

Manual: QA Vehicle Integration (Home Assistant)

Reading of the basic values of an electric vehicle from your own Home Assistant installation and their transfer to charging planning in the SHE system.

Introduction

QA Vehicle Integration (Home Assistant) is an input application for smart control of electric vehicle charging. If you have your own installation of the Home Assistant system with an integrated vehicle whose charging you want to control with the SHE system, the application reads the basic values of the vehicle from Home Assistant and passes them to charging planning.

The system then automatically works with the current battery state of charge (SOC) and plans charging according to your requirement — typically from photovoltaic surpluses or according to spot prices.

It is not necessary to integrate all values. What matters is the current battery state of charge (SOC); the other values are optional depending on what your vehicle integration in Home Assistant provides.

Transferred values:

- current battery state of charge (SOC),
- charging limit (SOC Max),
- vehicle battery capacity,
- connection state (connected / disconnected),
- charging state,
- vehicle location (at home / away from home),
- time of the last update of the values.

For visualisation, work with measurement history and charts, we recommend connecting to SCADA Mervis.

IMPORTANT WARNING: The application reads data from a third-party system — Home Assistant and the vehicle integration installed in it.

The transfer of values, their scope and update frequency depend on the Home Assistant system, on the vehicle integration used and on which data this integration provides for the specific car.

The functionality of the application and the support options of Smart Home and Energy depend on the availability, capabilities and terms of these sources. If they are changed, restricted or discontinued, the application may stop working completely or partially.

Smart Home and Energy does not guarantee the availability, completeness or correctness of data provided by a third party. The customer sets up and manages the Home Assistant installation, the vehicle integration and the access token themselves.

Upstream and downstream applications

Upstream applications

- **Home Assistant** — your own installation with an integrated vehicle; the source of the values the application reads. The control unit (HC) and Home Assistant must be on the same network.

Downstream applications

- **QA Wallbox SPOT Planner** — takes over the read vehicle values and plans and controls charging based on them.

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 activation form provides a link to download the Installation Application. Install it into the unit; it then automatically downloads and installs the purchased licences. It provides automatic updates of all applications and easy licence management (requires the "superuser" credentials for the unit). See the separate "Installation Application" manual for details.
- **Standalone installation file** — the activation form provides links to download an encrypted *.fqax file bound to the entered unit S/N. 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.

Before purchase, you can try out the functions of the application in full functionality for 2 days using the TRIAL version (a separate *.fqax for download in the product detail in the e-shop).

After a successful installation, the cards and tiles belonging to the application appear on the unit desktop in the **E-mobility** section: **HA Car Integration**, **Values overview**, **Setting Values** and tiles with the read values (e.g. **Battery SOC**, **Battery SOC Max**, **At home**, **Plug**).

Operating prerequisites

- The control unit is a **Fibaro HC3** or **HC3 Lite** (or Yubii Home / Yubii Home Pro).
- You have your own **Home Assistant** installation with an integrated vehicle. The control unit (HC) and Home Assistant are on the **same network**.
- An **access token (Access token)** for reading values is generated in Home Assistant.
- For the actual charging planning and control, the downstream application **QA Wallbox SPOT Planner** is installed.

Warning: Smart Home and Energy does not perform or support the installation and setup of the Home Assistant system and is not responsible for its functionality — it is fully the customer's responsibility.

Opening the application control card

To open the application card in a web browser, move the cursor over the tile (e.g. **Values overview**, **Setting Values**) and click the eye icon in the top-right corner of the tile. The card detail with the current state and settings 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. In the **Home Assistant** system, generate an access token (Access token) for reading values.
2. In the application variables, enter **AddressUrl** (address of the Home Assistant instance, e.g. homeassistant.local), **Port** (e.g. 8123) and **Period** (reading period of the values in seconds, e.g. 30). Insert the generated token into the **AccessToken** variable.
3. After the connection is established, open the **Setting Values** card and load the entities from Home Assistant. Assign the corresponding entity to each item. For state values, also set the value that corresponds to the active state (the **VALUE** field).
4. Leave the items that you do not want to integrate or that are not available in Home Assistant at **Disabled**. What matters is the current battery state of charge (SOC).
5. In the **GroupWallbox** variable, set the wallbox group for assigning this vehicle to the downstream charging application.
6. Save the changes with the **SAVE** button. For each set value, a separate child device (tile) is created after saving.

"Setting Values" card

The card is used to assign entities from Home Assistant to the individual vehicle values. Each item can be set to a specific entity or left at **Disabled** if it is not to be integrated.

Items for entity assignment:

- **EV SOC** — current state of charge of the vehicle battery in % (entity of the sensor type). The essential value that must always be integrated.
- **EV SOC MAX** — set charging limit in % (entity of the number type).
- **EV PLUG** — vehicle connection state (entity of the binary_sensor type).
- **EV PLUG VALUE** — value of the EV PLUG entity that corresponds to the "connected" state (e.g. on).
- **EV CHARGING** — vehicle charging state.
- **EV CHARGING VALUE** — value of the EV CHARGING entity that corresponds to charging in progress.
- **POSITION** — vehicle location.
- **AT HOME** — vehicle location entity (device_tracker) according to which it is evaluated whether the vehicle is at home. At the same time, the value corresponding to the at-home state is set (e.g. home).
- **UPDATE** — entity with the time of the last update of the vehicle values (sensor of the timestamp type).
- **BATTERY CAPACITY** — capacity of the vehicle battery. It can be assigned from a Home Assistant entity, or left at **Disabled** and entered manually: set the **Car Battery Capacity** value with the -- / - / + / ++ buttons and confirm with the **Update HA** button. The manually entered capacity is backed up when the values are updated, so it is not overwritten.

The **Run status** field shows the running state of the application (e.g. **Running**).

After setting all items, save the configuration with the **SAVE** button. For each set value, a child device (tile on the desktop) is created.

"Values overview" card

The card displays a summary of the currently read vehicle values:

- **Battery SOC** — current battery state of charge in %,
- **Battery SOC Max** — set charging limit in %,
- **Car Battery Capacity** — capacity in kWh,
- **Plug status** — Connected / Disconnected,
- **Charging Status** — charging in progress,
- **Position at home** — whether the vehicle is at home,
- **Position** — vehicle location,

- **EV Update** — time of the last update of the vehicle values,
- **Update** — time of the last update of the card.

The **Update** button triggers an immediate reading of the values from Home Assistant outside the regular period.

Variables

The application uses these variables:

- **AddressUrl** — address of the Home Assistant instance (e.g. homeassistant.local),
- **Port** — Home Assistant port (e.g. 8123),
- **Period** — reading period of the values in seconds (e.g. 30),
- **AccessToken** — access token generated in Home Assistant for reading values (secret variable),
- **GroupWallbox** — wallbox group for assigning the vehicle to the downstream charging application,
- **CarID** — vehicle ID,
- **CarName** — vehicle name (displayed in the card header),
- **_savedValues** — internal backup of manually entered values (do not edit).

Notes

- The essential minimum is the current battery state of charge (SOC). The other values are optional depending on what the vehicle integration in Home Assistant provides.
- The control unit (HC) and Home Assistant must be on the same network.
- The manually entered battery capacity is backed up when the values are updated, so it is not overwritten.
- For the actual charging planning and control, the downstream application **QA Wallbox SPOT Planner** is required.
- For visualisation, work with measurement history and charts, we recommend connecting to **SCADA Mervis**.