

How to connect Schrack MGRZK465 energy meter with Reduxi controller

Install the direct-connected Schrack MGRZK465 meter (65 A) and connect it to the Reduxi Controller via Modbus RTU.

🕒 approx. 20–30 minutes

🔧 Schrack MGRZK465 · Reduxi Controller

📄 Modbus RTU (RS485)



Text description of this image

Photo of a white three-phase DIN-rail energy meter with a transparent terminal cover. Print on the front: Schrack MGRZK465 – direct-connected three-phase meter, 65 A, Modbus RTU

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1 Technical documentation

The **Schrack MGRZK465** is a compact, MID-certified three-phase meter for **direct connection up to 65 A** with an **RS485 Modbus RTU** interface. No current transformers are needed. The Reduxi Controller reads it over RS485 and uses it as grid meter or as a sub-meter (e.g. heat pump, wallbox, PV).

CONNECTION

Direct · up to 65 A

SYSTEM

3-phase, 4-wire

INTERFACE

Modbus RTU
(RS485)

WIDTH

3 TE (53.6 mm)

APPROVAL

MID

MEASURES

Active & reactive
energy

Manufacturer documents:

- [Schrack product page – MGRZK465](#)
- [Operating manual \(EN\)](#)
- [Installation manual \(DE\) – terminals, communication defaults](#)
- [Data sheet \(EN\)](#)

2 Required equipment

- ☐ Schrack MGRZK465 energy meter (3 TE, DIN rail)
- ☐ Copper conductors for the main circuit, 1.5–16 mm², and a PZ2 screwdriver (3.5 Nm)
- ☐ Twisted-pair, shielded data cable for RS485 (e.g. **LiYCY 2×2×0.5 mm²** or CAT cable)
- ☐ Ferrite bead for the RS485 line (recommended by Schrack)
- ☐ Reduxi Controller with a free RS485 port (terminal block **GND · A · B · 5V**)
- ☐ Laptop or tablet with internet access, for the Reduxi Configurator

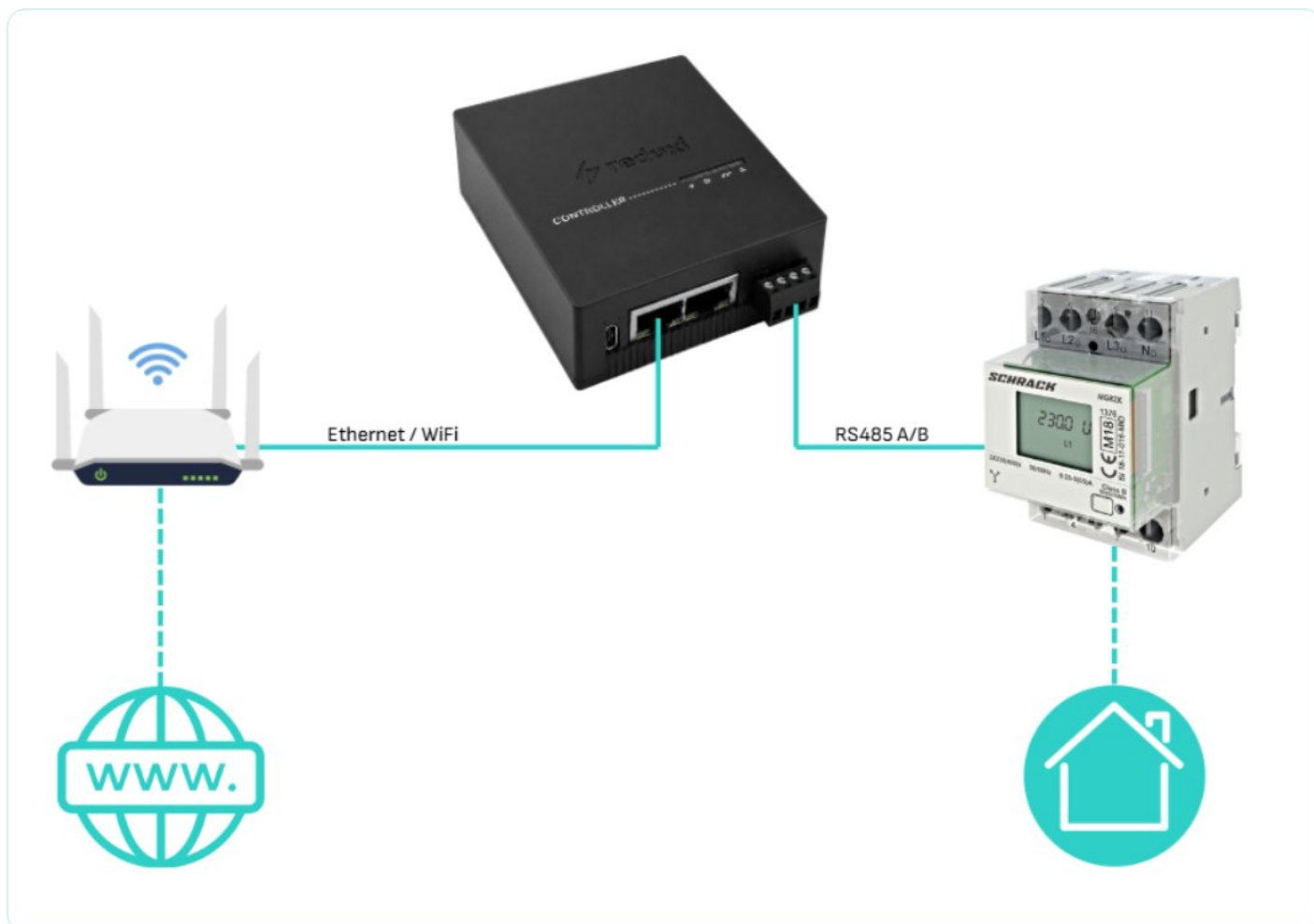


Installation by a qualified electrician only

The meter is wired directly into the main circuit (up to 65 A). Switch off and secure the circuit before starting work.

3 System overview & wiring

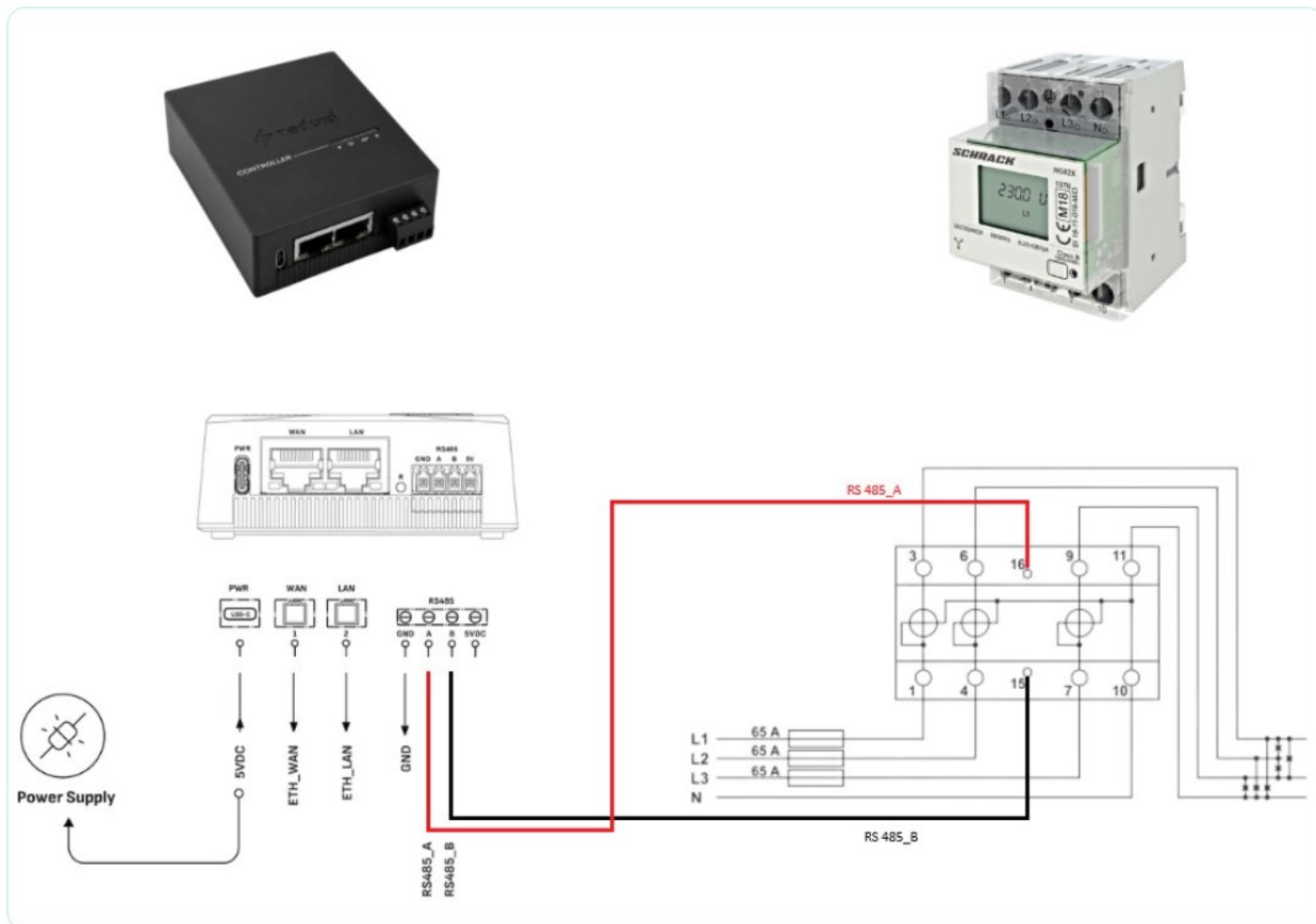
The full load current flows through the meter. Measured values are passed to the Reduxi Controller via an RS485 line (Modbus RTU).



Text description of this image

Diagram of the system overview. Left: a white Wi-Fi router icon with four antennas, connected by a dashed teal line downwards to a globe icon with the text "www." (internet). A solid teal line labelled "Ethernet / WiFi" connects the router to the Reduxi Controller. The meter is connected to the Reduxi Controller via RS485 A/B.

Wiring



Text description of this image

Diagram of the wiring between a Reduxi Controller and a Schrack energy meter. Top left: photo of a black

Wiring diagram – RS485 A to terminal 16, RS485 B to terminal 15

TERMINAL	FUNCTION	NOTE
1 / 4 / 7	L1 / L2 / L3 – grid side (via 65 A fuses)	1.5–16 mm ² , M5, 3.5 Nm
3 / 6 / 9	L1 / L2 / L3 – load side	1.5–16 mm ² , M5, 3.5 Nm
10 / 11	N – grid side / load side	Neutral must be connected
16	RS485 A	→ Reduxi Controller RS485 A
15	RS485 B	→ Reduxi Controller RS485 B

Auxiliary terminals: 1–2.5 mm², 1.2 Nm. Always cross-check against the connection diagram printed on the meter.

RS485 connection to the Reduxi Controller

The Controller's RS485 terminal block has four pins: GND · A · B · 5V . Only A and B are used.

SCHRACK MGRZK465	REDUXI CONTROLLER
Terminal 16 (A)	RS485 A
Terminal 15 (B)	RS485 B
Cable shield	Earth on one side only



Ferrite bead

Schrack recommends a ferrite bead on the RS485 line, with the cable looped through it twice, close to the meter.



A/B swapped?

If the Controller does not receive any data although all settings are correct, swap the two RS485 wires – A/B naming differs between manufacturers. Terminate the bus with a 120 Ω resistor at both ends if the line is long or several devices share the bus.

4 Device configuration on the meter

The MGRZK465 is delivered with fixed factory defaults for the RS485 interface. They work with Reduxi as they are – **no setting on the meter is needed** for a single meter. Note them down – you will need them later (see [Point 6](#)).

PARAMETER	DEFAULT
Modbus address	33
Baud rate	19200
Data bits / parity / stop bits	8 / None / 2



Note: address 33, not 1

Unlike most meters, the MGRZK465 uses Modbus address 33 and 2 stop bits by default. Entering 1 or 1 stop bit in Reduxi is the most common reason the test fails.



Several meters on one bus

Each meter on the same RS485 line needs its own address. To change the address or baud rate, follow [menu path from the MGRZK operating manual]. Baud rate and frame format must be identical on all devices of the bus.

5 Log in to the Reduxi web interface

You can open the Reduxi web interface in two ways:



Reduxi app

Via tunnel connection · works from anywhere

REMOTE



Web browser

In the local network · via IP address or `reduxi.local`



5.1 Via the Reduxi app

1

Open the app and log in

Launch the Reduxi app on your smartphone or tablet and log in with your credentials.

2

Open Reduxi devices

Tap the menu icon (three lines, top left) and select **Reduxi devices**.

3

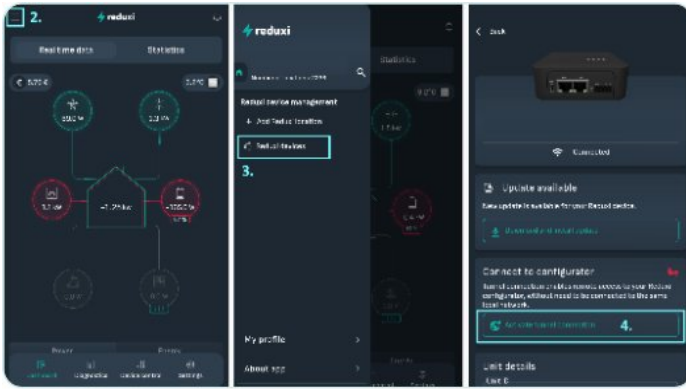
Activate the tunnel connection

Switch on the tunnel connection and wait a moment until it is active.

4

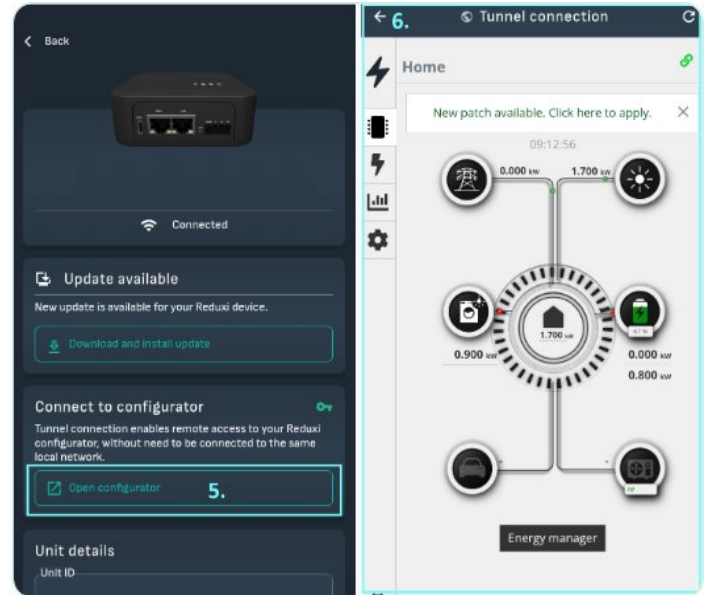
Open the configurator

Tap **Open configurator**. The Reduxi web interface opens.



Text description of this image

Screenshot of three Reduxi mobile app screens side by side, with cyan boxes and number badges 2 to 4. Left screen (dashboard, dark theme): menu icon at top left marked with a box and badge 2; 'reduxi' logo; tabs 'Real time data' (active) and 'Statistics'; price 5.79 € and temperature 3.2 °C; energy flow diagram with a



2. Text description of this image

Screenshot made of two parts side by side. Left part: Open configurator (step 4)

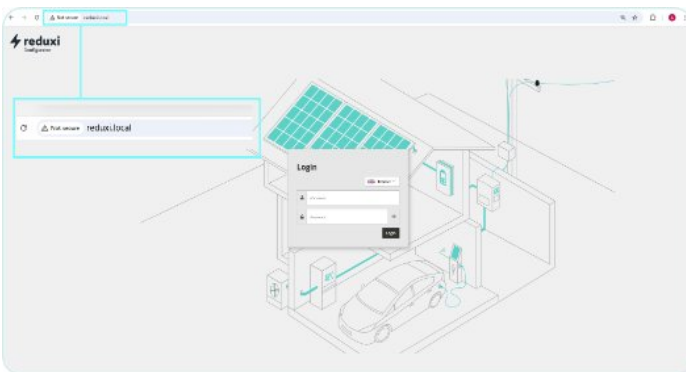
5.2 Via a web browser

1 Open the login page

On a device in the same network, open a web browser and enter the controller's IP address or <http://reduxi.local>. You can find the controller's IP address in your router's device list or in the Reduxi app under **Reduxi devices**.

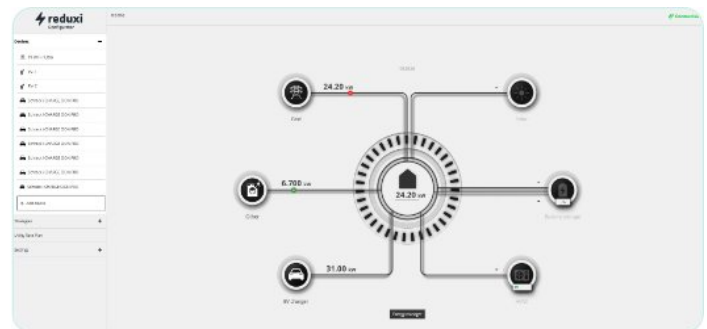
2 Log in

Username: **admin** · Password: **admin** (factory default)



Text description of this image

Screenshot of the Reduxi Configurator login page in a



2. Text description of this image

Screenshot of the Reduxi Configurator web interface after login, light theme. Top left: 'reduxi configurator'

6 Add the Schrack MGRZK465 to Reduxi

Once the meter is wired and configured (see [Point 4](#)), add it as a new device in the Reduxi web interface.

6.1 Basic settings

1 Click + Add device

In the Reduxi web interface, select **+ Add device**.

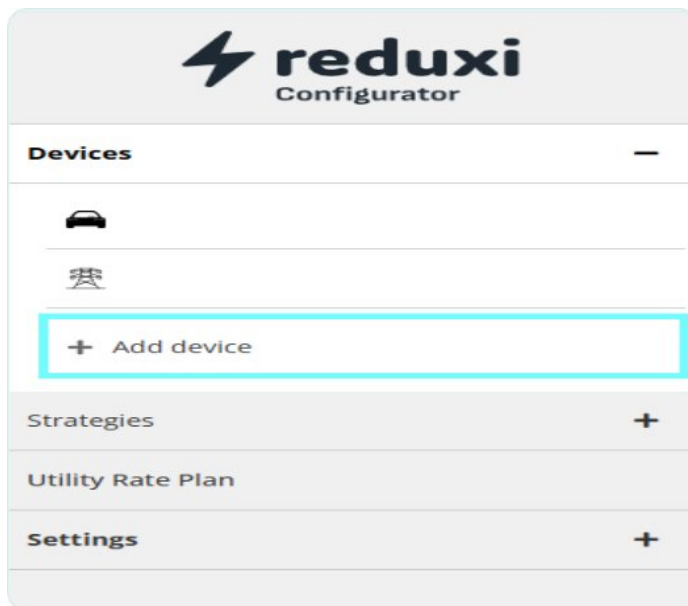
2 Define the device

Device type: **Energy meter**

Type: **Schrack MGRZK465**

Name: any name, e.g. **Schrack MGRZK465**

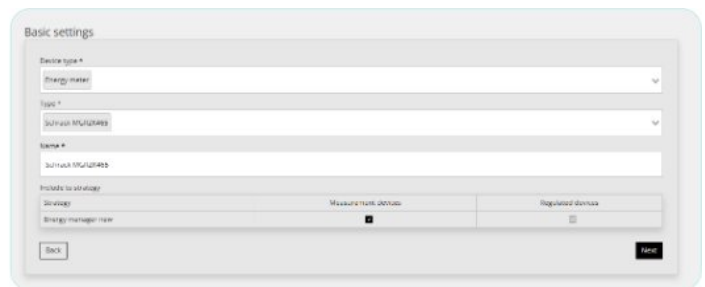
Include to strategy: tick **Measurement devices** for your strategy (e.g. **Energy manager new**)
Confirm with **Next**.



Text description of this image

Screenshot of the left navigation menu of the Reduxi

+ Add device



2. Text description of this image

Screenshot of the Reduxi Configurator wizard step titled *Device type, type, name and strategy* Basic settings. Device type *: Energy meter (dropdown). Type *: Schrack MGRZK465 (dropdown). Name *: Schrack MGRZK465. Section Include to strategy: a table with columns Strategy, Measurement devices, Regulated devices. One row: Strategy: Energy manager new; Measurement devices: checkbox ticked; Regulated devices: checkbox not ticked.

6.2 Communication settings

Enter the following values – they must match the settings on the meter (see [Point 4](#)):

PARAMETER	VALUE
Connection	Local serial port
Port	RS-485 port 1 – the controller's RS485 terminal
Baud rate	19200 bits/s
Data bits	8
Stop bits	2
Parity	None
Modbus Unit ID	33 – factory default of the meter
Energy counter 1–4	energy Export - reactive energy Import - reactive

Communication channel and device configuration

Connection *

Local serial port

Port *

RS-485 port 1

Baud rate *

19200 bits/s

Data bits *

8

Stop bits *

2

Parity *

None

Modbus unit ID *

33

Energy counter 1 *

Import - active energy

Energy counter 2 *

Export - active energy

Energy counter 3 *

Import - reactive energy

Energy counter 4 *

Export - reactive energy

Back

Test communication

Done

Text description of this image

Screenshot of the form "Communication channel and device configuration" (Reduxi Configurator, light theme).

6.3 Test communication

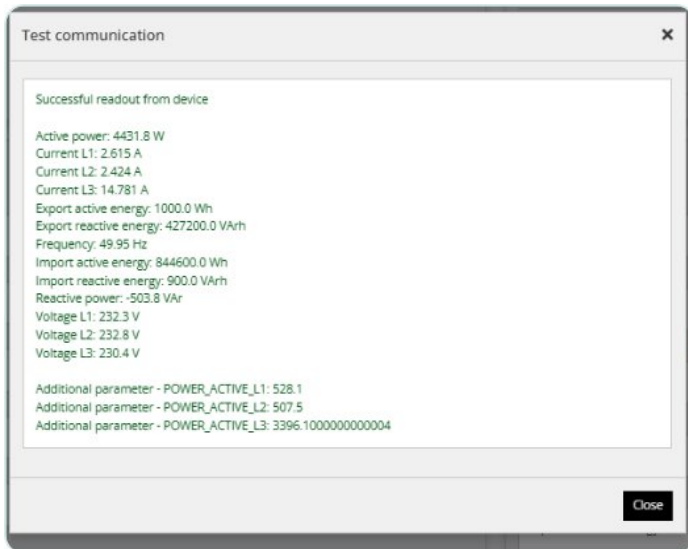
Click **Test communication** to check whether the Reduxi Controller can read data from the meter.



Text description of this image

Screenshot of the bottom button bar of a Reduxi Configurator page. Left: button 'Back'. Right: button 'Test communication'.

 **Test successful**
Close the results window and confirm your entries with **Done**.



Text description of this image

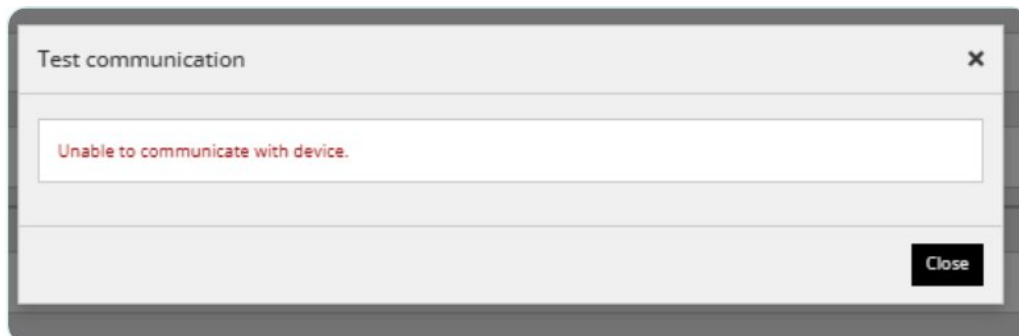
Screenshot of the dialog "Test communication" (close



2. Text description of this image

Screenshot of the Reduxi Configurator page 'Communication channel and device configuration'. Connection *: TCP/IP (dropdown). IP *: 192.168.50.243, with button 'Scan for IP'. Port *: 502, with button 'Test port'. Modbus unit ID *: 1. Buttons at the bottom: Back (left), Test communication and Done (right). The Done button is marked with a red box.

 **Test failed**
Close the results window and check the RS485 wiring, the Modbus settings on the meter and the communication settings in the Reduxi web interface. Then repeat the test. See also [Common issues](#).



Text description of this image

Screenshot of the dialog "Test communication" (close X at the top right) with a result box containing the red

7 Check the readings

In the Reduxi web interface, open **Devices** → **Schrack MGRZK465** → **Last measurements**.

Last measurements Analyze Archive Details			
Current			
Current L1	2.43 A	08.10.2026 05:51:42	
Current L2	1.50 A	08.10.2026 05:51:42	
Current L3	14.81 A	08.10.2026 05:51:42	
Voltage			
Voltage L1	232.50 V	08.10.2026 05:51:42	
Voltage L2	233.10 V	08.10.2026 05:51:42	
Voltage L3	230.40 V	08.10.2026 05:51:42	
Power			
Active power	4.2 kW	08.10.2026 05:51:42	
Export active power	0.0 kW	08.10.2026 05:51:42	
Export active power - 1 minute average	0.0 kW	08.10.2026 05:51:42	
Export active power - 15 minute average	0.0 kW	08.10.2026 05:51:42	
Export reactive power	0.4 kVar	08.10.2026 05:51:42	
Import active power	4.2 kW	08.10.2026 05:51:42	
Import active power - 1 minute average	4.2 kW	08.10.2026 05:51:42	
Import active power - 15 minute average	4.4 kW	08.10.2026 05:51:42	
Import reactive power	0.0 kVar	08.10.2026 05:51:42	
Reactive power	-0.4 kVar	08.10.2026 05:51:42	
Energy			
Export active energy	1.0 kWh	08.10.2026 05:51:42	
Export reactive energy	427.2 kVarh	08.10.2026 05:51:42	
Import active energy	844.5 kWh	08.10.2026 05:51:42	
Import reactive energy	0.9 kVarh	08.10.2026 05:51:42	
Other			
Communication error	OFF	08.10.2026 05:51:42	
Frequency	49.970 Hz	08.10.2026 05:51:42	

Text description of this image

Screenshot of the Reduxi Configurator device page of the meter tab "Last measurements" selected (other

Last measurements – current, voltage, power and energy per phase

WHAT YOU SEE	MEANING
Communication error OFF, values are read	Communication works.
Communication error ON, all values are 0	No communication – the settings do not match. Check Point 4 and Point 6.2 , or see Common issues .
Power with the wrong sign	Energy-flow direction reversed – see Common issues.



Grid meter for load management

If this meter is installed at the grid connection point, Reduxi uses it as reference for load management, PV surplus charging and peak shaving. As a sub-meter it shows the consumption or generation of a single circuit.

✓ Summary

Wiring (Point 3): grid side to terminals 1/4/7/10, load side 3/6/9/11 (neutral is mandatory), RS485 A → 16, B → 15.

Meter setup (Point 4): nothing to change – defaults are address 33, 19200 baud, 8N2.

Reduxi (Points 5–7): add the meter as Modbus RTU device with exactly these values and confirm live readings with **Test communication**.

→ Common issues

ISSUE	SOLUTION
Test communication fails / no data	Check the unit ID (33), baud rate (19200), parity (None) and stop bits (2) in Reduxi. Swap the RS485 wires A/B. Check that the correct RS485 port is selected.
Meter shows no or implausible values	Check that the neutral conductor is connected – the meter needs it. Make sure line in/out are not swapped.
Communication drops occasionally	Use shielded twisted-pair cable, add the ferrite bead, earth the shield on one side, and add 120 Ω termination on long lines.
Several meters on one bus – only one responds	All MGRZK meters leave the factory with address 33 . Give each meter a unique address before connecting them to the same bus.

→ Related articles

Matching guides from the Reduxi knowledge base:



Device setup guides

All step-by-step guides for connecting devices to the Reduxi Controller



Strategies for the Reduxi Controller

Energy manager and other strategies explained