## Installation manual

### Mounting Method

**1.**



Open the left clip and right clip with screw driver.
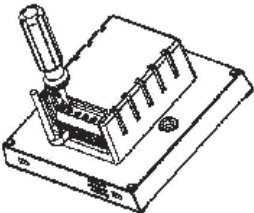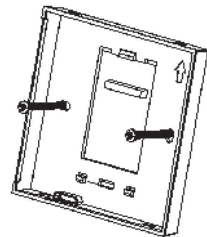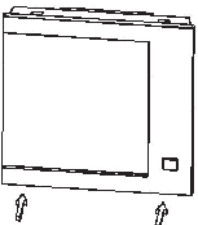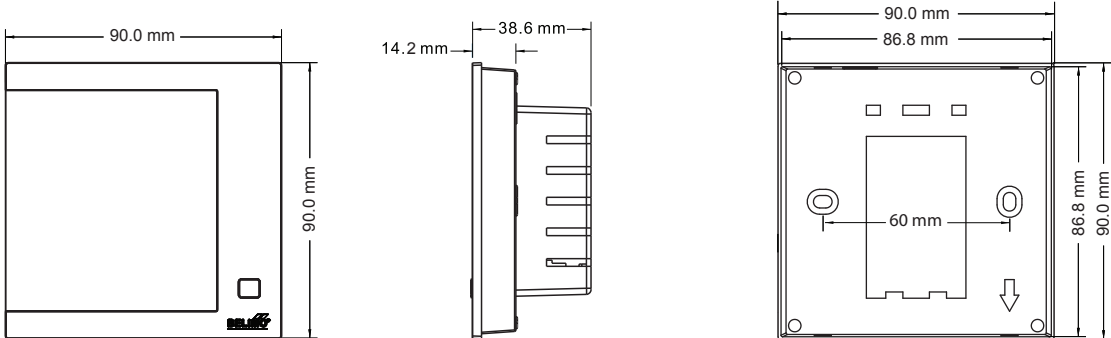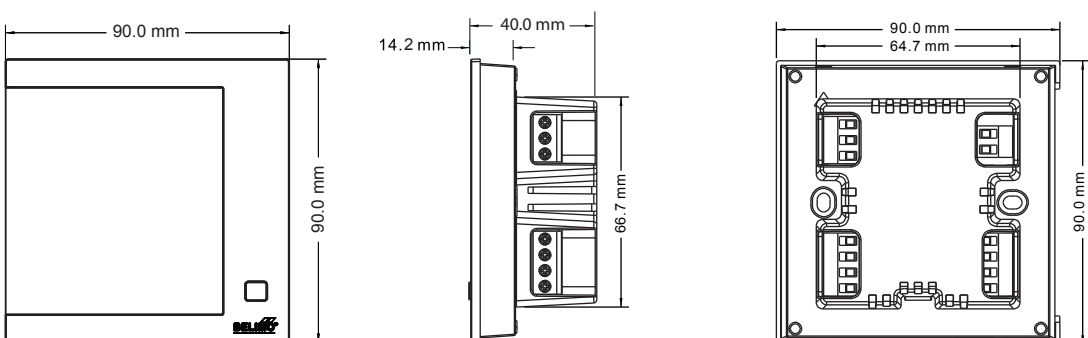
**2.**



Open the front cover. Take off the wires.

**3.**



Connect the wire according to the wiring diagram.

**4.**



Mount the housing to the wall using the two screws in the packing box.

**5.**



Close the front cover.

**Note:** Make sure the wires are connected per the wiring diagram. Avoid water, mud, paints and other substances from getting into the PCB of thermostat.
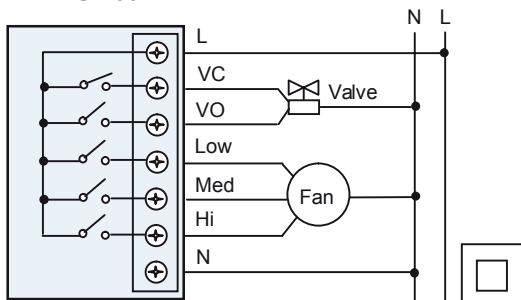
### Dimensions

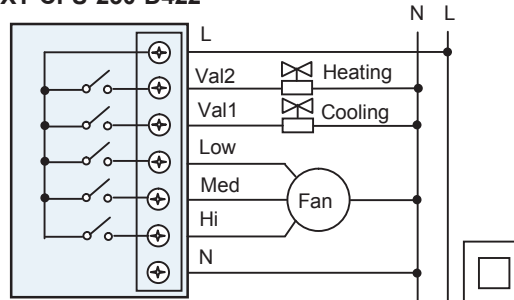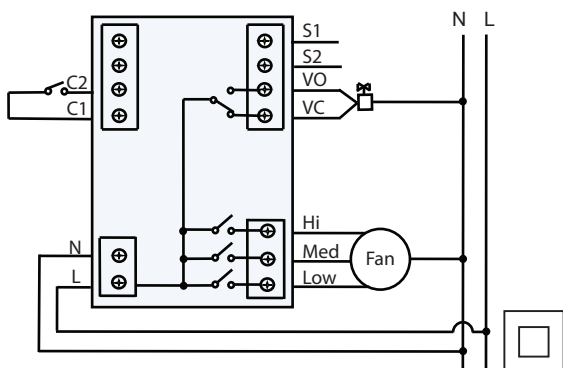EXT-CFU-230-D222/(D422)



EXT-CFU-230-D2/(D4)

**BELIMO**

## Wiring diagram

**EXT-CFU-230-D222**          AC85~ 260V  50/60Hz

L
VC
VO — Valve
Low
Med — Fan
Hi
N

**EXT-CFU-230-D422**          AC85~ 260V  50/60Hz

L
Val2 — Heating
Val1 — Cooling
Low
Med — Fan
Hi
N

**EXT-CFU-230-D2**          AC85~ 260V  50/60Hz

C2
C1
S1
S2
VO
VC
N
L
Hi
Med — Fan
Low

**EXT-CFU-230-D4**          AC85~ 260V  50/60Hz

C2
C1
S1
S2
Val1 — Cooling
Val2 — Heating
N
L
Hi
Med — Fan
Low

## Display

Fan speed
Mode
Temperature adjustment
On/Off
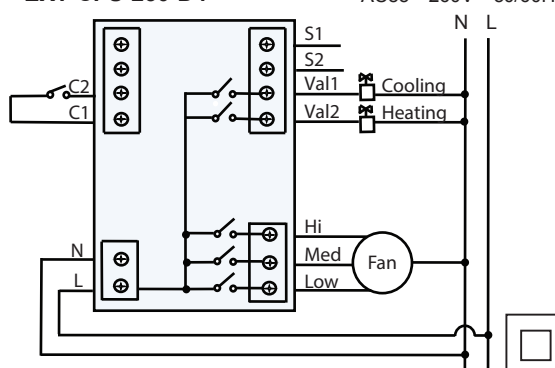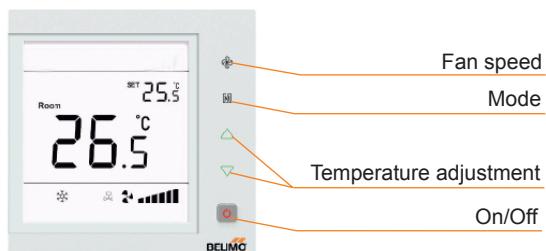
It shows following status:

· working status: cool ❄, heating ☀ or ventilation ♻

· fan speed: low ▂▃, Mid ▂▃▄▅, High ▂▃▄▅▆, or Auto **AUTO**

· FCU valve status

· Room temperature

· Temperature setpoint

For EXT-CFU-230-D2

· Economy mode

· Build-in sensor  (display "Room")

· External sensor  ("Room" disappear)

## Operation instructions

| | |
|---|---|
| **On/Off** | Press "⏻" to turn on, press "⏻"again to turn off thermostat and its output. |
| **Setting Temperature** | Press "▼" to reduce temperature, press "▲" to raise temperature (0.5°C per step). |
| **Mode Selection** | Press "M" to change system working in cooling "❄", heating "☀" or ventilation "♻" mode. |
| **Fan Speed Selection** | Press "⟳" to select ▪▪▮▮▮ (Hi), ▪▪▮▮ (Med), ▪▪ (Low), AUTO(Auto). In "Auto" mode, the fan-speed changes automatically. When the differential temperature between room temperature and setpoint exceeds 1°C, 2°C and 3°C, thermostat operates at Auto LOW-speed, Auto MED-speed and Auto HI-speed respecctively. |
| **Control Motorised Valve Under 2-pipe Configuration** | If the differential temperature between room temperature and setpoint exceeds 1°C, FCU valve will be opened; if room temperature and setpoint are equal, the thermostat will close the FCU valve with the fan kept running. |
| **4-pipe Configuration** | In cooling, when the room temperature is higher than setpoint, 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 setpoint, the heating valve will be opened. Otherwise it will be closed. Cooling valve is always closed. |
| **Low Temperature Protection Function** | **Turn on:** When the room temperature is lower than 5°C, the thermostat will automatically turn on the fan and valve (with "☀" showing). When the room temperature is increased to 7°C, the thermostat will automatically stop output. |
| **Low Temperature Protection Setting** | **Turn off:** Press "M" and hold for 3 seconds, it will display "OF" or "ON", press "▲" or "▼" button to adjust the parameter. "OF" indicates low temperature protection is turned off, "ON" indicates low temperature protection function is turned on (Factory default setting is "OF"). |
| **Offset adjustment of temperature display** | In case that the user wants the displayed temperature on the thermostat higher or lower than the real temperature(±5°C), the following operations could be taken: **Turn off:** Press "▲" and "▼" at the same time for 3 seconds, it will display "XX°C", press "▲" or "▼" to adjust the temperature value, it will be automatically confirmed after 6 seconds. |
| **Alarm** | If the sensor has failure, the thermostat will close the fan and valve, displaying "E1" or "E2". E1: Sensor in short circuit alarm E2: Sensor in open circuit alarm It displays "HI" when the temperature is higher than 55°C , displaying "LO" when the temperature is lower than 0°C. |
| **Occupancy Contact EXT-CFU-230-D2** | When **contact is CLOSE**, thermostat runs in economy mode and dispalys "⌾". For cooling mode, thermostat runs at LOW fan speed with default temperature setpoint 26°C. For heating mode, thermostat runs at LOW fan speed with the default temperature setpoint 18°C. During Economy mode, all the buttons become ineffective except the On/Off button. When contact is OPEN, thermostat runs in normal mode and "⌾" disappears. All the buttons resume normal functioning. |
| **External sensor EXT-CFU-230-D2** | When build-in sensor is used, thermostat displays "Room". When external sensor is connected, themostat switches to external sensor automatically and "Room" disappears. |