

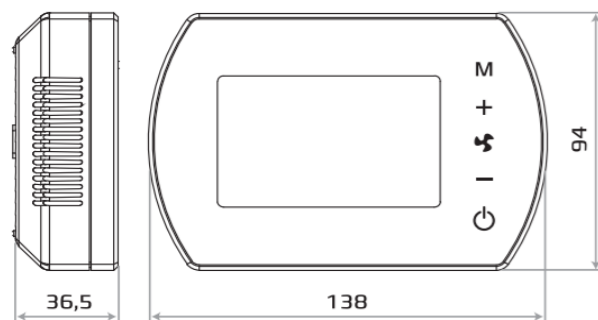
1. General information

- HMI controller is compatible with LEO EC type water heaters.
- Automatic or manual 3-step fan speed adjustment.
- Control room temperature (by opening/closing the valve, or by adjusting air volume automatically).
- Antifreeze mode – protection against dropping room temperature below critical level.
- Possibility to connect external NTC temperature sensor.
- Capable of connecting up to 10 LEO EC heaters (use of the R10 signal splitter is recommended)

2. General Parameters

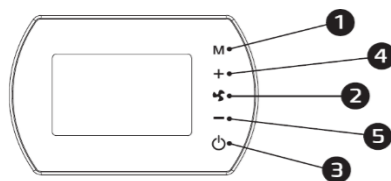
Power supply	230VAC/50Hz
Panel	panel with buttons/ LCD display
Temperature control range	+5 ÷ +35°C
RPM adjustment range	3 steps
Operating temperature range	0 ÷ +50°C
Storage temperature	-10 ÷ +60°C
Temperature sensor	built-in/external NTC (option)
IP	20
Mounting	surface mounted
Housing	ABS & Acrylic
Weekly programmer	ON: 5 days+2 days, OFF.

2.1 Dimension



3. Panel HMI EC Wi-Fi

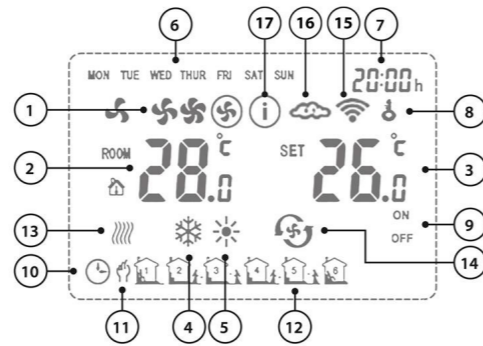
3.1 Control Pannel



- Working Mode**
- Fan Speed:**
Push shortly to select fan speeds from Low, Med, High to Auto
- On/Off**
- Temp Up**

- Push this button for 3 sec, if the external sensor is connected, the value is temperature detected by external sensor; if external sensor is not connected, E1 will display
- Temp Down**
- Push this button for 3 sec and enter into time clock setting, setting sequence is from Hour, Minute and Weekday via + - . Push **MODE** button to switch from Hour to Minute, and then Weekday.

4. Main Screen



- Fan Speed
- Room Temp.
- Set temperature value
- Operating mode: cooling
- Operating mode: heating
- Day of the week
- Clock
- Screen lock
- Time zone setting status
- Weekly programmer
- Manual mode
- Time zones
- Antifreeze protection activation indication
- Operating mode: ventilation
- Wi-Fi connection
- Data exchange with the app (via Wi-Fi)
- Door contact activated (configuration in section 5.)

4.1. Work Mode

- **MANUAL MODE** - the fan operates at the set speed (LOW, MEDIUM, or HIGH). Additional operating modes: heating, cooling, and ventilation. Depending on the set temperature, the valve is opened/closed.
- **AUTOMATIC MODE** - the fan speed is automatically adjusted depending on the difference between the set temperature (3) and the measured temperature (2) (it is not possible to manually change the fan speed). In this mode, you can omit the valves – the heat source will control the water flow and temperature.

4.2 Work Functions

- Selecting the operating mode – see section 5.1.
- **CONTINUOUS** – when the set temperature (3) is reached, the valve closes and the fan operates:
MANUAL MODE – at the pre-set speed (1);

AUTOMATIC MODE – at the lowest speed.

- **THERMOSTATIC** – when the pre-set temperature (3) is reached, the valve closes and the fan stops.

4.3 Way of working

- **HEATING** – the valve is open and the fan is on when the room temperature is lower than the set point.
- **COOLING** – the valve is open and the fan is on when the room temperature is higher than the set point.
- **VENTILATION** – the fan is on and operating at the pre-set speed.

4.4 Temp. Sensor

Sensor selection – see section 5.1.

- **Internal** – the room temperature is measured by the controller's built-in temperature sensor.
- **Wall** – the room temperature is measured by an optional wall-mounted NTC temperature sensor. Only one NTC sensor can be connected to a single HMI controller.

NOTE!

If there are problems with the temperature sensor, the following message will be displayed:

E0 – for built-in sensor E1 – for thee external sensor

4.5 Antifreeze Protection

If the internal or wall-mounted NTC temperature sensor detects a temperature drop below 5°C (default value), the valve opens immediately and the fan starts, even if the controller is turned off.

5. Menu

5.1 Setting Parameters

- With the controller turned off, hold the MODE button (1) for 3 seconds.
- To change options, use the MODE button (1).
- To change values, use the +/- buttons.

Code ¹	Parameters ²	Operated by + / - button ³
1 ¹	Temp Calibration ²	-9°C--+9°C ³
2 ²	EEPROM ²	0 Non-Memorized 1 Memorized ²
3 ²	Fan Status ²	C1: Fan stops running when the room temp is equal to setpoint ² C2: Fan keeps running when the room temp is equal to setpoint ²
4 ²	Sensor Selection ²	0: Internal Sensor 1: External Sensor ²
5 ²	Anti-freeze Status ²	0: On (defaulted) 1: Off ²
6 ²	Temp Range of Anti-freeze ²	5-15°C, 5°C is defaulted ²
7 ²	Output of Low Speed ²	0-10V, 4 default ²
8 ²	Output of Medium Speed ²	0-10V, 7 default ²
9 ²	Output of High Speed ²	0-10V, 9 default ²
10 ²	Auto Fan System ²	0: Stepless Fan Speed per 0/2-10Vdc output (Defaulted) ² 1: Changeover amongst Hi(4V), Med(7V) and Low(9V) per Differential temperature ²
11 ²	Mini Output of Auto Fan ²	0-10V, 2 is defaulted ²
12 ²	Max Output of Auto Fan ²	0-10V, 10 is defaulted ²
13 ²	P Band Range ²	2,4,6,8,10 ²
14 ²	I Time Range ²	1-60Sec ²
15 ²	Dry Contact for Door ²	0 Disable 1 Enable ²
16 ²	Dry Contact for Door ²	0 Normally Close(default) 1 Normally Open ²
17 ²	Modbus Function ²	0 Disable 1 Enable ²
18 ²	Baud Rate ²	0-2400 1-9600 2-19200 3-38400 ²
19 ²	Parity ²	0:None 1:Odd 2:Even ²
20 ²	Modbus ID setting ²	1-247(01-F7) ²

5.2 Button lock

- To **LOCK** all buttons, press the + button, then the - button, and hold both for 5 seconds.
- To **UNLOCK** all buttons, press the + button, then the - button, and hold both for 5 seconds.

5.3 Clock Settings

- With the HMI controller turned off, press and hold the (2) button for 3 seconds, then enter the clock settings.
- The order of options is: hour / minute / day of the week.
- To change the option, press the (2) button.
- To change the value, use the + and - buttons.

6. Programming

6.1 Operating mode settings

- Briefly press the MODE button (1) to select the mode: manual or programmable.
- Press the MODE button (1) for 3 seconds to select the operating mode: heating / cooling / ventilation.

6.2 Fan speed setting

Briefly press the FAN button (2) to select the fan speed: LOW / MEDIUM / HIGH / AUTO.

6.3 Weekly programmer

- Press and hold the FAN button (2) for 3 seconds to start programming the timer.

Monday – Friday

First zone time setting (hour and minute) -> FAN -> First zone status setting (ON / OFF) -> FAN -> First zone temp. setting -> FAN -> move to next zone

Sixth zone time setting (hour and minute) -> FAN-> Sixth zone status setting (ON / OFF) -> FAN-> Sixth zone temp. setting.

Saturday

First zone time setting (hour and minute) -> FAN -> First zone status setting (ON / OFF) -> FAN -> First zone temp. setting -> FAN -> Move to next zone
Sixth zone time setting (hour and minute) -> FAN-> Sixth zone status setting (ON / OFF) -> FAN-> Sixth zone temp. setting.

Sunday

First zone time setting (hour and minute) -> FAN -> First zone status setting (ON / OFF) -> FAN -> First zone temp. setting -> FAN -> Move to next zone
Sixth zone time setting (hour and minute) -> FAN -> Sixth zone status setting (ON / OFF) -> FAN -> Sixth zone temp. setting.

Example Settings

		Mon - Fri		Saturday		Sunday	
		S	T	S	T	S	T
Time zone	1 06:00 ~ 08:00	ON	22°C	ON	26°C	ON	26°C
	2 08:00 ~ 15:30	ON	24°C	ON	24°C	ON	24°C
	3 15:30 ~ 20:30	ON	22°C	ON	22°C	ON	22°C
	4 13:30 ~ 17:00	OFF	22°C	ON	22°C	ON	22°C
	5 17:00 ~ 22:00	OFF	22°C	ON	24°C	ON	24°C
	6 22:00 ~ 06:00	ON	18°C	ON	24°C	ON	24°C

S – status; N – temp. settings

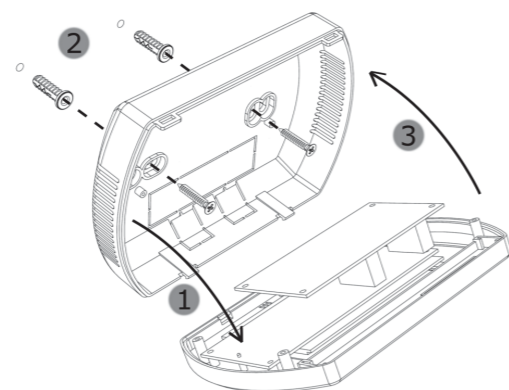
Notes:

- In the settings, flashing items are subject to change.
- When the start time is flashing, it can be edited (in 10-minute increments) using the +/- buttons. The set time is the start of the current time zone and the end of the last time zone.
- When the ON/OFF status is flashing, it can be edited using the +/- buttons. When ON is selected, the controller will operate according to the selected setting. When OFF is selected, the controller will not start.
- When the setting is flashing, it can be edited using the +/- buttons. Even when OFF is selected, a setting can be set. This setting will be active when the status is manually set to ON; however, the next time zone will operate according to the programmable automatic mode.Montaż

7. Mounting

IMPORTANT!

Remember to disconnect the HMI controller before beginning installation. The controller should be mounted approximately 1.5 m above the ground in a location with good air circulation. It should not be placed near heat sources, lighting, air vents, windows, doors, etc.



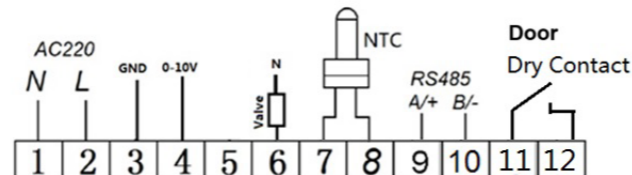
1. Remove the cover from the controller.
2. Screw the cover to a flat surface.
3. Attach the controller to the screwed cover.

8. Electrical connection diagram

WARNING! RISK OF ELECTRIC SHOCK.

Disconnect the power source before performing any electrical work on the HMI controller.

- All wires must be terminated with insulated sleeves.
- Wire gauges should be selected by the designer.
- Power cable: OMY min. 2 x 1 mm².
- Before starting, ensure that the controller cover is tightly



9. BMS communication

The controller allows connection to the BMS system. Register addresses are available on the website.

www.flowair.com.

No.	Setting	Parameters
1	Working Mode	RS485 Semi-duplex; PC or main controller is master; thermostat is slave
2	Interface	A(+),B(-), 2 wires
3	Baud Rate	0-2400 / 1-9600 / 2-19200
4	Byte	9 bits in total: 8 data bit + 1 stop bit
5	Parity	None
6	Modbus	RTU Mode
7	Transmission	RTU (Remote Terminal Unit) format (please refer to MODBUS instruction)
8	Thermostat address	1–247 ; (0 is broadcast address and stand for all thermostat without response)

10. Wi-Fi connections

1. Download the phone app to manage your controller:



2. Turn on Wi-Fi and Bluetooth on your phone
3. Turn off the HMI controller, then hold the + button for 5 seconds, then release and hold the + button again until the SA message appears



4. After logging in, follow the steps provided in the app, details:



11. Declaration of conformity

FLOWAIR SP. Z.O.O.
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Declaration of conformity

FLOWAIR hereby confirms that room thermostat HMI was produced in accordance to the following Europeans Directives:

Radio Equipment Directive (RED 2014/53/UE)
RoHS II Directive (2011/65/UE)
Low Voltage Directive (LVD, np. 2014/35/UE)
EMC Directive (EMC, np. 2014/30/UE)

and harmonized with below directives norms:

EN 60335-1:2012+A11:2014+AAA13:2017
+A1:2019+A2:2019+A14:2019+A15:2021
EN 62233:2008
EN IEC 55014-01:2021
EN IEC 55014-02:2021
EN IEC 61000-3-2:2019+A1:2021
EN 61000-3-3:2013+A2:2021
EN IEC 60730-2-9:2019+A2 2020
EN 60730-1:2016+ AA1:2019 +A2:2022
EN IEC 62311:2020
ETSI EN 301 489-1 V2.2.3
ETSI EN 301 489-3 V2.3.2 Gdynia, 01.06.2025
ETSI EN 489-17 V3.2.4
ETSI EN 300 328 V2.2.2
ETSI EN 300 220-1 V3.1.1
ETSI EN 300 220-2 V3.2.1

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