# 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 M200 20I/12O relay Ethernet - 220V AC

TM200CE32R

# Main

Range of product	Easy Modicon M200	
Product or component type	Logic controller	
[Us] rated supply voltage	100240 V AC	
Discrete I/O number	32	
Discrete input number	I2I5: 4 fast input I0, I1, I6, I7: 4 high speed input I8I19: 12 regular input	
Discrete output number	12 relay	
Discrete input voltage	24 V	
Discrete input voltage type	DC	
Discrete input current	7 mA for input 7 mA for fast input 9 mA for high speed input	
Discrete input logic	Sink or source (positive/negative) type 1 conforming to IEC 61131-2	
Discrete output voltage	24 V DC 220 V AC	
Discrete output current	2 A for relay output	
Discrete output type	Relay normally open	
Power consumption in VA	5566 VA at 100240 V AC (with max I/O)	

# Complementary

Maximum number of I/O expansion module	4 with 76 discrete output(s) for relay output	
Supply voltage limits	85264 V	
Network frequency	50/60 Hz	
Inrush current	50 A	
Voltage state 1 guaranteed	>= 15 V for input	
Voltage state 0 guaranteed	<= 5 V for input	
Input impedance	3.3 kOhm for discrete input	
Response time	10 ms turn-on, Q0Q11 terminal(s) for output 10 ms turn-off, Q0Q11 terminal(s) for output 5 µs turn-off, I0, I1, I6, I7 terminal(s) for high speed input 5 µs turn-on, I0, I1, I6, I7 terminal(s) for high speed input 100 µs turn-off, I2I5 terminal(s) for fast input 35 µs turn-on, I2I5 terminal(s) for fast input 100 µs turn-off, I8I13 terminal(s) for regular input 35 µs turn-on, I8I13 terminal(s) for regular input 125 µs turn-off, I14I19 terminal(s) for regular input 55 µs turn-on, I14I19 terminal(s) for regular input	

Configurable filtering time	igurable 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 2 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	
Mechanical durability	20000000 cycles for relay output	
Minimum load	10 mA at 5 V DC for relay output	
Memory capacity	512 byte internal flash for backup of programs	
Data storage equipment	32 GB micro SD card (optional)	
Battery type	BR2032 Li-CFx (Lithium-Carbon Monofluoride), battery life: 5 year(s)	
Backup time	3 years at 25 °C (by interruption of power supply)	
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	
Clock drift	<= 90 s/month at 25 °C	
Regulation loop	Adjustable PID regulator up to 14 simultaneous loops	
Control signal type	Quadrature (x1, x2, x4) at 100 kHz for fast input (HSC mode) Pulse/direction at 100 kHz for fast input (HSC mode) Single phase at 100 kHz for fast input (HSC mode) CW/CCW at 100 kHz for fast input (HSC mode)	
Counting input number	4 fast input (HSC mode) at 100 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  Isolated serial link serial 2 with terminal block connector and 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 (red) for BAT 1 LED (green) for SL1 1 LED per channel (green) for I/O state	
Electrical connection	Mini B USB 2.0 connectorfor a programming terminal removable screw terminal blockfor inputs removable screw terminal blockfor outputs removable screw terminal block, 4 terminal(s) for connecting the serial link1 removable screw terminal block, 3 terminal(s) for connecting the 100-240 V AC power supply	
Maximum cable distance between devices	Unshielded cable: <50 m for input Shielded cable: <10 m for fast input Shielded cable: <10 m for high speed input Unshielded cable: <150 m for output	

Insulation	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 Between input and internal logic at 500 V AC Between fast input and internal logic at 500 V AC Between input groups at 500 V AC	
Sensor power supply	24 V DC at 300 mA supplied by the controller	
Marking	CE	
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	175 mm	
Net weight	0.504 kg	

## **Environment**

IP degree of protection	IP20 with protective cover in place	
Standards	IEC 61131-2 IEC 61010-2-201	
Electromagnetic compatibility	Electrostatic discharge immunity test - test level: 8 kV (air discharge) conforming to IEC 61000-4-2	
	Electrostatic discharge immunity test - test level: 6 kV (contact discharge) conforming to IEC 61000-4-2	
	Radiated radio-frequency electromagnetic field immunity test - test level: 10 V/m (80 MHz3 GHz) conforming to IEC 61000-4-3	
	Magnetic field at power frequency - test level: 30 A/m conforming to IEC 61000-4-8 Electrical fast transient/burst immunity test - test level: 2 kV (power lines) conforming to IEC 61000-4-4	
	Electrical fast transient/burst immunity test - test level: 2 kV (relay output) conforming to IEC 61000-4-4	
	Electrical fast transient/burst immunity test - test level: 1 kV (I/O) conforming to IEC 61000-4-4	
	Electrical fast transient/burst immunity test - test level: 1 kV (serial link) conforming to IEC 61000-4-4	
	1.2/50 µs shock waves immunity test - test level: 1 kV (power lines (DC)) conforming to IEC 61000-4-5	
	1.2/50 µs shock waves immunity test - test level: 2 kV (power lines (AC)) conforming to IEC 61000-4-5	
	1.2/50 µs shock waves immunity test - test level: 2 kV (relay output) conforming to IEC 61000-4-5	
	1.2/50 µs shock waves immunity test - test level: 1 kV (I/O) conforming to IEC 61000-4-5	
	$1.2/50~\mu s$ shock waves immunity test - test level: 1 kV (shielded cable) conforming to IEC 61000-4-5	
	1.2/50 µs shock waves immunity test - test level: 0.5 kV (power lines (DC)) conforming to IEC 61000-4-5	
	1.2/50 µs shock waves immunity test - test level: 1 kV (power lines (AC)) conforming to IEC 61000-4-5	
	Conducted RF disturbances - test level: 10 V (0.1580 MHz) conforming to IEC 61000-4-6	
	Conducted emission - test level: 79 dBµV/m QP/66 dBµV/m AV (power lines (AC)) conforming to IEC 55011	
	Conducted emission - test level: 73 dBµV/m QP/60 dBµV/m AV (power lines (AC)) conforming to IEC 55011	
	Radiated emission - test level: 40 dBµV/m QP class A (10 m) conforming to IEC 55011	
	Radiated emission - test level: 47 dBμV/m QP class A (10 m) conforming to IEC 55011	
Shock resistance	15 gn for 11 ms 30 gn for 6 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 58.7 Hz on panel mounting 2 gn at 8.7150 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	
Operating altitude	02000 m	
Storage altitude	03000 m	

# **Packing Units**

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	9.5 cm
Package 1 Width	13.8 cm
Package 1 Length	18.5 cm
Package 1 Weight	749.0 g
Unit Type of Package 2	S03
Number of Units in Package 2	12
Package 2 Height	30.0 cm
Package 2 Width	30.0 cm
Package 2 Length	40.0 cm
Package 2 Weight	9.4 kg
Unit Type of Package 3	P06
Number of Units in Package 3	96
Package 3 Height	75.0 cm
Package 3 Width	80.0 cm
Package 3 Length	60.0 cm
Package 3 Weight	83.2 kg



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)	4604
Environmental Disclosure	Product Environmental Profile

### **Use Better**

<b>⊗</b> Materials and Substances	
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**

# **TM200CE32R**

# **Dimensions Drawings**

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### **Dimensions**



