

# Product data sheet

Specifications



## Input/output analog module, Modicon TM3, 4 inputs, 2 output (spring) 24 VDC

TM3AM6G

### Main

Range of product	Modicon TM3
Product or component type	Input/output analog module
Range compatibility	Modicon M221 Modicon M241 Modicon M251 Modicon M262
Analogue input number	4
Analogue input type	current 4...20 mA current 0...20 mA voltage 0...10 V voltage - 10...10 V
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 input resolution	12 bits 11 bits + sign
Permissible continuous overload	13 V, analogue input type: voltage 40 mA, analogue input type: current
Input impedance	$\leq 50$ Ohm current $\geq 1$ MOhm voltage
Analogue output resolution	12 bits 11 bits + sign
LSB value	2.44 mV 0...10 Vvoltage 4.88 mV - 10...10 Vvoltage 4.88 $\mu$ A 0...20 mAcurrent 3.91 $\mu$ A 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
Sampling duration	1 ms 10 ms
Absolute accuracy error	+/- 1 % of full scale +/- 0.2 % of full scale at 25 °C
Temperature drift	+/- 0.01 %FS/°C

<b>Repeat accuracy</b>	+/-0.5 %FS for input +/-0.5 %FS for output
<b>Non-linearity</b>	+/- 0.2 %FS
<b>Output ripple</b>	20 mV
<b>Cross talk</b>	<= 1 LSB
<b>[Us] rated supply voltage</b>	24 V DC
<b>Supply voltage limits</b>	20.4...28.8 V
<b>Type of cable</b>	Twisted shielded pairs cable <30 m for input/output circuit
<b>Current consumption</b>	45 mA at 5 V DC via bus connector no load 55 mA at 5 V DC via bus connector full load 55 mA at 24 V DC via external supply no load 100 mA at 24 V DC via external supply full load
<b>Local signalling</b>	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 10 x 1.5 mm <sup>2</sup> removable spring terminal block with pitch 3.81 mm adjustment for inputs, outputs and supply
<b>Insulation</b>	Between input and supply at 1500 V AC Between input and internal logic at 500 V AC Between output and supply at 1500 V AC Between output and internal logic at 500 V AC
<b>Marking</b>	CE
<b>Surge withstand</b>	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 I/O common mode conforming to EN/IEC 61000-4-5 0.5 kV I/O differential mode conforming to EN/IEC 61000-4-5
<b>Mounting support</b>	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
<b>Height</b>	90 mm
<b>Depth</b>	70 mm
<b>Width</b>	23.6 mm
<b>Net weight</b>	0.1 kg
<b>Environment</b>	
<b>Standards</b>	EN/IEC 61131-2 EN/IEC 61010-2-201
<b>Resistance to electrostatic discharge</b>	8 kV in air conforming to EN/IEC 61000-4-2 4 kV on contact conforming to EN/IEC 61000-4-2
<b>Resistance to electromagnetic fields</b>	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
<b>Resistance to magnetic fields</b>	30 A/m conforming to EN/IEC 61000-4-8
<b>Resistance to fast transients</b>	1 kV (I/O) conforming to EN/IEC 61000-4-4
<b>Resistance to conducted disturbances</b>	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)
<b>Electromagnetic emission</b>	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
<b>Immunity to microbreaks</b>	10 ms
<b>Ambient air temperature for operation</b>	-10...55 °C horizontal installation -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) 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 3 gn at 8.4...150 Hz on DIN rail
<b>Shock resistance</b>	15 gn for 11 ms

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	7.5 cm
<b>Package 1 Width</b>	12.5 cm
<b>Package 1 Length</b>	10.5 cm
<b>Package 1 Weight</b>	195.0 g
<b>Unit Type of Package 2</b>	S02
<b>Number of Units in Package 2</b>	9
<b>Package 2 Height</b>	15.0 cm
<b>Package 2 Width</b>	30.0 cm
<b>Package 2 Length</b>	40.0 cm
<b>Package 2 Weight</b>	2.294 kg

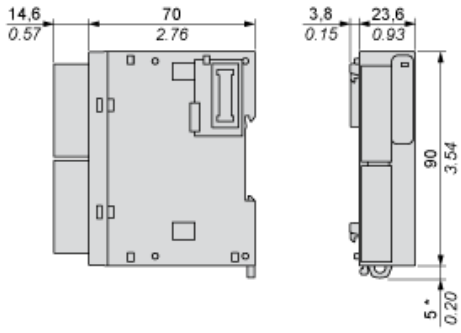
## Offer Sustainability

<b>Sustainable offer status</b>	Green Premium product
<b>REACH Regulation</b>	<a href="#">REACH Declaration</a>
<b>EU RoHS Directive</b>	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
<b>Toxic heavy metal free</b>	Yes
<b>Mercury free</b>	Yes
<b>China RoHS Regulation</b>	<a href="#">China RoHS declaration</a>
<b>RoHS exemption information</b>	<a href="#">Yes</a>
<b>Environmental Disclosure</b>	<a href="#">Product Environmental Profile</a>
<b>Circularity Profile</b>	<a href="#">End of Life Information</a>
<b>WEEE</b>	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
<b>PVC free</b>	Yes
<b>California proposition 65</b>	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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>

Dimensions

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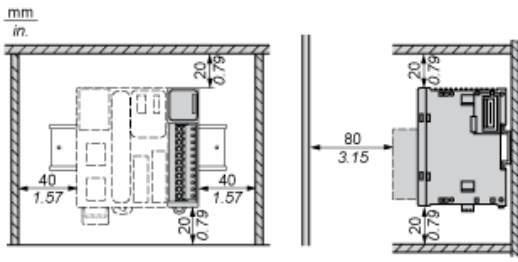
mm  
in.



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

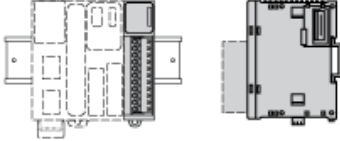
Spacing Requirements

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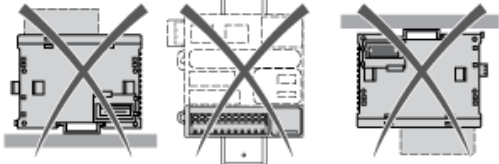


**Mounting on a Rail**

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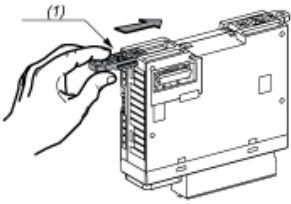


**Incorrect Mounting**



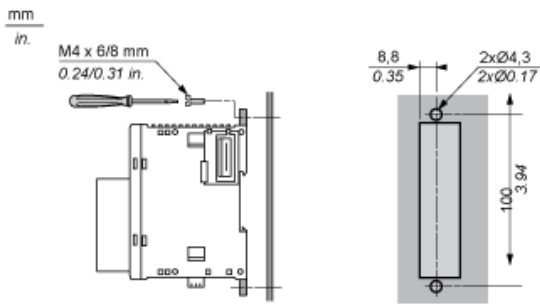
**Mounting on a Panel Surface**

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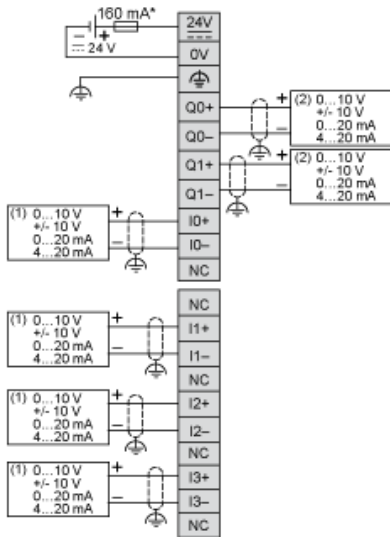
(1) Install a mounting strip

**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

**Recommended replacement(s)**