# 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



# Controller M100 - 9I/7O relay - 220VAC

TM100C16RN

# Main

Range of product	Easy Modicon M100	
Product or component type	Logic controller	
[Us] rated supply voltage	100240 V AC	
Discrete I/O number	16	
Discrete input number	I2I5: 4 fast input I6I8: 3 regular input I0I1: 2 high speed input	
Discrete output number	7 relay	
Discrete input voltage	24 V	
Discrete input voltage type	DC	
Discrete input current	7 mA for regular input 7 mA for fast input 9 mA for high speed input	
Discrete output voltage	24 V DC 220 V AC	
Discrete output current	2 A	
Discrete output type	Relay normally open	
Power consumption in VA	3040 VA at 100240 V AC (with max I/O)	

# Complementary

Supply voltage limits	85264 V	
Voltage state 1 guaranteed	>= 15 V for input	
Voltage state 0 guaranteed	<= 5 V for input	
Network frequency	50/60 Hz	
Inrush current	50 A	
Input impedance	3.3 kOhm for regular input 3.3 kOhm for fast input 2.81 kOhm for high speed input	
Response time	10 ms turn-on, Q0Q6 terminal(s) for relay output 10 ms turn-off, Q0Q6 terminal(s) for relay output 35 µs turn-on, 1215 terminal(s) for fast input 100 µs turn-off, 1215 terminal(s) for fast input 5 µs turn-on, 1011 terminal(s) for high speed input 5 µs turn-off, 1011 terminal(s) for high speed input 35 µs turn-on, 1618 terminal(s) for regular input 100 µs turn-off, 1618 terminal(s) for regular input	
Configurable filtering time	0 ms for input 3 ms for input 12 ms for input	

Output voltage limits	30 V DC 250 V AC	
Maximum current per output common	4 A at COM 0 4 A at COM 1	
Electrical durability	100000 cycles AC-12, 240 V, 480 VA, resistive 100000 cycles DC-12, 24 V, 48 W, resistive	
Switching frequency	0.1 Hz with maximum load 5 Hz without maximum load	
Mechanical durability	20000000 cycles for relay output	
Minimum load	10 mA at 5 V DC for relay output	
Memory capacity	1024 kB internal flash with 10000 instructions for backup of programs	
Data storage equipment	32 GB micro SD card (optional)	
Execution time for 1 KInstruction	0.3 ms for event and periodic task	
Execution time per instruction	0.2 μs Boolean	
Exct time for event task	60 μs response time	
Regulation loop	Adjustable PID regulator up to 14 simultaneous loops	
Control signal type	Quadrature (x1, x2, x4) at 60 kHz for fast input (HSC mode) Pulse/direction at 60 kHz for fast input (HSC mode) Single phase at 60 kHz for fast input (HSC mode) CW/CCW at 60 kHz for fast input (HSC mode)	
Counting input number	2 fast input (HSC mode) at 60 kHz 32 bits	
Integrated connection type	USB port with mini B USB 2.0 connector  Non isolated serial link serial 1 with terminal block connector and RS485 interface  Non isolated serial link serial 2 with terminal block connector and RS232/RS485 interface	
Transmission rate	1.2115.2 kbit/s (115.2 kbit/s by default) for bus length of 15 m for RS485 1.2115.2 kbit/s (115.2 kbit/s by default) for bus length of 3 m for RS232 12 Mbit/s for USB	
Communication port protocol	USB port: USB - SoMachine-Network Non isolated serial link: Modbus master/slave - RTU/ASCII or SoMachine-Network	
Local signalling	1 LED (green) for PWR 1 LED (green) for RUN 1 LED (red) for module error (ERR) 1 LED (green) for SD card access (SD) 1 LED (green) for SL1 1 LED per channel (green) for I/O state	
Electrical connection	removable screw terminal blockfor inputs removable screw terminal blockfor outputs removable screw terminal block, 4 terminal(s) for connecting the serial link1 Mini B USB 2.0 connectorfor a programming terminal removable screw terminal block, 3 terminal(s) for connecting the 100-240 V AC power supply	
Maximum cable distance between devices	Shielded cable: <10 m for fast input Shielded cable: <10 m for high speed input Unshielded cable: <150 m for output Unshielded cable: <50 m for regular input	
Insulation	Between input and internal logic at 560 V AC Between fast input and internal logic at 560 V AC Between input groups at 560 V AC Non-insulated between inputs Between output and internal logic at 1780 V AC Between output groups at 1780 V AC Between supply and internal logic at 1780 V AC	
Sensor power supply	24 V DC	
Mounting support	Top hat type TH35-15 rail conforming to IEC 60715 Top hat type TH35-7.5 plate or panel with fixing kit conforming to IEC 60715	
Height	90 mm	

Depth	70 mm	
Width	110 mm	
Net weight	0.31 kg	
Environment		
IP degree of protection	IP20 with protective cover in place	
Product certifications	CE	
Standards	EN/IEC 61010-2-201 EN/IEC 61131-2	
Electromagnetic compatibility	Electrostatic discharge immunity test - test level: 8 kV (air discharge) conforming to EN/IEC 61000-4-2 Electrostatic discharge immunity test - test level: 6 kV (contact discharge) conforming	
	to EN/IEC 61000-4-2 Susceptibility to electromagnetic fields - test level: 10 V/m (80 MHz3 GHz) conforming to EN/IEC 61000-4-3	
	Conducted emission - test level: 79 dBμV/m QP/66 dBμV/m AV (power lines (AC)) conforming to EN/IEC 55011	
	Conducted emission - test level: 73 dBµV/m QP/60 dBµV/m AV (power lines (AC)) conforming to EN/IEC 55011	
	Radiated emission - test level: 40 dBµV/m QP class A (10 m) conforming to EN/IEC 55011	
	Radiated emission - test level: 47 dBµV/m QP class A (10 m) conforming to EN/IEC 55011	
	Magnetic field at power frequency - test level: 30 A/m (I/O) conforming to EN/IEC 61000-4-8  Electrical fast transient/burst immunity test - test level: 2 kV (power lines) conforming	
	to EN/IEC 61000-4-4  Electrical fast transient/burst immunity test - test level: 2 kV (power lines) conforming	
	to EN/IEC 61000-4-4  Electrical fast transient/burst immunity test - test level: 2 kV (leay output) conforming to EN/	
	IEC 61000-4-4  Electrical fast transient/burst immunity test - test level: 1 kV (i/o) conforming to Elv	
	EN/IEC 61000-4-4  1.2/50 μs shock waves immunity test - test level: 1 kV (power lines (DC)) conforming	
	to EN/IEC 61000-4-5	
	1.2/50 µs shock waves immunity test - test level: 2 kV (power lines (AC)) conforming to EN/IEC 61000-4-5	
	1.2/50 µs shock waves immunity test - test level: 2 kV (relay output) conforming to EN/IEC 61000-4-5	
	1.2/50 µs shock waves immunity test - test level: 1 kV (I/O) conforming to EN/IEC 61000-4-5	
	1.2/50 µs shock waves immunity test - test level: 1 kV (shielded cable) conforming to EN/IEC 61000-4-5	
	1.2/50 µs shock waves immunity test - test level: 0.5 kV class A (power lines (DC)) conforming to EN/IEC 61000-4-5	
	1.2/50 µs shock waves immunity test - test level: 1 kV class A (power lines (AC)) conforming to EN/IEC 61000-4-5	
	1.2/50 μs shock waves immunity test - test level: 1 kV (relay output) conforming to EN/IEC 61000-4-5	
	Conducted RF disturbances - test level: 10 V (0.1580 MHz) conforming to EN/IEC 61000-4-6	
Shock resistance	15 gn for 11 ms 30 gn for 6 ms	
Immunity to microbreaks	10 ms	
Vibration resistance	3.5 mm at 58.4 Hz on symmetrical rail 1 gn at 8.4150 Hz on symmetrical rail	
	3.5 mm at 58.4 Hz on panel mounting	
Polotino humiditr	3 gn at 8.4150 Hz on panel mounting	
Relative humidity	1095 %, without condensation (in operation) 1095 %, without condensation (in storage)	
Ambient air temperature for operation	055 °C (horizontal installation)	
Ambient air temperature for storage	-2570 °C	
pollution degree	2	

<= 2

0...2000 m

pollution degree

Operating altitude

Storage altitude 0...3000 m

# **Packing Units**

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Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	9.493 cm
Package 1 Width	12.157 cm
Package 1 Length	13.668 cm
Package 1 Weight	450 g
Unit Type of Package 2	S03
Number of Units in Package 2	18
Package 2 Height	30 cm
Package 2 Width	30 cm
Package 2 Length	40 cm
Package 2 Weight	8600 g
Unit Type of Package 3	P12
Number of Units in Package 3	432
Package 3 Height	95 cm
Package 3 Width	80 cm
Package 3 Length	120 cm
Package 3 Weight	215400 g



Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing "Use Better, Use Longer, Use Again" campaign to extend product lifetimes and recyclability.

### Environmental Data explained >

How we assess product sustainability >

∇ Environmental footprint	
Carbon footprint (kg.eq.CO2 per CR, Total Life cycle)	4598
Environmental Disclosure	Product Environmental Profile

### **Use Better**

Packaging made with recycled cardboard	Yes
Packaging without single use plastic	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
REACh Regulation	REACh Declaration

### **Use Again**

○ Repack and remanufacture	
Circularity Profile	End of Life Information
Take-back	No

# **Product datasheet**

# **TM100C16RN**

## **Dimensions Drawings**

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### **Dimensions**

