iCN-733 Operation and User Manual

1. Function Description

1 Keypad Functions

1.1 Power Button ⏻ : Press once to turn the system ON/OFF.

1.2 Mode Button **Mode**

1.2.1 When ON : Press to cycle through modes : Cooling, Heating, Fan.

1.2.2 When OFF : Press and hold for 3 seconds to access basic settings (see Section 2.9).

1.3 Fan Speed Button **Fan**

1.3.1 When ON : Press to select speed : Auto, Low, Medium, High.

1.3.2 In Fan Mode : Auto speed is disabled.

1.4 **Sleep** Sleep Button : Toggles Sleep Mode / Key Lock.

1.5 **Time** Time Button : Sets scheduled ON / OFF timers.

1.6 Temperature Setting Keys (▲/▼)

1.6.1 While powered on, press once to adjust the set temperature by ±0.5°C.
Hold to adjust rapidly.

1.6.2 During temperature adjustment, "SET" is displayed to the left of the value.
Adjustable range :
Cooling Mode : Adjustable between the minimum and maximum preset limits.
Heating Mode : Adjustable between the minimum and maximum preset limits.

1.6.3 After setting, the temperature is saved automatically if no operation is performed within 5 seconds, and the display returns to room temperature.

1.6.4 Temperature setting is unavailable in Fan Mode.

1.6.5 While powered off, press and hold both ▲ and ▼ for 5 seconds to enable/disable key lock (LOCK).

1.7 KEYCARD (K.C Line External Control) (Optional / Not Included as Standard)

1.7.1 The controller's response upon power restoration depends on the call mode setting and KEYCARD insertion/removal status.(For details, consult your dealer.)

1.7.2 After power is restored, removing the KEYCARD will activate Card Removal Mode.

1.7.3 After power is restored, inserting the KEYCARD allows normal operation.

2 Functional Description

2.1 Temperature Display Range : 0.0°C to 50.0°C

- Accuracy : ±1°C
- Resolution : 0.5°C

2.2 Detection Range :-5.0°C to 55.0°C

2.3 Temperature Setting Range

2.3.1 Cooling Mode :

- Adjustable between preset minimum and maximum temperature limits.

2.3.2 Heating Mode :

- Adjustable between locked minimum and maximum temperature limits.

2.4 Default Settings :

2.4.1 Mode : Cooling

2.4.2 Fan Speed : Auto Set

2.4.3 Temperature : 26°C

2.5 Cooling Mode :

2.5.1 Valve Contact Operation :

2.5.1.1 Opens when room temperature≧(Set temperature + 0.5°C)

2.5.1.2 Closes when room temperature ≦ (Set temperature - 0.5°C)

2.5.2 Adjustable Fan Speeds : Auto / High / Medium / Low

2.5.2.1 Auto Speed :

Cooling Mode 3-Stage Auto Fan Logic

△=（Room Temp - Set Temp）	Fan Speed
△≧3.0	High
2.5≧△≧ 2.0	Maintain Current Speed
△=1.5	Medium
1.0≧△≧0.5	Maintain Current Speed
△≦0	Low

2.5.3 Main contact ON, heating contact OFF.

2.5.4 Intermittent fan OFF (Pu=0) : Fan runs continuously regardless of valve contact status.

2.5.5 Intermittent fan ON (Pu=1) : Fan runs when valve contact is open.
Fan stops when valve contact is closed.

2.6 Heating Mode :

2.6.1 2-Pipe System (Boiler/DX) Valve Contact Operation (Coil Setting Pi=1) :

2.6.1.1 Valve contact opens when set temp ≧ (room temp + 0.5°C)

2.6.1.2 Valve contact closes when set temp ≦ (room temp - 0.5°C)

2.6.1.3 Heating contact ON, main contact ON

2.6.2 4-Pipe System (Electric Heating) Heating Contact Operation (Coil Setting Pi=0) :

2.6.2.1 Heating contact opens when set temp ≧ (room temp + 0.5°C)

2.6.2.2 Heating contact closes when set temp ≦ (room temp - 0.5°C)

2.6.2.3 Valve contact OFF, main contact ON

2.6.2.4 Heating fan delay : Heating contact delays 30 sec before closing after shutdown

2.6.3 Adjustable Fan Speed : Auto / High / Medium / Low

2.6.3.1 Auto Speed : [to be continued]

Heating Mode 3-Stage Auto Fan Logic

△ = (Room Temp - Set Temp)	Fan Speed
△≧3.0	High
2.5≧△≧ 2.0	Maintain Current Speed
△=1.5	Medium
1.0≧△≧0.5	Maintain Current Speed
△≦0	Low

2.6.4 Intermittent Fan OFF (Pu=0) : Fan runs continuously regardless of valve/heating contact status.

2.6.5 Intermittent Fan ON (Pu=1) : Fan runs when valve/heating contact is open Fan stops when valve/heating contact is closed.

2.7 Valve (3-Way Valve/Compressor) Delay Protection Time :

2.7.1 No delay protection (Pd=0)

2.7.2 1-minute delay protection (Pd=1)

2.7.3 3-minute delay protection (Pd=2)

2.8 Power Restoration Mode Setting : (Consult dealer)

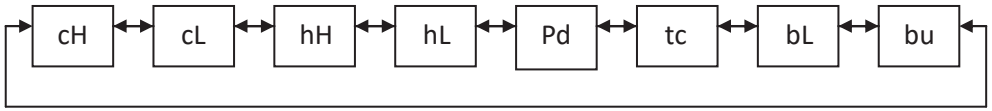
2.9 Function Options :

2.9.1 Basic Function Settings :

(1) While powered off, press and hold the Mode button for 3 seconds to enter basic function options.

(2) In options mode, LCD displays cH. Use ▲ or ▼ to cycle through :

cH, cL, hH, hL, Pd, tc, bL, bu



Basic Function Option Codes Reference	Main Menu	Sub-menu
Cooling Mode Max Temperature Limit	cH	15.0~35.0℃
Cooling Mode Min Temperature Limit	cL	15.0~35.0℃
Heating Mode Max Temperature Limit	hH	15.0~35.0℃
Heating Mode Min Temperature Limit	hL	15.0~35.0℃
Valve (3-Way/Compressor) Delay Protection Time	Pd	0,1,2
Temperature Calibration	tc	-5.0~5.0℃
Panel Backlight	bL	30, --
Keypress Tone	bu	on,oF

(3) When the LCD displays the main menu, press the Mode button to enter sub-menus.

(4) In sub-menu mode : LCD shows current parameter value Adjust with ▲/▼ buttons

Press Mode to confirm and return to main menu

(5) During sub-menu adjustment:

Auto-save & exit when:

a) Holding Mode for 3+ seconds, or b) No operation for 20+ seconds Saves settings to EEPROM (non-volatile memory)

Returns to room temp display.

2.9.2 Advanced Function Settings : Contact dealer for configuration.

3 Troubleshooting : (Automatic shutdown will occur when following faults are detected)

3.1 E2 Display - Temperature sensor malfunction

3.1.1 E2 Display - Temperature sensor malfunction

Fault code remains locked on LCD until repair

Press Power button to reset after fixing communication wiring

3.2 E3 Display - Communication failure/not established

3.2.1 Fault code persists on display

Auto-resumes operation after communication wiring repair

4 Precautions

4.1 Before installation, ensure the power is turned off to prevent electric shock.

4.2 Prior to installation, follow the wiring diagram to avoid incorrect assembly and potential hazards.

4.3 Do not install the controller in humid areas to prevent malfunction.

4.4 Before powering on, verify that the wiring and input power supply are correct.

4.5 Damage caused by improper installation is not covered under warranty.

4.6 For communication cables, use UL2464 / 24AWG or 26AWG 3C shielded wire with mesh isolation.

5 Specifications

5.1 Dimensions

5.1.1 Panel dimensions : 110mm (L) × 120mm (W) × 17mm (H).

5.1.2 Driver box dimensions : 128mm (L) × 71mm (W) × 28mm (H).

5.2 Environmental Limits

5.2.1 Operating environment : 0°C to 50°C, <90% RH (non-condensing).

5.2.2 Storage environment : -10°C to 60°C, <90% RH (non-condensing).

5.3 Input/Output

5.3.1 Power supply : AC 100–240V, 50/60Hz (single-phase).

5.3.2 Keycard input × 1 (optional, not included as standard).

5.3.3 Temperature sensor input × 1

5.3.4 Button inputs × 7

5.3.5 Output contacts :

5.3.4.1 Valve contact 1A × 1

5.3.4.2 Fan motor contact 3A × 3

5.3.4.3 Interlock contact (non-energized) 1A × 1

5.3.4.4 Heater contact 1A × 1 (optional, not included as standard).

5.3.4.5 Fuse rating : 5A / 250VAC

5.3.4.6 If contact capacity is insufficient, install an additional relay or contactor.

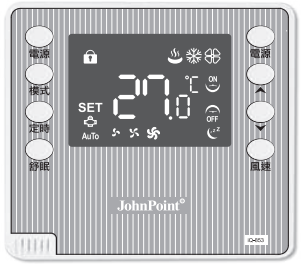
5.3.5 Display Output : LCD with backlight.

5.3.6 Communication Distance : Max. 100m.

6 Wiring : Refer to the iCN 3-Wire Communication Series Wiring Guide Manual for details.

2. Panel Overview

iCN-733



iCN-853

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