



### 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	4
Analogue output 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
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	+/- 1 % of full scale +/- 0.2 % of full scale at 25 °C
Temperature drift	+/- 0.01 %FS/°C
Repeat accuracy	+/- 0.4 %FS
Non-linearity	+/- 0.2 %FS

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

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 no load 50 mA at 5 V DC via bus connector full load 50 mA at 24 V DC via external supply no load 125 mA at 24 V DC via external supply full load
Local signalling	1 LED (green)PWR:
Electrical connection	11 x 2.5 mm <sup>2</sup> 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
Depth	70 mm
Width	23.6 mm
Net weight	0.115 kg

## Environment

Standards	EN/IEC 61010-2-201 EN/IEC 61131-2
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 $\mu$ V/m QP class A ( 10 m) at 30...230 MHz conforming to EN/IEC 55011 Radiated emissions - test level: 47 dB $\mu$ 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

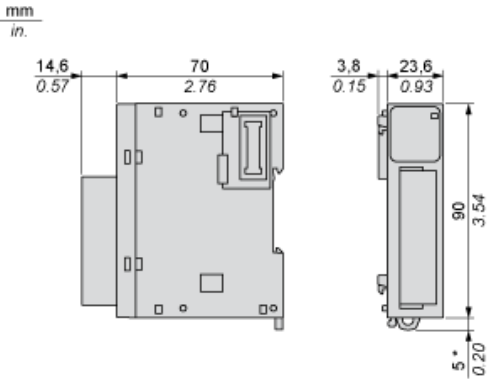
Package 1 Weight	210.000 g
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Package 1 Height	75.000 mm
Package 1 width	105.000 mm
Package 1 Length	125.000 mm

### Offer Sustainability

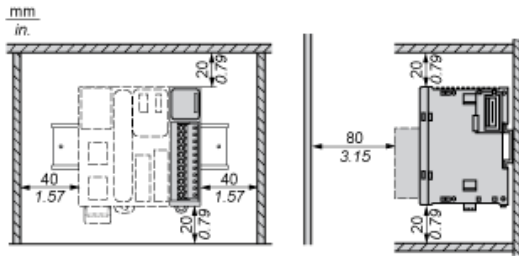
Sustainable offer status	Green Premium product
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Toxic heavy metal free	Yes
Mercury free	Yes
RoHS exemption information	<a href="#">Yes</a>
China RoHS Regulation	<a href="#">China RoHS declaration</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



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

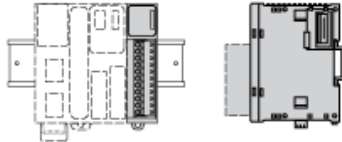
Spacing Requirements



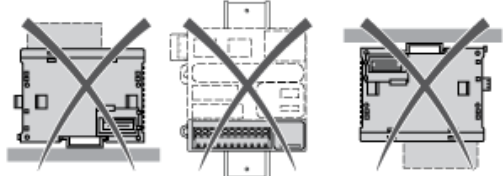
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Mounting on a Rail

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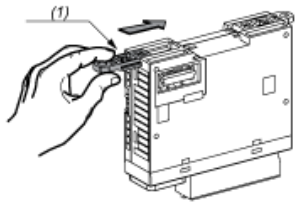
Incorrect Mounting



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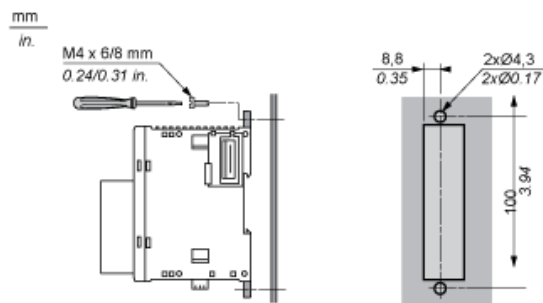
Mounting on a Panel Surface

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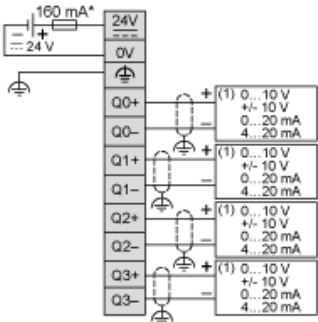
(1) Install a mounting strip

Mounting Hole Layout



Analogue Output Module

Wiring Diagram (Current / Voltage)



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