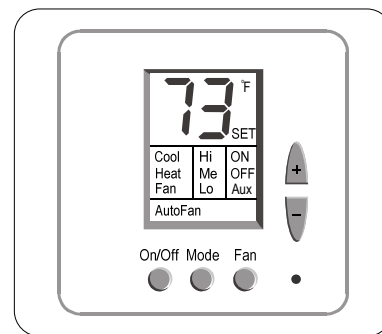# Operating instructions

ON-OFF

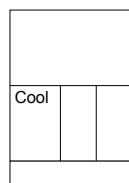- Press the [On/Off] button to turn the thermostat ON or OFF.

Set point

- Press the [+] or [-] buttons once to view the set point temperature.
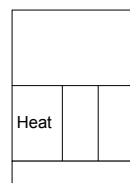- Press again to adjust the set point.

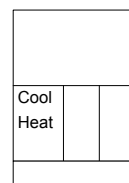## Modes

- Press the [Mode] button to switch between modes:
    - "Cool"………………… Cooling
    - "Heat"………………… Heating
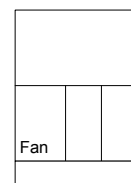   - "Cool" & "Heat"……… Auto mode
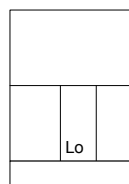   - "Fan"………………… Fan only

    Notes:

    1. During demand for cooling or heating, the active mode will flash.

    2. Heat and Auto modes are not available in cool only configuration.

Cool	Heat	Auto mode	Fan only

Fan speeds (for 3 speed configuration only)

- Press the [Fan] button to switch between fan speeds:
    - "Lo"…………………… Low speed
    - "Me"……………..………Medium speed
    - "Hi"……………………High speed
    - "Auto"………………….Auto speed
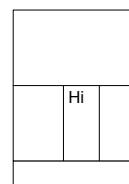
    Note: In Auto speed, the active fan speed will flash.

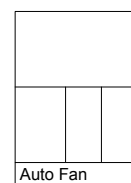| Low speed	Medium speed	High speed	Auto speed

Auto fan (fan on demand)

For 3 speed configuration:

- Press and hold the [Fan] button (5 sec.) to turn Auto fan ON or OFF.
- When ON, the fan will work on demand for cooling or heating,
- When OFF, the fan will work continuously.

    Note: Auto fan cannot be selected in Fan only mode.
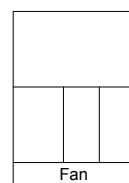
Auto fan OFF	Auto fan ON

For 1 speed configuration:

- Press the [Fan] button to turn Auto fan ON or OFF.
- When ON, the fan will work on demand for cooling or heating,
- When OFF, the fan will work continuously.

    Note: Auto fan cannot be selected in Fan only mode.

Note: in Oil/Gas systems, with Auto Fan ON, the fan will never be activated.

ETN24-SUPER-SH-F
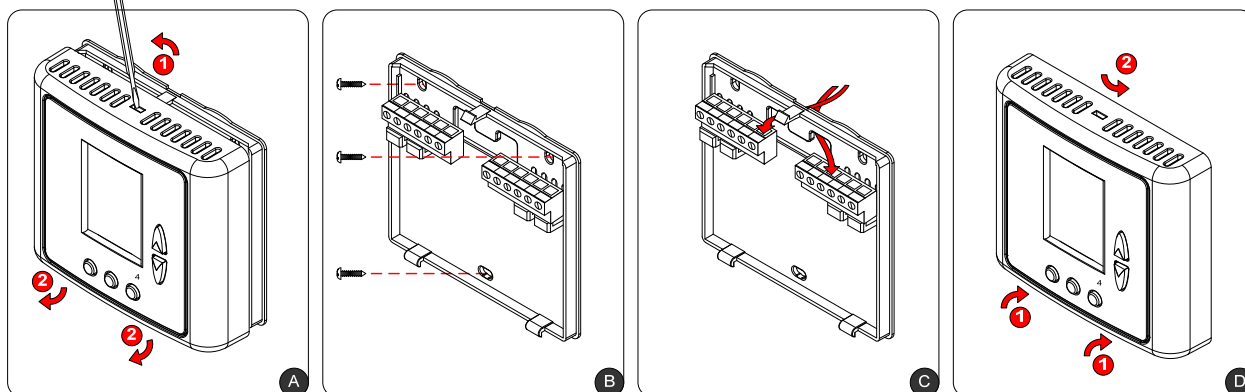**Owner's manual & Technnician Settings**

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Installation

The ETN24-SUPER-SH-F 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 standard height to install this unit is 1.5 meter (5 feet) from the floor.

Installation procedure:

A. Separate the front panel from back panel by pressing the tongue located in the top of the unit and pull the back panel out.
B. Line the back panel up against the wall or flat surface. Install three screws as required.
C. Make electrical connections as shown on enclosed electrical wiring diagram.
D. Install the cove to the back panel; first the two tabs on the bottom and then the top tongue. Push until tight against the wall.

ETN24-SUPER-SH-F
Owner's manual & Technnician Settings

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Wiring

Select your configuration: (set by DIP switches – S1.2 and S2.4)

Cool only configurations with 1 or 3 fan speeds

Terminals →

	Y1	G/G1	Y3/G3	T	0	Y2	IN	0	W2/G2	W1	C	R
1 Fan speed No heaters 1,2 or 3 Compressors	Comp. 1 (1st stg.)	Fan	Comp. 3 (3rd stg.)	External sensor (option)		Comp. 2 (2nd stg.)	Normally open contact			x	x	Main supply 24VAC
3 Fan speeds No heaters 1 or 2 Compressors	Comp. 1	Fan low	Fan high	External sensor (option)		Comp. 2	Normally open contact		Fan medium	x		Main supply 24VAC

Note:

If only one compressor is being used, connect it to Y1 (1st stage cool).

If two compressors are being used, connect them to Y1 and Y2 (1st and 2nd stage cool).

If three compressors are being used (1 fan speed config. Only) connect the to Y1, Y2 and Y3 (1st, 2nd and 3rd stage cool).

Cool and heat configurations with 1 or 3 fan speeds

Terminals →

	Y1	G/G1	Y3/G3	T	0	Y2	IN	0	W2/G2	W1	C	R
1 Fan speed 1 or 2 Heaters 1, 2 or 3 Compressors	Comp. 1 (1st stg.)	Fan	Comp. 3 (3rd stg.)	External sensor (option)		Comp. 2 (2nd stg.)	Normally open contact		Heater 2 (2nd stg.)	Heater 1 (1st stg.)		Main supply 24VAC
3 Fan speeds 1 Heater 1 or 2 Compressors	Comp. 1 (1st stg.)	Fan low	Fan high	External sensor (option)		Comp. 2 (2nd stg.)	Normally open contact		Fan medium	Heater 1		Main supply 24VAC

Note:

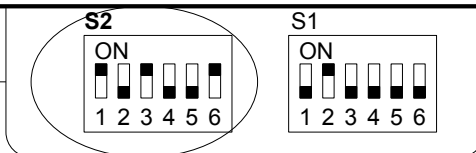If only one compressor is being used, connect it to Y1 (1st stage cool).

If two compressors are being used, connect them to Y1 and Y2 (1st and 2nd stage cool).

If three compressors are being used (1 fan speed config. Only) connect the to Y1, Y2 and Y3 (1st, 2nd and 3rd stage cool).

If only one heater is being used, connect it to W1 (1st stage heat).

If two heaters are being used (1 fan speed config. Only) connect them to W1 and W2 (1st and 2nd stage heat).

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DIP switch S2 settings (Left DIP switch)

S2
ON
1 2 3 4 5 6

S1
ON
1 2 3 4 5 6

Internal/External sensor

Use DIP Switches S2.1, S2.2 and S2.3 to select between Internal (default) and External sensor configuration as follows:

- Internal sensor: S2.1, S2.3 – ON,   S2.2 – OFF
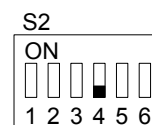- External sensor: S2.1, S2.3 – OFF,   S2.2 – ON

S2
ON
1 2 3 4 5 6
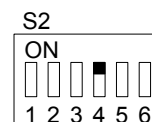**Internal sensor**

S2
ON
1 2 3 4 5 6
External sensor

Cool only (without heaters) or Cool and heat (Heaters and compressors) configuration

Use DIP Switch S2.4 to select cool – heat configuration

- Cool only: S2.4 – OFF
- Cool and heat: S2.4 – ON
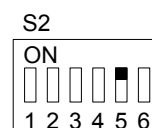
S2
ON
1 2 3 4 5 6
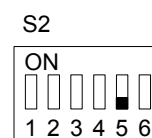**Cool only**

S2
ON
1 2 3 4 5 6
Cool and Heat

Temperature display

Use DIP Switch S2.5 to select between temperature display options as follows:

Set point temperature only: S2.5 – ON

Room and Set point: S2.5 – OFF

S2
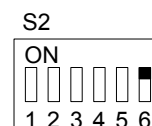ON
1 2 3 4 5 6
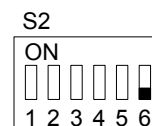**Set point only**

S2
ON
1 2 3 4 5 6
Room and Set

Contact (Window contact / Door switch) operation

Use DIP Switch S2.6 to choose the way the thermostat behaves when the contact is triggered (closed)

Switch to economy mode: S2.6 – ON
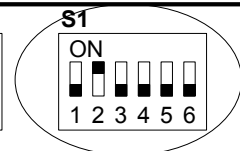
Turn unit OFF: S2.6 – OFF

Note: Economy mode set points are set by technician – refer to technician settings.

S2
ON
1 2 3 4 5 6
Economy

S2
ON
1 2 3 4 5 6
Outputs OFF

ETN24-SUPER-SH-F
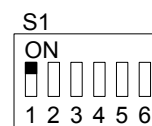Owner's manual & Technnician Settings

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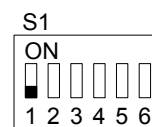# DIP switch S1 settings (Right DIP switch)

Fan operation in economy mode

Use DIP Switch S1.1 to select the way the fan behaves in economy mode

- Continuous: S1.1 – ON
- Auto fan (fan on demand): S1.1 – OFF
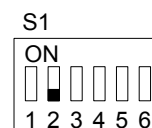
S1

Continuous

Fan on demand
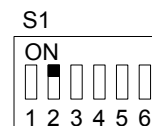
Fan speeds

Use DIP Switches S1.2 to choose between 1 speed or

3 speed configuration as follows:

- 1 Speed: S1.2 – OFF
- 3 Speeds: S1.2 – ON
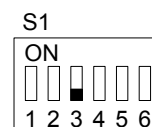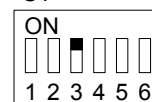
S1

1 Speed

3 Speeds

Compressor time delay

Use DIP Switches S1.3 to enable/disable the 3 minutes

compressor time delay as follows:

- 3 Minutes delay: S1.3 – OFF
- No delay: S1.3 – ON

S1

3 Minutes delay

S1

No delay

Heater type

Use DIP Switches S1.5 to select heater type as follows:

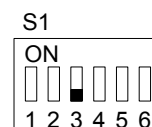- Electrical heater: S1.4 – OFF
- Oil/Gas heater: S1.4 – ON

Note:

In Heat mode, with Oil/Gas configuration, the fan will operate as follows:

- AUTO FAN ON - The fan will never be activated.
- Without AUTO FAN - The fan will work continuously.

In Heat mode, with Electrical heater configuration, the fan will operate as follows:

- AUTO FAN ON - The fan will work on demand for heating.
- Without AUTO FAN - The Fan will work continuously.
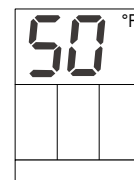
S1

Electrical heater

S1
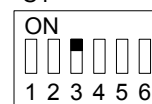
Oil/Gas heater

Important: Switches 4 and 6 are not in use and must remain OFF.

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Owner's manual & Technnician Settings

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Technician Settings
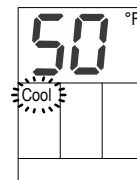
Enter technician settings mode

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

Set point = 50°F
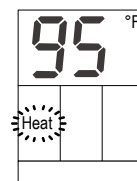
Temperature limit for cooling

- "Cool" will flash.
- Use the [+] and [-] buttons to adjust the temperature limit for cooling.
  Range: 50...95°F, Default 50°F.

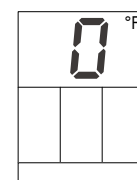**Limit Cool**

Temperature limit for heating

- Press the [Mode] button again – "heat" will flash.
- Use the [+] and [-] buttons to adjust the temperature limit for heating.
  Range: 50...95°F, Default 95°F.

Limit Heat

Offset for calibration of measured temperature

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

Offset

Temperature set-point for cooling in economy mode

- Press the [Mode] button again - "Cool" and "Aux" will flash.
- Use the [+] and [-] buttons to adjust the temperature limit for cooling in economy mode.
  Range: 52...95°F, Default 95°F.
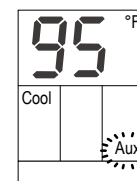
Limit Cool (EC)

### Temperature aet-point for heating in economy mode

- Press the [Mode] button again – "heat" and "Aux" will flash.
- Use the [+] and [-] buttons to adjust the temperature limit for heating in economy mode.
  Range: 50...93°F, Default 50°F.

Limit Heat (EC)

Time delay between cooling stages

- Press the [Mode] button again – "Aux" will flash.
- Use the [+] and [-] buttons to adjust the time delay between cooling stages (compressors).
  Range: 1...10 Minutes, Default 1 Minute.
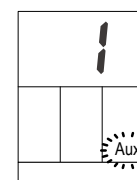
Time delay

Cool/Heat Dead zone

- Press the [Mode] button again – the temperature scale symbol will flash.
- Use the [+] and [-] buttons to adjust the dead zone between cooling and heating.
  Range: 2...10°F, Default 2°F.

- Press the [Mode] button again to return to normal display.

Dead zone

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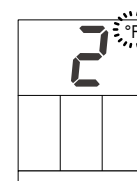
Lock thermostat buttons

- Make sure the set point temperature is not 50°F.
- Press and hold the [Mode] button for 5 seconds to lock the thermostats buttons – "Lc" will appear on display.
- Press and hold the [Mode] button again to release.

Note: When locked, the display will alternate between "Lc" and room temperature.
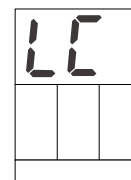
Locked

Fault input - Door switch / window contact (Normally open)

The contact is Voltage free (2 terminals), normally open (active when close).
When the contact closes, "EC" will appear on display.
When activated, the thermostat will turn OFF or switch to economy mode (see technician settings).

In Economy mode, the thermostat will use predefined set point temperatures, selected by technician, instead of the set point selected by the occupant.

If 'OFF' was selected, the thermostat will turn off and "EC" and "Off" will appear on display.

Fault input alarm

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