

# HL2018 series thermostat user manual



HL2018 Series touchscreen thermostats are luxurious appearance with large LCD display screen. It is available for room temperature control in residential, industrial and business premises. Modes are available for heating, cooling control, and suitable for 2-pipe or 4-pipe Fan Coil configuration.

HL2018 adopts digital control technology with large LCD display, It shows the following items: working states (cool, heat), the speed of fan coil, room temperature, set-point temperature.



## MODEL DENOMINATIONS

HL 2018 □ □ - □

**T:** Clock and timing on/off. Blank is invalid.  
**T4:** Clock and 4 periods programmable, Blank is invalid.  
**R:** IR remote function. Blank is invalid. (*remote controller should be ordered additionally*)  
**L:** Backlight available.

**E:** Auto Recovery. Blank is invalid.  
**K:** Auto Restart. Blank is invalid.

**Y:** Control damper to open or close.  
**DA/DA2:** Control Motorized Valve (DA: Control 2-wire N.C. FCU valve; DA2: Control 3-wire FCU valve) and 3-speed fan; When the temperature reaches the set-point, it will close the Motorized Valve with the fan still running.  
**DB/DB2:** Control Motorized Valve (DB: Control 2-wire N.C. FCU valve; DB2: Control 3-wire FCU valve) and 3-speed fan; When the temperature reaches the set-point, it will close the Motorized Valve and Fan both.  
**FCV2:** Control 4 pipe fan coil units, Control two Motorized Valves and 3-speed fan, when the temperature reaches the set-point, it will close the Motorized Valves with the fan still running.

## BASIC FEATURES

- ☞ Room temperature setting
- ☞ Manual or Auto 3-speed changeover
- ☞ Defrost (low temperature protection)
- ☞ Clock and Timer (-T, Option)
- ☞ 4 periods programmable (-T4, Option)
- ☞ IR remote control (-R, Option)
- ☞ Green Back light (-L)
- ☞ Lock keypad to avoid any mistake operations (Option)
- ☞ Auto Recovery (Option); Auto Restart (Option)

## STATUS DISPLAY

- ☞ Working state ( **COOL, HEAT** )
- ☞ Fan Speeds: ( **LOW, MED, HIGH** or **AUTO** )
- ☞ Motorized valve open
- ☞ Room temperature display
- ☞ Temperature setting
- ☞ Clock, day display

## SPECIFICATIONS

- ☞ Sensing element: NTC
- ☞ Accuracy :  $\pm 1\text{ }^{\circ}\text{C}$
- ☞ Set-point range:  $5\sim 35^{\circ}\text{C}$
- ☞ Display range:  $0\sim 55^{\circ}\text{C}$
- ☞ Operating Temperature:  $0\sim 45^{\circ}\text{C}$
- ☞ Humidity:  $5\sim 95\%\text{RH}$  ( non-condensing )
- ☞ Power supply: AC  $85\sim 260\text{V}$ , 50/60Hz
- ☞ Switch current rating: Resistive: 2 A, Inductive: 0.5 A
- ☞ Power Consumption:  $< 2\text{ W}$
- ☞ Wirings: Screw-in terminals, each terminal capable of accepting  $2 \times 1.5\text{ mm}^2$  or  $1 \times 2.5\text{ mm}^2$  wires
- ☞ Housing: PC + ABS Flame Retardant
- ☞ Dimensions:  $104 \times 93 \times 17.5\text{ mm}$  ( W x H x D )
- ☞ Hole pitch: 60 mm (standard) or 83.5 mm
- ☞ Protection Class: IP 30
- ☞ Display: Touchscreen

## OPERATION

☞ On/Off: Press **"POWER"** to turn on, press **"POWER"** again to turn off thermostat and its output.

☞ Setting temperature: When power is on, press **"▼"** to reduce set-point, press **"▲"** to raise set-point. (0.5°C changed each press)

☞ Mode Selection: Press **"SYSTEM"** to change system working in cooling **"COOL"**, heating **"HEAT"** or ventilation **"VENT"** mode. The ventilation function is invalid for HL2018Y/YE.

☞ Fan Speed Selection (HL2018DA/DAE/DB/DBE/DA2/DA2E/DB2/DB2E/FCV2/FCV2E): Press **"FAN"** to change fan speed among **"HIGH"**, **"MED"**, **"LOW"** or **"AUTO"**.

In mode **"AUTO"**, the fan-speed changed automatically. Auto LOW-speed When the difference between room-temperature and setting-temperature exceed 1°C, Auto MED-speed When exceed 2°C, Auto HI-speed When exceed 3°C.

☞ Control Damper (HL2018Y/YE): The damper will be open when (1) room temperature is higher than set-point in cooling; (2) room temperature is lower than set-point in heating, Otherwise the damper will be closed.

☞ Control Motorized Valve under 2-pipe configuration (HL2018DA/DAE/DB/DBE/DA2/DA2E/DB2/DB2E): If the difference between room temperature and set-point exceed 1°C, FCU valve will be open; if room temperature and set-point are equal, HL2018DA/DAE/DA2/DA2E will close the FCU valve with the fan still running, HL2018DB/DBE/DB2/DB2E will close the FCU valve and Fan both.

☞ Control FCU Valve under 4-pipe configuration (HL2018FCV2/FCV2E): In cooling, when the room temperature is higher than set-point, the cooling Valve will be opened. Otherwise it will be closed. Heating valve is always closed. In heating, When the room temperature is lower than set-point, the heating valve will be opened. Otherwise it will be closed. Cooling valve is always closed.

☞ Screen Clean: Press **"SCREEN"** with it flash and display 30s count down, then all buttons will be clocked. The screen can be cleaned.

## CLOCK CALIBRATION (-T, -T4)

☞ Press **"CLOCK"** till to display "hh:mm" and "hh" flash, press **"▲"** or **"▼"** to adjust hour, press **"CLOCK"**, "mm" flash, press **"▲"** or **"▼"** to adjust minute; Press **"CLOCK"**, "week" flash, press **"▲"** or **"▼"** to adjust Mon to Sun.

## TIMER ON/OFF FUNCTION (-T)

☞ Open/Close the thermostat according to the time user set in advance.

## TIMER FUNCTION SETTING (-T)

☞ Timer on: Press **"CLOCK"**, till to display "△" with "TIMER ON" and "hh" both flash, press **"▲"** or **"▼"** to adjust hour. Press **"CLOCK"**, "mm" flash, press **"▲"** or **"▼"** to adjust minute.

☞ Timer off: Press **"CLOCK"**, till to display "△" with "TIMER OFF" and "hh" both flash, press **"▲"** or **"▼"** to adjust hour. Press **"CLOCK"**, "mm" flash, press **"▲"** or **"▼"** to adjust minute.

☞ Canceling timer on: Press **"CLOCK"**, till to display "△" with "TIMER ON" and "hh" both flash, press **"▲"** or **"▼"** to adjust hour to "--:--". Press **"CLOCK"**, "mm" flash, press **"▲"** or **"▼"** to adjust minute to "--:--".

☞ Canceling timer off: Press **"CLOCK"**, till to display "△" with "TIMER ON" and "hh" both flash, press **"▲"** or **"▼"** to adjust hour to "--:--". Press **"CLOCK"** and "mm" flash, press **"▲"** or **"▼"** to adjust minute to "--:--".

## FOUR EVENTS PROGRAMMING FUNCTION (-T4)

☞ Divide each day of one week (7 days) or according to working day and weekday into four events, set the temperature respectively to satisfy different room temperature requirements in different time.

## 4 EVENTS PROGRAMMING (-T4)

☞ 4 events programming: four events each day (1, 2, 3, 4), there is starting time and programming temp. Each event. (chart as below)


Please make good plan of starting time and temp before 7 days programming according below.


☞ Press **"SCHD"**, **"SCHD"** flash, then press **"PROG DAY"** to select the day you want to program (MON, TUE, WEN, THU, FRI, SAT, SUN; workday: MON TUE WEN THU FRI; weekend: SAT SUN) , and press **"WAKE"**, **"DAY"**, **"EVENNING"**, **"SLEEP"** to select the period which you want to modify, the period selected will flash, and then select the starting time and temp according to what you planned. Use **"▲"** or **"▼"** under the display temp to set programmable temp, 0.5°C changed each press; Use **"▲"** or **"▼"** at right of clock to set programmable time, 15 minutes changed each press.

Day	WAKE/period1		DAY/period 2		EVENNING/period 3		SLEEP/period 4	
	Starting T / temp.°C		Starting T / temp.°C		Starting T / temp.°C		Starting T / temp.°C	
Mon	7:00	25°C	8:00	25°C	18:00	25°C	21:00	25°C
Tue	7:00	25°C	8:00	25°C	18:00	25°C	21:00	25°C
Wed	7:00	25°C	8:00	25°C	18:00	25°C	21:00	25°C
Thu	7:00	25°C	8:00	25°C	18:00	25°C	21:00	25°C
Fri	7:00	25°C	8:00	25°C	18:00	25°C	21:00	25°C
Sat	7:00	25°C	8:00	25°C	18:00	25°C	21:00	25°C
Sun	7:00	25°C	8:00	25°C	18:00	25°C	21:00	25°C

☞ Hold function: Press **"HOLD"**, **"HOLD"** flash, thermostat will hold current temperature (4 period programmable invalid). Press **"HOLD"**, **"HOLD"** not flash, retain 4 periods programmable function again.

### LOCK KEYPAD FUNCTION (Option)

☞ LOCK: Thermostat will lock the keypad automatically under the condition of nobody operating for 60 seconds, and display , forbid anyone else to operate.

☞ UNLOCK: Press fan speed key for 5 seconds to unlock,  disappear.

### AUTO RECOVERY (Option)

☞ When the thermostat is at ON status for 6 seconds, if power cut, it will return back to running automatically with the status how it is one minute ago after power coming back.

☞ When the thermostat is at OFF status for 6 seconds, if power cut, it will keep OFF status after power coming back.

### LOW TEMPERATURE PROTECTION (FROST PROTECTION)

☞ When the low temperature protection is valid, thermostat turns off and the room temperature is lower than 5°C, it will be turned on automatically and indicating **"AUTO"**, HL2018DA/DAE/DB/DBE/DA2/DA2E/DB2/DB2E Fan-coil runs with high speed and opens the FCU valve (HL2018FCV2/FCV2E opens the heating valve); HL2018Y/YE will open damper; It will turn off when temperature is more than 7°C.

### LOW TEMPERATURE PROTECTION PARAMETER SETTING

☞ When the thermostat is on, press **"SYSTEM"** and holding for 5 seconds, it displays "On" or "OF", then press **"▲"** or **"▼"** to adjust this parameter. "OF" indicates invalid low temperature protection; "On" indicates valid low temperature protection function. The default is "OF".

### ALARM

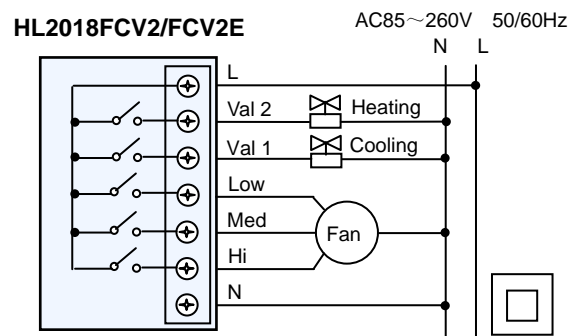
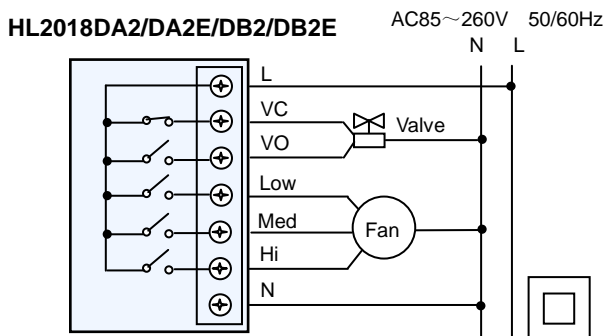
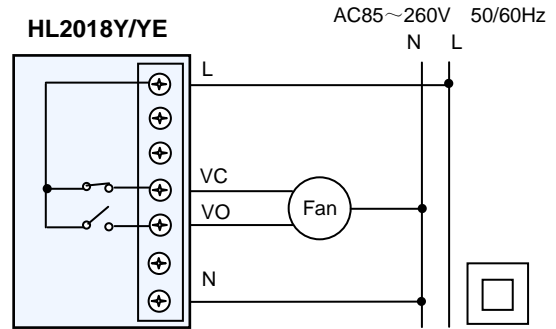
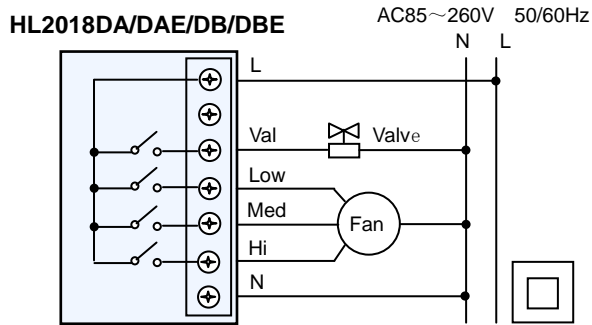
☞ Trouble appears for sensor, fan and valve will be turned off by thermostat, as indicating **"↗"** and **"E1"** or **"E2"**.

E1: alarming for short circuit of sensor;

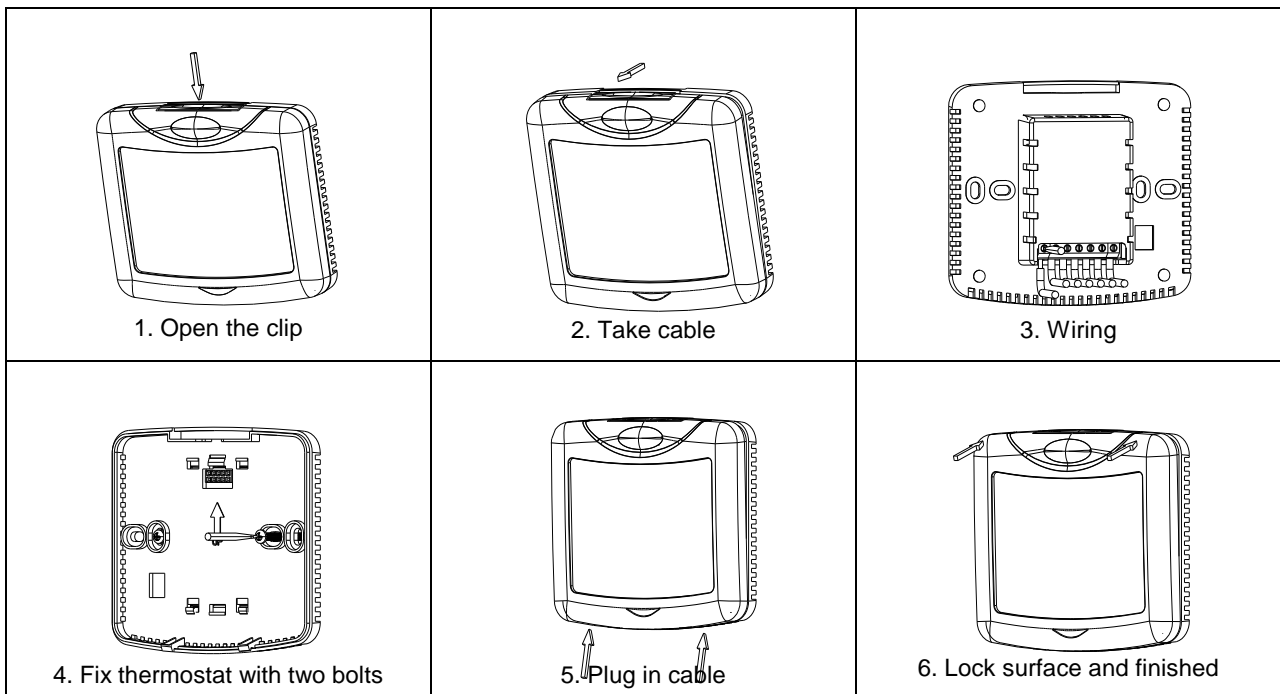
E2: alarming for open circuit of sensor;

"HI" indicated when temp. is more than 55°C, "LO" indicated if temp. is lower than 0°C.

### WIRING DIAGRAMS



### INSTALLATION



**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!**