



### 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         | 24   |
| Discrete input number       | I2...I5: 4 fast input<br>I0, I1, I6, I7: 4 high speed input<br>I8...I13: 6 regular input |
| Discrete output number      | 10 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<br>220 V AC  |
| Discrete output current     | 2 A  |
| Discrete output type        | Relay normally open  |
| Power consumption in VA     | 52...64 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<br>4 with 74 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             | >= 15 V for input  |
| Voltage state 0 guaranteed             | <= 5 V for input   |
| Input impedance                        | 3.3 kOhm for discrete input  |
| Response time                          | 5 µs turn-off, I0, I1, I6, I7 terminal(s) for high speed input<br>5 µs turn-on, I0, I1, I6, I7 terminal(s) for high speed input<br>100 µs turn-off, I2...I5 terminal(s) for fast input<br>35 µs turn-on, I2...I5 terminal(s) for fast input<br>10 ms turn-off, Q0...Q9 terminal(s) for relay output<br>10 ms turn-on, Q0...Q9 terminal(s) for relay output<br>100 µs turn-off, I8...I13 terminal(s) for regular input<br>35 µs turn-on, I8...I13 terminal(s) for regular input |
| Configurable filtering time            | 0 ms for input<br>3 ms for input<br>12 ms for input  |
| Output voltage limits                  | 30 V DC<br>250 V AC  |
| Maximum current per output common      | 4 A at COM 2<br>4 A at COM 0<br>4 A at COM 1   |
| Electrical durability                  | 100000 Cycles AC-12, 240 V, 480 VA, resistive<br>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)<br>Pulse/Direction at 100 kHz for fast input (HSC mode)<br>Single phase at 100 kHz for fast input (HSC mode)<br>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<br>Non isolated serial link serial 1 with terminal block connector and RS485 interface<br>Non isolated serial link serial 2 with terminal block connector and RS232/RS485 interface<br>Ethernet Modbus TCP/IP Ethernet with RJ45 connector and 1 Ethernet port<br>10/100BASE-T interface<br>Isolated serial link serial 2 with terminal block connector and RS485 interface |
| Transmission rate                      | 1.2...115.2 kbit/s (115.2 kbit/s by default) for bus length of 15 m for RS485<br>1.2...115.2 kbit/s (115.2 kbit/s by default) for bus length of 3 m for RS232<br>12 Mbit/s for USB<br>10/100 Mbit/s for bus length of 100 m for Ethernet Modbus TCP/IP   |
| Communication port protocol            | USB port: USB - SoMachine-Network<br>Non isolated serial link: Modbus master/slave - RTU/ASCII or SoMachine-Network<br>Ethernet Modbus TCP/IP: Modbus TCP/IP client/server   |
| Local signalling                       | 1 LED (green) for PWR<br>1 LED (green) for RUN<br>1 LED (red) for module error (ERR)<br>1 LED (green) for SD card access (SD)<br>1 LED (red) for BAT<br>1 LED (green) for SL1<br>1 LED per channel (green) for I/O state<br>2 LEDs (green) for communication (LK/ACT 10/100)   |
| Electrical connection                  | Mini B USB 2.0 connectorfor a programming terminal<br>RJ45 connectorfor connecting Ethernet network<br>Removable screw terminal blockfor inputs<br>Removable screw terminal blockfor outputs<br>Removable screw terminal block, 4 terminal(s) for connecting the serial link1<br>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<br>Shielded cable: <10 m for fast input<br>Shielded cable: <10 m for high speed input<br>Unshielded cable: <150 m for output   |
| Insulation                             | Non-insulated between inputs<br>Between output and internal logic at 1780 V AC<br>Between output groups at 1780 V AC<br>Between supply and internal logic at 1780 V AC<br>Between input and internal logic at 500 V AC<br>Between fast input and internal logic at 500 V AC<br>Between input groups at 500 V AC  |
| Sensor power supply                    | 24 V DC at 250 mA supplied by the controller   |
| Marking                                | CE   |
| Mounting support                       | Top hat type TH35-15 rail conforming to IEC 60715<br>Top hat type TH35-7.5 plate or panel with fixing kit conforming to IEC 60715  |
| Height                                 | 90 mm  |
| Depth                                  | 70 mm  |
| Width                                  | 130 mm   |
| Net weight                             | 0.413 kg   |

## Environment

|                                       |  |
|---------------------------------------|--|
| IP degree of protection               | IP20 with protective cover in place  |
| Product certifications                | RCM<br>IACS E10<br>CULus<br>CSA  |
| Standards                             | EN/IEC 61010-2-201<br>EN/IEC 61131-2   |
| Electromagnetic compatibility         | Electrostatic discharge immunity test - test level: 8 kV (air discharge) conforming to EN/IEC 61000-4-2<br>Electrostatic discharge immunity test - test level: 6 kV (contact discharge) conforming to EN/IEC 61000-4-2<br>Susceptibility to electromagnetic fields - test level: 10 V/m (80 MHz...3 GHz) conforming to EN/IEC 61000-4-3<br>Magnetic field at power frequency - test level: 30 A/m conforming to EN/IEC 61000-4-8<br>Electrical fast transient/burst immunity test - test level: 2 kV (power lines) conforming to EN/IEC 61000-4-4<br>Electrical fast transient/burst immunity test - test level: 2 kV (relay output) conforming to EN/IEC 61000-4-4<br>Electrical fast transient/burst immunity test - test level: 1 kV (I/O) conforming to EN/IEC 61000-4-4<br>Electrical fast transient/burst immunity test - test level: 1 kV (serial link) conforming to EN/IEC 61000-4-4<br>1.2/50 µs shock waves immunity test - test level: 1 kV (power lines (DC)) conforming to EN/IEC 61000-4-5<br>1.2/50 µs shock waves immunity test - test level: 2 kV (power lines (AC)) conforming to EN/IEC 61000-4-5<br>1.2/50 µs shock waves immunity test - test level: 2 kV (relay output) conforming to EN/IEC 61000-4-5<br>1.2/50 µs shock waves immunity test - test level: 1 kV (I/O) conforming to EN/IEC 61000-4-5<br>1.2/50 µs shock waves immunity test - test level: 1 kV (shielded cable) conforming to EN/IEC 61000-4-5<br>1.2/50 µs shock waves immunity test - test level: 0.5 kV (power lines (DC)) conforming to EN/IEC 61000-4-5<br>1.2/50 µs shock waves immunity test - test level: 1 kV (power lines (AC)) conforming to EN/IEC 61000-4-5<br>Conducted RF disturbances - test level: 10 V (0.15...80 MHz) conforming to EN/IEC 61000-4-6<br>Conducted emission - test level: 79 dBµV/m QP/66 dBµV/m AV (power lines (AC)) conforming to EN/IEC 55011<br>Conducted emission - test level: 73 dBµV/m QP/60 dBµV/m AV (power lines (AC)) conforming to EN/IEC 55011<br>Radiated emission - test level: 40 dBµV/m QP class A (10 m) conforming to EN/IEC 55011<br>Radiated emission - test level: 47 dBµV/m QP class A (10 m) conforming to EN/IEC 55011<br>Electrical fast transient/burst immunity test - test level: 1 kV (Ethernet line) conforming to EN/IEC 61000-4-4 |
| Shock resistance                      | 15 gn for 11 ms<br>30 gn for 6 ms  |
| Immunity to microbreaks               | 10 ms  |
| Vibration resistance                  | 3.5 mm at 5...8.4 Hz on symmetrical rail<br>1 gn at 8.4...150 Hz on symmetrical rail<br>3.5 mm at 5...8.7 Hz on panel mounting<br>2 gn at 8.7...150 Hz on panel mounting   |
| Relative humidity                     | 10...95 %, without condensation (in operation)<br>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   |

## Packing Units

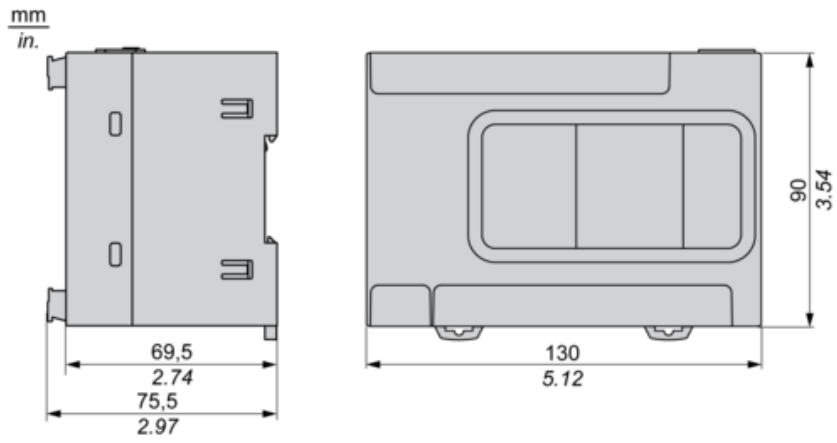
|                              |           |
|------------------------------|-----------|
| Unit Type of Package 1       | PCE       |
| Number of Units in Package 1 | 1         |
| Package 1 Height             | 9.497 cm  |
| Package 1 Width              | 13.655 cm |
| Package 1 Length             | 14.312 cm |
| Package 1 Weight             | 609.5 g   |
| Unit Type of Package 2       | S03       |
| Number of Units in Package 2 | 12        |
| Package 2 Height             | 30 cm     |
| Package 2 Width              | 30 cm     |
| Package 2 Length             | 40 cm     |
| Package 2 Weight             | 7810 g    |
| Unit Type of Package 3       | P12       |
| Number of Units in Package 3 | 288       |
| Package 3 Height             | 95 cm     |
| Package 3 Width              | 80 cm     |
| Package 3 Length             | 120 cm    |
| Package 3 Weight             | 196440 g  |

## Offer Sustainability

|                            |   |
|----------------------------|---|
| Sustainable offer status   | Green Premium product   |
| REACH Regulation           | <a href="#">REACH Declaration</a>   |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>  |
| Mercury free               | Yes   |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>  |
| RoHS exemption information | <a href="#">Yes</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   |
| California proposition 65  | 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> |

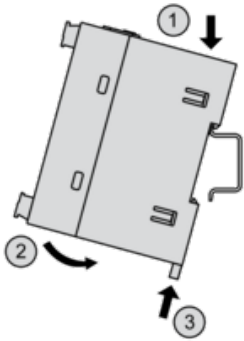
Dimensions Drawings

Dimensions

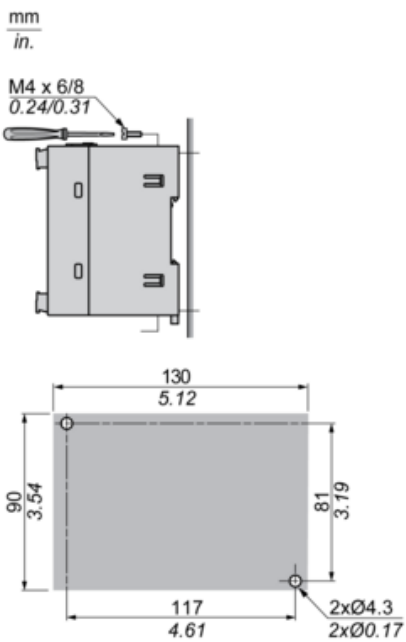


Mounting and Clearance

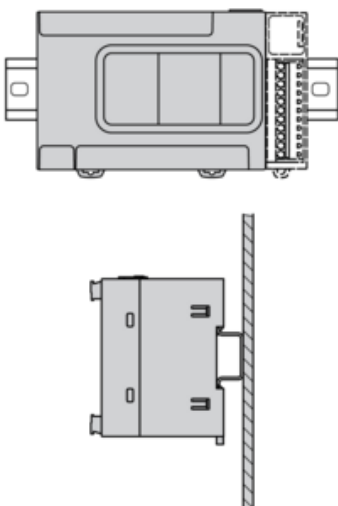
Mounting on a Rail

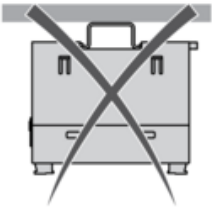
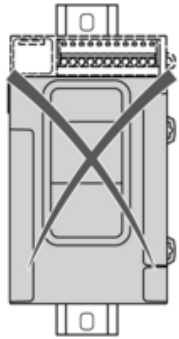
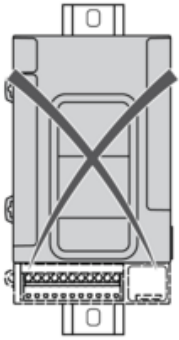
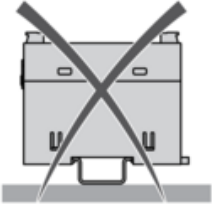


Direct Mounting on a Panel Surface



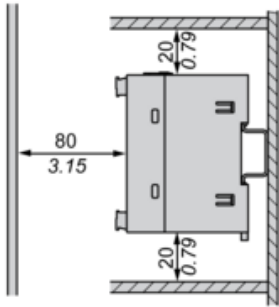
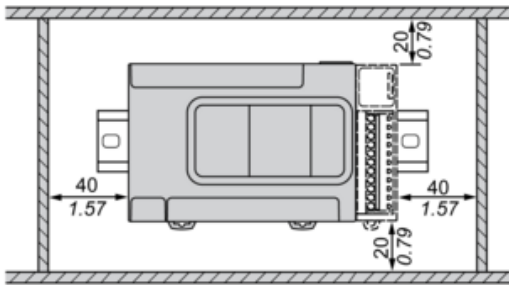
Mounting Position



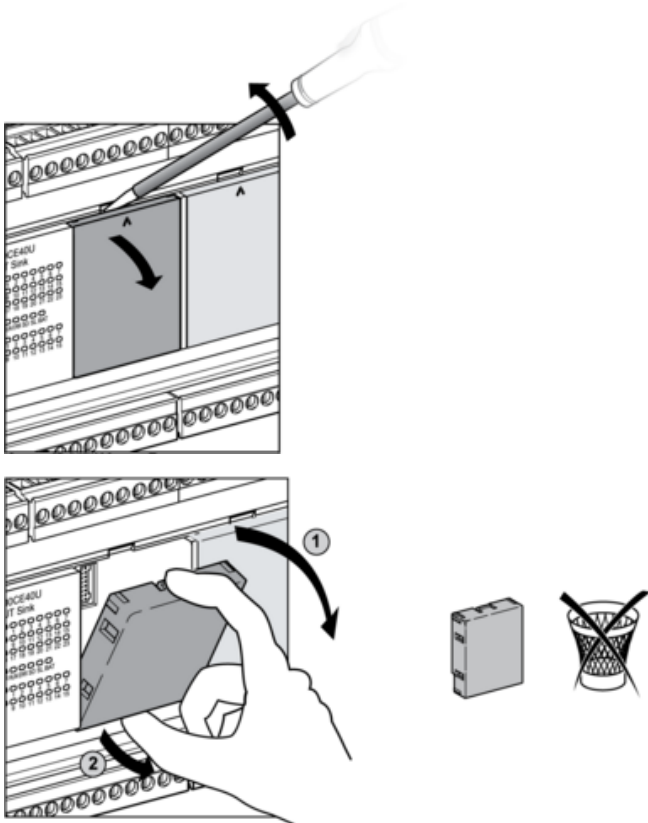


## Clearance

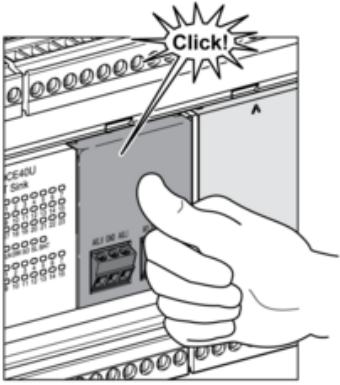
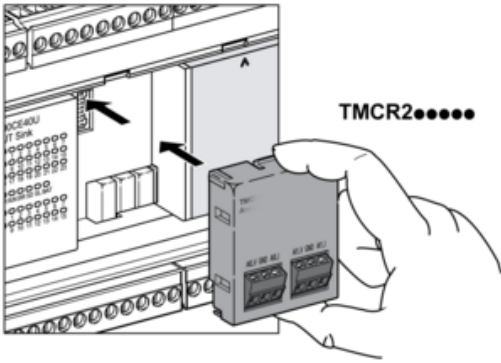
mm  
in.



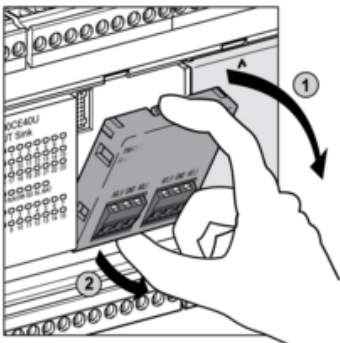
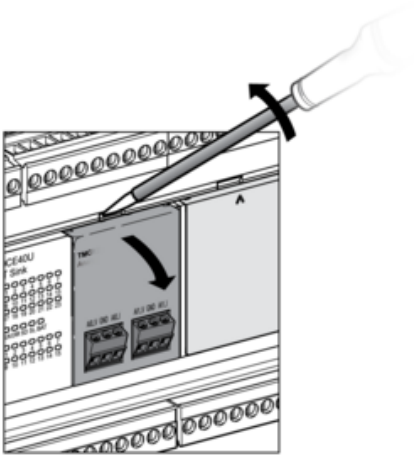
## TMCR2•••Installation

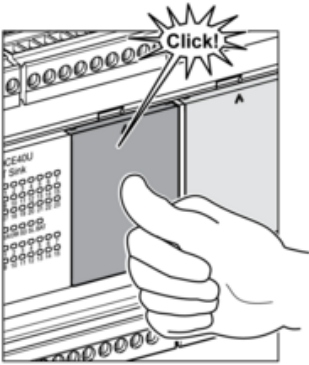
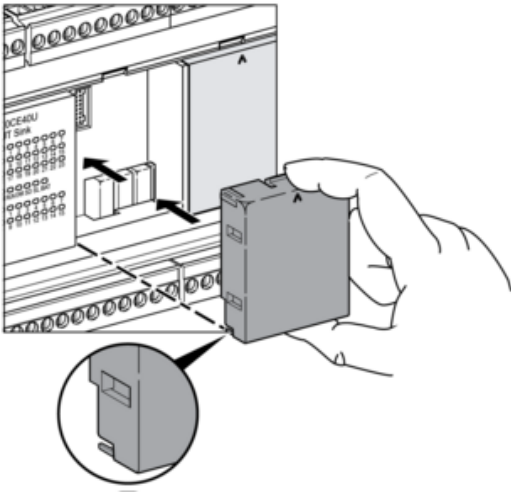






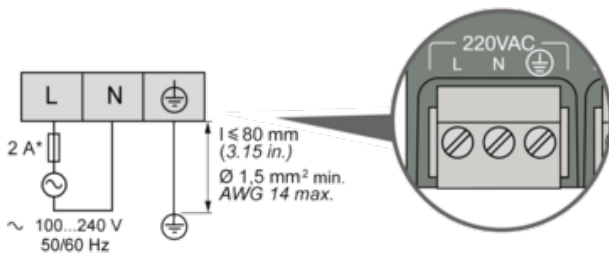
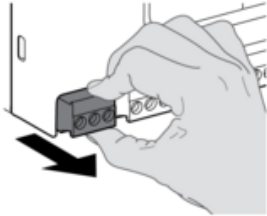
### TMCR2... De-Installation





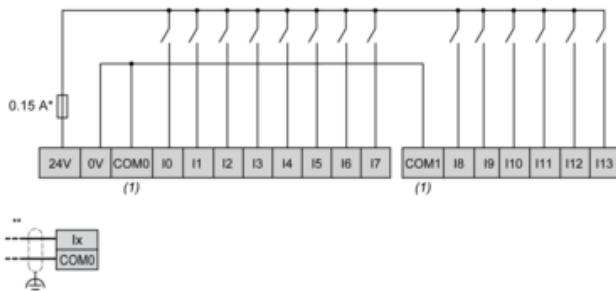
Wiring Diagram / Connections Schema

AC Power Supply



(\*) Type T fuse

Digital Inputs Positive Logic (Sink)

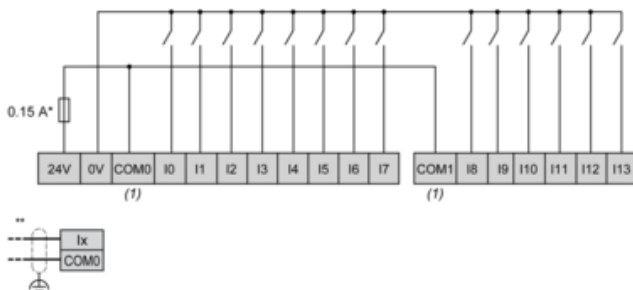


(\*) Type T fuse

(\*\*) Fast inputs

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

Digital Inputs Negative Logic (Source)

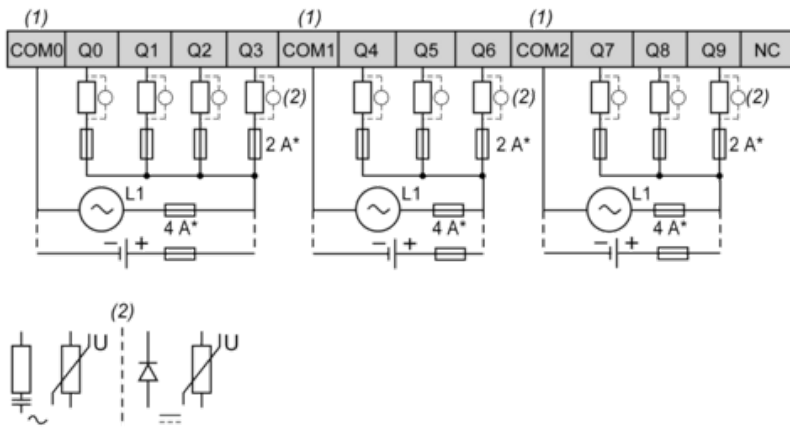


(\*) Type T fuse

(\*\*) Fast inputs

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

## Relay Outputs - Negative Logic (Sink)

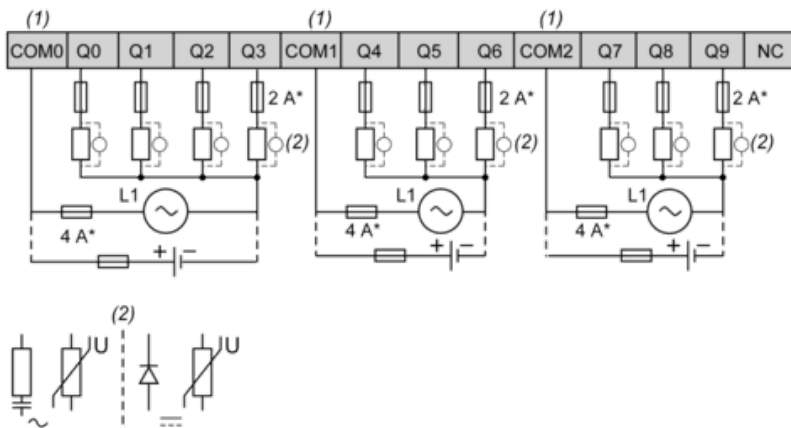


(\*) Type T fuse

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

(2) A free wheeling diode or an RC snubber

## Relay Outputs - Positive Logic (Source)

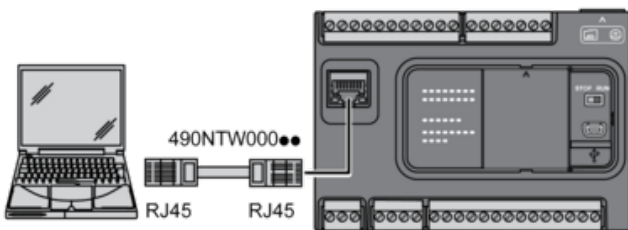


(\*) Type T fuse

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

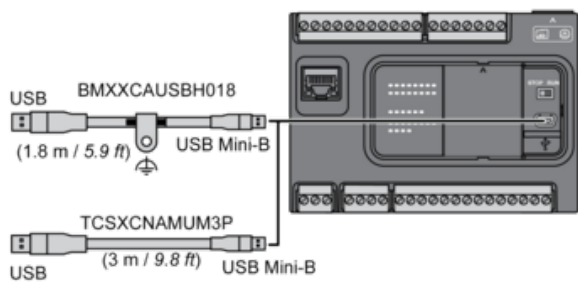
(2) A free wheeling diode or an RC snubber

## Ethernet Connection

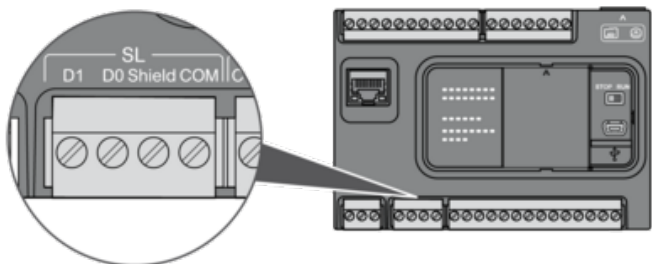


| Pin N° | Signal |
|--------|--------|
| 1      | TD +   |
| 2      | TD —   |
| 3      | RD+    |
| 4      | —      |
| 5      | —      |
| 6      | RD —   |
| 7      | —      |
| 8      | —      |

## USB Mini-B Connection



## SL1 Connection



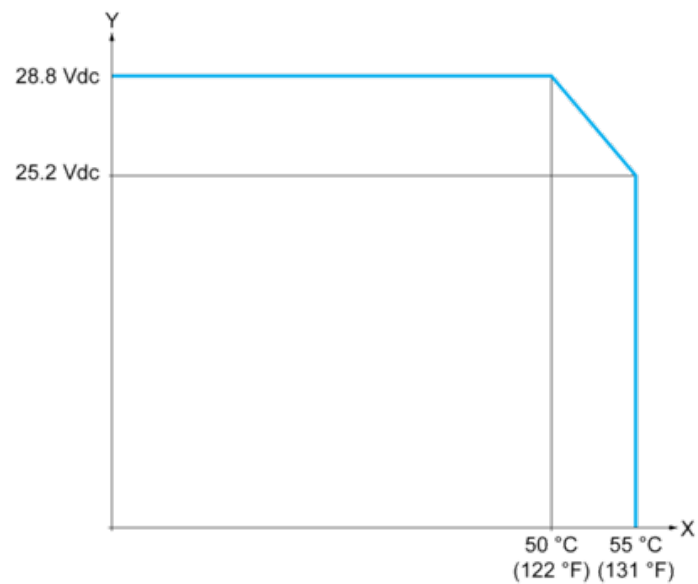
D1 : D1 (A+)  
D0 : D0 (B-)  
Shield : Shield  
COM : O V Com

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Derating Curves

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Digital Inputs



X : Ambient temperature (°C / °F)

Y : Input voltage (V)