

Room thermostat

TAT-SUPER

Owner's manual and Technician settings

meitav-tec

Index

1. Owner's Manual 3-5

1.1 Turning the unit On or Off 3

1.2 Adjusting the set-point temperature 3

1.3 Selecting system mode 3

1.4 Selecting fan speed 3

1.5 Enabling or disabling "fan on demand" option 4

1.6 Timer 3

2. Installation 5

3. Wiring connections 5

4. DIP switch configuration 6

5. Temperature sensors connection and logic (T1 & T2) 6

6. Technician settings 7-8

6.1 Enter technician settings 7

6.2 Set point temperature limit for heat 7

6.3 Set point temperature limit for cool 7

6.4 Lock buttons 7

6.5 Offset for calibration of ambient temperature 7

6.6 Enable or disable the LCD backlight 7

6.7 Temperature scale 7

6.8 Enable or disable Auto speed selection 7

6.9 Enable or disable input IN,0 7

6.10 Input IN1,0 configuration – change over sensor or remote switch 7

6.11 Input IN1,0 polarity 8

6.12 Cool only configuration 8

6.13 Compressor delay (for AC configuration) 8

6.14 System configuration - AC (HC) / Fan-Coil 8

6.15 Internal or External sensor 8

6.16 Economy set point for cooling 8

6.17 Economy set point for heating 8

6.18 Backlight On / Backlight Off 8

6.19 Restore defaults 8

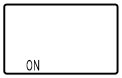
1. Owner's Manual

1.1 Turning the unit On or Off

- Press the [On/Off] button to turn the unit On.
  The word "ON" will appear on display.
- Press the [On/Off] button again to turn the unit Off.
  The word "OFF" will appear on display.



Unit OFF



Unit ON

1.2 Adjusting the set-point temperature

- Press the [+] or [-] buttons – the set-point temperature will flash.
- Press the [+] or [-] again to adjust the set-point temperature.



Note: the temperature display can be changed by technician to set-point only,
Please refer to DIP switch configuration.

1.3 Selecting system mode

- Press the [Mode] button to switch between system modes:

Cool Heat Auto mode Fan only

Notes:

- The ❄ or ≋ icons will flash with demand for cooling or heating.
- The selection of Auto mode can be disabled by technician, please refer to DIP switch configuration.
- In 2-Pipe system, with T2 change over sensor connected to the unit, the system mode selection is disabled. "bO" will appear on display when attempting to change the mode.



- In Cool Only configuration (please refer to technician settings) the Heat and Auto modes are not selectable.

1.4 Selecting fan speed

- Press the [Fan] button to switch between fan speeds:


High speed


Medium speed


Low speed



Auto speed

Note: in "Auto speed" the letters "AF" and the active speed will appear on display.

1.5 Enabling or disabling “fan on demand” option

- Press and hold the [Fan] button to enable or disable fan on demand.
- When enabled, the fan will run only with demand for cooling or heating.
- The fan icon on the bottom left side if the display will flash.



Notes:

- Fan on demand cannot be enabled when the system mode is set to fan only.
- Fan on demand selection can be disabled by technician, please refer to DIP switch configuration.

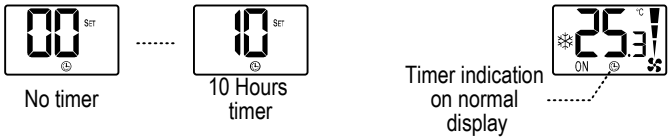
1.6 Timer

The timer will switch the thermostat ON or OFF according to the current status.

If the thermostat is ON, the timer will switch it OFF.

If the thermostat is OFF, the timer will switch it ON.

- Press and hold the [On/Off] button for 5 seconds – the hours will appear on display.
- Use the [+] and [-] buttons to adjust the timer (range: 0-10 hours).
- Press the [Mode] button or wait 30 seconds to return to normal mode.



Notes:

- When active, the clock icon will appear on display.
- In order to cancel the timer, follow the steps above and set the hours to "00".
- After an electrical blackout, the timer will not function as the hours will reset to "00". The clock symbol will flash until the thermostat is turned OFF and ON.

2. Installation instructions

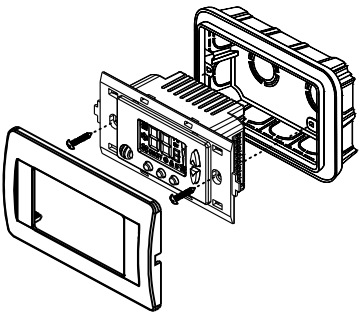
The thermostat is designed for flush mounting in the room to be controlled.

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 the unit 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.

The standard height to install this unit is 1.5 meter (5 feet) from the floor.



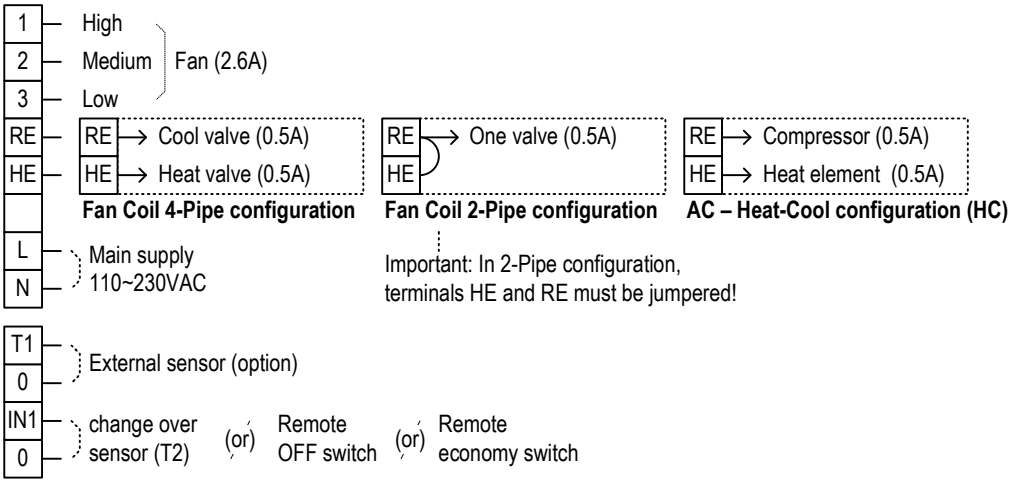
Installation procedure:

1. Disconnect power to the unit.
2. Connect the wires as shown in the enclosed wiring diagram.
   All terminals accept 1x0.5mm²/24 AWG.
3. If needed, change DIP switches position.
4. Install the panel in the electrical box (Gewiss Box - GW 24 203).
5. Tighten up the 2 screws.
6. Adapt the front frame-panel into its place, by pushing it towards the wall.

Risk of Electric Shock and Property Damage. Disconnect each of multiple power supplies before making electrical connections. Contact with components carrying hazardous voltage can cause electric shock and may result in severe personal injury or death.

The integrated circuits in the controller are sensitive to static currents.
Take suitable precautions.

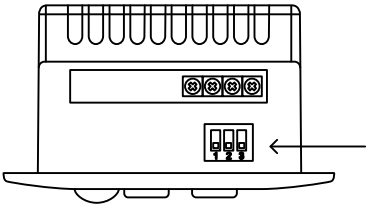
3. Wiring connections



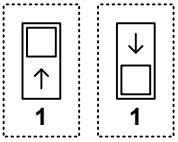
*For IN1,0 configuration please refer to the technician settings parameters 6.9-6.11.

4. DIP switch configuration

IMPORTANT! Before making any changes in the DIP switch disconnect power from the unit.



The DIP switch is located on the side of the thermostat, next to the T1,0 and IN1,0 terminals.



Switch ON — Switch OFF

	ON	OFF	Default
S1	Enable Auto mode	Disable Auto mode	OFF
S2	Display set-point only	Normal temperature display	OFF
S3	Always run fan on demand*	Fan on demand - selectable	OFF

*The option to always run fan on demand must be used in no valve system.

5. Temperature sensors connection and logic (T1 & T2)

Important – Use only an approved NTC 50K@25ºC external sensor with the following characteristics.

N.TC. Sensor; Temperature ~ Resistance Characteristics

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

T1 - External (Return air) sensor connection – option

T2 – Change over sensor

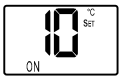
- Disconnect power and connect the temperature sensor to the unit (T1 to T1-0 terminals, T2 to IN1,0 terminals).
- Reconnect power.
- For T1 External sensor change technician parameter 6.15 to “E” (external sensor).
- For T2 Change over sensor change technician parameter 6.9 to “bO” and 6.10 to “EF”.
- For T1, Check the temperature readings and if needed use technician parameter 6.5 to adjust the offset for calibration of ambient temperature.

Note: The length of the sensors cable is 100 feet (30 meters) with standard cable.

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

6. Technician settings

6.1 Enter technician settings



- Adjust the set point temperature to 10°C/50°F and wait until display stops flashing.
- Press and hold the [Mode] button (7 sec.) to enter technician settings.
- Press the [Mode] button to proceed to the next parameter.
- Press the [Fan] button to return to the previous parameter.
- Use the [+] and [-] buttons to select/adjust parameter values.
- Press the [On/Off] button or wait 30 seconds to exit technician settings and return to normal display.

6.2 Set point temperature limit for heat

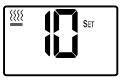
- Range: 10...30°C/50...86°F, default 30°C/86°F.



Set point limit for heat

6.3 Set point temperature limit for cool

- Range: 10...30°C/50...86°F
  Default 10°C/50°F.



Set point limit for cool

6.4 Lock buttons

- "OP" - Open (enable all buttons).
- "LO" - Lock all buttons except [+] and [-].



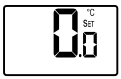
Buttons locked



Buttons enabled

6.5 Offset for calibration of temperature reading

- Range: (-6)…(+6)°C/(-9.8)…(+9.8)°F
  Default 0°C/0°F.



Temperature calibration offset

6.6 Enable or disable the LCD backlight

- On – The backlight is enabled.
- Off – The backlight is disabled.



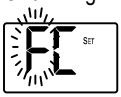
Backlight OFF



Backlight ON

6.7 Temperature scale

- "F" blinking - °F.
- "C" blinking - °C.



Fahrenheit



Celsius

6.8 Enable or disable Auto speed selection

- On – Enable the selection of auto speed.
- Off – Disable the selection of auto speed.



Disable auto speed



Enable auto speed

6.9 Enable or disable input IN1,0

- "bF" - (IN1,0) input is disabled.
- "bO" - (IN1,0) input is enabled.



IN1,0 disabled



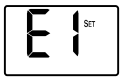
IN1,0 enabled

6.10 Input IN1,0 configuration

- "EF" - Use IN1,0 for T2 change over sensor.
  DIP switch S1 must be "OFF".
- "E1" - Use IN1,0 for remote off switch.
- "E2" - Use IN1,0 for remote economy switch
  (use economy set points – see 6.13,6.14)



Change over sensor



Remote OFF switch



Remote economy switch

6.11 Input IN1,0 polarity (for remote off switch or remote economy switch)

- "PC" – Normally close (triggered when opened).
- "PO" – Normally open (triggered when closed).



IN1,0 Normally open



IN1,0 Normally close

6.12 Cool only configuration

- "CO" + "ON" - Cool only configuration.
- "CO" + "OFF" - Cool and Heat configuration.



Cool and Heat



Cool only

6.13 Compressor delay (for AC configuration only)

- "Cd" + "ON" - Enable 3 minutes compressor delay
- "Cd" + "OFF" - Disable compressor delay



No delay



3 Minutes compressor delay

6.14 System configuration - AC (HC) / Fan-Coil

- "FC" - Fan coil system
- "HC" - AC (HC) system – Compressor and Heater



Fan coil

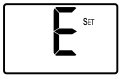


AC (HC)

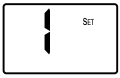
6.15 Internal or External sensor

- "I" – Internal sensor.
- "E" – External sensor connected to T,0 terminals.

Note: When external sensor is selected but not connected, the display will show -9.8ºC/-9.8ºF.



External sensor



Internal sensor

6.16 Economy set point for cooling

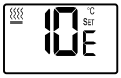
- Range: 10...30°C/50...86°F,
  Default 30°C/86°F.



Economy set point for cooling

6.17 Economy set point for heating

- Range: 10...30°C/50..86°F, default 10°C/50°F.



Economy set point for heating

6.18 Backlight On / Backlight Off

- "bL" + "ON" - Backlight On.
- "bL" + "OFF" - Backlight Off.



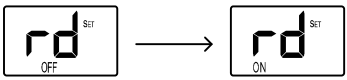
Backlight Off



Backlight On

6.19 Restore defaults

- In order to restore default values, change to "ON" .



Restore defaults

Press the [Mode] button again or wait 30 seconds to exit technician settings and return to normal display.