

TM3AQ2

analog output module, Modicon TM3, 2
outputs, screw, 24V DC



Main

| | |
|---------------------------|---|
| Range of product | Modicon TM3 |
| Product or component type | Analog output module |
| Range compatibility | Modicon M221 Modicon M241 Modicon M251 Modicon M262 |
| Analogue output number | 2 |
| Analogue output type | Current: 4...20 mA Current: 0...20 mA Voltage: 0...10 V Voltage: - 10...10 V |

Complementary

| | |
|----------------------------|--|
| Analogue output resolution | 11 bits + sign 12 bits |
| 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 |
| Load type | Resistive |
| Load impedance ohmic | 1 kOhm voltage 300 Ohm current |
| Stabilisation time | 1 ms |
| Conversion time | 1 ms + 1 ms per channel + 1 controller cycle time |
| Absolute accuracy error | +/- 0.1 % of full scale at 25 °C +/- 1 % of full scale |
| Temperature drift | +/- 0.006 %FS/°C |
| Repeat accuracy | +/- 0.4 %FS |
| Non-linearity | +/- 0.01 %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 | Twisted shielded pairs cable <30 m for output circuit |
| Current consumption | 40 mA at 5 V DC via bus connector full load 35 mA at 5 V DC via bus connector no load 30 mA at 24 V DC via external supply no load 70 mA at 24 V DC via external supply full load |
| Local signalling | 1 LED (green) for PWR |
| Electrical connection | 11 x 2.5 mm ² removable screw terminal block with pitch 5.08 mm adjustment for outputs and supply |
| Insulation | Between output and supply at 1500 V AC Between output and internal logic at 500 V AC |
| Marking | CE |
| Surge withstand | 1 kV power supply common mode conforming to EN/IEC 61000-4-5 0.5 kV power supply differential mode conforming to EN/IEC 61000-4-5 1 kV output common mode conforming to EN/IEC 61000-4-5 |
| Mounting support | 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 |
| Height | 90 mm |

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| | |
|----------------|----------|
| Depth | 70 mm |
| Width | 23.6 mm |
| Product weight | 0.115 kg |

Environment

| | |
|---------------------------------------|--|
| Standards | EN/IEC 61131-2 |
| Product certifications | CE UKCA RCM EAC CULus CULus HazLoc |
| Resistance to electrostatic discharge | 8 kV in air conforming to EN/IEC 61000-4-2 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 3 V/M 1.4 GHz...2 GHz conforming to EN/IEC 61000-4-3 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 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 dB μ V/m QP class A (10 m) at 30...230 MHz conforming to EN/IEC 55011 Radiated emissions - test level: 47 dB μ V/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 -10...35 °C vertical installation |
| Ambient air temperature for storage | -25...70 °C |
| Relative humidity | 10...95 %, without condensation (in operation) 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 3 gn at 8.4...150 Hz on DIN rail |
| Shock resistance | 15 gn for 11 ms |

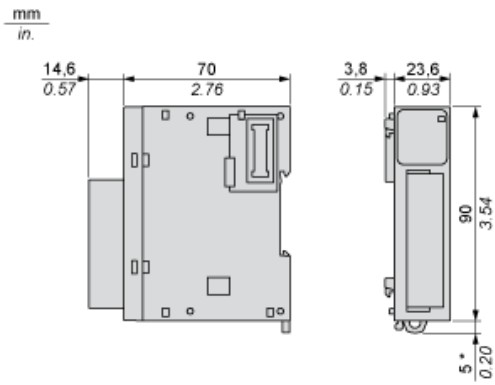
Packing Units

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|------------------------------|-----------|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Height | 7.566 cm |
| Package 1 Width | 10.629 cm |
| Package 1 Length | 12.698 cm |
| Package 1 Weight | 220.0 g |
| Unit Type of Package 2 | S04 |
| Number of Units in Package 2 | 42 |
| Package 2 Height | 30 cm |
| Package 2 Width | 40 cm |
| Package 2 Length | 60 cm |
| Package 2 Weight | 10.32 kg |
| Unit Type of Package 3 | P12 |
| Number of Units in Package 3 | 336 |
| Package 3 Height | 75 cm |
| Package 3 Width | 120 cm |
| Package 3 Length | 80 cm |
| Package 3 Weight | 94 kg |

Offer Sustainability

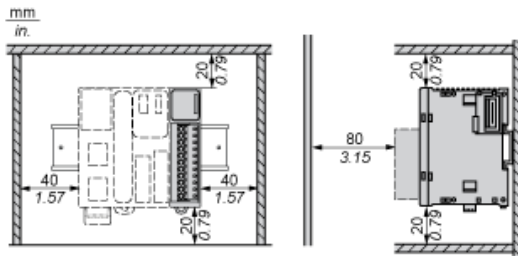
| | |
|----------------------------|---|
| Sustainable offer status | Green Premium product |
| REACH Regulation | REACH Declaration |
| EU RoHS Directive | Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration |
| Toxic heavy metal free | Yes |
| Mercury free | Yes |
| China RoHS Regulation | China RoHS Declaration |
| RoHS exemption information | Yes |
| 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 |
| 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 |

Dimensions

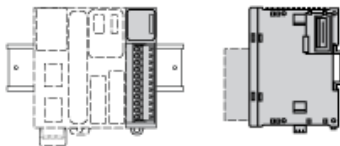


(*) 8.5 mm/0.33 in when the clamp is pulled out.

Spacing Requirements



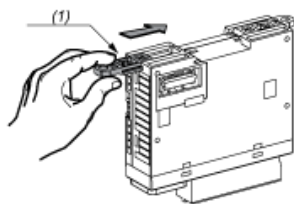
Mounting on a Rail



Incorrect Mounting

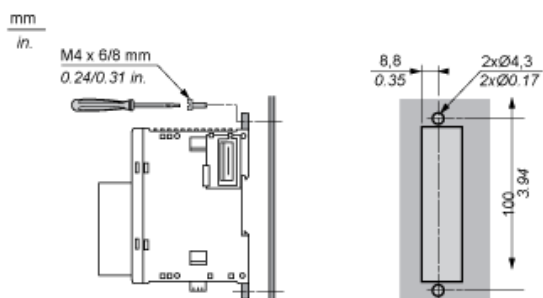


Mounting on a Panel Surface



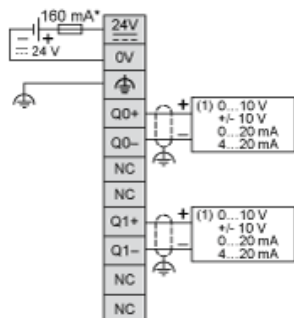
- (1) Install a mounting strip

Mounting Hole Layout



Analogue Output Module

Wiring Diagram (Current / Voltage)



- (*) Type T fuse
- (1) Voltage/current pre-actuator