

Heat Recovery Unit PremAIR, SlimAIR and MinistAIR Controllers and sensors

Control

Ventilation units can be controlled in several ways:

Application for Android, iOS and via a browser (via the HRQ-GATE internet gateway)



Application



HRQ-GATE

The gateway is connected to the local network via the Ethernet port. Communication with the device is wireless. On-line control is possible after installing the application on Android and iOS or via a browser on a computer. The application graphically illustrates the operation of the device, allows you to change modes and read basic parameters.

Controller LCD, flush-mounted (HRQ-BUT-LCD)



This version has an LCD display, allows you to select 1 of 7 operating modes, program the calendar and read additional operating parameters such as temperatures, current fan speeds or the by-pass status. It also allows you to configure ventilation speeds (according to user preferences).

4-button controller



HRQ-BUT-LM11



HRQ-BUT-LM04

This controller allows you to choose between 4 modes. The LM04 model has an AUTO button (instead of PARTY), recommended when there is at least 1 CO₂ or RH sensor in the system. Signalling of operation and errors by means of a LED diode.

The HRQ-SW3-I rotary switch is an option for wired control of the ventilation unit and allows you to choose between 3 speeds (AWAY, HOME, HOME +)



Control via CO₂ and RH sensors (we recommend as additional control).



HRQ-SENS-CO2



HRQ-SENS-RH



HRQ-SENS-I-CO2
(flush-mounted)

Each sensor also functions as a controller - it allows you to select from manual modes and, of course, engage AUTO mode. Indicates errors or dirty filters, but there is no filter status reset option.

Motion sensor HRQ-SENS-PIR



The sensor is designed to detect the presence of a person by motion detection and increase the ventilation demand (70% for 15 minutes). In addition, through a relay, the sensor can switch on the light.

Modbus gate (HRQ-MODBUS),



HRQ-MODBUS gate, which allows to control the device using the universal modbus protocol and RS485 data transmission.






























NOTE!

Controller is not included in the kit. During purchase, choose the controller that is right for you. Multiple controllers can be connected at once - e.g. 4-button controller and an Internet gateway.

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Controllers and sensors

Control options table:

Model	Photo	Communication with unit	Power supply	No of modes	AUTO mode*	Display	Calendar	Dirty filter signalization	Changing speed settings
HRQ-SW3-I		cable 	230V 	3	no	no	no	no	no
HRQ-BUT-LM11		wireless 	battery 	4	no	no	no	yes	no
HRQ-BUT-LM04		wireless 	battery 	4	yes	no	no	yes	no
HRQ-BUT-LCD		wireless 	230 V 	7	yes	yes	yes	yes	yes
HRQ-GATE		wireless 	230 V 	6	yes	yes	no	yes	no
HRQ-SENS-CO2		wireless 	230 V 	5	yes	no	no	yes	no
HRQ-SENS-I-CO2		wireless 							
HRQ-SENS-RH		wireless 	battery 	4	yes	no	no	yes	no
HRQ-MODBUS		wireless 	230 V 	-	-	-	-	-	-
HRQ-MODBUS		wireless 	n/d	7	yes	no	no	yes	no

* requires at least 1 CO₂ or RH sensor

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Constant Flow (CF)

SlimAIR air handling units optionally can be equipped with the Constant Flow system, whose task is to maintain a constant air flow in the installation. CF works by reading the difference between the dynamic pressure around the fan and the static pressure in the duct in front of the fan. The CF system constantly monitors the pressure in the ducts and if the resistance increases, it increases the speed of the fans to maintain a constant flow, such as on the first day when the ventilation unit was commissioned. During exploitation, the installation pressure is naturally disrupted (dirty filters, condensation of water in the heat exchanger, temperature difference changing the air mass). CF counteracts to those changes, thanks to which the airflows remain sustainable, and only a sustainable system takes full advantage of the air handling unit's capabilities.

Zoning

HRQ-2ZONE is a device designed for residential ventilation systems, dividing the air supply into two controlled and monitored zones. The air flow is controlled by motorized dampers, which are adjusted according to the demand sent by CO₂ sensors installed in each zone. Such a system allows for the detection of the inhabitant's presence and provides the right amount of fresh air in the right place at the right time.

Connecting the ground heat exchanger

Heat recovery unit has a possibility to connect the ground heat exchanger. This function allows you to control a valve that optionally supply air through the ground-to-air heating system. To do this, install a dedicated damper with the actuator (DATVTML).

Cooperation with the kitchen hood

The cooker hood can be connected to the MVHR system via the X25 contact on the main board of the SlimAIR heat recovery units. It is a potential-free contact. Short-circuits of contact inputs will result in an exhaust fan stopping completely during the period the contact is closed.

Demand Control Ventilation, DCV

The AUTO mode is the most energy-efficient and demand driven mode of SlimAIR units. Operation in the AUTO mode is possible when at least one carbon dioxide CO₂ or relative humidity RH sensor operates in the system.

In AUTO mode, the sensor (or several sensors) generates the so-called ventilation demand based on ambient air measurements. This request is sent wirelessly to the control board, which sets the efficiency of the fans in the range defined by AWAY and HOME(+ offset) speeds. It means, that in the case of factory settings, the range will be 15-70%.

The RH sensor will guard against excessive moisture. If there is a sudden increase in relative humidity (more than 3% within 24 seconds) or the reading exceeds 85%, the sensor will send 100% demand to the control panel to effectively and quickly reduce the RH level.

The CO₂ sensor will keep the carbon dioxide concentration below the specified level (the factory default is 800 ppm, you can choose between 700,800,900,1000 and 1100 ppm) thanks to the proportional PID algorithm.

This means that the request sent to the control board will change gradually over time until the CO₂ concentration decreases. HRU-PremAIR-SENS-CO₂ sensors have 2 AUTO modes: Comfort and Eco. Comfort is the basic setting (i.e. 800 ppm by default), while Eco increases the limit by 250 (i.e. 1050 by default).

The CO₂ sensor is available in the following versions:
 surface **HRQ-SENS-CO** flush-mounted **HRQ-SENS-I-CO2**



In case of having several sensors, the unit control board will operate according to the highest indication (highest request). In the absence of any demand from the sensors, the ventilation unit will run at AWAY speed (lowest setting).

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Mobile application PremAIR

Mobile application for controlling a home ventilation unit HRU-SlimAIR, HRU-PremAIR and HRU-MinistAIR by ALNOR. It allows to monitor and control the unit via local network and Internet as well:

- Mode selection (Away, Home, Party, Boost, Auto and Standby)
- Temperature readouts
- Registering and displaying remote CO₂ and RH sensors readouts
- Fans efficiencies
- Defrost mode
- By-pass mode
- Filters conditions

Available for download in Google Play and App Store: PremAIR

Also via web browser: <https://premair.alnor.pl/>



Screen shot:

