



### 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	8 MB program 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	3 cyclic master tasks + 1 freewheeling task 8 event tasks 4 cyclic master tasks 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 RJ45 CANopen J1939 SUB-D 9
Supply	Serial)serial link supply 5 V, <200 mA
Transmission rate	1.2...115.2 kbit/s (115.2 kbit/s by default) 49.21 ft (15 m) RS485 1.2...115.2 kbit/s (115.2 kbit/s by default) 9.84 ft (3 m) RS232 480 Mbit/s 9.84 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 10BASE-T/100BASE-TX - 2 copper cable
Web services	Web server

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Communication service	DHCP client Downloading Ethernet/IP slave device IEC VAR ACCESS Modbus TCP client Modbus TCP server Modbus TCP slave device Monitoring NGVL Programming Updating firmware SMS notifications 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
CANopen feature profile	DR 303-1 DS 301 V4.02
Number of slave	63 CANopen
Local signalling	For PWR 1 LED (green) For RUN 1 LED (green) For module error (ERR) 1 LED (red) For I/O error (I/O) 1 LED (red) For SD card access (SD) 1 LED (green) For BAT 1 LED (red) For Ethernet port activity 1 LED (green) For SL 1 LED (green) For bus fault on TM4 (TM4) 1 LED (red) For CANopen run 1 LED (green) For CANopen error 1 LED (green)
Electrical connection	Removable screw terminal block power supply pitch 5.08 mm)
Insulation	Non-insulated between supply and internal logic Between supply and ground 500 V AC
Marking	CE
Surge withstand	1 kV shielded cable common mode EN/IEC 61000-4-5 1 kV power lines common mode EN/IEC 61000-4-5 0.5 kV power lines differential mode EN/IEC 61000-4-5
Mounting support	Top hat type TH35-15 rail IEC 60715 Top hat type TH35-7.5 rail IEC 60715 Plate or panel with fixing kit
Height	3.54 in (90 mm)
Depth	3.74 in (95 mm)
Width	2.13 in (54 mm)
Net Weight	0.49 lb(US) (0.22 kg)

## Environment

Standards	ANSI/ISA 12-12-01 CSA C22.2 No 142 CSA C22.2 No 213 EN/IEC 61131-2:2007 Marine specification (LR, ABS, DNV, GL) UL 1604 UL 508
Product Certifications	CULus CSA
Resistance to electrostatic discharge	8 kV in air EN/IEC 61000-4-2 4 kV on contact EN/IEC 61000-4-2
Resistance to electromagnetic fields	9.14 V/m (10 V/m) 80 MHz...1 GHz EN/IEC 61000-4-3 2.74 V/m (3 V/m) 1.4 GHz...2 GHz EN/IEC 61000-4-3 0.91 V/m (1 V/m) 2 GHz...3 GHz EN/IEC 61000-4-3
Resistance to fast transients	2 kV EN/IEC 61000-4-4 power lines) 1 kV EN/IEC 61000-4-4 Ethernet line) 1 kV EN/IEC 61000-4-4 serial link)
Resistance to conducted disturbances	10 V 0.15...80 MHz EN/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)
Electromagnetic emission	Conducted emissions 120...69 dB $\mu$ V/m QP power lines)10...150 kHz EN/IEC 55011 Conducted emissions 63 dB $\mu$ V/m QP power lines)1.5...30 MHz EN/IEC 55011 Radiated emissions 40 dB $\mu$ V/m QP class A 10 m)30...230 MHz EN/IEC 55011 Conducted emissions 79...63 dB $\mu$ V/m QP power lines)150...1500 kHz EN/IEC 55011 Radiated emissions 47 dB $\mu$ V/m QP class A 10 m)230...1000 MHz EN/IEC 55011
Immunity to microbreaks	10 ms
Ambient air temperature for operation	14...95 °F (-10...35 °C) vertical installation) 14...131 °F (-10...55 °C) horizontal installation)
Ambient Air Temperature for Storage	-13...158 °F (-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...6561.68 ft (0...2000 m)
Storage altitude	0.00...9842.52 ft (0...3000 m)
Vibration resistance	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
Shock resistance	15 gn 11 ms

## Ordering and shipping details

Category	22533-M2XX PLC & ACCESSORIES
Discount Schedule	MSX
GTIN	3606480648861
Returnability	Yes
Country of origin	ID

## Packing Units

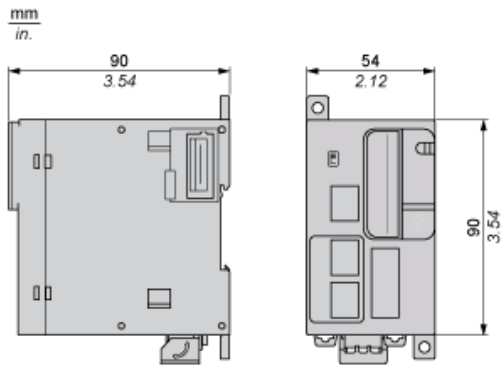
Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	4.19 in (10.632 cm)
Package 1 Width	4.67 in (11.868 cm)
Package 1 Length	6.58 in (16.721 cm)
Package 1 Weight	13.40 oz (380.0 g)
Unit Type of Package 2	S03
Number of Units in Package 2	10
Package 2 Height	11.81 in (30.0 cm)

Package 2 Width	11.81 in (30.0 cm)
Package 2 Length	15.75 in (40.0 cm)
Package 2 Weight	9.83 lb(US) (4.461 kg)

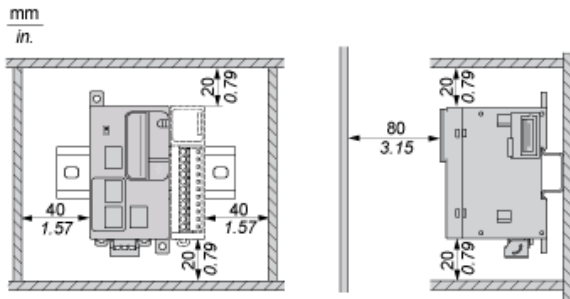
## Offer Sustainability

Sustainable offer status	Green Premium product
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>
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.
PVC free	Yes

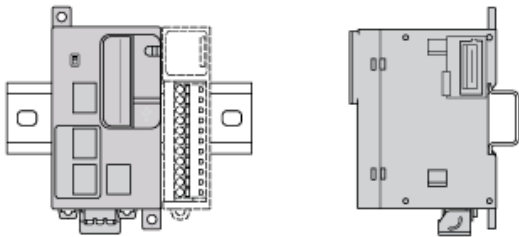
Dimensions



Clearance

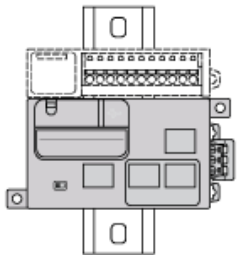


Mounting Position



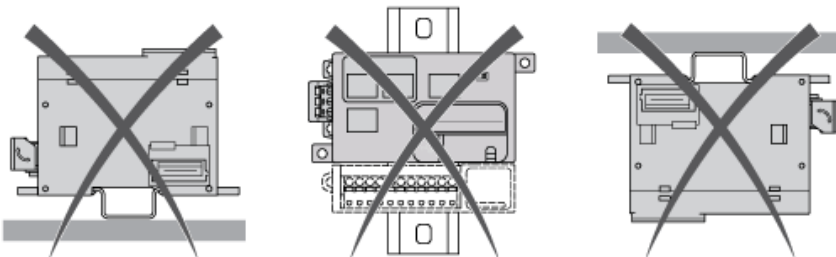
NOTE: Keep adequate spacing for proper ventilation and to maintain an ambient temperature between -10°C (14°F) and 55°C (131°F).

Acceptable Mounting



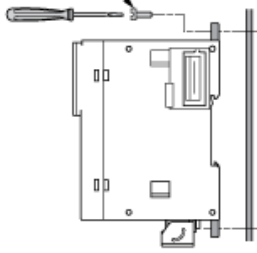
NOTE: Expansion modules must be mounted above the controller.

Incorrect Mounting

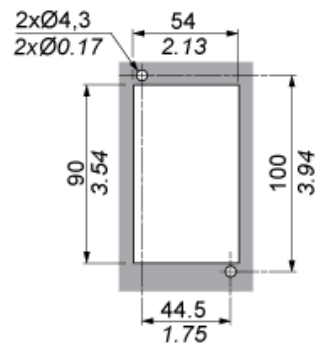


Direct Mounting on a Panel Surface

M4 x 6/8 mm  
0.24/0.31 in.



mm  
in.



USB Connection to a PC

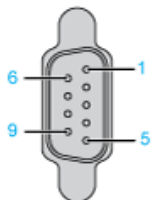


Ethernet Connection to a PC



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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