User Manual Termic Plus/BSK OK-1

- **2.8" Graphic Screen**
- **2 Part Control Panel (Mainboard + Room Panel)**
- **Aspirator, Vantilator 3 Level Speed Control**
- **Automatic/Manuel Mode**
- **3 Stage Heater Control**
- **English/Turkish Language**
- **Carbon dioxide Control (CO2 Transmitter Input)**
- **Return Air Temperature Input (NTC 10K)**
- **BMS Input (Dry Contact)**
- **Dirty Filter Input**
- **On/Off Damper Output**
- **Minimum ve Maximum Set Temperature Limit**
- **Weekly Program (for BSK OK-1)**

X: T   >   Weekly Program

Mainboard: M1002-M

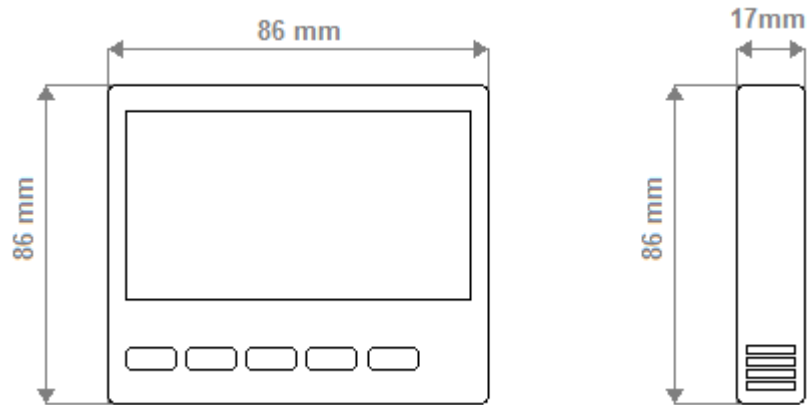| Warning |
|---|
| Please read the manual and following cautions before you begin installing the device. Responsibility of accidents and damages caused by failure to observe the warnings in the manual belongs to user. Operation on the device cause damage to device and system. In this case damaged device will be out of warranty. |

TECHNICAL SPECIFICATIONS

ENVIROMENTAL 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
It should be used in no flammable and no environments.	

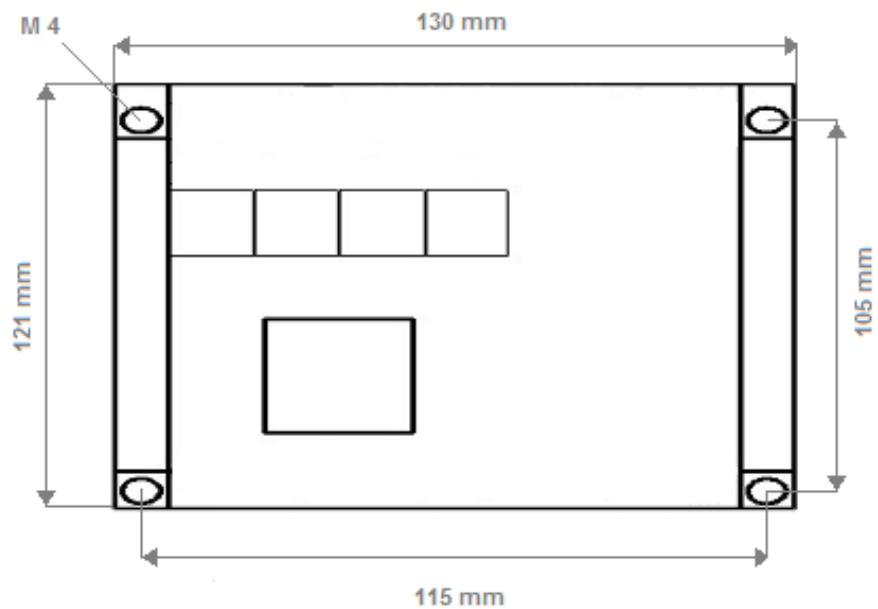| ELECTRICAL / OPERATING SPECIFICATIONS	
Power Supply	AC 220 V
Power Consumption	5VA
Connection	1.5mm²' terminal

OUTPUTS	
Vantilator 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 Kademe (Kuru Kontak Çıkış) (Maks. 3A)
Self-extinguishing plastic used in the production.	
The Device shoulded not be cleaned with corrosive cleaning materials and Solvents (thinner, benzine, acid etc.).	

DIMENSIONS
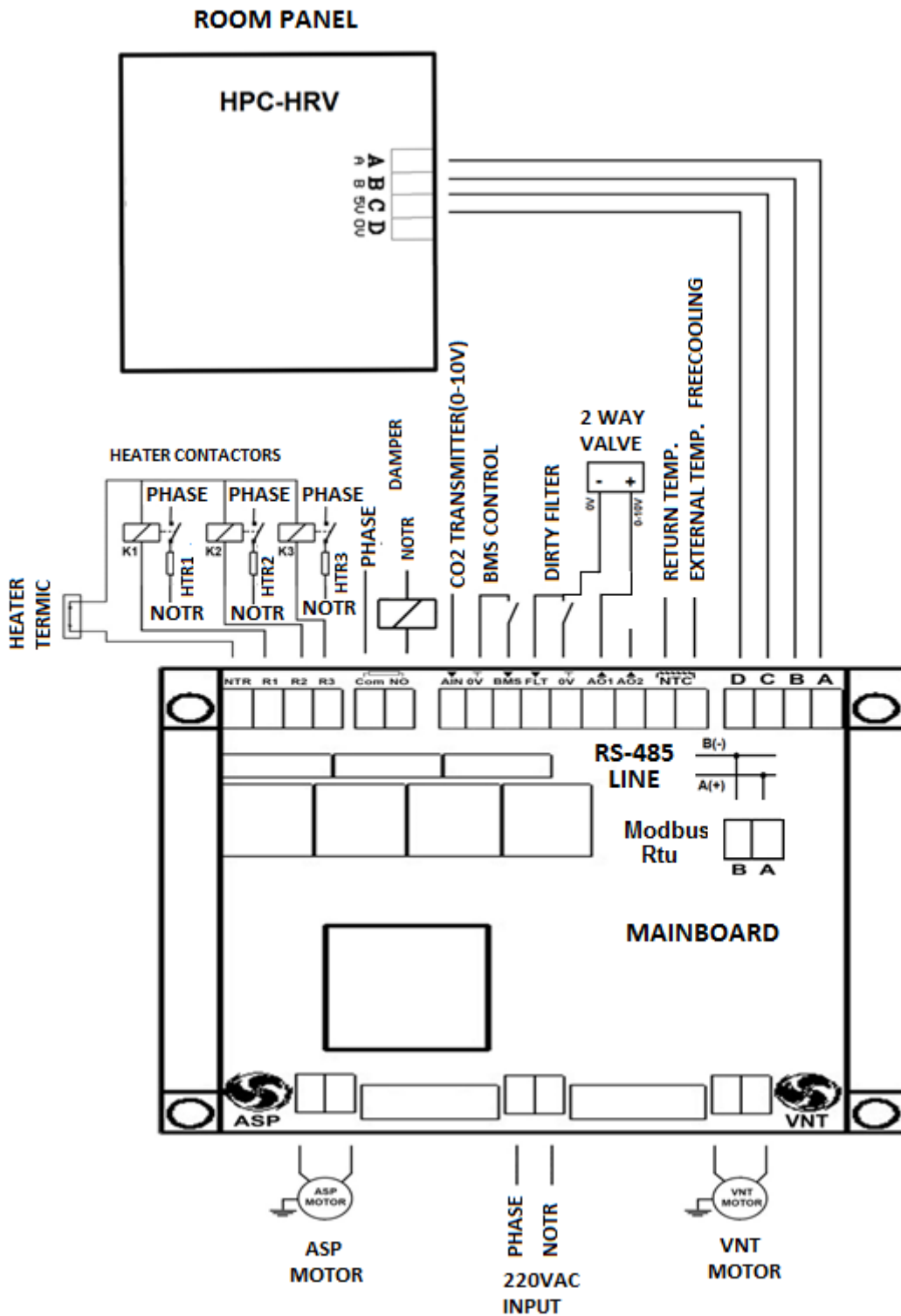
Termic Plus/BSK OK-1 (Room Panel)

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

ROOM PANEL

HPC-HRV

A B C D
A B 5u 0V

HEATER CONTACTORS

PHASE | PHASE | PHASE

K1 K2 K3

HTR1 HTR2 HTR3

NOTR NOTR NOTR

HEATER TERMIC

PHASE

NOTR

DAMPER

CO2 TRANSMITTER(0-10V)

BMS CONTROL

DIRTY FILTER

2 WAY VALVE

- +

0V 0-10V

RETURN TEMP.

EXTERNAL TEMP.

FREECOOLING

NTR R1 R2 R3 | Com NO | AIN 0V BMS FLT 0V AO1 AO2 NTC | D C B A

RS-485 LINE

B(-)

A(+)

Modbus Rtu

B A

MAINBOARD

ASP

VNT

ASP MOTOR

PHASE NOTR

220VAC INPUT

VNT MOTOR

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

ROOM PANEL

On/Off Button: It operates **ON/OFF** functions of the device.

Mode/OK Button: It changes device mode (AUTO/MAN).

                          It changes aspirator, vantilator and heater stages when the device is on manual mode.

                          It is used for Okay button when setup menu.

Up Button: It increases set temperature in automated mode.

                          It increases Asp. Vnt or Heater stage in manual mode.

Down Button: It decrease set temperature in automated mode.

                          It decrease Asp. Vnt or Heater stage in manual mode.

SETUP Button: It opens setup menu.

                          Press **Setup** button 2 seconds to enter setup menu.

Keylock activation: Press **SETUP** and **DOWN** buttons 3 second at he same time. "KEY LOCKED" is shown on the screen.

Keylock deactivation: Press **SETUP** and **DOWN** buttons 3 second at he same time. "KEY UNLOCKED" is shown on the screen.

Weekly Program Settings: (Termic Plus/BSK OK-1)

Press **SETUP** button 2 second when the device ON mode.

Select Weekly Program item and press **MODE/OK** button.

Select day of week with **UP** and **DOWN** buttons. And use **UP** and **DOWN**, **Mode/OK** to change start and stop hours.

Continue with pressing **Mode/OK** button.

Not1: If start hour is greater than stop hour the device will be off during the selected day.

Not2: If start hour and stop are same the weekly program will does not work during the selected day.

Not3: The Timer On logo is shown when weekly program is set for during day.

Not4: The Timer Off logo is shown when weekly program if off for during day.

Date & Time Settings: (Termic Plus/BSK OK-1)

Press **SETUP** button 2 second when the device ON mode.

Select **Date and Time** item and press **MODE/OK** button.

Setup date and time using **UP/DOWN** and **MODE/OK** buttons.

Continue with pressing **Mode/OK** button.

Language:

Press **SETUP** button 2 second when the device ON mode.

Select **Language** item and press **MODE/OK** button.

Select language using **UP/DOWN** buttons.

Continue with pressing **Mode/OK** button.

Backlight Settings:

Press **SETUP** button 2 second when the device ON mode.

Select **Display Light** item and press **MODE/OK** button.

Set backlight value using **UP/DOWN** buttons.

Continue with pressing **Mode/OK** button.

Contrast Settings:

Press **SETUP** button 2 seconds when the device ON mode.

Select **Display Const.** item and press **MODE/OK** button.

Setup backlight value using **UP/DOWN** buttons.

Continue with pressing **Mode/OK** button.

warning! Settings menu changes need to be made by technical person.

SERVICE SETTINGS

Temperature Sensor Position Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **Control Temp.** item and press **MODE/OK** button.

Select temperature sensor position as (Panel or Duct) with UP and DOWN button.

Continue with pressing **Mode/OK** button.

Fan and Heater On/Off Time Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **Delay Time** item and press **MODE/OK** button.

Select Delay time (5-30sn) by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

ON/OFF Damper Time Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **Damper Settings** item and press **MODE/OK** button.

Select Freecooling Mode as **Off**.

Continue with pressing **Mode/OK** button.

Select Damper Time (0-150sn) by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

ByPass Damper (Freecooling)Time Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **Damper Settings** item and press **MODE/OK** button.

Select Freecooling Mode as **ON**.

Continue with pressing **Mode/OK** button.

Select Minimum Temperature limit (0-99C) by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Select Maximum Temperature limit (0-99C) by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Heater Stage Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **Heater Stage** item and press **MODE/OK** button.

Select Heater Stage On Time (1-3) by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Analog Heater Output Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **Analog Heater** item and press **MODE/OK** button.

Select analog heater stage voltage value by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Auto Mode Fan Stage Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **Auto Fan Mode** item and press **MODE/OK** button.

Select auto fan mode by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Carbon dioxide Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **CO2 Mode** item and press **MODE/OK** button.

Select Carbon dioxide mode (On/Off) by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Minimum Set Temperature Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **"Set Min."** item and press **MODE/OK** button.

Select **Minimum temperate set limit** by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Maximum Set Temperature Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **"Set Max."** item and press **MODE/OK** button.

Select **Maximum temperate set limit** by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Analog Output Selection Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **"Analog Output"** item and press **MODE/OK** button.

Select **Analog Output type** by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Fan Stage Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **"Fan Stage"** item and press **MODE/OK** button.

Select **Fan stage(1-6)** by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Fan Level Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **"Fan Level"** item and press **MODE/OK** button.

Select **Fan voltage level** of aspirator and vantilator by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Room Panel Communication Settings Ayarı:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **"Panel Settings"** item and press **MODE/OK** button.

Select **Modbus ID (1-255)** by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Select **Modbus Baudrate** (1200Bps, 2400 Bps, 4800 Bps, 9600Bps, 19200Bps,38400Bps) by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Note1: Communication Settings: Data Bits:8, None Parity Stop Bit 1

Modbus RTU Communication Settings:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **"Modbus Settings"** item and press **MODE/OK** button.

Select **Modbus ID (1-255)** by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Select **Modbus Baudrate** (1200Bps, 2400 Bps, 4800 Bps, 9600Bps, 19200Bps,38400Bps) by using **UP** and **DOWN** buttons.

Continue with pressing **Mode/OK** button.

Note1: Communication Settings: Data Bits:8, None Parity Stop Bit 1

Panel Factory Reset:

Press **UP and DOWN** buttons at the same time 3 seconds when the device **OFF** mode.

Select **"Factory Reset"** item and press **MODE/OK** button.

Select ON Mode on the factory reset menu.

Continue with pressing **Mode/OK** button.

Room Panel will be return default parameters value.

Room Panel Factory Settings:

Backlight:	%50
Contrast:	%50
Panel Communication:	Modbus ID: 1
	Modbus Baudarate: 9600 Bps

Mainboard Factory Reset:

Press the button on the mainboard and wait led lighting. Led will be start to blinking. When the Led finish the blinking wait two second and mainboard will return factory parameters.

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