

Product data sheet

Specifications



logic controller, Modicon M251, 2x Ethernet

TM251MESE

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 for system memory RAM

Data backed up 128 MB built-in flash memory for backup of user programs

Data storage equipment <= 16 GB SD card (optional)

Battery type BR2032 lithium non-rechargeable, battery life: 4 year(s)

Backup time 2 years at 25 °C

Execution time for 1 KInstruction 0.3 ms for event and periodic task
0.7 ms for 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 at 25 °C

Integrated connection type USB port with mini B USB 2.0 connector
Non isolated serial link serial with RJ45 connector and RS232/RS485 interface
Dual-port Ethernet 1 with RJ45 connector
Ethernet port Ethernet 2 with RJ45 connector

Supply (serial)serial link supply: 5 V, <200 mA

Transmission rate 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
480 Mbit/s for bus length of 3 m for 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 marking 10BASE-T/100BASE-TX - 2 copper cable
Ethernet 2 marking 10BASE-T/100BASE-TX - 1 copper cable

Web services Web server

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

Communication service	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
Maximum number of connections	8 Modbus server 8 Modbus client 16 Ethernet/IP target 4 FTP server 10 web server 8 SoMachine protocol
Number of server device(s)	16 EtherNet/IP: 64 Modbus TCP:
Cycle time	10 ms 16 EtherNet/IP 64 ms 64 Modbus TCP
Local signalling	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)
Electrical connection	removable screw terminal blockpower supply (pitch 5.08 mm)
Insulation	Non-insulated between supply and internal logic Between supply and ground at 500 V AC
Marking	CE
Surge withstand	1 kV shielded cable common mode conforming to IEC 61000-4-5 1 kV power lines common mode conforming to IEC 61000-4-5 0.5 kV power lines differential mode conforming to IEC 61000-4-5
Mounting support	Top hat type TH35-15 rail conforming to IEC 60715 Top hat type TH35-7.5 rail conforming to IEC 60715 plate or panel with fixing kit
Height	90 mm
Depth	95 mm
Width	54 mm
Product weight	0.22 kg

Environment

Standards	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
Product certifications	cULus CE UKCA DNV-GL ABS LR
Resistance to electrostatic discharge	8 kV in air conforming to IEC 61000-4-2 4 kV on contact conforming to IEC 61000-4-2
Resistance to electromagnetic fields	10 V/m 80 MHz...1 GHz conforming to IEC 61000-4-3 3 V/m 1.4 GHz...2 GHz conforming to IEC 61000-4-3 1 V/m 2 GHz...3 GHz conforming to IEC 61000-4-3
Resistance to fast transients	2 kV (power lines) conforming to IEC 61000-4-4 1 kV (Ethernet line) conforming to IEC 61000-4-4 1 kV (serial link) conforming to IEC 61000-4-4
Resistance to conducted disturbances	10 V 0.15...80 MHz conforming to IEC 61000-4-6 3 V 0.1...80 MHz conforming to 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) conforming to Marine specification (LR, ABS, DNV, GL)
Electromagnetic emission	Conducted emissions - test level: 120...69 dB μ V/m QP (power lines) at 10...150 kHz conforming to IEC 55011 Conducted emissions - test level: 63 dB μ V/m QP (power lines) at 1.5...30 MHz conforming to IEC 55011 Radiated emissions - test level: 40 dB μ V/m QP class A (10 m) at 30...230 MHz conforming to IEC 55011 Conducted emissions - test level: 79...63 dB μ V/m QP (power lines) at 150...1500 kHz conforming to IEC 55011 Radiated emissions - test level: 47 dB μ V/m QP class A (10 m) at 230...1000 MHz conforming to IEC 55011
Immunity to microbreaks	10 ms
Ambient air temperature for operation	-10...35 °C (vertical installation) -10...55 °C (horizontal installation)
Ambient air temperature for storage	-25...70 °C
Relative humidity	10...95 %, without condensation (in operation) 10...95 %, without condensation (in storage)
IP degree of protection	IP20 with protective cover in place
Pollution degree	2
Operating altitude	0...2000 m
Storage altitude	0...3000 m
Vibration resistance	3.5 mm at 5...8.4 Hz on symmetrical rail 3 gn at 8.4...150 Hz on symmetrical rail 3.5 mm at 5...8.4 Hz on panel mounting 3 gn at 8.4...150 Hz on panel mounting
Shock resistance	15 gn for 11 ms

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	10.511 cm
Package 1 Width	11.725 cm
Package 1 Length	17.063 cm

Package 1 Weight	371.0 g
Unit Type of Package 2	S03
Number of Units in Package 2	10
Package 2 Height	30 cm
Package 2 Width	30 cm
Package 2 Length	40 cm
Package 2 Weight	4.651 kg
Unit Type of Package 3	P06
Number of Units in Package 3	80
Package 3 Height	75.0 cm
Package 3 Width	40.0 cm
Package 3 Length	80.0 cm
Package 3 Weight	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](#)

PVC free

Yes

Use Again

Repack and remanufacture

End of life manual availability

[End of Life Information](#)

Take-back

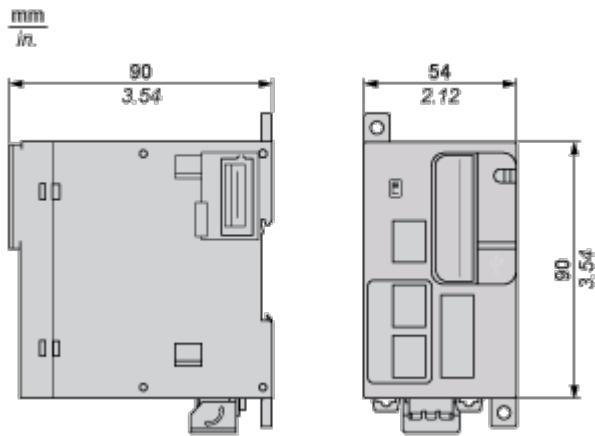
No

WEEE Label

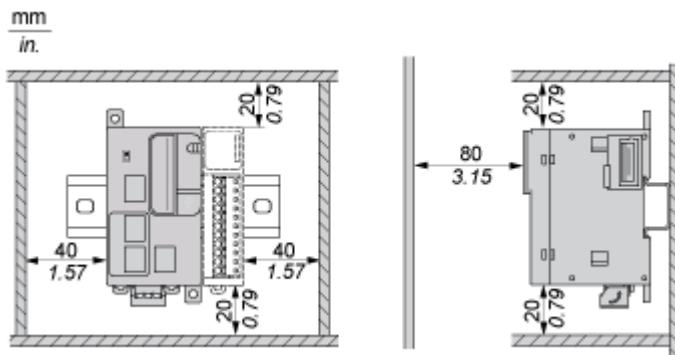
The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

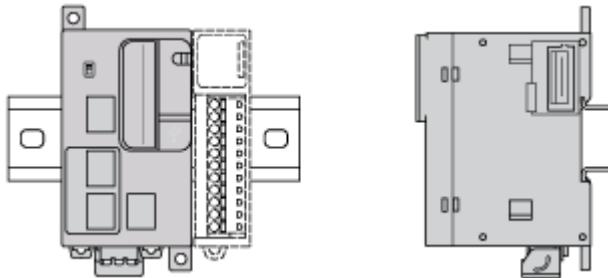
Dimensions Drawings

Dimensions

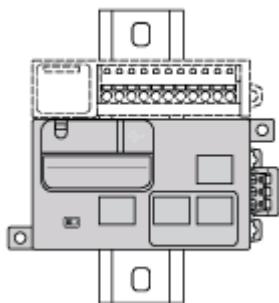


Mounting and Clearance

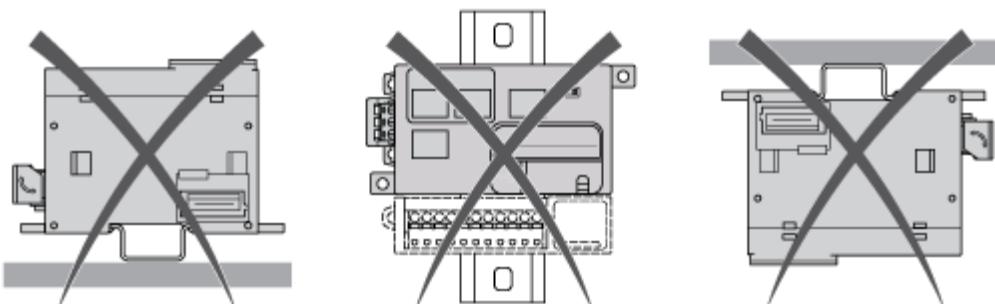
Clearance

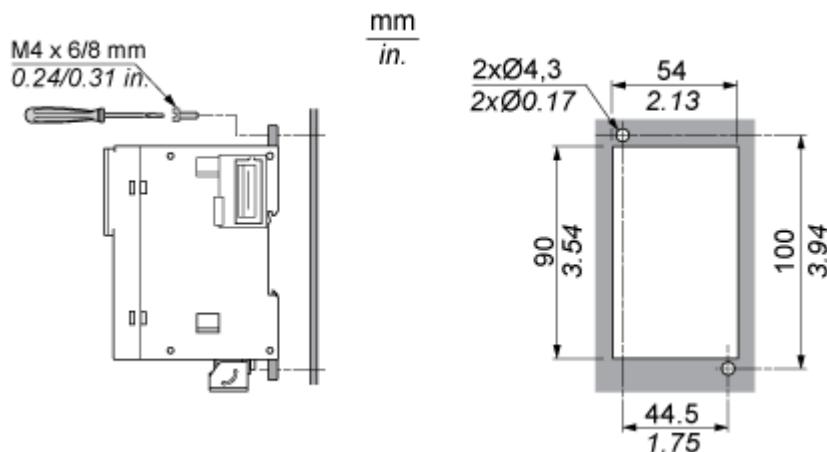
Mounting Position

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

Connections and Schema

USB Connection to a PC



Ethernet Connection to a PC

