# Installation

The ETN24 is designed for wall mounting in the room to be controlled. It should be located where the occupant can easily read the LCD display and use the controls. If the built in temperature sensor is being used to measure room temperature, the module should be placed where the temperature is representative of the general room conditions. Cold or warm air draughts; radiant heat and direct sunlight should be avoided.
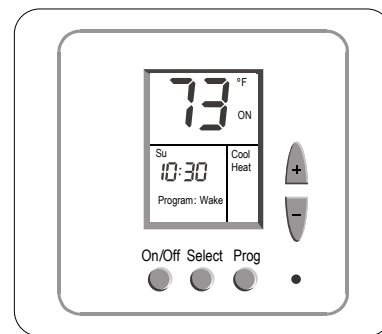
General points to follow:

- Disconnect power to the main board before installing the unit.
- The unit should not be installed on an outside wall or where there is an air draft.
- The unit must not be exposed to a direct sunlight.
- The standard height to install this unit is 1.5 meter (5 feet) from the floor.

Installation procedure:

- Separate the front panel from back panel by pressing the tongue located in the top of the unit and 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.
    - 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.
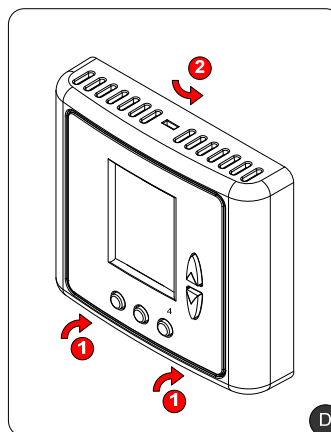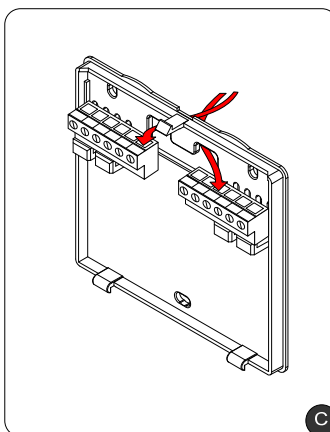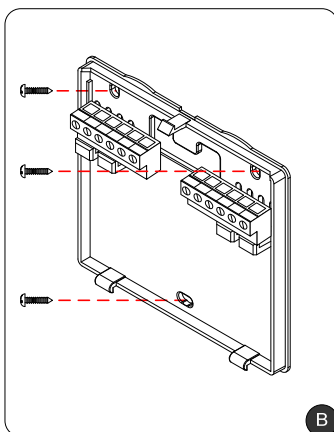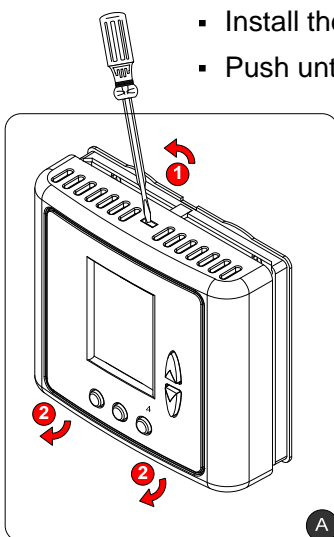
ETN24-SUPER-FP-PROG-F
Owner's manual & Technnician Settings

**Tel: (856) 2882882
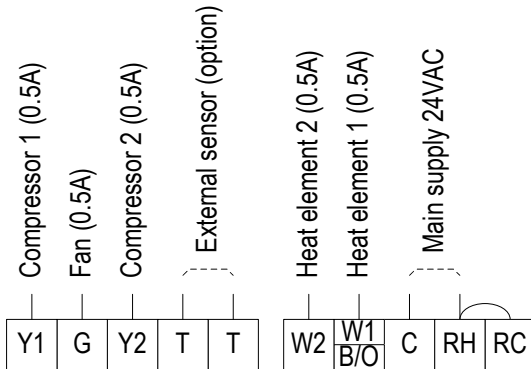Tel: +972-3-9626462
Fax: +972-3-9626620
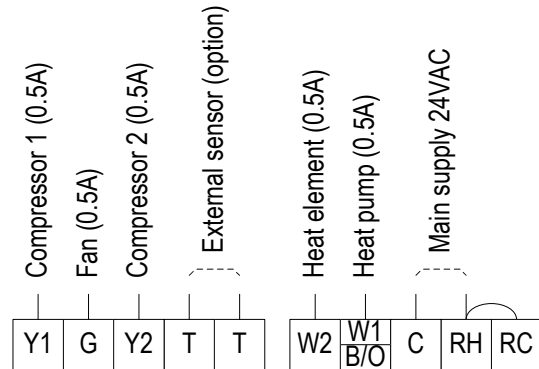support@meitavtec.com**

meitav-tec

Wiring

Before connecting or disconnecting any wires, ensure that all power supplies have been switched off and all wires are potential-free to prevent equipment damage and avoid electrical shock.

Do not run wiring close to transformers or high frequency generating equipment. Complete and verify all wiring connections before applying power to the controller to which the module is connected.

System without heat pump (heat elements only)

System with heat pump

Compressor 1 (0.5A)	Fan (0.5A)	Compressor 2 (0.5A)	External sensor (option)		Heat element 2 (0.5A)	Heat element 1 (0.5A)	Main supply 24VAC	
Y1	G	Y2	T	T	W2	W1 B/O	C	RH RC

Compressor 1 (0.5A)	Fan (0.5A)	Compressor 2 (0.5A)	External sensor (option)		Heat element (0.5A)	Heat pump (0.5A)	Main supply 24VAC	
Y1	G	Y2	T	T	W2	W1 B/O	C	RH RC

Notes:

For a heat pump system with no heat elements, leave terminals "W1" and "W2" free.

For a heat pump system with one heat element, leave terminal "W2" free.

For system with one compressor, leave terminal "Y2" free.

RC-RH, - When using one transformer, RC,RH terminals must be shorted.

External sensor Connection (option)

⚠ Important: The external sensor must be Meitav-tec type only!

Temp °F	45	50	55	60	65	70	75	80	85	90
Res. KΩ	115.8	100.9	88.1	77.1	67.7	59.6	52.5	46.4	41.2	36.6

Connecting the external sensor

- Disconnect power to the thermostat.
- Move switch 5 to ON position and switches 1 and 6 to OFF position.
- Connect the temperature sensor to the T-T terminals.
- Reconnect power to the thermostat.

ON
1 2 3 4 5 6
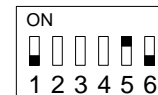
Notes:

- The wire length for the external sensor can be up to 100 feet (30 meters) with standard cable.
- If the distance is greater than 100 feet the wire MUST be shielded.
- **The external sensor must be Meitav-tec type.**

There is a wide range of sensors for different applications, duct, rooms, etc. There are also options for averaging the temperature. For details please contact our technical line or visit our web site.
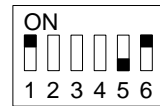
DIP switch settings

Internal/External sensor

Use DIP Switches S1, S5 and S6 to select Internal/External sensor

- Internal sensor…………………..…….. S1, S6 – ON   S5 – OFF
- External sensor………………..……… S1, S6 – OFF   S5 – ON
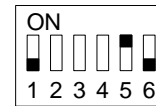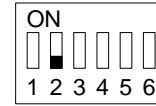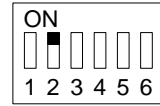
External sensor

Internal sensor

Heat pump or non heat pump (heat elements only) system

Use DIP Switch S2 to select heat pump or non heat pump system

- Heat pump system……………………S2 – ON
- Non heat pump system……….………   S2 – OFF

Non heat pump system

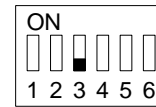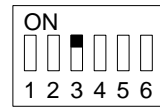**Heat pump system**

Heater type – electric or oil/gas (for non heat pump systems)

Use DIP Switch S3 to select heater type

- Oil/Gas heaters…………………………S3 – ON
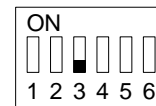- Electric heaters…………………..……...S3 – OFF

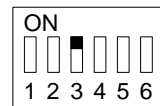**Electric heaters**

Oil/Gas heaters

Heat pump configuration (for heat pump systems)

Use DIP Switch S3 to select heat pump configuration

- Heat pump energized in heat.……..... S3 – ON
- Heat pump energized in cool.……..... S3 – OFF

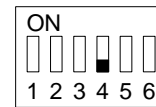**Heat pump energized in cool**

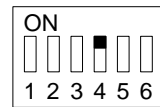**Heat pump energized in heat**

Compressor time delay

Use DIP Switches S4 to enable/disable the 3 minutes compressor time delay as follows:

- 3 Minutes delay………………………..S4 – OFF
- No delay……………………………….. S4 – ON

3 Minutes compressor delay

No compressor delay

Freeze Protection

When the temperature drops below the freeze protection cut-in temperature*, the thermostat will turn on the Heat and Fan outputs in order to protect the system from freezing.

This function will be activated when the thermostat is either in On or Off position.

The display will alternate between "AL" and the room temperature.

The thermostat will return to normal mode when the temperature rises above the freeze protection cut-off temperature*.

*adjustable – please refer to the technician settings section of the operating manual.
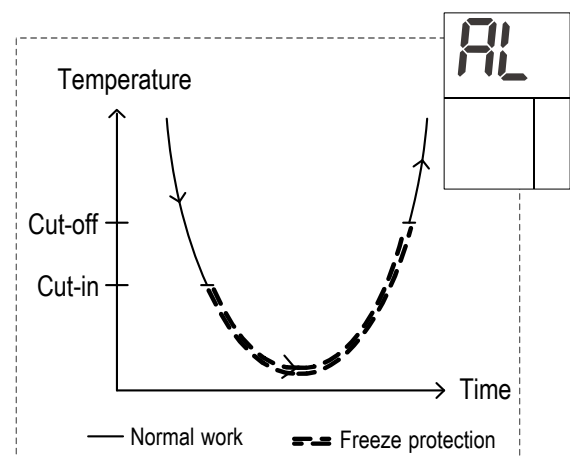
Temperature

Cut-off

Cut-in

Time

—— Normal work   ━ ━ Freeze protection

Operating instructions

On/Off

- Press the [On/Off] button to turn the thermostat ON.
- Press and hold the [On/Off] button (4 sec.) to turn the thermostat OFF.

Set point

In Cool mode:

- Press the [+] or [-] buttons - "COOL" will appear on display and the set-point temperature for cooling will flash.
- Adjust the set-point temperature for cooling using the [+] or [-] buttons.
- Press the [Select] button or wait to return to normal display.

In Heat mode:

- Press the [+] or [-] buttons - "Heat" will appear on display and the set-point temperature for heating will flash.
- Adjust the set-point temperature for heating using the [+] or [-] buttons.
- Press the [Select] button or wait to return to normal display.

In Fan mode or in auto change-over mode (2 set-points):

- Press the [+] or [-] buttons - "COOL" will appear on display and the set-point temperature for cooling will flash.
- Adjust the set-point temperature for cooling using the [+] or [-] buttons.
- Press the [Select] button or wait 3 seconds - "HEAT" will appear on display and the set-point temperature for heating will flash.
- Adjust the set-point temperature for heating using the [+] or [-] buttons.
- Wait until display returns to normal.

Note: the cooling set point temperature must be higher than the heating set point temperature

Lock Buttons

Use the Lock option to prevent users from making unwanted changes.
When the thermostat is locked, the [Select], [+] and [-] buttons are disabled, however, the users can turn the thermostat ON or OFF. The display will alternate between "Loc" and real time clock.

- Make sure both temperature set points are different than 50°F.
- Lock the thermostat - Press and hold the [Select] button (20 seconds) until "Loc" appears on display.
- Unlock the thermostat - Press and hold the [Select] button again (20 seconds) until "UnLo" appears on display.
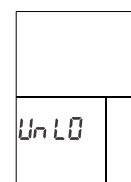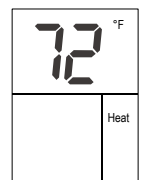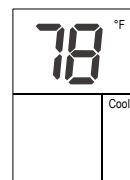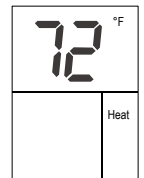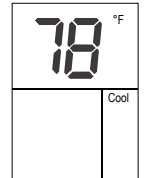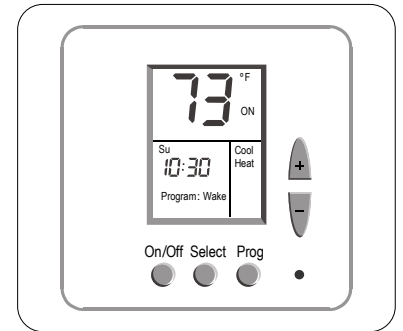
Unlocked   **Locked**
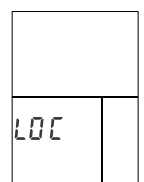
Operating instructions (Cont')

Modes / Auto fan

- Press the [Select] button once to enter **Modes** selection:
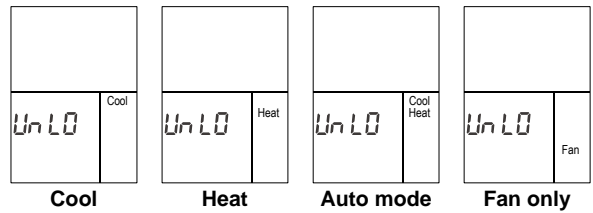- Use the [+] and [-] buttons to switch between modes:
    - "Cool"………………… Cooling
    - "Heat"………………… Heating
    - "Cool" & "Heat"……… *Auto mode
    - "Fan"………………… Fan only
- Press the [Select] button again to enter **Auto fan** selection:
- Use the [+] and [-] buttons to switch between:
    - "Fan"……………..…… Fan is on continuously
    - "Auto Fan"…………… *Fan cycles on with demand

    *Auto Fan is not available in "Fan only" mode.

    * In Heat mode, with Oil/Gas heat configuration (i.e., furnace):

    - Auto Fan – The fan will never be activated.
    - Fan – The Fan will work continuously.
- Press the [Select] button again to return to normal display
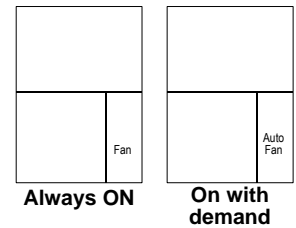
Note: The Auto mode can be disabled by technician – please refer to technician settings section in this manual.

UnLO Cool	UnLO Heat	UnLO Cool Heat	UnLO Fan
Cool	**Heat**	**Auto mode**	**Fan only**

Fan	Auto Fan
Always ON	**On with demand**

Weekly Program

The thermostat can be programmed with up to 12 different programs: 4 different programs for the weekdays (Monday to Friday); 4 different programs for Saturday and 4 different programs for Sunday. The daily programs are named: Wake, Day, Return and Sleep.

Programming defaults		1 (Wake)	2 (Day)	3 (Return)	4 (Sleep)
Monday to Friday	Start time:	6:30 AM	8:00 AM	5:30 PM	10:00 PM
	Cool Set Point / Heat Set Point:	78°F/70°F	85°F/62°F	78°F/70°F	82°F/62°F
Saturday	Start time:	7:30 AM	12:30 PM	6:00 PM	11:30 PM
	Cool Set Point / Heat Set Point:	76°F/70°F	74°F/70°F	72°F/70°F	78°F/65°F
Sunday	Start time:	7:30 AM	12:30 PM	6:00 PM	11:30 PM
	Cool Set Point / Heat Set Point:	76°F/70°F	74°F/70°F	72°F/70°F	78°F/65°F

Enable/Disable/Override the weekly program

- Press & Hold the [Prog] button (10 sec.) to enable/disable the program. When the word "Program" appears on display, the weekly program is enabled and can be modified. When the word "Program" does not appear on display, the weekly program is disabled and cannot be modified.
- The occupant can temporarily change the set point temperature to be different than the set point temperature specified by the program. Changes will be affective until the next program event begins.
- To exit programming mode, press the [Select] button until normal display is reached or wait 30 seconds.
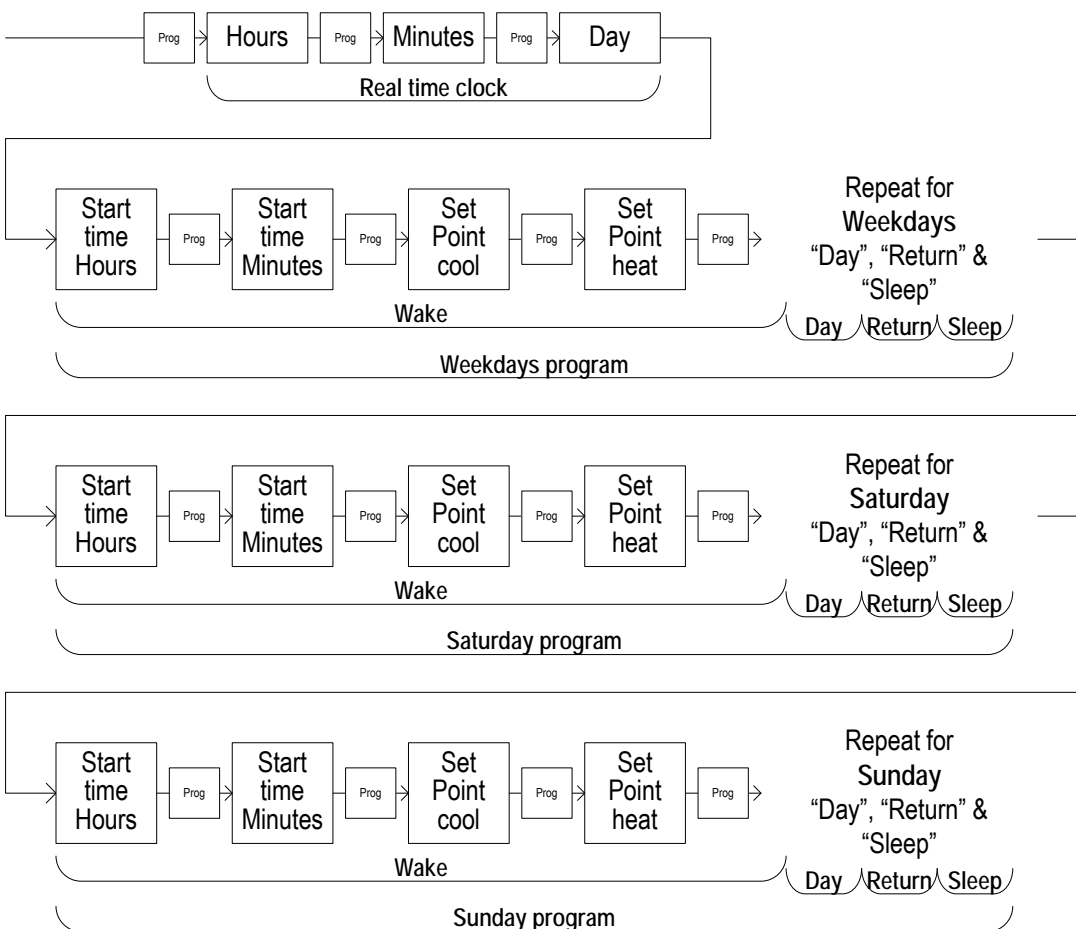
ETN24-SUPER-FP-PROG-F
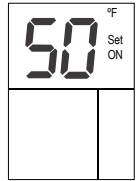Owner's manual & Technnician Settings

Tel: (856) 2882882
Tel: +972-3-9626462
Fax: +972-3-9626620
support@meitavtec.com

meitav-tec

Technician Settings

Enter technician settings mode

- Adjust the set point temperature to 50°F
- Press and hold the [Select] button for 5 seconds to enter technician settings mode.

50 °F Set ON

Enter tech. settings

Temperature limit for cooling

- "Cool" will flash.
- Use the [+] and [-] buttons to adjust the temperature limit for cooling.
  Range: 41...90°F, Default 41°F.

41
COOL

Set point limit cool

Temperature limit for heating

- Press the [Select] button again – "heat" will flash.
- Use the [+] and [-] buttons to adjust the temperature limit for heating.
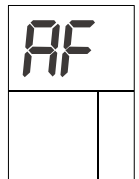 Range: 41...90°F, Default 90°F.

90
HEAt

Set point limit heat

Disable/Enable Auto change over mode

- Press the [Select] button again – "AO" or "AF" will appear on display.
- Use the [+] and [-] buttons to select between:
  "AO"……………..With Auto change over mode.
  "AF"……………..Without Auto change over mode
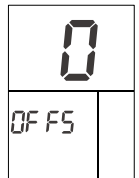
AO   **AF**

With Auto mode   **Without Auto mode**

Offset for calibration of measured temperature

- Press the [Select] button again – the offset will appear on display.
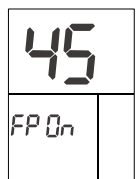- Use the [+] and [-] buttons to adjust the offset.
  Range: -6…+6°F, Default 0°F.

0
OFFS

Calibration Offset

Freeze protection cut-in temperature

- Press the [Select] button again – "FPOn" will appear on display.
- Use the [+] and [-] buttons to adjust the freeze protection cut-in temperature.
  Range: 41…65°F, Default 45°F.

Note: For more information about the freeze protection functionallity, please refer to the "Freeze protection" section in this manual.

45
FP On

Cut-in temperature

Freeze protection cut-off temperature

- Press the [Select] button again – "FPOf" will appear on display.
- Use the [+] and [-] buttons to adjust the freeze protection cut-in temperature.
  Range: 43…67°F, Default 47°F.
- Press the [Select] button again to return to normal display.

47
FP OF

Cut-off temperature

meitav-tec

Tel: (856) 2882882
Tel: +972-3-9626462
Fax: +972-3-9626620
support@meitavtec.com
www.meitavtec.com