

# Product datasheet

Specifications



## analog input module - 6I - thermocouple J/K/N/S - 16 bits

TM5SAI6TH

EAN Code: 3595864074788

### Main

Range of product	Modicon TM5
Product or component type	Analog input module
Analogue input number	6
Analogue input type	thermocouple - 210...1200 °C with thermocouple J thermocouple - 270...1300 °C with thermocouple N thermocouple - 270...1372 °C with thermocouple K thermocouple - 50...1768 °C with thermocouple S
Analogue input resolution	16 bits

### Complementary

Range compatibility	Modicon LMC058 Modicon M258
Product compatibility	Logic controller Motion controller
Measurement resolution	0.1 °C
Colour	White
Input filtering	1...66.7 ms configurable by software
Measurement error	+/- 0.1 % of full scale - 210...1200 °C thermocouple J at 25 °C +/- 0.11 % of full scale - 270...1300 °C thermocouple N at 25 °C +/- 0.11 % of full scale - 270...1372 °C thermocouple K at 25 °C +/- 0.17 % of full scale - 50...1768 °C thermocouple S at 25 °C
Temperature coefficient	0.01 %FS/°C, analogue input type: thermocouple
Non-linearity	+/- 0.001 %FS, analogue input type: thermocouple
Type of cable	Shielded cable
Isolation	No insulation between channels 500 Vrms AC insulation between channel and bus
Supply	Internal
[Us] rated supply voltage	24 V DC -15...20 %
Common mode rejection	> 70 dB
Local signalling	1 LED green for power supply 1 LED red for power supply 6 LEDs green for input status
Current consumption	2 mA at 5 V DC bus 38 mA at 24 V DC input/output
Maximum power dissipation in W	0.92 W
Marking	CE
Net weight	0.025 kg

## Environment

<b>Standards</b>	IEC 61131-2 CSA C22.2 No 213 UL 508 CSA C22.2 No 142
<b>Product certifications</b>	CSA GOST-R cULus C-Tick
<b>Ambient air temperature for operation</b>	0...55 °C without derating (horizontal installation) 0...60 °C with derating factor (horizontal installation) 0...50 °C (vertical installation)
<b>Ambient air temperature for storage</b>	-25...70 °C
<b>Relative humidity</b>	5...95 % without condensation
<b>IP degree of protection</b>	IP20 conforming to IEC 61131-2
<b>Pollution degree</b>	2 conforming to IEC 60664
<b>Operating altitude</b>	0...2000 m
<b>Storage altitude</b>	0...3000 m
<b>Vibration resistance</b>	1 gn at 8.4...150 Hz on DIN rail 3.5 mm at 5...8.4 Hz on DIN rail
<b>Shock resistance</b>	15 gn for 11 ms
<b>Resistance to electrostatic discharge</b>	4 kV on contact conforming to IEC 61000-4-2 8 kV in air conforming to IEC 61000-4-2
<b>Resistance to electromagnetic fields</b>	1 V/m 2...2.7 GHz conforming to IEC 61000-4-3 10 V/m 80...2000 MHz conforming to IEC 61000-4-3
<b>Resistance to fast transients</b>	1 kV (I/O) conforming to IEC 61000-4-4 1 kV (shielded cable) conforming to IEC 61000-4-4 2 kV (power lines) conforming to IEC 61000-4-4
<b>Surge withstand</b>	0.5 kV differential mode conforming to IEC 61000-4-5 1 kV common mode conforming to IEC 61000-4-5
<b>Electromagnetic compatibility</b>	EN/IEC 61000-4-6
<b>Disturbance radiated/conducted</b>	CISPR 11

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	2.0 cm
<b>Package 1 Width</b>	6.0 cm
<b>Package 1 Length</b>	10.5 cm
<b>Package 1 Weight</b>	41.0 g
<b>Unit Type of Package 2</b>	S02
<b>Number of Units in Package 2</b>	97
<b>Package 2 Height</b>	15.0 cm
<b>Package 2 Width</b>	30.0 cm
<b>Package 2 Length</b>	40.0 cm
<b>Package 2 Weight</b>	4.28 kg

## Logistical informations

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Country of origin                      AT

## **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](#)

PVC free

Yes

## Use Again

### Repack and remanufacture

End of life manual availability

[End of Life Information](#)

Take-back

No

WEEE Label

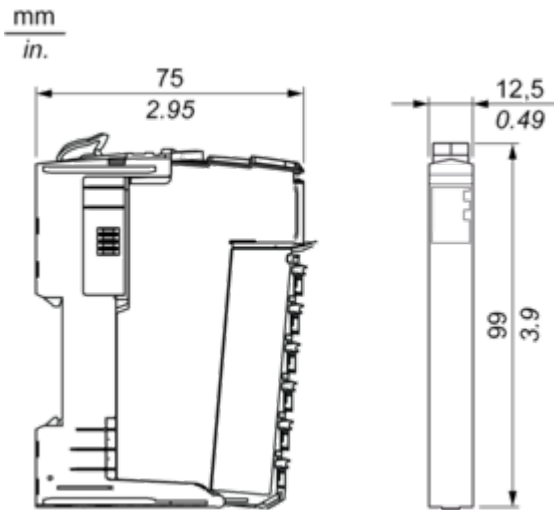
 The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Dimensions Drawings

TM5 Slice

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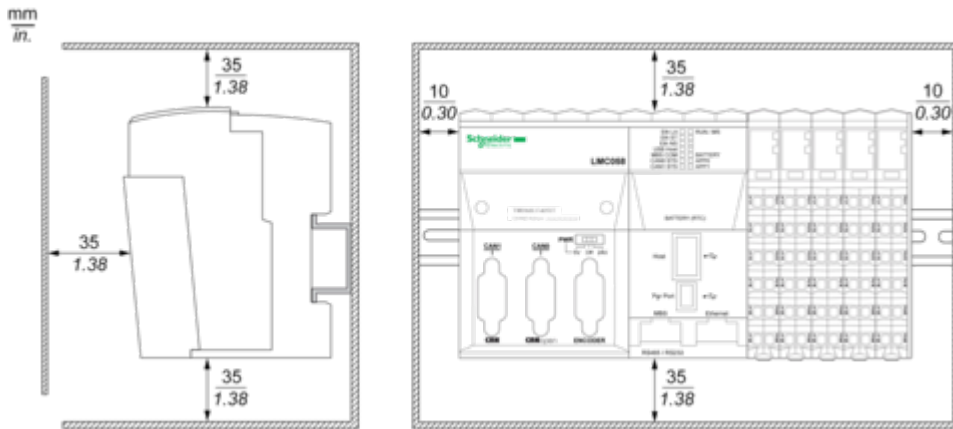
Dimensions



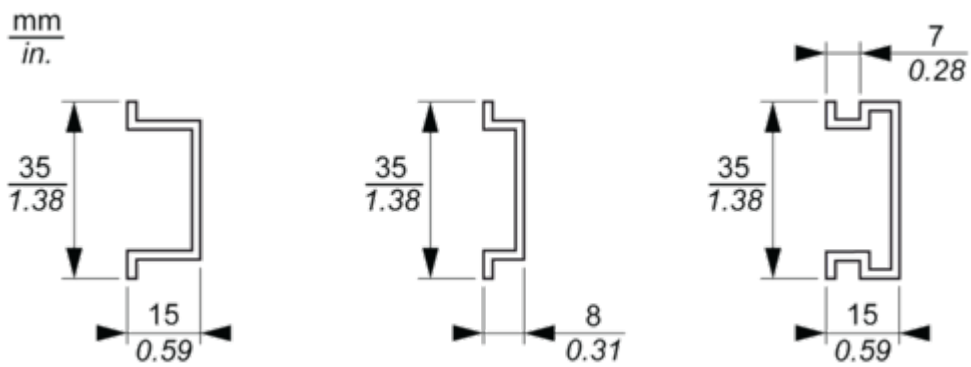
Mounting and Clearance

TM5 System

Spacing Requirements



Mounting on a DIN Rail

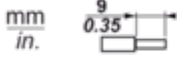






Connections and Schema

**TM5 System Wiring Recommendations**

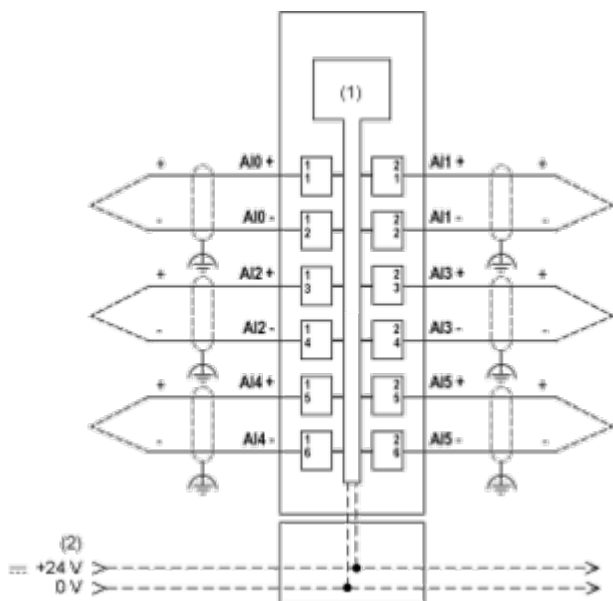
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**Wire Sizes to Use with the Removable Spring Terminal Blocks**

 mm in.				
mm <sup>2</sup>	0,08...2,5	0,25...2,5	0,25...1,5	2 x 0,25...2 x 0,75
AWG	28...14	24...14	24...16	2 x 24...2 x 18

Electronic Module 6AI Thermocouple J/K/N/S 16 Bits

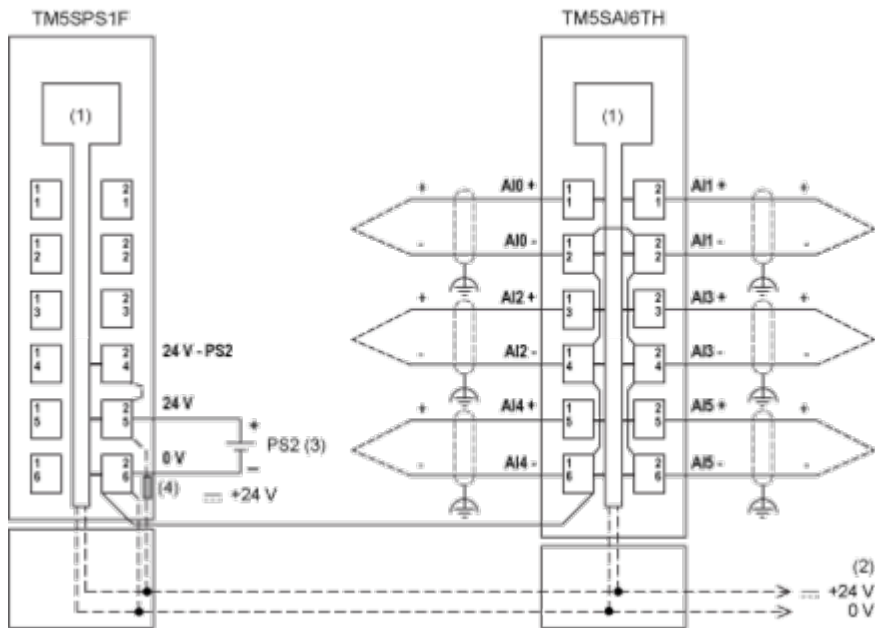
Wiring Diagram



- (1) Internal electronics
- (2) 24 Vdc I/O power segment integrated into the bus bases

Ceramic Heating Element with Integrated Thermo Elements

Ripple voltage effects can potentially cause measurement errors. The following figure shows the wiring diagram with a PDM:



- (1) Internal electronics
- (2) 24 Vdc I/O power segment integrated into the bus bases
- (3) PS2: External isolated SELV power supply 24 Vdc limited to 200 VA for UL508 conformance, or limited to 150 VA for CSA 22.2, N° 142 conformance
- (4) Integrated fuse type T slow-blow 6.3 A 250 V exchangeable