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| Range of product | Modicon M241 |
| Product or component type | Logic controller |
| [Us] rated supply voltage | 100...240 V AC |
| Discrete input number | 14 discrete input including 8 fast input conforming to IEC 61131-2 Type 1 |
| Discrete output type | Transistor Relay |
| Discrete output number | 6 relay 4 transistor including 4 fast output |
| Discrete output voltage | 24 V DC transistor output 5...125 V DC relay output 5...250 V AC relay output |
| Discrete output current | 2 A with Q4...Q9 terminal(s) relay output 0.1 A with TR0...TR3 terminal(s) fast output (PTO mode) 0.5 A with TR0...TR3 terminal(s) transistor output |

Complementary

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| Discrete I/O number | 24 |
| Number of I/O expansion module | 7 (local I/O architecture) 14 (remote I/O architecture) |
| Supply voltage limits | 85...264 V |
| Network frequency | 50/60 Hz |
| 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 | 5 mA input |
| Input impedance | 4.7 kOhm input |
| Response time | 50 μ s turn-on operation with I0...I13 terminal(s) input |
| Configurable filtering time | 1 μ s fast input |

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

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| Discrete output logic | Positive logic (source) |
| Output voltage limits | 125 V DC relay output 30 V DC transistor output 277 V AC relay output |
| Output frequency | <= 1 kHz transistor output <= 20 kHz fast output (PWM mode) <= 100 kHz fast output (PLS mode) |
| Accuracy | +/- 0.1 % at 0.02...0.1 kHz for fast output +/- 1 % at 0.1...1 kHz for fast output |
| Protection type | Short-circuit protection transistor output Short-circuit and overload protection with automatic reset transistor output Reverse polarity protection transistor output Without protection relay 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 | <= 32 GB SD card optional |
| Battery type | BR2032 lithium non-rechargeable, battery life: 4 yr |
| Backup time | 2 years at 77 °F (25 °C) |
| Execution time for 1 KInstruction | 0.3 ms event and periodic task 0.7 ms other instruction |
| Application structure | 8 event tasks 8 external event tasks 4 cyclic master tasks 3 cyclic master tasks + 1 freewheeling task |
| Realtime clock | With |
| Clock drift | <= 60 s/month at 77 °F (25 °C) |
| Positioning functions | PTO function 4 channel(s) (positioning frequency: 100 kHz) |
| Counting input number | 4 fast input (HSC mode) at 200 kHz 14 standard input at 1 kHz |
| Control signal type | A/B signal at 100 kHz fast input (HSC mode) Pulse/Direction signal at 200 kHz fast input (HSC mode) Single phase signal at 200 kHz fast input (HSC mode) |
| Integrated connection type | USB port with connector mini B USB 2.0 Ethernet with connector RJ45 Non isolated serial link "serial 1" with connector RJ45 and interface RS232/RS485 Non isolated serial link "serial 2" with connector removable screw terminal block and interface RS485 CANopen J1939 with connector male SUB-D 9 |
| Supply | Serial link supply "serial 1" at 5 V, 200 mA |
| Transmission rate | 1.2...115.2 kbit/s (115.2 kbit/s by default) for bus length of 15 m - communication protocol: RS485 1.2...115.2 kbit/s (115.2 kbit/s by default) for bus length of 9.84 ft (3 m) - communication protocol: RS232 480 Mbit/s for bus length of 9.84 ft (3 m) - communication protocol: USB 10/100 Mbit/s - communication protocol: Ethernet 1000 kbit/s for bus length of 65.62 ft (20 m) - communication protocol: CANopen 800 kbit/s for bus length of 40 m - communication protocol: CANopen 500 kbit/s for bus length of 328.08 ft (100 m) - communication protocol: CANopen 250 kbit/s for bus length of 820.21 ft (250 m) - communication protocol: CANopen 125 kbit/s for bus length of 1640.42 ft (500 m) - communication protocol: CANopen 50 kbit/s for bus length of 3280.84 ft (1000 m) - communication protocol: CANopen 20 kbit/s for bus length of 8202.1 ft (2500 m) - communication protocol: CANopen |
| Communication port protocol | Modbus non isolated serial link with master/slave method |
| Port Ethernet | 1 - 10BASE-T/100BASE-TX port with copper cable support |
| Communication service | Ethernet/IP adapter DHCP client IEC VAR ACCESS Modbus TCP client Modbus TCP server Modbus TCP slave device SNMP client/server FTP client/server SQL client Send and receive email from the controller based on TCP/UDP library Web server (WebVisu & XWeb system) |

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| | OPC UA server DNS client |
| Local signalling | 1 LED green SD card access (SD) 1 LED red BAT 1 LED green SL1 1 LED green SL2 1 LED per channel green I/O state 1 LED red I/O error (I/O) 1 LED red bus fault on TM4 (TM4) 1 LED green Ethernet port activity 1 LED green CANopen run 1 LED green CANopen error 1 LED red module error (ERR) 1 LED green PWR 1 LED green RUN |
| Electrical connection | 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) |
| Max cable distance between devices | Shielded cable: 10 m for fast input Shielded cable: 3 m for fast output Unshielded cable: 50 m for input Unshielded cable: 50 m for output |
| Insulation | 500 V AC between supply and internal logic Non-insulated between supply and ground |
| Marking | CE |
| Sensor power supply | 24 V DC at 400 mA supplied by the controller |
| Surge withstand | 2 kV power lines (AC) in common mode conforming to EN/IEC 61000-4-5 2 kV relay output in common mode conforming to EN/IEC 61000-4-5 1 kV shielded cable in common mode conforming to EN/IEC 61000-4-5 1 kV power lines (AC) in differential mode conforming to EN/IEC 61000-4-5 1 kV relay output in differential mode conforming to EN/IEC 61000-4-5 1 kV input in common mode conforming to EN/IEC 61000-4-5 1 kV transistor output in common mode conforming to EN/IEC 61000-4-5 |
| Web services | Web server |
| Maximum number of connections | 16 connection(s) Ethernet/IP device 8 connection(s) Modbus server |
| CANopen feature profile | DS 301 V4.02 DR 303-1 |
| Number of slave | <= 63 CANopen |
| 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 | 3.54 in (90 mm) |
| Depth | 3.74 in (95 mm) |
| Width | 5.91 in (150 mm) |
| Product weight | 1.17 lb(US) (0.53 kg) |

Environment

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| Standards | CSA C22.2 No 142 ANSI/ISA 12-12-01 UL 1604 CSA C22.2 No 213 EN/IEC 61131-2 : 2007 Marine specification (LR, ABS, DNV, GL) UL 508 |
| Product certifications | CULus IACS E10 RCM CSA |
| Resistance to electrostatic discharge | 4 kV on contact conforming to EN/IEC 61000-4-2 8 kV in air conforming to EN/IEC 61000-4-2 |
| Resistance to electromagnetic fields | 9.14 V/yd (10 V/m) (80 MHz...1 GHz) conforming to EN/IEC 61000-4-3 2.74 V/yd (3 V/m) (1.4 GHz...2 GHz) conforming to EN/IEC 61000-4-3 0.91 V/yd (1 V/m) (2 GHz...3 GHz) conforming to EN/IEC 61000-4-3 |
| Resistance to fast transients | 2 kV power lines conforming to EN/IEC 61000-4-4 2 kV relay output conforming to EN/IEC 61000-4-4 |

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| | 1 kV Ethernet line conforming to EN/IEC 61000-4-4 1 kV serial link conforming to EN/IEC 61000-4-4 1 kV input conforming to EN/IEC 61000-4-4 1 kV transistor output conforming to EN/IEC 61000-4-4 |
| Resistance to conducted disturbances | 10 V (0.15...80 MHz) conforming to EN/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, condition of test: power lines (radio frequency: 10...150 kHz) conforming to EN/IEC 55011 Conducted emissions, test level: 63 dB μ V/m QP, condition of test: power lines (radio frequency: 1.5...30 MHz) conforming to EN/IEC 55011 Conducted emissions, test level: 79 dB μ V/m QP/66 dB μ V/m AV, condition of test: power lines (radio frequency: 0.15...0.5 MHz) conforming to EN/IEC 55011 Conducted emissions, test level: 73 dB μ V/m QP/60 dB μ V/m AV, condition of test: power lines (radio frequency: 0.5...300 MHz) conforming to EN/IEC 55011 Radiated emissions, test level: 40 dB μ V/m QP with class A, condition of test: 10 m (radio frequency: 30...230 MHz) conforming to EN/IEC 55011 Conducted emissions, test level: 79...63 dB μ V/m QP, condition of test: power lines (radio frequency: 150...1500 kHz) conforming to EN/IEC 55011 Radiated emissions, test level: 47 dB μ V/m QP with class A, condition of test: 10 m (radio frequency: 230...1000 MHz) conforming to EN/IEC 55011 |
| Immunity to microbreaks | 10 ms |
| Ambient air temperature for operation | 14...131 °F (-10...55 °C) horizontal installation 14...122 °F (-10...50 °C) vertical 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...9842.52 ft (0...3000 m) |
| Vibration resistance | 3.5 mm (vibration frequency: 5...8.4 Hz) on symmetrical rail 3 gn (vibration frequency: 8.4...150 Hz) on symmetrical rail 3.5 mm (vibration frequency: 5...8.4 Hz) on panel mounting 3 gn (vibration frequency: 8.4...150 Hz) on panel mounting |
| Shock resistance | 15 gn 11 ms |

Ordering and shipping details

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| Category | 22533 - M2XX PLC & ACCESSORIES |
| Discount Schedule | MSX |
| GTIN | 00785901306788 |
| Nbr. of units in pkg. | 1 |
| Package weight(Lbs) | 1.71 |
| Returnability | Y |
| Country of origin | ID |

Offer Sustainability

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| Sustainable offer status | Green Premium product |
| RoHS (date code: YYWW) | Compliant - since 1350 - Schneider Electric declaration of conformity Schneider Electric declaration of conformity |
| REACH | Reference not containing SVHC above the threshold Reference not containing SVHC above the threshold |
| Product environmental profile | Available |
| Product end of life instructions | Available |