

# Product data sheet

Specifications



## analog input module, Modicon TM3, 4 inputs, screw, 24V DC

TM3AI4

### 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

### Complementary

Analogue input resolution	12 bits 11 bits + sign
Permissible continuous overload	13 V voltage 40 mA current
Input impedance	$\leq 50$ Ohm current $\geq 1$ MOhm voltage
LSB value	2.44 mV 0...10 V voltage 4.88 mV - 10...10 V voltage 4.88 $\mu$ A 0...20 mA current 3.91 $\mu$ A 4...20 mA current
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 77 °F (25 °C) +/- 1 % of full scale
Temperature Drift	+/- 0.006 %FS/°C
Repeat accuracy	+/-0.5 %FS
Non-linearity	+/- 0.2 %FS
Cross talk	$\leq 1$ LSB
[Us] rated supply voltage	24 V DC
Supply voltage limits	20.4...28.8 V
Type of cable	Twisted shielded pairs cable <98.43 ft (30 m) input
Current consumption	35 mA 5 V DC via bus connector no load 45 mA 5 V DC via bus connector full load

30 mA 24 V DC via external supply

<b>Local signalling</b>	for PWR 1 LED (green)
<b>Electrical connection</b>	10 x 1.5 mm <sup>2</sup> removable screw terminal block pitch 3.81 mm for inputs and supply 10 x 1.5 mm <sup>2</sup> removable screw terminal block pitch 3.81 mm for inputs
<b>Insulation</b>	Between input and supply 1500 V AC Between input and internal logic 500 V AC
<b>Marking</b>	CE
<b>Surge withstand</b>	1 kV power supply common mode EN/IEC 61000-4-5 0.5 kV power supply differential mode EN/IEC 61000-4-5 1 kV input common mode EN/IEC 61000-4-5
<b>Mounting support</b>	Top hat type TH35-15 rail IEC 60715 Top hat type TH35-7.5 rail IEC 60715 plate or panel with fixing kit
<b>Height</b>	3.54 in (90 mm)
<b>Depth</b>	2.76 in (70 mm)
<b>Width</b>	0.93 in (23.6 mm)
<b>Net Weight</b>	0.24 lb(US) (0.11 kg)

## Environment

<b>Standards</b>	EN/IEC 61131-2
<b>Product Certifications</b>	CE UKCA RCM EAC cULus cULus HazLoc
<b>Resistance to electrostatic discharge</b>	8 kV in air EN/IEC 61000-4-2 4 kV on contact EN/IEC 61000-4-2
<b>Resistance to electromagnetic fields</b>	9.14 V/m (10 V/m) 80 MHz...1 GHz EN/IEC 61000-4-3 2.74 V/m (3 V/m) 1.4 GHz...2 GHz EN/IEC 61000-4-3 0.91 V/m (1 V/m) 2 GHz...3 GHz EN/IEC 61000-4-3
<b>Resistance to magnetic fields</b>	98.43 A/m (30 A/m) EN/IEC 61000-4-8
<b>Resistance to fast transients</b>	1 kV EN/IEC 61000-4-4 I/O)
<b>Resistance to conducted disturbances</b>	10 V 0.15...80 MHz EN/IEC 61000-4-6 3 V spot frequency (2, 3, 4, 6.2, 8.2, 12.6, 16.5, 18.8, 22, 25 MHz) Marine specification (LR, ABS, DNV, GL)
<b>Electromagnetic emission</b>	Radiated emissions 40 dB $\mu$ V/m QP class A 10 m)30...230 MHz EN/IEC 55011 Radiated emissions 47 dB $\mu$ V/m QP class A 10 m)230...1000 MHz EN/IEC 55011
<b>Immunity to microbreaks</b>	10 ms
<b>Ambient Air Temperature for Operation</b>	14...131 °F (-10...55 °C) horizontal installation 14...95 °F (-10...35 °C) vertical installation
<b>Ambient Air Temperature for Storage</b>	-13...158 °F (-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...6561.68 ft (0...2000 m)
<b>Storage altitude</b>	0.00...9842.52 ft (0...3000 m)
<b>Vibration resistance</b>	3.5 mm 5...8.4 Hz DIN rail 3 gn 8.4...150 Hz DIN rail
<b>Shock resistance</b>	15 gn 11 ms

## Ordering and shipping details

<b>Category</b>	22533-M2XX PLC & ACCESSORIES
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Discount Schedule	MSX
GTIN	3606480648908
Returnability	Yes
Country of origin	JP

## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	2.99 in (7.585 cm)
Package 1 Width	4.17 in (10.598 cm)
Package 1 Length	5.04 in (12.814 cm)
Package 1 Weight	7.41 oz (210.0 g)
Unit Type of Package 2	S04
Number of Units in Package 2	42
Package 2 Height	11.81 in (30 cm)
Package 2 Width	15.75 in (40 cm)
Package 2 Length	23.62 in (60 cm)
Package 2 Weight	22.22 lb(US) (10.08 kg)
Unit Type of Package 3	P12
Number of Units in Package 3	504
Package 3 Height	41.34 in (105 cm)
Package 3 Width	47.24 in (120 cm)
Package 3 Length	31.50 in (80 cm)
Package 3 Weight	291.01 lb(US) (132 kg)

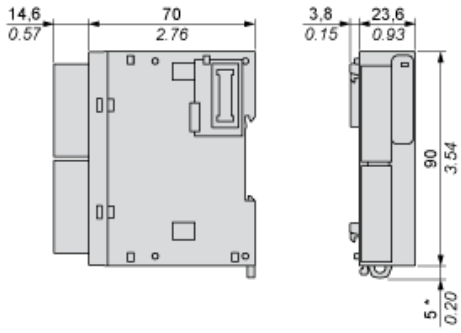
## Offer Sustainability

Sustainable offer status	Green Premium product
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>
REACH Regulation	<a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Toxic heavy metal free	Yes
Mercury free	Yes
China RoHS Regulation	<a href="#">China RoHS declaration</a>
RoHS exemption information	<a href="#">Yes</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
Circularity Profile	<a href="#">End of Life Information</a>
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.
PVC free	Yes

Dimensions

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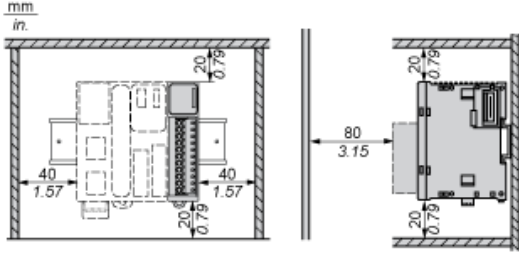
mm  
in.



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

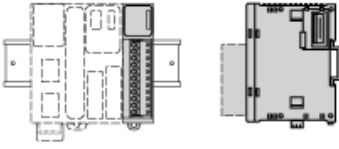
Spacing Requirements

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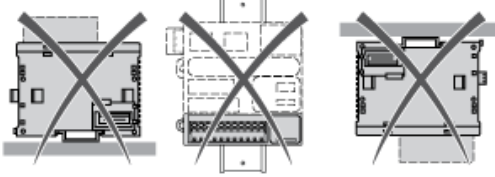


**Mounting on a Rail**

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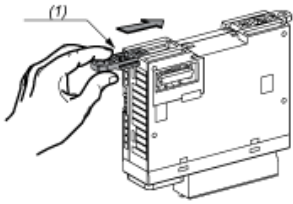


**Incorrect Mounting**



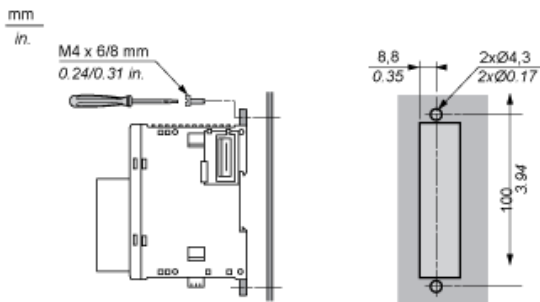
**Mounting on a Panel Surface**

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(1) Install a mounting strip

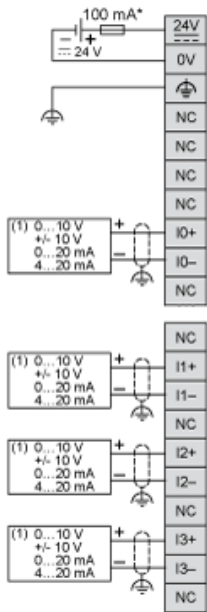
**Mounting Hole Layout**



**Analogue Input Module**

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**Wiring Diagram (Current / Voltage)**



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

**Recommended replacement(s)**