SMART-METER-ADAPTER — XDEVELOP GMBH

DOCUMENTATION

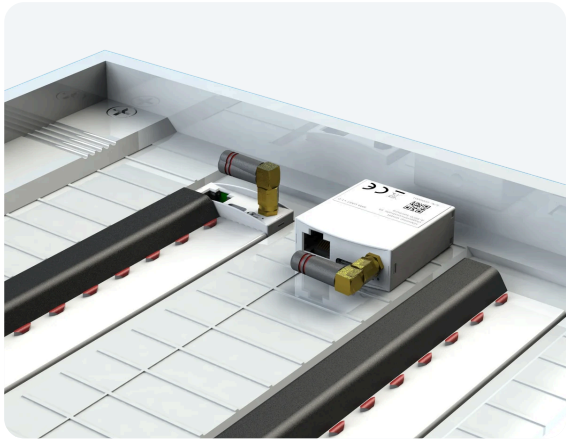
Quick start guide

From unboxing to your first readings on the home network in a few minutes.

1. Connect the adapter

Connect the adapter to your meter's customer interface using the supplied cable. Which socket that is, and whether USB power is needed, depends on the interface:

INTERFACE	CONNECTION AND POWER
M-Bus	Socket usually labelled "MBUS". Some meters power the adapter through the interface; connect USB if you see dropouts.
Wireless M-Bus	No cable needed. Place the adapter close to the meter and power it over USB.
DSMR (P1)	Socket usually labelled "P1". If the meter carries no power, connect USB.
Infrared (IEC 62056-21)	Place the IEC 62056-21 IR reading head magnetically on the optical interface — cable pointing down, head sitting straight. USB power is mandatory.



The adapter in the distribution board, connected to the meter's customer interface.

Third-party cables
Permitted, but only with a mirrored pinout and no longer than 3 m. RJ12 and RJ45 are included with every adapter anyway.

The adapter mounts on a standard DIN rail, on a wall, or with the supplied adhesive pad. It is one module unit wide and intended for indoor use only.

2. Set up

Once connected, the status LED is steady blue. The device is ready for a direct connection.

1. **Join the adapter's WiFi**
   The network is called `energie` followed by the serial number; the exact name is printed on the side label. The password is `energie1`.

2. **Open the setup page**
   It opens automatically. If it does not, go to `http://192.168.100.1`. If that does not help either, briefly turn off mobile data on your device — phones otherwise fall back to the mobile network.

3. **Set the administrator password**
   There is no factory password — you set it yourself on first start.

4. **Select your meter**
   The selection is limited to the meters your adapter variant can serve.

5. **Enter the meter key**
   You receive it free of charge from your grid operator; it is unique to each meter. Copy and paste it where possible rather than retyping it.

6. **Wait for the connection check**
   It usually takes 5 seconds, but depending on the meter type up to 5 minutes.

7. **Choose the WiFi settings**
   Connect the adapter to your home network. Note the IP address, or assign a fixed address in your router.

> **After setup**
> Disconnect your device from the `energie` WiFi and join your own network. The adapter is then reachable at `http://sma.local` (Apple devices, sometimes Windows) or at its IP address.

3. Status LED and button

COLOUR	STATE	MEANING
🟠	Steady	The device is booting. This can take up to 30 seconds.
🟢	Steady	Connected to WiFi, the device is ready.
🔵	Steady	Access point active — a direct connection to the device is possible.
🔴	Steady	Error receiving meter data, or a WiFi connection problem.
🔴	2 seconds	The device is being reset to factory settings.
🟢🔴	Blinking	A data packet was received from the meter; the LED then returns to its previous state. With Wireless M-Bus the LED does not blink but stays steady green.
🩵	Steady	The device is in recovery mode.

DURATION	MEANING
up to 3 seconds	Activates the access point — direct access from a phone or laptop becomes possible.
10 seconds or more	Factory reset. All meter data and settings are erased.

4. Reading the data

The dashboard shows the current active power for import, export and total. For further processing, three interfaces are available, which you enable in the web interface under *API*:

- **JSON** – REST query with a token from the web interface.
- **MQTT** – The adapter publishes values as JSON to your broker. Recommended when several systems need the data.
- **Modbus TCP** – SunSpec register layout, with an offset of 69.

A maximum of three concurrent connections to the adapter is possible.

5. If something does not work

SYMPTOM	CAUSE AND REMEDY
LED steady red	No data from the meter, or the WiFi connection failed. Check the cable, the selected meter type and the WiFi password.
“Entschlüsselungsfehler – falscher Key?”	The meter key does not match. Go back and enter it again, ideally by copy and paste.
LED steady cyan	Recovery mode, usually after an interrupted firmware update. Leave the device connected over USB.
LED does not blink on data reception	Expected on Wireless M-Bus: the LED stays steady green instead.
Setup page does not open	Open http://192.168.100.1 manually and turn off mobile data on your device.
Adapter unreachable after setup	Press the button briefly (up to 3 s) to reactivate the access point.
Password forgotten	Hold the button for at least 10 s. All settings and the meter key are erased.
Gaps in the chart	No values were available at those moments. Check the WiFi signal; on M-Bus, use USB power.
Individual values always missing	The meter does not provide them. The range depends on meter type and grid operator.
Poor Wireless M-Bus reception	Reduce the distance; walls and metal distribution cabinets attenuate the signal considerably.
Modbus values off by orders of magnitude	Read and apply the scale factor from the associated register.

Firmware update
Available in the setup wizard (device not yet configured) or under “System”. USB power is mandatory during the update — disconnecting power can destroy the device.