



Price\* : 459.00 USD



### Main

|                           |                                                                           |
|---------------------------|---------------------------------------------------------------------------|
| Range of product          | Modicon M241                                                              |
| Product or component type | Logic controller                                                          |
| [Us] rated supply voltage | 24 V DC                                                                   |
| Discrete input number     | 14, discrete input 8 fast input IEC 61131-2 Type 1                        |
| Discrete output type      | Transistor                                                                |
| Discrete output number    | 10 transistor 4 fast output                                               |
| Discrete output voltage   | 24 V DC transistor output                                                 |
| Discrete output current   | 0.5 A transistor output Q0...Q9)<br>0.1 A fast output (PTO mode) Q0...Q3) |

### Complementary

|                                        |                                                        |
|----------------------------------------|--------------------------------------------------------|
| Discrete I/O number                    | 24                                                     |
| Maximum number of I/O expansion module | 7 local<br>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             | $\geq 15$ V for input                                  |
| Voltage state 0 guaranteed             | $\leq 5$ V for input                                   |
| Discrete input current                 | 5 mA input<br>10.7 mA fast input                       |
| Input impedance                        | 4.7 kOhm input<br>2.81 kOhm fast input                 |

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

|                                   |                                                                                                                                                                                                                                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Response time                     | 50 µs turn-on, I0...I13 input<br>50 µs turn-off, I0...I13 input<br>≤ 2 µs turn-on, I0...I7 fast input<br>≤ 2 µs turn-off, I0...I7 fast input<br>≤ 34 µs turn-on, Q0...Q9 output<br>≤ 250 µs turn-off, Q0...Q9 output<br>≤ 2 µs turn-on, Q0...Q3 fast output<br>≤ 2 µs turn-off, Q0...Q3 fast output |
| Configurable filtering time       | 1 µs fast input<br>12 ms fast input<br>0 ms for input<br>1 ms input<br>4 ms input<br>12 ms for input                                                                                                                                                                                                |
| Discrete output logic             | Negative logic (sink)                                                                                                                                                                                                                                                                               |
| Output voltage limits             | 30 V DC                                                                                                                                                                                                                                                                                             |
| Maximum current per output common | 2 A Q0...Q3 fast output<br>2 A Q4...Q7 output<br>1 A Q8...Q9 output                                                                                                                                                                                                                                 |
| Maximum output frequency          | 20 kHz fast output (PWM mode)<br>100 kHz fast output (PLS mode)<br>1 kHz output                                                                                                                                                                                                                     |
| Accuracy                          | +/- 0.1 % 0.02...0.1 kHz fast output<br>+/- 1 % 0.1...1 kHz fast output                                                                                                                                                                                                                             |
| Maximum leakage current           | 5 µA output                                                                                                                                                                                                                                                                                         |
| Maximum voltage drop              | <1 V                                                                                                                                                                                                                                                                                                |
| Maximum tungsten load             | <2.4 W                                                                                                                                                                                                                                                                                              |
| Protection type                   | Short-circuit protection<br>Short-circuit and overload protection with automatic reset<br>Reverse polarity protection fast output                                                                                                                                                                   |
| Reset time                        | 10 ms automatic reset output<br>12 s automatic reset fast output                                                                                                                                                                                                                                    |
| 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            | ≤ 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<br>0.7 ms other instruction                                                                                                                                                                                                                                          |
| Application structure             | 4 cyclic master tasks<br>8 external event tasks<br>8 event tasks<br>3 cyclic master tasks + 1 freewheeling task                                                                                                                                                                                     |
| Realtime clock                    | With                                                                                                                                                                                                                                                                                                |
| Clock drift                       | ≤ 60 s/month 77 °F (25 °C)                                                                                                                                                                                                                                                                          |
| Positioning functions             | PTO 4 100 kHz)<br>PTO 4 transistor output 1 kHz)                                                                                                                                                                                                                                                    |
| Counting input number             | 4 fast input (HSC mode) 200 kHz<br>14 standard input 1 kHz                                                                                                                                                                                                                                          |
| Control signal type               | A/B 100 kHz fast input (HSC mode)<br>Pulse/direction 200 kHz fast input (HSC mode)<br>Single phase 200 kHz fast input (HSC mode)                                                                                                                                                                    |
| Integrated connection type        | Non isolated serial link serial 1 RJ45 RS232/RS485<br>Non isolated serial link serial 2 removable screw terminal block RS485<br>USB port with mini B USB 2.0 connector                                                                                                                              |
| 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<br>1.2...115.2 kbit/s (115.2 kbit/s by default) 9.84 ft (3 m) RS232<br>480 Mbit/s 9.84 ft (3 m) USB                                                                                                                              |
| Communication port protocol       | Non isolated serial link Modbus master/slave                                                                                                                                                                                                                                                        |
| Local signalling                  | 1 LED (green) for PWR<br>1 LED (green) for RUN                                                                                                                                                                                                                                                      |

|                                        |                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                        | 1 LED (red) for module error (ERR)<br>for I/O error (I/O) 1 LED (red)<br>1 LED (green) for SD card access (SD)<br>1 LED (red) for BAT<br>1 LED (green) for SL1<br>for SL2 1 LED (green)<br>for bus fault on TM4 (TM4) 1 LED (red)<br>1 LED per channel (green) for I/O state                                                                           |
| Electrical connection                  | removable screw terminal block for inputs and outputs pitch 5.08 mm)<br>removable screw terminal block for connecting the 24 V DC power supply pitch 5.08 mm)                                                                                                                                                                                          |
| Maximum cable distance between devices | Unshielded cable: <50 m for input<br>Shielded cable: <10 m for fast input<br>Unshielded cable <164.04 ft (50 m) output<br>Shielded cable <9.84 ft (3 m) fast output                                                                                                                                                                                    |
| Insulation                             | Between supply and internal logic 500 V AC<br>Non-insulated between supply and ground<br>Between input and internal logic 500 V AC<br>Non-insulated between inputs<br>Between fast input and internal logic 500 V AC<br>Between output and internal logic 500 V AC<br>Non-insulated between outputs<br>Between fast output and internal logic 500 V AC |
| Marking                                | CE                                                                                                                                                                                                                                                                                                                                                     |
| Surge withstand                        | 1 kV power lines (DC) common mode EN/IEC 61000-4-5<br>1 kV shielded cable common mode EN/IEC 61000-4-5<br>0.5 kV power lines (DC) differential mode EN/IEC 61000-4-5<br>1 kV relay output differential mode EN/IEC 61000-4-5<br>1 kV input common mode EN/IEC 61000-4-5<br>1 kV transistor output common mode EN/IEC 61000-4-5                         |
| Mounting support                       | Top hat type TH35-15 rail IEC 60715<br>Top hat type TH35-7.5 rail IEC 60715<br>plate or panel with fixing kit                                                                                                                                                                                                                                          |
| Height                                 | 3.54 in (90 mm)                                                                                                                                                                                                                                                                                                                                        |
| Depth                                  | 3.74 in (95 mm)                                                                                                                                                                                                                                                                                                                                        |
| Width                                  | 5.91 in (150 mm)                                                                                                                                                                                                                                                                                                                                       |
| Net Weight                             | 1.17 lb(US) (0.53 kg)                                                                                                                                                                                                                                                                                                                                  |

## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                             | ANSI/ISA 12-12-01<br>CSA C22.2 No 142<br>CSA C22.2 No 213<br>EN/IEC 61131-2:2007<br>Marine specification (LR, ABS, DNV, GL)<br>UL 1604<br>UL 508                                                                                                                                                                                                                                  |
| Product certifications                | CULus<br>IACS E10<br>CSA<br>RCM                                                                                                                                                                                                                                                                                                                                                   |
| Resistance to electrostatic discharge | 8 kV in air EN/IEC 61000-4-2<br>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<br>2.74 V/m (3 V/m) 1.4 GHz...2 GHz EN/IEC 61000-4-3<br>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)<br>1 kV EN/IEC 61000-4-4 serial link)<br>1 kV EN/IEC 61000-4-4 input)<br>1 kV EN/IEC 61000-4-4 transistor output)                                                                                                                                                                                                                              |
| Resistance to conducted disturbances  | 10 V 0.15...80 MHz EN/IEC 61000-4-6<br>3 V 0.1...80 MHz 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) Marine specification (LR, ABS, DNV, GL)                                                                                                                                                                  |
| Electromagnetic emission              | Conducted emissions 120...69 dBµV/m QP power lines)10...150 kHz EN/IEC 55011<br>Conducted emissions 63 dBµV/m QP power lines)1.5...30 MHz EN/IEC 55011<br>Radiated emissions 40 dBµV/m QP class A30...230 MHz EN/IEC 55011<br>Conducted emissions 79...63 dBµV/m QP power lines)150...1500 kHz EN/IEC 55011<br>Radiated emissions 47 dBµV/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)<br>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)<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                      | 0.00...9842.52 ft (0...3000 m)                                                                                                                   |
| Vibration resistance                  | 3.5 mm 5...8.4 Hz symmetrical rail<br>3 gn 8.4...150 Hz symmetrical rail<br>3.5 mm 5...8.4 Hz panel mounting<br>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                  | 03606480611131                 |
| Nbr. of units in pkg. | 1                              |
| Package weight(Lbs)   | 28.18 oz (799 g)               |
| Returnability         | No                             |
| Country of origin     | ID                             |

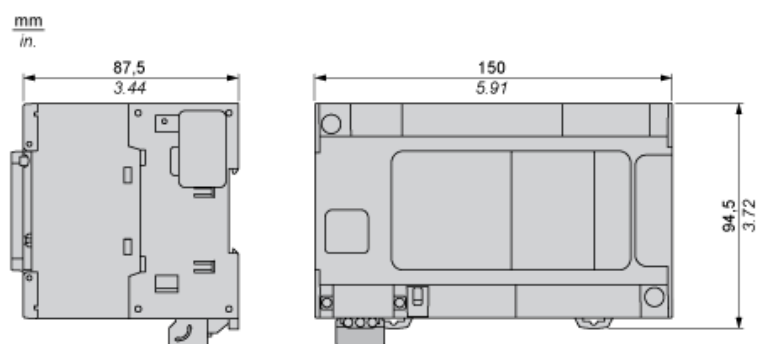
## Packing Units

|                        |                    |
|------------------------|--------------------|
| Unit Type of Package 1 | PCE                |
| Package 1 Height       | 5.04 in (12.8 cm)  |
| Package 1 width        | 4.51 in (11.45 cm) |
| Package 1 Length       | 7.32 in (18.6 cm)  |

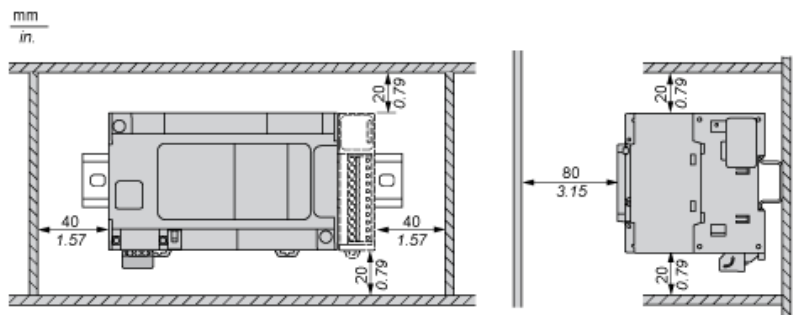
## Offer Sustainability

|                            |                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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)<br><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                                                                                                                                                                                                                                                                                         |

## Dimensions



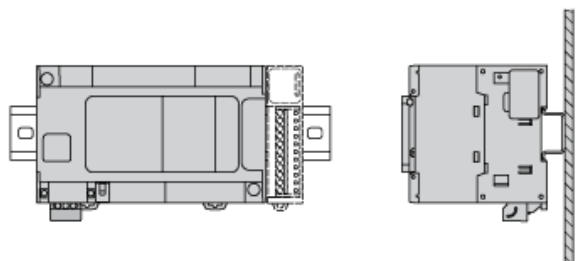
Clearance



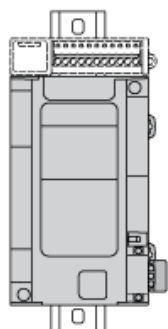
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## Mounting Position

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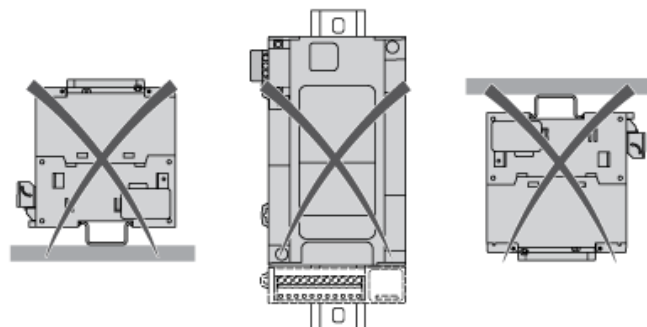


## Acceptable Mounting



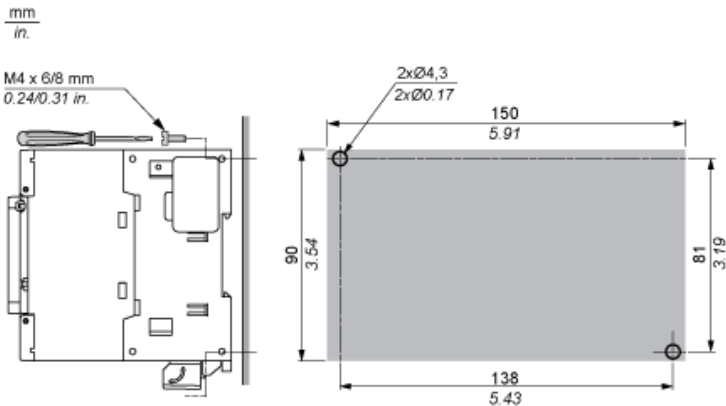
NOTE: Expansion modules must be mounted above the logic controller.

## Incorrect Mounting



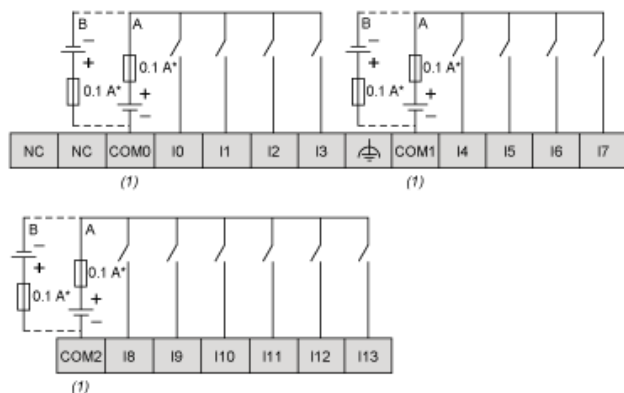
Direct Mounting On a Panel Surface

Mounting Hole Layout



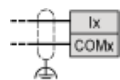
## Digital Inputs

### 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)

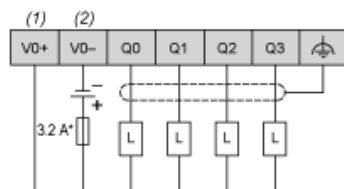


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## Fast Transistor Outputs

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### Wiring Diagram



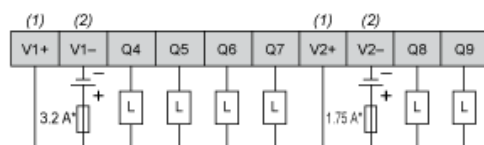
- (\*) : Type T fuse  
(1) The V0+, V1+, V2+ and V3+ terminals are not connected internally.  
(2) The V0-, V1-, V2- and V3- terminals are not connected internally.

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## Transistor Outputs

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### Wiring Diagram



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

USB Mini-B Connection

