Product Manual

# Hitachi Fresh Air Control Access Module

## Model · FAC01

Product version · V1.0



# 1. Product Overview

FAC01 is a smart access module designed specifically for Hitachi fresh air system line controllers. Through built-in 2.4G Wi-Fi and MQTT protocol, it can seamlessly connect to the Home Assistant system. It supports remote control and scene linkage for fresh air on/off, high wind, and medium wind. No modification to the original wiring is required; it is plug-and-play, endowing traditional fresh air systems with intelligent capabilities.

# 2. Features

- Designed specifically for Hitachi line controllers: Perfectly matches the Hitachi fresh air system line controller interface, requires no modification to the original wiring, is plug-and-play, and achieves on/off, high wind, and medium wind control.
- Wi-Fi + MQTT Smart Interconnection: Built-in 2.4G Wi-Fi, supports MQTT protocol, can connect to platforms such as Home Assistant and Node-RED, achieving remote control, timed strategies, and scene linkage.
- Native HA Integration: Through MQTT Discovery, the HA backend automatically discovers the device and generates a fresh air controller entity, allowing for easy creation of automations (such as turning off when leaving home, timed ventilation, and air quality linkage).
- Independent Web Backend: Supports accessing the local native web page via the device's port 88, allowing for MQTT server configuration, viewing real-time status, and supporting Chinese/English switching and black/white theme switching.
- Stable and Reliable · Wide Voltage Power Supply: DC 12-24V wide voltage input, adapting to various power supply environments. Industrial-grade design, anti-interference, ensuring long-term stable operation.

# 3. Application Scenarios

1. Smart Home: Connect to HA, combined with temperature and humidity sensors to achieve remote control and timed ventilation.

2. Office Buildings: Centralized control of fresh air equipment to achieve energy-saving management.

3. Medical/Bedroom Venues: Combined with air quality sensors, achieves automatic linkage to turn on fresh air when PM2.5 or CO2 exceeds standards.

4. Villa/Large Flat: Integrated into the whole-house smart system to achieve comfortable living scenarios.

## 4. Structural Interface

- External dimensions: 4 × 4 × 2.2 cm (white square casing).
- Wiring terminals:
- V: Power positive (DC 12-24V)
- G: Power negative
- A/T, B/R: Communication control lines (connect to corresponding ports of Hitachi line controller)
- G: Ground wire/Common terminal
- RST: Reset pin (short for more than five seconds to reset network)

## 5. Technical Parameters

| Parameter Item | Specification Description |
|---|---|
| Product Name | Hitachi Fresh Air Line Controller HA Access Module |
| Product Model | FAC01 |
| Supply Voltage | DC 12-24V |
| Dimensions | 4 × 4 × 2.2 cm |
| Weight | [To be supplemented later] |
| Compatible Brand | Hitachi Fresh Air System Wired Controller |
| Control Functions | On/Off, High Wind, Medium Wind |
| Wireless Protocol | Wi-Fi 2.4G 802.11 b/g/n |
| Communication Protocol | MQTT (Supports Discovery) |

## 6. Installation and Wiring

Safety Notice: Please cut off the power supply before wiring. Be sure to confirm that the wired controller voltage matches (DC 12-24V). The module is used only for control signal transmission and does not change the functions of the original wired controller.

- Power Wiring: Connect the V terminal to the positive pole of the 12-24V DC power supply, and the G terminal to the negative pole of the power supply.

- Communication Wiring: Connect the A/T, B/R, and G terminals of the module to the corresponding communication ports of the Hitachi wired controller.
- Network Reset: To reset the network, short the G and RST terminals with a wire for more than five seconds.

# 7. Configuration and Usage

### HA Version Network Configuration and Access (Four Steps)

1. Power On and Connect to WiFi: After the module is powered on, the AP hotspot is automatically enabled. Connect your phone/computer to the hotspot (SSID: ha-fac01-xxxx).

2. Access Configuration Page: After connecting to the device WiFi, it automatically redirects to the configuration page (or access 192.168.4.1 in a browser). Select the 2.4G WiFi where the HA host is located and enter the password.

3. HA Auto-Discovery: After successful configuration, the device hotspot disappears. Return to the Home Assistant backend, and the system will automatically discover and prompt to add the fresh air controller entity.

4. Start Using: Add an entity card to the HA dashboard to remotely control the switch, high wind, and medium wind, and create automation scenes.

### Standalone Web Backend

Access the device IP (port 88) via a browser to enter the local native web page. It supports real-time status monitoring, configuring MQTT to connect to your private server, and supports Chinese/English and light/dark theme switching.

# 8. Communication Protocol

This product does not use the Modbus protocol, but communicates via Wi-Fi (2.4G) and the MQTT protocol.

MQTT Topic Description:

- Status reporting: fac01/{device_id}/state
- Format: {"power": "ON/OFF", "fan": "high/mid/off"}
- Control command: fac01/{device_id}/set
- Example: {"power": "ON", "fan": "high"}

Supports Home Assistant MQTT Discovery, automatically generating entities. Supports customizing Topic prefix and device ID in the 88 backend.

## 9. Applicable Conditions and Limitations

- Only applicable to Hitachi fresh air system wired controllers.
- Only supports 2.4G Wi-Fi networks; 5G band is not supported.
- Supply voltage must be between DC 12-24V; overvoltage connection is strictly prohibited.

## 10. Safety and Maintenance

- Wiring and installation must be performed with power off to avoid short circuits or device damage.
- Do not connect high voltage (e.g., 220V) to any terminal of the module.
- Avoid use in extremely humid or condensing environments.

## 11. Packing List

- Hitachi Fresh Air Line Controller HA Module Access FAC01 x 1

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