Product datasheet

Specifications

Green Premium™

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

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

Environment

Standards	IEC 61131-2 CSA C22.2 No 213 UL 508 CSA C22.2 No 142
Product Certifications	CSA GOST-R cULus C-Tick
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	2.0 cm
Package 1 Width	6.0 cm
Package 1 Length	10.5 cm
Package 1 Weight	41.0 g
Unit Type Of Package 2	S02
Number Of Units In Package 2	97
Package 2 Height	15.0 cm
Package 2 Width	30.0 cm
Package 2 Length	40.0 cm
Package 2 Weight	4.28 kg

Contractual warranty

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_2 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

Reach Free Of Svhc	
Toxic Heavy Metal Free	
Mercury Free	
Rohs Exemption Information	Yes
Pvc Free	

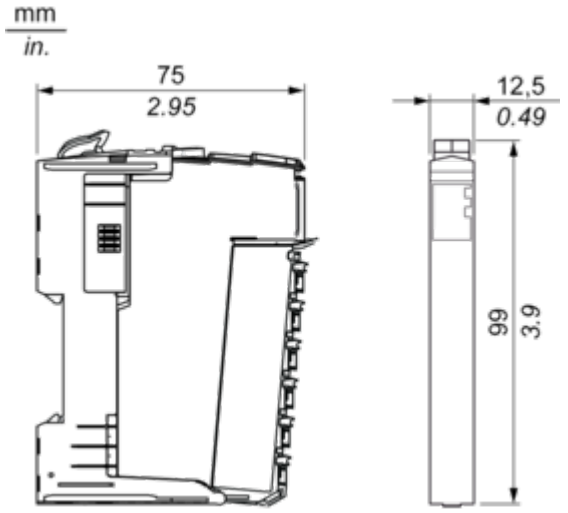
Certifications & Standards

Reach Regulation	REACh Declaration
Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
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

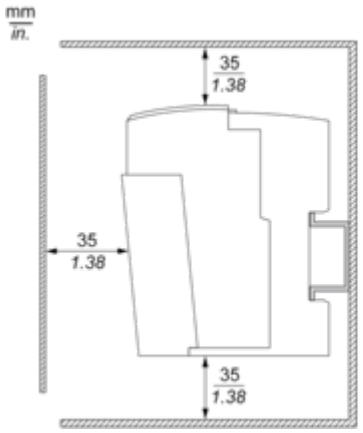
Dimensions

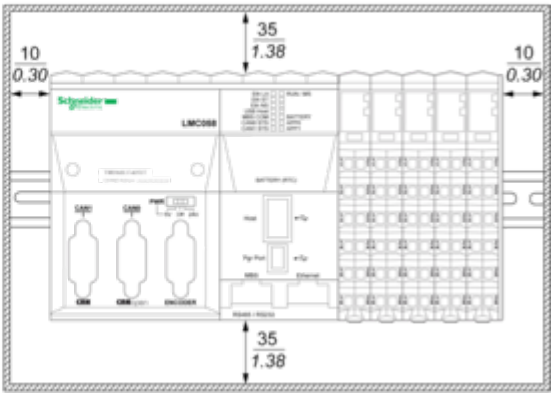


Mounting and Clearance

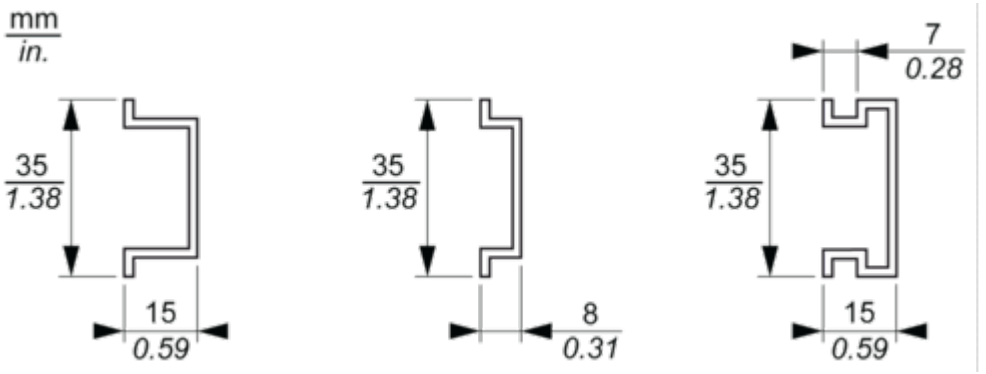
TM5 System

Spacing Requirements





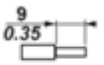
Mounting on a DIN Rail



Connections and Schema

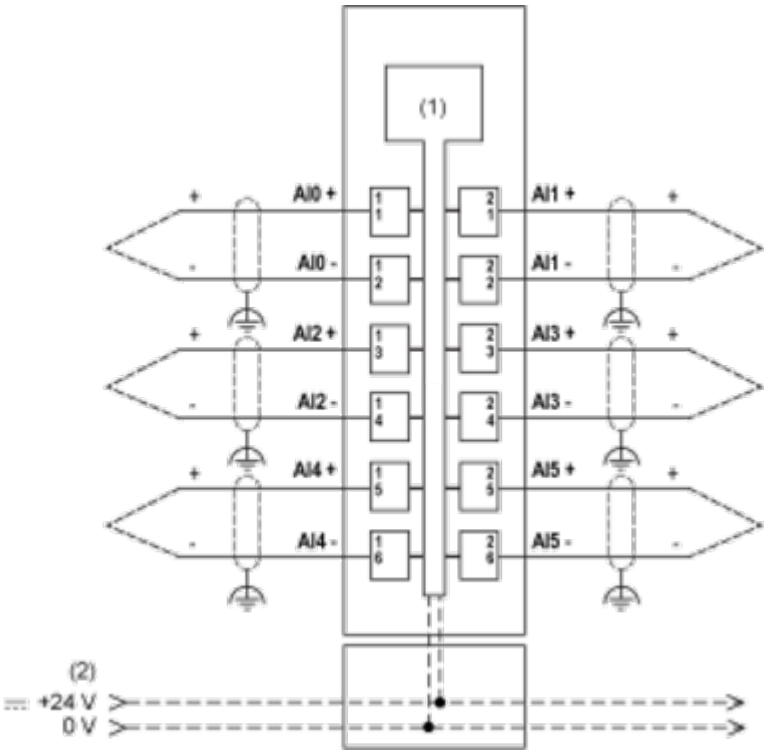
TM5 System Wiring Recommendations

Wire Sizes to Use with the Removable Spring Terminal Blocks

mm / in. 				
mm²	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

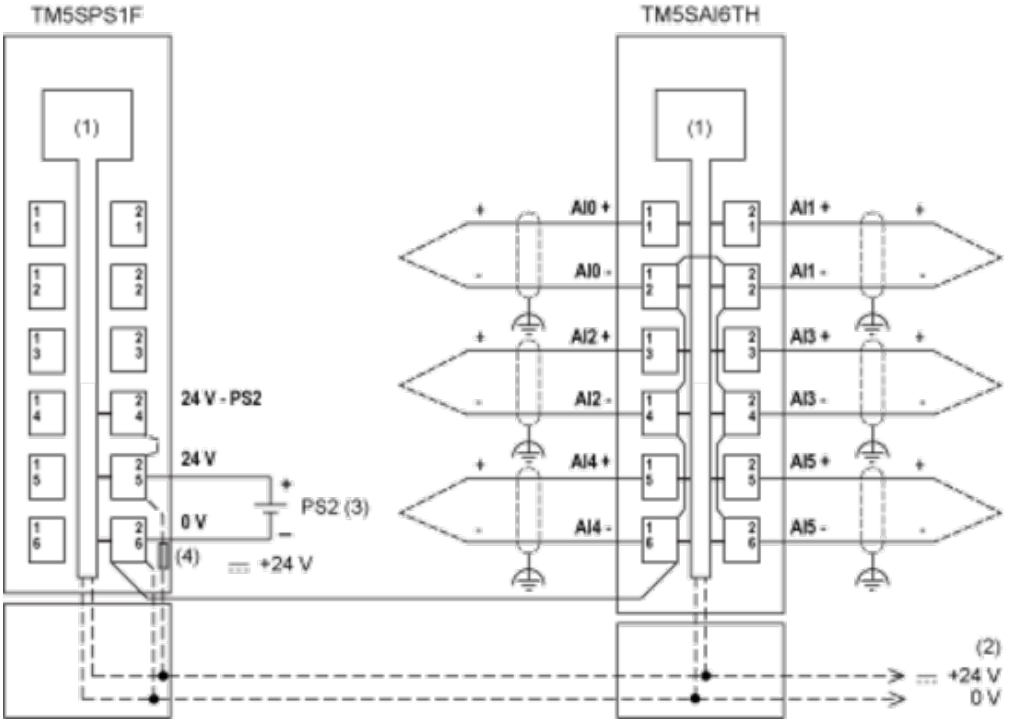
Wiring Diagram



(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