

DPOM8-24/20 | DIN RAIL POWER OVER MODBUS MODULE

Mounting and operating instructions



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SAFETY AND PRECAUTIONS



Read all information, the datasheet, mounting instructions and wiring scheme before working with the product. For personal and equipment safety, and for optimum product performance, make sure you entirely understand the contents before installing, using, or maintaining this product.



For safety and licensing (CE) reasons, unauthorised conversion and / or modifications to the product are not permitted.



The product must not be exposed to abnormal conditions, such as: extreme temperatures, direct sunlight or vibrations. Chemical vapours with high concentration in combination with long exposure times can affect the product performance. Make sure the work environment is as dry as possible; check for condensation spots.



All installations shall comply with the local health and safety regulations and local electrical codes. This product can only be installed by an engineer or a technician who has an expert knowledge of the product and safety precautions.



Avoid contacts with energised electrical parts; always treat the product as if it is life. Always disconnect the power source before connecting the power cables, servicing or repairing the product.



Always verify that you apply appropriate power supply to the product and use wires with appropriate size and characteristics. Make sure that all the screws and nuts are well tightened and fuses (if any) are fitted well.



Recycling of equipment and packaging should be taken into consideration and disposed in accordance with local and national legislation / regulations.



In case there are any questions that are not answered, please contact your technical support or consult a professional.

PRODUCT DESCRIPTION

DIN rail mounted Power over Modbus supply modules with 24 VDC output and an integrated and fully isolated Modbus RTU communication line repeater with a transmitting side indication. The DPOM8 can also be used as a power supply module for Sentera sensors and switches.

ARTICLE CODES

Code	Supply voltage
DPOM8-24 / 20	85—264 VAC / 50—60 Hz

INTENDED AREA OF USE

- In combination with all Sentera products with integrated Modbus RTU communication, including units that need galvanic isolation between receiving and transmitting sides
- As a power supply module for sensors and switches
- For indoor use only!

TECHNICAL DATA

- Supply voltage: 85—264 VAC / 50—60 Hz
- Output for Modbus RTU with integrated power supply: 24 VDC / 20 W
- Galvanic isolated half-duplex Modbus RTU communication mode repeater
- Input and output connections with terminal blocks or RJ45 (Power over Modbus) connection
- Overload hiccup mode protection with red LED indication
- Input and output green LED transmitting indications
- Asynchronous serial data transmission
- Automatic baud-rate fitting up to 115,2 Kbps
- Up to 1.200 m distance
- Up to 32 modules can be connected, depending on distance and power consumption
- Galvanic isolation
- DIN rail mounting according to EN 50022
- Enclosure: ABS plastic, colour: grey, RAL7035
- Operating ambient conditions:
 - ▶ temperature range: -20—40 °C
 - ▶ rel. humidity: 5—85 % rH (non-condensing)

STANDARDS

- Low Voltage Directive 2014/35/EC
- EMC Directive 2014/30/EC
- WEEE Directive 2012/19/EC
- RoHS Directive 2011/65/EC



WIRING AND CONNECTIONS

L	Power supply, Line: 86—264 VAC / 50—60 Hz
N	Power supply, Neutral: 86—264 VAC / 50—60 Hz
A	Modbus RTU (RS485), signal A
/B	Modbus RTU (RS485), signal /B
24 VDC	Terminal blocks for supply output voltage connection (24 VDC / 20 W)
GND	Ground reference for supply output
Input	Modbus RTU communication RJ45 socket. (No integrated 24 VDC on this port)
Output	Power over Modbus communication RJ45 socket. (Modbus RTU + 24 VDC)

RJ45 Sockets

Input	Pins 3 & 4	Modbus RTU signal A (RS485)
	Pins 5 & 6	Modbus RTU signal /B (RS485)
Output	Pins 1 & 2	24 VDC / 20 W
	Pins 3 & 4	Modbus RTU signal A (RS485)
	Pins 5 & 6	Modbus RTU signal /B (RS485)
	Pins 7 & 8	Ground

MOUNTING INSTRUCTIONS IN STEPS

Before you start mounting the DPOM8-24 Power over Modbus module, read carefully **"Safety and Precautions"**. Then proceed with the following mounting steps:

1. Slide the unit along the guides of a standard 107 mm DIN rail and fix it to the rail by means of the black locking clip on the enclosure. Mind the correct position and mounting dimensions shown in **Fig. 1 Mounting dimensions** and **Fig. 2 Mounting position**.

Fig. 1 Mounting dimensions

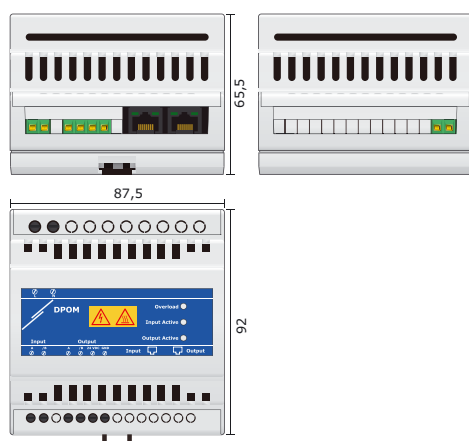
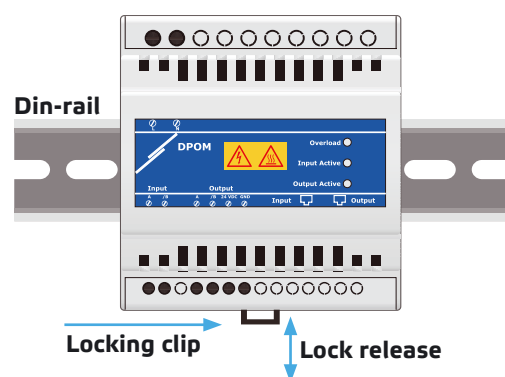


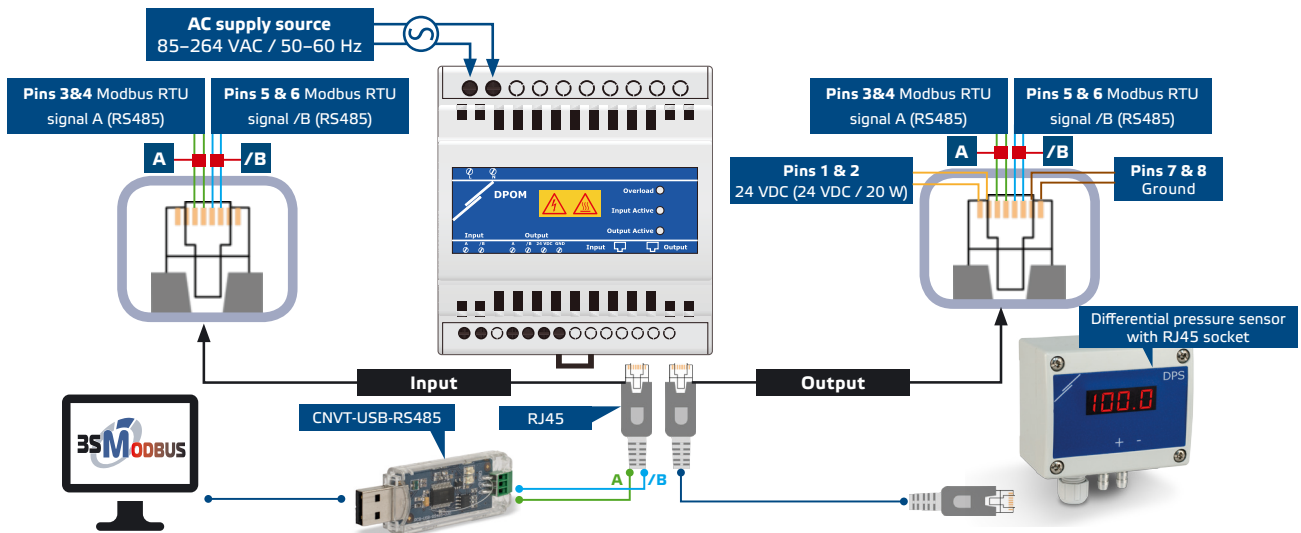
Fig. 2 Mounting position



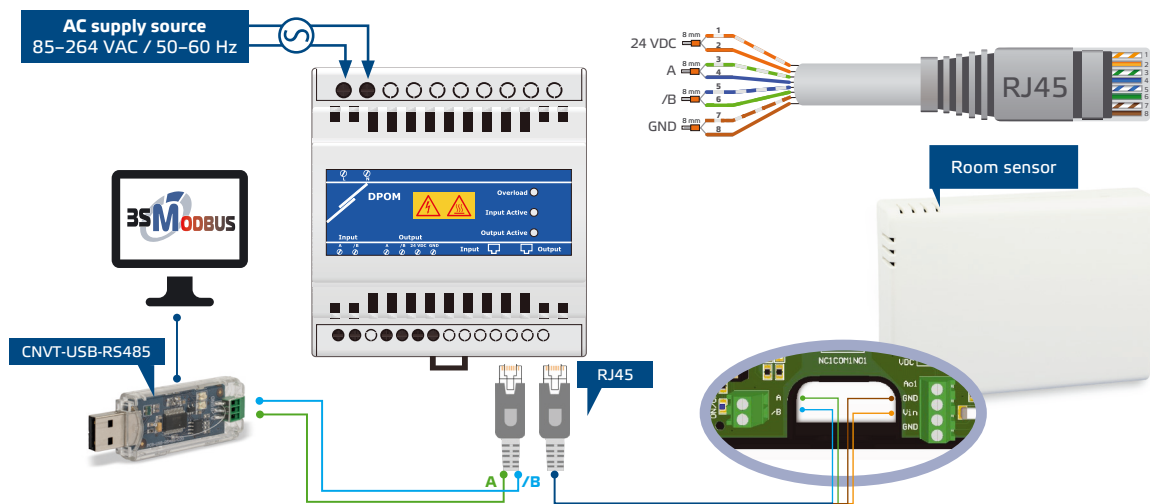
2. Connect the mains supply to the L and N terminal blocks and connect the RJ45 sockets (see **Example 1 Connections via RJ45 connectors**) or terminal blocks to the Input / Output (see **Example 2 Connections via RJ45 to terminal blocks**), or make the connections via terminal blocks (see **Example 3 Connections via terminal blocks**) according to the wiring diagram in **Fig. 3**. Next, switch on the supply voltage.

Fig. 3 Wiring diagram

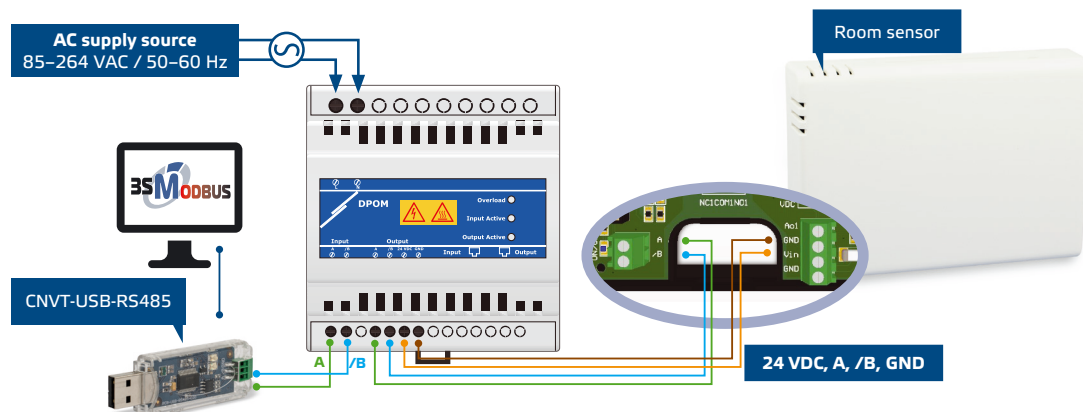
Example 1: Connections via RJ45 connectors



Example 2: Connections via RJ45 connection to terminal blocks



Example 3: Connections via terminal blocks



ATTENTION

Use a Cat 5E straight-through cable according to Standard 568A or equivalent for the input and output Power over Modbus communication RJ sockets.

ATTENTION

When connecting longer lines, use the lowest possible baud rate.
The Input / Output terminal blocks duplicate the Input / Output RJ sockets.

VERIFICATION OF THE INSTALLATION INSTRUCTIONS

1. After switching the controller on and establishing communication, the green LEDs (Input Active and Output Active) should blink to indicate that the communication is active. (see **Fig. 5. Communication active**). In case of overload, the red LED starts blinking (see **Fig. 6. Overload**).
2. Blinking green LEDs on the RJ connectors (RX and TX) indicate that the Modbus RTU communication is active (see **Fig. 7 "Communication LED indications"**).

Fig. 5 Communication active

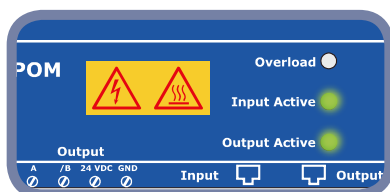


Fig. 6 Overload

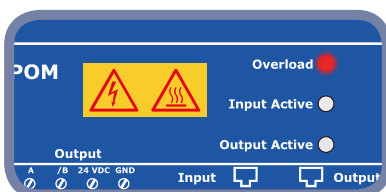
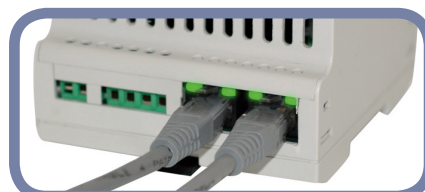


Fig. 7 Communication active



ATTENTION

High voltage! The unit is supplied with electrical energy at voltages high enough to inflict personal injury or threat to health. Avoid contact with the unit when in operation!

ATTENTION

Hot surface! The surface of the unit may become hot and cause burns if touched. Avoid contact with the unit when in operation!

TRANSPORT AND STOCK KEEPING INFORMATION

Avoid shocks and extreme conditions. Stock in original packing at temperatures -20—50°C.

WARRANTY INFORMATION AND RESTRICTIONS

Two years from the delivery date against defects in manufacturing. Any modifications or alterations to the product after the date of publication relieve the manufacturer of any responsibilities. The manufacturer bears no responsibility for any misprints or mistakes in this data.

MAINTENANCE

In normal conditions these controllers are maintenance-free. If soiled, clean with a dry or dampish cloth. In case of heavy pollution, clean with a non-aggressive product. In these circumstances, the unit should be disconnected from the main supply. Pay attention that no fluids enter the unit. Only reconnect the controller to the main supply when it is completely dry.