

F-102 Operation and Maintenance Manual

F-102 Temperature Controller Panel Specifications

- 1.1 Dimensions : 150 x 56 x 18 mm
- 1.2 Set Temp Range : 15°C~35°C(59°F~95°F)
- 1.3 Timer Range : 1~24 hours (Display hidden when set to 0 hour)
- 1.4 Infrared Effective Range: 6~8 meters (May vary slightly depending on environment)
- 1.5 Function Selection : COOL (Cooling), HEAT (Heating), FAN (Ventilation)
- 1.6 °C/°F Switching :
Via remote control or Hold both Temp +/- buttons simultaneously for 10 seconds after power-on
- 1.7 Cooling Only / Heat-Cool (Low current, High current, 25A)
- 1.8 Wireless Connection : Between control box and remote

F-102 Wireless Remote Controller / Receiver & Control Box



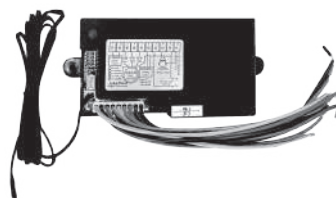
Remote Controller
150 x 56 x 18 mm



Controller Dock
76 x 63 x 23 mm



Receiver
Ø 51 x 20 mm



Control Box
130 x 70 x 50 mm

F-102 Remote Control Operation Manual

2.1 New Battery Installation (RESET State)

When batteries are installed for the first time, all LCD segments will illuminate for 5 seconds to verify display functionality.

Default Settings :

- 2.1.1 Operation Mode → COOL
- 2.1.2 Set Temperature → 26°C
- 2.1.3 Fan Speed → AUTO
- 2.1.4 Sleep Function → OFF
- 2.1.5 Airflow Direction → Not available (for chiller unit models)
- 2.1.6 Timer Function → Disabled (0 hour)

2.2 Operation Mode Selection

- 2.2.1 Press the "Mode" button to cycle through :
COOL (Cooling) 、 FAN (Ventilation) 、 HEAT (Heating)

2.3 Temperature Setting (SET TEMP)

- 2.3.1 In COOL mode : Press ▲/▼ to adjust temperature (15°C~35°C).
- 2.3.2 In HEAT mode : Press ▲/▼ to adjust temperature (15°C~35°C).
- 2.3.3 In FAN mode : Temperature setting is disabled.

2.4 Fan Speed Setting

- 2.4.1 Press the "Fan Speed" button to cycle through :
HIGH 、 MED (Medium) 、 LOW 、 AUTO

2.5 Sleep Function (SLEEP)

- 2.5.1 For use during sleep
- 2.5.2 Effective in COOL mode only : After activation
 - Temperature increases by 1°C after 1 hour
 - Increases another 1°C after 2 hours (total +2°C)
 - No further adjustment afterward
 - Returns to original set temperature after 8 hours

- 2.5.3 Press again to cancel SLEEP function

2.6 Airflow Direction (OSC.) Not available (for chiller unit models)

2.7 Auto-OFF Timer Setting (TIMER) While unit is ON :

Press "Timer" button (▲/▼) to set desired shutdown time

2.8 Auto-ON Timer Setting (TIMER) While unit is OFF :

Press "Timer" button (▲/▼) to set desired startup time

2.9 Power ON/OFF

- 2.9.1 Press "POWER ON/OFF" button to toggle system power

Receiver LED Indicator Status

- 3.1 Power-on Confirmation → Blue and orange LEDs flash simultaneously once
- 3.2 Blue LED Steady On → Water valve ON during operation
- 3.3 Blue LED Slow Flash → Water valve OFF during operation (serves as power indicator)
- 3.4 Blue LED Rapid Flash → Abnormal system status
- 3.5 Green LED On → Comfort Sleep mode active
- 3.6 Red LED On → Scheduled ON/OFF timer active
- 3.7 Orange LED On → Sleep mode + scheduled OFF timer active
- 3.8 Remote Signal Reception → Buzzer emits one short beep

Air Conditioning Functions

4.1 Cooling Mode

4.1.1 Valve Contact Operation :

4.1.1.1 Valve contact opens when :

Room temperature $\geq$ (Set temperature + 0.5°C)

4.1.1.2 Valve contact closes when :

Room temperature $\leq$ (Set temperature - 0.5°C)

4.1.2 Fan Speed Settings

AUTO (Automatic) 、HIGH (High speed)

MED (Medium speed) 、LOW (Low speed)

4.1.2.1 Auto Fan Speed :

Three-stage auto fan speed logic in cooling mode

$\Delta = (\text{Room} - \text{Set temp})$	Fan speed
$\Delta \geq 3.0$	High
$2.5 \geq \Delta \geq 2.0$	Maintain Current Speed
$\Delta = 1.5$	Medium
$1.0 \geq \Delta \geq 0.5$	Maintain Current Speed
$\Delta \leq 0$	Low

4.1.3 Main unit : ON, Heater : OFF

4.2 Heating Mode :

4.2.1 2-Pipe/DX Valve Operation :

4.2.1.1 Valve contact opens when Set temp $\geq$ (Room temp + 0.5°C).

4.2.1.2 Valve contact closes when Set temp $\leq$ (Room temp - 0.5°C).

4.2.1.3 Heater contact ON, Main unit contact ON.

4.2.2 4-Pipe/Electric Heater Operation :

4.2.2.1 Heater contact opens when Set temp $\geq$ (Room temp + 0.5°C).

4.2.2.2 Heater contact closes when Set temp $\leq$ (Room temp - 0.5°C).

4.2.2.3 Valve contact OFF, Main unit contact ON.

4.2.2.4 Fan delay : After shutdown in heating mode, low-speed contact delays 30 sec before closing.

4.2.3 Selectable Fan Speed : Auto 、High 、Medium 、Low °

4.2.3.1 Auto Fan Speed :

3-stage auto speed logic for heating mode

$\Delta = (\text{Room} - \text{Set temp})$	Fan speed
$\Delta \geq 3.0$	High
$2.5 \geq \Delta \geq 2.0$	Maintain Current Speed
$\Delta = 1.5$	Medium
$1.0 \geq \Delta \geq 0.5$	Maintain Current Speed
$\Delta \leq 0$	Low

Extended Models

5.1 Additional Features for DX (Direct Expansion) AC Units :

5.1.1 3-minute delay start protection for 3-way valve (optional high-current RELAY for compressor control)

5.1.2 OSC. louver setting : Controls main unit RELAY → ON/OFF for louver function

Jumper Setting Table

	Parameter	Position	Default	Setting Range
1	Power-on Behavior	SW1:5&4 Jumper	Power-off	SW1:5=Short, SW1:4=Short (Power-off) * SW1:5=Open, SW1:4=Short (Power-off) SW1:5=Short, SW1:4=Open (Power-on) SW1:5=Open, SW1:4=Open (Memory)
2	Valve (3-way/Compressor) Delay Protection	SW1:3 Jumper	No Delay	* SW1:3=Short (No Delay) SW1:3=Open (3 min)
3	Coil Configuration	SW1:2 Jumper	2-Pipe/DX	* SW1:2=Short (2-Pipe/DX) SW1:2=Open (4-Pipe/Electric)
4	Unit Interlock/ Louver Contact Function	SW1:1 Jumper	Unit Interlock	* SW1:1=Short (Unit Interlock) SW1:1=Open (Louver Function)

- Note : 1. Configure jumper settings by cutting (Open) or connecting (Short) the corresponding SW1 jumpers on the control box.
2. For louver (air direction) function [DX model] : Set SW1:1 to Open.
The unit interlock contact will be converted to louver contact output (dry contact).
3. indicates factory default setting.

