C-Lin 欣灵

使用说明书
Products Instructions

HD-C800 (Improved Type)Series Temperature Scanning Detection Controller

Thank you very much for using C-Lin brand controller. Please read the instruction manual before using the product!

09A081Q0

WARNING

● Wiring Warning

- To prevent instrument damage or failure, use appropriate fuses to protect power lines and input/output lines against current surges.

● Instrument Power Supply

- To prevent electric shock or instrument failure, power supply must be at the rated voltage. Power can only be turned on after all wiring work is completed.

● Prohibition of Use Near Flammable Gases

- To prevent fire, explosion, or instrument damage, do not use it in places with flammable, explosive gases or steam emissions.

● Strictly Prohibit Modifying the Instrument

- To prevent accidents or instrument failure, strictly prohibit modifying the instrument.

● Maintenance

- To prevent electric shock, instrument scrapping, or failure, strictly prohibit touching the inside of the instrument. Only our service engineers can inspect internal wiring or replace components. The instrument contains high-voltage and high-temperature components, which are very dangerous.
- To ensure long-term safe use of the instrument, regular maintenance should be performed. Some internal components of the instrument may be damaged over time.

● Troubleshooting

- When the sensor is open-circuited or the temperature exceeds the high range, it displays "nEE"; when it is below the low range, it displays "nnn".
- If the temperature control is abnormal, check whether the instrument parameters have been modified by mistake and whether the sensor part has failed.
- If the keys do not work, check whether the LCK parameter is locked.

I. Product Overview

The HD-C800 series intelligent multi-channel scanning detector is an instrument with multi-channel temperature detection and over-temperature alarm functions. It features high measurement accuracy, reliable performance, and strong anti-interference capability, and is widely used in scenarios requiring multi-point temperature measurement and control, such as grain bins, grain depots, and motor coils.

II. Main Features

Directly display the measured temperature and detection channel. Equipped with upper and lower limit alarm functions and multi-point scanning detection.

III. Main Technical Parameters of the Instrument

Main Items	Technical Parameters
Input Signal Type	Thermocouple (K, E), Thermal Resistance (PT100, CU50)
Measurement Accuracy	≤0.5%FS±1 digit
Alarm Mode	Upper Limit Alarm, Lower Limit Alarm
Relay Load Capacity	AC220V/3A(Resistive Load)
Number of Scanning Channels	1~8 channels
Automatic Scanning Time	1~250 seconds
Alarm Hysteresis Setting	-1999~9999

Working Power	AC220V 50/60Hz
Operating Environment	Ambient Temperature: 0-50°C; Relative Humidity: 45-85%RH; Avoid Corrosive Gases
Communication	Adopts Standard MODBUS Communication Protocol, RS-485 Communication

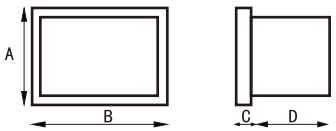
IV. Instrument Naming Rules

Model		Code				Description
HD-C800	-	□	□	□	□	160*80*82(mm)
Scanning Channel		08				8-channel Scanning
Alarm Output Mode			0			No Alarm
			2			Upper and Lower Limit Alarm (Relay Contact)
Input Signal				1		Thermocouple (K, E)
				2		Thermal Resistance (Pt100, Cu50)
Communication					C4	RS-485 Communication

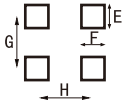
V. Instrument Installation Dimensions

Model	Panel Size (Length*Width) mm	Mounting Hole Size (Length*Width) mm
HD-C800	160*80	152*76

◇ Overall Dimensions



◇ Panel Mounting Hole



A	B	C	D	E	F	G	H
80	160	10	93.5	$76^{+0.7}$	$152^{+0.7}$	30	25

5.1 Installation Precautions

The instrument shall be installed in the following environment: Atmospheric pressure: 86~106kPa, Ambient temperature: 0~50℃, Relative humidity: 45~85%RH.

Avoid the following situations during installation: Condensation caused by sudden changes in ambient temperature; Corrosive, flammable gases; Direct vibration or impact; Contamination by water, oil, chemicals, smoke, or steam; Excessive dust, salt, or metal powder; Direct air conditioning blow, direct sunlight, or heat radiation accumulation.

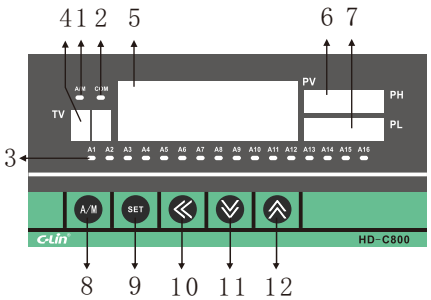
5.2 Installation Process

Drill a rectangular hole on the panel according to the panel mounting hole size for instrument installation.

Embed the instrument into the panel hole, insert the mounting bracket into the instrument's mounting slot, push the mounting bracket tightly to make the instrument fit closely with the panel, then tighten the screws with a screwdriver, but avoid over-tightening.

When installing multiple instruments, the distance between the left and right holes should be greater than 25mm, and the distance between the upper and lower holes should be greater than 30mm.

VI. Function Description of Each Part of the Panel



Indicator Light Description:

1. A/M (Manual/Auto Switch): The light is on to indicate automatic patrol inspection.
2. COM (Communication Indicator): The light is on to indicate communication status.
3. A1~A16 (Respective Channel Alarm Indicators): The corresponding indicator is on when alarming.

Display Window Description:

4. Channel Number Window: Displays the current measurement channel.
5. PV (Measurement Window): Displays the measured value.
6. PH (Upper Limit Alarm Value Window): Displays the upper limit alarm value.
7. PL (Lower Limit Alarm Value Window): Displays the lower limit alarm value.

Key Description:

8. Manual/Auto Switch Key (A/M)
9. SET Key: Press and hold for 3 seconds to enter the menu.
10. Shift Key: Used for left shift in parameter setting status.
11. Add Key: Used for digit increment in parameter setting status; can change the number of channels during fixed-point detection.
12. Subtract Key: Used for digit decrement in parameter setting status; can change the channel number during fixed-point detection.

VII. Operation Process of Instrument Function Modes

7.1 Automatic Patrol Inspection Operation

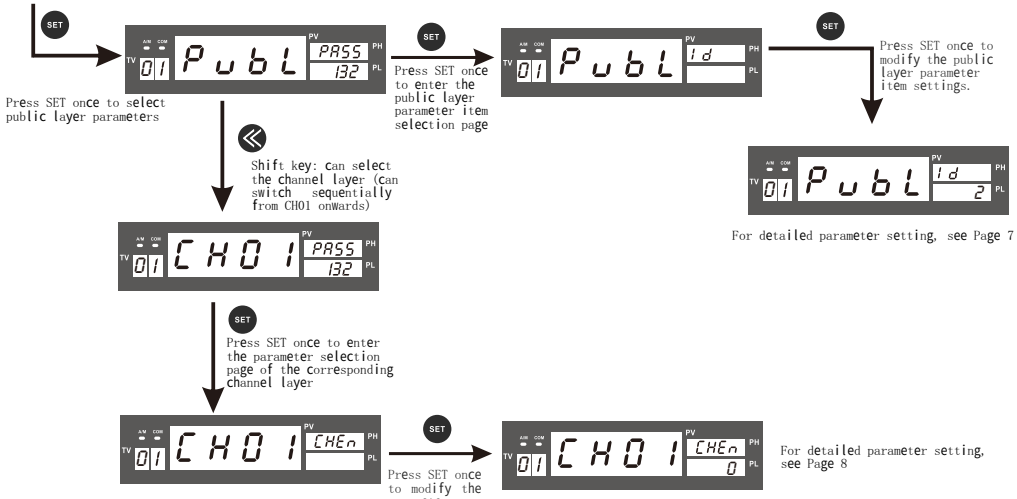
When the instrument is in the measurement page state and needs to automatically display the detection values of each channel, press the A/M key and the A/M indicator light will be on. The TV Window automatically patrols the channels, switching channels once per second. When it is necessary to cancel the automatic patrol inspection, press the A/M key once, and it will stop automatically displaying the detection values of each channel.

7.2 Manual Patrol Inspection Operation

When the instrument is in the measurement page state, when it is necessary to display the detection value of a specific channel, you can switch the channel number of the TV window through the Add key and Subtract key to view the corresponding channel detection value.

7.3 Public Layer Parameters and Channel Layer Parameters

When the instrument is in the measurement page state, long-press the ET key to enter the password page, modify the password to 132, and you can enter the public layer parameter and channel parameter setting page.



Note: In the parameter page, the A/M key is used as the return key.

Table 1 Public Layer Parameter Items

Parameter Prompt	Parameter Name	Parameter Description
Id	Communication Device Address	Setting range 1~255, factory default 1, see Page 11 for details
buAd	Communication Baud Rate	Setting range 0~4, factory default 3, see Page 11 for details
S-tE	Channel Display Time (Second)	Setting range 1~250, factory default 3
Ou-A	Transmission Output Type	Setting range 1~3, factory default 2 (1: 0~10mA or 0~5V, 2: 4~20mA or 1~5V, 3: 0~20mA or 0~10V)
ob-L	Transmission Low End	Setting range -999~9900, factory default 0
ob-H	Transmission High End	Setting range -1999~9999, factory default 500

Table 2 Channel Layer Parameter Items

Parameter Prompt	Parameter Name	Parameter Description
CHEn	Channel 1 Switch	Setting range 0~1, factory default 0 (0: On, 1: Off)
Sn	Signal Input Type	Setting range 0~22, factory default 8, see Table 3 (Page 10) for details
dot	Decimal Point Position	Setting range 0~3 (3:0.000, 2:0.00, 1:1.0, 0: No decimal point), factory default 1. Parameters changing with decimal point: PU-L, PU-H, PSb, AL-1, OB-L, OB-H, Ar-1, AL-2, Ar-2
Pu-L	Sensor Zero Point Display Value	Setting range -1999~9999, factory default 0.0 (When sensor signal Sn=0~9, no need to set PV-L)
Pu-H	Sensor Full Point Display Value	Setting range -1999~9999, factory default 500.0 (When sensor signal Sn=0~9, no need to set PV-L)
Pu-K	Display Amplification Coefficient	Setting range 0~1.999, factory default 0. Current display value = Measured value * (PU-K) + PSb
PSb	Zero Point Migration Value	Setting range -1999~9999, factory default 0. Current display value = Measured value * (PU-K) + PSb

Table 2 (Continued)

Parameter Prompt	Parameter Name	Parameter Description
FILt	Digital Filter Coefficient	Setting range 0~0.900, factory default 0
AF-1	First Alarm Setting Mode	AL1 Alarm Mode, Factory Default 301 Hundreds digit = 0, No relay output when alarming Hundreds digit = 1, AI1 relay output when alarming Hundreds digit = 2, AI1 relay output when alarming Hundreds digit = 3, AI3 relay output when alarming Hundreds digit = 4, AI2 relay output when alarming Tens digit = 0, Normally open relay output when alarming Tens digit = 1, Normally closed relay output when alarming Units digit = 1, Relay Upper Limit Alarm Output Units digit = 2, Relay lower limit alarm output
AL-1	First Alarm Value Setting	Setting range -1999~9999, factory default 400.0
Ar-1	First Alarm Hysteresis Setting	Setting range -1999~9999, factory default 0
AF-2	First Alarm Setting Mode	AL2 alarm mode, factory default 402, setting method same as AF-1

Table 2 (Continued)

Parameter Prompt	Parameter Name	Parameter Description
AL-2	Second Alarm Value Setting	Setting range: -1999~9999, factory default: 100.0
Ar-2	Second Alarm Hysteresis Setting	Setting range: -1999~9999, factory default: 0

Table 3 Input Type Codes

Code	Input Type	Measurement Range
00	S	0～1600℃
01	R	0～1600℃
02	B	200～1800℃
03	K	0～1300℃
04	N	0～1300℃
05	E	0～800℃

Code	Input Type	Measurement Range
06	J	0～650℃
07	T	-200～400℃
08	Pt100	-200～850℃
09	Cu50	-50～150℃

VIII.Communication Function Description of the Instrument

Baud rate: 0=1200bps, 1=2400bps, 2=4800bps, 3=9600bps, 4=19200bps
Serial port settings: 8 data bits, 1 stop bit, no parity bit, Modbus-RTU protocol

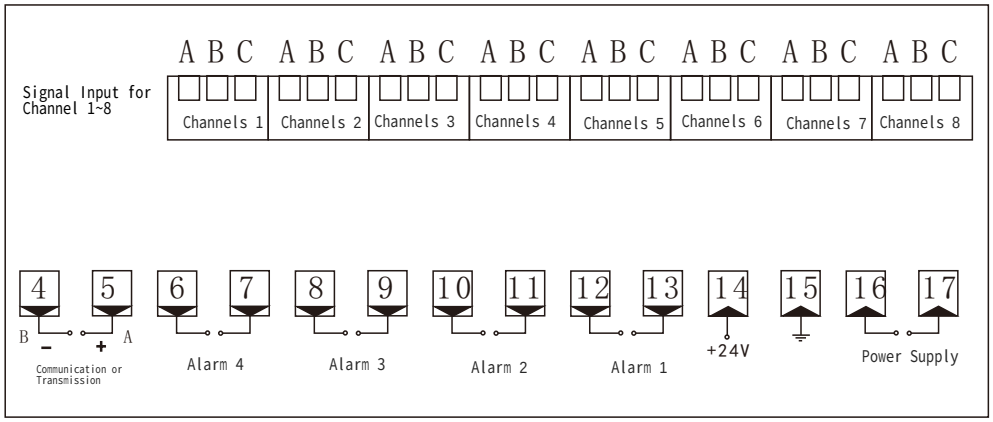
Master Request							
Address	Function Code	Start High Address	Start Low Address	High Byte of Register Quantity	Low Byte of Register Quantity	CRC Check (L, H)	
						L	H
01	03	00	00	00	08	440C	

Slave Response								
Address	Function Code	Number of Bytes	16-Byte Data Area (L, H … L, H)				CRC Check (L, H)	
			L	H	.....	L	H	L	H
01	03	10	Channel 1		.....	Channel 8		XXXX	

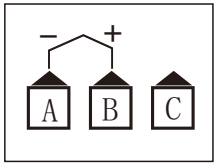
Read PV (16 channels): 01 03 00 00 00 10 4406
Read PV (32 channels): 01 03 00 00 00 20 4412

IX.Wiring Instructions

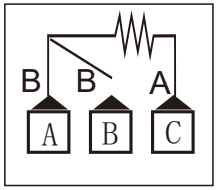
9.1 Wiring Precautions:
When a thermocouple is used for input, the corresponding compensation wire should be used.
When a thermal resistance is used for input, three wires with low resistance, the same cross-sectional area, material, and length should be selected.
Input signal wires should be kept away from the instrument's power lines, power supply lines, and load lines to avoid noise interference.
Do not over-tighten the screws. In addition, appropriate terminal screw plates should be used.



Wiring Method for Thermocouples of Channel 1~8



Wiring Method for Thermal Resistances of Channel 1~8



产品合格证

符合标准: GB/T 13639

检 验 员: 检 01

出厂日期: 见产品或盒贴出厂编号

本产品经检验合格,准予出厂。

C-Lin 欣灵电气股份有限公司 XINLING ELECTRIC CO.,LTD

产品合格证

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