



Price\* : 569.00 USD



### Main

Range of product	Modicon M241
Product or component type	Logic controller
[Us] rated supply voltage	24 V DC
Discrete input number	24, discrete input 8 fast input IEC 61131-2 Type 1
Discrete output type	Transistor
Discrete output number	16 transistor 4 fast output
Discrete output voltage	24 V DC transistor output
Discrete output current	0.1 A fast output (PTO mode) Q0...Q3) 0.5 A transistor output Q0...Q15)

### Complementary

Discrete I/O number	40
Maximum number of I/O expansion module	7 local 14 remote
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)
Discrete input logic	Sink or source
Discrete input voltage	24 V
Discrete input voltage type	DC
Voltage state 1 guaranteed	>= 15 V input
Voltage state 0 guaranteed	<= 5 V input
Discrete input current	10.7 mA fast input 7 mA input
Input impedance	4.7 kOhm input 2.81 kOhm fast input
Response time	<= 2 µs turn-on, I0...I7 fast input <= 2 µs turn-off, I0...I7 fast input

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

Oct 10, 2020

	<= 2 $\mu$ s turn-on, Q0...Q3 fast output <= 2 $\mu$ s turn-off, Q0...Q3 fast output 50 $\mu$ s turn-on, I0...I15 input 50 $\mu$ s turn-off, I0...I15 input <= 34 $\mu$ s turn-on, Q0...Q15 output <= 250 $\mu$ s turn-off, Q0...Q15 output
Configurable filtering time	1 $\mu$ s fast input 12 ms fast input 0 ms input 1 ms input 4 ms input 12 ms input
Discrete output logic	Positive logic (source)
Output voltage limits	30 V DC
Maximum current per output common	2 A
Maximum output frequency	20 kHz fast output (PWM mode) 100 kHz fast output (PLS mode) 1 kHz output
Accuracy	+/- 0.1 % 0.02...0.1 kHz fast output +/- 1 % 0.1...1 kHz fast output
Maximum leakage current	5 $\mu$ A output
Maximum voltage drop	<1 V
Maximum tungsten load	<2.4 W
Protection type	Short-circuit protection Short-circuit and overload protection with automatic reset Reverse polarity protection fast output
Reset time	10 ms automatic reset output 12 s automatic reset fast output
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 external event tasks 4 cyclic master tasks 8 event tasks
Realtime clock	With
Clock drift	<= 60 s/month 77 °F (25 °C)
Positioning functions	PTO 4 100 kHz) PTO 4 transistor output 1 kHz)
Counting input number	4 fast input (HSC mode) 200 kHz 16 standard input 1 kHz
Control signal type	A/B 100 kHz fast input (HSC mode) Pulse/direction 200 kHz fast input (HSC mode) Single phase 200 kHz fast input (HSC mode)
Integrated connection type	Non isolated serial link serial 1 RJ45 RS232/RS485 Non isolated serial link serial 2 removable screw terminal block RS485 USB port mini B USB 2.0 Ethernet RJ45
Supply	Serial 1)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 10/100 Mbit/s Ethernet
Communication port protocol	Non isolated serial link Modbus master/slave
Port Ethernet	10BASE-T/100BASE-TX - 1 copper cable
Ethernet services	FDR DHCP server via TM4 Ethernet switch network module DHCP client embedded Ethernet port

	<p>SMS notifications  Updating firmware  SNMP client/server  Programming  NGVL  Monitoring  IEC VAR ACCESS  FTP client/server  Downloading  SQL client  Modbus TCP client I/O scanner  Ethernet/IP originator I/O scanner embedded Ethernet port  Ethernet/IP target, Modbus TCP server and Modbus TCP slave  Send and receive email from the controller based on TCP/UDP library  Web server (WebVisu &amp; XWeb system)  OPC UA server  DNS client</p>
Local signalling	<p>PWR 1 LED green)  RUN 1 LED green)  Module error (ERR) 1 LED red)  I/O error (I/O) 1 LED red)  SD card access (SD) 1 LED green)  BAT 1 LED red)  SL1 1 LED green)  SL2 1 LED green)  Bus fault on TM4 (TM4) 1 LED red)  I/O state 1 LED per channel green)  Ethernet port activity 1 LED green)</p>
Electrical connection	<p>removable screw terminal block for inputs and outputs pitch 5.08 mm)  removable screw terminal block for connecting the 24 V DC power supply pitch 5.08 mm)</p>
Maximum cable distance between devices	<p>Unshielded cable &lt;164.04 ft (50 m) input  Shielded cable &lt;32.81 ft (10 m) fast input  Unshielded cable &lt;164.04 ft (50 m) output  Shielded cable &lt;9.84 ft (3 m) fast output</p>
Insulation	<p>Between supply and internal logic 500 V AC  Non-insulated between supply and ground  Between input and internal logic 500 V AC  Non-insulated between inputs  Between fast input and internal logic 500 V AC  Between output and internal logic 500 V AC  Non-insulated between outputs  Between fast output and internal logic 500 V AC  Between output groups 500 V AC</p>
Marking	CE
Surge withstand	<p>1 kV power lines (DC) common mode EN/IEC 61000-4-5  1 kV shielded cable common mode EN/IEC 61000-4-5  0.5 kV power lines (DC) differential mode EN/IEC 61000-4-5  1 kV relay output differential mode EN/IEC 61000-4-5  1 kV input common mode EN/IEC 61000-4-5  1 kV transistor output common mode EN/IEC 61000-4-5</p>
Web services	Web server
Maximum number of connections	<p>8 Modbus server  8 SoMachine protocol  10 web server  4 FTP server  16 Ethernet/IP target  8 Modbus client</p>
Number of slave	<p>64 Modbus TCP  16 Ethernet/IP</p>
Cycle time	<p>10 ms 16 Ethernet/IP  64 ms 64 Modbus TCP</p>
Mounting support	<p>Top hat type TH35-15 rail IEC 60715  Top hat type TH35-7.5 rail IEC 60715  plate or panel with fixing kit</p>
Maximum Height	3.54 in (90 mm)
Maximum Depth	3.74 in (95 mm)
Maximum Width	7.48 in (190 mm)
Net Weight	1.37 lb(US) (0.62 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	RCM CSA CULus IACS E10
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) 1 kV EN/IEC 61000-4-4 input) 1 kV EN/IEC 61000-4-4 transistor output)
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 A30...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 A230...1000 MHz EN/IEC 55011
Immunity to microbreaks	10 ms
Ambient air temperature for operation	14...122 °F (-10...50 °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	00785901219620
Nbr. of units in pkg.	1
Package weight(Lbs)	1.72 lb(US) (0.78 kg)
Returnability	Yes
Country of origin	ID

## Packing Units

Package 1 Height	4.57 in (11.600 cm)
Package 1 width	5.20 in (13.200 cm)

Package 1 Length	8.98 in (22.800 cm)
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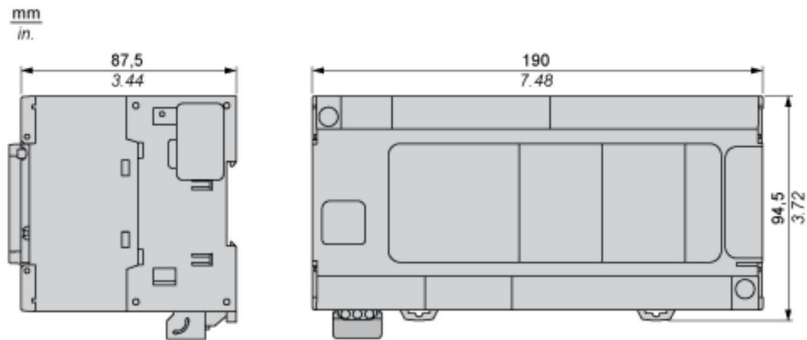
### Offer Sustainability

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

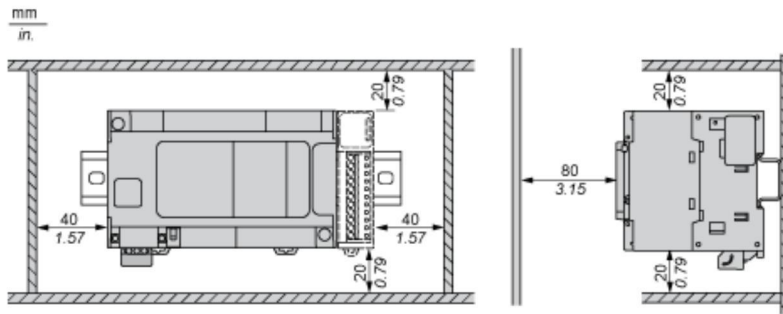
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Dimensions

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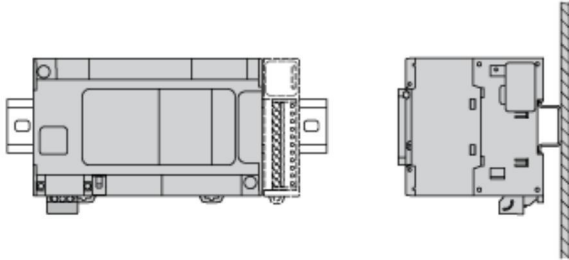
Clearance



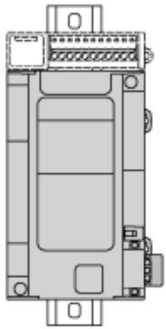
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Mounting Position

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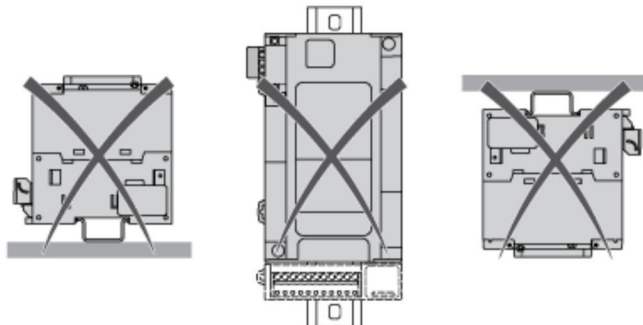


Acceptable Mounting



NOTE: Expansion modules must be mounted above the logic controller.

Incorrect Mounting



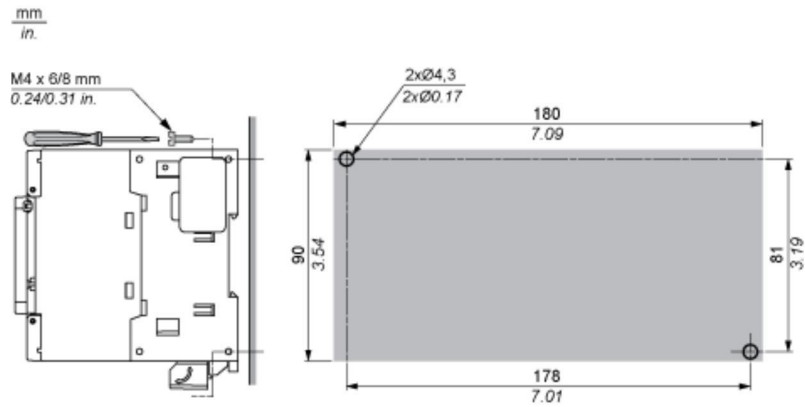


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Direct Mounting On a Panel Surface

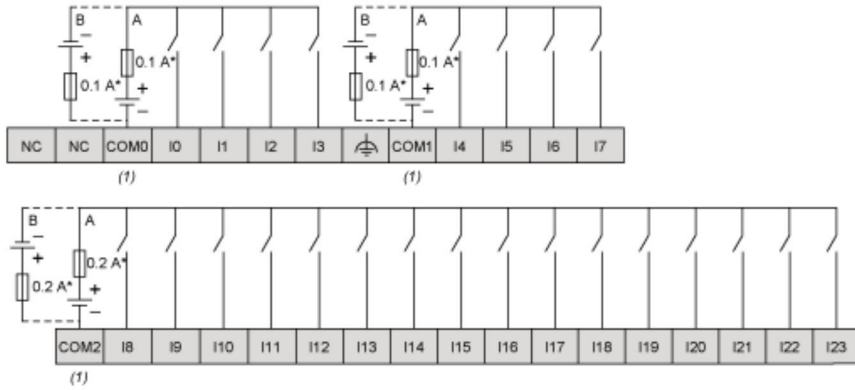
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Mounting Hole Layout



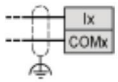
Digital Inputs

Wiring Diagram



- (\*) : Type T fuse
- (1) : The COM0, COM1 and COM2 terminals are not connected internally
- (A) : Sink wiring (positive logic)
- (B) : Source wiring (negative logic)

Fast Input Wiring (I0...I7)

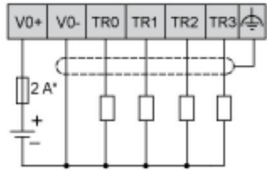


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Fast Transistor Outputs

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Wiring Diagram



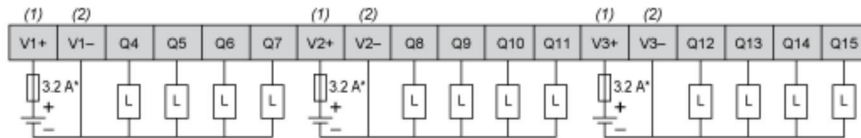
(\*) : 2 A fast-blow fuse

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## Transistor Outputs

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### Wiring Diagram

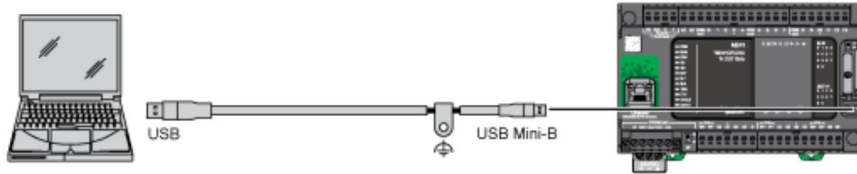


- (\*) : Type T fuse
- (1) : The V1+, V2+ and V3+ terminals are not connected internally.
- (2) : The V1-, V2- and V3- terminals are not connected internally.

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USB Mini-B Connection

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## Ethernet Connection to a PC

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