



## Main

|                           |                  |
|---------------------------|------------------|
| Range of product          | Modicon M251     |
| Product or component type | Logic controller |
| [Us] rated supply voltage | 24 V DC          |

## Complementary

|                                   |   |
|-----------------------------------|---|
| Number of I/O expansion module    | 7 with local I/O architecture<br>14 with remote I/O architecture  |
| Supply voltage limits             | 20.4...28.8 V   |
| Inrush current                    | <= 50 A   |
| Power consumption in W            | 32.6...40.4 W with max number of I/O expansion module   |
| Memory capacity                   | 8 MB program<br>64 MB system memory RAM   |
| Data backed up                    | 128 MB built-in flash memory backup of user programs  |
| Data storage equipment            | <= 32 GB SD card optional   |
| Battery type                      | BR2032 lithium non-rechargeable, battery life: 4 yr   |
| Backup time                       | 2 years at 77 °F (25 °C)  |
| Execution time for 1 KInstruction | 0.3 ms event and periodic task<br>0.7 ms other instruction  |
| Execution time per instruction    | 0.022 µs  |
| Application structure             | 8 event tasks<br>4 cyclic master tasks<br>3 cyclic master tasks + 1 freewheeling task<br>8 external event tasks   |
| Realtime clock                    | With  |
| Clock drift                       | <= 60 s/month at 77 °F (25 °C)  |
| Integrated connection type        | USB port with mini B USB 2.0 connector<br>Non isolated serial link "serial" with RJ45 connector; physical interface:<br>RS232/RS485<br>Dual-port "Ethernet" with RJ45 connector<br>CANopen J1939 with SUB-D 9 connector   |
| Supply                            | 5 V at 200 mA serial link supply with "serial" marking  |
| Transmission rate                 | 1.2...115.2 kbit/s (115.2 kbit/s by default) for bus length of 15 m - communication protocol: RS485<br>1.2...115.2 kbit/s (115.2 kbit/s by default) for bus length of 9.84 ft (3 m) - communication protocol: RS232<br>480 Mbit/s for bus length of 9.84 ft (3 m) - communication protocol: USB |
| Communication port protocol       | USB port - USB protocol ; transmission frame: SoMachine-Network<br>Non isolated serial link - Modbus protocol ; transmission frame: RTU/ASCII or SoMachine-Network with master/slave method   |
| Port Ethernet                     | "Ethernet" marking 10BASE-T/100BASE-TX - 2 port copper cable  |
| Web services                      | Web server  |
| Communication service             | DHCP client<br>Downloading<br>Ethernet/IP slave device<br>IEC VAR ACCESS<br>Modbus TCP client<br>Modbus TCP server<br>Modbus TCP slave device   |

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|                               |   |
|-------------------------------|---|
|                               | Monitoring<br>NGVL<br>Programming<br>Updating firmware<br>SMS notifications<br>SNMP client/server<br>FTP client/server<br>SQL client<br>Send and receive email from the controller based on TCP/UDP library<br>Web server (WebVisu & XWeb system)<br>OPC UA server<br>DNS client                        |
| Maximum number of connections | 8 Modbus server<br>8 Modbus client<br>16 Ethernet/IP target<br>4 FTP server<br>10 web server<br>8 SoMachine protocol  |
| CANopen feature profile       | DR 303-1<br>DS 301 V4.02  |
| Number of slave               | <= 63 CANopen   |
| Local signalling              | 1 LED red module error (ERR)<br>1 LED green PWR<br>1 LED green RUN<br>1 LED green SD card access (SD)<br>1 LED red BAT<br>1 LED green SL<br>1 LED red I/O error (I/O)<br>1 LED red bus fault on TM4 (TM4)<br>1 LED green Ethernet port activity<br>1 LED green CANopen run<br>1 LED green CANopen error |
| Electrical connection         | Removable screw terminal block power supply with pitch 5.08 mm adjustment   |
| Insulation                    | Non-insulated between supply and internal logic<br>Between supply and ground at 500 V AC  |
| Marking                       | CE  |
| Surge withstand               | 1 kV (shielded cable) with common mode protection conforming to EN/IEC 61000-4-5<br>1 kV (power lines) with common mode protection conforming to EN/IEC 61000-4-5<br>0.5 kV (power lines) with differential mode protection conforming to EN/IEC 61000-4-5  |
| Mounting support              | Top hat type TH35-15 rail conforming to IEC 60715<br>Top hat type TH35-7.5 rail conforming to IEC 60715<br>Plate or panel with fixing kit   |
| Height                        | 3.54 in (90 mm)   |
| Depth                         | 3.74 in (95 mm)   |
| Width                         | 2.13 in (54 mm)   |
| Product weight                | 0.49 lb(US) (0.22 kg)   |

## Environment

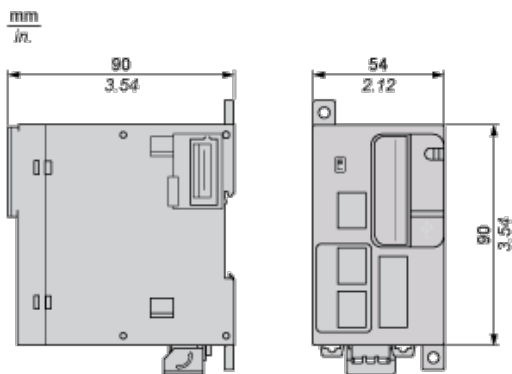
|                                       |  |
|---------------------------------------|--|
| standards                             | UL 508<br>CSA C22.2 No 142<br>ANSI/ISA 12-12-01<br>UL 1604<br>CSA C22.2 No 213<br>EN/IEC 61131-2 : 2007<br>Marine specification (LR, ABS, DNV, GL)   |
| product certifications                | CSA<br>CULus   |
| resistance to electrostatic discharge | 4 kV (on contact) conforming to EN/IEC 61000-4-2<br>8 kV (in air) conforming to EN/IEC 61000-4-2   |
| resistance to electromagnetic fields  | 9.14 V/yd (10 V/m) (80 MHz...1 GHz) conforming to EN/IEC 61000-4-3<br>2.74 V/yd (3 V/m) (1.4 GHz...2 GHz) conforming to EN/IEC 61000-4-3<br>0.91 V/yd (1 V/m) (2 GHz...3 GHz) conforming to EN/IEC 61000-4-3             |
| resistance to fast transients         | 2 kV (power lines) conforming to EN/IEC 61000-4-4<br>1 kV (Ethernet line) conforming to EN/IEC 61000-4-4<br>1 kV (serial link) conforming to EN/IEC 61000-4-4  |
| resistance to conducted disturbances  | 10 V (0.15...80 MHz) conforming to EN/IEC 61000-4-6<br>3 V (0.1...80 MHz) conforming to Marine specification (LR, ABS, DNV, GL)<br>10 V (spot frequency (2, 3, 4, 6.2, 8.2, 12.6, 16.5, 18.8, 22, 25 MHz)) conforming to |

|                                       |  |
|---------------------------------------|--|
| electromagnetic emission              | Conducted emissions - test level: 120...69 dB $\mu$ V/m QP (power lines) at 10...150 kHz conforming to EN/IEC 55011<br>Conducted emissions - test level: 63 dB $\mu$ V/m QP (power lines) at 1.5...30 MHz conforming to EN/IEC 55011<br>Radiated emissions - test level: 40 dB $\mu$ V/m QP class A (10 m) at 30...230 MHz conforming to EN/IEC 55011<br>Conducted emissions - test level: 79...63 dB $\mu$ V/m QP (power lines) at 150...1500 kHz conforming to EN/IEC 55011<br>Radiated emissions - test level: 47 dB $\mu$ V/m QP class A (10 m) at 230...1000 MHz conforming to EN/IEC 55011 |
| immunity to microbreaks               | 10 ms  |
| ambient air temperature for operation | 14...131 °F (-10...55 °C) horizontal installation<br>-10...35 °C vertical installation   |
| ambient air temperature for storage   | -13...158 °F (-25...70 °C)   |
| relative humidity                     | 10...95 % without condensation in operation<br>10...95 % without condensation in storage   |
| IP degree of protection               | IP20 with protective cover in place  |
| pollution degree                      | 2  |
| operating altitude                    | 0...6561.68 ft (0...2000 m)  |
| storage altitude                      | 0...9842.52 ft (0...3000 m)  |
| vibration resistance                  | 3.5 mm at 5...8.4 Hz on symmetrical rail<br>3 gn at 8.4...150 Hz on symmetrical rail<br>3.5 mm at 5...8.4 Hz on panel mounting<br>3 gn at 8.4...150 Hz on panel mounting   |
| shock resistance                      | 15 gn during 11 ms   |

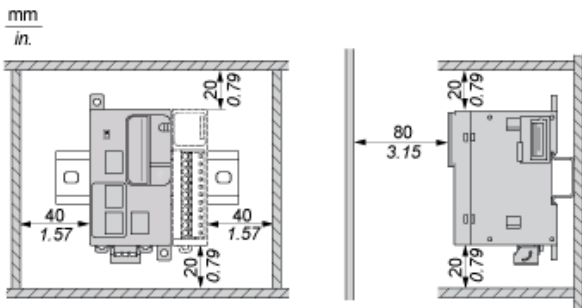
## Offer Sustainability

|  |  |
|--|--|
| Green Premium product  | Green Premium product  |
| Compliant - since 1350 - Schneider Electric declaration of conformity  | Compliant - since 1350 - Schneider Electric declaration of conformity  |
| Reference not containing SVHC above the threshold  | Reference not containing SVHC above the threshold  |
| Available  | Available  |
| Available  | Available  |
| WARNING: This product can expose you to chemicals including:   | 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. | 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>                                    | For more information go to <a href="http://www.p65warnings.ca.gov">www.p65warnings.ca.gov</a>                                    |

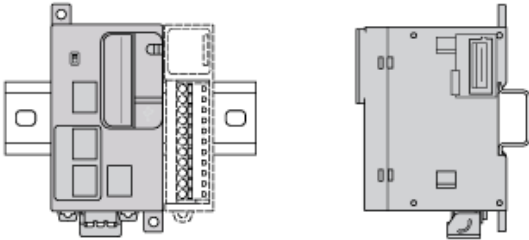
## Dimensions



## Clearance

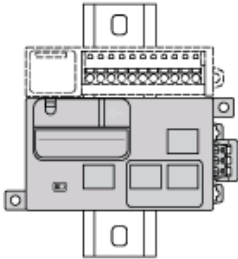


## Mounting Position



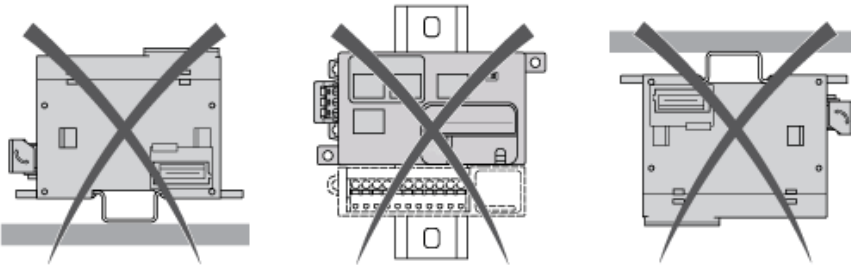
NOTE: Keep adequate spacing for proper ventilation and to maintain an ambient temperature between  $-10^{\circ}\text{C}$  ( $14^{\circ}\text{F}$ ) and  $55^{\circ}\text{C}$  ( $131^{\circ}\text{F}$ ).

### Acceptable Mounting

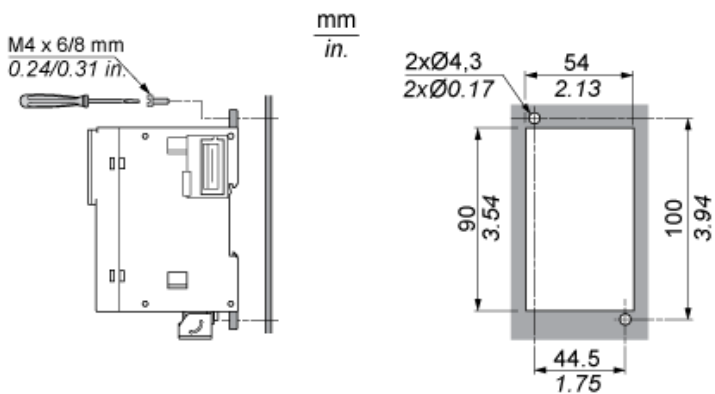


NOTE: Expansion modules must be mounted above the controller.

### Incorrect Mounting



## Direct Mounting on a Panel Surface



## USB Connection to a PC

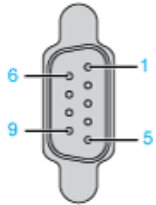


## Ethernet Connection to a PC



## CANopen

### Wiring



| Pin | Signal     | Description                           |
|-----|------------|---------------------------------------|
| 1   | –          | Reserved                              |
| 2   | CAN_L      | CAN_L bus line                        |
| 3   | CAN_GND    | CAN ground                            |
| 4   | –          | Reserved                              |
| 5   | (CAN_SHLD) | Optional CAN shield                   |
| 6   | GND        | Ground                                |
| 7   | CAN_H      | CAN_H bus line                        |
| 8   | –          | Reserved                              |
| 9   | (CAN_V+)   | Optional CAN external positive supply |

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- Подбор аналогов.
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- Формирование склада под заказчика.
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- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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