

# Zentro Core M-014

## Installation Guide

Part number ZN-COREM-001 · Document number ZT-IG-CORE-M014-001-EN

### SAFETY

#### WARNING

Disconnect the supply before any wiring work. Working on a live circuit risks personal injury and irreversible damage to the unit.

#### CAUTION

A line terminator fitted at more than two points will load the line and degrade communication.

#### NOTE

Add external protection to every inductive load — an RC circuit, a varistor or a diode.

### MECHANICAL INSTALLATION

|                       |                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------|
| Mounting              | 35 mm DIN rail (EN 50022) inside a closed distribution enclosure, holder included           |
| Mounting orientation  | Vertical                                                                                    |
| Ventilation clearance | Minimum 80 mm between the unit and the enclosure walls where there is no forced ventilation |
| Operating temperature | 0 ... +55 °C                                                                                |
| Humidity              | 10 – 95 %, non-condensing                                                                   |
| Ingress protection    | IP 20                                                                                       |

### Installation sequence

1. Ensure the supply is disconnected before any work.
2. Fit the DIN rail holder if it is not already installed, metal spring at the top.
3. Clip the unit onto the 35 mm DIN rail in the vertical position, spring side first.
4. Leave at least 80 mm between the unit and the enclosure walls where there is no forced ventilation.
5. Connect an earth conductor to the marked point on the enclosure using a cable lug and an M4 screw, and confirm the DIN rail is earthed.
6. Connect the 24 V DC supply: positive to +24V, negative to GND.
7. Connect the digital inputs to the DI terminals and to the shared DIGND terminal.
8. Connect the relay outputs to the RO terminals and to the COM terminals.
9. Connect the RS-485 line to the A and B terminals, and fit a line terminator at the two ends of the line only.
10. Connect 1-Wire sensors to the RJ45 connector, up to 15 sensors per channel, using 24 AWG 0.5 mm cable.
11. Tighten the terminals to no more than 0.4 N·m, using a 3 or 3.5 mm flat screwdriver.

### Removal from the DIN rail

Disconnect the supply and every field cable, release the DIN rail clip with a flat screwdriver, pull the bottom of the unit outwards and lift it off the rail.

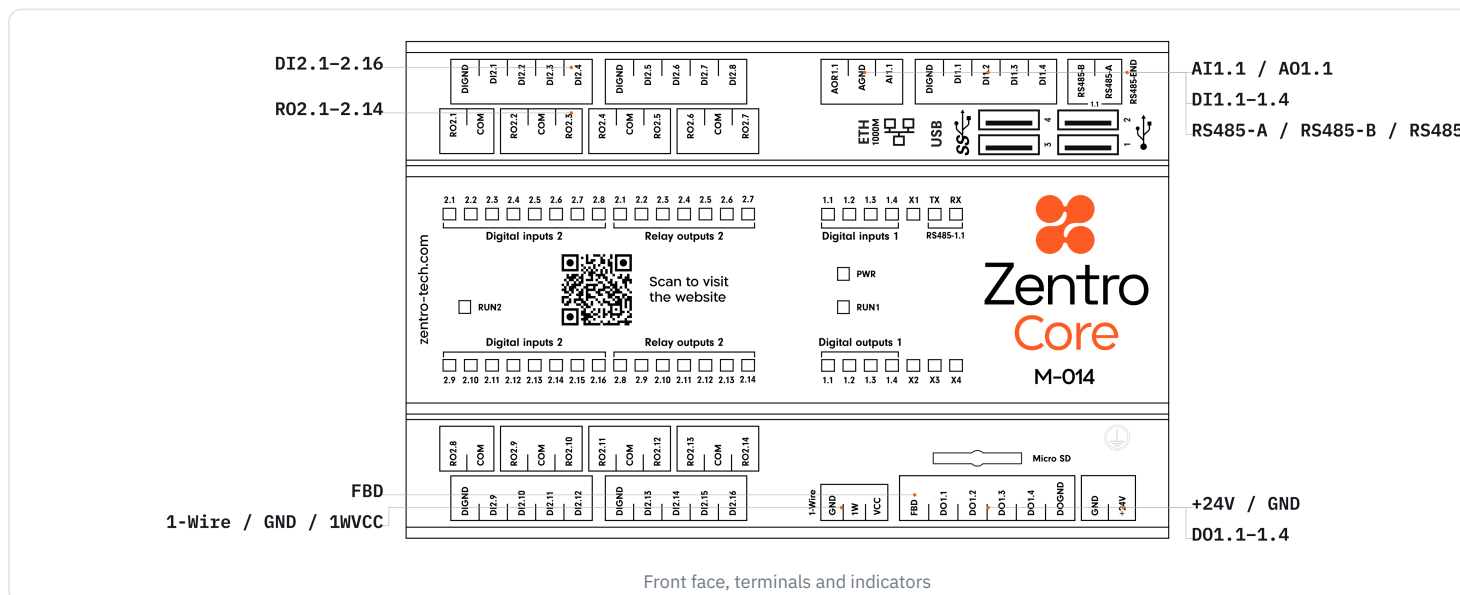
## CONNECTING THE SUPPLY

|                             |                                                                                           |
|-----------------------------|-------------------------------------------------------------------------------------------|
| Supply voltage              | 24 V DC (SELV)                                                                            |
| Maximum power consumption   | 15 W                                                                                      |
| Reverse polarity protection | Yes                                                                                       |
| Conductor cross-section     | Up to 2.5 mm <sup>2</sup>                                                                 |
| Tightening torque           | Max 0.4 N·m                                                                               |
| Earthing                    | Required · Class I equipment · cable lug and M4 screw · the DIN rail must also be earthed |

## CONNECTING THE RS-485 LINE

|                           |                                                                                |
|---------------------------|--------------------------------------------------------------------------------|
| RS-485 channels           | 1                                                                              |
| RS-485 galvanic isolation | Yes                                                                            |
| Biasing resistors         | 560 Ω                                                                          |
| 1-Wire                    | One bus · RJ45 connector · Vcc 5 V, up to 50 mA · up to 15 sensors per channel |
| Ethernet                  | 1 × 1 Gbit                                                                     |

## TERMINALS AND CONNECTORS



|                               |                                             |
|-------------------------------|---------------------------------------------|
| DI1.1-1.4                     | Digital inputs – common DIGND               |
| DO1.1-1.4                     | Transistor outputs – common DOGND           |
| AI1.1 / A01.1                 | Analogue input and output – common AGND     |
| RS485-A / RS485-B / RS485-END | Serial line                                 |
| 1-Wire / GND / 1WVCC          | Sensor bus                                  |
| FBD                           | Flyback diode for the digital outputs       |
| +24V / GND                    | Supply                                      |
| DI2.1-2.16                    | Digital inputs, section 2 – common DIGND ×4 |
| R02.1-2.14                    | Relay outputs, section 2 – common COM       |