DOCUMENTATION · 3.8.2

TedEnergy documentation

Everything you need to install, set up and understand TedEnergy: one chapter per topic, no jargon. Read only what interests you.

Documentation up to date with TedEnergy 3.8.2.

Getting started with TedEnergy

Install TedEnergy, get your free license, declare your meter and your first inverter, then check that everything works: about 30 minutes.

What TedEnergy is for

TedEnergy is a **multi-brand HEMS** (home energy management system) for solar batteries. It continuously decides when your inverters and batteries charge or discharge, based on your electricity meter reading.

The idea: buy less electricity from the grid, store surplus solar power instead of exporting it, and avoid pointless back-and-forth that wears batteries. It works with devices of several brands at the same time.

- **Autonomous mode**: TedEnergy manages all your batteries by itself.
- **Assisted mode**: TedEnergy completes a manufacturer's HEMS (it keeps control of its own devices, TedEnergy adds yours).
- It runs **at your place**, all the time, on a local machine: regulation does not depend on an online TedEnergy service. Only license checks and anonymous statistics go through the Internet (see Privacy).

What you need

- **A machine that stays on**: a Home Assistant OS (Raspberry Pi, mini-PC), a Synology NAS, or any computer running Docker (mini-PC, Raspberry Pi 4 or 5, Linux server).
- **Your electricity meter reading**, in watts: positive when the house buys from the grid, negative when it exports. A Shelly read directly by its IP address, a Home Assistant sensor, or the value of a device linked to TedEnergy (for example a Zendure Smart Meter).
- **At least one controllable inverter or battery.** The up-to-date list of brands and models is on the Compatibility page.
- **A free license**, requested by the startup assistant: a first name and an e-mail address are enough.

> Home Assistant is **not required**: a Zendure and a directly read meter (Shelly or linked device) are enough. Home Assistant mostly serves brands without a direct connection.

Choosing your installation

Three methods, from the simplest to the most flexible. Each guide details the steps with screenshots:

- **Home Assistant OS**: the simplest. Add the app repository, install, start. No token to create, the connection to Home Assistant is automatic.
- **Synology**: Container Manager, no command line.
- **Docker**: a single command (or Docker Compose) on any system.

An AI can also guide you step by step on your exact hardware: see installing with an AI assistant.

> TedEnergy's interface has no password: never expose it as is on the Internet. To reach it from outside, use a VPN, or the Android app's remote access (which only accepts signed requests).

First launch: the startup assistant

On first opening, an assistant guides you. With Home Assistant OS, open *TedEnergy* in the sidebar; with Docker or Synology, open the machine's address (for example `http://machine-address:5002`). Every step can be skipped and resumed later in Settings; the assistant can be relaunched from the Help page.

1. **Free license.** First name, e-mail address and consent. A confirmation e-mail may be sent: click the link, TedEnergy carries on by itself.
2. **Connection to Home Assistant** (only if you use it, and not with the Home Assistant OS app). The address of Home Assistant with its port (for example `http://192.168.1.50:8123`) and a long-lived access token: in Home Assistant, click your name at the bottom left, *Security* tab, *Long-lived access tokens*, *Create token*. The “Test the connection” button checks everything.
3. **Meter.** Choose your meter reading: Home Assistant entity, Shelly, or the value of a linked device. A three-phase Shelly suggests the right phase after a live test. This step can be skipped: the meter is then declared in Settings › Electricity meter, where several meters can also be ranked by priority (the next one takes over if the first stops answering).
4. **Subscription.** Supplier, contract (base, off-peak hours, Tempo…), prices and **subscribed power** in kVA. This power caps charging power; without it, a new installation charges at 3,000 W at most.
5. **Modes and power.** Autonomous and/or Assisted, maximum power and battery levels. The suggested values are fine to start with.
6. **Inverters.** The assistant sends you to the page where you declare your devices (next step).

The interface language

TedEnergy's interface comes in four languages: **French, English, Spanish and German**. Menus, settings, help texts, messages, numbers and dates are translated.

- You choose at the first step of the startup assistant, then at any time in *Settings › Appearance* (“Interface language”).
- **Automatic** follows your browser's language; if it is not offered, the interface is shown in English.
- Existing installations stay in French until you change something.
- Some items remain in French: the technical log, PDF reports, notifications already recorded and a few sentences built from numbers.

Showing TedEnergy full screen (Home Assistant OS)

When TedEnergy is opened in Home Assistant's sidebar, it is surrounded by Home Assistant's sidebar and header. A banner offers to show it **alone, full screen**, at the application's direct address: the machine's address and the local-network port, worked out automatically, with nothing to type.

- If the port is closed, the banner explains how to open it: *Settings › Apps › TedEnergy › Configuration › Network*. The application then restarts.
- The banner does not appear with Docker, on the direct address itself, from the Internet, or in the demonstration. Close it with “Understood”; a permanent reminder stays on the Help page.

Declaring your first inverter

In *Settings › Devices*, add a device: choose its **brand** (one sheet per brand, or “Other brand”) and its **model**. Each device can have several **connections** — local API, local MQTT, manufacturer cloud, Home Assistant — and TedEnergy uses the first one available, the next one taking over if it fails.

For a Zendure, the simplest is the cloud: in *Settings › Device connectors*, paste the Zendure app token then pick the device in the sheet. Only one cloud access is possible per Zendure account: TedEnergy *or* the Zendure integration of Home Assistant, not both.

Test the sheet before saving it: TedEnergy checks that measurements arrive and commands are accepted.

- **Controlled**: TedEnergy sets its charge and discharge.
- **Monitored**: TedEnergy only reads it (useful for a device whose commands another system keeps).

> ⓘ Start with **a single controlled inverter**, watch the result for a few days, then add the others. The *Diagnostic › Inverter test* page lets you check a device without starting regulation.

Checking that everything works

- The **dashboard** shows the animated house: solar, house, grid and batteries, with their live power.

- In Autonomous mode, the meter stays **close to zero** when the batteries can absorb or supply what is needed.
- An idle inverter takes **a few seconds to a few tens of seconds** to start: this is normal, TedEnergy accounts for it.
- The minimum and maximum battery levels protect your batteries; adjust them in *Settings › Batteries and maximum power*.
- A fault or a setpoint not applied by an inverter is reported on its sheet and in notifications.

During the first days, look at the dashboard *balance*: energy bought, solar stored, share of the house covered without the grid.

Updates and backup

- **Home Assistant OS**: Home Assistant reports the app update; your settings are kept.
- **Synology and Docker**: pull the new image and recreate the container with the same data folder (see the guide for your method).
- TedEnergy itself reports when a new version is available (banner and badge in the top bar).
- *Settings › Backup and versions*: export your configuration, restore it, and go back to a previous version if an update causes trouble.

> Never delete TedEnergy's data folder during an update: it holds your settings, your license and your history.

Getting help

- **This documentation**: one chapter per topic; the PDF version can be downloaded from the documentation home page.
- **The community**: Discord and Facebook.
- **An AI**: in *Settings › Diagnose with an AI*, TedEnergy prepares a text and a summary of your logs to give to ChatGPT, Claude, Gemini or Le Chat. You choose what you share.

Frequently asked questions

Is Home Assistant required?

No. Zendure works through its cloud, or locally through MQTT / local API, without Home Assistant. It mostly serves brands without a direct connection. TedEnergy works as a Home Assistant OS app as well as in Docker.

Is TedEnergy free?

The license is free to start with. Any license limits (number of controlled inverters, duration) are shown in *Settings › License* and on the Support page.

Can I try it without risk?

Yes. First declare your devices as “monitored” to see what TedEnergy reads, then switch a single one to “controlled”. You can disable an inverter or the whole regulation at any time.

My inverter is not in the list.

Choose “Other brand”: the sheet accepts the entities of any device exposed by Home Assistant or MQTT. If that is not enough, ask on Discord or Facebook: the most requested brands are added first.

What happens if the Internet goes down?

TedEnergy keeps regulating locally. The license is re-checked as soon as the Internet is back, with no blocking in between.

The dashboard

See at a glance what the installation is doing: the animated house, widgets, balance, energy flow and history.

Overview

The dashboard is TedEnergy's home page. It answers three questions: *what is happening now?*, *why?* and *what has it brought me today?*

- **The status banner** at the top shows the current mode and, in plain words, what regulation is doing and why (for example “the batteries are powering the house” or “charging with surplus solar”).
- **Widgets** below are cards you choose and arrange as you like (see below).
- **Warning banners** only appear when useful: new version available, license, electrical panel protection triggered, an inverter whose setpoint was changed by another system, etc.

The animated house

The main widget shows your installation live: solar production, house consumption, the exchange with the grid and the batteries, with the direction of energy. Depending on your installation, the charging station, heat pump, water heater or pool are drawn, as well as the plugged-in car and its charge level. The scene also follows the time of day and the forecast weather.

- Click a label (solar, house, grid, batteries, equipment) to open its detail.
- The small ring on the *House* block shows the **share of consumption covered without the grid**.
- A barely active piece of equipment is not shown in the scene (threshold adjustable in the equipment's sheet); the *Blocks* view always shows everything.
- A button switches between the *House* view and the plainer *Blocks* view. The Blocks view is used automatically if your device cannot draw 3D.

Widgets and their layout

The dashboard is made of widgets you can show, hide, move and resize: customisation button at the top of the page. Two layout modes exist, *aligned* (cards snap to a grid) and *free*. The layout is **shared by the whole installation**: the Android app also uses it if you enable synchronisation.

A library, with previews, lets you add widgets that are not shown by default. Available widgets:

- **Live energy flow**: the animated house.
- **Right now**: setpoint sent, inverters in use, meter target, next scheduled charge.

- **Today's balance** and **The last days** (7 or 30): where the consumed energy came from.
- **Where the energy goes**: the flow diagram between solar, batteries, house and grid.
- **Detailed history** and **Today's figures**.
- **Savings**: what solar and batteries saved you from buying.
- **Next tariff period**: when the electricity price changes.
- **Solar: forecast and actual**: the weather-based production forecast, day by day, compared with reality.
- **Battery health**, **Battery energy** (kWh stored, usable, room left), **Battery autonomy** (how long they will last) and **Batteries full at…** (estimated end of charge).
- **Consumption hours**, **Who consumes** (by equipment), **Consumption peak** (with its time).
- **Panel load**: the electrical panel's load against its limit, if panel protection is active.
- **Value of your choice**: any TedEnergy measurement, shown large.

> ⓘ Widgets that command something (charge the car, pause…) stay in the full interface; they are not part of the phone widgets.

The balance for the day and the last days

The *balance* shows where the energy consumed by the house came from: direct solar, batteries, grid. The grid is broken down by **tariff period** (peak, off-peak, Tempo colours…) if your subscription is set up (see Tariffs, balance and reports).

- The **kWh / €** button shows the same breakdown in energy or in euros.
- The *Last days* chart covers 7 or 30 days. Click a column, or use the ‹ › arrows, to see another day's balance; the *Today* button goes back to the current day.
- The day's consumption peak is shown with its time.
- With resale set up, the balance also shows the energy exported and the income, and the net bill.

Where the energy goes

This diagram links sources (solar, grid, batteries) to uses (house, batteries, export) with bands that are wider the more energy there is. You choose the period: *one day* on the calendar, *6 h*, *24 h*, *7 days* or *30 days*. Today updates live. The data can be exported as a CSV file.

The detailed history

- Click-and-drag to **zoom** on a period; below two hours, every measurement is shown.
- The **background colours** show the operating mode at each moment.
- In three-phase, one curve per phase shows which one consumes the most.
- The average battery level, setpoint, solar, house and meter can be shown or hidden.

The solar forecast

If the weather forecast is enabled (*Settings › Weather forecast*), TedEnergy estimates your panels' production for the coming days. This estimate **improves by itself** by comparing its forecasts with your installation's actual production. The *Solar: forecast and actual* widget shows the gap, the expected peak and the forecast's reliability; the history window lets you look back at past days.

The forecast is an **estimate**, never a guarantee. It can also be used in automations and in the Store (night charging according to the weather, reserve before a storm).

The pages of the interface

- **Dashboard**: this page.
- **Devices**: *Inverters* and *Equipment* (charging station, water heater, heat pump…). See My devices.
- **Store**: features to switch on when needed. See The Store.
- **Settings**: all settings, grouped by theme, with a search.
- **Diagnostic**: measurements, links, start-up times, tests, logs.
- **Automations** and **Notifications and log**: see Automations and notifications.
- **Help**: the documentation, the tutorial for using TedEnergy values in Home Assistant, the startup assistant.
- The **top bar** shows the regulation status, badges (license, update, remote connection).

Frequently asked questions

Why does the dashboard show a small discharge while charging?

With *optimised charging*, two inverters work in opposite directions at low power to absorb variations. You therefore see a small discharge while the whole charges. This is intended: see How TedEnergy regulates.

Values no longer update.

Check the connection badge in the top bar and the *Diagnostic* page. If an inverter's measurements stop arriving, it is flagged “measurements not received” on its sheet. See Troubleshooting and glossary.

Can I get the dashboard on my phone?

Yes: the Android app shows the animated house and the widgets, at home and remotely.

My devices

Inverters and batteries, their connections, the electricity meter and home equipment (charging station, water heater, heat pump…).

Inverters: controlled, monitored, solar

The *Devices › Inverters* page lists everything TedEnergy knows. Each battery inverter has a **role**:

- **Controlled**: TedEnergy sets its charge and discharge.
- **Monitored**: TedEnergy only reads it. Used when another system (a manufacturer's HEMS) keeps the commands: this is the basis of Assisted mode.
- **Solar**: a panel inverter without battery (micro-inverters…): its production is measured and displayed.
- **Draft**: a device being set up, never used until it is enabled.

Each line shows the battery, power, status and, in three-phase, the phase. A switch enables or disables the inverter; the ⋮ menu offers useful actions (take back control, force a retry, remove from regulation…). An inverter can be removed from regulation without its device sheet disappearing.

Declaring a device

In *Settings › Devices*, a **device** is declared once, with a unique name and reference. You choose the **brand** (one sheet per brand, or "Other brand") and the **model**. The Inverters page then only gives it a role, a phase and a discharge priority, and enables it: no entity is entered there.

A device sheet has several tabs: connections, commands, measurements, battery levels, batteries and values read. For a known brand, an **automatic fill** suggests the entities; for others, a magnifier helps pick them. In every case, **test the sheet before saving it**: TedEnergy checks that measurements arrive and commands are accepted.

- **Command**: two setpoints (charge and discharge, with or without a mode selector), one setpoint plus a direction selector, a signed setpoint, or Home Assistant actions; in W, kW, % or A.
- **Measurements**: only the battery level is mandatory. Power, solar, battery power, AC output… are optional: each function that needs one is disabled, with an explanation, if the measurement is missing.
- **Consistency checks**: TedEnergy refuses to save a sheet that reuses another device's command or battery level, checks that the requested actions exist and flags a device whose entities do not match.
- **Error 01 / 02 inhibition**: a sheet checkbox for a device whose behaviour is legitimate (see How TedEnergy regulates).

> ⓘ A new controlled inverter is saved **disabled**, and the validation test (Diagnostic › Inverter test) is offered when you enable it.

A device's connections

The same device can be reached in several ways. TedEnergy uses the **first one available** in this order: local MQTT, local API, manufacturer cloud, Home Assistant (order adjustable per device). If the connection in use stops answering for some time, the next one takes over; the preferred connection comes back once it is stable again.

- **Local API**: the device is queried directly on the home network (IP address), without Internet. Available for recent models (for example Zendure SolarFlow, Indevolt, IsyPower).
- **Local MQTT**: the device publishes its values to TedEnergy's built-in MQTT server (see below), without Internet.
- **Manufacturer cloud**: TedEnergy connects to the manufacturer's account (Zendure, EcoFlow). Convenient, but only one cloud access is possible per Zendure account: TedEnergy *or* the Zendure integration of Home Assistant.
- **Home Assistant**: for every brand Home Assistant can read, using entities.

The *Diagnostic* page has one page per connection type (Home Assistant, cloud, local API, MQTT): values received, reading rate, setpoints sent and confirmed, events. A device that stays on a fallback connection is flagged.

A device in the inverter table always keeps at least one usable connection: the last one cannot be removed.

Brands and models

Supported brands and models, with their level (*Operational*, *Compatible*, *Monitoring only*) and their possible connections, are listed and kept up to date on the Compatibility page.

In short: Zendure is the most complete (cloud, local API, MQTT); EcoFlow is linked through its cloud; Indevolt and IsyPower through their local API; other brands go through Home Assistant or MQTT, with the “Other brand” sheet open to everyone. If your brand is missing, ask the community.

Device connectors

Settings › Device connectors links TedEnergy to brands that have direct access:

- **Zendure**: paste the Zendure app token for the cloud, or add the device by IP address for the local API; the built-in MQTT server welcomes devices in “MQTT control”.
- **EcoFlow**: through the manufacturer's developer account.
- **Indevolt** and **IsyPower**: the device's IP address; a network search helps find it.
- Other brands are under study; the page says why (for example local access that is too slow).

Devices added this way are then picked in the device sheet, like a Home Assistant entity.

The built-in MQTT server

TedEnergy contains an MQTT server that compatible devices can use instead of the cloud. *Settings › MQTT connection* guides the setup step by step: starting the server, opening the port (with a button for Home Assistant OS installations), testing, values to enter in the device, checking that the device is connected. Devices connecting to it appear with their values and attach to a device sheet.

Home Assistant

Home Assistant is one connection among others: it is only required for devices without a direct connection. With the Home Assistant OS app, the connection is automatic. With Docker, enter the Home Assistant address (with its port) and a long-lived access token in *Settings › Home Assistant connection*.

TedEnergy reads values in groups, or in real time when the link allows, so as not to overload Home Assistant. These fine settings are in *Advanced communication*; the defaults are fine.

Batteries and their levels

- An inverter's **batteries** are declared in the *Batteries* tab of its sheet (automatic detection or manual entry): number, capacity in kWh, voltage. They feed the energy widgets, charge preparation and the cell-voltage gap alert.
- The **minimum and maximum levels** protect the battery: the inverter does not discharge below the minimum nor charge above the maximum. They are set globally (*Settings › Batteries and maximum power*, with a draggable gauge, one arrow per inverter) and can be specific to each inverter.
- A switch can **apply the general levels to all inverters** that have the matching entity: TedEnergy writes then checks and corrects the levels. The original levels are kept in memory and restored when you switch it off.
- A **restart margin** avoids back-and-forth at the extremes: an almost full battery does not start charging again, an almost empty battery does not start discharging again, before it has left its limit zone by a few points. It is set globally and per inverter.
- An automation can impose a level for a while; the imposed level is then locked and flagged.

Clusters, zones and phases

- A **cluster** groups inverters that behave as one (shared setpoint, average level). Handy for several batteries behind the same connection point.
- A **zone** sets a power cap shared by several inverters (for example the circuit breaker they share).
- In **three-phase**, each inverter is attached to its phase (L1, L2, L3). For a controlled inverter, TedEnergy can **identify the phase** by itself: a button varies its power in steps and watches which phase reacts. For others, the phase is entered.

Testing an inverter

Diagnostic › Inverter test checks that a device really applies charge and discharge setpoints, outside regulation, at a small power of your choice. The result appears on the sheet (a badge flags devices never tested, to be revalidated or failed). The test can also detect the inverter's phase.

The electricity meter

All regulation relies on the power exchanged with the grid. *Settings › Electricity meter* says where it comes from:

- a **Home Assistant entity** (positive when buying, negative when exporting);
- a **Shelly** read directly by its IP address (single- or three-phase; a test shows each phase's power and suggests the right one);
- the **value of a device linked** to TedEnergy (for example a Zendure meter).

You can declare **several meters ranked by priority**: if the first stops answering, the next one takes over, and the first comes back when it is stable. The sign of the measurement can be inverted.

Home equipment

Devices › Equipment declares what consumes or charges: car charging station, water heater, heat pump or air conditioner, pool, washing machine, radiator, smart plug, other. Equipment is **tracked** (power, energy per day), shown in the animated house and added to PDF reports. It does not act on regulation, except the charging station if you let TedEnergy control it.

How TedEnergy measures the equipment is your choice: a *power measurement* (W or kW), an *energy counter* (Wh or kWh: power is computed from its variation), a *current* (A) or a *fixed power* when the device is running. Several entities can be added together. Each piece of equipment can be hidden from the scene (display threshold) or excluded from reports.

- An equipment's balance gives its energy, its share of the house's consumption, where that energy came from (solar, batteries, grid) and its cost at each moment's price.
- Equipment already counted in another can be marked “included in…” to avoid double counting.

The controlled charging station

A charging station can be **controlled by TedEnergy** (checkbox in its sheet). You choose its goals in the sheet, written as sentences:

- charging with **surplus solar** (with a minimum and maximum current);
- charging during the subscription's **advantageous hours**;
- a **departure time** with a level to reach;
- a fallback level, and the *Charge now*, *Pause*, *Automatic* buttons.

The car **never** receives energy from the house batteries. The station respects the subscribed power (and sum-of-phases regulation if it is three-phase).

Discharging the car into the house (**V2G**) is possible on an **experimental** basis: TedEnergy then creates a virtual inverter, managed by the station's sheet. It has low priority and its minimum level is protected.

> The station's sheet explains the effect of a wrong setting on the car battery's lifespan. The station's settings are only in its sheet, never in the Settings page.

Frequently asked questions

How many inverters can I control?

The number of controlled inverters depends on your license: it is shown in *Settings › License*. See License and account. Beyond it, extra inverters are treated as disabled.

Can I mix several brands?

Yes, it is TedEnergy's strong point: each brand keeps its connection, regulation shares the work among all controlled inverters.

My inverter is not in the list.

Choose “Other brand”: the sheet accepts the entities of any device exposed by Home Assistant or MQTT. Then run the validation test.

Why does a sheet refuse to save?

Probably because it reuses another device's command or battery level, or because a requested action does not exist in Home Assistant. The message names the field concerned.

How TedEnergy regulates

Operating modes, discharge, surplus charging, scheduled charging, sharing between inverters and protections, with the settings that control them.

The principle

TedEnergy reads the meter power at every new measurement and works out what the **controlled** inverters must do: discharge to cover consumption, charge with surplus solar, or stay idle. There is no fixed rhythm: as soon as a measurement changes, the setpoint is recalculated. TedEnergy accounts for what it has already requested and the inverters have not yet applied.

Everything is set from the interface, with no restart; changes apply on the next cycle. Defaults suit most installations: **when in doubt, change nothing**, and adjust one setting at a time, watching the result for a day.

The four modes

Only one mode is in charge at any moment. *Settings › Operating modes* lets you enable each one or not; when in doubt, leave them enabled: a mode with nothing to do does no harm.

- **Scheduled charge**: a slot of your calendar, or a chosen tariff period, is under way. Batteries charge even without sun, from the grid. This mode has priority over the others.
- **Assisted**: at least one *monitored* inverter (one of a manufacturer's HEMS) is declared. Your controlled inverters *complete* this HEMS.
- **Autonomous**: no monitored inverter. TedEnergy manages all batteries by itself: it keeps the meter around a target by discharging, and charges with surplus solar. This is the normal mode.
- **Standby**: nothing to do (no active mode, invalid license, meter measurement unavailable, no usable inverter). No setpoint is sent.

Autonomous mode

When discharging, battery power is adjusted so the meter shows the chosen **target** (*Settings › Autonomous mode*). A slightly positive target deliberately leaves a little grid import, which makes batteries last longer and avoids calling them for tiny powers; a negative target accepts a little export.

- **Different target by period of the year**: you define ranges (for example winter and summer), each with its own target.
- **Maximum increase and decrease** of discharge at each recalculation, and the **share of the gap** corrected each time: fine settings for a more reactive or gentler regulation.

- The inverter stays idle while the consumption to cover is too small to justify a start, then wakes up gradually as it increases.

Surplus solar charging

When the panels produce more than the house consumes (negative meter), batteries charge with this surplus, in Autonomous and Assisted modes. Two methods, to choose in *Settings › Surplus solar charging*:

- **Standard charging**: it starts when export exceeds a threshold for a confirmation delay, then keeps the meter close to that threshold and stops when export drops. Simple and predictable.
- **Optimised charging** (*experimental*, at least two controlled inverters): two inverters stay awake at low power, one charging (the emptiest), the other discharging (the fullest), and absorb every variation. Surplus goes to the first, consumption to the second, **with no threshold or delay** and no stop and start at every cloud. The dashboard then shows a small discharge during charging, which is normal.

Two settings common to both methods guard against useless charging: charging only starts if the **panels are producing** enough (no charging at night on a brief export) and the triggering export cannot be set too low. The **maximum charge variation** at each recalculation sets the ramp-up speed.

A **restart margin** stops an almost full battery from immediately charging again.

Assisted mode

With a manufacturer's HEMS that keeps its own devices, your controlled inverters **complete** it: they discharge in proportion to what the monitored inverters deliver. *Settings › Assisted mode* sets the share of the monitored power taken over by your devices, the maximum variation at each change and how long a setpoint is held, to avoid oscillations with the manufacturer's HEMS.

Scheduled charging

During a slot, batteries charge **from the grid** even without sun, typically in off-peak hours. The source of slots is single, to choose: your manual **weekly calendar** (ticked half-hours) or the **tariff periods** of your subscription that you tick (see Tariffs, balance and reports).

- **Maximum grid power** during charging: it never exceeds the subscription. When the house consumes, charging is **shed** so as not to exceed the limit.
- **Finish charging together**: inverters share the work so as to finish at the same time.
- In three-phase, a maximum power per phase applies.
- The Store's *Scheduled-charge preparation* feature balances the batteries before the slot (see The Store).

Sharing between inverters

When you have several controlled inverters, TedEnergy decides *how many* work and *which ones*. *Settings › Sharing between inverters* sets these choices:

- **One more inverter every…**: the power per active inverter. The lower it is, the more inverters work at low power; the higher, the fewer inverters work.
- **Discharge priority**: in each inverter's sheet, low, medium or high. Inverters whose panels are producing go first (solar priority), then high, medium and low priorities; at equal priority, the fullest battery. When charging, the emptiest goes first. A low-priority inverter can be "integrated" like the others when its battery is clearly fuller.
- **Minimum working time**: a started inverter stays active a minimum time, to avoid endless stops and starts.
- **Battery gap to change inverter**: avoids replacing one inverter with another for a small level difference.
- **Wake-up setpoint** and **gradual transfer**: an inverter that starts first receives a small setpoint while it wakes up (this can take from a few seconds to several tens of seconds depending on the brand); inverters already active take the rest, then the load rebalances in steps.
- In Autonomous discharge, an inverter can stay awake at low power so that resuming is immediate.

> ⓘ The start-up times measured for each inverter are visible in *Diagnostic › Start-up times*. They help spot an abnormally slow device.

Battery and power protections

- **Minimum and maximum** battery levels, general or specific to each inverter: the most cautious limit always applies.
- **Maximum charge and discharge powers**, capped by your **subscription** (subscribed power is entered in *Settings › Subscription and tariffs*).
- **Power really accepted**: TedEnergy learns the power each battery really accepts (an almost full battery or one limited by cold) and does not insist beyond it.
- **Electrical panel protection**: battery discharge adds to what the grid sends into the panel. If the total exceeds the limit (your subscription with a margin), discharge is cut, a red bar appears at the top of every page and you are notified. It resumes by itself when things are back to normal, or with the *Restart regulation* button. This protection only acts on controlled inverters. If your panel handles more than your subscription and an electrician has checked it, the Store's *My panel's capacity* feature raises the limit.

Error 01 and error 02: setpoint not applied

Sometimes an inverter accepts a setpoint without producing it. TedEnergy detects this, **sets the inverter aside** (red line, ⚠ icon) then **tests it regularly** with a small power in the regulation's direction. If it produces it, it is unblocked and stays a priority for a while.

- **Error 01**: the inverter does not apply its setpoint, in charge or in discharge.

- **Error 02**: the test is impossible for now (battery full during a charge, at minimum during a discharge, solar passing through the inverter…). The test starts as soon as the cause disappears.
- The ⚠ icon lets you **force a new try** without waiting; the ⋮ menu also offers a **forced unblock**.
- The detection delay, tolerance and test frequency are set in *Settings › Monitoring and safety*; an illustration shows each setting's effect. An **inhibition checkbox** in the device sheet disables detection for a device whose behaviour is normal.

Other protections

- **Setpoint changed by another system** (manufacturer app, third-party integration, Home Assistant automation): TedEnergy pauses the inverter for a few minutes, shows it clearly ("other system, restored at…") then takes control back. The pause length is adjustable; 0 disables detection.
- **Setpoint not applied** (an idle inverter that keeps discharging, for example): TedEnergy rewrites the setpoint, then, if the problem persists, pauses the inverter and alerts you.
- **Measurements not received**: an inverter whose measurements stop arriving is set aside until they return, with a clear message. At TedEnergy's start, waiting for the first measurements is shown without a false alarm.
- **Calibration**: during a battery calibration, the inverter is not controlled; the Store's *Scheduled calibration* feature prepares full batteries.
- **Failed commands**: an inverter that stops answering is set aside then retried automatically.
- **License**: if a license limit is exceeded, the extra inverters are disabled, with a warning.

Three-phase grid

In three-phase, *Settings › Electrical grid* chooses the grid type and the **regulation**: on the **sum of phases** (the case with a Linky meter, which adds them) or **phase by phase**. Each inverter is attached to its phase. A three-phase or high-power station requires an installation declared as three-phase with regulation on the sum.

Fine settings and good practice

- *Settings › Rhythm and stability* sets the regulation loop: measurement smoothing, anti-oscillation. Defaults are fine.
- Download your configuration (*Settings › Backup and versions*) before any major change.
- Test a new inverter before enabling it and check its maximum powers.
- Keep a reasonable minimum battery level to preserve its lifespan.
- If in doubt about the electrical installation, have it validated by a professional.
- An AI can help you spot what works badly: *Settings › Diagnose with an AI*.

Frequently asked questions

Why is only one inverter working when I have six?

TedEnergy makes the *useful number of inverters* work: one more per power band. For a small consumption, one is enough. Setting: *One more inverter every…*.

Why aren't my batteries discharging while I consume?

Several possible causes: minimum level reached (or restart margin), inverter disabled or faulty, wake-up setpoint in progress, positive meter target, or Standby mode. The status banner and the inverter's sheet give the reason in plain words.

Why isn't it charging while I export?

Surplus charging starts after a confirmation delay, only if the panels produce enough, and not if the battery is almost full. See also optimised charging, which has no threshold or delay.

An inverter is in error 01, what should I do?

Usually nothing: TedEnergy tests it regularly and unblocks it by itself. You can force a try with the ⚠ icon. If it keeps happening, see Troubleshooting and glossary.

Tariffs, balance and reports

Entering your subscription, reading the balance in kWh and euros, receiving PDF reports and benefiting from the weather-based solar production forecast.

Entering your subscription

Settings › Subscription and tariffs describes your electricity contract. It serves three purposes: the **balance in euros** on the dashboard, **automatic scheduled charging** on the periods you choose, and **power limits**.

- **Supplier and contract**: base, peak / off-peak, with super off-peak hours, Tempo, Zen, or a custom grid with your own periods.
- **Price of each period** and hours. For off-peak hours, TedEnergy can fetch them automatically; you can also paint them by hand, half-hour by half-hour, which takes precedence.
- **Subscription price** (per month or per day), counted in the cost of electricity.
- **Resale price** of the exported kWh, if your contract has one: the balance then shows income and net bill.
- **Subscribed power** in kVA: it caps charge and discharge powers, and is the basis of the electrical panel protection. Without it, a new installation is limited to a cautious power.

> ⓘ Off-peak hours are optional: without them, TedEnergy counts all hours at the “peak” price and never starts a grid charge.

Electrical panel protection

In the same section, panel protection watches what passes through your panel (what the grid sends plus what your batteries discharge) and cuts discharge if the limit is exceeded. It is **enabled by default**. Its settings (confirmation delay, automatic resume) are beside it. See How TedEnergy regulates.

The balance in kWh and euros

- Every day, TedEnergy works out where the consumed energy came from (direct solar, batteries, grid) and what it is worth at each period's price. Solar and batteries are valued at the price of the current period.
- The dashboard's **kWh / €** button shows the breakdown by tariff period in the unit of your choice; the *Savings* widget summarises what solar and batteries saved you from buying.
- **Current prices** are applied to past days: changing a price changes the balance of days already gone.

- With resale, the balance shows energy exported, income, subscription cost and the **net bill**.

PDF reports

TedEnergy can generate **daily, weekly or monthly** PDF reports: main indicators, energy origin, daily chart, financial balance, and one page per piece of equipment if you declared any. The setting is on the *Automations* page: frequency, day, time, retention, a *Generate now* button and the list of reports already made. A notification tells you about each new report.

The weather-based solar production forecast

Settings › Weather forecast enables an estimate of your panels' production for the coming days. You only need to give the installation's **location** (an address to look up, or Home Assistant's position). TedEnergy only sends rounded coordinates to the weather services.

- **Several sources** are possible: an automatic or chosen weather model (Météo-France, ECMWF, ICON, GFS) and MET Norway; TedEnergy weights sources by their measured reliability.
- The forecast **learns your installation**: it compares its estimates with your actual production, day after day, and adjusts (orientation, shading, efficiency). There are no panels to declare. During the first weeks it is marked “provisional estimate”.
- A **same-day correction** accounts for what has already been produced during the day.
- It feeds widgets (*Solar: forecast and actual*…), the *meteo.** variables of automations and several Store features (night charging according to weather, reserve before a storm).

> ⓘ A forecast remains an estimate, never a guarantee. It does not replace your meter's actual measurement.

History, retention and export

- *Settings › History* sets how long measurements (charts and balances) and text logs are kept.
- The *Where the energy goes* diagram can be exported as CSV; the measurement history is downloaded with the diagnostic package.
- TedEnergy can also **publish its values** (powers, levels, balances…) to Home Assistant, read-only, through a local API or MQTT. The full guide is in *Help › Using TedEnergy values in Home Assistant*.

Frequently asked questions

My contract is not in the list.

Choose “custom”: you define your periods, their hours and their prices.

Why did my balance in euros change after a price change?

Current prices are applied to every day, including past ones. TedEnergy does not keep a price history.

Does TedEnergy start a grid charge by itself?

Only during the scheduled-charge slots you chose, or with a Store feature you enabled (for example the eve of a red Tempo day).

Automations and notifications

Make TedEnergy react to your conditions (time, battery level, weather, Tempo day…), act on Home Assistant and be notified, without writing a line of code.

The principle

An **automation** says: "*when* these conditions are true, *then* TedEnergy does this". It is made of **conditions**, **effects** applied while conditions are true, and **actions** run at the start and the end. Everything is built on the *Automations* page, with a visual editor.

Examples: keep the battery during off-peak hours, keep a reserve at night, limit an inverter at certain times, switch to holiday mode, switch an appliance on with surplus solar, warn when an inverter is in error.

Conditions

Conditions combine with **AND** and **OR**, in nested groups. Each condition compares a **variable** with a value or another variable:

- **TedEnergy variables**: powers (solar, house, grid, batteries), battery levels, current mode, each inverter's state (error, pause, starting, fallback connection), the day's balance, next tariff period, sunrise and sunset, solar forecast, equipment, charging station…
- **Device values**: each device exposes stable values (level, power, temperature…) that do not change even if its connection changes. Connector values (cloud, local API, MQTT) and Home Assistant entities are also usable.
- **Date and time**: compared in time (a date with time zone, "01/11/2026 14:08", "22:30"), with functions (hour, weekday, hours remaining until, since…) and an offset (± minutes, hours, days). Example: "now ≥ next calibration − 12 h".
- **Drag and drop** (or a menu) lets you reorganise conditions and groups.

> An unknown value (device unreachable, not yet received) makes the condition false, unless you tick "decide nothing when a value is unknown": the automation then does nothing rather than decide on a missing value.

Effects on regulation

While conditions are true, an automation can apply one or more effects, on the whole regulation, all inverters, one inverter, a cluster or a zone:

- **Forced standby**: no setpoint sent any more.
- **Discharge blocked** or **charge blocked**: the direction is forbidden.
- **Forced charge**: batteries charge from the grid, like during a scheduled slot.
- **Disabled** or **enabled**: like the switch on the Inverters page.
- **Limited charge** or **limited discharge** to a given power.
- **Imposed minimum or maximum level** for the battery.
- **Imposed setting**: a setting of the Settings page takes a value while the condition lasts, then gets its own back.
- **Imposed value** on a Home Assistant entity or a device: it takes the chosen value at the start and goes back to the previous one at the end.

If two automations impose different values on the same target, they are flagged as **competing**: each has a **priority** (1 wins). Competing ones are flagged on each line with a link to the other.

Actions

At the start and end of an automation, TedEnergy can also run **actions**: write a value to a Home Assistant entity, call a Home Assistant service (with its data), send a webhook (address, method, content, headers), or write to the log. A failed action is retried several times. Variables such as the automation's name or the time can be inserted in a webhook's content.

Delays and stability

- **After X seconds of true condition**: avoids reacting to a brief spike.
- **Delayed end**: the effect carries on for a while after the condition turns false.
- **Minimum delay between two starts**: avoids repeated triggering.
- **Stay active at least N minutes**: the automation keeps its effects a minimum time after its start, even if the condition drops.
- After TedEnergy restarts, automations resume where they were and leave measurements a short time to arrive.

Templates, folders and editing

- Ready-made **templates** (off-peak: keep the battery, at night: keep a reserve, surplus solar to an appliance, car charging, limit an inverter at night, maintenance, absence…) create an automation to adapt.
- You edit **one automation at a time** in a window: save, duplicate, delete, test (what would it do now?) and run its actions. Changing one automation is never blocked by another, incomplete one.
- A **switch** on each line enables or disables it at once.
- Automations are filed in **folders** (one level) to find your way; the display order is the filing order.

- The **library** lets you import automations shared by other users and share yours (with your ted-energy.fr account).

History and simulation

Each automation shows its **last activity** and keeps a history of its triggers. A **simulation** replays it on the past to see when it would have triggered before enabling it; it flags variables missing from the history.

Notifications

The *Notifications and log* page gathers what TedEnergy has to tell you. **Notification rules** work like automations: conditions, a message, and the choice of a phone notification (Android app). TedEnergy also sends system notifications: license, update, PDF report, inverter in error, protection triggered.

- Tabs: notifications, **warnings and errors**, **settings change history** (who changed what, and from where: local interface, app, remote access, support), inverter log.
- The **inverter log** notes every state, mode and setpoint change, with the reason; it can be downloaded, like the main logs, with a diagnostic package.
- The Store's *Anomaly alerts* feature offers ready-made alerts (see The Store).

Using TedEnergy values in Home Assistant

TedEnergy can make its values available to Home Assistant, **read-only**: through a local API (a home-network address) or by publishing them over MQTT. Your Home Assistant automations can then rely on solar power, battery levels, the current mode… without Home Assistant being able to command anything. The full guide, with the list of values and examples, is in *Help › Using TedEnergy values in Home Assistant* in the interface.

Frequently asked questions

How many automations can I create?

The number depends on your license (see License and account). If the limit is exceeded, the last ones in the list are disabled, with a warning.

My automation does not trigger.

Open it and use *Test*: TedEnergy shows each condition's value. Also check that it is enabled, that no variable is unknown and that the configured delays have elapsed.

Two automations contradict each other.

They are flagged as competing. Set their priority, or merge them into one.

The feature Store

Ready-made functions to switch on when needed: calibration, export limit, night charging, holidays, alerts, storm reserve, surplus sale…

The principle

The *Store* gathers **ready-to-use features** that you switch on with one click, without building an automation. Each feature has its card: what it is for, what it requires, its settings, an animated diagram and its state.

- A tabbed window presents the feature (description, requirements, effects, compatibility) and its settings.
- The card shows whether the **requirements** are met (for example a Tempo subscription, or at least two controlled inverters).
- Store features **do not modify your automations**: they act alongside, and the ones you created keep priority.
- Features marked **"to test"** are recent: a confirmation is requested before switching them on. Users' feedback lets them move up to stable features.
- The number of features you can run at once may be limited by your license (see License and account).

Scheduled calibration

Many batteries recalibrate themselves at regular intervals and need to be full for the measurement to be right. When the inverter announces its own next calibration, TedEnergy follows that date, inverter by inverter. For the others, you choose the date and time, with a repetition. During the **preparation period**, discharge is blocked and the maximum level goes to 100%. You can be notified at the start and end.

Grid export limit

You set the maximum export power allowed by your contract. In the daytime, if what you export exceeds the limit, inverters are **disabled progressively** and their bypass to the grid is blocked; they come back one by one when export drops with some margin. At night the limit does not apply. For Zendure the blocking is automatic; for other brands you choose the entity that allows it.

Scheduled-charge preparation

When your batteries do not have the same capacity, scheduled charging does not always manage to fill them all in the time given. TedEnergy works out what each battery can absorb during the slot and, if one will not be full while another has room, **transfers energy** from one to the other before the slot. Option:

transfer with solar only, so as never to discharge one battery to charge another. A *History* tab shows, slot by slot, what the preparation brought.

Scheduled-charge preparation: calculation and history

The calculation takes the reality of a slot into account: slow batteries (2400AC, SolarFlow…) end up less full than the others, the **solar expected during the slot** fills the fast batteries first, and once the small batteries are full part of the grid power goes unused. The preparation starts only if the **estimated gain** (extra kWh stored thanks to the transfer, losses included) exceeds the *Minimum gain to act* setting.

- **Home consumption during the slot**: by default the average of the last 7 days at the same hours ("See the days" button), or a fixed value. During the preparation, a higher-than-usual consumption is taken into account.
- **Efficiency of each inverter**: learned automatically (see *Diagnostic › Efficiency*) and used in the calculation as soon as a few measurements exist.
- **A preparation in progress adapts**: real levels, current solar, an inverter added or back from a temporary fault (error 01, calibration, other system); the transfer slows down or stops if the sun drops.
- **History tab**: for each scheduled charge, the simulation without and with preparation, the real balance (grid, home, energy sent to the batteries, unused grid, energy stored, final level), an indicative verdict (useful, no measurable effect, no benefit, not triggered) and the detail per inverter. A 30-day summary gives the average gap between plan and reality. Everything is in kWh.

> ⓘ A transfer between batteries has losses: use the history to check that the preparation really brings you something.

Eve of a red day

When the next day is announced as a red Tempo day (or red and white, as you choose), TedEnergy charges your batteries from the grid during the **night's off-peak hours**, up to the chosen level, to release them in peak hours. Option: only charge if little sun is forecast.

Holiday mode

Enter the dates of your absence. TedEnergy limits the batteries' maximum level (a battery kept less full ages less), lowers the reserve so the house lives on solar, stops grid charging and prevents other features from charging from the grid. When you are back, everything returns to normal and you receive a **summary of the period**.

Anomaly alerts

Each alert gathers conditions (zero production in broad daylight, inverter in error, almost empty batteries…), a message and the choice of a phone notification. You create as many alerts as needed, from examples or from scratch. An alert never acts on regulation.

Features “to test”

- **Night charge according to weather**: charges in off-peak hours just what tomorrow's sun will not provide (from the house's average consumption and the batteries' capacity), or up to a fixed level.
- **Surplus to the water heater**: surplus solar switches on your water heater (or any appliance driven by a Home Assistant switch) before recharging batteries; it switches it off as soon as the sun is no longer enough. You can let the batteries fill first up to a chosen level.
- **Backup reserve**: before a storm announced by the forecast (gusts, thunderstorms) or a scheduled power cut, the batteries are prepared: discharge blocked, maximum level raised, grid as a top-up if you allow it.
- **Selling surplus at the right time**: for a contract that buys electricity back at a higher price at certain hours, batteries keep their energy outside selling times, then TedEnergy exports at a **fixed power** during the sale. Check yourself that resale is allowed and worthwhile with your contract.
- **My electrical panel's capacity**: if your panel handles more than your subscription and an electrician has checked it, you declare its capacity: battery discharge can add to it.

ⓘ Charging and selling features touch your electricity contract and your installation: read each sheet's requirements before switching them on.

Frequently asked questions

Does the Store replace my automations?

No. The Store offers ready-made functions; your automations keep working and take priority.

A Store feature is greyed out.

Its requirements are not met: the card says which (Tempo subscription, number of controlled inverters, weather forecast enabled…).

Can I switch a feature off?

Yes, at any time from its card: effects stop and original values are restored.

Android app and remote access

Follow the installation from your phone, receive notifications, act simply, at home or remotely.

What the app does

The Android app is TedEnergy's **companion**: see at a glance what the installation is doing, receive notifications and act simply. The engine still runs at your place; **all settings are made in the web interface**, more comfortable on a large screen. It is downloaded from Google Play.

- **Home**: the animated house and widgets you choose (or the same layout as the web interface, if you synchronise).
- **Inverters**: compact list with battery and state; tapping an inverter opens its sheet, with the possible actions.
- **Store**: TedEnergy's features and their settings.
- **Schedule**: scheduled charging and automations, with their state.
- **More**: server, remote access, notifications, appearance, wall-tablet mode.
- A full-screen chart, zoomable down to the minute.

Actions available from the app always ask for **confirmation**: enabling or disabling an inverter, switching it from controlled to monitored, unblocking a fault, controlling the charging station, enabling or disabling an automation. TedEnergy records them in its change history, like those of the web interface.

Deliberately absent: settings, adding devices, creating rules, Diagnostic, backups, license.

Linking the app to TedEnergy

On the home Wi-Fi, the app **finds TedEnergy by itself** on the network; you can also enter its address. Several installations can be saved (a list lets you switch between them) and each has its own name.

Without a network, the home screen keeps the last values received, greyed, with the time they were read.

Notifications

Notifications arrive **even with the app closed**, without an outside service: the phone fetches them from TedEnergy. What TedEnergy sends is set in the web interface (notification toggle per rule; see Automations and notifications). In the app, you keep a notification history and can mute them.

Remote access

Away from home, the app can reach TedEnergy **remotely**. It is enabled in *Settings › Mobile app and remote access*. It is **off by default**, and it is the most sensitive point of security: the web interface has no password and must never be exposed as is on the Internet.

- Once enabled, **only requests signed by the app** (with a key only you have) are accepted from the Internet. Settings, configuration files and access management are never reachable remotely.
- **Pairing the phone** is done once, on the home Wi-Fi: the app picks up the address and the key.
- TedEnergy must be reachable from the Internet: an IP address reservation for the machine, a port redirection on the router, and a fixed public address or a DynDNS name. The interface shows the detailed procedure and flags common problems.
- A safer alternative: a **VPN** (Tailscale, WireGuard, router or NAS VPN); VPN addresses are then treated like the home network.
- With the Home Assistant OS app already reachable from outside (Home Assistant Cloud / Nabu Casa), the full interface is available in Home Assistant's sidebar.

> Never redirect other ports of your router (for example Home Assistant's) without weighing the risks.

Widgets, shortcuts and wall mode

- **Home-screen widget**: solar, house, grid, batteries and TedEnergy's mode without opening the app.
- **Icon shortcuts** (long press): charge the car, pause the station, wall mode, Store.
- **Wall-tablet mode**: the animated house large, the time and the figures of the moment, screen always on and dimmed at night. A short guide helps set up the tablet.
- The app's 3D house is the web interface's; a setting simplifies it on a low-power phone.

Frequently asked questions

The app cannot find TedEnergy.

Check that the phone is on the same Wi-Fi as the machine and that TedEnergy is running; enter the address by hand if needed. See Troubleshooting and glossary.

Do I need remote access to get notifications?

No: notifications work on the home Wi-Fi. Remote access is for receiving them and seeing the installation away from home.

Is my installation visible to others?

No. Without remote access, TedEnergy accepts no request coming from the Internet; with it, only requests signed by your app are accepted.

License and account

Getting your license, what it allows, how it is checked, the ted-energy.fr customer area, what TedEnergy sends and remote assistance.

Getting your license

TedEnergy needs a license to run. It is requested **from TedEnergy** (startup assistant, or *Settings › License*) with a first name, an e-mail address and your consent. A **ted-energy.fr account** is created for you; a confirmation e-mail is sent, and TedEnergy carries on by itself once you have clicked the link.

- If your address is already known, TedEnergy offers to log in to your account and choose the license to use.
- If the address entered does not receive the e-mail (typo, full mailbox), TedEnergy detects it, tells you and offers to correct the address or resend the e-mail.
- Without Internet access from the machine, the **license file** can be downloaded from the website then imported into TedEnergy.

What a license allows

Each license comes with **rights**, visible in *Settings › License*:

- the **duration** of validity (some licenses have no end);
- the number of **machines** (TedEnergy installations);
- the number of **controlled inverters**;
- the number of **automations** and Store features;
- access to **three-phase grids**, to **remote assistance** and to the holder's access from the customer area;
- the **check rhythm** and the mode (online or offline).

Available plans and their conditions are described on the website (Support page). A trial license can become free at its end, with the free license's limits: TedEnergy warns you in advance, and if a limit is exceeded, the extra inverters or automations are **disabled** (never deleted), with a warning.

License checking

- TedEnergy checks its license with ted-energy.fr at a rhythm that depends on the license (every day or every week), at a varying time during the night. The result is signed: a modified license file is refused.
- If the server is unreachable, TedEnergy **keeps running** and retries every hour. The license remains valid until its end.

- *Settings › License* shows the date of the last check, the "to validate by" date and a *Check now* button.
- A warning appears when the license nears its end; a dashboard banner flags a missing or invalid license, with a button to get one.

Machines: changing hardware

A license is tied to one or more **machines**. When you change hardware (new NAS, new mini-PC), TedEnergy offers, at first start, to **replace** the old machine; you can also release a machine from your customer area. A machine that has not shown up for a long time is released automatically.

The customer area

Your **ted-energy.fr** account ("My account" menu) gathers your licenses and their machines: rename a machine, release it, see what TedEnergy sends, request an extension. From the customer area you can also **open TedEnergy's interface remotely** if your license and your local setting allow it (see below), and share your automations in the library.

The safety warning

When you get a license, TedEnergy shows a **safety warning** that you accept: controlling inverters and batteries involves your electrical installation, which must comply with the standard (NF C 15-100 in France) and be validated by a professional in case of doubt. TedEnergy only acts on controlled inverters, and its panel protection does not replace a properly sized panel.

What TedEnergy sends

To check the license, TedEnergy attaches **anonymous** information: an installation identifier, its version, **counts** (number of controlled and monitored inverters, automations, grid type, subscribed power) and, to follow compatibility, the brand, model and connection type of each declared inverter. Never any **measurement** (powers, consumption, levels), name, address or Home Assistant entity. Details are in Privacy.

Remote assistance

So that a support member can help you, you can allow **remote assistance** (*Settings › Assistance and remote access*). It is **off by default** and lasts while the box stays ticked. TedEnergy then opens an *outgoing* connection to ted-energy.fr: **no port to open** on your router. Support then sees the interface like you.

- Changes made by support are noted in the history, marked "remote connection".
- Some data (tokens, keys, credentials) is never accessible to support.
- You switch it off whenever you like by unticking the box. It is included in some licenses only.
- The same principle allows the **holder's access**: you open your interface from the customer area, away from home.

Installations without Internet and several sites

For an organisation, an **offline** license runs without any server, and an **enterprise console** lets you supervise several installations linked by a VPN from a single page. These functions are enabled in *Settings › Enterprise console* and tied to particular licenses; contact the community or support to learn more.

Contributing and earning free months

The **Contribute** page of TedEnergy is linked to the evolutions of ted-energy.fr: you suggest ideas, vote for other people's and report the bugs you meet. Every **delivered** contribution is rewarded with free license months.

- **Evolutions**: suggest a feature (TedEnergy looks for similar requests to avoid duplicates) and vote for the existing suggestions. Retained, in-progress and delivered evolutions are shown, with their dates, on the site's Roadmap page.
- **Bugs**: choose the date or period when the problem happened, describe it, give its impact and attach screenshots. You choose what goes with it: logs, history, inverters, configuration (tokens and passwords masked), with the size of each part shown before sending. These items can only be read by the team, are never shared, and are deleted 12 months after the request is closed.
- **Account required**: a confirmed ted-energy.fr account, linked to your license, identifies the author. Your public **nickname** is unique and editable (once every 30 days); your e-mail address is never shown.
- **Reward**: a delivered evolution or a confirmed and fixed bug earns free license months, handed over by the team after the version is published, with a thank-you e-mail. Only the first author of an identical request is rewarded; a bug must be proven (not a configuration mistake).
- **Free months**: they build up per license type in your customer area. You choose the license used first (the most complete by default), can use a month right away, or let them take over automatically when your license ends (switch). They have no monetary value and cannot be transferred.

Frequently asked questions

Is the license really free?

The free license lets you start. Limits and plans are shown in *Settings › License* and on the Support page.

I changed machine, how do I get my license back?

At first start on the new machine, choose to replace the old one. Otherwise, release it from your customer area.

What happens if my license expires?

Depending on the license, it becomes free with its limits, or TedEnergy goes into standby. A warning tells you in advance. Nothing is deleted.

Can I use TedEnergy without an Internet connection?

Yes for regulation. The license is checked occasionally; an offline license exists for installations without Internet access.

Troubleshooting and glossary

Common problems and how to solve them, diagnostic tools, backups and the glossary of words to know.

Where to start

- Read the dashboard's **status banner** and the status line of the inverter concerned: TedEnergy says in plain words what is happening and why.
- Open the **Diagnostic** page: links, values received by connection type, inverter start-up times, tests, logs.
- Look at *Notifications and log › Warnings and errors*.
- An AI can analyse your logs: *Settings › Diagnose with an AI*.
- To ask for help, attach the **diagnostic package** (Diagnostic › Logs: a .zip with the last days' logs and the configuration, tokens and passwords masked).

The interface does not open

- Check that TedEnergy is running: container started in Container Manager or Docker, app started in Home Assistant.
- Check the **address and port**: with Docker, it is the machine's published port (for example 5002); with Home Assistant OS, open TedEnergy in the sidebar.
- A port already used by another service prevents startup: choose another.
- After an update, reload the page: a banner offers to.

Home Assistant unreachable or token refused

- Use Home Assistant's **IP address** with its port (`http://192.168.1.50:8123`), not `homeassistant.local`, which does not always work from a container.
- A “token refused” comes from an incomplete or deleted token: copy it in full or create a new one.
- TedEnergy and Home Assistant must be on the same local network.

The meter is not read

- Check the source in *Settings › Electricity meter*: entity, Shelly address, or a device's value. The test button shows the measurement.
- An unreadable meter puts regulation on standby: no setpoint is sent while it is missing.
- With several meters, the next one takes over after a short delay; the Diagnostic page shows which one is used.

- Check the **sign**: positive when the house buys, negative when it exports (inversion setting available).

A battery does not charge or discharge

In order:

1. **Is the inverter enabled and controlled** (Inverters page)? A new inverter is saved disabled.
2. **Is the battery level** at its minimum (discharge) or maximum (charge)? The restart margin can also hold back a few points.
3. **Is a pause shown** (setpoint changed by another system, error 01, calibration)? The sheet says so in plain words.
4. **Does an active mode** prevent the action? An automation or a Store feature (holidays, reserve, export limit) can block charging or discharging.
5. **Is the meter read?** Without a measurement, nothing is sent.
6. **Do the inverter's measurements arrive?** If not, the sheet says “measurements not received”: see the dedicated section.
7. Run the inverter's **validation test** (Diagnostic › Inverter test).

Error 01 or 02 that keeps coming back

- An error 01 flags an inverter that does not apply its setpoint. TedEnergy tests it regularly: usually it unblocks by itself.
- If it comes back often, check whether the device is calibrating, too cold, or limited by its battery; check its maximum powers in the sheet.
- A brand with a slow response may need a longer detection delay (*Settings › Monitoring and safety*).
- For a device whose behaviour is normal, the *Error 01 / 02 inhibition* checkbox of its sheet turns detection off.

“Setpoint changed by another system”

TedEnergy saw that an inverter's setpoint or mode was changed outside of it: manufacturer app, Home Assistant integration, third-party automation. The inverter is paused for a few minutes then taken back. To stop this, switch off the other command source; if intended, the pause is adjustable (0 removes it). The *Take back control* button takes control back immediately.

“Measurements not received”

An inverter's values no longer arrive. For a cloud connection, check that only one access exists for the account (TedEnergy *or* the manufacturer's integration in Home Assistant), then the connection's Diagnostic page. For a local API or MQTT, check the address, the device's Wi-Fi and that the MQTT server is started. TedEnergy switches by itself to another connection of the device if you declared one.

License impossible to get or validate

- The machine must be able to reach `https://ted-energy.fr`.
- Check your mailbox (junk included): the confirmation link is required.
- Without Internet access, download the license file from the website and import it (*Settings › License*).
- See License and account.

Backup, restore and versions

- *Settings › Backup and versions* exports the configuration as a file labelled with the versions that can use it, and restores it after checking. A refused restore explains why (version too old or too recent).
- TedEnergy can **go back to a previous version** embedded in the image (Versions page), keeping your settings when possible. A banner reminds you that a previous version is running; if the chosen version does not start, TedEnergy automatically returns to the previous one.
- Download your configuration before any major change.

The efficiency of your inverters

The *Diagnostic › Efficiency* page shows the **apparent efficiency** of each inverter, charging and discharging, and the installation's average. It is measured automatically over the charges, by comparing the energy received with the battery level gained.

- The more measurements, the more reliable the value; a value from few charges remains provisional.
- It depends on the batteries' **declared capacity**: a wrong capacity gives a wrong efficiency. Check it if a value looks surprising.
- An efficiency clearly lower than the other inverters' deserves a look: declared capacity, wiring, battery condition.
- These values are used by the scheduled-charge preparation (see The Store).

Where to find help in TedEnergy

The detailed explanation of the software is in this **online documentation**: up to date with every version, in four languages, with a PDF to download and a plain-text version to give to an AI.

- The interface's **Help** page is deliberately short: quick start, the “Use TedEnergy values in Home Assistant” tutorial, full screen under Home Assistant, installed version and a link to the documentation.
- *Settings › Diagnose with an AI*: a short text (summary of the software and address of the documentation), together with a summary of your logs, your settings and the list of your inverters, to give to ChatGPT, Claude, Gemini or Le Chat. TedEnergy only counts how many times the text is copied and the summary downloaded (anonymous counts, never any content).
- The **Contribute** page lets you report a bug directly with the useful attachments (see License and account).

Asking for help

The community answers on Discord and Facebook. For effective help, give: TedEnergy's version (Help page), your installation type (Home Assistant OS, Docker, Synology), the brand and model of the inverter concerned, what you expected and what happened, with the time. Support can also connect to your interface if you allow it (see License and account).

Glossary

- **HEMS**: home energy management system. It decides when to charge or discharge batteries. TedEnergy is one; many manufacturers supply their own (manufacturer HEMS).
- **Controlled inverter**: an inverter that receives TedEnergy's charge and discharge setpoints.
- **Monitored inverter**: an inverter run by another system, which TedEnergy measures without commanding; it guides Assisted mode.
- **Draft**: a device being set up, never used until enabled.
- **Autonomous mode**: TedEnergy manages all batteries by itself by reading the meter.
- **Assisted mode**: TedEnergy completes a manufacturer's HEMS (secondary HEMS).
- **SOC** (state of charge): a battery's level, as a percentage.
- **Setpoint**: the power requested from an inverter.
- **Export / feed-in**: electricity sent to the grid (negative meter).
- **Self-sufficiency**: the share of the house's consumption that was not bought from the grid.
- **Scheduled charge**: charging from the grid during a chosen slot.
- **Surplus charging**: charging batteries with surplus solar.
- **Optimised charging**: an (experimental) method where two inverters absorb every variation at low power.
- **Cluster**: a group of inverters with a shared setpoint. **Zone**: a group of inverters with a shared power cap.
- **Three-phase (L1, L2, L3)**: a three-phase grid; each inverter is attached to its phase.
- **Subscribed power**: your subscription's power (kVA), which caps charge and discharge.
- **Off-peak / peak hours**: tariff periods of your contract. **Tempo**: a contract with blue, white and red days.
- **Connection**: the way to reach a device (local API, MQTT, cloud, Home Assistant).
- **Error 01 / 02**: an inverter that does not apply its setpoint / test impossible for now.
- **Store**: ready-to-switch-on features. **Widget**: a dashboard card.

Frequently asked questions

Where do I find TedEnergy's version?

On the interface's *Help* page (“Software version”), and in *Settings › Backup and versions*.

TedEnergy restarted, did I lose anything?

No: settings, license and history are in the data folder. Automations resume where they were.

A question, a special case? The community answers on Discord and Facebook. An AI can also analyse your installation: see “Diagnose with an AI” in TedEnergy's Settings. Discord · Facebook