

Overview of product

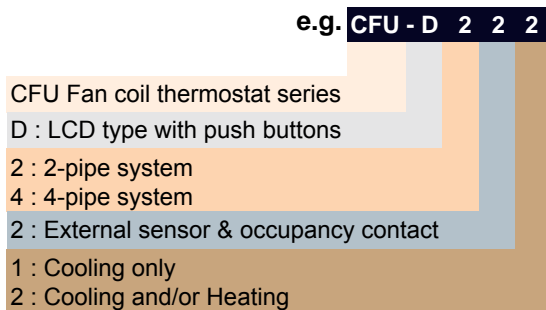
New generation CFU-D series designed for industrial and residential 2/4-pipe fan coil applications. The modern design is suitable for any decor and wall boxes.

Features

- Large LCD with orange backlight
- Universal voltage input
- Last status memory function
- Display selection
- Temperature offset
- Set point limit adjustable
- Low temperature protection
- Energy saving, economy mode
- Inputs for external sensor and card key
- For both US & BS junction boxes
- Auto fan speed/manual 3 speed
- Extra large fonts for easy reading
- Open/Close control for 2-wire/3-wire actuator
- Drive to close valve when switch off



Model Selection Guide



D2 series	Cool only	Cool/Heat	3-speed Fan	1-speed Fan	External Sensor	Occupancy contact
CFU-D221	●		●		●	●
CFU-D222		●	●		●	●
CFU-D221-SS*	●			●	●	●

*-SS : Single fan speed available on request

D4 series	Cool only	Cool & Heat	3-speed Fan	1-speed Fan	External Sensor	Occupancy contact
CFU-D422		●	●		●	●

Technical Data	CFU-D Series
CFU-D221	Cooling only, 3-speed fan, external sensor, occupancy contact
CFU-D222	Cooling or heating, 3-speed fan, external sensor, occupancy contact
CFU-D422	Auto cooling and heating, 3-speed fan, external sensor, occupancy contact
CFU-D221-SS	Cooling only, 1-speed fan, external sensor, occupancy contact
Nominal Voltage	AC 100 ... 240V, 50/60 Hz
Nominal Voltage Range	AC 85 ... 264V
Temperature Display Range	0 ... 40 °C, 0.5K per step [$<0^{\circ}\text{C}$: LO , $>40^{\circ}\text{C}$: HI]
Sensing Element	Built-in : NTC Thermistor , 100k Ω @ 25°C External : Probe type sensor(EXT-THCS1066876), 10k Ω @25°C [optional]
System Switch	On/Off , Mode selection
Fan Control Switch	High(III)-Middle(II)-Low(I) or Auto speed
Set Point Range	5 ... 35°C
Upper & Lower Set Point Limit	Adjustable 5 ... 35°C Interlock between upper & lower set point limit, USP>LSP
Economy Set Point	Cooling range : 25-30°C [factory setting : 28°C] Heating range : 15-20°C [factory setting : 15°C]
Switching Differential	1K (cooling/heating)
Deadband	2K (for D4 series only)
Offset Adjustment	+/- 3K (+3,+2,+1,0,-1,-2,-3) [for display temperature]
Electrical Ratings	Fan switch : 3A Resistive, 1A Inductive, AC 250V 50/60 Hz Relay output for actuator : 3A Resistive, 1A Inductive, AC 250V 50/60 Hz [D4 series 1A]
Control Signal	Open-close control, 3-wire/spring return 2-wire
Temperature Range	Operating: 0 to 40°C Storage: 0 to 45°C
Ambient Humidity	Max. 90% r.h. , non-condensing
Wiring Connections	Terminal wiring 0.5 ... 1.0 mm ²

Technical Data (con't)

Agency Approval	LV Directive - CE according to 2006/95/EC EMC - CE according to 2004/108/EEC C-tick
Body Material	Fire-retardant >PC<, self-extinguishing : UL 94-V0
Housing Color	White, Grey : RAL 7001
Weight	0.16 kg
Dimensions	84 x 110 x 28 (mm)
Degree of Protection	IP 30

Basic Operation

Modes	On/Off , Cooling ❄️ / Heating ☀️ Press button “ Ⓚ ” to switch on or off. To switch off, press and hold the button 2 seconds. Press button “ M ” to select cooling or heating mode. *CFU-D422, auto mode for cooling and heating.
Fan speed	3 speed (Low 🌀 , Middle 🌀 , High 🌀) / Auto 🌀 (🌀▶️🌀▶️🌀▶️) Auto speed: difference between set point and ambient temperature; 1 K - Low 🌀 ; 2 K - Middle 🌀 ; 3 K - High 🌀 . Fan will keep running when power on (except economy mode).
Backlight	The backlight will light up 120 seconds when any button pressed.
Valve	The icon “ 🌀 ” displays when valve open.
Memory	All last saved parameters will be kept after power failure or switch off.
Occupancy contact	Contact close >>> economy mode ; Contact open >>> normal mode Fan output is synchronised with valve output (economy mode).
Display selection	In parameter setting, select display ambient temperature or set point.
Temperature offset	In parameter setting, adjust measured temperature to +3, +2, +1, 0, -1, -2, -3.
Low temperature protection (Defrost)	When unit is off and measured temperature < 5°C , unit starts in heating mode automatically until temperature reached 7°C.
External sensor	In parameter setting, select external sensor or built-in sensor.
Key lock	To lock or unlock the buttons, press ▲ & ▼ simultaneously and hold 5 seconds. When key lock is activated, no action will take place when press the buttons.
Error code	E1 : Internal sensor short circuit. E2 : Internal sensor open circuit. E3 : External sensor short circuit. E4 : External sensor open circuit.

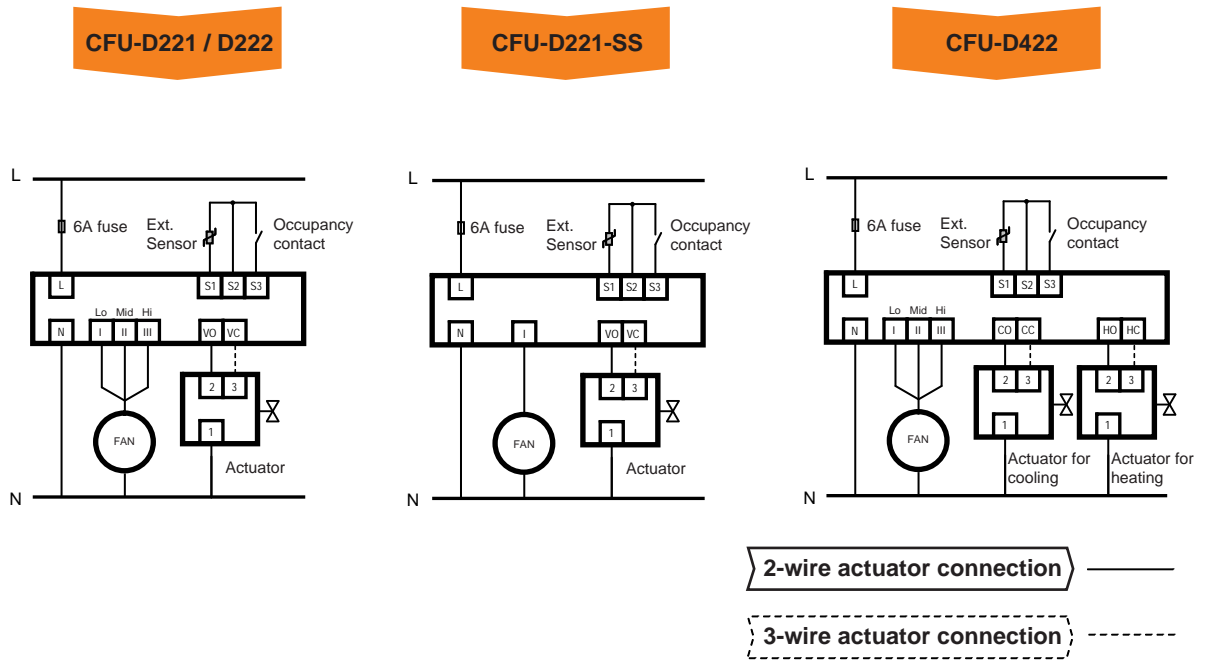
Parameter Setting

When the unit in “ OFF ” status, press and hold ▲ for 5 seconds to enter “ p-setting mode ”. Press Ⓚ to change over from *dI SP* > *dSEt* > *dEFr* > *USP* > *LSP* > *SEn** > *COOL** > *HEAt** . Use ▲ , ▼ button to change setting. If button is not pressed over 10 seconds, the changed setting will be saved and exit automatically.

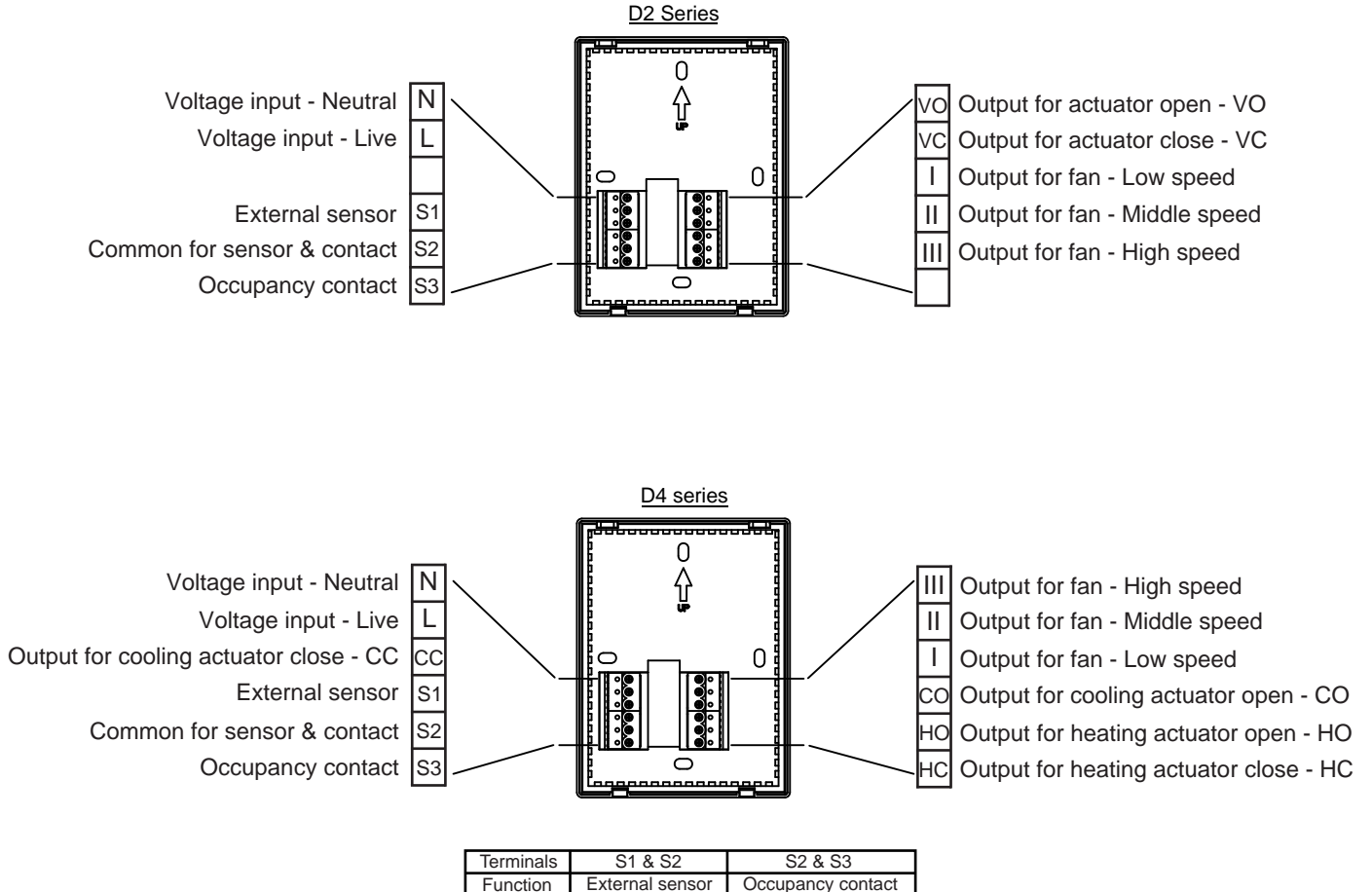
<i>dI SP</i>	Display selection : ambient temperature “ <i>rT</i> ” / set point “ <i>SP</i> ”	[factory setting <i>rT</i>]
<i>dSEt</i>	Temperature offset : -3, -2, -1, 0, 1, 2, 3	[factory setting 0]
<i>dEFr</i>	Defrost - low temperature protection : <i>On</i> / <i>OFF</i>	[factory setting <i>OFF</i>]
<i>USP</i>	Upper set point limit : 10 ... 35 °C	[factory setting 35°C]
<i>LSP</i>	Lower set point limit : 5 ... 30 °C	[factory setting 5°C]
<i>SEn</i>	Sensor selection : external “ <i>Et</i> ” / internal “ <i>IT</i> ”	[factory setting <i>IT</i>]
<i>COOL*</i>	Economy set point range for cooling : 25 ... 30 °C	[factory setting 28°C]
<i>HEAt*</i>	Economy set point range for heating : 15 ... 20 °C	[factory setting 15°C]

*available on corresponding models

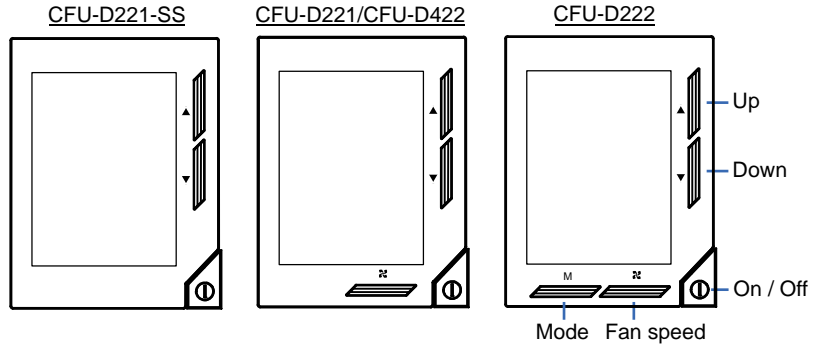
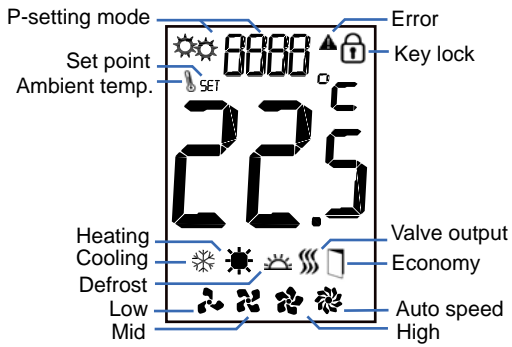
Wiring Diagram



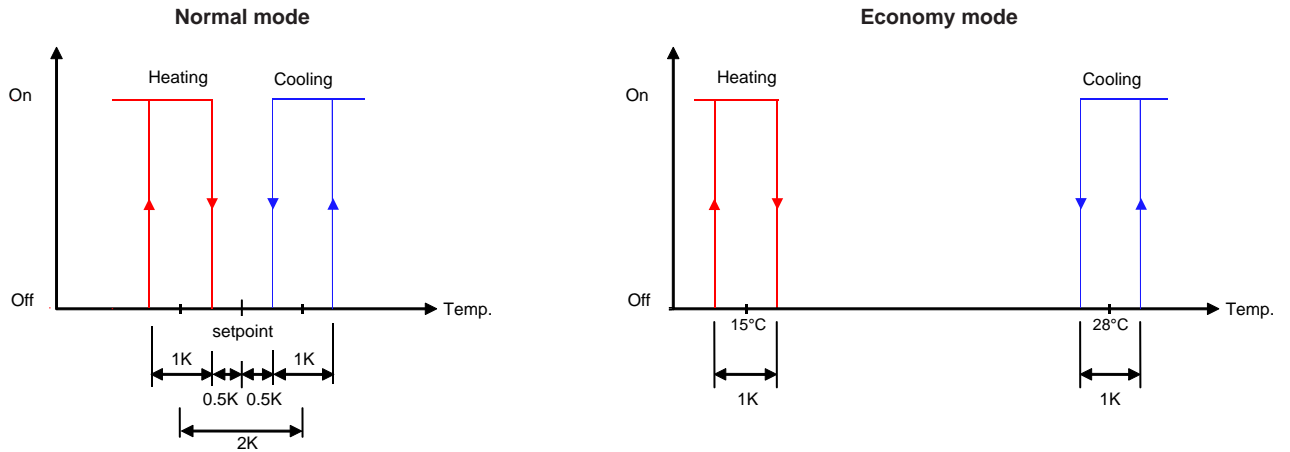
Terminals



LCD Segment & Buttons



Auto change mode for D4 series



The mechanism of auto change mode is the comparison between set point and measured room temperature.

In normal mode, the cooling actuator will be triggered on when temperature over 1.5K of set point, when temperature cool up to 0.5K above the set point, cooling actuator will be triggered off.

The deadband is 2K in normal mode.

In normal mode, the heating actuator will be triggered on when temperature below 1.5K of set point, when temperature heat up to 0.5K below the set point, heating actuator will be triggered off.

When economy mode activated, cooling set point will be set to factory setting value 28°C (adjustable 25-30°C), heating set point will be set to factory setting value 15°C (adjustable 15-20°C).

*Auto change mode function is only for D4 series.

Dimension [mm]

