

# TM3AM6G

module TM3 - 4 analog inputs and 2 analog outputs  
spring



## Main

|                           |   |
|---------------------------|---|
| Range of product          | Modicon TM3   |
| Product or component type | Input/output analog module  |
| Range compatibility       | Modicon M221<br>Modicon M241<br>Modicon M251  |
| Analogue input number     | 4   |
| Analogue input type       | Current, analogue input range: 4...20 mA<br>Current, analogue input range: 0...20 mA<br>Voltage, analogue input range: 0...10 V<br>Voltage, analogue input range: - 10...10 V |
| Analogue output number    | 2   |
| Analogue output type      | 4...20 mA current<br>0...20 mA current<br>0...10 V voltage<br>- 10...10 V voltage   |

## Complementary

|                                 |   |
|---------------------------------|---|
| Analogue input resolution       | 12 bits<br>11 bits + sign   |
| Permissible continuous overload | 13 V voltage<br>40 mA current   |
| Input impedance                 | >= 1 MOhm voltage<br><= 50 Ohm current  |
| Analogue output resolution      | 11 bits + sign<br>12 bits   |
| LSB value                       | 2.44 mV, analogue input: 0...10 V voltage<br>4.88 mV, analogue input: - 10...10 V voltage<br>4.88 µA, analogue input: 0...20 mA current<br>3.91 µA, analogue input: 4...20 mA current               |
| Load type                       | Resistive   |
| Load impedance ohmic            | 1 kOhm voltage<br>300 Ohm current   |
| Stabilisation time              | 1 ms  |
| Conversion time                 | 1 ms + 1 ms per channel + 1 controller cycle time   |
| Sampling duration               | 1 ms<br>10 ms   |
| Absolute accuracy error         | +/- 0.2 % of full scale at 25 °C<br>+/- 1 % of full scale   |
| Temperature drift               | +/- 0.01 %FS/°C   |
| Repeat accuracy                 | +/-0.5 %FS for input<br>+/-0.5 %FS for output   |
| Non-linearity                   | +/- 0.2 %FS   |
| Output ripple                   | 20 mV   |
| Cross talk                      | <= 1 LSB  |
| [Us] rated supply voltage       | 24 V DC   |
| Supply voltage limits           | 20.4...28.8 V   |
| Type of cable                   | <= 30 m twisted shielded pairs cable for input/output circuit   |
| Current consumption             | 45 mA at 5 V DC (no load) via bus connector<br>55 mA at 5 V DC (full load) via bus connector<br>55 mA at 24 V DC (no load) via external supply<br>100 mA at 24 V DC (full load) via external supply |
| Local signalling                | 1 LED green for PWR   |

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|                       |  |
|-----------------------|--|
| Electrical connection | 10 x 1.5 mm <sup>2</sup> removable spring terminal block with pitch 3.81 mm adjustment for inputs<br>10 x 1.5 mm <sup>2</sup> removable spring terminal block with pitch 3.81 mm adjustment for inputs, outputs and supply   |
| Insulation            | 500 V AC between output and internal logic<br>500 V AC between input and internal logic<br>1500 V AC between input and supply<br>1500 V AC between output and supply   |
| Marking               | CE   |
| Surge withstand       | 1 kV for power supply with common mode protection conforming to EN/IEC 61000-4-5<br>0.5 kV for power supply with differential mode protection conforming to EN/IEC 61000-4-5<br>1 kV for I/O with common mode protection conforming to EN/IEC 61000-4-5<br>0.5 kV for I/O with differential mode protection 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  |
| Product weight        | 0.1 kg   |

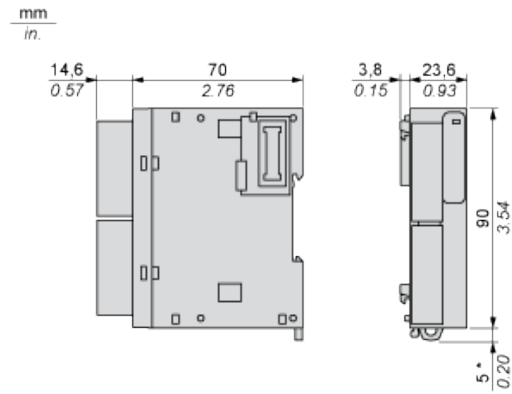
## Environment

|   |   |
|---|---|
| standards   | EN/IEC 61131-2<br>EN/IEC 61010-2-201  |
| resistance to electrostatic discharge                                   | 4 kV on contact conforming to EN/IEC 61000-4-2<br>8 kV in air conforming to EN/IEC 61000-4-2  |
| resistance to electromagnetic fields                                    | 10 V/m at 80 MHz...1 GHz conforming to EN/IEC 61000-4-3<br>3 V/m at 1.4 GHz...2 GHz conforming to EN/IEC 61000-4-3<br>1 V/m at 2 GHz...3 GHz conforming to EN/IEC 61000-4-3   |
| resistance to magnetic fields   | 30 A/m at 50...60 Hz 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, induced by radio frequency fields | 10 V at 0.15...80 MHz conforming to EN/IEC 61000-4-6<br>3 V at 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 dB $\mu$ V/m QP class A (10 m at 30...230 MHz) conforming to EN/IEC 55011<br>Radiated emissions, test level: 47 dB $\mu$ V/m QP class A (10 m at 230 MHz...1 GHz) 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 with DIN rail mounting support<br>3 gn at 8.4...150 Hz with DIN rail mounting support  |
| shock resistance  | 15 gn during 11 ms  |

## Offer Sustainability

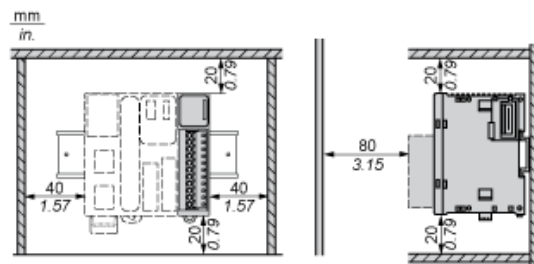
|                                  |   |
|----------------------------------|---|
| Sustainable offer status         | Green Premium product   |
| RoHS (date code: YYWW)           | Compliant - since 1415 - Schneider Electric declaration of conformity |
| REACH                            | Reference not containing SVHC above the threshold                     |
| Product environmental profile    | Available   |
| Product end of life instructions | Available   |

## Dimensions

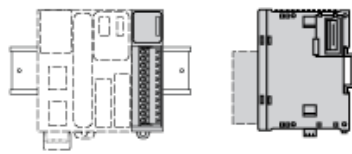


(\*) 8.5 mm/0.33 in when the clamp is pulled out.

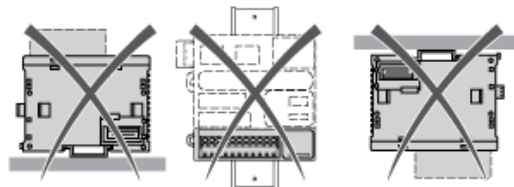
## Spacing Requirements



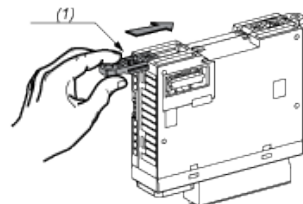
## Mounting on a Rail



### Incorrect Mounting

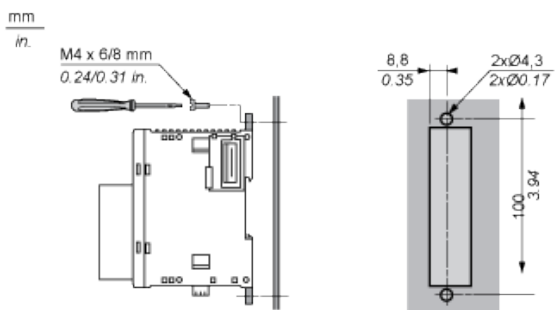


## Mounting on a Panel Surface



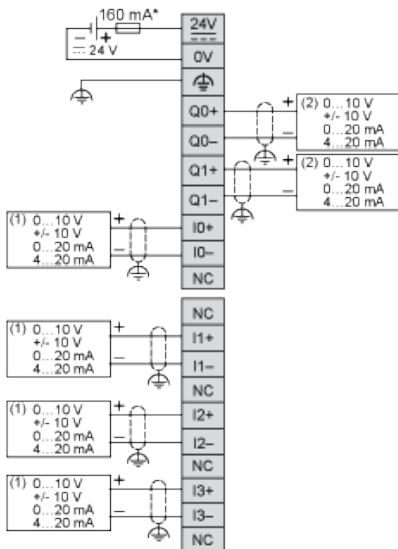
(1) Install a mounting strip

### Mounting Hole Layout



## Analogue Mixed I/O Module

### Wiring Diagram (Current / Voltage)



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