iCN-733N 1-to-32 Operation and User Manual

Features

1. A single panel supports centralized control of up to 32 fan drivers (control boxes), with individual or grouped synchronous operation.
2. Key lock function prevents unauthorized operation.
3. Power recovery delay sequence (anti-overload startup) : If the system was powered on before an outage ,it will restart automatically in address order with a delay upon power restoration.

Parameters

1.Parameter Table and Default Values

Basic Function Options				
	Parameter	Code	Factory Setting	Adjustable Range
1	Max. Cooling Temp. Upper Limit	cH	35.0℃	Min. Cooling Temp. Lower Limit ~35.0℃
2	Min. Cooling Temp. Lower Limit	cL	15.0℃	15.0℃ ~ Max. Cooling Temp. Upper Limit
3	Max. Heating Temp. Upper Limit	hH	35.0℃	Min. Heating Temp. Lower Limit ~35.0℃
4	Min. Heating Temp. Lower Limit	hL	15.0℃	15.0℃ ~ Max. Heating Temp. Upper Limit
5	Valve (3-Way Valve/Compressor) Delay Protection Time	Pd	0 (No Delay)	0(No Delay) 、1(1 min)、2(3 min)
6	Temperature Compensation Setting	tc	0.0℃	-5.0~5.0℃
7	Panel Backlight	bL	30 (30 sec)	30 (30 sec)、 -- (Always On)
8	Panel Key Tone	bu	on (Enabled)	on (Enabled)、oF (Disabled) Note : This function is invalid for iCN-733N

Advanced Function Options				
	Parameter	Code	Factory Setting	Adjustable Range
9	Power Recovery Mode	PP	2 (Power Off)	0(Memory Mode)、1(Auto Restart)、2(Remain Off)
10	Coil Configuration	Pi	1 (2-Pipe/DX/Boiler)	0(4-Pipe/Electric Heating)、1(2-Pipe/DX/Boiler)
11	Intermittent Air Supply Function	Pu	0(Intermittent Air Supply - Off)	0(Disable Intermittent Air Supply)、 1(Enable Intermittent Air Supply)
12	Overload Protection Delayed Startup	td	0	0、1、2、3、4

Functional Description

1. Operation / Key Functions

1.1 Power Key ⏻ : Turns fan drivers (control boxes) on/off in groups or sequentially.

1.2 Mode Key Mode :

1.2.1 When powered on :
Press once to cycle through operation modes : Cooling, Heating, Ventilation.

1.2.2 When powered off :
Press and hold for 3 seconds to enter basic function settings (see Section 2.10).

1.3 Fan Speed Key Fan :

1.3.1 When powered on : Press once to cycle through fan speeds:
3-speed options : Auto, Low, Medium, High.

1.3.2 In Ventilation mode : Auto fan speed is not available.

1.4 Temperature Adjustment Keys (▲/▼)

1.4.1 When powered on :
Press once to adjust set temperature by ±0.5°C; hold to adjust rapidly.

1.4.2 Temperature setting range:
Cooling mode : Adjustable between minimum cooling limit and maximum cooling limit (factory preset).
Heating mode : Adjustable between minimum heating limit and maximum heating limit (factory preset).
"SET" indicator appears when adjusting.

1.4.3 Auto-save :
Settings are saved after 5 seconds of inactivity, then display returns to room temperature.

1.4.4 Ventilation mode : Temperature adjustment not available.

1.4.5 Scheduled on/off (0 - 24h) :
Press ▲/▼ simultaneously in individual control mode to set.

1.4.6 Menu navigation:Use ▲/▼ to scroll through options or adjust values in settings.

1.4.7 Key lock (Lock/Unlock):
Hold ▲/▼ for 5 seconds when powered off.
Locked state restrictions: Only power on/off, scheduled on/off (0 - 24h), and fan position selection are available.

1.5 ID+, ID- Fan Position Selection Keys :

1.5.1 Fan Selection & Status Display Cycles through fan numbers (01-32).
The panel automatically updates to display:
Current room temperature if the selected fan is connected and operational.
Error code if the fan connection is abnormal.

1.5.2 Connection Status Indicator
During connection establishment, the connection icon (⇆) will blink.

1.6 Fan Quantity Setting :

1.6.1 Configuration Process : After power-on, the panel displays P1xx:
Press ▲/▼ to set the starting ID (range: 01-32, default:1).
After 3 seconds, the panel displays P2xx:
Press ▲/▼ to set the ending ID (range:01-32, default:15).

1.7 Group Synchronization Control :

1.7.1 Activation
Press and hold both ID+ and ID- selection keys simultaneously for 4 seconds to activate group synchronization.
Current settings (of the selected fan unit) will be applied to all synchronized fan drivers (control boxes).

1.7.2 Operation Mode
Panel displays "AL" and shows synchronized settings (temperature, fan speed, mode).
All operations in this mode will simultaneously control all connected fan drivers.

1.7.3 Timer Function Cancellation
Any pre-set individual timer functions (scheduled on/off) will be automatically canceled upon entering group mode.

1.7.4 Function Restrictions
The 0-24 hour scheduled on/off function is not available in group synchronization mode.

1.7.5 Exit Procedure
Press either ID+ or ID- to exit group mode.
System will return to individual control mode, displaying the previously selected fan number.

2 Functional Specifications

2.1 Temperature Display
Range : 0.0℃ to 50.0℃，Accuracy : ±1℃，Resolution : 0.5℃

2.2 Detection Range：−5.0℃~55.0℃

2.3 Temperature Setting Range：

2.3.1 Cooling Mode : Adjustable between minimum cooling lockout temp and maximum cooling lockout temp.

2.3.2 Heating Mode : Adjustable between minimum heating lockout temp and maximum heating lockout temp.

2.4 Default Settings
Mode : Cooling Fan， Speed : Auto Set ，Temperature : 26℃

2.5 Cooling Mode Operation

2.5.1 Valve Contact Logic :

2.5.1.1 Opens when room temp ≥ (Set Temp+0.5℃)

2.5.1.2 Closes when room temp ≤ (Set Temp - 0.5℃)

2.5.2 Configurable Fan Speeds : Auto, High, Medium, Low

2.5.2.1 Auto Speed Logic (Cooling Mode) :

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 : Three-stage automatic fan speed logic in heating mode

△ = (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 ntermittent Airflow Function Off (Pu=0) : The fan operates continuously regardless of valve/electric heater contact status.

2.6.5 Intermittent Airflow Function On (Pu=1) : The fan operates continuously when the valve/electric heater contact is open; airflow stops when closed.

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

2.7.1 No delay protection for valve contact (Pd=0).

2.7.2 1-minute delay protection for valve contact (Pd=1).

2.7.3 3-minute delay protection for valve contact (Pd=2).

2.8 Power Recovery Mode Setting :

2.8.1 Power-off recovery (PP=2) : Unit remains off after power restoration.

2.8.2 Power-on recovery (PP=1) : Unit turns on automatically with previous mode, fan speed, and set temperature.

2.8.3 Memory mode (PP=0) : Resumes previous ON/OFF state, mode, fan speed, and set temperature.

2.9 Anti-Overload Delayed Start :

Configuration mechanism : Please contact the distributor for settings.

2.9.1 Automatic sequential delay recovery function :

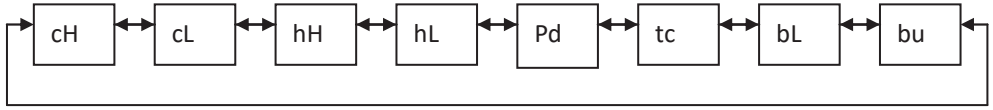
If the unit was ON before a power outage, it will restart automatically in sequence (based on address coding) with a time delay after power is restored.

2.10 Function Options :

2.10.1 Basic Function Option Settings :

(1) While the controller is in OFF state, press and hold the Mode button for 3 seconds to enter basic function options.

(2) After entering, the LCD displays cH. Use ▲ or ▼ to cycle through the following main options : 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 a main option (e.g.,cH), press the Mode button to enter its sub-options.

(4) After entering a sub-option, the LCD shows the current parameter value. Adjust it using ▲ or ▼, then press Mode to confirm and return to the main options.

(5) During sub-option adjustment :
If Mode is held for >3 seconds, or no keys are pressed for 20 seconds, the modified settings are saved to EEPROM (non-volatile memory) and the system exits the adjustment mode. The LCD then displays room temperature.

(6) In group sync control mode, parameter changes will be applied to all connected fan drivers (control units) simultaneously.

2.10.2 Advanced Function Option Settings : Contact the distributor for configuration.

3 Troubleshooting

(The system will automatically shut down when the following faults occur.)

3.1 E2 Error : Temperature Sensor Malfunction.

3.1.1 Description : "E2" indicates a temperature sensor abnormality.
Resolution : The error code remains locked on the LCD panel until repaired.
After fixing the wiring, press the Power button to reset the system.

3.2 E3 Error : Communication Failure.

3.2.1 Description : "E3" indicates no communication signal or communication error.
Resolution : The error code stays displayed on the LCD panel.
Once the wiring is repaired, the system will automatically reset.

4 Important Safety Precautions

4.1 Electrical Safety
Ensure the power supply is turned off before installation to prevent electric shock.

4.2 Wiring Compliance
Follow the wiring diagram precisely to avoid incorrect connections and potential hazards.

4.3 Environmental Conditions
Do not install the controller in humid locations to prevent malfunction.

4.4 Power-On Check
Verify correct wiring and input voltage before powering on the system.

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

4.6 Communication Cable Specifications
Use UL2464-compliant shielded cable:
24AWG or 26AWG, 3-core with braided shielding.

5 Specifications

5.1 Dimensions

5.1.1 Panel Dimensions : 110mm (L) x 120mm (W) x 17mm (H)

5.1.2 Driver Box Dimensions : 127mm (L) x 68mm (W) x 49mm (H)

5.2 Environmental Limits

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

5.2.2 Storage Conditions : -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 Temperature Sensor Input : x1

5.3.3 Key Inputs : x7

5.3.4 Output Contacts :

5.3.4.1 Valve Contact : 1A x1

5.3.4.2 Fan Motor Contact : 3A x3

5.3.4.3 Host Interlock Contact : 1A x1 (non-energized)

5.3.4.4 Heater Contact (Optional) : 1A x1 (Not included in standard configuration)

5.3.4.5 Fuse Rating : 5A / 250VAC

5.3.4.6 For Higher Loads: Use an external relay if contact capacity is insufficient.

5.3.5 Display Output : LCD with backlight

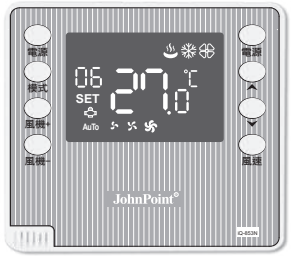
5.3.6 Maximum Communication Distance : 100m

6 Wiring

Refer to the iCN 3-Wire Communication Series Wiring Guide Manual for detailed instructions.

2、Panel Overview

iCN-733N



iCN-853

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