REPI Series Digital Thermostat Manual

REPI series thermostats are used to control room temperature in industrial, commercial and residential environment via controlling electric modulating valve with 0-10VDC (4-20mA) control signal or floating control as well as damper actuator of VAV system.

Electronic control technology is adopted, with green backlit LCD display of: working mode (cooling "❄", heating "☀", ventilating "🌀", auto "△"); fan speed (low "🌀", med "🌀", high "🌀", auto "◎"); room temperature; setting temperature etc. push button: On/Off "⏻"; mode changeover "Ⓜ"; fan speed choose "⟳" and temperature adjustment "▲" and "▼".

Shell: PC + ABS retardant material.

Function :

- ▤ Detect and Display room temperature
- ▤ Room temperature setting
- ▤ Fahrenheit or Celsius degree display
- ▤ Timing sleep
- ▤ Control On/Off of cooling and heating equipment
- ▤ Selectable single speed or three speed fan control

Order Guide:

Model	Output signal		Fan (Single/3-speed)	RS485 Network	Input Control	Remote Sensor
	Floating	Modulation				
REPI-2		Cooling/Heating	√		√	√
REPI-2N		Cooling/Heating	√	√	√	√
REPI-4		Cooling&Heating	√		√	√
REPI-4N		Cooling&Heating	√	√	√	√

Fan: thermostat with fan functions, can be selected with single speed fan or three speed fan by setting parameter.

Remote Control: input signal can be selected by setting parameter.

Specification :

- ▤ Set temperature range: 0 - 99.5℃ adjustable
- ▤ Accuracy displayed:　0.1℃
- ▤ Accuracy:　　　　　±0.5℃
- ▤ Rated Power:　　　< 1 W
- ▤ Sensor type:　　　NTC
- ▤ Display:　　　　　LCD

- ▤ Power:　　　　　AC 24V±10％,　50Hz/60Hz
- ▤ Output signal:　　AC 24V×2 (0.5A resistive) , 0 - 10VDC(5mA) / 4 - 20mA (600Ω)
- ▤ Input signal:　　dry contact (NO)
- ▤ Dimensions:　　86×86×23mm (W×H×D)
- ▤ Fixing screw width : 60mm (Standard)

Operations:

☞ **On/Off:** Press "⏻" buttons to turn on; press "⏻" again to turn off.

☞ **Setpoint:** With thermostat on, press "▼" to reduce the setpoint, press "▲" to increase the setpoint, the setpoint step is 0.5℃, the setpoint will be confirmed automatically after 5 seconds, and then return to dispay status, press "▲" or "▼" to check setpoint.

☞ **Mode:** With thermostat on, press "Ⓜ" to change the working mode – Cooling "❄",　Heating "☀", Vent "🌀", Auto "△" (Auto is available REPI-4/ REPI-4N).

☞ **Fan Speed:** With thermostat on, press "⟳" to select the desired speed – low speed "🌀", Med speed "🌀", High speed "🌀", auto "◎". If single speed fan available, there's only med speed "🌀".

　　Under auto speed fan, the fan speed will be changed automatically as below: in low speed when room temperature is 1℃ difference with setpoint;in med speed when room temperature is 2℃ difference with setpoint; in High speed when room temperature is 3℃ difference with setpoint.

☞ **Sleep:** Thermostat will get into sleep function after programming.The set Temperature should to be.

To set：Press "Ⓜ" button for 3 seconds till "☾" display, there's a number of count down in the center of LCD, Use "▲" or "▼" to adjust the desired sleep time: the max. = 48 hours; thermostat will return to the working status after 5 seconds, "☾" is flashing to start counting down. The setpoint should be replaced by the sleep setpoint.

To quit: When thermostat get into Sleep function, "☾" will flash, press "▲" or "▼" to quit.

☞ **Keypad lock:** press "▲" and "▼" for 10 seconds till to "🔒" display to activate, under this function, any keypad is locked. Press "▲" and "▼" for 10 seconds till "🔒" disappear to quit the function.

☞ **Set Parameters:** With thermostat off, press "Ⓜ" for 10 seconds to enter menu to set the parameters.

Parameter table：

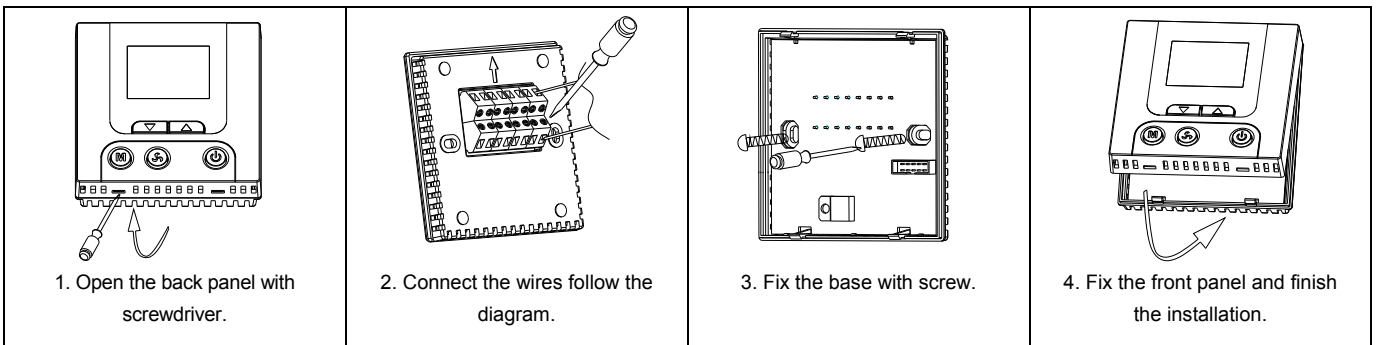| Paramete	Description	Default	Range	Step
1	Power on status (0: Off; 1: On; 2: Hold)	2	0 - 2	
2	Fan speed (0: Single Speed; 1: Three Speed)	1	0 - 1	
3	Fan mode (DA; DB)	0		
4	Sensor selection (0: Internal; 1: Remote)	1	0 - 1	
5	Temperature format (0: Celsius; 1: Fahrenheit)	0	0 - 1	0.1
6	Temperature calibration	0	-20.0 - + 20.0	0.1
7	Minimum setpoint	5℃/41℉	0 - 99.5	0.5
8	Maximum setpoint	35℃/96	0 - 99.5	0.5
9	Dead band (REPI-4)	2	0 - 10	0.5
10	Heating & Auto sleep setpoint	7℃/45℉	0 - 99.5	0.5
11	Cooling sleep setpoint	28℃/82	0 - 99.5	0.5
12	Comms# (REPI-2N;REPI-4N)	1	1 - 32	1
13	Input Signal Mode 0: Invalid 1: Changeover(REPI-2) 2: thermostat will be sleep without input signal 3: thermostat will be Off without input signal	0	0 - 3	
14	Heating reset time	90 sec.	10 - 300 sec.	10 sec.
15	Cooling reset time	90 sec.	10 - 300 sec.	10 sec.
16	Ports mode (0: Modulation & Floating; 1: On/Off)	0	0 - 1	
17	Valve status as turn off (0: Close; 1:Hold; 2: Open)	0	0 - 2	
18	Port1 Modulation direction(0:10V Open; 1:10V Close)	0	0 - 1	
19	Port1 Modulation minimum signal	0Bit	0-128Bit(5V/10mA)	0.04V/Bit(0.08mA/Bit)
20	Port1 Modulation proportional	2	1 - 20	0.5
21	Port2 Modulation direction(0:10V Open;1:10V Close)	0	0 - 1	
22	Port2 Modulation minimum Signal	0 Bit	0-128Bit(5V/10mA)	0.04V/Bit(0.08mA/Bit)
23	Port2 Modulation proportional	2	1 - 20	0.5
24	Port1 Floating minimum time	1 sec.	1 - 9 sec.	1 sec.
25	Port1 Floating maximum time	30 sec.	10 - 300 sec.	10 sec.
26	Port1 Floating minimum time	1 sec.	1-9 sec.	1 sec.
27	Port1 Floating maximum time	30 sec.	10 - 300 sec.	10 sec.
28	Disable / Enable bypass PID control (0: Disable; 1: Enable)	0	0 - 1	
29	Override output value when bypass PID control Display output value when enable PID control		0 - 255	
30	Override output value when bypass PID control Display output value when enable PID control		0 - 255	

31	Input signal management: 0: Input valid 1: Override Input: open 2: Override Input: close	0	0 - 2	
32	Display room temperature or set-point 0: Room temperature 1: Set-Point	0	0 - 1	
33	Configuration external sensor 0: B = 3950; 1: B = 3450; 2: B = 3900 3: User define (via network. default B = 3950)	0	0 - 3	
34-38	N/A			
39	Start temperature of Low temperature protection	5℃/42℉	0-15℃/42-62℉	1℃/2℉
40	Stop temperature of Low temperature protection	7℃/46℉	2-17℃/46-66℉	1℃/2℉

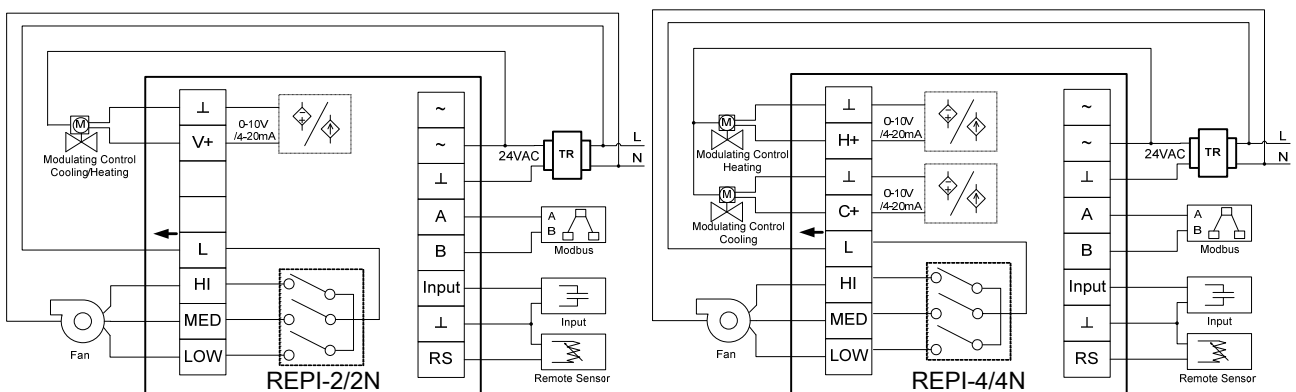It will confirm itself 20 seconds later after setting and return to Off state.

Switch: There is a 5 poles switch on PCB. The meaning is below:

Location	ON	OFF
1	120 ohm Resistance between AB wires	No Resistance between AB wires
2	Port 1 Modulation 0 - 20mA	Off
3	Port 1 Modulation 0 - 10VDC	Off
4	Port 2 Modulation 0 - 20mA	Off
5	Port 3 Modulation 0 - 10VDC	Off

Mounting:

1. Open the back panel with screwdriver.
2. Connect the wires follow the diagram.
3. Fix the base with screw.
4. Fix the front panel and finish the installation.

Wiring diagram:

Note: Be sure to connect all the wires as per the wiring diagrams and keep it away from water, mud and other material so as to prevent the unit being spoiled!