

## Main

|                              |                            |
|------------------------------|----------------------------|
| Range of product             | Modicon M258               |
| Product or component type    | Logic controller           |
| Product specific application | -                          |
| Discrete I/O number          | 42                         |
| Discrete output number       | 12 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                    | $\geq 15$ V for fast input<br>$\geq 15$ V for fast output<br>$\geq 15$ V for regular input                                                                                                                          |
| Voltage state 0 guaranteed                    | $\leq 5$ V for fast input<br>$\leq 5$ V for fast output<br>$\leq 5$ 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 $\mu$ s...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>0.25 A for main supply<br>10 A for I/O power segment                                                                                                                    |

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                                                                                                                                                                                                         |
| Maximum power consumption in W | 13.03 W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Execution time per instruction | 22 ns Boolean                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 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/ASCII or character mode ASCII, physical interface: RS232/RS485, transmission rate: 300...115200 bps<br>1 isolated serial link with female RJ45 connectorEthernet Modbus TCP/IP with slave, 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 |
| 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                          | 175 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Height                         | 99 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Depth                          | 85 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Net weight                     | 0.5 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## Environment

|                                       |                                                                                                                                                        |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                             | CSA C22.2 No 142<br>UL 508<br>IEC 61131-2<br>CSA C22.2 No 213                                                                                          |
| Product certifications                | C-Tick<br>CSA<br>CULus<br>GOST-R                                                                                                                       |
| 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 EN/IEC 61000-4-2<br>8 kV in air conforming to EN/IEC 61000-4-2                                                           |
| Resistance to electromagnetic fields  | 1 V/m 2...2.7 GHz conforming to EN/IEC 61000-4-3<br>10 V/m 80...2000 MHz conforming to EN/IEC 61000-4-3                                                |
| Resistance to fast transients         | 1 KV (I/O) conforming to EN/IEC 61000-4-4<br>1 KV (shielded cable) conforming to EN/IEC 61000-4-4<br>2 kV (power lines) conforming to EN/IEC 61000-4-4 |

|                                |                                                                                                            |
|--------------------------------|------------------------------------------------------------------------------------------------------------|
| Surge withstand                | 0.5 KV differential mode conforming to EN/IEC 61000-4-5<br>1 kV common mode conforming to EN/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 Weight             | 800 g   |
| Package 1 Height             | 13.5 cm |
| Package 1 width              | 15.5 cm |
| Package 1 Length             | 31.5 cm |

## Offer Sustainability

|                            |                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                       |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                           |
| REACH free of SVHC         | Yes                                                                                                                         |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>                              |
| Toxic heavy metal free     | Yes                                                                                                                         |
| 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                                                                                                                         |

## Contractual warranty

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

## Dimensions



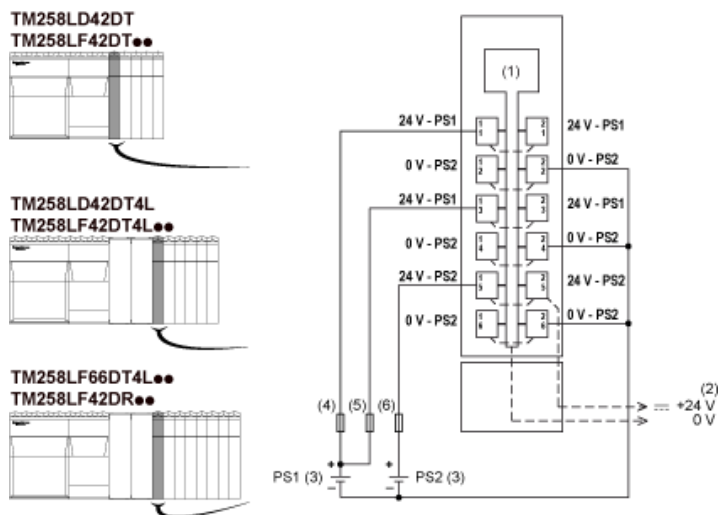
## TM5 System Wiring Recommendations

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

| mm<br>in.       |  |  |  |  |
|-----------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| mm <sup>2</sup> | 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                                                                   |

## External Power Supplies

### Wiring Diagram of the Controller Power Distribution Module



- (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