

How to connect Schrack CION EV chargers with Reduxi controller

Integrate Schrack CION Home, Semipublic and Pro chargers via Modbus RTU or Modbus TCP for smart charging and dynamic load management.

🕒 approx. 30–45 min

🔧 Reduxi Controller · Schrack CION Home / Semipublic / Pro

📡 Modbus RTU & Modbus TCP

⚠️ Licensed electrician required

👥 Audience: installers & Schrack sales partners



i-CHARGE CION Serie

Ready. Set. Charge.



Text description of this image

Promotional image for the Schrack i-CHARGE CION series. Left half: blue background with the white text "i-
Schrack i-CHARGE CION series

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1 Technical documentation

The manufacturer's manual covers all three CION variants (Home, Semipublic, Pro):

- [Schrack CION – operating manual \(PDF, EN\)](#)

2 Required equipment

- ☐ **Reduxi Controller** – [Stand Alone](#) or [DIN rail](#)
- ☐ **Energy meter or smart meter** for grid measurement – see the list of supported devices
- ☐ **Schrack CION Home, Semipublic or Pro** with the latest firmware
- ☐ **RTU only:** twisted-pair cable for the RS485 connection between controller and charger
- ☐ **TCP only:** network connection (LAN) for the charger in the same network as the Reduxi Controller
- ☐ Laptop, tablet or smartphone with internet access

3 System overview

Which connection you use depends on the charger model:



Modbus RTU (RS485)

CION Home · CION Semipublic

→ go to configuration 4.1

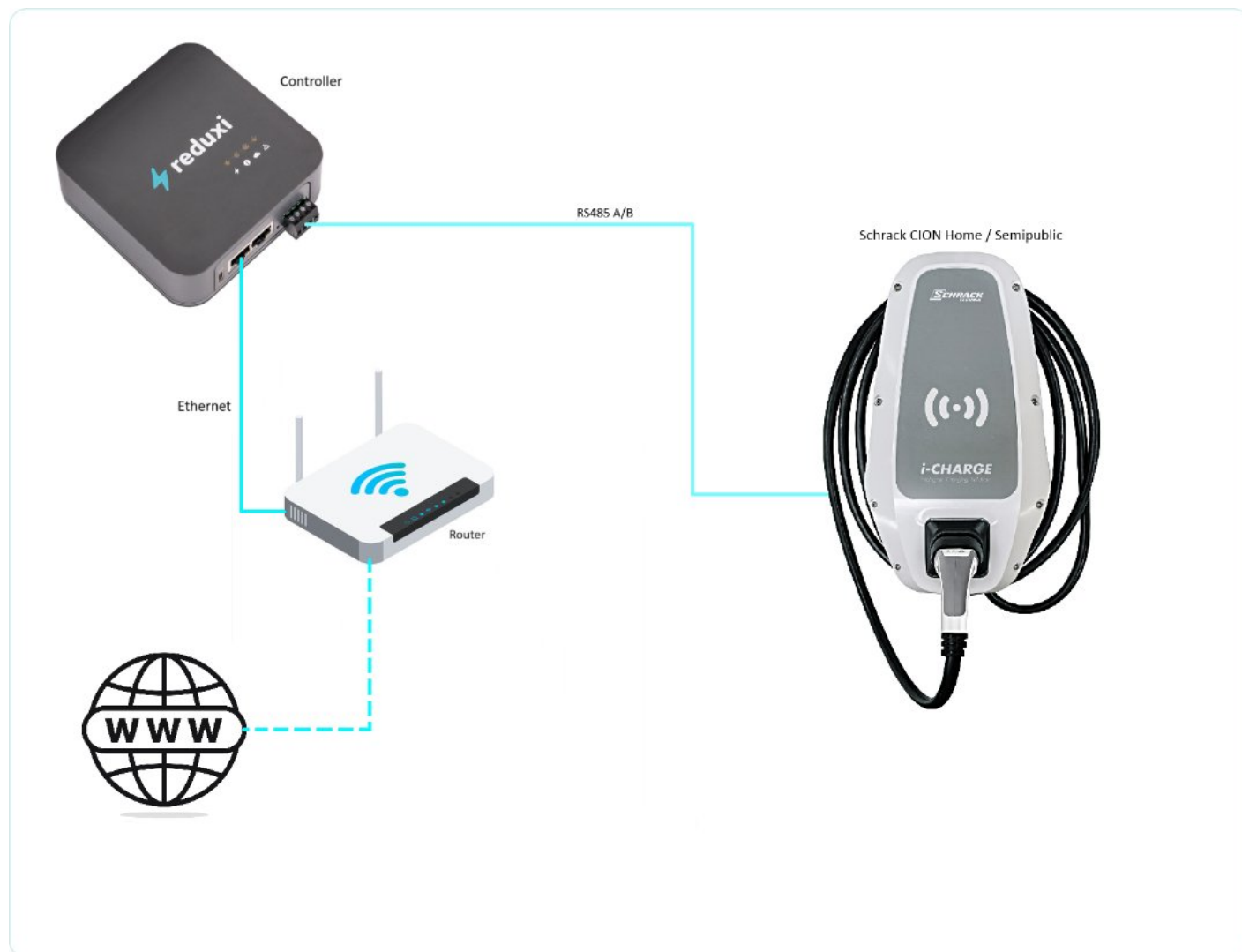


Modbus TCP (LAN)

CION Pro

→ go to configuration 4.2

3.1 Modbus RTU – CION Home / Semipublic

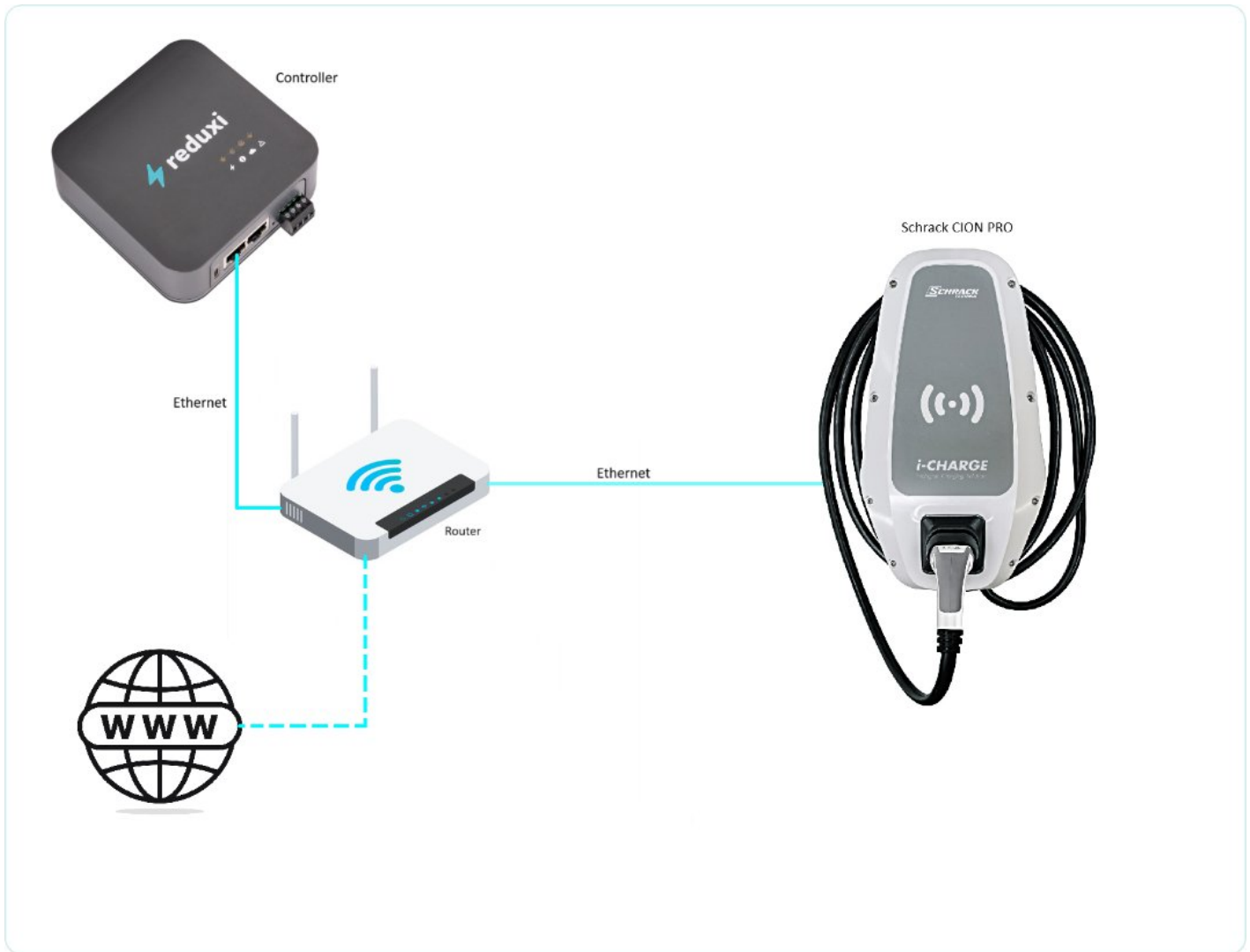


Text description of this image

Connection diagram on a white background with four components. Top left: a dark grey Reduxi controller box

System overview: Reduxi Controller ↔ CION Home / Semipublic via Modbus RTU

3.2 Modbus TCP – CION Pro



Text description of this image

Diagram of the system overview for Modbus TCP with a Schrack CION PRO charger, tall image. Top left: a dark

System overview: Reduxi Controller → CION Pro via Modbus TCP

4 Configure the Schrack CION charger

Follow the path that matches your charger model. Once the charger is configured, continue with **Point 5**.



Electrical work – licensed electrician only

Wiring and DIP switch settings require opening the charger housing. Disconnect the charger from the mains and secure it against being switched back on before you open it.



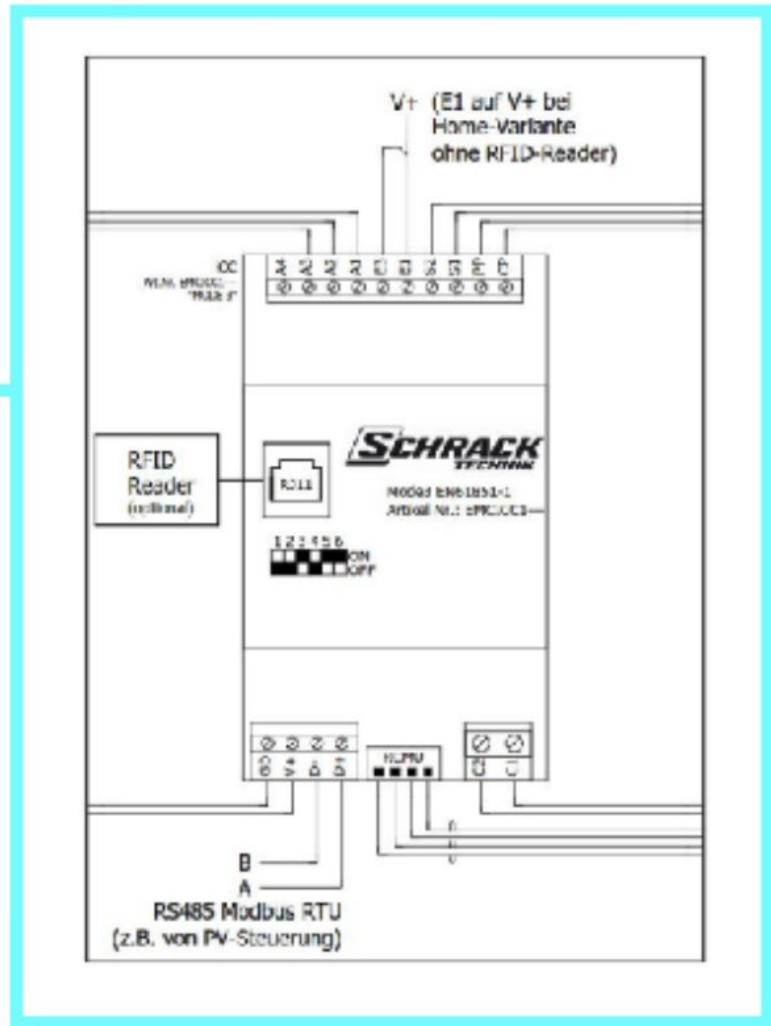
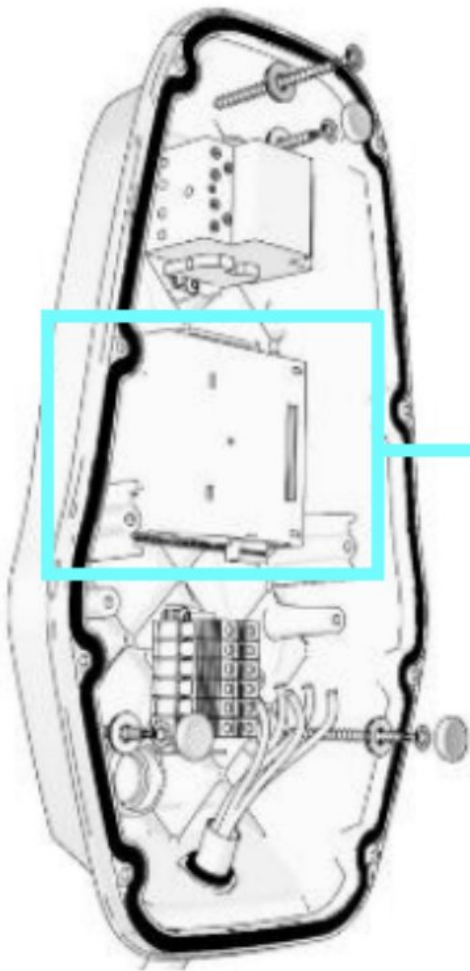
4.1.1 Wiring

Connect the RS485 terminal of the Reduxi Controller to the RS485 Modbus RTU terminal on the charger's circuit board using a twisted-pair cable:

REDUXI CONTROLLER (RS485)	SCHRACK CION (RS485 MODBUS RTU)
A	A
B	B

The RS485 terminal of the controller is **Port 1** – you will select this port when adding the charger in the Reduxi web interface.

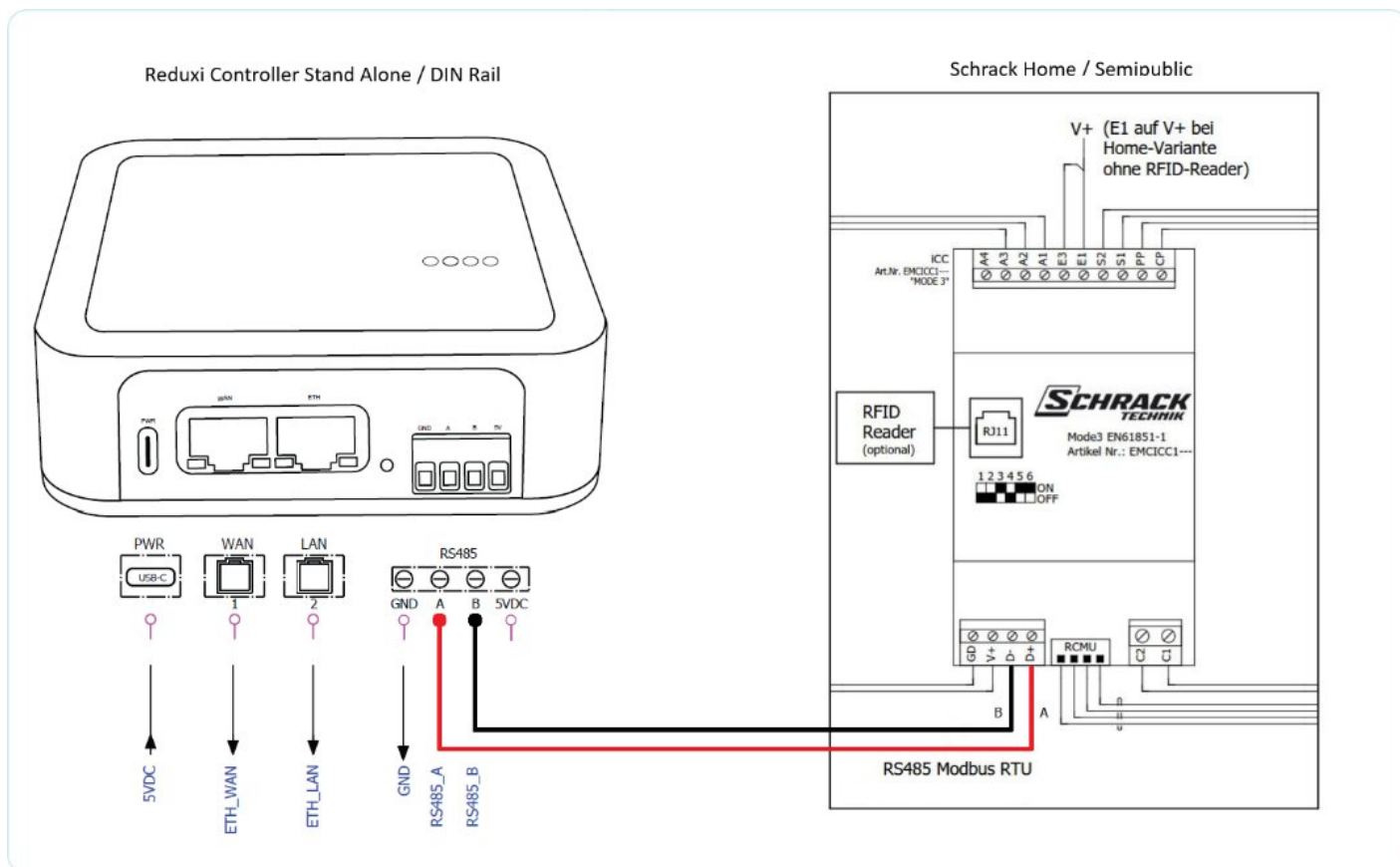
charging controller



Text description of this image

Wiring drawing with the title "charging controller" at the top right. Left: a black and white line drawing of the

Wiring diagram: Reduxi Controller ↔ CION Home / Semipublic



Text description of this image

Wiring diagram in two parts, tall image. Left part titled Reduxi Controller Stand Alone / DIN Rail: line drawing of

Modbus RTU terminal on the CION circuit board

4.1.2 DIP switch settings

The DIP switch block on the charger's circuit board has six switches. Set them as follows:

SWITCH	SETTING	RESULT
1 / 2	OFF / OFF	Bus operation via RS485 Modbus RTU (input E3 is ignored)
3 / 4	ON / OFF	Bus address 1 – recommended, matches the Reduxi default

Bus address (Modbus Unit ID) – all options for switches 3 and 4:

SWITCH 3	SWITCH 4	BUS ADDRESS
ON	OFF	1
OFF	ON	2
ON	ON	3
OFF	OFF	4 (factory setting)



Factory setting is address 4, not 1

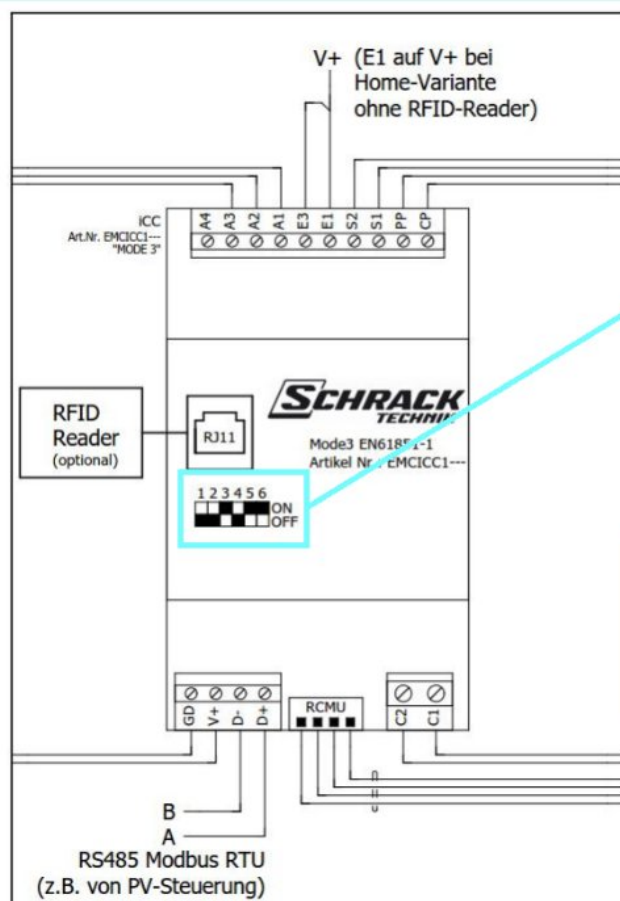
If switches 3 and 4 are left at **OFF / OFF**, the charger uses bus address 4. In that case enter Unit ID **4** in the Reduxi web interface – otherwise the communication test fails.



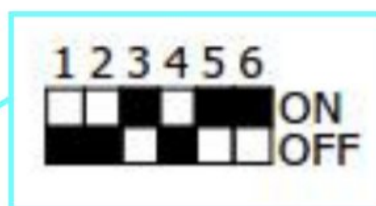
Switches 5 and 6 – maximum charging current

These switches set the charger's maximum current and are not related to the Reduxi connection.

Leave them as set during installation: **ON / ON** = 32 A, **OFF / ON** = 20 A (both 22 kW models only), **ON / OFF** = 16 A, **OFF / OFF** = 13 A (factory setting).



DIP Switch settings



1	2	Operating mode
ON	ON	All trained charge cards and the master card will be deleted. A new master card can be trained
OFF	ON	Normal operation (+ 12 V DC on input E3) Opt. 0-10 V interface "Mode 1" (see chap. 6.1.2.1)
ON	OFF	Normal operation (+ 12 V DC on input E3) Opt. 0-10 V interface "Mode 2" (see chap. 6.1.2.1)
OFF	OFF	Bus operation for RS485 Modbus RTU – Input E3 will be ignored
3	4	Bus address
OFF	OFF	4 (read from configuration memory (default: 4))
ON	ON	3
OFF	ON	2
ON	OFF	1
5	6	Maximum charging current
ON	ON	32 A (only EMCION22xx for 22 kW max.)
OFF	ON	20 A (only EMCION22xx for 22 kW max.)
ON	OFF	16 A
OFF	OFF	13 A (read from configuration memory (default: 13 A))

Text description of this image

Diagram of the Schrack iCC module (Art.Nr. EMCICC1---, Mode 3, EN61851-1) with DIP switch settings, tall

DIP switch settings for Modbus RTU and bus address



Remember the bus address

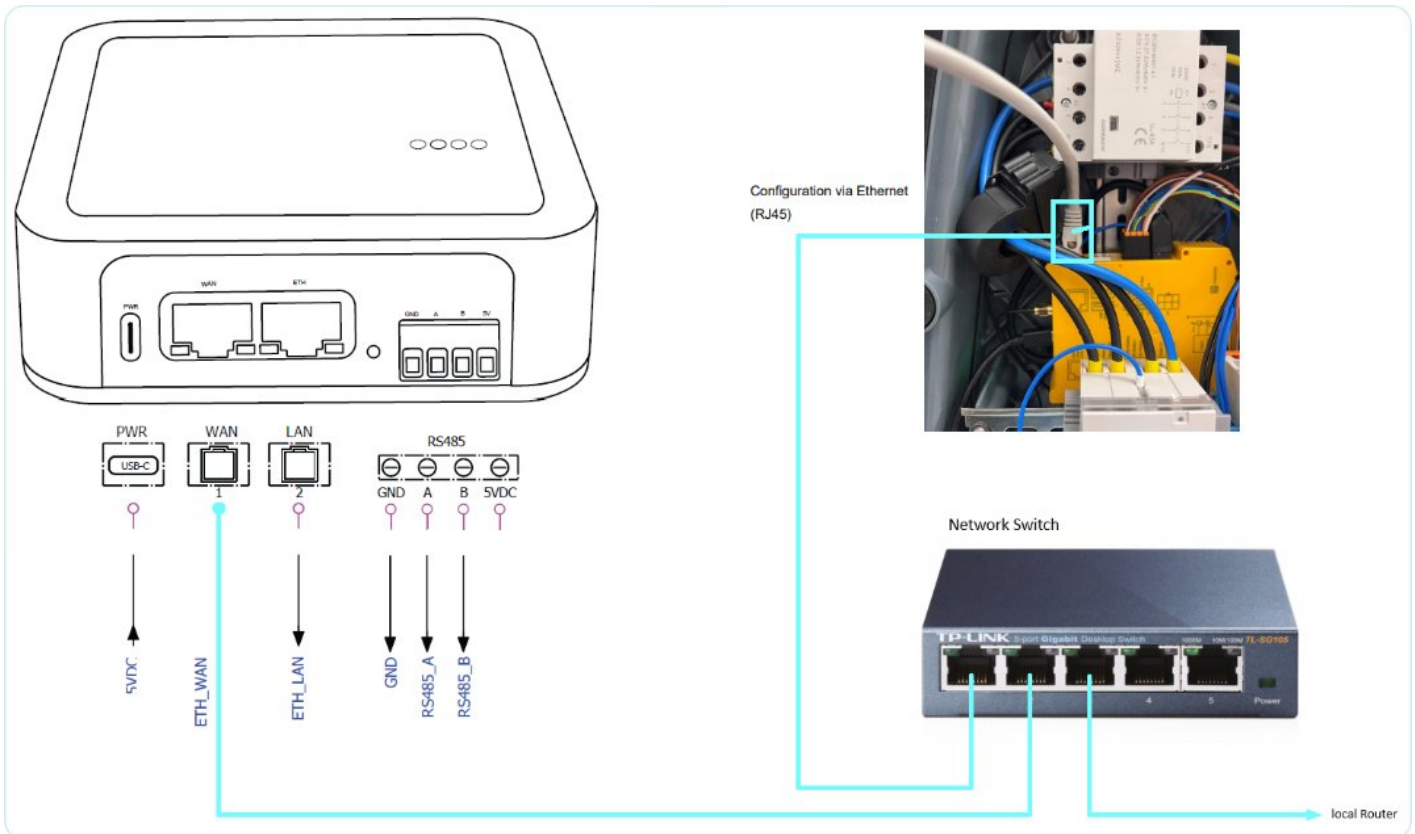
The bus address set with switches 3 and 4 is the Modbus Unit ID (the device's address on the RS485 bus) you will enter in the Reduxi web interface later (see [Point 6.2](#)).



Charger ready

The CION Home / Semipublic is now ready to communicate with the Reduxi Controller. Continue with [Point 5](#).

4.2.1 Wiring



Text description of this image

Wiring diagram of a Reduxi controller connected via Ethernet. On the left a line drawing of a white Reduxi controller. On the right a photograph of the physical wiring of the controller. A red box highlights the WAN port. Below the photo is a photograph of a TP-LINK 5-port 10/100/1000Mbps Ethernet switch. A red line connects the ETH_WAN terminal to the WAN port of the switch. Another red line connects the ETH_LAN terminal to one of the switch's LAN ports. A third red line connects one of the switch's LAN ports to a 'Local Router'.

Network wiring: Reduxi Controller and CION Pro in the same LAN



Give the charger a fixed IP address

Reserve the charger's IP address in the router (DHCP reservation). If the router assigns a new address later, the Reduxi Controller loses the connection to the charger.

4.2.2 Settings in the CION Pro web interface

Once the network cabling is complete, configure the charger in its web interface:

- 1 Connect to the same network**
 Connect your laptop, tablet or smartphone to the same network as the charging station.
- 2 Open the charger's web interface**
 Enter the charger's IP address in your browser. If you don't know it, look it up in your router's device list.

3

Log in

Username: **operator**Password: **Schrack1230!**

These are the factory credentials. If the installer has changed the password, use the new one.

4

Open Load Management

In the menu on the left, click „**Lastmanagement**“ (load management).

5

Configure the Modbus TCP interface

In the „**Modbus-Schnittstelle**“ section, set the values from the table below and click „**Speichern**“ (save).

6

Restart the charger

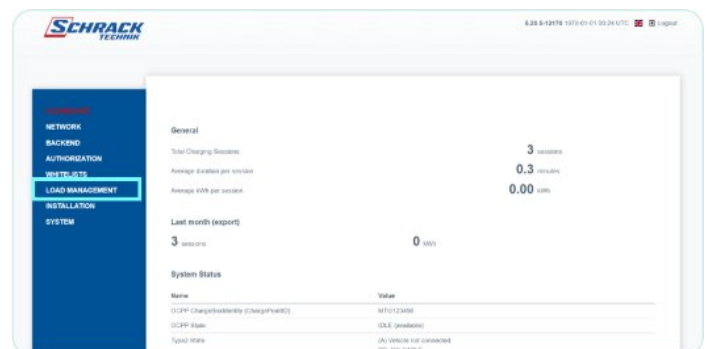
Click „**Neu starten**“ (restart) at the bottom so the changes take effect.

FIELD IN THE SCHRACK INTERFACE	VALUE
„Modbus TCP Server für Energiemanagement-Systeme“ (Modbus TCP server)	Ein (on)
„Modbus TCP Server Basis-Port“ (port)	502
„Modbus TCP Server Registersatz“ (register set)	TQ-DM100 – the register layout the Reduxi Controller reads



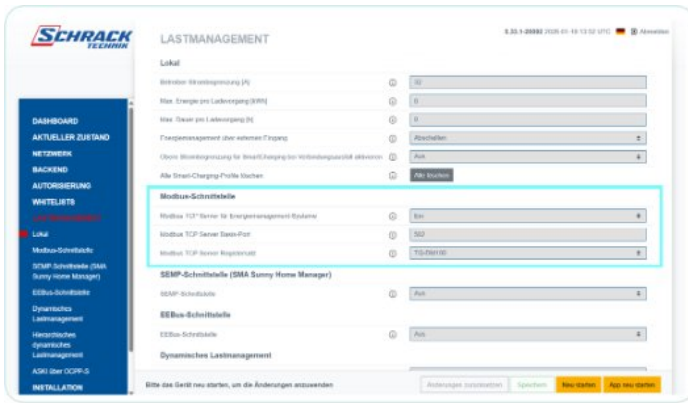
Text description of this image

Screenshot of the login page of the Schrack Technik CION Pro (step 3)



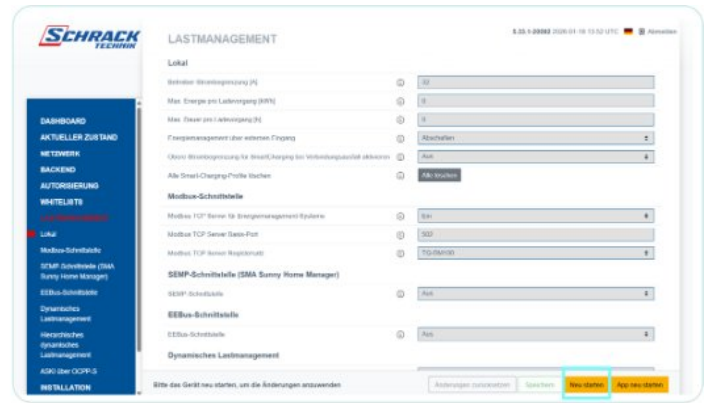
2. Text description of this image

Screenshot of the Schrack Technik CION web „Lastmanagement“ in the left menu (step 4)



Text description of this image

Screenshot of the Schrack Technik CION Pro web interface showing the 'Modbus TCP' settings (step 5)



2. Text description of this image

Screenshot of the Schrack Technik CION Pro web interface showing the 'Neu starten' button (step 6)



Charger ready

After the restart, the CION Pro is ready to communicate with the Reduxi Controller.

5 Log in to the Reduxi web interface

You can open the Reduxi web interface in two ways:



REMOTE

Reduxi app

Via tunnel connection · works from anywhere



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

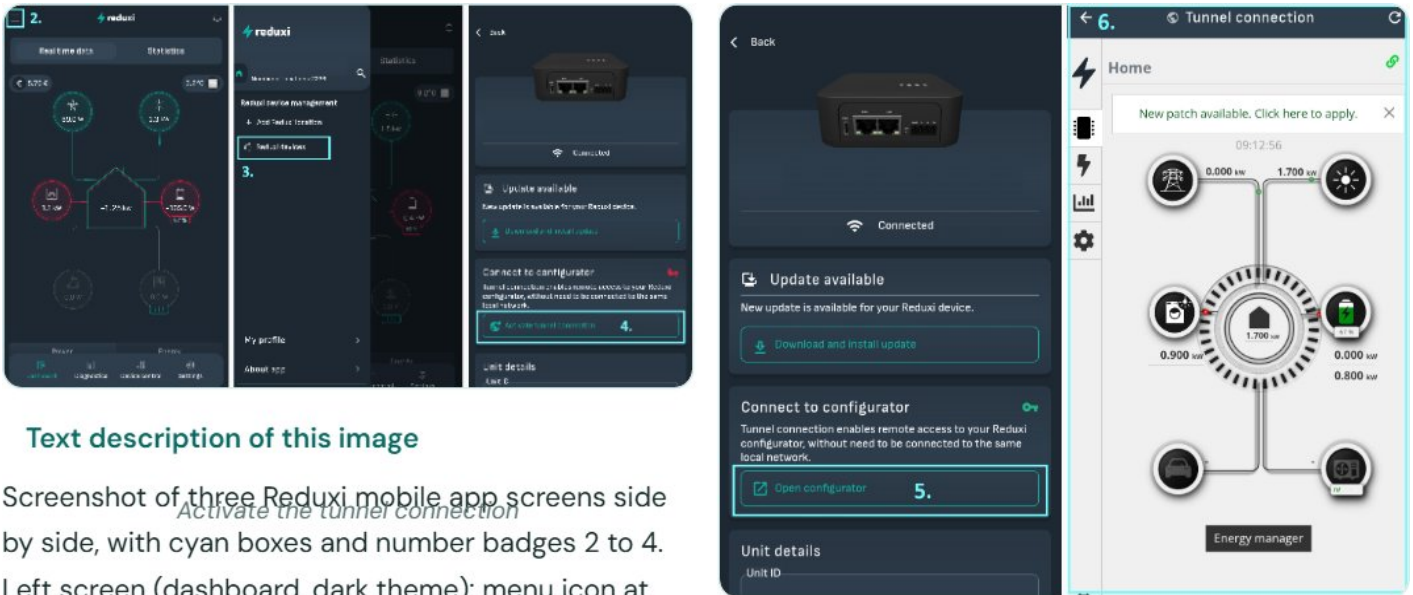
Activate the tunnel connection

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:

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

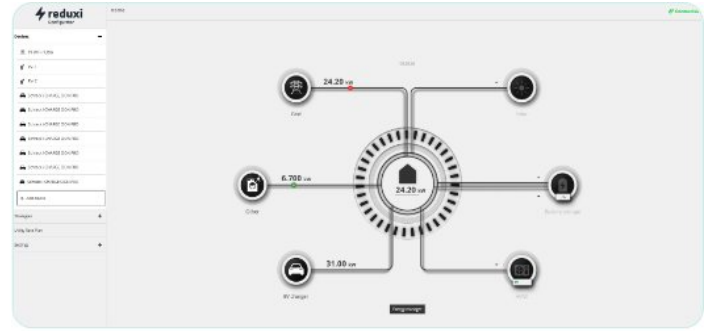
Log in

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



Text description of this image

Screenshot of the Reduxi Configurator login page in a web browser. The browser address bar shows 'reduxi.local'. The login form is titled 'Login' and includes fields for 'Email' and 'Password', along with a 'Login' button. The background shows a stylized house with solar panels and an electric car.



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 charger to Reduxi

Once the charger is wired and configured (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: **EV Charger**

Type: **Schrack CION** (Home / Semipublic) or **Schrack CION Pro**

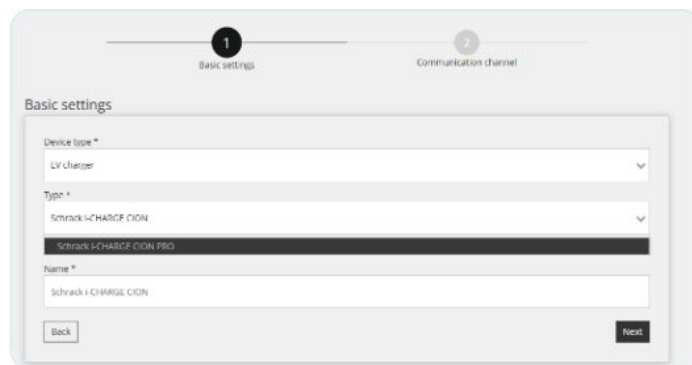
Name: any name, e.g. **Schrack i-CHARGE CION**

Confirm with **Next**.



Text description of this image

Screenshot of the left navigation menu of the Reduxi



2. Text description of this image

Screenshot of the Reduxi Configurator add device wizard, step 1 Basic settings (step 2 is Communication channel, greyed out). Fields: Device type *: EV charger; Type *: Schrack i-CHARGE CION, with the dropdown list open showing one dark highlighted option: Schrack i-CHARGE CION PRO; Name *: SCHRACK i-CHARGE CION PRO. (Schrack i-CHARGE CION PRO)

6.2 Communication settings

The settings differ depending on the charger model.

6.2.1 CION Home / Semipublic (Modbus RTU)

PARAMETER	VALUE
Connection	Local Port
Port	1 – the controller's RS485 terminal
Baud rate	57600
Data bits	8
Stop bits	1
Parity	None
Modbus Unit ID	1 – must match the bus address set with DIP switches 3 and 4 (see Point 4.1.2)
Auto start charging session	No (default) – with Yes, a charging session starts as soon as a vehicle is plugged in, without authorisation (e.g. RFID card)

Communication channel and device configuration

Connection *

Local serial port

Port *

RS-485 port 1

Baud rate *

57600 bits/s

Data bits *

8

Stop bits *

1

Parity *

None

Modbus unit ID *

1

Auto start charging session *

No

Start charging session without authorization

Back

Test communication

Done

Text description of this image

Screenshot of the Reduxi Configurator form Communication channel and device configuration (step 2 of 3) Communication settings for CION Home / Semipublic

6.2.2 CION Pro (Modbus TCP)

PARAMETER	VALUE
Connection	TCP/IP
IP	IP address of the CION Pro (fixed via DHCP reservation, see Point 4.2.1)
Port	502
Modbus Unit ID	1 (default)

Communication channel and device configuration

Connection *

TCP/IP

IP *

192.168.50.243

Scan for IP

Port *

502

Test port

Modbus unit ID *

1

Back

Test communication

Done

Text description of this image

Screenshot of the Reduxi Configurator form Communication channel and device configuration for a network

Find the IP address with IP scan

If you don't know the charger's IP address, click the **IP scan** button to the right of the IP field. All devices in the network are listed together with their manufacturer.



Look for "Bender"

The scan identifies devices by the manufacturer of their network chipset. Schrack chargers use charging electronics from Bender – so look for **Bender** in the list. If you are unsure, try the listed IPs one by one with the communication test (see [Point 6.3](#)).

IP *

Scan for IP

192.168.8.13	Bender GmbH & Co.KG	Schrack i-CHARGE CION PRO	+ Success IP
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Text description of this image

Cropped screenshot of a form field in the Reduxi

2. Text description of this image

Scan results – Schrack chargers appear as Bender
Screenshot of one row of the IP scan result table in the Reduxi Configurator (narrow crop). Columns

6.3 Test communication

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

Back

Test communication

Done

Text description of this image

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



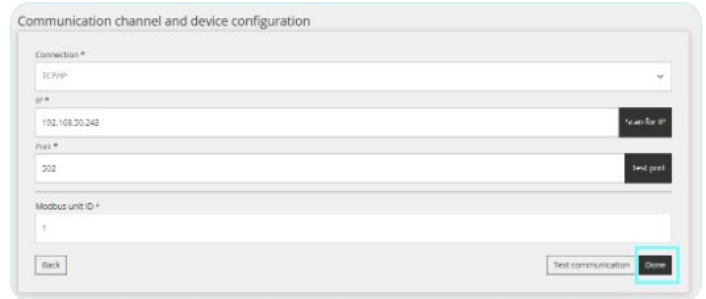
Test successful

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



Text description of this image

Screenshot of the Reduxi Configurator dialog Test



2. Text description of this image

Screenshot of the Reduxi Configurator page

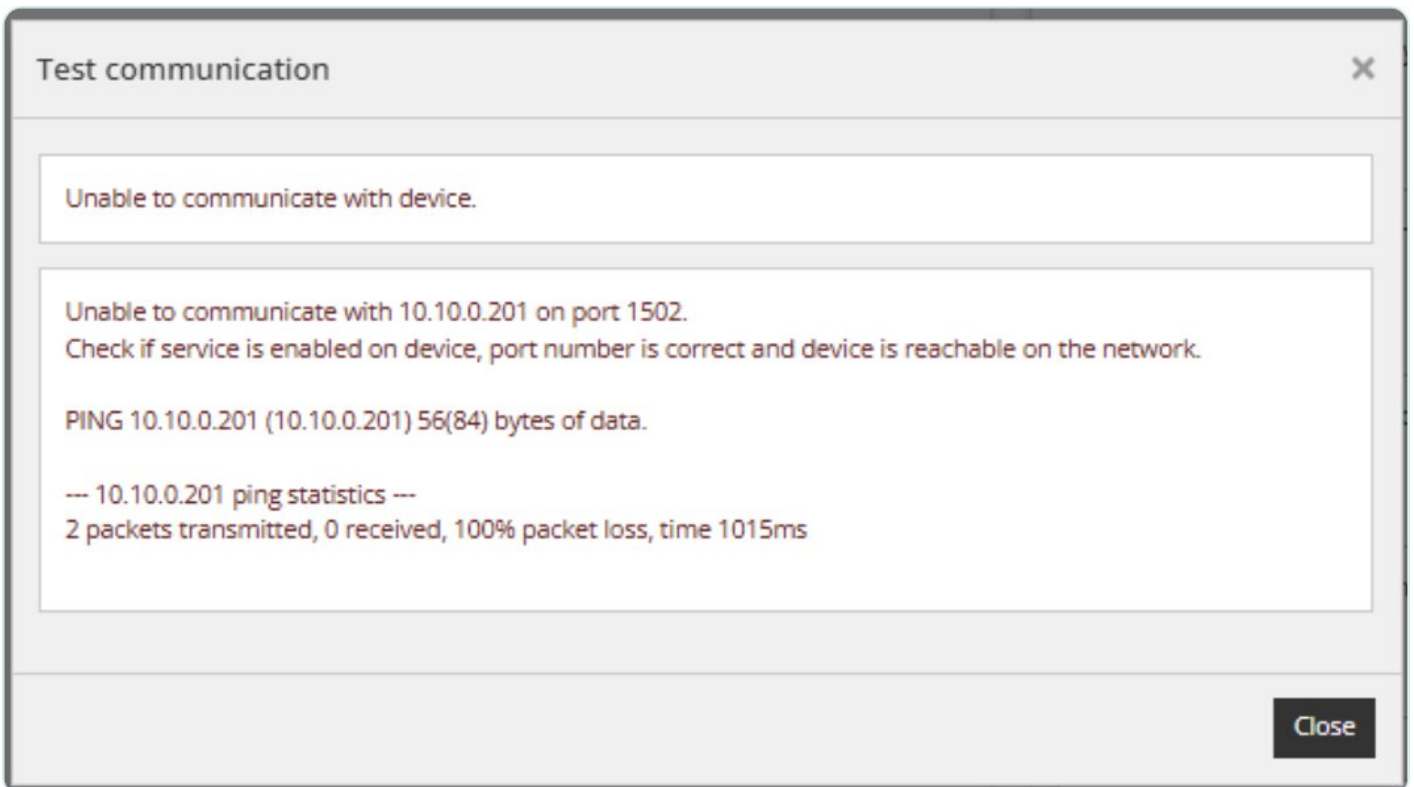
'Communication channel and device configuration'.

Connection *: TCP/IP (dropdown). IP *: 192.168.50.243,



Test failed

Close the results window and check the wiring (RTU) or network connection (TCP), the Modbus settings on the charger 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 Reduxi Configurator dialog Test communication with a close button (x) at the top right. First

7 Check readings & enable control

7.1 Check the readings

In the Reduxi web interface, open **Devices** → **Schrack CION** → **Last measurement**.



Text description of this image

Screenshot of the Reduxi Cloud device page Last measurements of the device named Schrack i-CHARGE

WHAT YOU SEE	MEANING
COM without error, values are read	Communication works.
COM shows an error, all values are 0	No communication – the settings do not match. Check Point 4 and Point 6.2, or see Common issues.

7.2 Enable control by Reduxi

Open **Devices** → **Schrack CION** and set the control type to **AUTO**. Only then do the commands of the Reduxi strategy reach the charger.

7.3 What happens next

With control type **AUTO**, the Reduxi Controller adjusts the charging current according to the active strategy – for example to stay below the grid connection limit or to charge with PV surplus.



Prerequisite: grid meter

Load management only works if the energy meter / smart meter at the grid connection point is already set up in the Reduxi web interface and delivers values.

Next step: choose and configure the strategy – see **Strategies for the Reduxi Controller**. For several chargers or sub-distributions, see **Multi-level DLM execution** (both under Related articles).

✓ Summary

Preparation (Points 1–3): Have the Schrack manual, a Reduxi Controller, a grid meter and a CION charger with the latest firmware ready. The charger model decides the connection: CION Home / Semipublic via Modbus RTU, CION Pro via Modbus TCP.

Charger configuration (Point 4): RTU – wire the RS485 connection and set DIP switches 1 and 2 to **OFF** ; switches 3/4 set the bus address (**ON** / **OFF** = address 1). TCP – reserve a fixed IP for the CION Pro and, under „Lastmanagement“, set the Modbus TCP server to **Ein** , port **502** , register set **TQ-DM100** , then restart.

Add to Reduxi (Points 5–6): Open the Reduxi web interface via the Reduxi app (tunnel) or a browser, add an **EV Charger** of type Schrack CION / CION Pro, enter the communication settings and run the communication test.

Go live (Point 7): Check the last measurement (no COM error), set the control type to **AUTO** and configure the strategy. The grid meter must already be set up.

→ Common issues

ISSUE	SOLUTION
Communication test fails – CION Home / Semipublic (RTU)	Check the RS485 wiring (A/B not swapped), DIP switches 1 and 2 set to OFF , and that the Modbus Unit ID matches the bus address from DIP switches 3 and 4 (factory setting OFF / OFF = address 4). Port 1 , baud rate 57600 , 8N1.
Communication test fails – CION Pro (TCP)	Make sure the charger and controller are in the same network and the IP is correct. In the charger's „Lastmanagement“ menu: Modbus TCP server Ein , port 502 , register set TQ-DM100 – and restart the charger after saving.
Connection worked, then stopped (CION Pro)	The charger probably received a new IP address from the router. Reserve a fixed IP in the router and enter it in the Reduxi web interface.
Charger IP address unknown	Use the IP scan next to the IP field and look for Bender , or check the device list in your router.
Can't open the controller via reduxi.local	Enter the controller's IP address instead (router device list or Reduxi app → Reduxi devices), or use the tunnel connection in the Reduxi app.
Readings are shown, but the charger doesn't follow the strategy	Set the control type to AUTO under Devices → Schrack CION and check that a strategy is active and the grid meter delivers values.

→ Related articles

Matching guides from the Reduxi knowledge base:



Schrack CION manual
Operating manual (PDF, EN)



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