

# Product data sheet

## Characteristics

# TM3DM8RG

Discrete I/O module, Modicon TM3, 8 IO (4 inputs, 4 relay outputs, spring) 24 VDC



### Main

Range of product	Modicon TM3
Product or component type	Discrete I/O module
Range compatibility	Modicon M241 Modicon M251 Modicon M221 Modicon M262
Discrete input number	4 for input conforming to IEC 61131-2 Type 1
Discrete input voltage	24 V
Discrete input current	7 mA for input
Discrete output type	Relay normally open
Discrete output number	4
Discrete output logic	Positive or negative
Discrete output voltage	24 V DC for relay output 240 V AC for relay output
Discrete output current	2000 mA for relay output

### Complementary

Discrete I/O number	8
Current consumption	5 mA at 5 V DC via bus connector (at state off) 0 mA at 24 V DC via bus connector (at state on) 0 mA at 24 V DC via bus connector (at state off) 25 mA at 5 V DC via bus connector (at state on)
Discrete input voltage type	DC
Voltage state 1 guaranteed	15...28.8 V for input
Current state 1 guaranteed	>= 2.5 mA (input)
Voltage state 0 guaranteed	0...5 V for input
Current state 0 guaranteed	<= 1 mA (input)
Input impedance	3.4 kOhm
Response time	4 ms (turn-on) 4 ms (turn-off)
Maximum current per output common	7 A
Mechanical durability	20000000 cycles
Minimum load	10 mA at 5 V DC for relay output
Local signalling	1 LED per channel (green) for I/O state
Electrical connection	11 x 2.5 mm <sup>2</sup> removable spring terminal block with pitch 5.08 mm adjustment for inputs and outputs
Maximum cable distance between devices	Unshielded cable: <30 m for regular input
Insulation	Between input and internal logic at 500 V AC Non-insulated between inputs Between input groups and output groups at 1500 V AC Between open contact at 750 V AC Between output and internal logic at 500 V AC Non-insulated between outputs
Marking	CE
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	84.6 mm
Width	27.4 mm
Net weight	0.95 kg

## Environment

Standards	EN/IEC 61010-2-201 EN/IEC 61131-2
Product certifications	CULus C-Tick
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 50/60 Hz conforming to EN/IEC 61000-4-8
Resistance to fast transients	1 KV for I/O conforming to EN/IEC 61000-4-4 2 kV for relay output conforming to EN/IEC 61000-4-4
Surge withstand	2 KV output common mode conforming to EN/IEC 61000-4-5 1 kV input common mode conforming to EN/IEC 61000-4-5
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
Ambient air temperature for operation	-10...35 °C vertical installation -10...55 °C horizontal 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 with protective cover in place
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 3.5 mm at 5...8.4 Hz on panel 3 gn at 8.4...150 Hz on panel
Shock resistance	15 gn for 11 ms

## Packing Units

Package 1 Weight	99.000 g
Package 1 Height	75.000 mm
Package 1 width	105.000 mm
Package 1 Length	125.000 mm

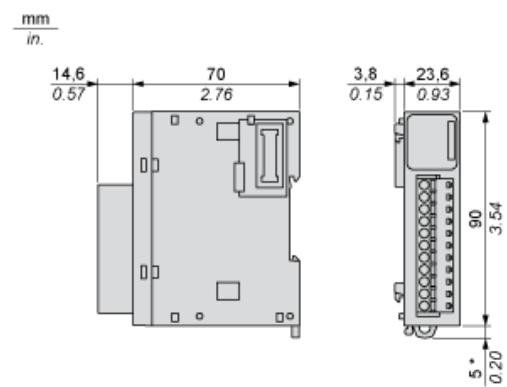
## Offer Sustainability

Sustainable offer status	Green Premium product
REACH Regulation	 <a href="#">REACH Declaration</a>
REACH free of SVHC	Yes
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	 Yes
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

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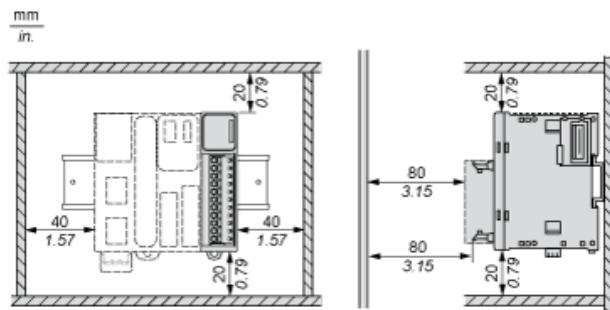
Dimensions

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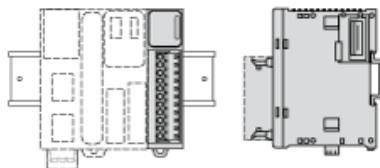


(\*) 8.5 mm/0.33 in. when the clamp is pulled out.

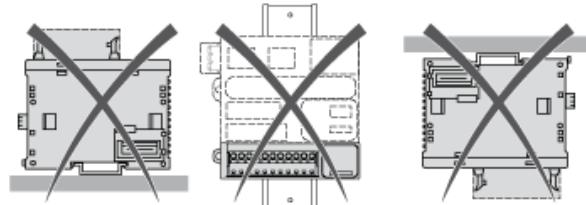
## Spacing Requirements



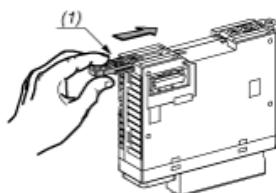
## Mounting on a Rail



## Incorrect Mounting

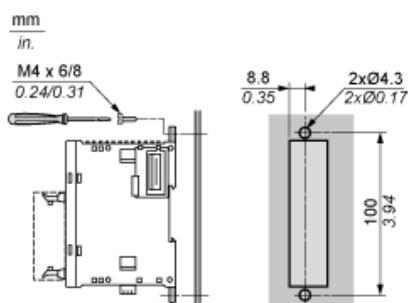


## Mounting on a Panel Surface



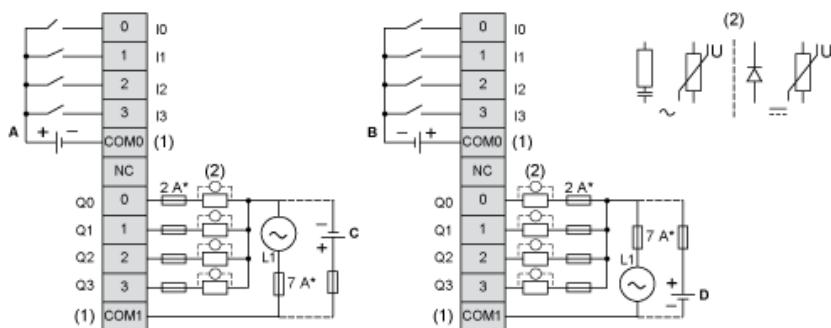
(1) Install a mounting strip

## Mounting Hole Layout



Digital Mixed I/O Module (8-channel)

Wiring Diagram (Sink / Source)



(\*) Type T fuse

- (1) The COM0 and COM1 terminals are not connected internally.
- (2) To improve the life time of the contacts, and to protect from potential inductive load damage, it is recommended to connect a free wheeling diode in parallel to each inductive DC load or an RC snubber in parallel of each inductive AC load.

- (A) Sink wiring (positive logic)
- (B) Source wiring (negative logic)
- (C) Source wiring (positive logic)
- (D) Sink wiring (negative logic)