

## Programmable controller HMI SINGLE User Guide



### Welcome

Thank you for buying the product! Your new controller will provide years of reliable service. Using this digital device will provide more uniform comfort in your home through the seasons. Please read this manual for complete instructions on installing and operating your device. If you require further assistance, please feel free to contact directly with Reventon Group Sp. z o.o.

### In the box you will find

- programmable controller HMI SINGLE
- user guide
- external sensor NTC
- screws (2 pieces)

### Service

We offer the warranty of 24 months from the sales day. Please become acquainted with the Warranty Terms on the website <http://www.reventongroup.eu/en/complaints>.

### Technical data

Sensor: NTC 10k Accuracy:  $\pm 0.5^{\circ}\text{C}$   
 Timing error: <1% Power consumption: < 1.5 W  
 Set temp. range (thermostatic mode): 0 - 50°C  
 Set temp. difference range (temp. difference mode): 0 - 20°C  
 Power supply: 95 ~ 240 VAC, 50 ~ 60 Hz  
 Maximal current load:

- fan: 5 A (inductive)
- valve actuator: 3 A

Shell material: PC (fireproof)  
 Dimensions: 86 x 86 x 13,3 mm  
 Installation box: 86 x 86 mm lub  $\varnothing$  60 mm  
 Ambient temperature:  $t = 0 - 45^{\circ}\text{C}$ ,  $\varphi = 5 - 95\%$   
 Storage temperature:  $-5 - 55^{\circ}\text{C}$   
 RS485/Modbus RTU communication  
 Degree of protection (housing): IP 20  
 Degree of protection (external sensor): IP 68

### About device

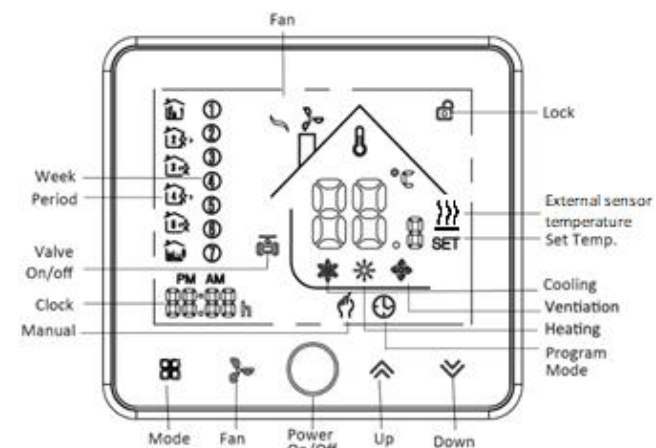
Programmable controller HMI SINGLE is designed to on/off control the single stage fans and valves in fan, destratification fan and fan coil unit applications. It can operate in thermostatic or temperature difference mode. In the first one it control the work of device by comparison of the room temperature and setting temperature. In temperature difference mode it turn on/off device depending on the temperature difference between value measured by external sensor and one measured by internal sensor. It can work in heating, cooling or ventilation mode. The item is microprocessor based device with LCD display.

### Features of the controller

- Modern design similar as a cell phone
- Beautiful Frame CHROME creates elegant life
- Acrylic lenses to avoid the finger scratch
- Touch Button makes simple operation
- Large screen display with backlight is easy to read - even in the dark
- Six periods program schedules
- One-touch temp control overrides program schedule
- Precise comfort control keeps temperature within 0.5°C of the level you set
- Data memory when device is off

- Easy installation
- 86 x 86 mm hidden box and european 60 mm round box is available




### Home screen quick reference



### Operation


#### 1. Setting the temperature

a. In the mode of programmable set temperature could not be adjusted. If the user want to change, please reprogram.

b. In the mode of manual, press  or  to set temperature. Manual mode is signalled by icon .


#### 2. Setting lock

Press and hold  and  for 5 sec. to lock the screen.



The icon  will display on the screen.

Press and hold  and  again for 5 sec. to unlock the screen.

#### 3. Setting the system mode

Press  to change the system mode COOLING, HEATING and VENTILATION. In VENTILATION, the valve is off but the fan runs.

#### 4. Checking temperature of external sensor (available only in temperature difference mode)

To check the external sensor temperature in temperature difference mode press and hold . If external temperature sensor is displayed, the icon  appears.

In thermostatic mode this value is displayed constantly if external sensor is connected (then internal one is invalid).

### 5. Manual and program mode

Press and hold (till icons and starts to flash) and subsequently:

- press to activate manual mode
- press to activate program mode
- press to define time, data and supply schedule with and

### 6. Set weekly schedule

Adjusting/setting the schedules can only be carried out when thermostat is in programable mode.

Press to define periods and set the temperature for weekdays ("1 2 3 4 5" will show along) as following: minute → hour → temperature adjusting  
Then do the same for weekend ("6" & "7" will show along the left of the screen) by using , and . An example of weekly schedule you can find in table below.

Time display	WEEKDAY (MONDAY – FRIDAY) (1 2 3 4 5 shows on screen)		WEEKEND (SATURDAY) (6 shows on screen)		WEEKEND (SUNDAY) (7 shows on screen)	
	Time	Temp.	Time	Temp.	Time	Temp.
Period 1	06:00	20°C	06:00	20°C	06:00	20°C
Period 2	08:00	15°C	08:00	20°C	08:00	20°C
Period 3	11:30	15°C	11:30	20°C	11:30	20°C
Period 4	13:30	15°C	13:30	20°C	13:30	20°C
Period 5	17:00	22°C	17:00	20°C	17:00	20°C
Period 6	22:00	15°C	22:00	15°C	22:00	15°C

### 7. Setting functions and options

During power off, press and hold and at the same time for 5 sec. to go to system functions. Then press to change the different items. Press or to set the relative values according to the table.

No.	Function	Settings & Options	Default
1	Temp. calibration	-9 - 9°C	-2°C*
2		Invalid	
3	Lock	00: All buttons are locked except POWER 01: All buttons are locked	01

4	Heating / Cooling	00: Cooling only 01: Heating / Cooling 02: Heating only	01
5-6		Invalid	
7	12 / 24 Clock	00: 12 h; 01: 24 h	01
8	Display mode	00: Display both set and room temp. 01: Display set temp. only	00
9	Deadzone temp.	1 - 5°C	1°C
A	Modbus IP address	0X00-0XFF	01
B	baudrate	01: 9600; 02: 19200; 03: 38400; 04: 56000; 05: 115200	01
C	Working mode	00: Thermostatic mode 01: Temperature difference mode	00
D	Version number	The number of the device	202

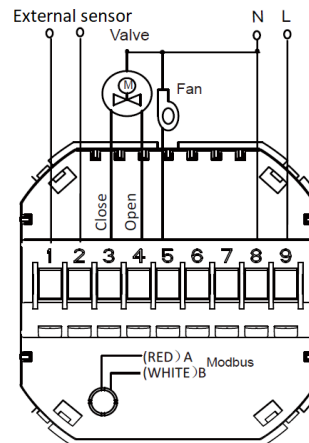
\* when you using external sensor in thermostatic mode change the value to 0°C

The controller HMI SINGLE can work in one of two modes:

- **thermostatic mode** – the device is switched on / off if the room temperature falls below the temperature set on the controller (or rises above this temperature if the controller is in cooling mode)
- **temperature difference mode** - in this mode the external sensor must be connected because both temperatures (i. e. from external and internal sensors) are used to calculate the temperature difference (as subtraction 'external sensor temperature' minus 'internal sensor temperature' in heating mode and 'internal sensor temperature' minus 'external sensor temperature' in cooling mode). If this difference is lower than set temperature difference the fan is off, otherwise it is on. This mode is dedicated for destratification fan.

**ATTENTION! The temperature difference mode cannot be controlled with MODBUS.**

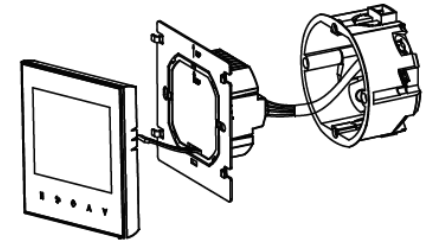
### Wiring diagram



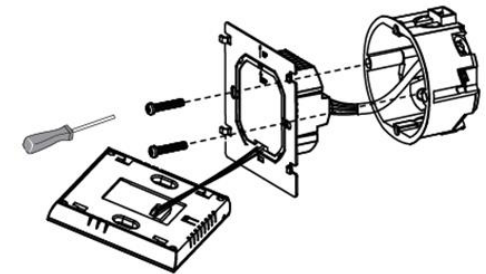
### Installing

This product is suitable for box 86 x 86 mm or Ø 60 mm.

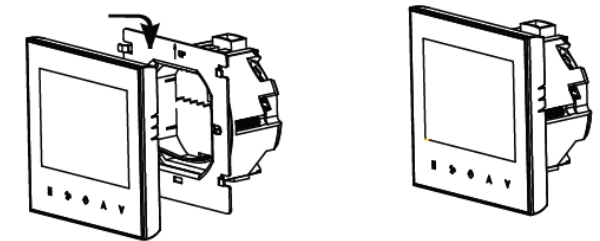
1. Connect the wire of power and other equipment into the terminals.



2. Fix the wall plate into the wall box by a screwdriver.



3. Connect the LCD board into the wall plate.



**WARNING:** Please arrange the professional technician to install this product according to installation drawing and instruction.

**RISK OF ELECTRICAL SHOCK:** Disconnect power supply before making electrical connection. Contact with components carrying hazardous voltage can cause electrical shock and may result in severe personal injury or death.