

# Product data sheet

Specifications



## motion controller, Modicon M262, 5ns per instruction, Ethernet, Sercos

TM262M15MESS8T

**Product availability: Stock - Normally stocked in distribution facility**

### Main

|                           |                                                           |
|---------------------------|-----------------------------------------------------------|
| Range of Product          | Logic/motion controller - Modicon M262                    |
| Product or Component Type | Motion 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                                                                                                                                                                                                              |
| Number of overvoltage protection | With                                                                                                                                                                                                              |
| Discrete input number            | 4, discrete input fast input 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 DC                                                                                                                                                                                                        |
| Voltage state 0 guaranteed       | <= 5 V DC                                                                                                                                                                                                         |
| Discrete input current           | 7.5 mA fast input                                                                                                                                                                                                 |
| Input impedance                  | 2.81 kOhm input                                                                                                                                                                                                   |
| Response time                    | <= 1 µs turn-on, I0...I3 fast input<br><= 1 µs turn-off, I0...I3 fast input<br><= 1 µs turn-on, Q0...Q3 fast output<br><= 1 µs turn-off, Q0...Q3 fast output                                                      |
| Configurable filtering time      | 0.001 ms fast input<br>0.002 ms fast input<br>0.005 ms fast input<br>0.01 ms fast input<br>0.05 ms fast input<br>0.1 ms fast input<br>0.5 ms fast input<br>1 ms fast input<br>4 ms fast input<br>12 ms fast input |
| Discrete output number           | 4 transistor fast output                                                                                                                                                                                          |
| Discrete output voltage          | 24 V DC                                                                                                                                                                                                           |
| Discrete output current          | 0.5 A fast output Q0...Q3)                                                                                                                                                                                        |
| Discrete output type             | Transistor                                                                                                                                                                                                        |

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

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

|                                        |                                                                                                                                                                                                                                                                                                       |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Discrete output logic                  | Source                                                                                                                                                                                                                                                                                                |
| Output voltage limits                  | 30 V DC                                                                                                                                                                                                                                                                                               |
| Maximum current per output common      | 0.5 A Q0...Q3 fast output                                                                                                                                                                                                                                                                             |
| Maximum output frequency               | 300 kHz                                                                                                                                                                                                                                                                                               |
| Accuracy                               | +/- 0.1 % 0.02...0.1 kHz fast output<br>+/- 1 % 0.1...1 kHz fast output                                                                                                                                                                                                                               |
| Maximum leakage current                | 10 µA 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 program RAM<br>32 MB OS/website RAM<br>192 MB system memory RAM                                                                                                                                                                                                                                 |
| Data backed up                         | 1 GB built-in flash memory backup of user programs                                                                                                                                                                                                                                                    |
| Data storage equipment                 | <= 32 GB SDHC card optional)                                                                                                                                                                                                                                                                          |
| Backup time                            | 1000 h 77 °F (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 77 °F (25 °C)                                                                                                                                                                                                                                                                           |
| Cycle time                             | 0.5 ms                                                                                                                                                                                                                                                                                                |
| Positioning functions                  | Libraries axes coordinated<br>Libraries axes synchronous<br>Sercos 3 motion bus                                                                                                                                                                                                                       |
| Integrated connection type             | Ethernet/Sercos 1 RJ45 10/100BASE-T<br>Ethernet 2 2 RJ45 100/1000BASE-T<br>Serial link RJ45 RS232/RS485<br>1 encoder female SUB-D 15 RS422/SSI<br>Smart Communication Bus<br>TM3 IO bus<br>USB type mini B                                                                                            |
| Transmission rate                      | 115 kbit/s 49.2 ft (15 m) RS485<br>115 kbit/s 9.8 ft (3 m) RS232<br>480 Mbit/s 9.8 ft (3 m) USB<br>10/100 Mbit/s Ethernet1<br>10/100/1000 Mbit/s 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<br>Sercos III master |

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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)<br>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<br>1 LED (green/red) for Sercos |
| Electrical connection                  | removable spring terminal block for inputs and outputs<br>removable spring terminal block for connecting the 24 V DC power supply                                                                                                                                                                                                                                                                                                        |
| Product compatibility                  | External encoder 5/24 V DC no encoder power supply                                                                                                                                                                                                                                                                                                                                                                                       |
| Maximum cable distance between devices | Shielded cable <9.8 ft (3 m) fast input<br>Shielded cable <9.8 ft (3 m) fast output<br>Unshielded cable <164.04 ft (50 m) input<br>Unshielded cable <164.04 ft (50 m) output<br>Shielded cable <98.4 ft (30 m) RS485 link<br>Shielded cable <49.2 ft (15 m) RS232                                                                                                                                                                        |
| Insulation                             | Between fast input and internal logic 550 V AC<br>Non-insulated between inputs<br>Between fast output and internal logic 550 V AC<br>Non-insulated between outputs<br>Between input and output 550 V AC<br>Between supply and internal logic 550 V AC<br>Non-insulated between supply and ground                                                                                                                                         |
| Encoder type                           | Incremental encoder                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Surge withstand                        | 1 kV power lines (DC) common mode IEC 61000-4-5<br>1 kV shielded cable common mode IEC 61000-4-5<br>0.5 kV relay output differential mode IEC 61000-4-5<br>1 kV input common mode IEC 61000-4-5<br>1 kV transistor output common mode 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                                 | 3.9 in (100 mm)                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Depth                                  | 3.5 in (90 mm)                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Width                                  | 4.9 in (125 mm)                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Net Weight                             | 1.48 lb(US) (0.67 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>IEC 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 IEC 61000-4-2<br>8 kV on air IEC 61000-4-2                                                                                                                                                                                                                                                                         |
| Resistance to electromagnetic fields  | 9.1 V/m (10 V/m) 80 MHz...1 GHz IEC 61000-4-3<br>2.7 V/m (3 V/m) 1.4 GHz...2 GHz IEC 61000-4-3<br>0.9 V/m (1 V/m) 2 GHz...3 GHz IEC 61000-4-3                                                                                                                                                                                      |
| Resistance to fast transients         | 2 kV IEC 61000-4-4 power lines)<br>1 kV IEC 61000-4-4 Ethernet line)<br>1 kV IEC 61000-4-4 serial link)<br>1 kV IEC 61000-4-4 input)<br>1 kV IEC 61000-4-4 transistor output)                                                                                                                                                      |
| Resistance to conducted disturbances  | 10 V 0.15...80 MHz 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 120...69 dBµV/m QP power lines)10...150 kHz IEC 55011<br>Conducted emissions 63 dBµV/m QP power lines)1.5...30 MHz IEC 55011<br>Radiated emissions 40 dBµV/m30...230 kHz IEC 55011<br>Conducted emissions 79...63 dBµV/m QP power lines)150...1500 kHz IEC 55011<br>Radiated emissions230...1000 MHz IEC 55011 |
| Immunity to microbreaks               | 0.01 ms                                                                                                                                                                                                                                                                                                                            |
| Ambient air temperature for operation | -4...140 °F (-20...60 °C) horizontal installation)<br>-4...122 °F (-20...50 °C) vertical installation)<br>-4...113 °F (-20...45 °C) flat mounting)                                                                                                                                                                                 |
| Ambient Air Temperature for Storage   | -40...185 °F (-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...6561.68 ft (0...2000 m)                                                                                                                                                                                                                                                                                                        |
| Storage altitude                      | 0...9842.5 ft (0...3000 m)                                                                                                                                                                                                                                                                                                         |
| Vibration resistance                  | 3.5 mm 2...8.4 Hz symmetrical rail<br>1 gn 8.4...200 Hz symmetrical rail<br>3.5 mm 2...8.4 Hz panel mounting<br>1 gn 8.4...200 Hz panel mounting                                                                                                                                                                                   |
| Shock resistance                      | 15 gn 11 ms                                                                                                                                                                                                                                                                                                                        |

## Ordering and shipping details

|                   |               |
|-------------------|---------------|
| Category          | US10MSX22534  |
| Discount Schedule | 0MSX          |
| GTIN              | 3606489604202 |
| Returnability     | Yes           |
| Country of origin | ID            |

# Packing Units

|                              |                        |
|------------------------------|------------------------|
| Unit Type of Package 1       | PCE                    |
| Number of Units in Package 1 | 1                      |
| Package 1 Height             | 5.43 in (13.8 cm)      |
| Package 1 Width              | 7.20 in (18.3 cm)      |
| Package 1 Length             | 5.16 in (13.1 cm)      |
| Package 1 Weight             | 30.0 oz (850.0 g)      |
| Unit Type of Package 2       | S03                    |
| Number of Units in Package 2 | 8                      |
| Package 2 Height             | 11.81 in (30 cm)       |
| Package 2 Width              | 11.81 in (30 cm)       |
| Package 2 Length             | 15.75 in (40 cm)       |
| Package 2 Weight             | 17.0 lb(US) (7.7 kg)   |
| Unit Type of Package 3       | P06                    |
| Number of Units in Package 3 | 64                     |
| Package 3 Height             | 29.53 in (75.0 cm)     |
| Package 3 Width              | 15.75 in (40.0 cm)     |
| Package 3 Length             | 31.50 in (80.0 cm)     |
| Package 3 Weight             | 153.4 lb(US) (69.6 kg) |

Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

| Environmental footprint                        |                                               |
|------------------------------------------------|-----------------------------------------------|
| Carbon footprint (kg CO2 eq, Total Life cycle) | 1204                                          |
| Environmental Disclosure                       | <a href="#">Product Environmental Profile</a> |

Use Better

| Materials and Substances               |                                                                                                                                                                                                                                                                                             |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging made with recycled cardboard | Yes                                                                                                                                                                                                                                                                                         |
| Packaging without single use plastic   | Yes                                                                                                                                                                                                                                                                                         |
| <a href="#">EU RoHS Directive</a>      | Pro-active compliance (Product out of EU RoHS legal scope)                                                                                                                                                                                                                                  |
| SCIP Number                            | Aee2b861-0272-4e88-8e3e-89ad0cfa3229                                                                                                                                                                                                                                                        |
| REACH Regulation                       | <a href="#">REACH Declaration</a>                                                                                                                                                                                                                                                           |
| 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> |
| PVC free                               | Yes                                                                                                                                                                                                                                                                                         |

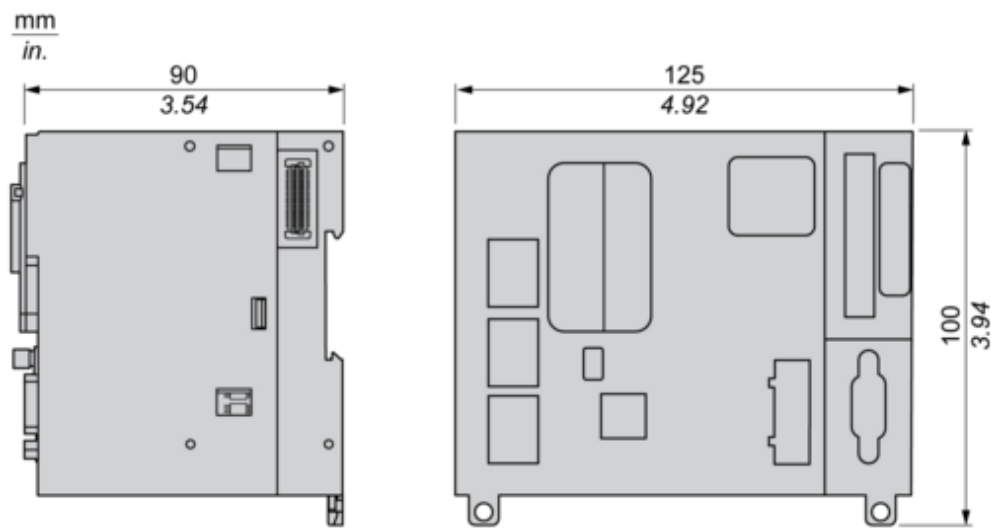
Use Again

| Repack and remanufacture |                                                                                                                                                                                                                  |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Circularity Profile      | <a href="#">End of Life Information</a>                                                                                                                                                                          |
| Take-back                | No                                                                                                                                                                                                               |
| WEEE                     |  The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins. |

Dimensions Drawings

Side and Front Views

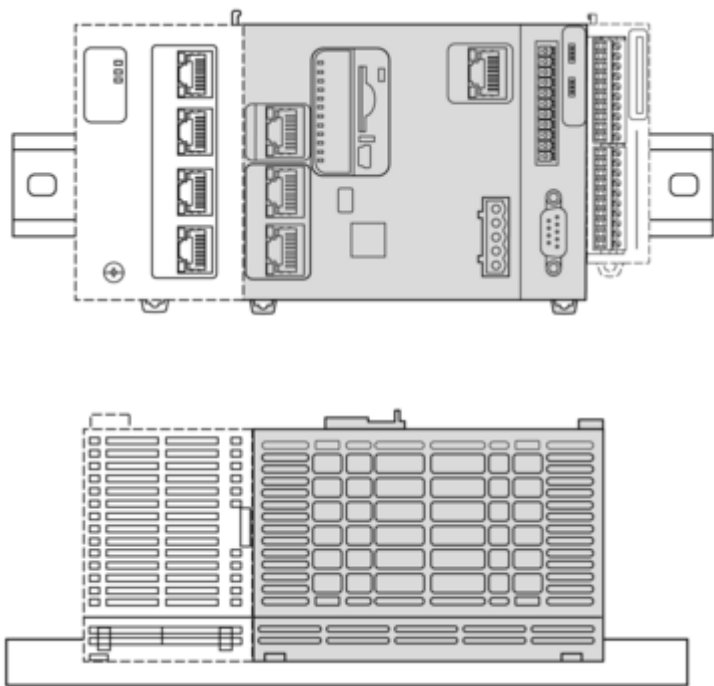
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Mounting and Clearance

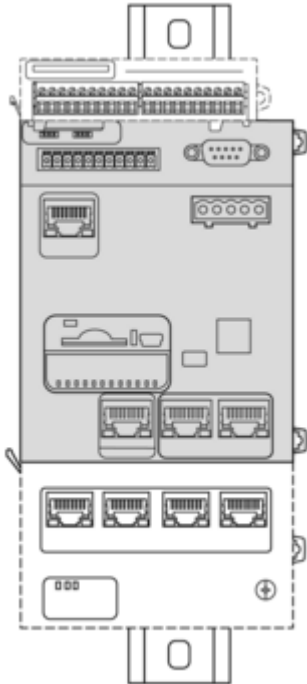
Correct Mounting Position

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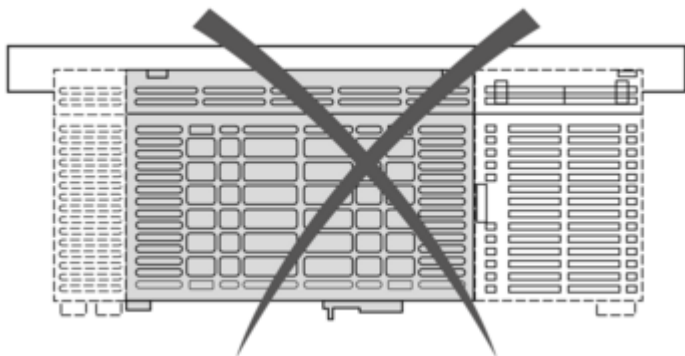
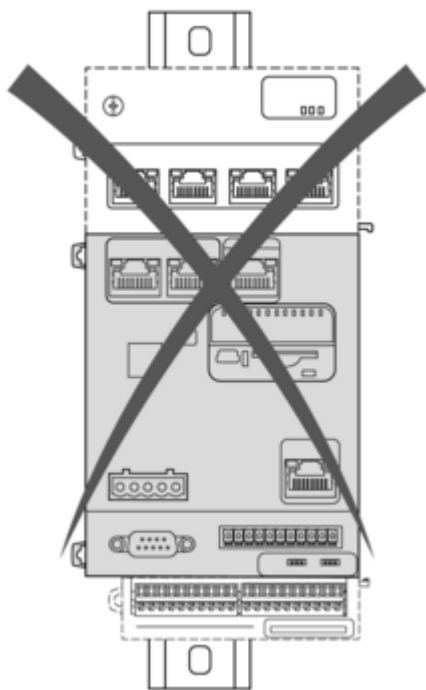
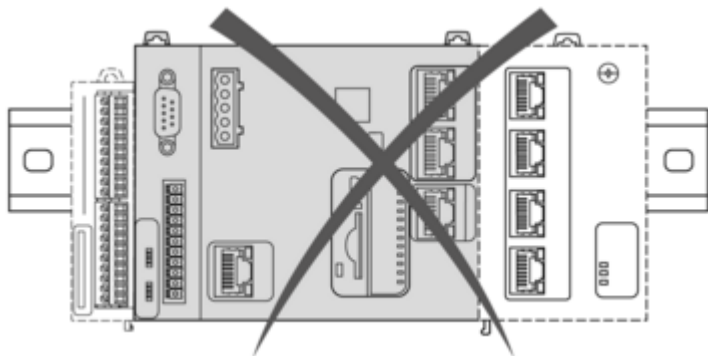
Acceptable Mounting Position

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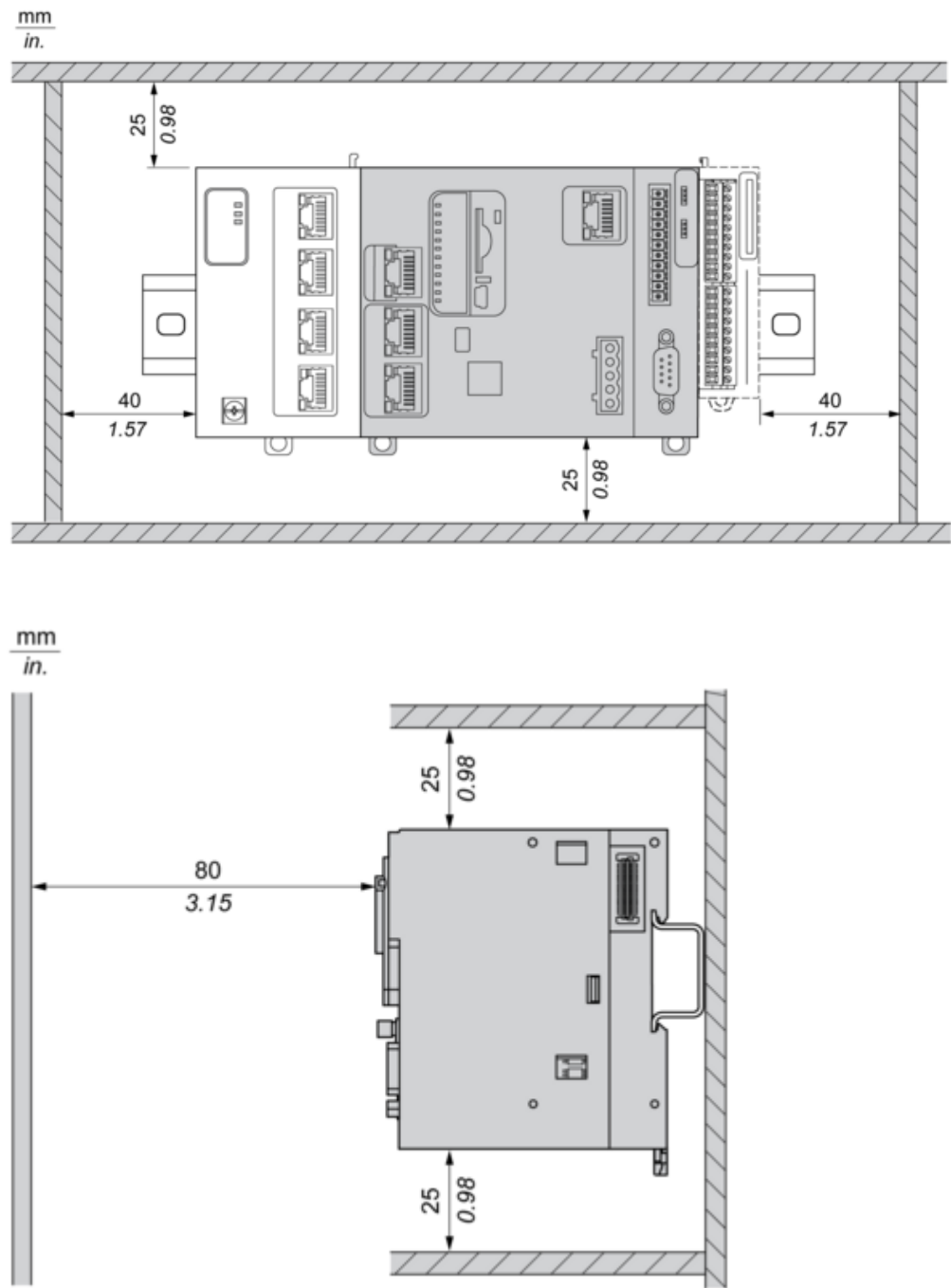


Incorrect Mounting Positions

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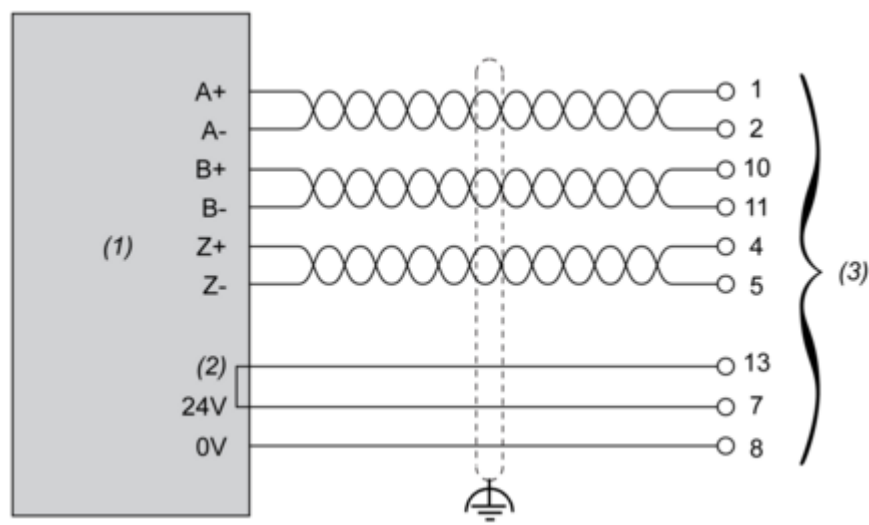


Minimum Clearances



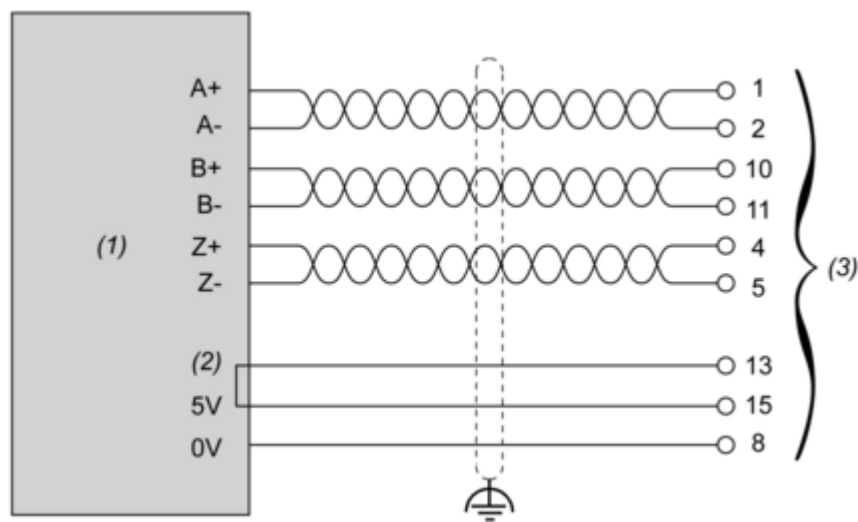
Connections and Schema

Encoder RS422 / 24 VDC



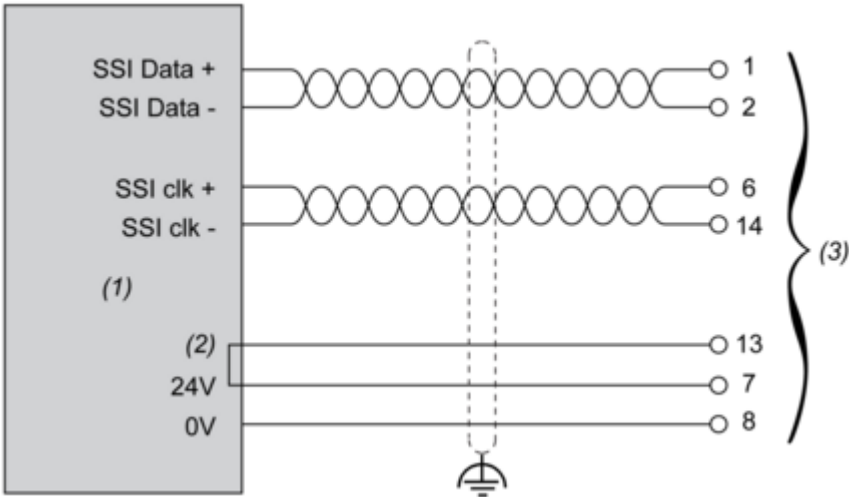
- (1) Encoder
- (2) Return Option
- (3) Encoder Sub-D

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

Image of product / Alternate images

Alternative

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