# Product data sheet
## Characteristics

# TM3AI4G
## module TM3 - 4 analog inputs spring

### 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 | 4 |
| Analogue input type | Current 4...20 mA<br>Current 0...20 mA<br>Voltage 0...10 V<br>Voltage - 10...10 V |

### Complementary

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|---|---|
| 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 | +/- 0.1 % of full scale at 25 °C<br>+/- 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 | 35 mA at 5 V DC via bus connector no load<br>45 mA at 5 V DC via bus connector full load<br>30 mA at 24 V DC via external supply |
| Local signalling | 1 LED (green) for PWR |
| Electrical connection | 10 x 1.5 mm² removable spring terminal block with pitch 3.81 mm adjustment for inputs and supply<br>10 x 1.5 mm² removable spring terminal block with pitch 3.81 mm adjustment for inputs |
| Insulation | Between input and supply at 1500 V AC<br>Between input and internal logic at 500 V AC |
| Marking | CE |
| Surge withstand | 1 KV power supply common mode conforming to EN/IEC 61000-4-5<br>0.5 KV power supply differential mode conforming to EN/IEC 61000-4-5<br>1 kV input common mode conforming to EN/IEC 61000-4-5 |
| Mounting support | 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 |
| Height | 90 mm |
| Depth | 70 mm |

| | |
|---|---|
| Width | 23.6 mm |
| Net weight | 0.1 kg |

## Environment

| | |
|---|---|
| Standards | EN/IEC 61010-2-201<br>EN/IEC 61131-2 |
| Resistance to electrostatic discharge | 8 KV in air conforming to EN/IEC 61000-4-2<br>4 kV on contact conforming to EN/IEC 61000-4-2 |
| Resistance to electromagnetic fields | 10 V/M 80 MHz...1 GHz conforming to EN/IEC 61000-4-3<br>3 V/M 1.4 GHz...2 GHz conforming to EN/IEC 61000-4-3<br>1 V/m 2 GHz...3 GHz conforming to EN/IEC 61000-4-3 |
| Resistance to magnetic fields | 30 A/m conforming to EN/IEC 61000-4-8 |
| Resistance to fast transients | 1 kV (I/O) conforming to EN/IEC 61000-4-4 |
| Resistance to conducted disturbances | 10 V 0.15...80 MHz conforming to EN/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) |
| Electromagnetic emission | Radiated emissions - test level: 40 dBµV/m QP class A ( 10 m) at 30…230 MHz conforming to EN/IEC 55011<br>Radiated emissions - test level: 47 dBµV/m QP class A ( 10 m) at 230…1000 MHz conforming to EN/IEC 55011 |
| Immunity to microbreaks | 10 ms |
| Ambient air temperature for operation | -10…55 °C horizontal installation<br>-10…35 °C vertical installation |
| Ambient air temperature for storage | -25…70 °C |
| Relative humidity | 10…95 %, without condensation (in operation)<br>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<br>3 gn at 8.4…150 Hz on DIN rail |
| Shock resistance | 15 gn for 11 ms |

## Packing Units

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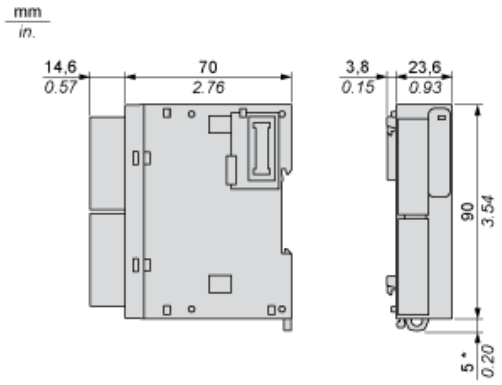
|---|---|
| Package 1 Weight | 195.000 g |
| Package 1 Height | 75.000 mm |
| Package 1 width | 105.000 mm |
| Package 1 Length | 125.000 mm |

## Offer Sustainability

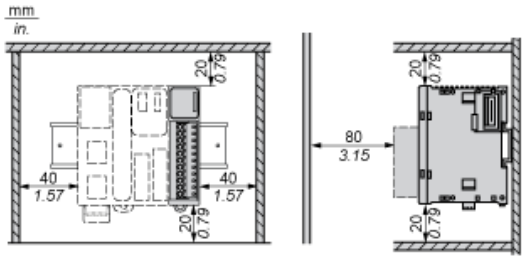
| | |
|---|---|
| Sustainable offer status | Green Premium product |
| REACh Regulation | REACh Declaration |
| EU RoHS Directive | Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration |
| Toxic heavy metal free | Yes |
| Mercury free | Yes |
| RoHS exemption information | Yes |
| China RoHS Regulation | China RoHS Declaration |
| Environmental Disclosure | Product Environmental Profile |
| Circularity Profile | End Of Life Information |
| 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

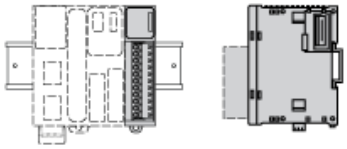



(*) 8.5 mm/0.33 in when the clamp is pulled out.

## Spacing Requirements

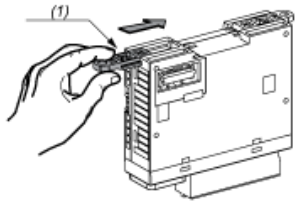



## Mounting on a Rail



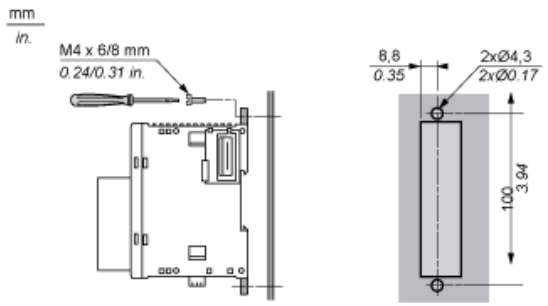
## Incorrect Mounting

## Mounting on a Panel Surface



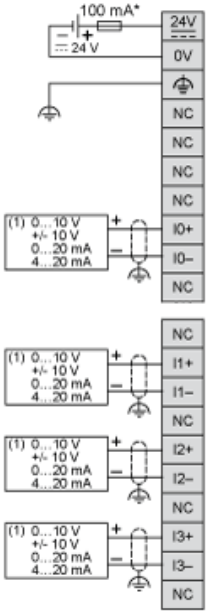

(1) Install a mounting strip

## Mounting Hole Layout



## Analogue Input Module

### Wiring Diagram (Current / Voltage)




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