

Manual: QA Klimatizace Mitsubishi (Intesis)

Integration of Mitsubishi air conditioning into room climate control and energy management — via an Intesis converter.

Introduction

QA Klimatizace Mitsubishi (Intesis) provides status reading and control of Mitsubishi air conditioning fitted with an Intesis HVAC converter of the Home Automation type, AC Gateways 1x1. The converter can be intended for a specific air conditioning type or universal. Compatibility is determined by the converter protocol for HVAC; it has not been tested on all specific air conditioning types.

The application is part of a unified ecosystem for room and building climate control. According to the settings and the global climate mode (winter / transitional period / summer), it automatically selects heating, cooling or idle. It takes over the required temperature and the room climate mode from the Room Climate Control application, and the special modes (Vacation, Visit) from the Profile Control application.

The application reacts to a window being opened — air conditioning operation is temporarily switched off. When cooling is requested, it first ensures that windows with automatic control are closed, and it coordinates with the applications for cooling and pre-cooling the building by window ventilation. In connection with energy management (EMS, the **QA Consumption Control** application), when there is a surplus of the selected energy — from photovoltaics or at times of low spot prices (**SPOT**) — it ensures pre-heating or pre-cooling of the room to separately set temperatures.

For clear visualisation and for working with the measurement history and charts, we recommend connecting to Mervis SCADA.

Upstream and downstream applications

Upstream applications

Mandatory:

- **Main schedule in the unit** — room schedule according to which the application controls the air conditioning operation.
- **Room temperature** — temperature sensor or thermostat in the controlled room.

Optional:

- **QA Room Climate Control** — determines the required temperature and the room climate mode.
- **QA Global Climate Mode** — selection of the winter / transitional period / summer season, according to which the application switches between heating, cooling or idle.
- **QA Profile Control** — switching the whole building to the Vacation / Visit mode.
- **QA Window Control** — automatic and manual window ventilation; the application coordinates the air conditioning operation with the opening of windows.
- **QA Consumption Control** — energy management; when there is an energy surplus, it ensures pre-heating / pre-cooling of the room.
- **QA Spot Pro** — for energy sources linked to spot prices.
- **QA Presence Detection** — information on the presence of persons in the building.

Downstream applications

In terms of control, the application is the last link in the chain — it itself forms the communication and control interface to the Mitsubishi air conditioning (via the Intesis converter in the local network) and has no downstream QA application. Linking with other applications of the climate control ecosystem takes place automatically.

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. It 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 application functions before purchase in a trial version — the TRIAL unlocks full functionality for 2 days. We recommend verifying the following on your air conditioning:

- status reading,
- switching on and off,
- changing the required temperature,
- fan and flap control.

Compatibility has not been tested on all air conditioning types.

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

- the set of application cards (tiles): **AC Control**, **Rooms overview**, **Setting Properties** and **Installation**,
- quick control tiles (**AUTO**, **OFF TODAY**, **ON TODAY**, **MAN-ON**, **MAN-OFF**),
- tiles with the values **Room temperature AC** (temperature measured by the air conditioning) and **Setpoint** (required temperature of the air conditioning).

Operating prerequisites

- **Controller:** Fibaro HC3 or HC3L (or Yubii Home / Home Pro).
- **Mitsubishi air conditioning** fitted with an **Intesis HVAC Home Automation (AC Gateways 1x1)** converter — specific or universal variant. The converter must be in the same local network (LAN) as the controller.
- A **main schedule** for the room is created in the unit and the **room temperature** is available (sensor or thermostat).
- For the automatic functions (mode according to the season, windows, profiles), the relevant applications of the SHE ecosystem are installed and configured.
- For inclusion in consumption control, **QA Consumption Control** and energy metering are available in the unit.

Opening the application control card

To open the application card in a web browser, move the cursor over the application tile (e.g. **AC Control**, **Installation**) 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. Install the Intesis converter on the air conditioning and connect it to the local network according to the converter manufacturer's instructions.
2. **"Installation" card**
 - Use the **SEARCH NETWORK** button to find the converter and select it in the **MAC ADDRESS** field.
 - Set the section, rooms, main schedule, room temperature, windows and energy sources.
 - Save the settings with the **SAVE** button.
3. **"Setting Properties" card**
 - For the individual seasons, set the air conditioning mode, the operation permission and the permission for inclusion in consumption control.
 - Then set the notifications.
4. **"AC Control" card** — use this card for routine control of the air conditioning and status checks.
5. **"Rooms overview" card** — check the state of cooling, heating and windows in the assigned rooms.

"Installation" card

Used for the initial setup of the links to the rooms and other applications, energy sources and communication with the converter.

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

Device Settings

- **SECTION** — section (part of the building) to which the air conditioning belongs.
- **ROOMS** — rooms served by the air conditioning.
- **MAIN SCHEDULE** — main room schedule according to which the application controls the operation.
- **ROOM TEMPERATURE** — device from which the application reads the room temperature.
- **AUTOMATIC WINDOWS** — windows with automatic control in the served rooms. When cooling is requested, the application closes them first.
- **MANUAL WINDOWS** — manually operated windows with window sensors. When a window is opened, air conditioning operation is temporarily switched off.

Source configuration

- **SELECTING OF SOURCES** — energy sources whose availability allows the air conditioning to be included in consumption control: **Photovoltaics surplus** (photovoltaic surplus), **Basic SPOT** and **Cheap SPOT** (periods evaluated by the **QA Spot Pro** application according to spot prices).
- **Nominal power input** — rated electrical power input of the air conditioning in watts according to the manufacturer's documentation (not the cooling or heating capacity), e.g. 500 W, for the energy balance calculation; set the value with the -- / - / + / ++ buttons.
- **STAGES** — phases (**Phase 1**, **Phase 2**, **Phase 3**) from which the air conditioning is supplied, for a correct energy balance. Select only the phases actually used; if you do not know them, find them in the electrical installation documentation.
- **EMS Priority** — priority of the air conditioning in energy management; change the value with the - / + buttons.
- **ELECTRICITY METER** — separate meter measuring the consumption of the air conditioning (optional).

Communication settings

- **AC Num** — air conditioning number in the Intesis converter; set the value with the -- / - / + / ++ buttons.
- **IP Address** and **MAC Address** — network identification of the converter.

- **MAC ADDRESS** (item **Select**) — selection of the converter from the list of devices found.
- **SEARCH NETWORK** — searches for available converters in the network. If the converter is not displayed, check according to the manufacturer's instructions that it is connected to the same local network as the controller and repeat the search.

The **Run status** row shows the application run state. Save the settings with the **SAVE** button.

Below the button, an overview of the **Output Devices** is shown, and the application version is shown at the bottom of the card (e.g. sheAirConditioningControlIntesisMitsubishi 1.06.02).

"Setting Properties" card

Setting of the air conditioning behaviour according to the global climate mode, of the operation permission in the individual seasons and of the notifications.

Mode according to global mode

For each season of the global climate mode, choose what the air conditioning is to do: **CLIMATE MODE WINTER**, **CLIMATE MODE TRANSITION** and **CLIMATE MODE SUMMER**.

- Options: **Off** (the air conditioning is idle in the given season), **Heating** or **Cooling**.
- Typical settings: winter **Off** or **Heating**, transitional period **Heating**, summer **Cooling**.

Run permission in Period

Use the **Permissions Winter**, **Permissions Transient** and **Permissions Summer** buttons to permit air conditioning operation in the individual seasons. A highlighted button means that operation is permitted.

Notification Settings

- **LIST OF NOTIFICATION USERS** — users to whom the application sends alerts (e.g. about the need to close windows) by e-mail and push notification. A voice alert (TTS) is used if a notification device is installed in the unit. Only users with valid access to the unit are shown in the menu.
- For the **Notification period** item, use the -- / - / + / ++ buttons to set how often an alert may arrive (e.g. 1hour = at most one alert per hour).

"AC Control" card

The main control card — displays the air conditioning state and allows manual control.

The **Notification** is displayed in the upper part of the card; the current mode (e.g. AUT-OFF) is shown in the card header and on the tile.

The **Disconnected** state in the header means that the application is not communicating with the converter — check the converter connection and its selection on the **Installation** card; the values displayed in this state are not valid.

Mode control buttons:

- **AUTO** — automatic mode according to the schedule, the global climate mode and the higher-level applications.
- **OFF TODAY** — the air conditioning is switched off until the end of the day, then it returns to the automatic mode.
- **ON TODAY** — the air conditioning is switched on until the end of the day, then it returns to the automatic mode.
- **MANUAL ON** — permanent manual switching on of the air conditioning.
- **MANUAL OFF** — permanent manual switching off of the air conditioning.

To return to control according to the schedule and the higher-level applications, select **AUTO**.

The same control is also available from the quick control tiles on the desktop (**AUTO**, **OFF TODAY**, **ON TODAY**, **MAN-ON**, **MAN-OFF**).

Status values:

- **Operation Permit** (according to the season),
- **Operation of EMS**,
- **Input Mode** (state of the **EMS** and **SPOT** inputs),
- **EMS Input**,
- **Operation (On / Off)**,
- **Room temperature** (temperature from the selected room device),
- **Window** (Closed / Open),
- **Room Temperature AC** (temperature measured by the air conditioning),
- **Setpoint AC room** (currently set temperature of the air conditioning).

Direct control of the air conditioning:

- **Setpoint AC room** — use the - / + buttons to change the required temperature of the air conditioning.
- **Mode** — use the icon buttons to select the air conditioning operating mode; from the left: cooling, heating, dehumidification, fan and **A** (automatic selection by the air conditioning).
- **Fan** — use the - / **AUTO** / + buttons to set the fan speed (**AUTO** or 4 speeds).
- **Flap up/down** — use the - / + buttons to set the flap (louvre) position, **SW** switches the swing mode on, **A** sets the automatic position.

Required temperatures for the automatic mode:

- **Setpoint Room Heating** and **Setpoint Room EMS Heating** — target temperature for heating and for heating from energy surplus; set the EMS value with the - / + buttons.
- **Setpoint Room Cooling** and **Setpoint Room EMS Cooling** — target temperature for cooling and for cooling from energy surplus; set the EMS value with the - / + buttons.

The application takes over the required temperatures for routine heating and cooling from **QA Room Climate Control**; for heating, set the EMS temperature higher than the routine target temperature, for cooling lower, so that the energy surplus is used for pre-heating / pre-cooling.

The card also displays the **Error status** of the air conditioning, **Presence** (At home / Not at home), the **Energy needs** table (**From**, **To**, **Price Max**, **Energy**, **Energy type** — requests passed to consumption control), **Energy Today** and the **Energy** status.

“Rooms overview” card

Overview of the state in the served rooms as seen by the application. On this card, check which devices and windows the application registers in the assigned rooms; if an expected device is missing, check the selection of rooms and windows on the **Installation** card.

- **Cooling** — **All** (cooling devices in the rooms), **Ready Equipment**, **Ready** and **Active**.
- **Windows Auto Ventilation** — **All** (windows with automatic control), **Open**, **Cooling by ventilation Efficient** and **Cooling by ventilation Effective up to setpoint**.
- **Windows: Manual Ventilation** — **All** (manually operated windows) and **Open**.
- **Heating** — **All** (heating devices in the rooms), **Device Ready**, **Ready** and **Active**.

Notes

- The air conditioning operating modes (cooling, heating, dehumidification, fan, automatic), the fan speeds and the flap positions correspond to the air conditioning functions; their meaning is described in the documentation of the air conditioning manufacturer and of the Intesis converter.
- The application has no schedule of its own — it uses the main room schedule selected on the **Installation** card.
- For clear visualisation, measurement history and charts, we recommend connecting to Mervis SCADA.