

Product data sheet

Specifications



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

TM3TI4G

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	4
Analogue input type	current 4...20 mA current 0...20 mA voltage 0...10 V voltage - 10...10 V 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 thermocouple 0...2315 °C with thermocouple C Pt 100 temperature probe - 200...850 °C Pt 1000 temperature probe - 200...600 °C

Complementary

Analogue input resolution	16 bits 15 bits + sign
Permissible continuous overload	13 V, analogue input type: voltage 40 mA, analogue input type: current
Input impedance	<= 50 Ohm current >= 1 MOhm voltage >= 1 MOhm thermocouple >= 1 MOhm temperature probe
LSB value	2.44 mV 0...10 Vvoltage 4.88 mV - 10...10 Vvoltage 4.88 µA 0...20 mAcurrent 3.91 µA 4...20 mAcurrent 0.1 °Ctemperature probe 0.1 °Cthermocouple
Conversion time	100 ms + 100 ms per channel + 1 controller cycle time for analogue input thermocouple 100 ms + 100 ms per channel + 1 controller cycle time for analogue input temperature probe 10 ms + 10 ms per channel + 1 controller cycle time for analogue input voltage/ current
Sampling duration	10 ms, analogue input type: voltage/current 100 ms, analogue input type: voltage/current 100 ms, analogue input type: thermocouple 100 ms, analogue input type: temperature probe

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

Absolute accuracy error	+/- 0.2 % of full scale at 25 °C for analogue input voltage/current +/- 0.2 % of full scale at 25 °C for Pt 100/Pt 1000, Ni 100/ Ni 1000 temperature probe +/- 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
Cross talk	<= 1 LSB
[Us] rated supply voltage	24 V DC
Supply voltage limits	20.4...28.8 V
Type of cable	Twisted shielded pairs cable <30 m for input circuit
Current consumption	45 mA at 5 V DC via bus connector 50 mA at 5 V DC via bus connector 35 mA at 24 V DC via external supply 40 mA at 24 V DC via external supply
Local signalling	1 LED (green) for PWR
Electrical connection	10 x 1.5 mm² removable screw terminal block with pitch 3.81 mm adjustment for inputs and supply 10 x 1.5 mm² removable screw terminal block with pitch 3.81 mm adjustment for inputs
Insulation	Between input and supply at 1500 V AC Between input and internal logic at 500 V AC
Marking	CE
Surge withstand	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
Mounting support	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
Height	90 mm
Depth	70 mm
Width	23.6 mm
Net weight	0.1 kg

Environment

Standards	IEC 61131-2
Product certifications	CE UKCA RCM EAC cULus cULus HazLoc
Resistance to electrostatic discharge	8 kV in air conforming to IEC 61000-4-2 4 kV on contact conforming to IEC 61000-4-2

Resistance to electromagnetic fields	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
Resistance to magnetic fields	30 A/m conforming to IEC 61000-4-8
Resistance to fast transients	1 kV (I/O) conforming to IEC 61000-4-4
Resistance to conducted disturbances	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)
Electromagnetic emission	Radiated emissions - test level: 40 dBµV/m QP class A (10 m) at 30...230 MHz conforming to IEC 55011 Radiated emissions - test level: 47 dBµV/m QP class A (10 m) at 230...1000 MHz conforming to IEC 55011
Immunity to microbreaks	10 ms
Ambient air temperature for operation	-10...55 °C horizontal installation -10...35 °C vertical installation
Ambient air temperature for storage	-25...70 °C
Relative humidity	10...95 %, without condensation (in operation) 10...95 %, without condensation (in storage)
IP degree of protection	IP20
Pollution degree	2
Operating altitude	0...2000 m
Storage altitude	0...3000 m
Vibration resistance	3.5 mm at 5...8.4 Hz on DIN rail 3 gn at 8.4...150 Hz on DIN rail
Shock resistance	15 gn for 11 ms

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	7.5 cm
Package 1 Width	12.5 cm
Package 1 Length	10.5 cm
Package 1 Weight	201.0 g
Unit Type of Package 2	S02
Number of Units in Package 2	9
Package 2 Height	15 cm
Package 2 Width	30 cm
Package 2 Length	40 cm
Package 2 Weight	2.273 kg
Unit Type of Package 3	P12
Number of Units in Package 3	432
Package 3 Height	80 cm
Package 3 Width	105 cm
Package 3 Length	125 cm
Package 3 Weight	111.832 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	82
Environmental Disclosure	Product Environmental Profile

Use Better

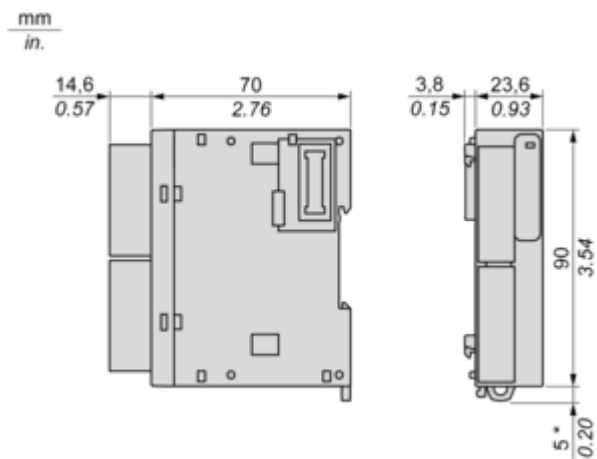
Materials and Substances	
Packaging made with recycled cardboard	No
Packaging without single use plastic	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
SCIP Number	7cc01735-94b8-432b-9a81-f9da4dd7709d
REACH Regulation	REACH Declaration
California proposition 65	WARNING: 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
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

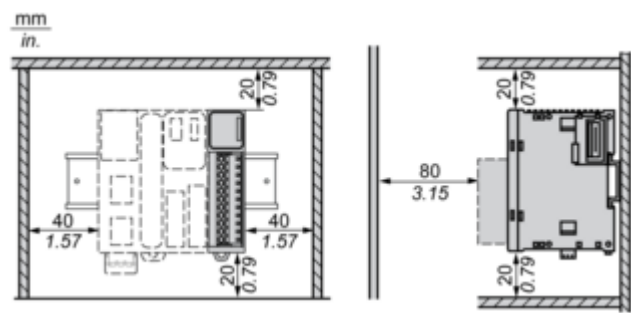
Dimensions



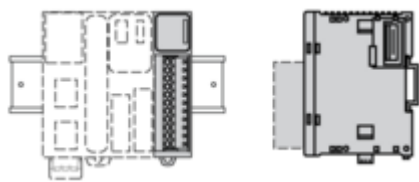
(*) 8.5 mm/0.33 in when the clamp is pulled out.

Mounting and Clearance

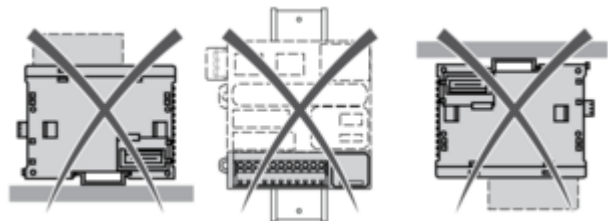
Spacing Requirements



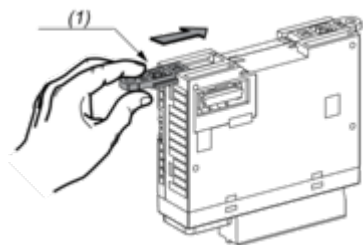
Mounting on a Rail



Incorrect Mounting

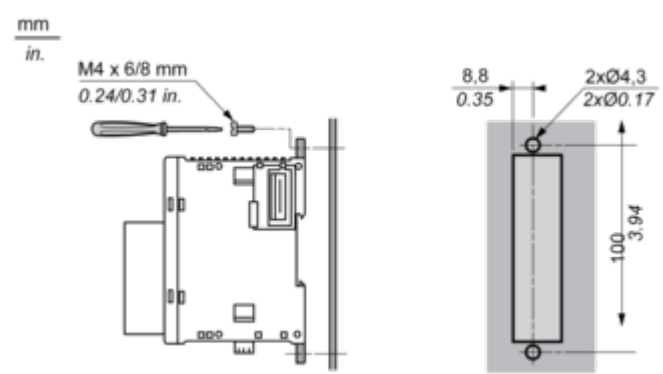


Mounting on a Panel Surface



(1) Install a mounting strip

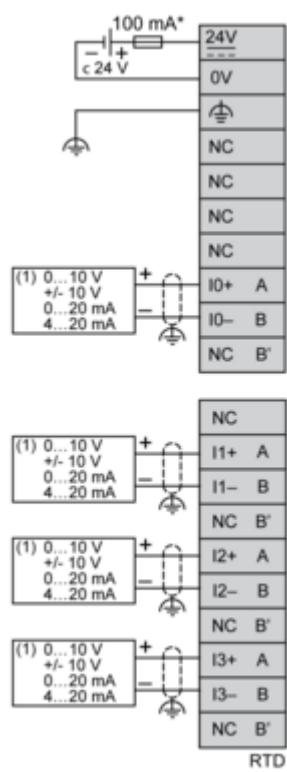
Mounting Hole Layout



Connections and Schema

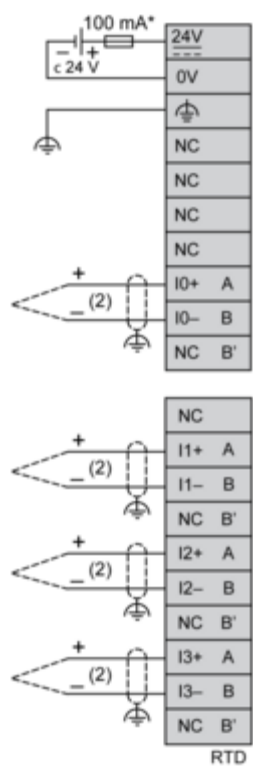
Analogue Input Module

Wiring Diagram (Current/Voltage type)



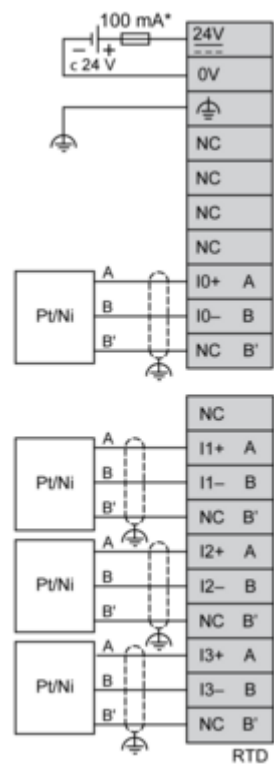
(*) Type T fuse
(1) Current/Voltage analog output device

Wiring Diagram (Thermocouple input type)



(*) Type T fuse
(2) Thermocouple

Wiring Diagram (Temperature probe input type)



(*) Type T fuse