

Manual: QA Wallbox EcoVolter

Communication and control interface for the EcoVolter I portable wallbox (EcoVolter PRO, 1st generation).

Introduction

QA Wallbox EcoVolter communicates with and controls the EcoVolter I portable charging station (wallbox). It reads the operating and status values of the wallbox and allows direct manual control of the charging modes and charging power, including switching to single-phase charging and setting the Boost mode.

The application can be used on its own as a monitoring and control interface, or it can be integrated into the energy management of the house — for charging from photovoltaic surplus or for spot price control. The application itself contains no automation logic; it serves as a data and control interface for higher-level applications.

The application can respond to the TOU (HDO) signal. Optionally, it can continue charging when the photovoltaic power is temporarily insufficient — the system takes the missing power from the home battery or from the grid. This can reduce the number of times charging is switched on and off during a short drop in production (for example when clouds shade the panels). The minimum and maximum battery state of charge (SOC) limits can be set to keep energy available for the household.

In combination with an inverter QA, the application can control the inverter — disable discharging of the home battery or prioritise its discharge.

For clear visualisation and access to measurement history and graphs, we recommend connecting to Mervis SCADA.

Upstream and downstream applications

Upstream applications

The application also works on its own — as a monitoring and control interface with manual control. Automatic charging control is always provided by a higher-level application:

- charging from photovoltaic surplus requires **QA Consumption Control**,
- spot price control requires the combination of **QA Spot Pro** and **QA Wallbox SPOT Planner**.

Optional:

- **QA Consumption Control** — charging control according to the photovoltaic surplus (energy management of the house).
- **QA Spot Pro** — spot price control of charging (in combination with QA Wallbox SPOT Planner).
- **QA Wallbox SPOT Planner** — planning and control of charging according to spot prices and PV surplus.
- **QA HDO** — passes the TOU (HDO) signal so that the application can respond to the low/high tariff.
- **Inverter QA** — with the **Inverter Control** option switched on, the application controls the inverter (disabling discharging of the home battery, prioritising its discharge).

Downstream applications

In terms of control, the application is the last link in the chain — it is itself the communication and control interface to the EcoVolter I wallbox and has no downstream QA application.

Installation and initial setup of the QA

Installation

Purchase the application in the Smart Home and Energy e-shop (<https://eshop.smarthomeenergy.cz>). After the purchase you receive an e-mail with a link to the activation form, in which you choose one of the two installation methods:

- **Installation via the SHE Installation Application (recommended)** — the application is installed into the unit automatically and allows future automatic updates. Requires the "superuser" credentials for the unit. See the separate "Installation Application" manual for details.
- **Standalone installation file (*.fqax)** — install the file manually into the unit according to the unit manufacturer's instructions (logged in as "superuser"). This option does not allow automatic updates.

You can try out the functions of the application before purchase in the trial version — the TRIAL unlocks full functionality for 2 days.

After a successful installation, the following appear on the unit desktop:

- a set of application cards (tiles): **Wallbox EcoVolter**, **Values overview**, **Options**, **Manual control**, **Installation** and **Charging options**,
- quick control tiles (**ONCE-FULL**, **AUTO**, **MAN-FULL**, **ONCE**, **MAN-ON**, **MAN-STAGE**, **MAN-OFF**),
- value tiles (**Output**, **EV Connected**, **TOU**, **Total**, **Period**, **Connection** in kWh and **Today**).

Operating prerequisites

- **Controller:** Fibaro HC3 or HC3L (or Yubii Home / Home Pro).
- **Wallbox:** EcoVolter I portable wallbox (EcoVolter PRO) in the variant with Wi-Fi support, connected to the home Wi-Fi network with a stable signal and internet access.
 - The application communicates with the wallbox via the manufacturer's cloud platform; local network search is not used for this model.
- The manufacturer's mobile app **iXmanager** — use it to assign the wallbox to your account and set its basic parameters (maximum current, Boost mode).
- **API key** (access token) created on the manufacturer's portal (<https://evcharger.ixcommand.com/>) and **wallbox serial number** (device identifier) — enter both into the application variables in the unit (see below).

Wallbox setup according to the manufacturer's instructions

Before setting up the application in the unit, prepare the wallbox according to the manufacturer's instructions:

1. Connection to Wi-Fi

- Unplug the wallbox from the socket, plug it in again and within 5 seconds press the button on the control panel and hold it for approximately 0.5 seconds.
- The wallbox starts broadcasting its own Wi-Fi network named Charger-xxxxxx.
- Connect the phone to this network (the password is on the card supplied with the wallbox).
- In the window that appears, select "Wi-Fi configuration" (or open the address 172.217.28.1 in a browser) and select the home Wi-Fi network the wallbox is to connect to.

2. iXmanager mobile app

- Install the app from Google Play or the App Store and create a user account.
- Assign the wallbox by scanning the QR code on the back of the charging cable box.
- The user who assigns the wallbox first becomes its administrator.

3. Charger settings — in the iXmanager app, set:

- **Maximum charging current** (maximum current allowed in normal mode and in Boost mode),
- **Charging current for fast charging** (current in Boost mode),
- **Fast charging time** (total duration of Boost mode in minutes).
- If your vehicle supports only single-phase or two-phase charging, set **Vehicle charging mode** to "two-phase".

Advanced wallbox settings are available in the ixfield web application (www.ixfield.com) with the same credentials as in the ixmanager app.

Warning: Control the wallbox only from the application in the unit. Do not switch on a time schedule in the ixmanager app and do not control charging manually there — otherwise a control conflict occurs and the charging state is switched repeatedly.

Creating the API key

The application in the unit communicates with the wallbox via the manufacturer's API. According to the manufacturer's instructions:

- Open the address <https://evcharger.ixcommand.com/> in a web browser — you will find links to the API documentation and to the API itself.
- First, an API key must be created; use the same credentials as in the ixmanager app.
- Copy the created key — you enter it into the **X-API-KEY** variable of the application in the unit (see Initial setup procedure).

Entering data in the application variables

1. In a web browser, move the cursor over the **Wallbox EcoVolter** tile and click the gear icon in its top-left corner. The device settings open.
2. Go to the **Variables** tab.
3. Enter the created API key into the **X-API-KEY** variable and the wallbox serial number into the **SerialNumber** variable. Edit a value with the pencil icon at the end of the line.
4. Do not change the other variables — the application fills them in itself according to the settings on the **Installation** card.

Opening the application control card

In a web browser, move the cursor over the application tile (e.g. **Wallbox EcoVolter, Manual control**) and click the **eye** icon in its top-right corner. The application card opens.

Warning: Not all cards and tiles are displayed to all users. Each user selects which cards and tiles are displayed on the Display Settings card (sheViewControl application) — levels SHORT, ADVANCED and ADMIN. If you cannot see a described card, check the settings on this card.

User settings

Initial setup procedure

1. Connect the wallbox to Wi-Fi and assign it to your account in the **iXmanager** app (see above).
2. Create an API key on the manufacturer's portal and enter it, together with the wallbox serial number, into the **X-API-KEY** and **SerialNumber** variables (see above).
3. **Installation card**
 - Check the wallbox serial number.
 - Set the configuration of currents, times and control.
 - Without QA Wallbox SPOT Planner, also set the sources.
4. **Charging options card** — set the charging behaviour at low photovoltaic power and the use of the home battery.
5. **Options card** — set the notifications.
6. **Wallbox EcoVolter** and **Manual control** cards — use these cards for everyday charging control.
7. **Values overview card** — check the operating values of the wallbox and the control state.

Installation card

Used for the initial setup of the communication with the wallbox and the control parameters.

 **Warning:** When saving settings, always wait until Run status changes to Running. Do not press SAVE before that.

Enabling inverter control

The section is displayed when the application is used standalone (without QA Wallbox SPOT Planner).

- **Inverter Control** — with the option switched on, the application controls the inverter (disabling discharging of the home battery, prioritising its discharge). We recommend leaving it switched on.
 - The charging behaviour itself at low PV power (battery SOC limits, drawing from the grid) is set on the **Charging options card**.

Current configuration

- **Charging Current Minimum** and **Charging Current Maximum** — range of the wallbox charging current (e.g. 6 A and 16 A).

Time configuration

Delays in the control response: **Power On Delay**, **Shutdown delay**, **Delay Increase**, **Delay Decrease**, **Turn on the minimum** and **Minimum shutdown**. The values determine how fast and how often the control may change the charging state and power.

Control configuration

- **Wallbox Group** — group number used to link the application with higher-level QA applications (e.g. for spot price control or control according to surplus). Applications with the same group number form one logical unit.
- **CONTROL CONFIGURATION — Standalone** (the application controls the wallbox without a link to consumption control and spot price control), **Power management** (the application is part of the energy management) or **Wallbox Control** (the wallbox is controlled by the QA Wallbox SPOT Planner application).
- **Control Inputs** — automatically filled overview of the higher-level applications that control the charging of the wallbox (e.g. the inverter and QA Consumption Control).

Sources configuration

The section is displayed when the application is used standalone (without QA Wallbox SPOT Planner).

- **SOURCE CONFIGURATION** — selection of the energy sources from which charging is allowed: **Charging from surplus** PV, **SPOT charging**.
- **SPOT CONTROL CONFIGURATION** — **Disabled** (spot price control switched off), **EMS** (the charging power is controlled in cooperation with the other devices and according to the available power) or **SPOT** (link to spot price control only, the power is always set to maximum).
- **Priority** — priority of the wallbox in the energy management; change the value with the - / + buttons.

Input/output configuration

- **TOU SOURCE TYPE** — selection of the TOU (HDO) signal source: **Disabled**, **Global variable** (TOU signal from a global variable of the unit) or **Device** (TOU signal from the selected device).

Communication settings

- **Serial number** — serial number of the wallbox entered in the **SerialNumber** variable. The value 0 means that the serial number has not been entered yet.

The **Run status** line shows the running state of the application. Save the settings with the **SAVE** button.

EMS Overview

Values for cooperation with the energy management: **EMS Priority**, **Output device phase** and **Output Devices**.

The application version is shown at the bottom of the card (e.g. sheWallboxEcoVolter 1.02.04).

Warning: If the QA Wallbox SPOT Planner application is installed in the unit, the Enabling inverter control and Sources configuration sections are not displayed on the card; make these settings in the planner.

Options card

Setting of notifications about the charging state.

Notification settings

Select the events you want to be informed about: **START** (charging started), **STOP** (charging finished), **INTERR** (charging interrupted), **ERROR** (wallbox error state).

Choose how the notifications are delivered: **E-mail**, **Push** or **TTS** (voice notification).

For the **Notification period** item, set the notification frequency with the -- / - / + / ++ buttons.

Select the recipients in the **EMAIL USERS** and **PUSH DEVICE** sections. The **EMAIL USERS** drop-down shows only users with valid access to the unit. If an item is missing in the list, click **Update** — the list is loaded again from the unit.

The **Run status** line shows the running state of the application. Save the settings with the **SAVE** button.

Charging options card

The card is used to set the behaviour of charging from photovoltaics when the PV power is temporarily insufficient and to set the use of the home battery.

- All SOC limits on this card refer to the home battery connected to the inverter, not to the vehicle battery.
- If you want to limit the number of charging interruptions, the system takes the temporarily missing power from another source — from the home battery or from the grid. This can reduce the number of times charging is switched on and off during a short drop in production (for example when clouds shade the panels).

- If **Wallbox Control** is selected in **CONTROL CONFIGURATION**, the settings are not available here – this function is then taken over by the QA Wallbox SPOT Planner application.

Setting the first stage at low PV output

- **Inverter Battery** – current SOC and energy of the inverter's home battery (e.g. 77 % | 19.7 kWh).
- **Minimum Charged Energy** – minimum amount of requested energy for charging to start (kWh); change the value with the -- / - / + / ++ buttons.

Validity whole setting according prediction – the settings apply either always, or only when a PV production surplus over the house load is predicted:

- **Excess PV Energy Over Load** – value of the predicted PV surplus in kWh.
- **Only when predicting excess production** – use the button to make the settings valid only when a surplus is predicted.

Enabling charging at low PV power:

- **Switch on even when PV output is low** – the system either waits for PV power higher than the minimum required for switching on, or switches charging on earlier. The line above the button shows the state of the function (Active / Inactive).

Setting the first stage from the battery

The missing power is temporarily taken from the home battery.

- **1st stage from Battery, No charging of the vehicle at 1st level of Battery Inactive, Charging from grid** – state of the individual functions (Active / Inactive).
- **Discharge Limits Battery Inverter** – SOC hysteresis of the home battery: when the SOC drops to **Min**, drawing from the battery stops; after charging to **Max**, it is allowed again. Change the values with the - / + buttons.
- **When the inverter battery SOC is low** – what happens when the battery SOC drops to the Min limit: **Disable vehicle charging** (charging is switched off) or **Charging from grid** (the missing power is taken from the grid).
- **Auxiliary discharging inverter battery** – use the button to enable the function.

Setting the first stage from grid

The missing power is taken from the distribution grid. If the **Only when predicting excess production** option is switched on at the same time, charging is switched off once the PV power is exhausted; if this option is not switched on, charging continues according to the settings.

- **1st stage from Grid Active** – state of the function (Active / Inactive).
- **Permanently from Grid** – use the button to allow the missing power to be drawn from the grid.
- **Switch off vehicle charging** – when the power is insufficient, charging is switched off after a delay.

Forced Battery Discharge Settings

An option for cases when you prefer charging the vehicle over the home battery – energy is transferred from the home battery to the vehicle within the set SOC range.

- **Forced Discharge Battery** – state of the function (Active / Inactive).
- **Discharge Limits Battery Inverter** – SOC hysteresis of the home battery: when the SOC drops to **Min**, forced discharging stops; after charging to **Max**, it starts again. Change the values with the - / + buttons.
- **Forced Discharging** – use the button to enable the function.

Changes on this card are saved automatically immediately after clicking a button; the card has no SAVE button.

- A highlighted button means that the option is switched on.
- The status line (Active / Inactive) shows whether the function is currently being applied – with the vehicle disconnected, all states are Inactive.

- The current state of the individual functions (Active / Inactive) is also shown in the **Control overview** section on the **Values overview** card.

Warning: If Wallbox Control is selected in CONTROL CONFIGURATION on the Installation card (the wallbox is controlled by the QA Wallbox SPOT Planner application), the settings on this card are not available. In that case, set the first stage behaviour on the planner's Charging options card — see the QA Wallbox SPOT Planner manual.

Wallbox EcoVolter card

The main control card — shows the charging state and allows quick manual control.

Status values: **Charging Status**, **Enable charging**, **Connection**, **Fully charged**, **Current Target** and **Power**.

The **External control mode** section shows the state of the higher-level control (**Active Control**, **Input Mode**, **Input**). The **Management Mode** section shows the current **Output** and **Control Mode** (e.g. MANUAL-OFF:Disconnected).

Control buttons:

- **AUTO** — automatic mode (control by the higher-level application).
- **ONCE-FULL POWER** — one-time charging at full power.
- **MANUAL-FULL POWER** — continuous charging at full power.
- **ONCE** — one-time manual start of charging.
- **MANUAL-ON** — charging switched on manually and kept on.
- **MANUAL-OFF** — manual switching off of charging.

For the **Manual stage** item, set the manual charging power with the MIN / - / + / MAX buttons (e.g. 1:4.1kW).

The **Energy** section provides an overview of consumption: **Power**, **Period**, **Connection**, **Today** and **Total**.

The same control is also available directly from the quick control tiles on the desktop (**AUTO**, **ONCE-FULL**, **MAN-FULL**, **ONCE**, **MAN-ON**, **MAN-OFF**); use the **MAN-STAGE** tile to set the manual charging stage.

Manual control card

Extended manual control of the wallbox — direct setting of the wallbox operating parameters using the functions supported by the manufacturer.

The **Management Mode** section shows the current **Control Mode** (e.g. MANUAL-OFF:Disconnected). Use the **MANUAL CONTROL** button to switch to manual control.

In the **Wallbox controls** section you can set:

- **Current Target** — charging current; set the value with the -- / - / + / ++ buttons.
- **Enable charging** — use the **DISABLED** / **ENABLED** buttons to disable or enable charging.
- **Maximum Current** — maximum charging current of the wallbox; set the value with the -- / - / + / ++ buttons.
- **Boost Current** — current for the Boost mode (short-term charging with increased current for a set time); set the value with the -- / - / + / ++ buttons.
- **Single-phase mode** — use the **OFF** / **ON** buttons to switch the wallbox between three-phase and single-phase charging, even during charging. Switching is available only when the wallbox is connected to a three-phase socket.

Values overview card

Overview of the operating values of the wallbox: **Charging Status**, **Connection**, **Charging Status**, **Enable charging**, **Current Target**, **Power**, **Single-phase mode**, **Boost Status**, **Boost Current**, **Boost Time** and **Remaining Boost Time**.

The table shows the **Current** for the individual phases (**Phase R**, **Phase S**, **Phase T**).

The card also shows the **Energy Total** value.

In the **Control overview** section, the card shows the state of the charging control:

- **Control enabled, Priority, SPOT Available, PV Active and SPOT Active,**
- the state of the functions set on the Charging options card (**Switch on even when PV output is low, 1st stage from Battery, No charging of the vehicle at 1st level of Battery Inactive, Charging from grid, 1st stage from Grid Active, Forced Discharge Battery – Active / Inactive**),
- the power stages **Multistage Min, Multistage Max and Stage Max Limit.**

Notes

- Use the **Update** button to reload the list of available items (users, devices) from the unit. This button does not save the configuration.
- The controls on the **Manual control** card correspond to the functions of the EcoVolter I wallbox; the meaning of these functions is described in the wallbox manufacturer's documentation.
- Communication runs via the manufacturer's cloud — if the internet connection of the wallbox or the unit fails, the application does not read the values and does not control charging.
- For clear visualisation and access to measurement history and graphs, we recommend connecting to Mervis SCADA.