

# เอกสารข้อมูลผลิตภัณฑ์

ข้อมูลจำเพาะ



## Logic Controller M262, 5ns/ instruction, Ethernet

TM262L10MESE8T

### Main

|                           |                                                           |
|---------------------------|-----------------------------------------------------------|
| Range of product          | Logic/motion controller - Modicon M262                    |
| Product or component type | Logic controller                                          |
| [Us] rated supply voltage | 24 V DC - 15...20 %                                       |
| Discrete I/O number       | 8                                                         |
| Upstream connectivity     | IIoT-ready machine to cloud<br>Connected machine to plant |

### Complementary

|                             |                                                                                                                                                                                                                                                           |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supply voltage limits       | 20.4...28.8 V DC                                                                                                                                                                                                                                          |
| PLC Power Consumption       | 82 W                                                                                                                                                                                                                                                      |
| Inrush current              | 40 A                                                                                                                                                                                                                                                      |
| Overvoltage protection      | With                                                                                                                                                                                                                                                      |
| Discrete input number       | 4, discrete input fast input conforming to IEC 61131-2 Type 1                                                                                                                                                                                             |
| Discrete input voltage      | 24 V                                                                                                                                                                                                                                                      |
| Discrete input voltage type | DC                                                                                                                                                                                                                                                        |
| Discrete input logic        | Sink                                                                                                                                                                                                                                                      |
| Voltage state 1 guaranteed  | >= 15 V for DC                                                                                                                                                                                                                                            |
| Voltage state 0 guaranteed  | <= 5 V for DC                                                                                                                                                                                                                                             |
| Discrete input current      | 7.5 mA for fast input                                                                                                                                                                                                                                     |
| Input impedance             | 2.81 kOhm for input                                                                                                                                                                                                                                       |
| Response time               | <= 1 µs turn-on, I0...I3 terminal(s) for fast input<br><= 1 µs turn-off, I0...I3 terminal(s) for fast input<br><= 1 µs turn-on, Q0...Q3 terminal(s) for fast output<br><= 1 µs turn-off, Q0...Q3 terminal(s) for fast output                              |
| Configurable filtering time | 0.001 ms for fast input<br>0.002 ms for fast input<br>0.005 ms for fast input<br>0.01 ms for fast input<br>0.05 ms for fast input<br>0.1 ms for fast input<br>0.5 ms for fast input<br>1 ms for fast input<br>4 ms for fast input<br>12 ms for fast input |
| Discrete output number      | 4 transistor fast output                                                                                                                                                                                                                                  |
| Discrete output voltage     | 24 V DC                                                                                                                                                                                                                                                   |

|                                        |                                                                                                                                                                                                                                                                                  |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Discrete output current                | 0.5 A for fast output (Q0...Q3)                                                                                                                                                                                                                                                  |
| Discrete output type                   | Transistor                                                                                                                                                                                                                                                                       |
| Discrete output logic                  | Source                                                                                                                                                                                                                                                                           |
| Output voltage limits                  | 30 V DC                                                                                                                                                                                                                                                                          |
| Maximum current per output common      | 0.5 A with Q0...Q3 for fast output                                                                                                                                                                                                                                               |
| Maximum output frequency               | 300 kHz                                                                                                                                                                                                                                                                          |
| Accuracy                               | +/- 0.1 % at 0.02...0.1 kHz for fast output<br>+/- 1 % at 0.1...1 kHz for fast output                                                                                                                                                                                            |
| Maximum leakage current                | 10 µA for output                                                                                                                                                                                                                                                                 |
| Maximum tungsten load                  | <1.5 W                                                                                                                                                                                                                                                                           |
| Protection type                        | Short-circuit and overload protection with automatic reset<br>Reverse polarity protection<br>Short-circuit protection                                                                                                                                                            |
| Reset time                             | 200 ms automatic reset fast output                                                                                                                                                                                                                                               |
| Maximum number of I/O expansion module | 7TM3 IO module (local I/O-Architecture)<br>7TM3 IO module (remote I/O-Architecture)<br>64TM3, TM5 or TM7 IO island (distributed I/O-Architecture)                                                                                                                                |
| Execution time for 1 KInstruction      | 0.005 ms                                                                                                                                                                                                                                                                         |
| Memory capacity                        | 32 MB for program RAM<br>32 MB for OS/website RAM<br>192 MB for system memory RAM                                                                                                                                                                                                |
| Data backed up                         | 1 GB built-in flash memory for backup of user programs                                                                                                                                                                                                                           |
| Data storage equipment                 | <= 32 GB SDHC card (optional)                                                                                                                                                                                                                                                    |
| Backup time                            | 1000 h at 25 °C                                                                                                                                                                                                                                                                  |
| Application structure                  | 8 event tasks<br>4 cyclic master tasks<br>3 cyclic master tasks + 1 freewheeling task<br>8 external event tasks                                                                                                                                                                  |
| Realtime clock                         | With                                                                                                                                                                                                                                                                             |
| Clock drift                            | <= 10 s/month at 25 °C                                                                                                                                                                                                                                                           |
| Cycle time                             | 0.5 ms                                                                                                                                                                                                                                                                           |
| Positioning functions                  | Libraries axes coordinated function                                                                                                                                                                                                                                              |
| Integrated connection type             | Ethernet 1 with RJ45 connector and 10/100BASE-T interface<br>Ethernet 2 with 2 RJ45 connector and 100/1000BASE-T interface<br>Serial link with RJ45 connector and RS232/RS485 interface<br>Smart Communication Bus<br>TM3 IO bus<br>USB type mini B                              |
| Transmission rate                      | 115 kbit/s for bus length of 15 m for RS485<br>115 kbit/s for bus length of 3 m for RS232<br>480 Mbit/s for bus length of 3 m for USB<br>10/100 Mbit/s for Ethernet1<br>10/100/1000 Mbit/s for Ethernet2                                                                         |
| Communication port protocol            | EtherNet/IP adapter<br>EtherNet/IP scanner<br>Modbus TCP client/server<br>Modbus TCP IO scanner<br>Modbus TCP NVL<br>Ethernet RSTP<br>Modbus SL client/server<br>Modbus SL IO scanner<br>Modbus SL modem management<br>Machine Expert<br>ASCII manager<br>ASCII modem management |
| Maximum number of connected devices    | EtherNet/IP: 64<br>Modbus TCP: 64<br>Modbus TCP/EtherNet/IP: 96                                                                                                                                                                                                                  |
| Communication service                  | MQTTs<br>OPC UA server (Encrypt)<br>HTTPs Methods (API)                                                                                                                                                                                                                          |

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                        | Web server<br>Web visu<br>TLS 1.2<br>TLS 1.3<br>SNTP<br>NTP client/server<br>FTP client/server<br>FTPs server<br>SQL client (remote access)<br>DHCP client<br>DHCP server<br>DNS client<br>POP3s client<br>SMTP client<br>SNMP client/server                                                                                                                                                             |
| Local signalling                       | 1 LED (green/red) for PWR<br>1 LED (green/red) for RUN<br>1 LED (green/red) for ERROR (fault)<br>1 LED (green/red) for stop forced<br>1 LED (green/red) for I/O error (I/O)<br>1 LED (green/orange) for SD card activity<br>1 LED (green/orange) for SL activity<br>1 LED (green/red) for ETH1 state<br>1 LED (green/red) for ETH2 state<br>1 LED (green/red) for EIP MS<br>1 LED (green/red) for EIP NS |
| Electrical connection                  | removable spring terminal blockfor inputs and outputs<br>removable spring terminal blockfor connecting the 24 V DC power supply                                                                                                                                                                                                                                                                          |
| Maximum cable distance between devices | Shielded cable: <3 m for fast input<br>Shielded cable: <3 m for fast output<br>Unshielded cable: <50 m for input<br>Unshielded cable: <50 m for output<br>Shielded cable: <30 m for RS485 link<br>Shielded cable: <15 m for RS232                                                                                                                                                                        |
| Insulation                             | Between fast input and internal logic at 550 V AC<br>Non-insulated between inputs<br>Between fast output and internal logic at 500 V AC<br>Non-insulated between outputs<br>Between input and output at 500 V AC<br>Between supply and internal logic at 500 V AC<br>Non-insulated between supply and ground                                                                                             |
| Surge withstand                        | 1 kV power lines (DC) common mode conforming to EN/IEC 61000-4-5<br>1 kV shielded cable common mode conforming to EN/IEC 61000-4-5<br>0.5 kV relay output differential mode conforming to EN/IEC 61000-4-5<br>1 kV input common mode conforming to EN/IEC 61000-4-5<br>1 kV transistor output common mode conforming to EN/IEC 61000-4-5                                                                 |
| Mounting support                       | Top hat type TH35-15 rail conforming to IEC 60715<br>Top hat type TH35-7.5 rail conforming to IEC 60715<br>plate or panel with fixing kit                                                                                                                                                                                                                                                                |
| Height                                 | 100 mm                                                                                                                                                                                                                                                                                                                                                                                                   |
| Depth                                  | 90 mm                                                                                                                                                                                                                                                                                                                                                                                                    |
| Width                                  | 125 mm                                                                                                                                                                                                                                                                                                                                                                                                   |
| Net weight                             | 0.655 kg                                                                                                                                                                                                                                                                                                                                                                                                 |
| Environment                            |                                                                                                                                                                                                                                                                                                                                                                                                          |
| Standards                              | UL 61010-1<br>UL 61010-2-201<br>CSA C22.2 No 61010-1<br>CSA C22.2 No 61010-2-201<br>CSA C22.2 No 213<br>ANSI/ISA 12-12-01<br>EN 61131-2                                                                                                                                                                                                                                                                  |
| Product certifications                 | CE<br>cULus<br>cULus HazLoc Class I Division 2 CSA 22-2 No 213<br>RCM<br>EAC<br>Achilles<br>KC                                                                                                                                                                                                                                                                                                           |
| Resistance to electrostatic discharge  | 4 kV on contact conforming to EN/IEC 61000-4-2<br>8 kV on air conforming to EN/IEC 61000-4-2                                                                                                                                                                                                                                                                                                             |
| Resistance to electromagnetic fields   | 10 V/m 80 MHz...1 GHz conforming to EN/IEC 61000-4-3<br>3 V/m 1.4 GHz...2 GHz conforming to EN/IEC 61000-4-3<br>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                                                                                                                                                                                                                                                                                                                                                        |

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       | 1 kV (Ethernet line) conforming to EN/IEC 61000-4-4<br>1 kV (serial link) conforming to EN/IEC 61000-4-4<br>1 kV (input) conforming to EN/IEC 61000-4-4<br>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 61000-4-4<br>3 V 0.1...80 MHz<br>10 V spot frequency (2, 3, 4, 6.2, 8.2, 12.6, 16.5, 18.8, 22, 25 MHz)                                                                                                                                                                                                                                                                                                                                                            |
| Electromagnetic emission              | Conducted emissions - test level: 120...69 dBµV/m QP ( power lines) at 10...150 kHz conforming to EN/IEC 55011<br>Conducted emissions - test level: 63 dBµV/m QP ( power lines) at 1.5...30 MHz conforming to EN/IEC 55011<br>Radiated emissions - test level: 40 dBµV/m at 30...230 kHz conforming to EN/IEC 55011<br>Conducted emissions - test level: 79...63 dBµV/m QP ( power lines) at 150...1500 kHz conforming to EN/IEC 55011<br>Radiated emissions at 230...1000 MHz conforming to EN/IEC 55011 |
| Immunity to microbreaks               | 0.01 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Ambient air temperature for operation | -20...60 °C (horizontal installation)<br>-20...50 °C (vertical installation)<br>-20...45 °C (flat mounting)                                                                                                                                                                                                                                                                                                                                                                                               |
| Ambient air temperature for storage   | -40...85 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Relative humidity                     | 10...95 %, without condensation (in operation)<br>10...95 %, without condensation (in storage)                                                                                                                                                                                                                                                                                                                                                                                                            |
| IP degree of protection               | IP20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Pollution degree                      | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Operating altitude                    | 0...2000 m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Storage altitude                      | 0...3000 m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Vibration resistance                  | 3.5 mm at 2...8.4 Hz on symmetrical rail<br>1 gn at 8.4...200 Hz on symmetrical rail<br>3.5 mm at 2...8.4 Hz on panel mounting<br>1 gn at 8.4...200 Hz on panel mounting                                                                                                                                                                                                                                                                                                                                  |
| Shock resistance                      | 15 gn for 11 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

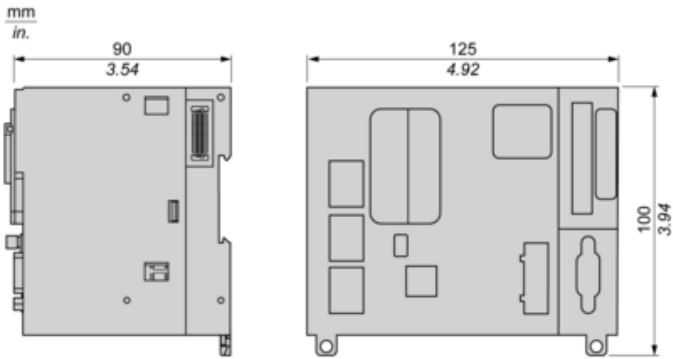
Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 13.8 cm |
| Package 1 Width              | 18.3 cm |
| Package 1 Length             | 13.1 cm |
| Package 1 Weight             | 835.0 g |

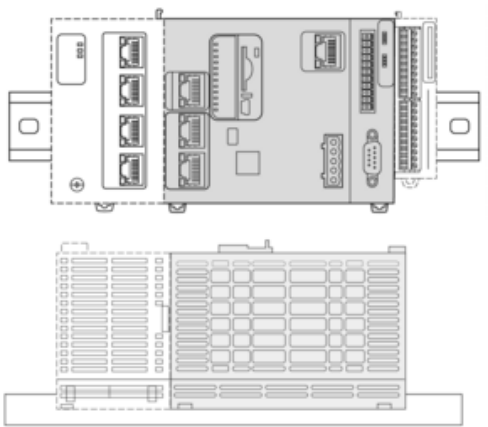
Offer Sustainability

|                            |                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                       |
| 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                                                                                                                         |

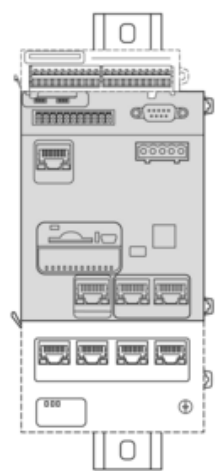
Side and Front Views



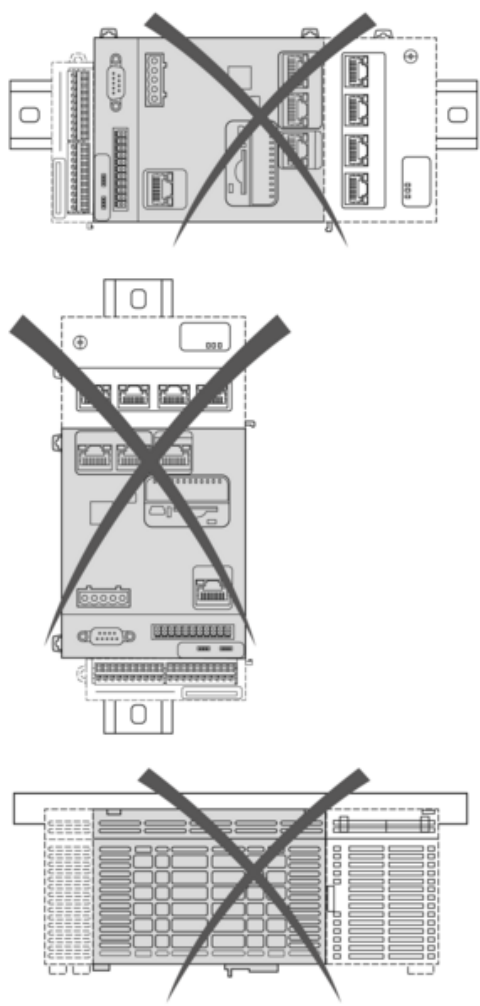
Correct Mounting Position



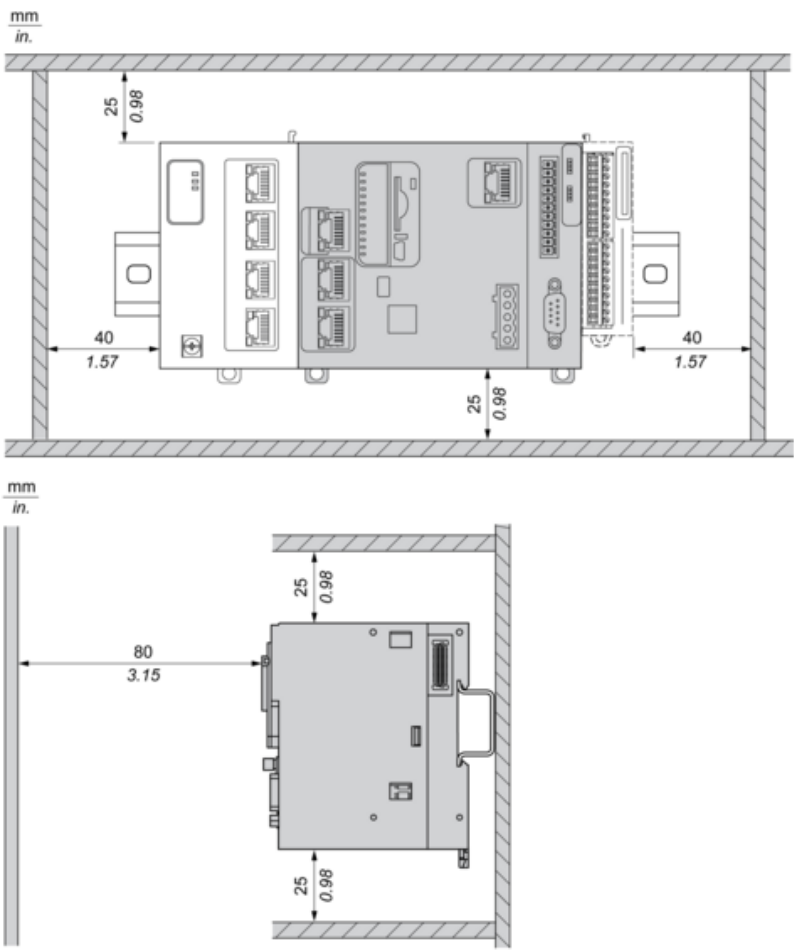
Acceptable Mounting Position



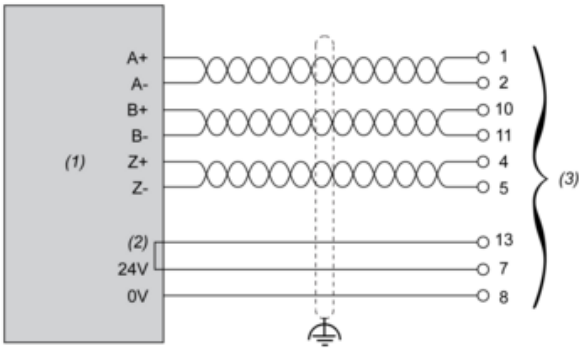
Incorrect Mounting Positions



Minimum Clearances

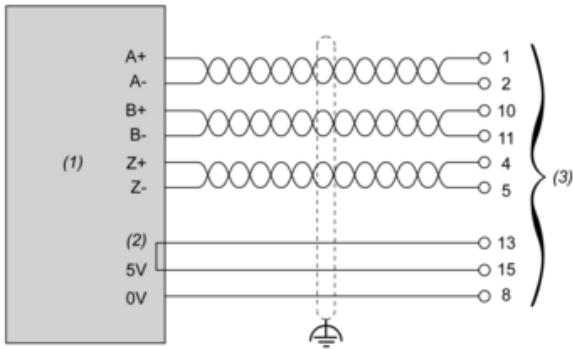


Encoder RS422 / 24 VDC



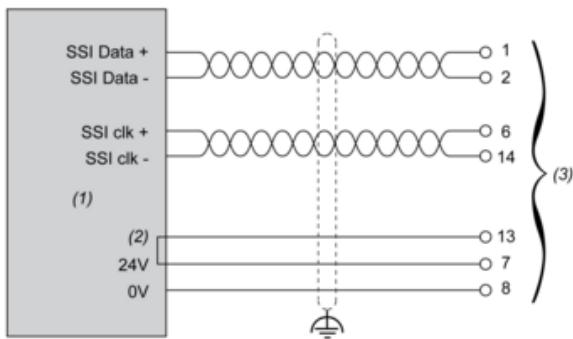
- (1) Encoder
- (2) Return Option
- (3) Encoder Sub-D

Encoder RS422 / 5 VDC or Push Pull



- (1) Encoder
- (2) Return Option
- (3) Encoder Sub-D

Encoder SSI



- (1) Encoder
- (2) Return Option
- (3) Encoder Sub-D