

Manual: QA Presence Detection

Detection of user presence in the household based on the connection of mobile devices to the local Wi-Fi network.

Introduction

QA Presence Detection allows the system to change its behaviour according to the presence of persons who are in the system's list of persons and are enabled for detection. When a specific person is present, heating or cooling settings can be adjusted (configured in the downstream applications).

The application determines which of the users are currently at home. Detection runs automatically according to whether the user's mobile phone is connected to the local data (Wi-Fi) network. The application passes the presence status ("At home" / "AWAY") on to the downstream applications.

Presence can be tracked for one or more users. Each user can also be assigned multiple MAC addresses.

The application cooperates with Mervis SCADA for visualisation and with other QA applications of the Energy Management family — for spot prices, energy sharing, controlled wallboxes, DHW heating and more.

Upstream and downstream applications

Upstream applications

The application is standalone and does not require any upstream QA application.

Downstream applications

The link is automatic — if a downstream application uses the presence status, it picks it up without any further configuration.

- QA Room Climate Control
- QA DHW Mode
- QA Profile Control
- Other SHE applications that use the presence status.

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.

After a successful installation, the application is available on the gateway desktop as the “Presence Detection” tile.

Operating prerequisites

- The gateway is connected to the same local Wi-Fi network as the users’ mobile devices.
- On this Wi-Fi network, the mobile phone has the random MAC address / “Privacy” mode turned off and uses the fixed MAC address of the device.
- The users whose presence is to be tracked have valid access to the unit, so that they appear in the user list.

Opening the application control card

To open the application card with all the controls, move the cursor over the “Presence Detection” tile on the desktop. An eye icon appears in the top-right corner of the tile. Click the eye to open the application detail with the presence status and the MAC address settings.

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

The application control card consists of an overview part (the current presence status and the user list) and the "Settings" section, where MAC addresses are assigned to and removed from individual users.

Presence status

The top part of the card shows the current overall status:

- Status – "At home" if at least one user is present, "AWAY" if nobody is.
- Additional text below the status shows who is present, or "Nobody At Home".

The same overall status ("At home" / "AWAY") is also shown directly on the application tile.

Users list

The "Users list" table shows the users registered in the gateway with the following columns:

- ID – the user identifier in the gateway.
- Name – the name or e-mail of the user.
- MAC – the MAC address assigned to the user. The value --- means that no MAC address is assigned.

Settings

The "Settings" section is divided into two blocks:

- **Deleting a users MAC** – removing one or all MAC addresses of the selected user.
- **Add MAC to user** – assigning a new MAC address from the list of devices detected on the local network.

A single user selector above the two blocks applies to both.

Selected user

The drop-down menu below the "Selected user" label is used to select the user. The items have the format ID:N Name (e.g. ID:2 SupportSHE). The currently selected user is shown next to the "Selected user" label (--- before a selection is made).

Deleting a users MAC

This block removes previously assigned MAC addresses of the selected user:

- In the "Selected MAC User" menu, choose the specific MAC address to remove.
- The "Delete users MAC" button removes only the selected MAC address.
- The "Delete All users MAC" button removes all MAC addresses of the user.

Add MAC to user

This block assigns a MAC address from the list of devices detected on the local network to the selected user:

- In the "Selected New MAC" menu, choose the MAC address of the device. The items have the format MAC|IP|status|name, for example A0:52:72:20:8F:E3|192.168.50.197|Active|(Unknown).
- The "Add MAC to user" button confirms the assignment.

Show inactive MAC

The "Show inactive MAC" switch extends the "Selected New MAC" menu with devices that are not currently active on the network. This is useful when you want to assign a phone that is active on the Wi-Fi network only irregularly.

Update MAC list

The "Update MAC list" button immediately detects the devices connected to the local network and updates the MAC address drop-down menu.

Remove inactive from List

The "Remove inactive from List" button removes from the list the MAC addresses that are not active on the network. It keeps the list clear if devices that no longer belong to the network have accumulated during use.

Procedure for assigning a MAC address to a user

1. On the mobile phone, set a fixed MAC address for this Wi-Fi (turn off the random MAC / "Privacy" mode).
2. In the "Selected user" menu, select the user.
3. Press "Update MAC list". If the phone is not communicating at the moment, turn on "Show inactive MAC".
4. In the "Selected New MAC" menu, choose the MAC address of the device.
5. Press "Add MAC to user".

After the assignment, the MAC address appears next to the user in the "Users list" table.

Procedure for removing a MAC address from a user

1. In the "Selected user" menu, select the user.
2. In the "Selected MAC User" menu, choose the MAC address you want to remove.
3. Press "Delete users MAC". If you want to remove all MAC addresses of the user, use "Delete All users MAC".

Notes

- Detection runs at a regular interval (default 30 s, configurable). For a device to be reported as present, it must be active on the local Wi-Fi at the moment of detection and use a fixed MAC address.
- If the user's MAC address is no longer detected, a countdown to absence starts (default 30 minutes, configurable). The countdown prevents false status changes.
- If the phone uses "Privacy" / a random MAC address on the given Wi-Fi, detection will not work. In the Wi-Fi settings of the phone, turn off the random MAC address mode for your local Wi-Fi network and use the fixed MAC address of the device.
- A single user can be assigned multiple MAC addresses; the user is considered present if at least one of the assigned devices is detected.