

# Product datasheet

Specifications



## Modicon TM3 - 8 analog inputs (spring) 24Vdc

TM3AI8G

EAN Code: 3606480648939

### Main

|                           |   |
|---------------------------|---|
| Range of product          | Modicon TM3   |
| Product or component type | Analog input module   |
| Range compatibility       | Modicon M221<br>Modicon M241<br>Modicon M251<br>Modicon M262                      |
| Analogue input number     | 8   |
| Analogue input type       | current 4...20 mA<br>current 0...20 mA<br>voltage 0...10 V<br>voltage - 10...10 V |

### Complementary

|                                 |  |
|---------------------------------|--|
| Analogue input resolution       | 12 bits<br>11 bits + sign  |
| Permissible continuous overload | 13 V, analogue input type: voltage<br>40 mA, analogue input type: current  |
| Input impedance                 | <= 50 Ohm current<br>>= 1 MOhm voltage   |
| LSB value                       | 2.44 mV 0...10 Vvoltage<br>4.88 mV - 10...10 Vvoltage<br>4.88 µA 0...20 mAcurrent<br>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         | +/- 1 % of full scale<br>+/- 0.2 % of full scale at 25 °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             | 40 mA at 5 V DC via bus connector full load<br>35 mA at 5 V DC via bus connector no load<br>30 mA at 24 V DC via external supply no load<br>40 mA at 24 V DC via external supply full load |
| Local signalling                | 1 LED (green) for PWR  |

|                              |   |
|------------------------------|---|
| <b>Electrical connection</b> | 10 x 1.5 mm <sup>2</sup> removable spring terminal block with pitch 3.81 mm adjustment for inputs and supply<br>10 x 1.5 mm <sup>2</sup> removable spring terminal block with pitch 3.81 mm adjustment for inputs |
| <b>Insulation</b>            | Between input and supply at 1500 V AC<br>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<br>0.5 kV power supply differential mode conforming to IEC 61000-4-5<br>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<br>Top hat type TH35-7.5 rail conforming to IEC 60715<br>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<br>UKCA<br>RCM<br>EAC<br>cULus<br>cULus HazLoc  |
| <b>Resistance to electrostatic discharge</b> | 8 kV in air conforming to IEC 61000-4-2<br>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<br>3 V/m 1.4 GHz...2 GHz conforming to IEC 61000-4-3<br>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<br>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<br>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<br>-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)<br>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<br>3 gn at 8.4...150 Hz on DIN rail   |

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|------------------|-----------------|
| Shock resistance | 15 gn for 11 ms |
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## Packing Units

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|                        |     |
|------------------------|-----|
| Unit Type of Package 1 | PCE |
|------------------------|-----|

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|                              |   |
|------------------------------|---|
| Number of Units in Package 1 | 1 |
|------------------------------|---|

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|                  |        |
|------------------|--------|
| Package 1 Height | 7.5 cm |
|------------------|--------|

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|                 |         |
|-----------------|---------|
| Package 1 Width | 12.5 cm |
|-----------------|---------|

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|                  |         |
|------------------|---------|
| Package 1 Length | 10.5 cm |
|------------------|---------|

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|                  |         |
|------------------|---------|
| Package 1 Weight | 195.0 g |
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|                        |     |
|------------------------|-----|
| Unit Type of Package 2 | S02 |
|------------------------|-----|

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|                              |   |
|------------------------------|---|
| Number of Units in Package 2 | 9 |
|------------------------------|---|

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|                  |       |
|------------------|-------|
| Package 2 Height | 15 cm |
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|                 |       |
|-----------------|-------|
| Package 2 Width | 30 cm |
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|                  |       |
|------------------|-------|
| Package 2 Length | 40 cm |
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|                  |          |
|------------------|----------|
| Package 2 Weight | 2.292 kg |
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|------------------------|-----|
| Unit Type of Package 3 | P12 |
|------------------------|-----|

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|                              |     |
|------------------------------|-----|
| Number of Units in Package 3 | 288 |
|------------------------------|-----|

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|                  |       |
|------------------|-------|
| Package 3 Height | 75 cm |
|------------------|-------|

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|                 |       |
|-----------------|-------|
| Package 3 Width | 80 cm |
|-----------------|-------|

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|                  |        |
|------------------|--------|
| Package 3 Length | 120 cm |
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|                  |       |
|------------------|-------|
| Package 3 Weight | 60 kg |
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## Logistical informations

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|                   |    |
|-------------------|----|
| Country of origin | CN |
|-------------------|----|

## Contractual warranty

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|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|



## 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 [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)

SCIP Number 7cc01735-94b8-432b-9a81-f9da4dd7709d

REACH Regulation [REACH Declaration](#)

PVC free Yes

### Use Again

#### Repack and remanufacture

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

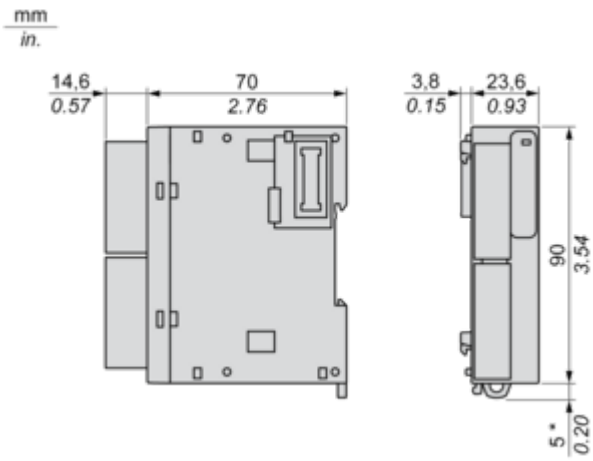
Take-back No

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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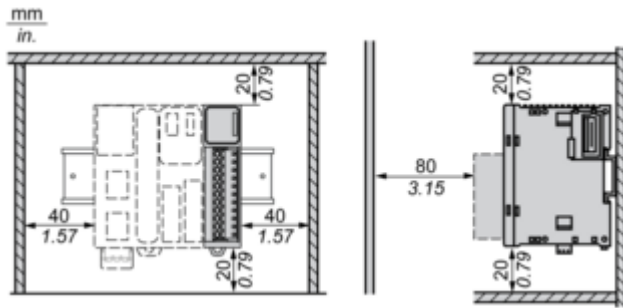


(\*) 8.5 mm/0.33 in when the clamp is pulled out.

Mounting and Clearance

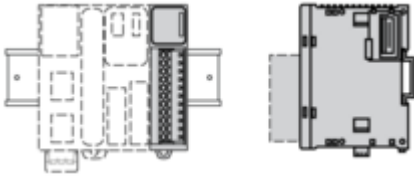
Spacing Requirements

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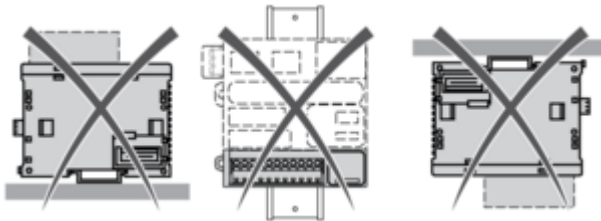


Mounting on a Rail

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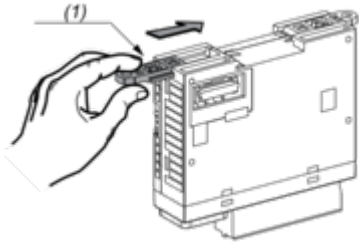


**Incorrect Mounting**



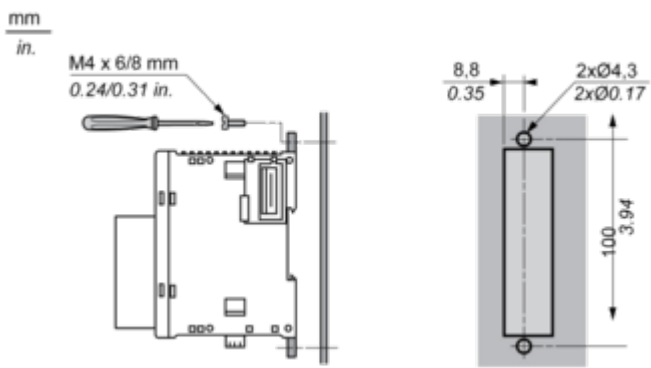
**Mounting on a Panel Surface**

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(1) Install a mounting strip

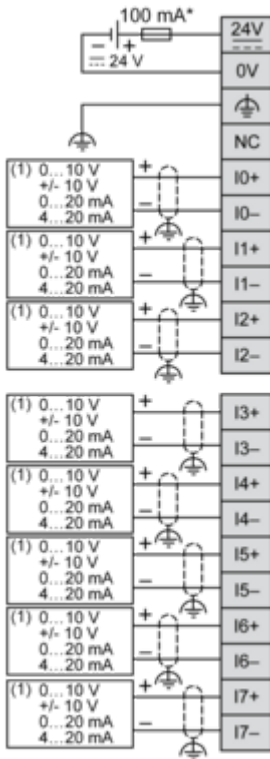
**Mounting Hole Layout**



Connections and Schema

Analogue Input Module

Wiring Diagram (Current / Voltage)



(\*) Type T fuse

(1) Current/Voltage analog output device