

# Product data sheet

Specifications



analog input module, Modicon TM3,  
2 inputs high resolution, spring, 24V  
DC

TM3AI2HG

## 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	2
Analogue input type	current 4...20 mA current 0...20 mA voltage 0...10 V voltage - 10...10 V

## 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
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
Conversion time	1 ms + 1 ms per channel + 1 controller cycle time
Sampling duration	1 ms
Absolute accuracy error	+/- 0.1 % of full scale at 25 °C +/- 1 % of full scale
Temperature drift	+/- 0.006 %FS/°C
Repeat accuracy	+/-0.5 %FS
Non-linearity	+/- 0.01 %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	30 mA at 5 V DC via bus connector no load 40 mA at 5 V DC via bus connector full load 25 mA at 24 V DC via external supply
Local signalling	1 LED (green) for PWR

<b>Electrical connection</b>	11 x 2.5 mm <sup>2</sup> removable spring terminal block with pitch 5.08 mm adjustment for inputs and supply
<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

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	7.5 cm
Package 1 Width	10.5 cm
Package 1 Length	12.5 cm
Package 1 Weight	200.0 g
Unit Type of Package 2	S02
Number of Units in Package 2	9
Package 2 Height	15.0 cm
Package 2 Width	30.0 cm
Package 2 Length	40.0 cm
Package 2 Weight	2.246 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 36

Environmental Disclosure [Product Environmental Profile](#)

## Use Better

### Materials and Substances

Packaging made with recycled cardboard Yes

Packaging without single use plastic Yes

[EU RoHS Directive](#) Pro-active compliance (Product out of EU RoHS legal scope)

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](http://www.P65Warnings.ca.gov)

PVC free Yes

## Use Again

### Repack and remanufacture

End of life manual availability [End of Life Information](#)

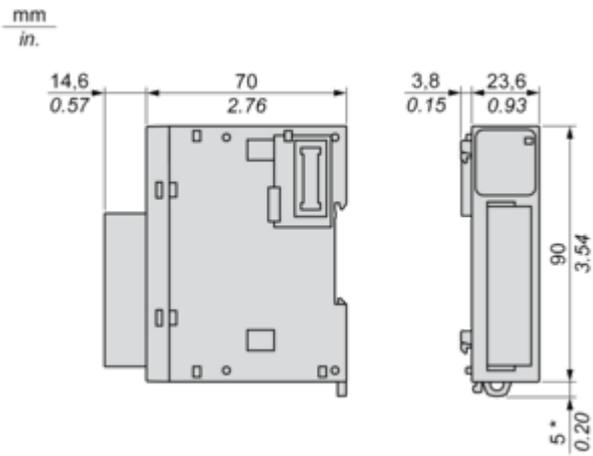
Take-back No

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

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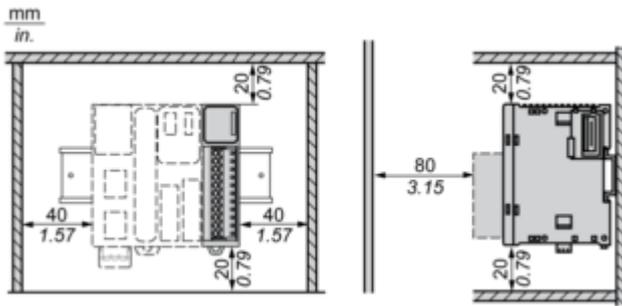


(\* ) 8.5 mm/0.33 in when the clamp is pulled out.

Mounting and Clearance

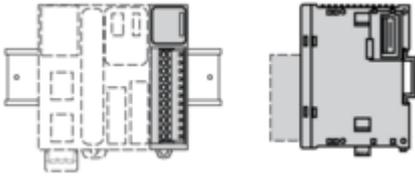
Spacing Requirements

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Mounting on a Rail

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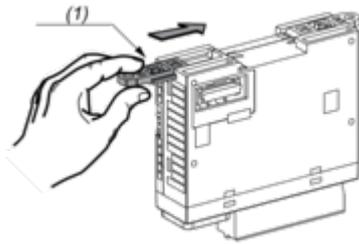


**Incorrect Mounting**



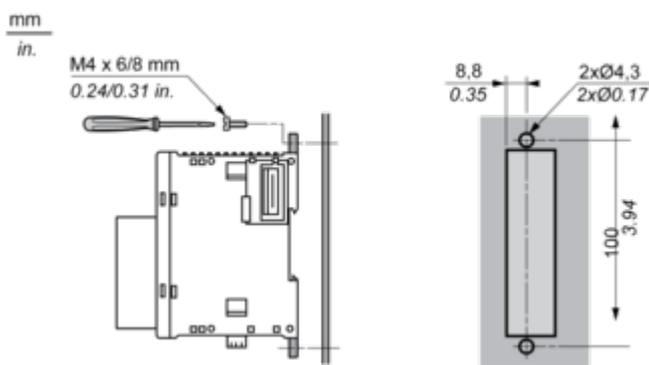
**Mounting on a Panel Surface**

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(1) Install a mounting strip

**Mounting Hole Layout**

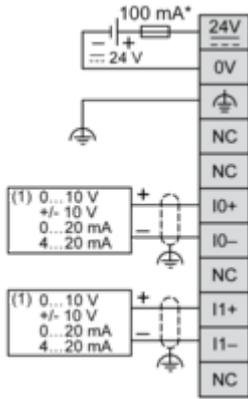


Connections and Schema

Analogue Input Module

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Wiring Diagram (Current / Voltage)



(\*) Type T fuse

(1) Current/Voltage analog output device