

Manual: QA Shelly Dimmer 0/1-10V PM Gen3

Integration of the Shelly Dimmer 0/1-10V PM Gen3 dimmer module (Wi-Fi) via the local network — reading and control of the 0/1–10 V output, including the Shelly Plus AddOn add-on module.

Introduction

QA Shelly Dimmer 0/1-10V PM Gen3 provides reading and control of the **Shelly Dimmer 0/1-10V PM Gen3** dimmer module in the controller, including the **Shelly Plus AddOn** add-on module (SHELLY-PLUS-ADDON-1360). The application makes available the module's 0/1–10 V output (brightness), the state of its inputs and the values of peripherals connected via the AddOn (e.g. the DS18B20 temperature sensor).

The application communicates with the module locally via the local network using the module's API.

Together with the QA application, both products form a set for e.g. continuous control of single-phase hot water heating, including temperature measurement. The application is prepared for integration with QA applications for DHW heating.

Upstream and downstream applications

Upstream applications

- **QA DHW Boiler** — uses the module as an output for smooth control of the heating element power and as a source of the tank temperature (**Installation** card, **Shelly Configuration** section).
- **QA DHW Mode** — uses the module to control the heating element power when heating from PV surplus (**Shelly Configuration** section).

Downstream applications

The application does not require any downstream QA application. The prerequisite for operation is a **Shelly Dimmer 0/1-10V PM Gen3** module connected to the same local network as the controller.

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 installs the purchased licences.
 - It provides automatic updates of all SHE 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.

To verify the function before purchase, a free **TRIAL** version for 2 days is available — download it from the product page in the e-shop.

After a successful installation, the **SHELLY DIMMER** tile, the **Values overview** and **Installation** cards and the automatically created child tiles (**Input 0**, **Input 1**, **Brightness** and the tiles of the selected AddOn peripherals, e.g. **temperature:101**) appear on the unit desktop.

Operating prerequisites

- A **Shelly Dimmer 0/1-10V PM Gen3** module, wired and connected to the local network (Wi-Fi) according to the manufacturer’s instructions.
- Disable API security – local network only.
- For temperature measurement or additional inputs, a **Shelly Plus AddOn** add-on module with connected peripherals (e.g. a DS18B20 temperature sensor).
- The module and the controller are in the **same local network (LAN)**.
- A Fibaro HC3L or Fibaro HC3 controller (or Yubii Home / Yubii Home Pro).

Opening the application control card

To open the application card in a web browser, move the cursor over the tile (**SHELLY DIMMER**, **Values overview**, **Installation**) and click the **eye** icon in its top-right corner. The card detail 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

For QA Shelly Dimmer 0/1-10V PM Gen3, the following tiles and cards are displayed on the unit desktop:

- **SHELLY DIMMER** — the main tile of the application; after opening, it displays the application run state and the time of the last update.
- **Values overview** — information card with an overview of all values read from the module.
- **Installation** — connection to the module in the network, selection of the AddOn peripherals and setting of the reading periods.
- Child tiles **Input 0**, **Input 1**, **Brightness** and the tiles of the selected AddOn peripherals (e.g. **temperature:101**) — created automatically. A child device is a separate subordinate device with its own tile, which can be selected in downstream QA applications and scenes. Child outputs can be controlled directly.

Initial setup procedure

1. Connect the Shelly Dimmer module to the local network according to the manufacturer's instructions. Note down its MAC address from the Shelly app or from the label.
2. **"Installation" card**
 - Scroll down to the **IP Address Settings** section.
 - Use the **SEARCH NETWORK** button to find the module and select it in the **MAC ADDRESS** field (with several modules, compare the MAC addresses).
 - Then go back up and check that the device data (**Device ID**, **Model**) have been loaded in the **Module Settings** section.
3. If you use the Shelly Plus AddOn, expand the **SELECTED PERIPHERALS** field and tick the peripherals you want to display in the unit. If a peripheral is missing from the list, verify in the Shelly app that the AddOn module and the sensor are detected, and click **Update**.
4. Set the reading periods.
5. Press **SAVE** and wait until **Run status** changes to Running.
6. Check the values read on the **Values overview** card.

"Installation" card

The card is used to connect the application to the module, select the AddOn peripherals and set the reading periods.

 **Warning:** When saving settings, always wait until Run status changes to Running. Do not press SAVE before that. Pressing it repeatedly before the restart is complete may cause configuration errors.

Module Settings

Data loaded from the module after selecting it in the network:

- **Device name**,
- **Device ID** (e.g. shelly0110dimg3-...),
- **AddOn Type** (e.g. sensor),
- **APP** (Dimmer0110VPMG3),
- **Model** (S3DM-0010WW),
- **GEN** (Shelly device generation).

Used to check that the correct device is selected. The ID number in the card header is the device identifier in the unit and is not related to the module's **Device ID**.

- **SELECTED PERIPHERALS** — selection of the peripherals connected via the Shelly Plus AddOn that are to be displayed in the unit (e.g. ds18b20|temperature:101 — DS18B20 temperature sensor). A child tile is created for each selected peripheral. The field shows the number of selected items (e.g. 1 Selected).
- **Update** — reloads the list of peripherals connected to the module.

Reading periods setting

A separate reading interval from the module can be selected for each group of values (**Disabled**, 5s, 10s, 15s, 20s, 30s, 60s, 120s, 5m or 10m; 30s means reading once every 30 seconds, 10m once every 10 minutes):

- **READING PERIOD-ANALOG** — interval for reading the analog values (e.g. 30s).
- **READING PERIOD-DIGITAL** — interval for reading the digital values (e.g. 60s).
- **READING PERIOD-SYSTEM** — interval for reading the module's system data (e.g. 10m).
- Writing to the module (e.g. a brightness change) has no period — it takes place on every change.
- Shorter intervals increase the load on the network and the unit; if the communication is unstable, extend the intervals.
- With the **Disabled** option you switch off reading of the given group — do not use it for a group whose values you need in scenes or other applications.

IP Address Settings

- **IP Address** — IP address of the module in the unit's network.
- **MAC Address** — MAC address of the module.
- **MAC ADDRESS (Select item)** — selection of the module from the list of Shelly devices found; each item shows the MAC address and IP address of the module. The IP address is not entered manually. Verify the correct item by the MAC address shown in the Shelly app or on the device label.
- **SEARCH NETWORK** — starts the search for available Shelly devices in the unit's network (other devices in the local network are not listed). After the search is complete, choose the module in the **MAC ADDRESS** field.

If the module's IP address changes (e.g. after the router assigns a new address), the application finds the module again automatically by its MAC address.

The **Run status** field displays the application run state (e.g. Running). After completing the settings, save the configuration with the **SAVE** button and wait until **Run status** changes to **Running**. The application version is shown at the bottom of the card (e.g. sheShellyDimmer0110VPMG3 1.02.09).

"SHELLY DIMMER" tile

The main tile of the application. After opening the card, the following are displayed:

- **Run status** — application run state (e.g. Running),
- **Update** — date and time of the last reading.

The card is for information only and requires no settings.

"Values overview" card

Information card with an overview of the values read from the module (**Values overview** section):

- **Input 0** and **Input 1** — state of the module inputs,
- **Temperature 0** — temperature from the sensor connected via the AddOn (e.g. 59.7°C),
- **Brightness** — current level of the 0/1–10 V output in % (e.g. 0%),
- **Output** — output state (e.g. Off).

The card is for information only and contains no setting elements.

Child tiles

The application automatically creates the following child tiles:

- **Input 0, Input 1** – state of the module inputs (e.g. Never tripped).
- **Brightness** – 0/1–10 V output of the module (e.g. Off), can be controlled directly.
- tiles of the selected AddOn peripherals – e.g. **temperature:101** with the current temperature.

The tiles provide a quick overview on the unit desktop and are used in other QA applications and scenes.

Continuous control of DHW heating with QA DHW Boiler

The Shelly Dimmer 0/1-10V PM Gen3 module with the Shelly Plus AddOn add-on module and a DS18B20 temperature sensor forms, together with **QA DHW Boiler**, a set for continuous control of single-phase hot water heating:

- the module's 0/1–10 V output (child **Brightness**) serves as the control signal for smooth control of the heating element power,
- the DS18B20 temperature sensor connected via the AddOn (child e.g. **temperature:101**) measures the tank temperature.

Setup procedure

1. In QA Shelly Dimmer 0/1-10V PM Gen3, complete the initial setup (see above) and select the temperature sensor in the **SELECTED PERIPHERALS** field (e.g. ds18b20|temperature:101). Verify that the child tiles **Brightness** and **temperature:101** are displayed on the desktop.

2. In **QA DHW Boiler**, open the **Installation** card and set:

- **Shelly Configuration** section — in the **QA SHE SHELLYDIMMER0110VPMG3** field, select the module (e.g. 3455:shelly0110dimg3-...:SHELLY DIMMER). If the module is missing from the list, click **Update**.
- **TEMPERATURE SOURCE TYPE** — **Shelly Dimmer**,
- **TEMPERATURE SOURCE UP** — the child of the temperature sensor (e.g. 3461:temperature:101),
- **TEMPERATURE SOURCE DOWN** — the second sensor, if connected; otherwise **Disabled**,
- **OUTPUT TARGET TYPE** — **Shelly Dimmer**,
- **OUTPUT TYPE 1** — **Continuous**,
- **TARGET OUTPUT 1** — child **Brightness** (e.g. 3460:Brightness),
- **PHASE OUTPUT 1** — phase according to the actual wiring of the heating element,
- **Power Output 1** — rated power of the heating element according to its label (e.g. 3000W),
- for unused outputs 2 and 3, leave **TARGET OUTPUT 2** and **TARGET OUTPUT 3** set to **Disabled**.

The numbers before the device names (e.g. 3455, 3460, 3461) are identifiers from the sample installation; they will be different in your unit.

3. Make the other settings of the **Installation** card (heating group, volume, priorities, **SELECTING OF SOURCES**, HDO, contactor) according to the **QA DHW Boiler** manual.

4. Press **SAVE** and wait until **Run status** changes to Running.

Function check

- The **Temperature DHW Up** value on the **Control** card of **QA DHW Boiler** corresponds to the **Temperature 0** value on the **Values overview** card of QA Shelly Dimmer.
- During heating, the **Output (%)** value on the **Control** card of **QA DHW Boiler** is reflected in the **Brightness** value on the **Values overview** card of QA Shelly Dimmer.
- In the **EMS Output devices** section on the **Installation** card of **QA DHW Boiler**, verify that the output is listed with continuous control (Control type:continuous).

For a detailed description of the modes and the other cards of **QA DHW Boiler**, see the separate **QA DHW Boiler** manual.