

Setup Home Energy Meter 8 with Home Assistant

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Connecting [Home Energy Meter 8](https://aeotec.freshdesk.com/a/solutions/articles/6000269083?portalId=6000039922) (<https://aeotec.freshdesk.com/a/solutions/articles/6000269083?portalId=6000039922>) to Home Assistant requires a working installation of that software with Z-Wave management being handled by Aeotec's Z-Stick or any other Z-Wave USB Adapter hardware.

This product supports Long Range - a more complex pairing method can be used to utilize Long Range and SmartStart is provided below.

Once connected to Z-Wave USB Adapter (ie. Z-Stick) and Home Assistant (with or without Z-WaveJS UI), Home Energy Meter 8 will offer the following features for either product:

	Electric Consumption [A]	0.006 A
	Electric Consumption [A] (3)	0.006 A
	Electric Consumption [A] (5)	0.012 A
	Electric Consumption [kVAh]	0.0 kVAh
	Electric Consumption [kVAh] (3)	0.0 kVAh
	Electric Consumption [kVAh] (5)	0.0 kVAh
	Electric Consumption [kVar]	0.001 kVar
	Electric Consumption [kVar] (3)	0.001 kVar
	Electric Consumption [kVar] (5)	0.002 kVar
	Electric Consumption [kVarh]	0.0 kVarh
	Electric Consumption [kVarh] (3)	0.0 kVarh
	Electric Consumption [kVarh] (5)	0.0 kVarh
	Electric Consumption [kWh]	0.0 kWh
	Electric Consumption [kWh] (3)	0.0 kWh
	Electric Consumption [kWh] (5)	0.0 kWh
	Electric Consumption [Power Factor]	0.0 Power Factor
	Electric Consumption [Power Factor] (...)	0.0 Power Factor
	Electric Consumption [Power Factor] (...)	0.0 Power Factor
	Electric Consumption [V]	120 V
	Electric Consumption [V] (3)	121 V
	Electric Consumption [V] (5)	120 V
	Electric Consumption [W]	0.0 W
	Electric Consumption [W] (3)	0.0 W
	Electric Consumption [W] (5)	0.0 W

	Electric Production [A]	0.0 A
	Electric Production [A] (4)	0.0 A
	Electric Production [A] (6)	0.0 A
	Electric Production [kVAh]	0.0 kVAh
	Electric Production [kVAh] (4)	0.0 kVAh
	Electric Production [kVAh] (6)	0.0 kVAh
	Electric Production [kVar]	0.0 kVar
	Electric Production [kVar] (4)	0.0 kVar
	Electric Production [kVar] (6)	0.0 kVar
	Electric Production [kVarh]	0.0 kVarh
	Electric Production [kVarh] (4)	0.0 kVarh
	Electric Production [kVarh] (6)	0.0 kVarh
	Electric Production [kWh]	0.0 kWh
	Electric Production [kWh] (4)	0.0 kWh
	Electric Production [kWh] (6)	0.0 kWh
	Electric Production [Power Factor]	0.0 Power Factor
	Electric Production [Power Factor] (4)	0.0 Power Factor
	Electric Production [Power Factor] (6)	0.0 Power Factor
	Electric Production [V]	120 V
	Electric Production [V] (4)	121 V
	Electric Production [V] (6)	120 V
	Electric Production [W]	0.0 W
	Electric Production [W] (4)	0.0 W
	Electric Production [W] (6)	0.0 W

1 Clamp Version (7 reports * 6 endpoints = 42 individual possible reports)

Endpoint 1 - Clamp 1 Consumption

Endpoint 2 - Clamp 1 Production

Endpoint 3 - (Algebraic Sum) Sum of Consumption for all Clamps (Clamp 1 only)

Endpoint 4 - (Algebraic Sum) Sum of Production for all Clamps (Clamp 1 only)

Endpoint 5 - Net power consumption of power and energy

Endpoint 6 - Net power generation of power and energy

2 Clamp Version (7 reports * 8 endpoints = 56 individual possible reports)

Endpoint 1 - Clamp 1 Consumption

Endpoint 2 - Clamp 1 Production

Endpoint 3 - Clamp 2 Consumption

Endpoint 4 - Clamp 2 Production

Endpoint 5 - (Algebraic Sum) Sum of Consumption for all Clamps (Clamp 1 + 2)

Endpoint 6 - (Algebraic Sum) Sum of Production for all Clamps (Clamp 1 + 2)

Endpoint 7 - Net power consumption of power and energy

Endpoint 8 - Net power generation of power and energy

3 Clamp Version (7 reports * 10 endpoints = 70 individual possible reports)

Endpoint 1 - Clamp 1 Consumption

Endpoint 2 - Clamp 1 Production

Endpoint 3 - Clamp 2 Consumption

Endpoint 4 - Clamp 2 Production

Endpoint 5 - Clamp 3 Consumption

Endpoint 6 - Clamp 3 Production

Endpoint 7 - (Algebraic Sum) Sum of Consumption for all Clamps (Clamp 1 + 2)

Endpoint 8 - (Algebraic Sum) Sum of Production for all Clamps (Clamp 1 + 2)

Endpoint 9 - Net power consumption of power and energy

Endpoint 10 - Net power generation of power and energy

Using ZWaveJS UI

Home Energy Meter 8 supports Long Range Z-Wave, there is a specific way you can pair this device using LR using ZWaveJS UI only, but you'll need to find out what the full DSK code is.

Connect with Long Range and SmartStart (*)

Long Range requires the use of SmartStart to pair a device, the steps below will give you full steps to finding the DSK code of the device, and how to pair it using SmartStart. It is possible to use these steps to pair Home Energy Meter 8 without Long Range as well.

1. Open your ZWaveJS UI interface
2. First, find the DSK code of your Home Energy Meter 8
 - **Method 1** - Scan the QR code of your HEM 8 (This will only work if you have Home Assistant and HTTPS setup and may require the use of Nabu Casa Cloud service enabled)
 1. Select "SmartStart" from the menu
 2. Click on the blue 3 line circle at the bottom right
 3. Click on the QR code scan icon "Scan"
 4. Scan the QR code on your Home Energy Meter 8
 5. If you are able to do so, you may skip this entire section.
 - **Method 2** - Manually find the DSK code of the HEM 8
 1. Tap the **round blue icon (3 horizontal lines)** at the bottom right
 2. Tap **"Manage Nodes" (Green circle with infinity icon)**
 3. Select **"Inclusion"** then click **"Next"**
 4. Add a **name** (optional), and select a **location** (optional), then click **"Next"**
 5. Choose **Default**, then click **"Next"**
 6. Now **quickly tap the Action Button** on Home Energy Meter 8
 7. This will request you to input a 5-digit PIN code - **write down all 8 of the 5-digit numbers onto a notepad**
 - The first **5 digits (XXXXX)** of the DSK code is the code **under the QR Code** - it should look something like this:
 - "XXXXX-40147-58240-61919-43435-11614-16518-16663"

- If the 5 digits under the QR code XXXXX is 32223, then the code would look like this:

- "32223-40147-58240-61919-43435-11614-16518-16663"

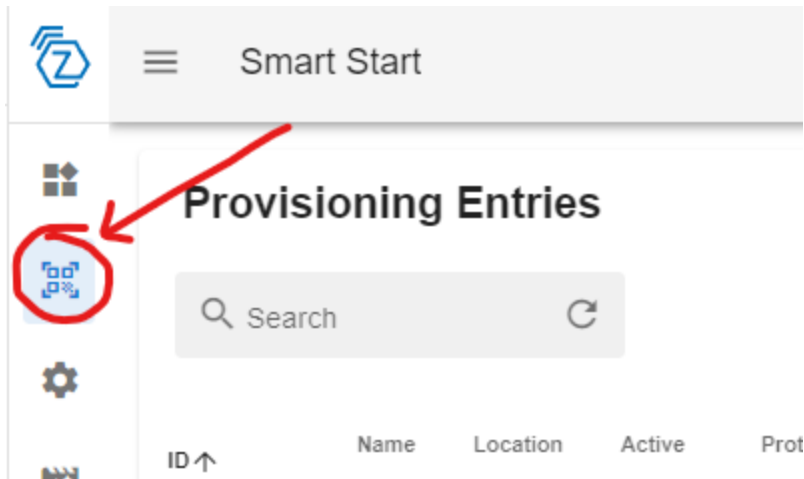
8. Continue from Step 3 below:

3. (Continue here using Method 2, if you used Method 1 - you may skip steps 3-8 and continue with the next section) Exclude your Home Energy Meter 8 (This can also be done after step 4 as well).

1. Tap the **round blue icon (3 horizontal lines)** at the bottom right
2. Tap **"Manage Nodes"** (Green circle with infinity icon)
3. Select **"Exclusion"** then click **"Next"**
4. Now **quickly tap the Action Button** on Home Energy Meter 8.

4. Now Add the QR Code to your SmartStart provisional entry

1. Click on the SmartStart icon in ZWaveJS UI:



2. Tap the **round blue icon (3 horizontal lines)** at the bottom right
3. Tap the **blue + icon** (bottom most)
4. Input your Home Energy Meter 8 information:

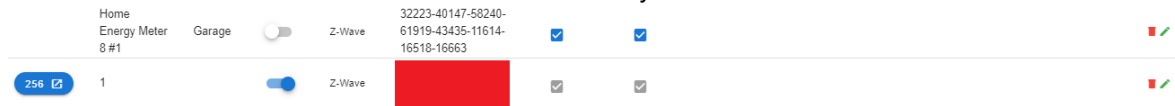
 The image shows the 'New entry' form in ZWaveJS UI. The form has a blue header with the text 'New entry'. Below the header, there are several input fields: 'Name' (with the value 'Home Energy Meter 8 #1'), 'Location' (with the value 'Garage'), and 'DSK' (with the value '32223-40147-58240-61919-43435-11614-16518-16663'). There is also a dropdown menu for 'Protocol' (with the value 'Z-Wave Long Range'). At the bottom, there are two checkboxes: 'S2 Access Control' and 'S2 Authenticated', both of which are checked. At the very bottom, there are two buttons: 'ADD' and 'CANCEL'.

- Input the **Name** you want it to have.
- Input the **Location** you want it to be.
- Input the **40-digit DSK code** you found in step 2 (including the - between each 5 digits)
 - ie: XXXXX-40147-58240-61919-43435-11614-16518-16663
- Change **"Protocol"** from "Z-Wave" to **"Z-Wave Long Range"**

- Checkmark **S2 Access Control** and **S2 Authenticated**. (not necessary and completely optional)

5. **Verify if the DSK code** is correct, then click **"ADD"**

6. **Double-check the DSK code** and re-edit it if necessary.



7. If everything is correct, **activate it** by clicking on the **switch under "Active"**



8. **Give it a few minutes** (sometimes it happens immediately, other times it will take more than a few minutes), it will pair automatically into your network as long as the Home Energy Meter 8 is excluded / factory reset.

Connect with Normal Mesh (without Long Range)

1. Open your ZWaveJS UI interface
2. Tap the **round blue icon (3 horizontal lines)** at the bottom right
3. Tap **"Manage Nodes"** (Green circle with infinity icon)
4. Select **"Inclusion"** then click **"Next"**
5. Add a **name** (optional), and select a **location** (optional), then click **"Next"**
6. Choose what **security encryption** you want to use (**Default, S0 Encryption, or No encryption**), then click **"Next"**
7. Now **quickly tap the Action Button** on Home Energy Meter 8.
 - If using S2 Auth security, input its 5-digit security code located under its QR code printed on the body of Home Energy Meter 8.
8. Allow about 1-2 minutes to allow your Home Assistant to scan the device information and populate the correct device information about it.

Steps to remove or factory reset your Home Energy Meter 8 from ZWaveJS UI

1. Open your ZWaveJS UI interface
2. Tap the **round blue icon (3 horizontal lines)** at the bottom right
3. Tap **"Manage Nodes"** (Green circle with infinity icon)
4. Select **"Exclusion"** then click **"Next"**
5. Now **quickly tap the Action Button** on Home Energy Meter 8.
6. Home Assistant will stop scanning for devices excluded (if not paired), if a device is paired, it will state which device it was removed. Reload the page, and you should notice one less device node under "Nodes ready".

Using Home Assistant ZWaveJS Integration

Steps to connect Home Energy Meter 8 to Home Assistant (without ZWaveJS UI).

1. Open Home Assistant Interface: <http://homeassistant:8123/> (<http://homeassistant:8123/>).
2. Click on **"Configuration"** at the bottom left of the page.
3. Click on **"Integrations"**.
4. Click on **"Configure"** under your Z-Wave JS integration.
5. Click on **"ADD NODE"**.
6. Click on **"START INCLUSION"**.

7. Now **quickly tap the Action Button** on Home Energy Meter 8.
8. Allow about 1-2 minutes to allow your Home Assistant to scan the device information and populate the correct device information about it.

How to remove or factory reset your Home Energy Meter 8 from Home Assistant.

1. Open Home Assistant Interface: <http://homeassistant:8123/> (<http://homeassistant:8123/>).
 2. Click on "**Configuration**" at the bottom left of the page.
 3. Click on "**Integrations**".
 4. Click on "**Configure**" under your Z-Wave JS integration.
 5. Click on "**REMOVE NODE**".
 6. Click on "**START EXCLUSION**" - Your Home Assistant should start scanning for device button presses.
 7. Now **quickly tap the Action Button** on Home Energy Meter 8.
 8. Home Assistant will stop scanning for devices excluded (if not paired), if a device is paired, it will state which device it was removed. Reload the page, and you should notice one less device node under "Nodes ready".
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Troubleshooting

Having issues pairing your device?

- Move your Sensor within 4 - 10 ft of your Home Assistant Z-Wave network.
 - Remove power from Home Energy Meter 8 for 1 minute, then power it up again.
 - Try factory resetting or excluding your Home Energy Meter 8.
 - Exclude first in case the device is paired to Home Assistant otherwise, it will leave a phantom device in your network that will be difficult to remove.
 - Perform a **manual hard factory reset**.
 1. **Press and hold the Action Button for 12+ seconds** until you've counted 12 seconds or held it much longer than 12 seconds. If successful, the LED will begin to blink or fade in and out once per second.
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