

### Main

Range of product	Easy Modicon M200
Product or component type	Logic controller
[Us] rated supply voltage	100...240 V AC
Discrete I/O number	40
Discrete input number	I2...I5: 4 fast input I0, I1, I6, I7: 4 high speed input I8...I23: 16 regular input
Discrete output number	16 relay
Discrete input voltage	24 V
Discrete input voltage type	DC
Discrete input current	7 mA for input
Discrete input logic	Sink or source (positive/negative) type 1 conforming to EN/IEC 61131-2
Discrete output voltage	24 V DC 220 V AC
Discrete output current	2 A
Discrete output type	Relay normally open
Power consumption in VA	59...69 VA at 100...240 V AC (with max I/O)

### Complementary

Maximum number of I/O expansion module	4 with 128 discrete output(s) for transistor output 4 with 80 discrete output(s) for relay output
Supply voltage limits	85...264 V
Network frequency	50/60 Hz
Inrush current	50 A
Voltage state 1 guaranteed	$\geq 15$ V for input
Voltage state 0 guaranteed	$\leq 5$ V for input
Input impedance	3.3 kOhm for discrete input
Response time	5 $\mu$ s turn-off, I0, I1, I6, I7 terminal(s) for high speed input 5 $\mu$ s turn-on, I0, I1, I6, I7 terminal(s) for high speed input

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

	<p>100 µs turn-off, I2...I5 terminal(s) for fast input  35 µs turn-on, I2...I5 terminal(s) for fast input  100 µs turn-off, I8...I13 terminal(s) for regular input  35 µs turn-on, I8...I13 terminal(s) for regular input  10 ms turn-off, Q0...Q15 terminal(s) for relay output  10 ms turn-on, Q0...Q15 terminal(s) for relay output  125 µs turn-off, I14...I23 terminal(s) for regular input  55 µs turn-on, I14...I23 terminal(s) for regular input</p>
Configurable filtering time	<p>0 ms for input  3 ms for input  12 ms for input</p>
Output voltage limits	<p>30 V DC  250 V AC</p>
Maximum current per output common	<p>4 A at COM 2  4 A at COM 0  4 A at COM 1  4 A at COM 3</p>
Electrical durability	<p>100000 cycles AC-12, 240 V, 480 VA, resistive  100000 cycles DC-12, 24 V, 48 W, resistive</p>
Switching frequency	<p>0.1 Hz with maximum load</p>
Mechanical durability	<p>20000000 cycles for relay output</p>
Minimum load	<p>10 mA at 5 V DC for relay output</p>
Memory capacity	<p>512 byte internal flash for backup of programs</p>
Data storage equipment	<p>32 GB micro SD card (optional)</p>
Battery type	<p>BR2032 Li-CFx (Lithium-Carbon Monofluoride), battery life: 5 year(s)</p>
Backup time	<p>3 years at 25 °C (by interruption of power supply)</p>
Execution time for 1 KInstruction	<p>0.3 ms for event and periodic task</p>
Execution time per instruction	<p>0.2 µs Boolean</p>
Exct time for event task	<p>60 µs response time</p>
Clock drift	<p>&lt;= 90 s/month at 25 °C</p>
Regulation loop	<p>Adjustable PID regulator up to 14 simultaneous loops</p>
Control signal type	<p>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)</p>
Counting input number	<p>4 fast input (HSC mode) at 100 kHz 32 bits</p>
Integrated connection type	<p>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</p>
Transmission rate	<p>1.2...115.2 kbit/s (115.2 kbit/s by default) for bus length of 15 m for RS485  1.2...115.2 kbit/s (115.2 kbit/s by default) for bus length of 3 m for RS232  12 Mbit/s for USB</p>
Communication port protocol	<p>USB port: USB - SoMachine-Network  Non isolated serial link: Modbus master/slave - RTU/ASCII or SoMachine-Network</p>
Local signalling	<p>1 LED (green)PWR:  1 LED (green)RUN:  1 LED (red)module error (ERR):  1 LED (green)SD card access (SD):  1 LED (red)BAT:  1 LED (green)SL1:  1 LED per channel (green)I/O state:</p>
Electrical connection	<p>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</p>
Maximum cable distance between devices	<p>Unshielded cable: &lt;50 m for input  Shielded cable: &lt;10 m for fast input  Shielded cable: &lt;10 m for high speed input  Unshielded cable: &lt;150 m for output</p>
Insulation	<p>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</p>

	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
Product certifications	IACS E10 CULus RCM CSA
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 MHz...3 GHz) conforming to EN/IEC 61000-4-3 Magnetic field at power frequency - test level: 30 A/m 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 (relay output) conforming to EN/IEC 61000-4-4 Electrical fast transient/burst immunity test - test level: 1 kV (I/O) conforming to EN/IEC 61000-4-4 Electrical fast transient/burst immunity test - test level: 1 kV (serial link) conforming to 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 (power lines (DC)) conforming to EN/IEC 61000-4-5 1.2/50 µs shock waves immunity test - test level: 1 kV (power lines (AC)) conforming to EN/IEC 61000-4-5 Conducted RF disturbances - test level: 10 V (0.15...80 MHz) conforming to EN/IEC 61000-4-6 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
Shock resistance	15 gn for 11 ms 30 gn for 6 ms
Immunity to microbreaks	10 ms
Vibration resistance	3.5 mm at 5...8.4 Hz on symmetrical rail 1 gn at 8.4...150 Hz on symmetrical rail 3.5 mm at 5...8.7 Hz on panel mounting 2 gn at 8.7...150 Hz on panel mounting
Relative humidity	10...95 %, without condensation (in operation) 10...95 %, without condensation (in storage)
Ambient air temperature for operation	0...55 °C (horizontal installation)
Ambient air temperature for storage	-25...70 °C
Pollution degree	<= 2
Operating altitude	0...2000 m

Storage altitude	0...3000 m
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## Packing Units

Package 1 Weight	7.400 kg
Package 1 Height	9.000 cm
Package 1 width	18.400 cm
Package 1 Length	13.800 cm

## Offer Sustainability

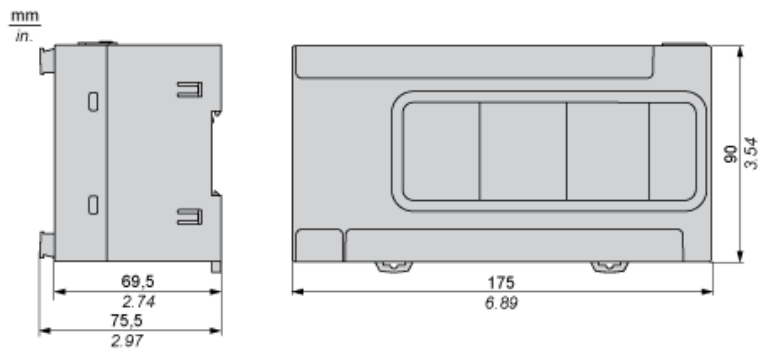
Sustainable offer status	Green Premium product
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Mercury free	Yes
RoHS exemption information	<a href="#">Yes</a>
China RoHS Regulation	<a href="#">China RoHS declaration</a>
Environmental Disclosure	<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

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Dimensions Drawings

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Dimensions

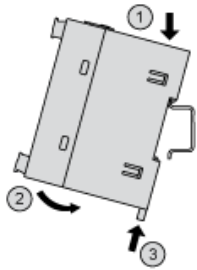


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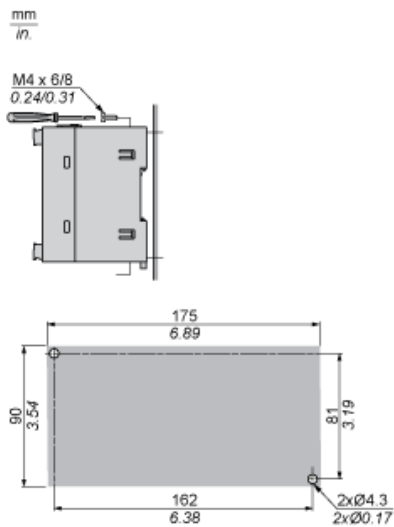
Mounting and Clearance

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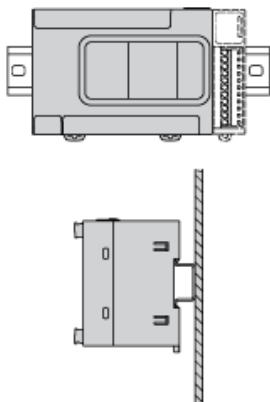
Mounting on a Rail

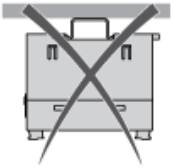
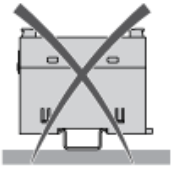


Direct Mounting on a Panel Surface



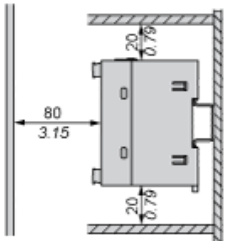
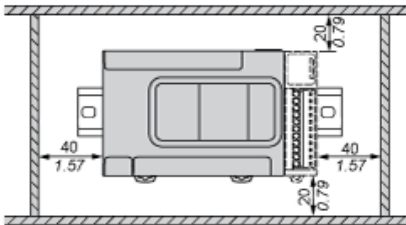
Mounting Position



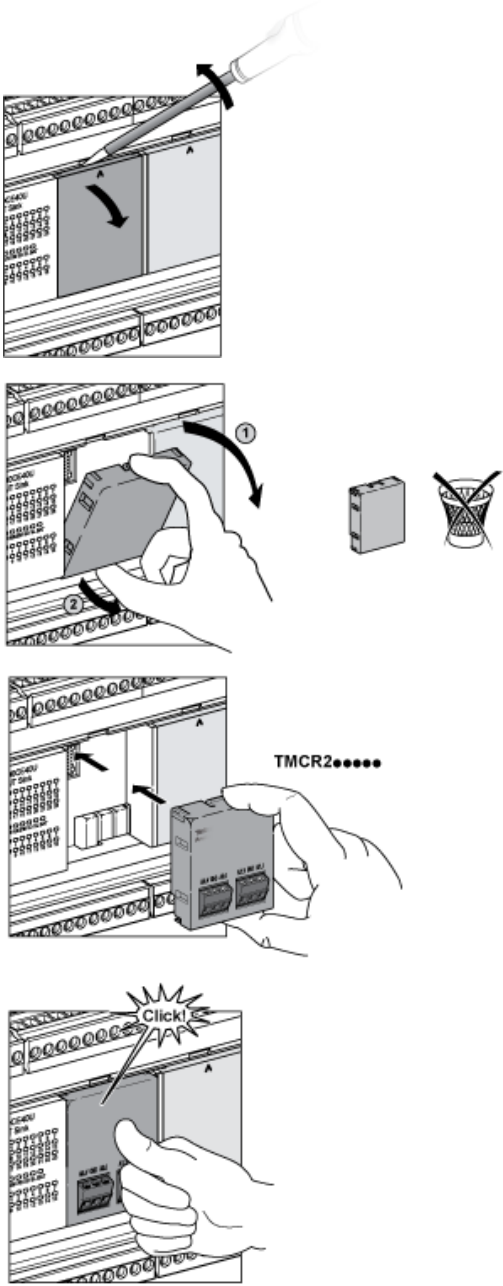


## Clearance

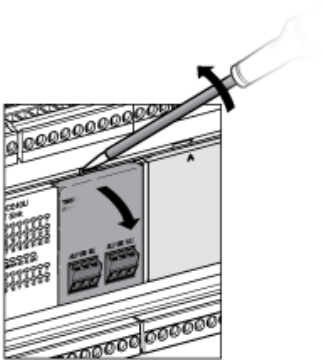
mm  
in.



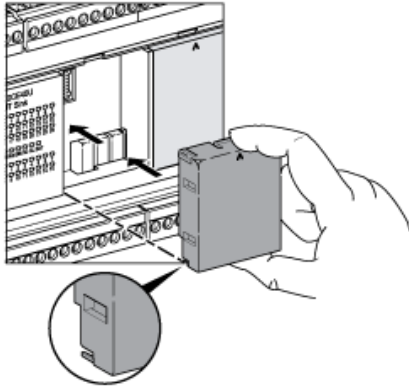
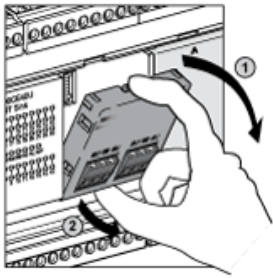
## TMCR2...Installation



## TMCR2... De-Installation

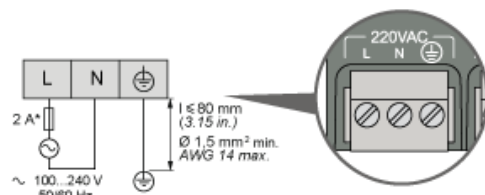
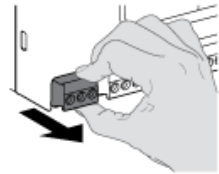






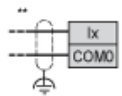
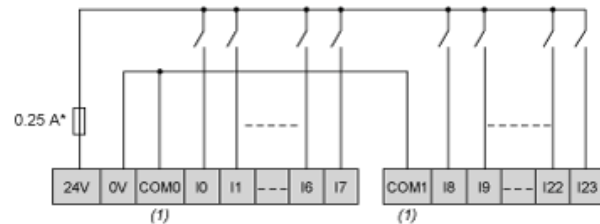
Wiring Diagram / Connections Schema

AC Power Supply



(\*) Type T fuse

Digital Inputs Positive Logic (Sink)

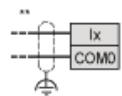
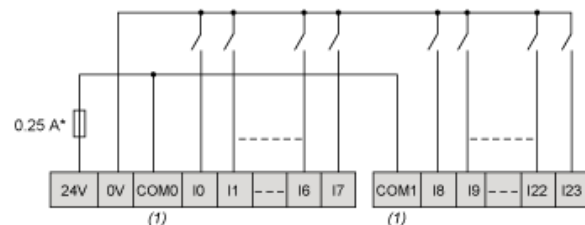


(\*) Type T fuse

(\*\*) Fast inputs

(1) The COM0 and COM1 terminals are not connected internally.

Digital Inputs Negative Logic (Source)

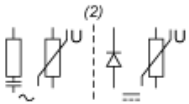
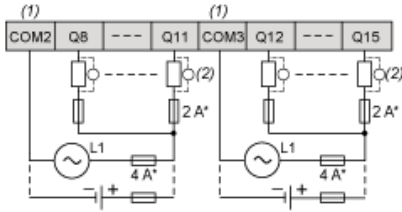
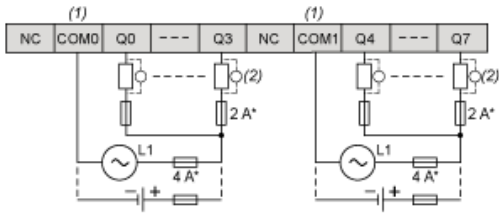


(\*) Type T fuse

(\*\*) Fast inputs

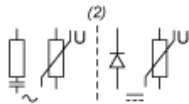
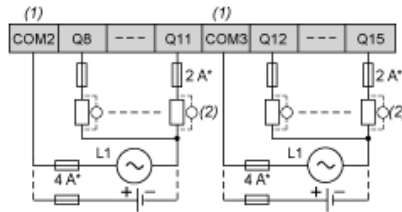
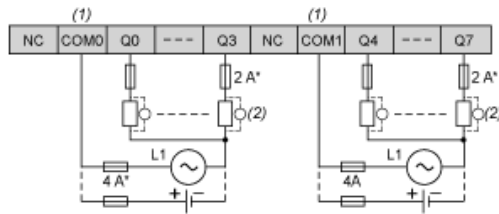
(1) The COM0 and COM1 terminals are not connected internally.

## Relay Outputs - Negative Logic (Sink)



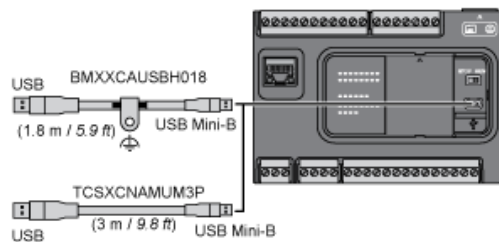
- (\*) Type T fuse
- (1) The COM0 and COM1 terminals are not connected internally.
- (2) A free wheeling diode or an RC snubber

## Relay Outputs - Positive Logic (Source)

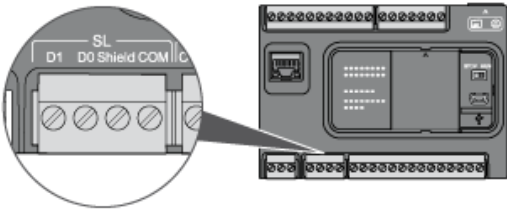


- (\*) Type T fuse
- (1) The COM0 and COM1 terminals are not connected internally.
- (2) A free wheeling diode or an RC snubber

## USB Mini-B Connection



### SL1 Connection



- D1 : D1 (A+)
- D0 : D0 (B-)
- Shield : Shield
- COM : 0 V Com