

# Product data sheet

Specifications



## logic controller, Modicon M251, 2x Ethernet

TM251MESE

**Product availability: Stock - Normally stocked in distribution facility**

### Main

Range of Product	Modicon M251
Product or Component Type	Logic controller
[Us] rated supply voltage	24 V DC

### Complementary

Maximum number of I/O expansion module	7 (local I/O-Architecture) 14 (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	64 MB system memory RAM
Data backed up	128 MB built-in flash memory backup of user programs
Data storage equipment	<= 16 GB SD card optional)
Battery type	BR2032 lithium non-rechargeable 4 year(s)
Backup time	2 years 77 °F (25 °C)
Execution time for 1 KInstruction	0.3 ms event and periodic task 0.7 ms other instruction
Application structure	4 cyclic master tasks 8 event tasks 3 cyclic master tasks + 1 freewheeling task 8 external event tasks
Realtime clock	With
Clock drift	<= 60 s/month 77 °F (25 °C)
Integrated connection type	USB port mini B USB 2.0 Non isolated serial link serial RJ45 RS232/RS485 Dual-port Ethernet 1 RJ45 Ethernet port Ethernet 2 RJ45
Supply	Serial)serial link supply 5 V, <200 mA
Transmission rate	1.2...115.2 kbit/s (115.2 kbit/s by default) 49.2 ft (15 m) RS485 1.2...115.2 kbit/s (115.2 kbit/s by default) 9.8 ft (3 m) RS232 480 Mbit/s 9.8 ft (3 m) USB
Communication port protocol	USB port USB - SoMachine-Network Non isolated serial link Modbus master/slave - RTU/ASCII or SoMachine-Network
Port Ethernet	Ethernet 1 10BASE-T/100BASE-TX - 2 copper cable Ethernet 2 10BASE-T/100BASE-TX - 1 copper cable
Web services	Web server

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

<b>Communication service</b>	Downloading IEC VAR ACCESS Modbus TCP client Modbus TCP server Modbus TCP slave device Monitoring NGVL Programming Updating firmware SMS notifications DHCP client Eth1) DHCP server Eth2) Ethernet/IP originator Eth2) Ethernet/IP target Eth1, Eth2) Ethernet/IP scanner Eth2) Modbus TCP I/O Scanner and Messaging Eth2) FDR FTP client/server SNMP client/server SQL client Send and receive email from the controller based on TCP/UDP library Web server (WebVisu & XWeb system) OPC UA server DNS client
<b>Maximum number of connections</b>	8 Modbus server 8 Modbus client 16 Ethernet/IP target 4 FTP server 10 web server 8 SoMachine protocol
<b>Number of server device(s)</b>	16 EtherNet/IP 64 Modbus TCP
<b>Cycle time</b>	10 ms 16 EtherNet/IP 64 ms 64 Modbus TCP
<b>Local signalling</b>	1 LED (green) for PWR 1 LED (green) for RUN 1 LED (red) for module error (ERR) 1 LED (red) for I/O error (I/O) 1 LED (green) for SD card access (SD) 1 LED (red) for BAT 1 LED (green) for SL 1 LED (red) for bus fault on TM4 (TM4) 1 LED (green) for Ethernet activity (ETH1) 1 LED (green) for Ethernet activity (ETH2)
<b>Electrical connection</b>	removable screw terminal block power supply pitch 5.08 mm)
<b>Insulation</b>	Non-insulated between supply and internal logic Between supply and ground 500 V AC
<b>Marking</b>	CE
<b>Surge withstand</b>	1 kV shielded cable common mode IEC 61000-4-5 1 kV power lines common mode IEC 61000-4-5 0.5 kV power lines differential mode IEC 61000-4-5
<b>Mounting support</b>	Top hat type TH35-15 rail IEC 60715 Top hat type TH35-7.5 rail IEC 60715 plate or panel with fixing kit
<b>Height</b>	3.5 in (90 mm)
<b>Depth</b>	3.7 in (95 mm)
<b>Width</b>	2.1 in (54 mm)
<b>Net Weight</b>	0.49 lb(US) (0.22 kg)

## Environment

<b>Standards</b>	ANSI/ISA 12-12-01 CSA C22.2 No 142 CSA C22.2 No 213 IEC 61131-2:2007 Marine specification (LR, ABS, DNV, GL) UL 508
<b>Product Certifications</b>	cULus CE UKCA DNV-GL ABS LR
<b>Resistance to electrostatic discharge</b>	8 kV in air IEC 61000-4-2 4 kV on contact IEC 61000-4-2
<b>Resistance to electromagnetic fields</b>	9.1 V/m (10 V/m) 80 MHz...1 GHz IEC 61000-4-3 2.7 V/m (3 V/m) 1.4 GHz...2 GHz IEC 61000-4-3 0.9 V/m (1 V/m) 2 GHz...3 GHz IEC 61000-4-3
<b>Resistance to fast transients</b>	2 kV IEC 61000-4-4 power lines) 1 kV IEC 61000-4-4 Ethernet line) 1 kV IEC 61000-4-4 serial link)
<b>Resistance to conducted disturbances</b>	10 V 0.15...80 MHz IEC 61000-4-6 3 V 0.1...80 MHz Marine specification (LR, ABS, DNV, GL) 10 V spot frequency (2, 3, 4, 6.2, 8.2, 12.6, 16.5, 18.8, 22, 25 MHz) Marine specification (LR, ABS, DNV, GL)
<b>Electromagnetic emission</b>	Conducted emissions 120...69 dB $\mu$ V/m QP power lines)10...150 kHz IEC 55011 Conducted emissions 63 dB $\mu$ V/m QP power lines)1.5...30 MHz IEC 55011 Radiated emissions 40 dB $\mu$ V/m QP class A 10 m)30...230 MHz IEC 55011 Conducted emissions 79...63 dB $\mu$ V/m QP power lines)150...1500 kHz IEC 55011 Radiated emissions 47 dB $\mu$ V/m QP class A 10 m)230...1000 MHz IEC 55011
<b>Immunity to microbreaks</b>	10 ms
<b>Ambient air temperature for operation</b>	14...95 °F (-10...35 °C) vertical installation) 14...131 °F (-10...55 °C) horizontal installation)
<b>Ambient Air Temperature for Storage</b>	-13...158 °F (-25...70 °C)
<b>Relative humidity</b>	10...95 %, without condensation in operation) 10...95 %, without condensation in storage)
<b>IP degree of protection</b>	IP20 with protective cover in place
<b>Pollution degree</b>	2
<b>Operating altitude</b>	0...6561.68 ft (0...2000 m)
<b>Storage altitude</b>	0...9842.5 ft (0...3000 m)
<b>Vibration resistance</b>	3.5 mm 5...8.4 Hz symmetrical rail 3 gn 8.4...150 Hz symmetrical rail 3.5 mm 5...8.4 Hz panel mounting 3 gn 8.4...150 Hz panel mounting
<b>Shock resistance</b>	15 gn 11 ms

## Ordering and shipping details

<b>Category</b>	US10MSX22533
<b>Discount Schedule</b>	0MSX
<b>GTIN</b>	3606480648878
<b>Returnability</b>	Yes
<b>Country of origin</b>	ID

## Packing Units

<b>Unit Type of Package 1</b>	PCE
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<b>Nbr. of units in pkg.</b>	1
<b>Package 1 Height</b>	4.138 in (10.511 cm)
<b>Package 1 Width</b>	4.616 in (11.725 cm)
<b>Package 1 Length</b>	6.718 in (17.063 cm)
<b>Package weight(Lbs)</b>	13.09 oz (371.0 g)
<b>Unit Type of Package 2</b>	S03
<b>Number of Units in Package 2</b>	10
<b>Package 2 Height</b>	11.8 in (30 cm)
<b>Package 2 Width</b>	11.8 in (30 cm)
<b>Package 2 Length</b>	15.7 in (40 cm)
<b>Package 2 Weight</b>	10.254 lb(US) (4.651 kg)
<b>Unit Type of Package 3</b>	P06
<b>Number of Units in Package 3</b>	80
<b>Package 3 Height</b>	29.5 in (75.0 cm)
<b>Package 3 Width</b>	15.7 in (40.0 cm)
<b>Package 3 Length</b>	31.5 in (80.0 cm)
<b>Package 3 Weight</b>	105.8 lb(US) (48 kg)



## Environmental Data

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

[Environmental Disclosure](#)

[Product Environmental Profile](#)

## Use Better

### Materials and Substances

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)

SCIP Number

C0f4b1e4-ee0f-48bb-9bdf-1bcc0df7db56

REACH Regulation

[REACH Declaration](#)

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 [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

PVC free

Yes

## Use Again

### Repack and remanufacture

Circularity Profile

[End of Life Information](#)

Take-back

No

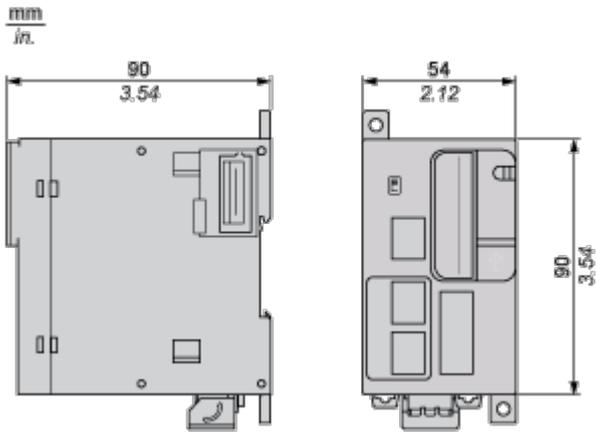
WEEE Label

 The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.

Dimensions Drawings

Dimensions

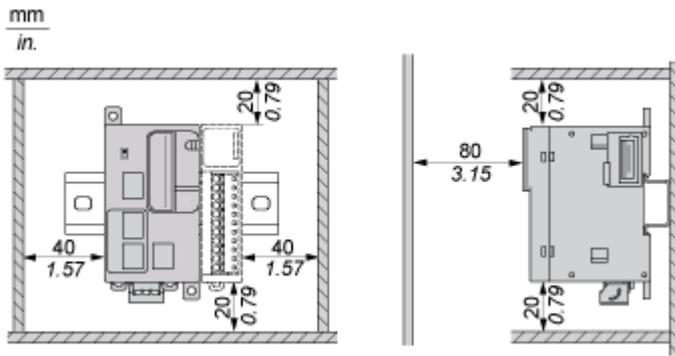
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Mounting and Clearance

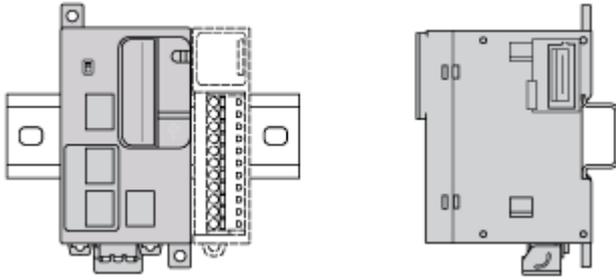
Clearance

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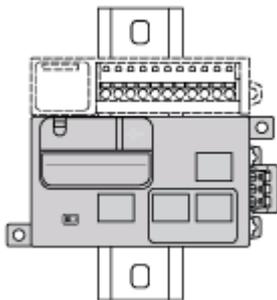
**Mounting Position**

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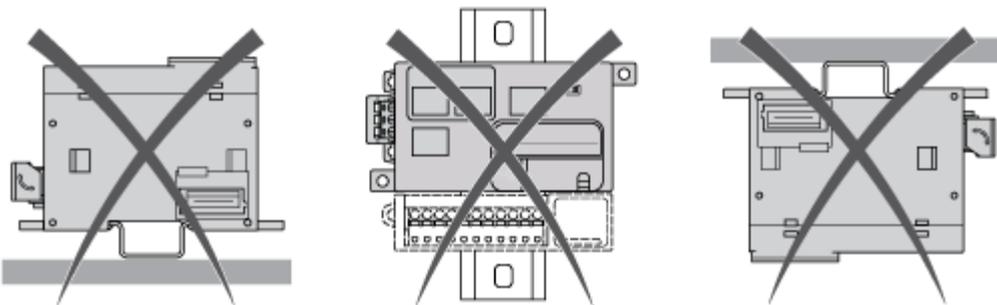
NOTE: Keep adequate spacing for proper ventilation and to maintain an ambient temperature between -10°C (14°F) and 55°C (131°F).

**Acceptable Mounting**



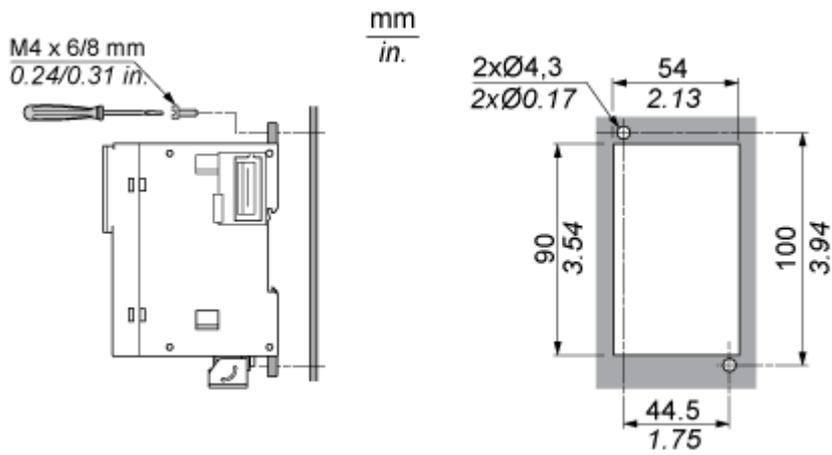
NOTE: Expansion modules must be mounted above the controller.

**Incorrect Mounting**



Direct Mounting on a Panel Surface

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Connections and Schema

USB Connection to a PC

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Ethernet Connection to a PC

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