

# Product data sheet

Specifications



## Discrete output module, Modicon TM3, 16 relay outputs (spring) 24 VDC

TM3DQ16RG

### Main

Range of product	Modicon TM3
Product or component type	Discrete output module
Range compatibility	Modicon M241 Modicon M251 Modicon M221 Modicon M262
Discrete output type	Relay normally open
Discrete output number	16
Discrete output logic	Positive or negative
Discrete output voltage	240 V AC for relay output 30 V DC for relay output
Discrete output current	2000 mA for relay output

### Complementary

Discrete I/O number	16
Current consumption	0 mA at 24 V DC via bus connector (at state off) 75 mA at 24 V DC via bus connector (at state on)
Response time	10 ms (turn-on) 5 ms (turn-off)
Mechanical durability	20000000 cycles
Minimum load	10 mA at 5 V DC for relay output
Local signalling	1 LED per channel (green) for output status
Electrical connection	10 x 1.5 mm <sup>2</sup> removable spring terminal block with pitch 3.81 mm adjustment for outputs
Maximum cable distance between devices	Unshielded cable: <30 m for relay output
Insulation	Between output and internal logic at 2300 V AC Between outputs at 750 V AC Between output groups at 1500 V AC
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

<b>Net weight</b>	0.145 kg
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## Environment

<b>Standards</b>	EN/IEC 61131-2 EN/IEC 61010-2-201
<b>Product certifications</b>	cULus C-Tick
<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 50/60 Hz conforming to EN/IEC 61000-4-8
<b>Resistance to fast transients</b>	2 kV for relay output conforming to EN/IEC 61000-4-4
<b>Surge withstand</b>	1 kV I/O common mode conforming to EN/IEC 61000-4-5 DC
<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>Ambient air temperature for operation</b>	-10...35 °C vertical installation -10...55 °C horizontal 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 with protective cover in place
<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 3.5 mm at 5...8.4 Hz on panel 3 gn at 8.4...150 Hz on panel
<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>	245.0 g
<b>Unit Type of Package 2</b>	S04
<b>Number of Units in Package 2</b>	42
<b>Package 2 Height</b>	30 cm
<b>Package 2 Width</b>	40 cm
<b>Package 2 Length</b>	60 cm
<b>Package 2 Weight</b>	11.273 kg
<b>Unit Type of Package 3</b>	P12

<b>Number of Units in Package 3</b>	504
<b>Package 3 Height</b>	105 cm
<b>Package 3 Width</b>	120 cm
<b>Package 3 Length</b>	80 cm
<b>Package 3 Weight</b>	145 kg

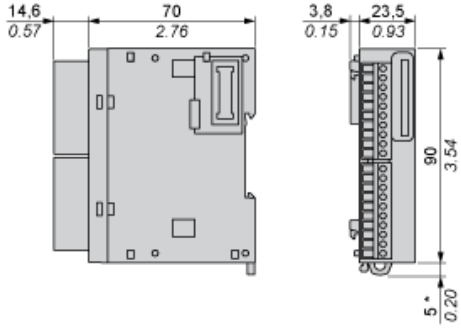
## Offer Sustainability

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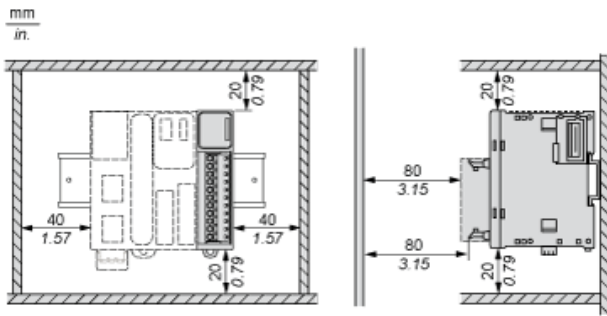
mm  
in.



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

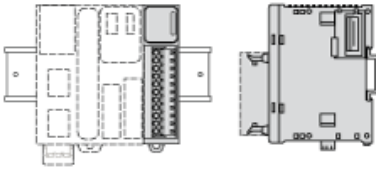
Spacing Requirements

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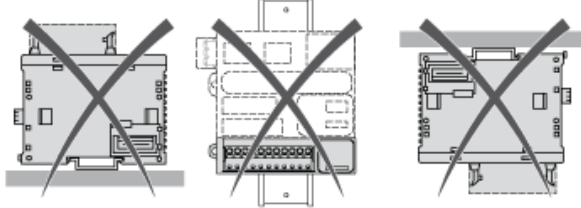


**Mounting on a Rail**

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**Incorrect Mounting**



**Mounting on a Panel Surface**

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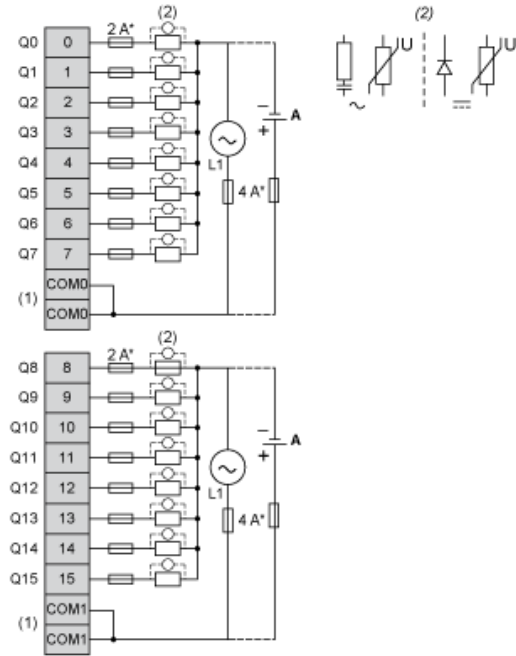
(1) Install a mounting strip

**Mounting Hole Layout**



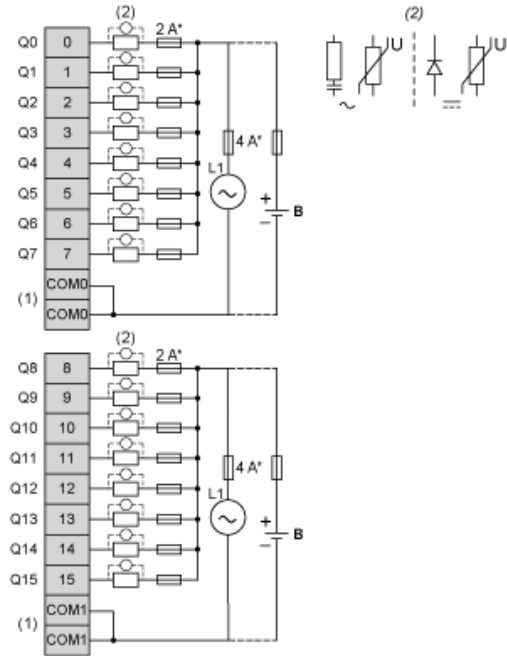
**Digital Relay Output Module (16-channel)**

**Wiring Diagram (Positive Logic)**



- (\*) 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
- (A) Source wiring (positive logic).

**Wiring Diagram (Negative Logic)**



- (\*) 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
- (B) Sink wiring (negative logic)

**Recommended replacement(s)**