Zaptec Sense and electricity meter compatibility

Which e-meters work with Zaptec Sense

Zaptec Sense comes in different versions for different types of electricity meters and ports. Compatibility depends on your meter's type, available ports, and local standards.

This article helps you identify the right Zaptec Sense version for your meter and highlights any known exceptions or special installation notes.

Note: Not all e-meters are relevant or available in every country.

Choose the correct Zaptec Sense version

Meter port	Zaptec Sense version	Who can install
HAN (RJ45)	**Zaptec Sense with HAN connectivity**	Self-install (where allowed)
P1 (RJ12)	**Zaptec Sense with P1 connectivity**	Self-install (where allowed)
No HAN/P1	**Zaptec Sense with RS485 Modbus & Ethernet connectivity** (bundle with external e-meter)	Electrician required

Note: Self-installation is only allowed where local rules and utility requirements allow it.

Zaptec Sense with HAN connectivity (RJ45)

Use this version when the meter has an **active HAN (RJ45) port**. Typically for AMS meters in Norway and Sweden.

Zaptec Sense support most e-meters with an active HAN (RJ45) or P1 (RJ12) port that uses supported protocols.

Known requirements for HAN meters

- Physical HAN (RJ45) port on the meter.
- HAN port is activated by the network owner before installation.
- Meter protocol/push list set to NVE (does not work with EFS).
- Stable Wi-Fi signal strength (at least -75dBm).
- 2.4GHz network with WPA-2 password protection (does not work on Wi-Fi without a password).

Some network owners have meters configured for EFS. Zaptec Sense with HAN connectivity will not work in that case. Always confirm the protocol with the network owner before installation. Many can switch protocols remotely if needed.

Kamstrup Omnipower with RJ45 module

Some Kamstrup Omnipower meters may not provide enough power through the HAN port to keep Zaptec Sense operating reliably.

If the meter does not provide enough power, Zaptec Sense may need an external 5 V power supply. Do not add an external power supply, splitter or other equipment unless

the compatibility guidance confirms that it is required for the meter and Zaptec Sense version.

- If Zaptec Sense is running firmware **5.4.8.3**, an external power supply may be required.
- Use the micro USB port with a DIN-mounted power supply (e.g. HDR-15-5) or a power adapter. Without external power, the meter may restart or fail to supply enough data.
- While Kamstrup meters lack a built-in HAN module, it's likely installed during the smart meter upgrade or can be sent to you by mail at no cost.

In later firmwares, external power may only be needed during setup or updates. A power bank can be used if a fixed power supply is difficult to install. But a permanent supply is always recommended.



Aidon 6534

Aidon 6534 does not require an external power supply.

- For the IT3-phase, L2 is not measured directly by this AMS type. Zaptec Sense estimates this value based on L1 and L3 readings, which is usually accurate but may lead to slight overestimations.

- Most meters provide measurements on all three phases, and we're exploring a possible firmware update on Zaptec Sense to address this.
- Optional: Convert from 3-phase to 1-phase setup. It's important that phases 1 and 3 on the smart meter are aligned with neutral (N) and L1 on the charger. Update settings in the Zaptec App to IT 1-phase grid type, with the phase pair set to 1/3.



Kaifa/Nuri

- These meters usually have a built-in HAN module.
- Activate the HAN port and connect Zaptec Sense directly behind the small cover on the left of the meter.
- The Kaifa MA304T3 does not measure L2 directly. This may affect measurement data in some installations.
- This AMS type with external current measurement is less commonly used in private homes.

If you're unsure about your AMS type, take a clear photo of the meter front and share it with your installer or Zaptec support.

Solar panel with HAN version

Using Zaptec Sense with HAN connectivity is **not recommended** when the installation has solar panels.

- The HAN protocol does not provide production data, so solar production may be registered as consumption.
- This can limit charging when the solar panels produce. Always check if the customer has or will install solar panels before deciding which power guard to install.

Zaptec Sense with P1 connectivity (RJ12)

Use this version when the meter has an **active P1 (RJ12) port**. This is common in the **Benelux** region and in some **Nordic** countries.

Zaptec Sense support most e-meters that have an active HAN (RJ45) or P1 (RJ12) port and use the supported protocols.

Known requirements for P1 meters

- P1 (RJ12) port on the meter.
- P1 port is **activated/opened** by the utility/network owner.
- Protocol: **DSMR 5.0.2** (Swedish standard).
- Power supply via the RJ12 port.
- Stable Wi-Fi signal strength (at least -75dBm).
- 2.4GHz network with WPA-2 password protection (does not work on Wi-Fi without a password).

Landis+Gyr E360

Landis+Gyr E360 is supported with Zaptec Sense P1 in Denmark, including installations with N1 and Trefor.

Kamstrup Omnipower

Kamstrup Omnipower may not provide enough power through the P1 port.

- Zaptc Sense P1 (with or without active USB-port) requires an active P1-splitter to work with Kamstrup Omnipower. This accessory is available from some distributors and wholesalers, but not from Zaptec.
- Other meters may also require external power, but this is most common with Kamstrup Omnipower.

STAR meters (2MSZ302X, 2MSZ303X, 2MSZ310X, 2MSZ314X)

Some meters may stop sending data on the P1 port after about 10 minutes. If you see this issue, contact support and include the meter model and network owner.

DSMR 4.x

Dutch Smart Meter Requirements v5.0.2 is the standard that Energiföretagen Sverige points to as the **industry standard** (read more here) for the RJ12/P1 port.

- Electricity meters with the older version DSMR 4. x.x are not compatible. However, it is very rare to encounter this in Sweden.

Solar panel with P1 version

Solar panels are supported with Zaptec Sense with P1 connection.

- The P1 port (DSMR 5.0.2) provides production and consumption data. When production exceeds the house's total consumption, charging is maximised. This is then presented as negative values, and our system will then give full power to the charging station (limited by the charging station's fuse) because the main fuses risk tripping.
- If consumption exceeds production again, the power to the charging station is limited as needed, just as usual. This happens completely automatically without any settings. The advantage of this is that instead of seeing production as consumption, the system can utilise the extra capacity that solar panel production provides.

See also: How to install Zaptec Sense P1 connectivity

Zaptec Sense with RS485 Modbus + Ethernet (external e-meter bundle)

Use this version when you **cannot use HAN or P1**, for example:

- The meter has no HAN or P1 port.
- The port cannot be activated.
- Local rules or technical limitations prevent HAN/P1 use.

Zaptec Sense with RS485 Modbus + Ethernet is sold **only as a bundle** with a compatible external e-meter.

- External e-meter from a supported bundle
- External 5 V power supply (always required)
- Network connection (Wi-Fi/Ethernet, depending on the model)

Supported external e-meters and bundles

Zaptec Sense with RS485 Modbus + Ethernet is supplied as a bundle with a compatible external e-meter. Choose the bundle that fits your installation needs.

For bundles and installation manuals for each bundle, see Zaptec Sense - Documents and manuals.

Installation notes

- Zaptec Sense (Modbus version) is installed with an external e-meter and communicates via Modbus.
- Measurement can be done with CT clamps or direct wiring (follow the e-meter manual).
- Power Zaptec Sense via **micro-USB** with a stable 5 V supply (DIN-mounted recommended).

See also: How to install Zaptec Sense (RS485 Modbus + Ethernet)

Installer checks for IT installations

In **IT 3-phase** setups, wiring mistakes can happen when a new AMS meter is installed:

- Older meters often have wires that all look the same (same size and colour, often black, no labels).
- Two phases can be swapped so that the rotation becomes **L2–L1–L3** instead of **L1–L2–L3**.

If this happens:

- The charging station might send a start command on L1, but that's **not the phase actually used**.
- This can make fuses trip or prevent charging.

If you suspect this:

- Ask your installer or the grid company to **verify phase rotation** on the meter and in the installation.
- Don't try to move or rewire phases yourself.

If your electricity meter is not listed

This article mainly lists meters with **known special cases**. Many other meters will work without being mentioned by name.

- If your meter has the correct port, the correct protocol, and the port is active and provides enough power, it is usually compatible.
- If you are unsure or have a unique situation, please contact Zaptec support with your meter's brand, model, and network owner for confirmation.

Unsure if you need external power

- HAN: Sometimes, especially with Kamstrup Omnipower.
- P1: If the meter doesn't provide power, an active P1 switch is needed.
- Zaptec Sense for installations without AMS: Always (included in bundle).

System status Check current status

Need more help? Contact support

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