

# Product datasheet

Specifications



## analog input module, Modicon TM5, 4I, +/-10V, 0 to 20mA, 16bits

TM5SAI4H

### Main

Range Of Product	Modicon TM5
Product Or Component Type	Analog input module
Analogue Input Number	4
Analogue Input Type	current 0...20 mA differential voltage +/- 10 V differential
Analogue Input Resolution	15 bits + sign +/- 10 V 15 bits 0...20 mA

### Complementary

Range Compatibility	Modicon LMC058 Modicon M258
Product Compatibility	Motion controller Logic controller
Measurement Resolution	305 $\mu$ V, +/- 10 V 610 nA, 0...20 mA
Colour	White
Input Impedance	$\geq$ 20 mOhm voltage
Load Impedance Ohmic	$\leq$ 400 Ohm (current)
Sampling Duration	50 $\mu$ s
Measurement Error	$<$ 0.08 % of full scale +/- 10 V +/- 10 V at 25 °C $<$ 0.08 % of full scale 0...20 mA 0...20 mA at 25 °C
Temperature Coefficient	0.01 %FS/°C
Non-Linearity	$<$ 0.01 %FS, analogue input type: voltage $<$ 0.015 %FS, analogue input type: current
Type Of Cable	Shielded cable
Isolation	500 Vrms AC insulation between channel and bus No insulation between channels
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 4 LEDs green for input status
Current Consumption	2 mA at 5 V DC bus 63 mA at 24 V DC input/output
Maximum Power Dissipation In W	1.51 W
Marking	CE

Net Weight	0.025 kg
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## Environment

Standards	CSA C22.2 No 213 IEC 61131-2 CSA C22.2 No 142 UL 508
Product Certifications	CSA C-Tick GOST-R cULus
Ambient Air Temperature For Operation	0...55 °C without derating (horizontal installation) 0...60 °C with derating factor (horizontal installation) 0...50 °C (vertical installation)
Ambient Air Temperature For Storage	-25...70 °C
Relative Humidity	5...95 % without condensation
Ip Degree Of Protection	IP20 conforming to IEC 61131-2
Pollution Degree	2 conforming to IEC 60664
Operating Altitude	0...2000 m
Storage Altitude	0...3000 m
Vibration Resistance	1 gn at 8.4...150 Hz on DIN rail 3.5 mm at 5...8.4 Hz on DIN rail
Shock Resistance	15 gn for 11 ms
Resistance To Electrostatic Discharge	4 kV on contact conforming to IEC 61000-4-2 8 kV in air conforming to IEC 61000-4-2
Resistance To Electromagnetic Fields	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
Resistance To Fast Transients	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
Surge Withstand	0.5 kV differential mode conforming to IEC 61000-4-5 1 kV common mode conforming to IEC 61000-4-5
Electromagnetic Compatibility	EN/IEC 61000-4-6
Disturbance Radiated/Conducted	CISPR 11

## Packing Units

Unit Type Of Package 1	PCE
Number Of Units In Package 1	1
Package 1 Height	2.000 cm
Package 1 Width	6.000 cm
Package 1 Length	10.500 cm
Package 1 Weight	41.000 g
Unit Type Of Package 2	S02
Number Of Units In Package 2	97
Package 2 Height	15.000 cm
Package 2 Width	30.000 cm
Package 2 Length	40.000 cm
Package 2 Weight	4.310 kg

# Contractual warranty

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Warranty

18 months

## Sustainability

**Green Premium™ label** is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO<sub>2</sub> products.

**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

[Learn more about Green Premium >](#)

[Guide to assess a product's sustainability >](#)



Transparency RoHS/REACH

## Well-being performance

Toxic Heavy Metal Free

Mercury Free

Rohs Exemption Information [Yes](#)

Pvc Free

## Certifications & Standards

**Reach Regulation**

[REACH Declaration](#)

**Eu Rohs Directive**

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

**China Rohs Regulation**

[China RoHS declaration](#)

**Environmental Disclosure**

[Product Environmental Profile](#)

**Weee**

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

**Circularity Profile**

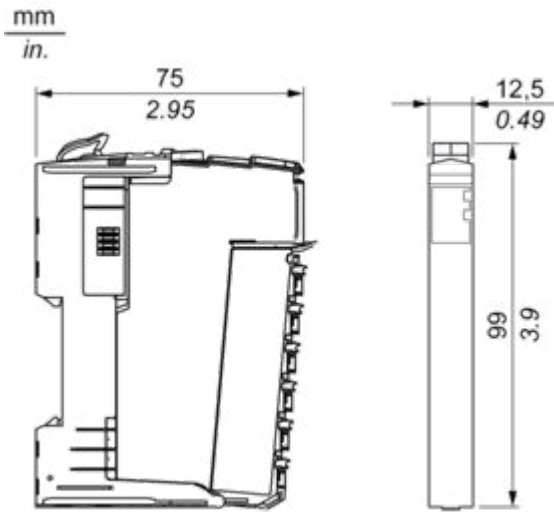
[End of Life Information](#)

Dimensions Drawings

TM5 Slice

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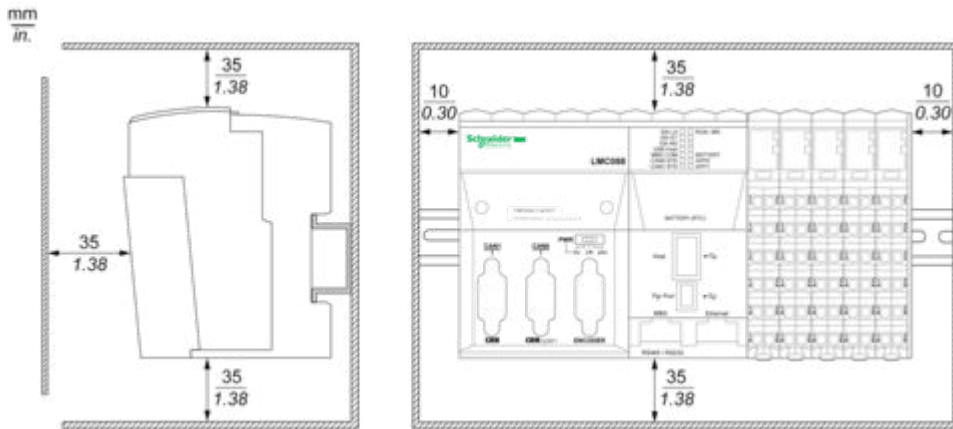
Dimensions



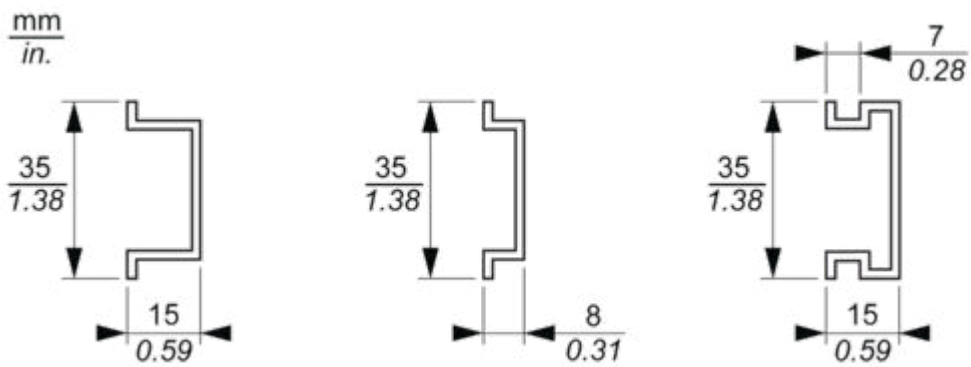
Mounting and Clearance

TM5 System

Spacing Requirements



Mounting on a DIN Rail

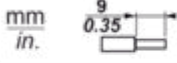






Connections and Schema

**TM5 System Wiring Recommendations**

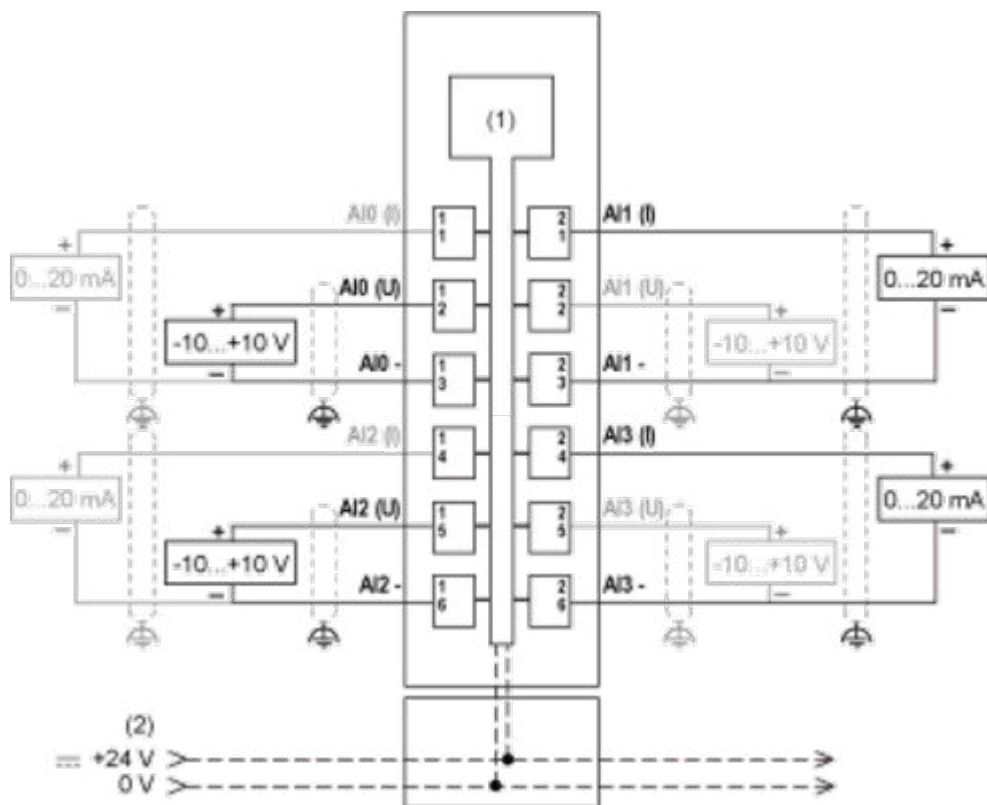
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**Wire Sizes to Use with the Removable Spring Terminal Blocks**

 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 4AI ±10V/0-20mA 16 Bits

Wiring Diagram



(1) Internal electronics

(2) 24 Vdc I/O power segment integrated into the bus bases

(I) Current

(U) Voltage

Condition of Installation

Do not place 16-bit analog input modules side-by-side because their electromagnetic characteristics may lead to mutual interference and possible unintended equipment operation. Further, other types of equipments can generate similar electromagnetic interference affecting the conversion accuracy of the modules. In the physical configuration, a single slice of non-interfering equipment is sufficient to avoid this type of disturbance. Separate the 16-bit analog modules from each other and from the following equipment:

- TM5SBER2 Bus receiver
- TM5SPS2 and TM5SPS2F Power Distribution Modules
- TM258... and LMC058... Controllers