

# TECHNICAL SPECIFICATIONS

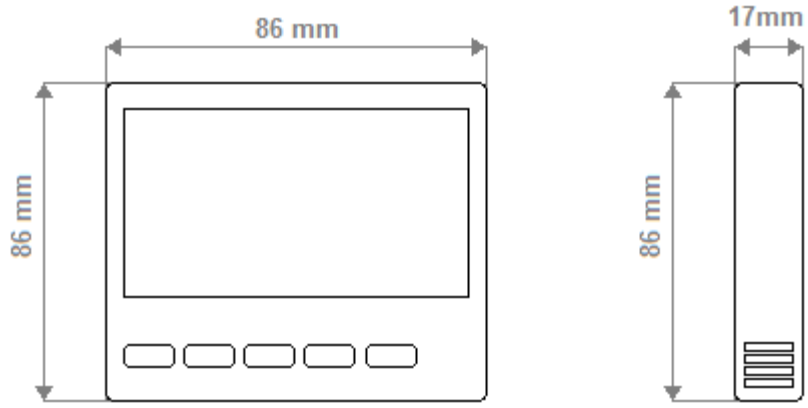
ENVIRONMENTAL SPECIFICATIONS	
Operating/Storage Temperature	0 ... +40°C/0 ... +50°C (Without Condensation)
Relative Humidity	0...95 % r. H (Without Condensation )
Protection Class	Mainboard: IP 00 / Room Panel: IP 20 According to EN 60529
Height	Up to 2000m
<b>It should be used in no flammable and no environments.</b>	

ELECTRICAL / OPERATING SPECIFICATIONS	
Power Supply	AC 220 V
Power Consumption	5VA
Connection	1.5mm <sup>2</sup> terminal

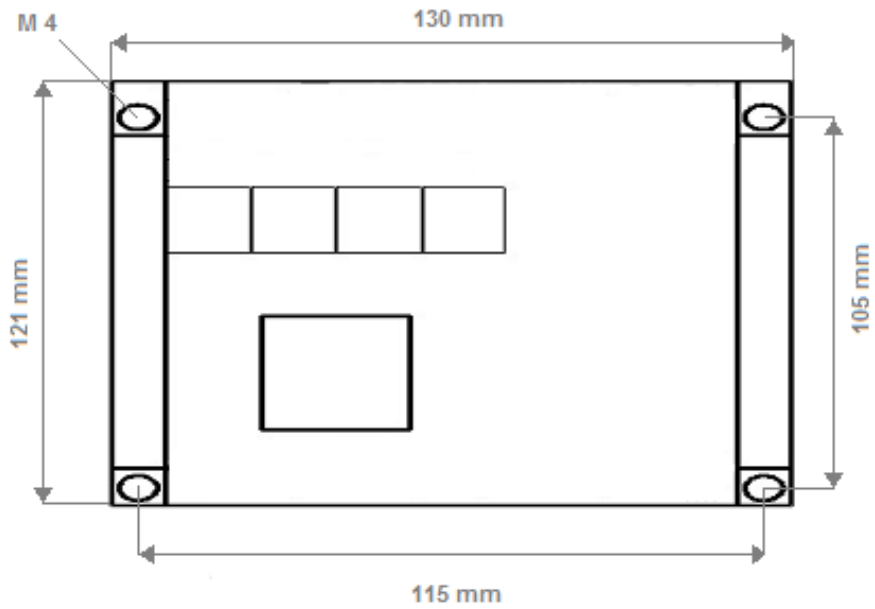
OUTPUTS	
Ventilator Relay Output	6 Stage (Phase Cut Output) (Max. 10A)
Aspirator Relay Output	6 Stage (Phase Cut Output) (Max. 10A)
Heater Relay Output	3 Stage ( Direct Phase Output ) (Max . 3A)
Damper Relay Output	1 Stage (Kuru Kontak Çıkış) (Max . 3A)
Self-extinguishing plastic used in the production.	
<b>The Device should not be cleaned with corrosive cleaning materials and Solvents (thinner, benzine, acid etc.).</b>	

# DIMENSIONS

## HCP-HRV-T (Room Panel)



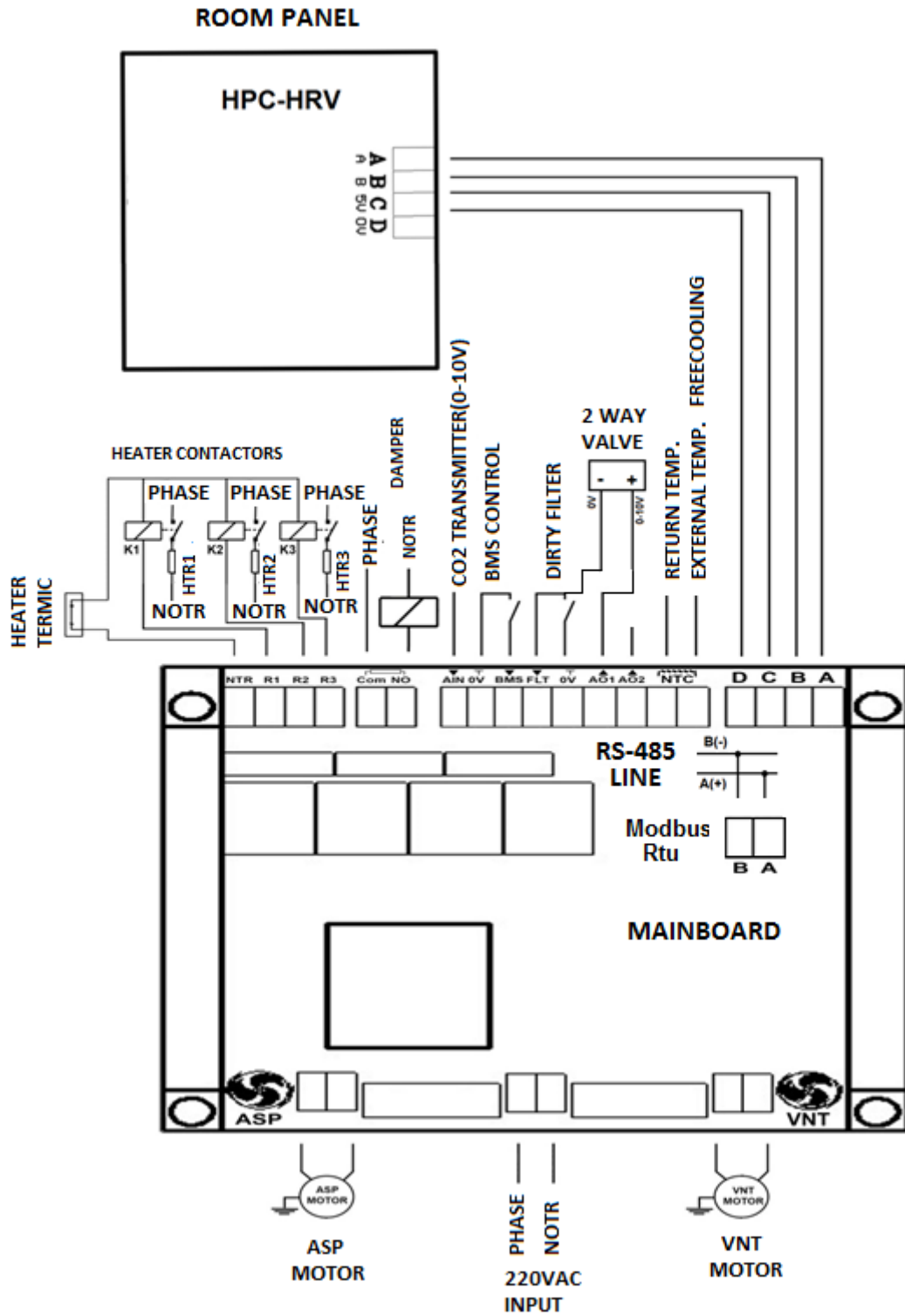
## M1002-M (Mainboard)



## Connections

M1002-M control devices are designed for HRV with mono stage fan or EC fan. The device should be used according to instructions. There is no power on the device when mounting. The device should be protected from vibration, humidity and pollution. Cross and shield cable should be use for signal and communication signals.

# CONNECTION DIAGRAM



The control board should be mounted in the box sunlight and humidity.

# DIGITAL CONTROL PANEL GUIDE

## PANEL BUTTONS

**⏻**: Use it to turn the device on and off from the control panel. If the BSK Logo is on the screen, the device will be turned off.

**SETUP**: Use it to enter settings menus.

**▲ / ▼**: Use up and down keys to navigate through menu items or increase / decrease values of various settings.

**Mode/OK**: Use it to navigate through main screen, and some setting items. Can also be used as select/enter for some menu items.

## HOME SCREEN

If the device is turned on, you can control and change fan speeds, heater, automatic mode, set temperature and other various settings of the device from the home screen.

Use **Mode/OK** button to cycle through ASP, VNT, HTR, SET and Auto mode. Use **▲ / ▼** keys to change values.

ASP and VNT are aspirator and ventilator fan level controls. You can select the level of fan speeds.

HTR is the Electric/Water heater control. You can turn it on or off from the control panel.

SET; is the value of Set temperature. This temperature is used for Free-cooling mode control and Auto Mode control.

Auto Mode; If selected, the device will adjust its fan speeds automatically according to the difference between the room temperature and set temperature. Device will try to keep the room temperature as close to the set temperature as possible.

**IMPORTANT**: You can press **SETUP** and **▼** keys together for 3 seconds to activate 7 deactivate the keylock for the control panel. When keylock is active, buttons on the panel will be locked until the keylock is deactivated.

## SETTINGS

To enter *Settings menu*, press and hold **Setup** button while the control panel is turned on (main screen). You can access various user settings and view information about the device from this menu. You can use ▲ / ▼ keys to navigate through and select the menu items and **Mode/OK** button to enter.

### 1. Weekly Program

You can set a weekly schedule for the device for automatic ON/OFF and control.

- Use ▲ / ▼ keys to cycle through the days. Press **Mode/OK** button to select a day, and then use **Mode** button to cycle through Start hour, Start minute, Stop hour, Stop minute. Use ▲ / ▼ keys to change the hour / minute values.

#### IMPORTANT:

- If Start time is greater than Stop time (Eg. Start time: 15:00, Stop time 12:00), the device will be turned off for the whole day.
- If Start time is equal to the Stop time (Eg. Start time: 12:00, Stop time 12:00), the device will not be automatically controlled on that day.

### 2. Date and Time

Set the date and time of the device.

- Use **Mode/OK** button to cycle through the Date and Time. Use ▲ / ▼ keys to change the values.

### 3. Boost Mode

Set the Boost Mode On or Off.

- Use ▲ / ▼ keys to turn On or Off. Press **Mode/OK** button to continue.

### 4. Language

Set the language of the control panel. (Default to English)

- Use ▲ / ▼ keys to select between English / Turkish. Press **Mode/OK** button to continue.

## 5. Display Light

Set the brightness value of the control panel. (Default 50)

- Use ▲ / ▼ keys to select a value. Press **Mode/OK** button to continue.

## 6. Display Const.

Set the contrast value of the control panel. (Default 50)

- Use ▲ / ▼ keys to select a value. Press **Mode/OK** button to continue.

## 7. Device Monitor

Use it to view various states and/or sensor values of the device.

# SERVICE SETTINGS

**IMPORTANT:** These settings will change the behavior and function of the device. Only authorized service personnel should change these settings.

To enter *Service Settings menu*, press and hold ▲ / ▼ keys while the control panel is turned off (Logo screen). You can access various advanced settings and view information about the device from this menu. You can use ▲ / ▼ keys to navigate through and select the menu items and **Mode/OK** button to enter.

### 1. Fan Level

Set fan level percentages for the ASP and VNT fan stages. (Default levels are 25%, 40%, 55%, 70%, 85%, and 100%)

- Use ▲ / ▼ keys to change the fan level and press **Mode/OK** button to save and continue to the next fan stage.
- Stages start with the 1<sup>st</sup> (lowest) stage of ASP up to 6 (by default) and then cycles to the 1<sup>st</sup> stage of VNT up to 6.

**IMPORTANT:** You should not set a stage percentage lower than the previous one.

## 2. Fan Stage

Set fan stage number between 1 and 6 (Default stage number is 6).

- Use ▲ / ▼ keys to change the stage number and press **Mode/OK** button to save and return to the main menu.

**IMPORTANT:** For maximum precision of control, you should keep this setting at 6

## 3. Panel Boost (Boost mode)

Change the fan level and time settings of the Panel boost. (Default values are ASP 80%, VNT 80%, and Timer 30 min)

- Use **Mode/OK** button to cycle through ASP level, VNT level and Timer settings, and use ▲ / ▼ keys to change the values. Timer represents when the boost mode turns off automatically.

## 4. Humidity Boost (Shower boost)

Change the fan level settings of the Humidity boost. (Default values are ASP 80%, VNT 25%)

- Use **Mode/OK** button to cycle through ASP and VNT levels and ▲ / ▼ keys to change the values.

**IMPORTANT:** You can change the humidity level which the boost mode activates, from the hygrometer located inside of the device. For detailed information, refer to the device user manual.

## 5. Aspirator Boost (Kitchen boost)

Change the fan level settings of the Aspirator boost. (Default values are ASP 25%, VNT 80%)

- Use **Mode/OK** button to cycle through ASP and VNT levels and ▲ / ▼ keys to change the values.



## 6. Delay Time

Set the delay time between fan stages when the fans is speeding up or slowing down. (Default value is 5 seconds)

- Use ▲ / ▼ keys to change the value and **Mode/OK** button save and return to the main menu.

**IMPORTANT:** Decreasing this value will increase the response of the fans and decrease the 0-100% speed of the fans. For safe and stable operation of the device, use 5-7 seconds for delay time.

## 7. ModBus Settings

Set the parameters for ModBus connection. (Default values are ID: 001, Baudrate: 9600)

- Use **Mode/OK** button to cycle through Modbus ID and Baudrate, and ▲ / ▼ keys to change the values.

**IMPORTANT:** Change these settings only if you are using Modbus protocol to control the device.

## M1001-M MODBUS RTU REGISTER ADDRESS

Data	Command Type	Address	State Information	Memory	Explanation	Factory Reset
Device On/Off	W/R	0	0:Off--1:On	Non volatile		0
Device Mode	W/R	1	0: Manuel Mode 1: Auto Heater Mode 2: Auto Fan Mode	Non volatile		0
Operation Temperature	W/R	2	0-99			
Set Temperature	W/R	3	0-99	Non volatile		23
Aspritor Set Value	W/R	4	0-3	Non volatile		3
Vantilator Set Value	W/R	5	0-3	Non volatile		3
Heater Set Value	W/R	6	0-3	Non volatile		3
Damper Set Value	W/R	7	0-120	Non volatile		0
Timer On/Off Control	W/R	8	0-1		It is used for remote On/Off function. If there is a modbus control, please cancel the weekly program from room panel.	0
Key Lock Control	W/R	9	0: Key Unlocked 1: Key Locked	Non volatile		0
Room Panel Temperature Value	R	10	0-99	Non volatile	Temperature value room panel.	
Duct/External Temperature Value	R	11	0-99	Non volatile	Duct Temperature or External Temperature(Freecooling)	
Warning Value	R	12	0-99	Non volatile	Warning Table	
Error Value	R	13	0-99	Non volatile	Error Table	

COM2 Port Modbus ID	W/R	14	1-255	Non volatile		1
COM2 Port Modbus Baudrate	W/R	15	0-4	Non volatile		3
COM1 Port Modbus ID	W/R	16	1-255	Non volatile		1
COM1 Port Modbus Baudrate	W/R	17	0-4	Non volatile		3
Operation State	R	18	0-99			
Aspirator Instant Value	R	19	0-3			
Vantilator Instat Value	R	20	0-3			
Heater Instat Value	R	21	0-3			
Damper Instat Value	R	22	0-1			
Analog Output 1 Instat Value	R	23	0-100			
Analog Output 2 Instat Value	R	24	0-100			
Dirty Filter Input	R	25	0-1			
External Tempeture	R	26	0-99			
BMS Input	R	27	0-1			
Carbon dioxide Input Value	R	28	0-100			
Minimum Set Temperature Limit	R	29	0-99	Non volatile		15
Maksimum Set Temperature Limit	R	30	0-99	Non volatile		35
Analog Çıkış Tipi	R	31	0: Off 1: An1:Heater Valve 2: An1:ASP An2:VNT			

### M1001-M MODBUS RTU WARNING TABLE

Explanation	Address	Warning Code
BMS Control	12	1

### M1001-M MODBUS RTU ERROR TABLE

Explanation	Address	Error Code
Dirty Filter	13	3