

# Product data sheet

Specifications



## analog input module, Modicon TM3, 8 temperature inputs, spring, 24V DC

TM3TI8TG

### Main

Range of product	Modicon TM3
Product or component type	Analog input module
Range compatibility	Modicon M221 Modicon M241 Modicon M251 Modicon M262
Analogue input number	8
Analogue input type	thermocouple - 200...1000 °C with thermocouple J thermocouple - 200...1300 °C with thermocouple K thermocouple 0...1760 °C with thermocouple R thermocouple 0...1760 °C with thermocouple S thermocouple 0...1820 °C with thermocouple B thermocouple - 200...400 °C with thermocouple T thermocouple - 200...1300 °C with thermocouple N thermocouple - 200...800 °C with thermocouple E NTC 10k thermistor -90...150 °C PTC thermistor 100...10000 Ohm

### Complementary

Analogue input resolution	16 bits 15 bits + sign
Input impedance	>= 1 MOhm thermocouple >= 1 MOhm temperature probe >= 1 MOhm thermistor
LSB value	0.1 °C thermocouple 0.1 °C with NTC probe 1 Ohm with PTC/NTC probe
Conversion time	100 ms + 100 ms per channel + 1 controller cycle time
Sampling duration	100 ms
Absolute accuracy error	+/- 0.2 % of full scale at 25 °C for thermocouple C 0...2315 °C +/- 6 °C at 25 °C for thermocouple R, S 0...200 °C +/- 0.2 % of full scale at 25 °C for thermocouple R, S 200...1760 °C +/- 0.2 % of full scale at 25 °C for thermocouple B 300...1820 °C +/- 0.4 % of full scale at 25 °C for thermocouple K - 200...0 °C +/- 0.2 % of full scale at 25 °C for thermocouple K 0...1300 °C +/- 0.4 % of full scale at 25 °C for thermocouple J - 200...0 °C +/- 0.2 % of full scale at 25 °C for thermocouple J 0...1000 °C +/- 0.4 % of full scale at 25 °C for thermocouple E - 200...0 °C +/- 0.2 % of full scale at 25 °C for thermocouple E 0...800 °C +/- 0.4 % of full scale at 25 °C for thermocouple T - 200...0 °C +/- 0.2 % of full scale at 25 °C for thermocouple T 0...400 °C +/- 0.4 % of full scale at 25 °C for thermocouple N - 200...0 °C +/- 0.2 % of full scale at 25 °C for thermocouple N 0...1300 °C
Temperature drift	+/- 0.01 %FS/°C
Repeat accuracy	+/-0.5 %FS
Non-linearity	+/- 0.2 %FS

<b>Cross talk</b>	<= 1 LSB
<b>[Us] rated supply voltage</b>	24 V DC
<b>Supply voltage limits</b>	20.4...28.8 V
<b>Type of cable</b>	Twisted shielded pairs cable <30 m for input circuit
<b>Current consumption</b>	30 mA at 24 V DC via external supply 45 mA at 5 V DC via bus connector 40 mA at 5 V DC via bus connector
<b>Local signalling</b>	1 LED (green) for PWR
<b>Electrical connection</b>	10 x 1.5 mm <sup>2</sup> removable screw terminal block with pitch 3.81 mm adjustment for inputs and supply 10 x 1.5 mm <sup>2</sup> removable screw terminal block with pitch 3.81 mm adjustment for inputs
<b>Insulation</b>	Between input and supply at 1500 V AC Between input and internal logic at 500 V AC
<b>Marking</b>	CE
<b>Surge withstand</b>	1 kV power supply common mode conforming to IEC 61000-4-5 0.5 kV power supply differential mode conforming to IEC 61000-4-5 1 kV input common mode conforming to IEC 61000-4-5
<b>Mounting support</b>	Top hat type TH35-15 rail conforming to IEC 60715 Top hat type TH35-7.5 rail conforming to IEC 60715 plate or panel with fixing kit
<b>Height</b>	90 mm
<b>Depth</b>	70 mm
<b>Width</b>	23.6 mm
<b>Net weight</b>	0.1 kg

## Environment

<b>Standards</b>	IEC 61131-2
<b>Product certifications</b>	CE UKCA RCM EAC cULus cULus HazLoc
<b>Resistance to electrostatic discharge</b>	8 kV in air conforming to IEC 61000-4-2 4 kV on contact conforming to IEC 61000-4-2
<b>Resistance to electromagnetic fields</b>	10 V/m 80 MHz...1 GHz conforming to IEC 61000-4-3 3 V/m 1.4 GHz...2 GHz conforming to IEC 61000-4-3 1 V/m 2 GHz...3 GHz conforming to IEC 61000-4-3
<b>Resistance to magnetic fields</b>	30 A/m conforming to IEC 61000-4-8
<b>Resistance to fast transients</b>	1 kV (I/O) conforming to IEC 61000-4-4
<b>Resistance to conducted disturbances</b>	10 V 0.15...80 MHz conforming to IEC 61000-4-6 3 V spot frequency (2, 3, 4, 6.2, 8.2, 12.6, 16.5, 18.8, 22, 25 MHz) conforming to Marine specification (LR, ABS, DNV, GL)
<b>Electromagnetic emission</b>	Radiated emissions - test level: 40 dB $\mu$ V/m QP class A ( 10 m) at 30...230 MHz conforming to IEC 55011 Radiated emissions - test level: 47 dB $\mu$ V/m QP class A ( 10 m) at 230...1000 MHz conforming to IEC 55011
<b>Immunity to microbreaks</b>	10 ms
<b>Ambient air temperature for operation</b>	-10...55 °C horizontal installation -10...35 °C vertical installation
<b>Ambient air temperature for storage</b>	-25...70 °C

<b>Relative humidity</b>	10...95 %, without condensation (in operation) 10...95 %, without condensation (in storage)
<b>IP degree of protection</b>	IP20
<b>Pollution degree</b>	2
<b>Operating altitude</b>	0...2000 m
<b>Storage altitude</b>	0...3000 m
<b>Vibration resistance</b>	3.5 mm at 5...8.4 Hz on DIN rail 3 gn at 8.4...150 Hz on DIN rail
<b>Shock resistance</b>	15 gn for 11 ms

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	7.500 cm
<b>Package 1 Width</b>	10.500 cm
<b>Package 1 Length</b>	12.500 cm
<b>Package 1 Weight</b>	210.000 g
<b>Unit Type of Package 2</b>	S02
<b>Number of Units in Package 2</b>	9
<b>Package 2 Height</b>	15.000 cm
<b>Package 2 Width</b>	30.000 cm
<b>Package 2 Length</b>	40.000 cm
<b>Package 2 Weight</b>	2.335 kg
<b>Unit Type of Package 3</b>	P12
<b>Number of Units in Package 3</b>	288
<b>Package 3 Height</b>	100.000 cm
<b>Package 3 Width</b>	125.000 cm
<b>Package 3 Length</b>	55.000 cm
<b>Package 3 Weight</b>	30.760 kg



## 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	
Total lifecycle Carbon footprint	41
Environmental Disclosure	<a href="#">Product Environmental Profile</a>

### Use Better

Materials and Substances	
Packaging made with recycled cardboard	No
Packaging without single use plastic	Yes
<a href="#">EU RoHS Directive</a>	Pro-active compliance (Product out of EU RoHS legal scope)
SCIP Number	7cc01735-94b8-432b-9a81-f9da4dd7709d
REACH Regulation	<a href="#">REACH Declaration</a>
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>
PVC free	Yes

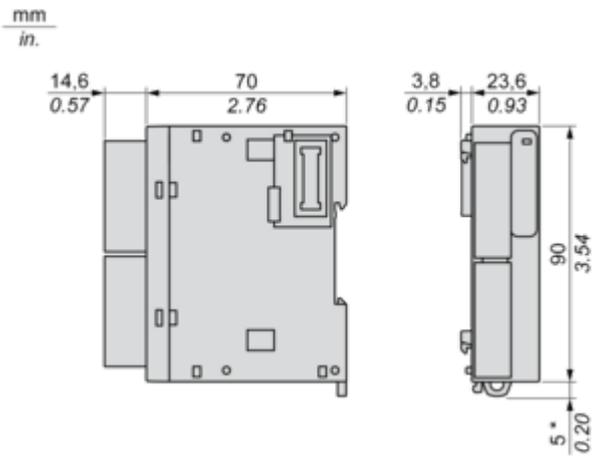
### Use Again

Repack and remanufacture	
End of life manual availability	<a href="#">End of Life Information</a>
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

Dimensions

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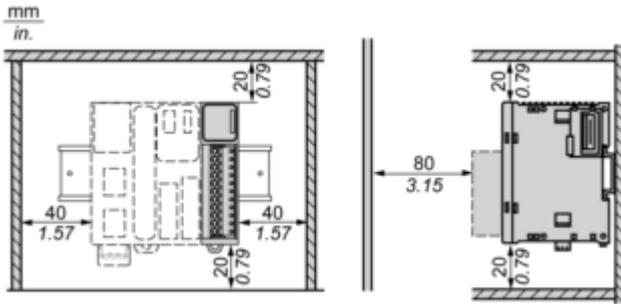


(\* ) 8.5 mm/0.33 in when the clamp is pulled out.

Mounting and Clearance

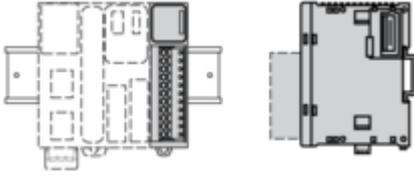
Spacing Requirements

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Mounting on a Rail

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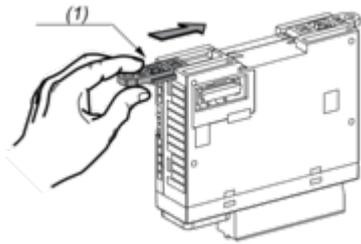


**Incorrect Mounting**



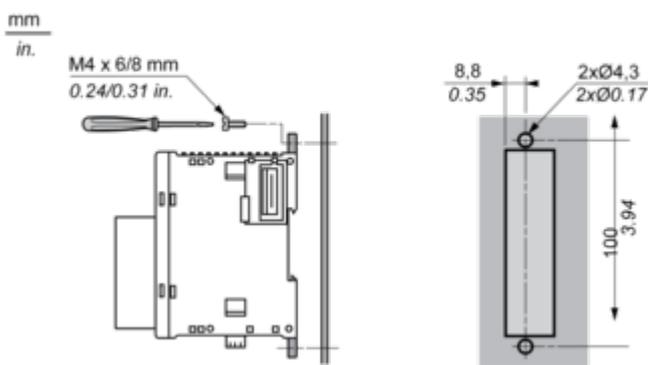
**Mounting on a Panel Surface**

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(1) Install a mounting strip

**Mounting Hole Layout**

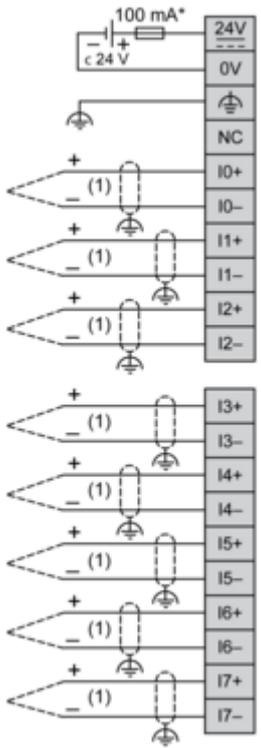


Connections and Schema

Analogue Input Module

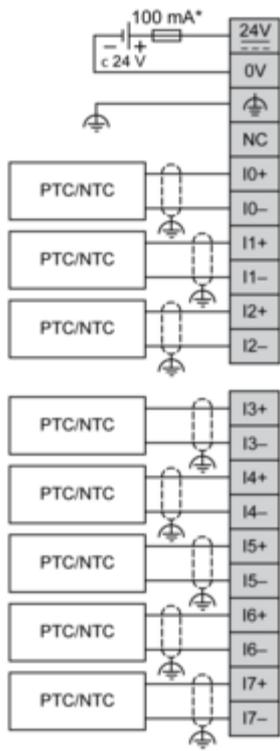
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Wiring Diagram (Thermocouple Input Type)



(\*) Type T fuse  
(1) Thermocouple

Wiring Diagram (Temperature Probe Input Type)



(\*) Type T fuse