DLDBM22

PoM DISTRIBUTION BOX
WITH INTEGRATED 3,3 VDC
POWER SUPPLY

Mounting and operating instructions

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SAFETY AND PRECAUTIONS

Read all the information, the datasheet, mounting and operating instructions and study the wiring and connection diagram 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 of the product are inadmissible.

The product should not be exposed to abnormal conditions, such as: extreme temperatures, direct sunlight or vibrations. Long-term exposure to chemical vapours in high concentration can affect the product performance. Make sure the work environment is as dry as possible; avoid condensation.

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

Avoid contacts with energised electrical parts. Always disconnect the power supply before connecting, servicing or repairing the product.

Always verify that you apply appropriate power supply to the product and use appropriate wire 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 these should be disposed of in accordance with local and national legislation / regulations.

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

PRODUCT DESCRIPTION

DLDBM22 is a DIN rail mounted Power over Modbus distribution box with 10 RJ45 and 12 RJ12 sockets and internal 3,3 VDC power supply derived from the 24 VDC supply on the RJ45 sockets. It transmits both data and electrical power (Power over Modbus). DLDBM22 is compatible with all Sentera sensors, sensor controllers, HVAC controllers and fan speed controllers with Modbus RTU on board and suitable for power and data distribution between connected units. Both power supply and Modbus RTU communication are distributed to the connected devices via a single cable.

ARTICLE CODES

Article code	Supply voltage	Maximum distributed current at 24 VDC (RJ45 sockets)	Maximum current at 3,3 VDC * (RJ12 sockets)
DLDBM22	24 VDC (PoM)	1,5 A	0,3 A

ATTENTION

The combination of the connected devices must not exceed the maximum current consumption mentioned in the table above. The combined current consumption at both voltages must not exceed 1,5 A.

NOTE

The 3,3 VDC power supply is derived from the 24 VDC supply voltage.

INTENDED AREA OF USE

3,3 VDC power supply and supply voltage / Modbus distribution box for Modbus RTU compatible article (RJ45 – for 24 VDC devices and / or RJ12 – for 3,3 VDC units)

TECHNICAL DATA

- Supply voltage: 24 VDC (Power over Modbus)
- Output voltage:
  - RJ45 connectors: 24 VDC
  - RJ12 connectors: 3,3 VDC
- Maximum power consumption: 36 W @ 24 VDC / 1 W @ 3,3 VDC
- Nominal power consumption in normal operation: depends on connected load
- Imax: 1,5 A @ 24 VDC / 300 mA@ 3,3 VDC
- 10 RJ45 connectors for Power over Modbus (both Modbus RTU and 24 VDC are distributed via the RJ45 connector)
- 12 RJ12 connectors for Power over Modbus (both Modbus RTU and 3,3 VDC are distributed via the RJ12 connector)
- No software or configuration required
- Easy to connect
- DIN rail mountable
- Power supply green LED indication
- Reliable connection for permanent installations
- Built in 3,3 VDC power supply module
- Maximum total supply current from all RJ12 sockets (3,3 VDC) – 300 mA
- Protection class: IP20
- Enclosure: ABS plastic, colour: grey (RAL7035)

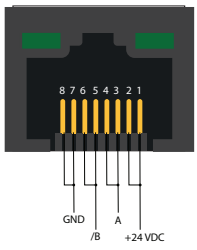
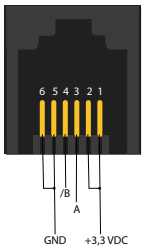
- Storage temperature: -40—85 ºC
- Operating ambient conditions:
  - temperature range: 0—60 ºC
  - rel. humidity: 5—85 % rH (non-condensing)

STANDARDS

- EMC Directive 2014/30/EC CE
  - EN 61000-6-1:2007 Electromagnetic compatibility (EMC) - Part 6-1:
  - Generic standards - Immunity for residential, commercial and light-industrial environments
  - EN 61000-6-3:2007 Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments Amendments A1:2011 and AC:2012 to EN 61000-6-3
- WEEE Directive 2012/19/EC
- RoHs Directive 2011/65/EC

WIRING AND CONNECTIONS

	RJ45 sockets
Pin 1	Supply voltage
Pin 2	Supply voltage
Pin 3	Modbus RTU communication, signal A
Pin 4	Modbus RTU communication, signal A
Pin 5	Modbus RTU communication, signal /B
Pin 6	Modbus RTU communication, signal /B
Pin 7	Ground, supply voltage
Pin 8	Ground, supply voltage
	RJ12 sockets
Pin 1	Supply voltage
Pin 2	Supply voltage
Pin 3	Modbus RTU communication, signal A
Pin 4	Modbus RTU communication, signal /B
Pin 5	Ground, supply voltage
Pin 6	Ground, supply voltage

RJ45 sockets	RJ12 sockets
	

MOUNTING INSTRUCTIONS IN STEPS

Before you start mounting your power supply / distribution box, read carefully *"**Safety and Precautions"*** and follow these steps:

1. Slide the unit along the guides of a standard 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

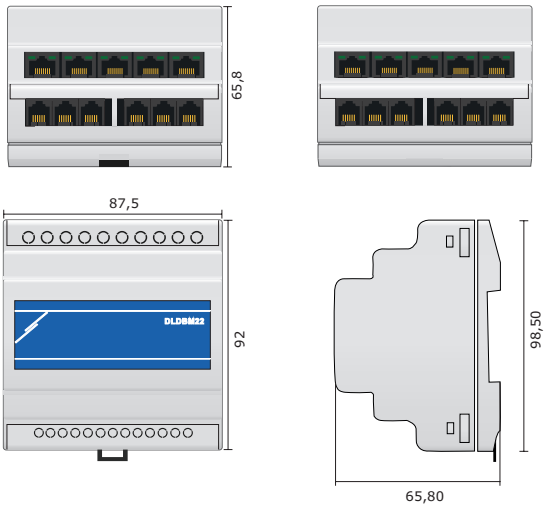
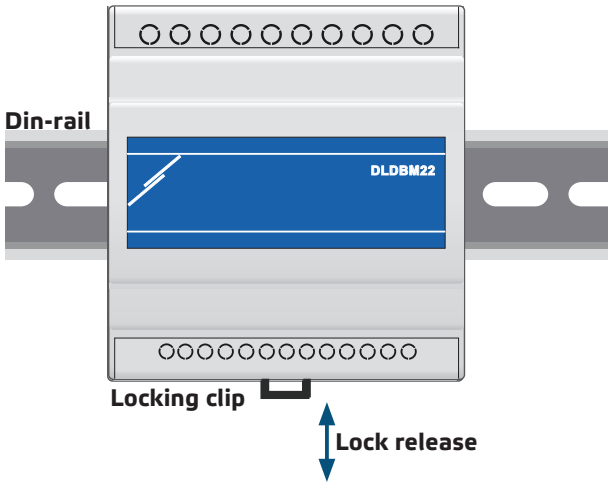
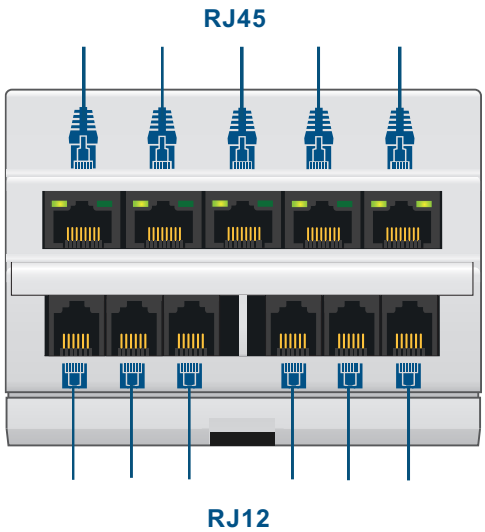


Fig. 2 Mounting position



2. Crimp the RJ45 and/or RJ12 cables.
3. Plug the RJ45 and/or RJ12 jacks into the sockets - see **Fig. 4**

Fig. 4 RJ45 and RJ12 connections



⚠ ATTENTION

Make sure not to insert an RJ12 connector in an RJ45 socket! This will damage the device that requires 3,3 VDC power supply!

4. To supply power DLDBM22 and to the connected devices, 1 (only 1) of the RJ45 sockets should be powered with 24 VDC. This can be done by either directly connecting a Sentera PoM Power Supply (DPOM, PDM, etc.), or indirectly via another device that is powered with 24 VDC.
5. Switch on the power supply.

⚠ ATTENTION

Make sure not to connect 2 different power supplies to the RJ45 sockets.

VERIFICATION OF INSTALLATION

- After switching on the 24 VDC PoM supply, the LEDs on the left of all RJ45 sockets should be on (see **Fig. 4a**).
- When there is 3,3 VDC PoM on the RJ12 sockets, the LED on the right of rightmost RJ45 socket at the bottom and top should be on (see **Fig. 4b**).

Fig. 4 LED indication

a. Normal operation 24 VDC PoM available	b. 3,3 VDC PoM available on RJ12 sockets
	

TRANSPORT AND STORAGE

Avoid shocks and extreme conditions. Stock in original packing.

WARRANTY 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 damp 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.