# Product data sheet

Specifications

## logic controller, Modicon M258, compact base, 42 IO, 24V DC, relay, CANopen

TM258LF42DR

## Main

| | |
|---|---|
| **Range Of Product** | Modicon M258 |
| **Product Or Component Type** | Logic controller |
| **Product Specific Application** | - |
| **Discrete I/O Number** | 42 |
| **Discrete Output Number** | 12 relay output<br>4 fast output |

## Complementary

| | |
|---|---|
| **Discrete Input Number** | 10 for fast input<br>12 for input<br>4 for regular input |
| **Discrete Input Logic** | Sink for fast input<br>Sink for regular input<br>Source for input |
| **Discrete Input Voltage** | 24 V |
| **Discrete Input Voltage Type** | DC |
| **Voltage State 1 Guaranteed** | >= 15 V for fast input<br>>= 15 V for fast output<br>>= 15 V for regular input |
| **Voltage State 0 Guaranteed** | <= 5 V for fast input<br><= 5 V for fast output<br><= 5 V for regular input |
| **Discrete Input Current** | 4 mA for fast input<br>4 mA for regular input |
| **Input Impedance** | 6 kOhm for fast input<br>6 kOhm for regular input |
| **Configurable Filtering Time** | 0 ms for fast input/regular input and fast output<br>1.5 ms for fast input/regular input and fast output<br>12 ms for fast input/regular input and fast output<br>4 ms for fast input/regular input and fast output |
| **Anti Bounce Filtering** | 2 µs...4 ms configurable fast input/regular input and fast output |
| **Maximum Cable Distance Between Devices** | <30 m for fast input<br><30 m for fast output<br><30 m for regular input |
| **Isolation Between Channels And Internal Logic** | 500 Vrms AC |
| **Isolation Between Channels** | None |
| **Discrete Output Logic** | Source |
| **Discrete Output Voltage** | 24 V DC |
| **Output Voltage Limits** | 19.2...28.8 V |

| | |
|---|---|
| **Discrete Output Current** | 4 mA for fast output |
| **[Us] Rated Supply Voltage** | 24 V DC for embedded expert modules power<br>24 V DC for I/O power segment<br>24 V DC for main supply |
| **Supply Voltage Limits** | 20.4…28.8 V |
| **[In] Rated Current** | 0.04 A for embedded expert modules power<br>10 A for I/O power segment<br>0.33 A for main supply |
| **Peak Current** | 100 kA (duration = <= 70 s) for main supply<br>25 kA (duration = <= 500 s) for I/O power segment<br>50 kA (duration = <= 150 s) for embedded expert modules power<br>1.2 A (duration = > 70 s) for main supply |
| **Power Consumption In W** | 17.22 W |
| **Memory Description** | Flash 128 MB<br>Internal RAM 64 MB |
| **Realtime Clock** | Without any user calibration clock, clock drift < 30 s/month at 25 °C<br>With user calibration clock, clock drift <= 6 s/month |
| **Data Backed Up** | Variables of type retain and retain persistent CR2477M Renata, 1.5 years autonomy |
| **Integrated Connection Type** | 1 isolated serial link with female RJ45 connectorModbus with master/slave RTU/<br>ASCII or character mode ASCII, physical interface: RS232/RS485, transmission rate:<br>300...115200 bps<br>1 isolated serial link with female RJ45 connectorEthernet Modbus TCP/IP with slave,<br>physical interface: 10BASE-T/100BASE-TX<br>1 isolated serial link with mini B USB connector, transmission rate: 480 Mbit/s<br>1 isolated serial link with USB type A connector, transmission rate: 480 Mbit/s<br>2 free slots PCI<br>1 CANopen with male SUB-D 9 connectorCANopen with master |
| **Transmission Rate** | 125 kbit/s for bus length of 500 m for CANopen<br>250 kbit/s for bus length of 250 m for CANopen<br>50 kbit/s for bus length of 1000 m for CANopen<br>500 kbit/s for bus length of 100 m for CANopen<br>10 kbit/s for bus length of 5000 m for CANopen<br>1000 kbit/s for bus length of 4 m for CANopen<br>20 kbit/s for bus length of 2500 m for CANopen<br>800 kbit/s for bus length of 25 m for CANopen |
| **Counting Input Number** | 8 counting input(s) at 200 kHz |
| **Local Signalling** | 1 LED per channel for I/O state<br>1 LED for CAN0 STS<br>1 LED for MBS COM<br>1 LED green/red for APP0<br>1 LED green/red for APP1<br>1 LED green/red for Eth NS (Ethernet network status)<br>1 LED green/red for Eth ST (Ethernet status)<br>1 LED green/red for RUN/MS (module status)<br>1 LED green/red for USB host<br>1 LED green/yellow for Eth LA (Ethernet activity)<br>1 LED red for BATT (battery status) |
| **Marking** | CE |
| **Mounting Support** | Symmetrical DIN rail |
| **Width** | 262.5 mm |
| **Height** | 99 mm |
| **Depth** | 85 mm |
| **Net Weight** | 0.8 kg |

# Environment

| | |
|---|---|
| **Standards** | CSA C22.2 No 213<br>UL 508<br>CSA C22.2 No 142<br>IEC 61131-2 |

| | |
|---|---|
| **Product Certifications** | CSA<br>cULus<br>GOST-R<br>C-Tick |
| **Ambient Air Temperature For Operation** | 0…55 °C without derating (horizontal installation)<br>0…60 °C with derating factor (horizontal installation)<br>0…50 °C (vertical installation) |
| **Ambient Air Temperature For Storage** | -25…70 °C |
| **Relative Humidity** | 5…95 % without condensation |
| **Ip Degree Of Protection** | IP20 conforming to IEC 61131-2 |
| **Pollution Degree** | 2 conforming to IEC 60664 |
| **Operating Altitude** | 0...2000 m |
| **Storage Altitude** | 0…3000 m |
| **Vibration Resistance** | 1 gn at 8.4…150 Hz on DIN rail<br>3.5 mm at 5…8.4 Hz on DIN rail |
| **Shock Resistance** | 15 gn for 11 ms |
| **Resistance To Electrostatic Discharge** | 4 kV on contact conforming to IEC 61000-4-2<br>8 kV in air conforming to IEC 61000-4-2 |
| **Resistance To Electromagnetic Fields** | 1 V/m 2...2.7 GHz conforming to IEC 61000-4-3<br>10 V/m 80...2000 MHz conforming to IEC 61000-4-3 |
| **Resistance To Fast Transients** | 1 kV (I/O) conforming to IEC 61000-4-4<br>1 kV (shielded cable) conforming to IEC 61000-4-4<br>2 kV (power lines) conforming to IEC 61000-4-4 |
| **Surge Withstand** | 0.5 kV differential mode conforming to IEC 61000-4-5<br>1 kV common mode conforming to IEC 61000-4-5 |
| **Disturbance Radiated/Conducted** | CISPR 11 |

## Packing Units

| | |
|---|---|
| **Unit Type Of Package 1** | PCE |
| **Number Of Units In Package 1** | 1 |
| **Package 1 Height** | 13.400 cm |
| **Package 1 Width** | 15.800 cm |
| **Package 1 Length** | 37.500 cm |
| **Package 1 Weight** | 1.029 kg |
| **Unit Type Of Package 2** | S04 |
| **Number Of Units In Package 2** | 6 |
| **Package 2 Height** | 30.000 cm |
| **Package 2 Width** | 40.000 cm |
| **Package 2 Length** | 60.000 cm |
| **Package 2 Weight** | 7.102 kg |

## Contractual warranty

| | |
|---|---|
| **Warranty** | 18 months |

## Sustainability

**Green Premium<sup>TM</sup> label** is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-$CO_2$ products.

**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

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Guide to assess a product's sustainability >

## Well-being performance

✓ Toxic Heavy Metal Free

✓ Mercury Free

✓ Rohs Exemption Information  Yes

✓ Pvc Free

| | |
|---|---|
| **Reach Regulation** | REACh Declaration |
| **Eu Rohs Directive** | Pro-active compliance (Product out of EU RoHS legal scope) |
| **China Rohs Regulation** | China RoHS declaration |
| **Weee** | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| **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 www.P65Warnings.ca.gov |

Dimensions Drawings

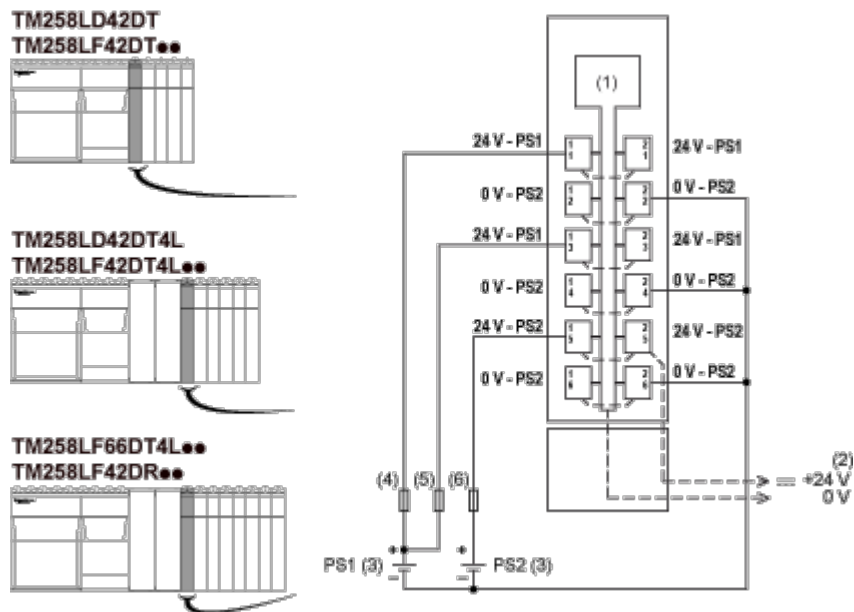**Controller**

**Dimensions**
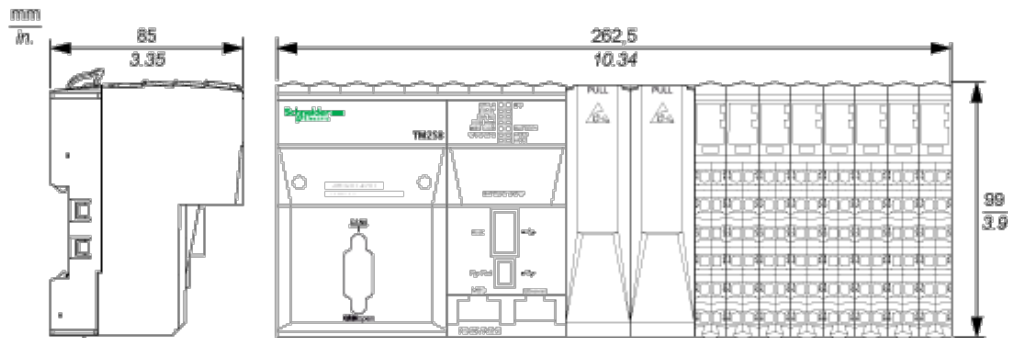
Connections and Schema

**TM5 System Wiring Recommendations**

**Wire Sizes to Use with Removable Spring Terminal Blocks**

| mm / in. 0,35 | | | | |
|---|---|---|---|---|
| mm² | 0,08…2,5 | 0,25…2,5 | 0,25…1,5 | 2 x 0,25..2 x 0,75 |
| AWG | 28…14 | 24…14 | 24…16 | 2 x 24…2 x 18 |

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## External Power Supplies

### Wiring Diagram of the Controller Power Distribution Module

TM258LD42DT
TM258LF42DT●●

TM258LD42DT4L
TM258LF42DT4L●●

TM258LF66DT4L●●
TM258LF42DR●●

(1) Internal electronics

(2) 24 Vdc I/O power segment integrated into the bus bases

(3) PS1/PS2: External isolated SELV power supply 24 Vdc

(4) External fuse, Type T slow-blow, 3 A 250 V

(5) External fuse, Type T slow-blow, 2 A 250 V

(6) External fuse, Type T slow-blow, 10 A max., 250 V