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# ETN-24-SUPER-SF Series

## Owner's Manual – Installation and Operating Instructions

 Please read this manual carefully before installation and use.

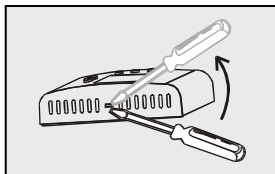
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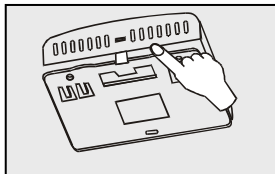
### 1. Options & Accessories

- External sensor option: RS01 for remote temperature sensing (1 required) RS01 for averaging temperature with thermostat (4 required) RS02 for averaging temperature with thermostat (2 required RS02 has two thermistors in one enclosure).
- Hand held remote control.
- Door switch or window contact connection.

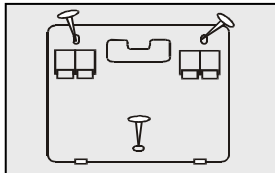
### 2. Installation Instructions



Separate the front panel from back panel by depressing the tongue located in the top of the unit.

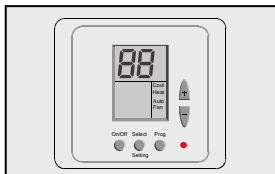


Pull the back panel out.



Line the back panel up against the wall or flat surface. Install three screws as required.

Make electrical connections as shown on enclosed electrical wiring diagram. (Next page)



Install the cover to the back panel; first the two tabs on the bottom and then the top tongue. Push until tight against the wall.

### 3. Wiring Connections

Choose the right configuration for your model.

SWITCH	FUNCTION
R	24 Vac RED
C	24 Vac Common from transformer
W3 (S1)	HEAT PUMP / HEAT 3 (in HC configuration)
W1 (S2)	HEAT 1
0	Door switch or window contact (normally open)
IN	

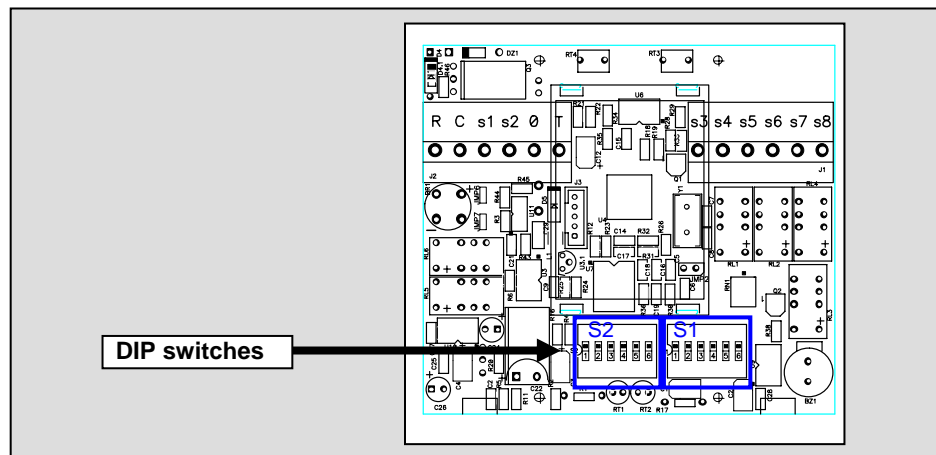
W2 (S3)	HEAT 2
T <sub>0</sub> (S4)	External sensor
T (S5)	
Y2 (S6)	COMP.2
G (S7)	FAN
Y1 (S8)	COMP.1



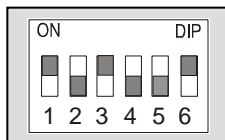
**IMPORTANT!** Before making any changes in the DIP switch disconnect electricity in the main board.

### 4. DIP switch Explanations (different configurations)

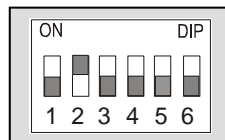
Location of DIP switches:



Factory default configuration for DIP switches:



S2

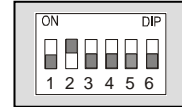


S1

**Table 4.1 – DIP switch selection**

**DIP switch S1:**

Default:

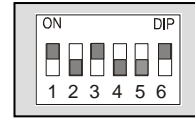


Func. No.	Time Delay for Cool		Cool only or All modes	
	4 Minutes*	No Delay	Cool only	All modes*
1	X	X	X	X
2	X	X	OFF	ON*
3	OFF*	ON	X	X
4	X	X	X	X
5	X	X	X	X
6	X	X	X	X

X = Not important \* = Default switch

**DIP switch S2:**

Default:

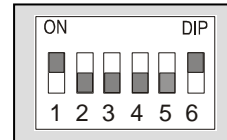


Func. No.	Internal/External Sensor		COOL & HEAT (HC##)*	HEAT PUMP (HP##)	Display of T. Ambient		HC / HP configuration			
	Internal*	External			With* display	No display	HC configuration		HP configuration	
							Elc. Heat*	Oil Heat	HP in Heat	HP in Cool
1	ON*	OFF	X	X	X	X	X	X	X	X
2	OFF*	ON	X	X	X	X	X	X	X	X
3	ON*	OFF	X	X	X	X	X	X	X	X
4	X	X	OFF*	ON	X	X	X	X	X	X
5	X	X	X	X	X	X	OFF*	ON	OFF	ON
6	X	X	X	X	ON*	OFF	X	X	X	X

X = Not important \* = Default switch

**4.2 DIP switch Operation**

The DIP switch has 6 pins.  
Each pin can be ON or OFF.  
In this example picture, pins 1,6 - ON and pins 2,3,4,5 - OFF



Example

**4.3 External sensor connection - option**



**Important! The external sensor must be Meitav-Tec type.**

**Table 4.3 - N.TC. Sensor: Temperature ~ Resistance Characteristics**

Temp °C	7.2	10.0	12.8	15.6	18.3	21.1	23.9	26.7	29.4	32.2
Temp °F	45	50	55	60	65	70	75	80	85	90
Res. k	115.8	100.9	88.1	77.1	67.7	59.6	52.5	46.4	41.2	36.6



**The default from factory is INTERNAL SENSOR.**

- Disconnect power to the thermostat 24vac.
- Move the DIP switch S2 as described in the table above
- Connect the temperature sensor to S4, S5 terminals.
- Reconnect power 24vac.
- Make sure the reading in the display is by the external sensor.

The length of the cable for the external sensor is 100 feet (30 meters) with standard cable.

If longer distance is needed then the cable MUST be shielded.

There is a wide range of sensors for different applications, duct, rooms, etc.

There is also option for averaging the temperature.

For details please contact our technical line or visit our web site.

## 5. Operating Manual

### 5.1 On/Off

- Press the ON/OFF button to activate or deactivate the thermostat.
- The word "ON" or "OFF" will appear in the display.

### 5.2 Set temperature

- Press the SET buttons (+) or (-) - the temperature will flash.
- Adjust the set temperature using the (+) or (-) buttons.

### 5.3 Selecting modes

Press the MODE button to switch between the four modes:

- Cool
- Heat
- Cool/heat (auto-change over),
- Fan only.
- Emergency heat selectable in heat mode in Heat Pump type (only).
  - Press and hold the MODE button (5 seconds) to activate Emergency heat (Heat Elements) and the compressor will be OFF. This selection is for cold days when the outside temperature is very low and the Heat Pump is active in heat.
  - To return back to Heat mode press and hold the MODE button again (only in Heat mode).

### 5.4 Fan/Auto Fan function

- Press the FAN button to select AUTO FAN.
- Press the FAN button again to cancel.

In AUTO FAN the fan will only run when calling for heat or cool.

## 6. RT03-HC-1S - Hand Held Remote Control - Option

### 6.1 General

This is an Infrared Remote Control Unit, which means it must be pointed at the thermostat (or extra receiver) to operate.

Every time you change a parameter in the Remote Control, you must send it to the thermostat by pressing the "ON/SEND".

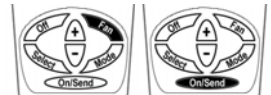
### 6.2 RT03-HC-1S - Operating Manual

- Press the ON/SEND to activate the air conditioner and/or updating information.



#### Fan Mode:

- Press the FAN button to change between: FAN ON (⊗) or AUTO FAN (A).
- Press the ON/SEND button to send information to thermostat.



#### Mode:

- Press the MODE button to change between: COOL, HEAT, AUTO CHANGE and FAN ONLY.
- Press the ON/SEND button to send information to thermostat.



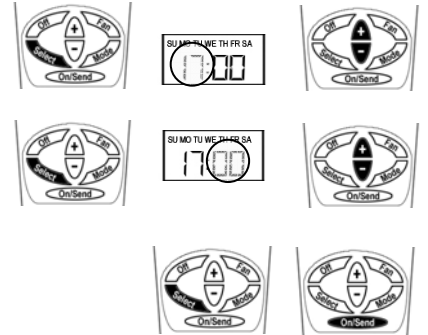
#### Temperature Set Point:

- Adjust the desired temperature using the (+) or (-) buttons.
- Press ON/SEND button to send information to thermostat.



**Real Time Clock and Day:**

- Press the SELECT button - CLOCK SET will flash.
- Press the (+) or (-) buttons - the hours will flash.
- Adjust the hours using the (+) or (-) buttons.
- Press the SELECT again - minutes will flash.
- Adjust the minutes using the (+) or (-) buttons.
- Press the SELECT again to return to normal display mode.
- Press the ON/SEND button to send information to the thermostat.



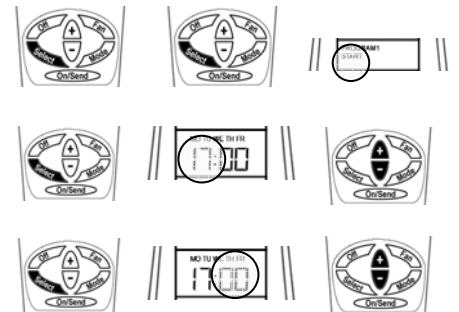
**Timer:**



**IMPORTANT: If no button is pressed for 10 seconds the display will return to normal display mode.**

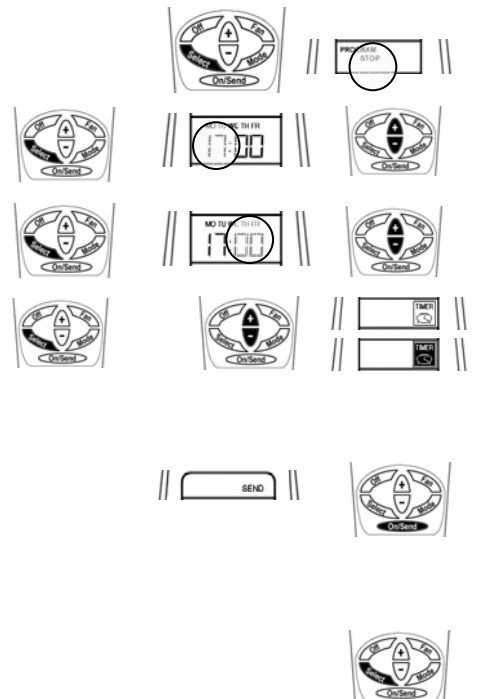
**Start Time:**

- Press the SELECT button twice - PROGRAM & START (flashing) will appear on display.
- Press the SELECT button - the hours will flash.
- Adjust the hours using the (+) or (-) buttons.
- Press the SELECT button - the minutes will flash.
- Adjust the minutes using the (+) or (-) buttons.



**Stop Time:**

- Press the SELECT button - PROGRAM & STOP (flashing) will appear on display.
- Press the SELECT button - the hours will flash.
- Adjust the hours using the (+) or (-) buttons.
- Press the SELECT button - the minutes will flash.
- Adjust the minutes using the (+) or (-) buttons.
- Press the SELECT button - the TIMER will blink
- Select TIMER ON or OFF Using the (+) or (-) buttons.
- If you changed between TIMER ON or OFF, the SEND will blink.
- Press SEND/ON button to send the information to the thermostat.
- **If you did not change** between TIMER ON or OFF, press the SELECT button to return to normal display mode.



**Important: when the Timer is active, and there is power failure to the thermostat, the display will show "ON" flashing.**

## 7. Technician Settings

### 7.1 Set temperature limits and offset

- Press and hold ON/OFF button (7 second) - "50" Will flash on display.
- Using the (+) and (-) buttons adjust the number to "55".

#### Set limit for cool

- Press the ON/OFF button again – "Cool" will flash on display
- Using the (+) and (-) buttons adjust the set limit for cool (Range 10°C/30°C – default 10°C).

#### Set limit for heat

- Press the ON/OFF button again – "Heat" will flash on display.
- Using the (+) and (-) buttons adjust the set limit for hear (Range 10°C/30°C – default 30°C).



**Important: The user can change the set temperatures on the display regardless of the limit set, but the thermostat will work by the limit settings.**

#### Set the offset (the offset is used for calibration of the measured temperature)

- Press the ON/OFF button again.
- "Set" and "°C" flashing will appear on display.
- Adjust set offset using the (+) and (-) buttons (range -6°C/+6°C – default 0°C).

### 7.2 Lock/Unlock the thermostat's buttons

#### Lock the thermostat's buttons

- Press and hold ON/OFF button (7 second) - "50" Will flash on display.
- Using the (+) and (-) buttons adjust the number to "45".
- Press the ON/OFF button again.
- Press the (+) button to lock the thermostat's buttons.



#### Unlock the thermostat's buttons

- Press and hold ON/OFF button (7 second) - "50" Will flash on display.
- Using the (+) and (-) buttons adjust the number to "45".
- Press the ON/OFF button again.
- Press the (-) button to unlock the thermostat's buttons.



**Important: In Lock button mode, the remote control still can be used to operate the unit.**

### 7.3 Set time for filter alert.

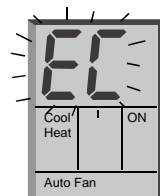
- Press and hold ON/OFF button (7 second) - "50" Will flash on display.
- Using the (+) and (-) buttons adjust the number to "80".
- Press the ON/OFF button again – a number will appear on display
- Set the time for change of filter alert using the (+) and (-) buttons (range 0,100,200...900 hours – default 400 hours).  
The set time is the displayed number X 10 (i.e. "50" → 500 hours, 60 → 600 hours).
- When the thermostat reaches the specified time, the display will alternate between "FI" and ambient temperature.
- To cancel the alert, press and hold the "Fan" button (15 seconds).



**Set time to 0 in order to cancel this option.**

### 7.4 Fault input.

The contact is Voltage free (2 terminals), normally open (active when close). When the contact closes, the thermostat display will alternate between "EC" and ambient temperature. To remove the alert – fix the problem and the thermostat will automatically return to normal working mode.



**When the thermostat is OFF – the Fault input is active but the thermostat will not show any alert. "EC" will appear on display the next time the thermostat turns on.**