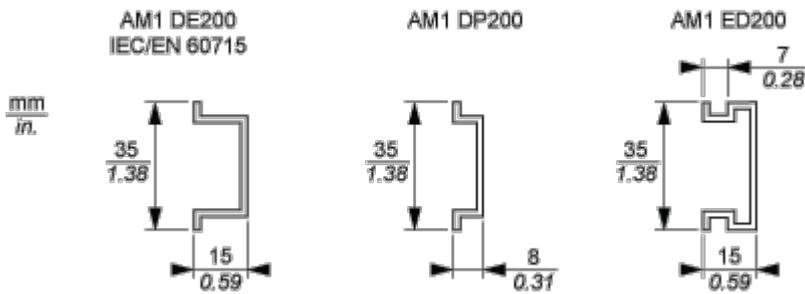
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**TM7 Block on an Aluminium Frame**



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

**TM7 Block on a DIN Rail**

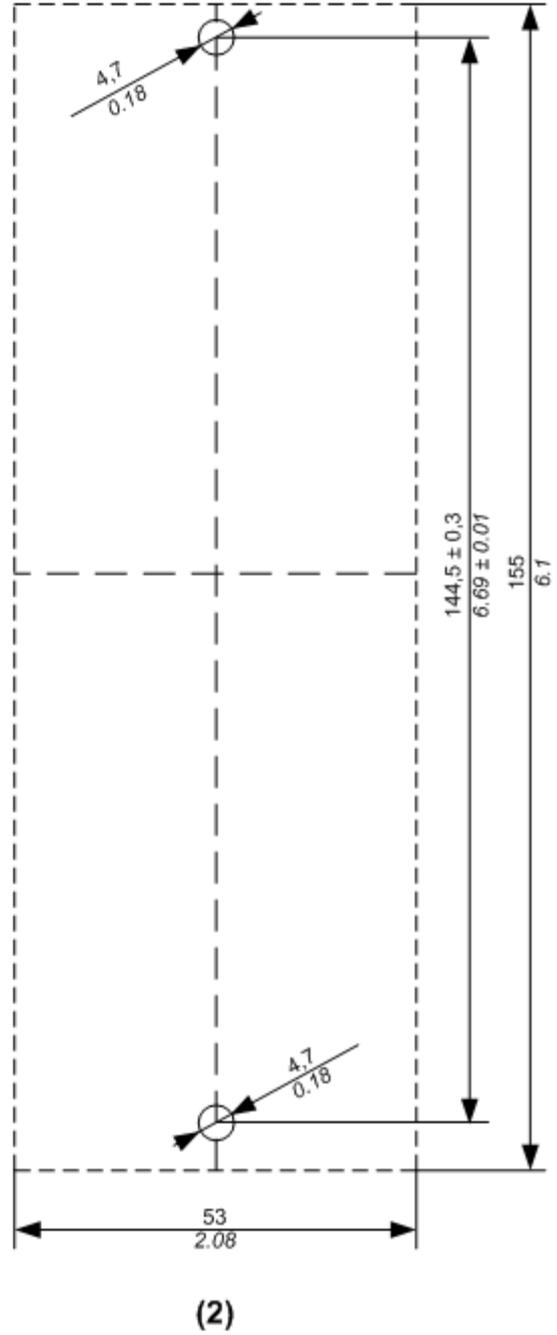
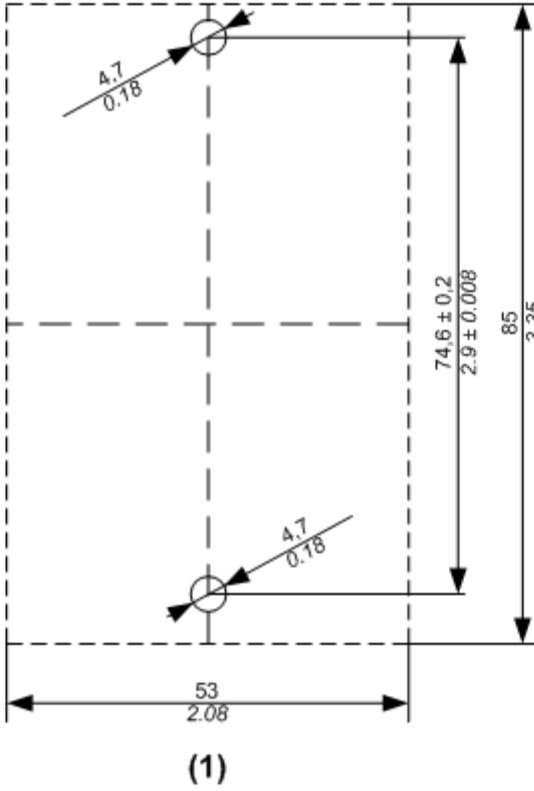


NOTE: Only size 1 (smallest) blocks can be installed on DIN rail with the TM7ACMP mounting plate.

**TM7 Block Directly on the Machine**

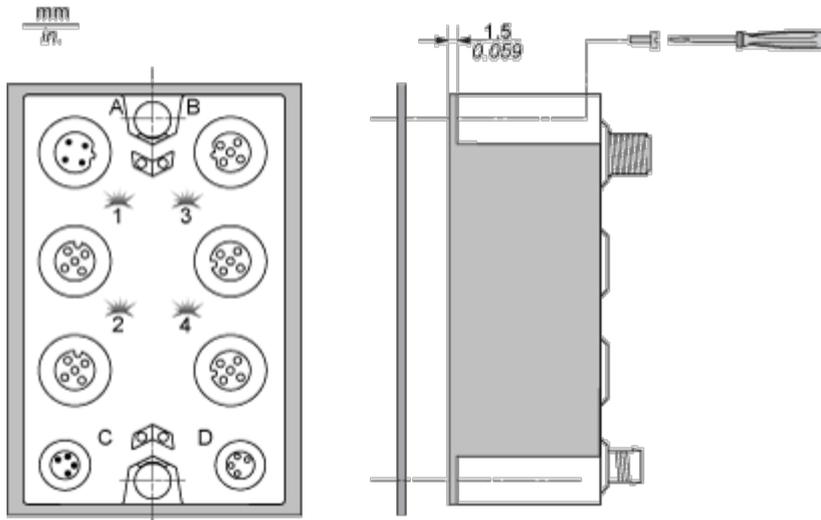
Drilling template of the block:

mm  
in.



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

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



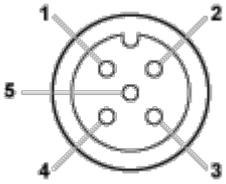
NOTE: Maximum torque to fasten the required M4 screws is 0.6 N.m (5.3 lbf-in).

Connections and Schema

Wiring Diagram

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Pin Assignments for Input Connectors

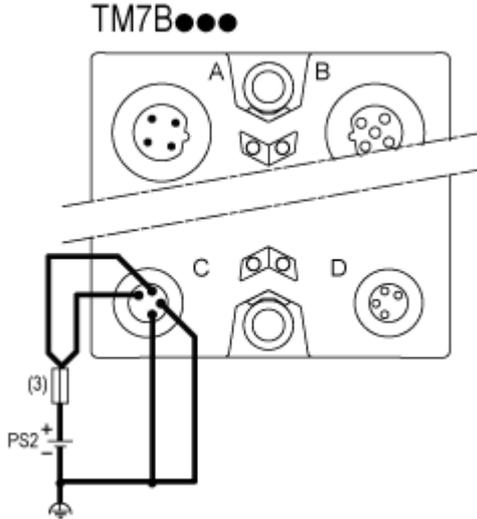
Connection	Pin	M12 input
	1	24 Vdc sensor supply
	2	Analog input +
	3	0 Vdc
	4	Analog input -
	5	Shield

**Wiring the Power Supply**

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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