

- Beijing scales radius of sensor Ltd.
- CH6 Series digital instrument

010-59792198

1、Overview

- CH6 Series digital instrument with various types of analog output sensors, transmitters with the completion of the measurement of physical quantities such as temperature, pressure, level, composition, transformation, display and control
 - Error is less than 0.5%F.S, and have adjusted, digital filtering
 - Applies to the standard voltage, current, RTD, thermocouple signal type
 - 2:00 alarm output, limit alarm or lower limit alarm mode can be chosen. The alarm sensitivity independent set
 - Transmitter output (optional), capable of measuring transformed display output for other devices use standard current and voltage in the form

2、Model Specification

Content	Code and Description	
	CH6/	
Dimensions	A	160(W)×80(H)×125(L) or 80(W)×160(H)×125(L)
	B	96(W)×96(H)×76(L)
	C	96(W)×48(H)×82(L) or 48(W)×96(H)×82(L)
	D	72(W)×72(H)×75(L)
	E	48(W)×48(H)×108(L)
Panel Form	H	Horizontal
	S	Vertical
	F	Square
Display Color	R	Red
Alarm	T	2 alarm output
Transmitter output (this function is optional, required when ordering, otherwise the instrument does not have this feature)	A0	No transmission output
	A1	Current output is not isolated from the outside
	A1G	Current output is isolated from outside
	A2	Voltage output is not isolated from the outside
Outside for the transmitter power (external power supply input isolation the isolation requirements please specify when ordering)	B1	External supply 24V/50mA
	B2	External supply 12V/50mA
Instrument power	V0	85V AC~265V AC
	V1	12V DC ~ 36V DC

3、Technical Specifications

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- Power Supply: 85 V AC to 2 65 V AC, 1 2 0 VDC to 380VDC power consumption is less than 6 W
- 1 2 VDC ~ 36 VDC, power consumption is less than 6 W
- ★ Note: The DC power supply should be left to a certain power margin

Input Signal Type			Scale Range	Input Signal Type			Scale Range
Electricity Press	0~5VDC	-1999~9999		Electricity Flow	4~20mA	-1999~9999	
	1~5VDC				0~10mA		
	0~10VDC				0~20mA		
Hot Electricity Block	Pt100	-200.0~500.0℃	Hot Electricity Even	K	-100~1300℃		
	Cu100	-50.0~150.0℃		S	0~1700℃		
	Cu50	-50.0~150.0℃		R	0~1700℃		
	BA1	-200.0~650.0℃		B	500~1800℃		
	BA2	-200.0~500.0℃		N	-100~1300℃		
	G53	-50.0~150.0℃		E	-100~800℃		
				J	-100~1100℃		
				T	-100~400℃		

- The basic error: less than 0.5%F.S
- Measurement and control cycle: 0.2 seconds
- Alarm Output: 2 relay output, contact capacity 220V AC, 3A
- Transmitter output
 - Optically isolated output resolution 1/3000, the error is less than ± 0 2% F S
 - Indicate the need to order DC current or DC voltage output, load capacity greater than 600 Ω
 - DC current output is selected by setting the 4 mA to 20 mA, 0 mA to 10 mA, 0 mA to 20 mA; DC voltage output by setting select 1V to 5V, 0V to 5V.
 - 0V ~ 10V transmitter output, need to specify when ordering0V~100V ~ 10V transmitter output, need to specify when ordering
- ★The transmitter output for optional features, you need to specify when ordering, otherwise the instrument does not have this feature.
- ★Outside for 12V A1 or A2 model transmission output function, the the transmission output load capacity 450Ω
- External power supply
 - For transmitter power supply, the output value and the nominal value of the error is less than ± 5%
 - Other specifications need to specify when ordering
- ★The instrument external power supply can only be used with the instrument is connected with sensors or transmitters supporting

4、Installation and wiring

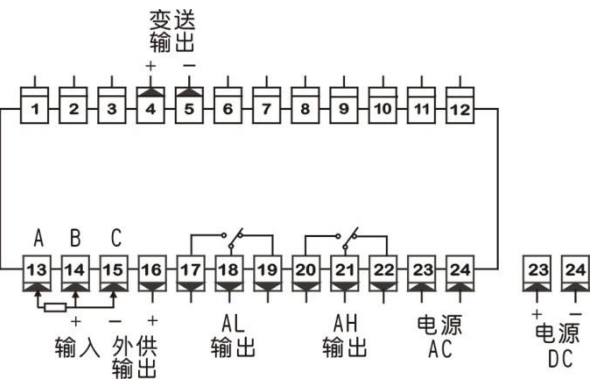
- To ensure safety, the wiring must be carried out after a power outage, the wiring and the use of the process, try to avoid contact with the vents on the housing
- Listed below for terminal the Pictured input and outside isolation. Outside for input outside for isolation - no longer with the input - share the same terminal, AH and AS specifications for the - for the 3rd terminal; BF specifications for - for the 15th terminal; C-H, CS and DF Specifications outside supply - for the 5th terminal; the EF specification input and outer terminals for isolated diagram for the same input and outside the isolated terminal Figure

(1) instrumentation and thermal resistance of the junction	(2) instrumentation and thermocouple input current, voltage wiring
(3) instrument with 2-wire transmitter current signal wiring	(4) meter and 3-wire and 4-wire voltage, current transmitter wiring
160×80 (A-H) 80×160 (A-S) 96×96 (B-F) 96×48 (C-H) 48×96 (C-S) 72×72 (D-F)	160×80 (A-H) 80×160 (A-S) 96×96 (B-F) 96×48 (C-H) 48×96 (C-S) 72×72 (D-F)
48×48 (E-F)	48×48 (E-F)

Hole Size

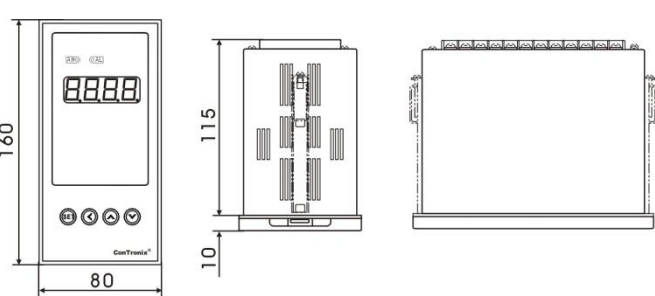


Terminals map

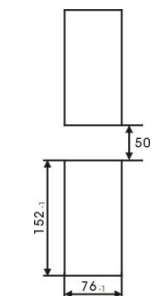


- AS specifications 80 × 160 meter size (mm)

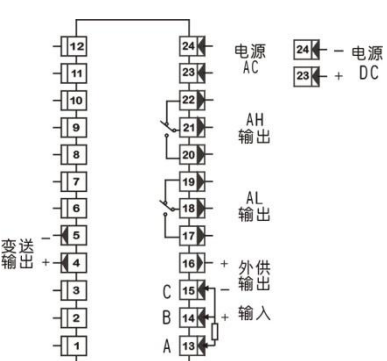
Dimensions



Hole Size

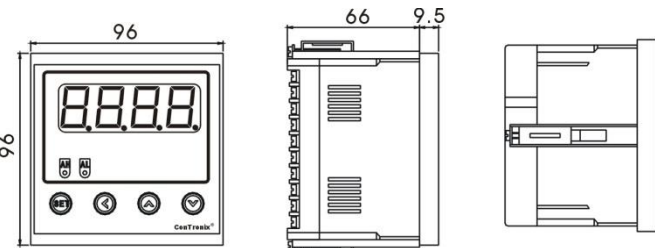


Terminals map

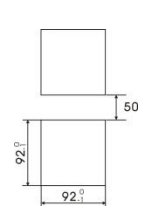


- BF Specifications size of 96 × 96 meter (mm)

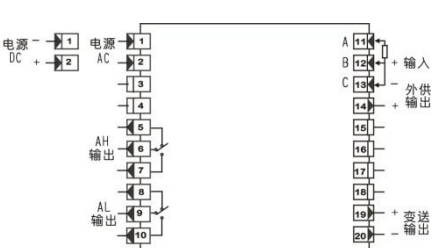
Dimensions



Hole Size

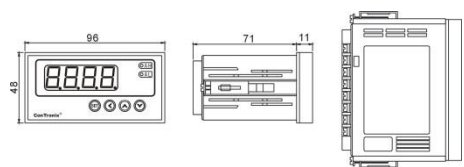


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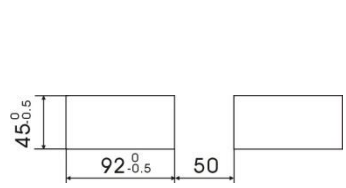


- CH Specifications size of 96 × 48 meter (mm)

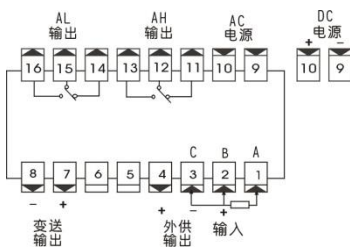
Dimensions



Hole size

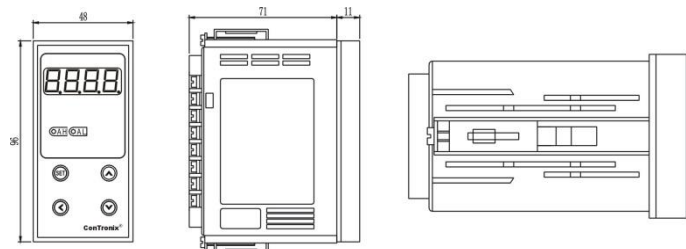


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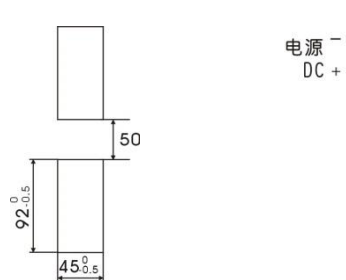


- CS specifications instrument of the size of 48 × 96 (mm)

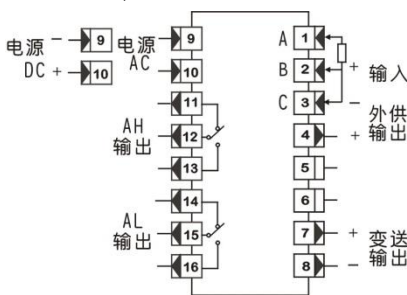
Dimensions



Hole size

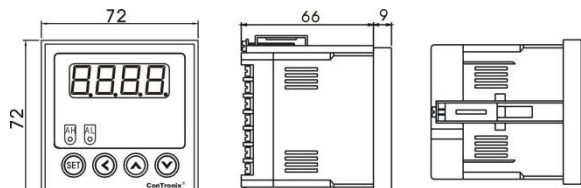


Terminals map

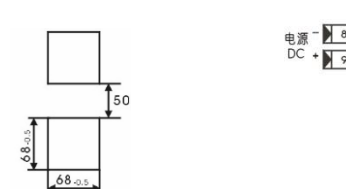


- D-F specifications size of 72 × 72 meter (mm)

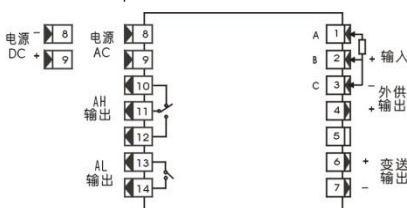
Dimensions



Hole size

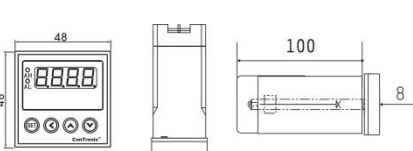


Terminals map

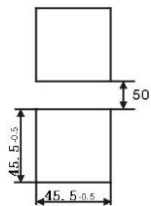


- Instrument of the E-F on the size of the size 48 × 48 (mm)

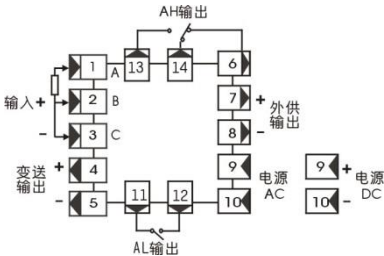
Dimensions



Hole Size



Terminal Map



5、Parameter List

The first set of parameter					
No	Symbol	Name	Content	Ranges	Explain
1	AH	AH	1 alarm point setting	-1999-9999	7.2
2	AL	AL	2 alarm point setting	-1999-9999	7.2
3	oA	oA	Password		6.4
4	ALo1	ALo1	Alarm point alarm		7.2
5	ALo2	ALo2	Second alarm point alarm		7.2
6	HYA1	HYA1	1 alarm point alarm sensitivity	0-8000	7.2
7	HYA2	HYA2	2 alarm point alarm sensitivity	0-8000	7.2

The second set of parameters					
No	Symbol	Name	Content	Range	explain
1	incH	incH	Input signal selection		7.1
2	in-d	in-d	Display the decimal point position selection		7.1
3	u-r	u-r	Measurement Range lower limit	-1999-9999	7.1
4	F-r	F-r	Measurement range limit	-1999-9999	7.1
5	in-A	in-A	The setting of the zero point correction	-1999-9999	8
6	Fi	Fi	Full scale correction settings	0.500-1.500	8
7	FLtr	FLtr	Digital filtering time constant setting	1-20	8
8	LA	LA	The cold side correction parameter setting	-99-99	8
9	oA1	oA1	Alarm settings by password control selection		6.2
10	bout	bout	Failure of alternative values	-1999-9999	9
11	oP	oP	Transmitter output signal selection		7.3
12	bA-L	bA-L	Transmitter output signal selection	-1999-9999	7.3
13	bA-H	bA-H	Transmitter output ceiling	-1999-9999	7.3
14	bA-A	bA-A	Transmitter output setting of the zero point correction	-500-500	7.3

Name		Description
Display Window	The ① measurement value display window	<ul style="list-style-type: none">Display of measured valuesParameters symbols, parameter values in the parameter setting state
	② Indicator	<ul style="list-style-type: none">Alarm status display for each alarm point
Operation Keys	③Set key (SET)	<ul style="list-style-type: none">Measuring status, press and hold without releasing more than 2 seconds to enter the parameter setting stateIn the set state, the parameter symbol is displayed, click the switch to the next parameter in the same group, press and hold for more than two seconds to loosen, then enter the next set of parameters or return to the measurement stateModified parameter values in the state set parameter values, click the deposit
	④ Left Key (←)	<ul style="list-style-type: none">Measurement state is invalid <p>①bring up the original parameter values set state</p> <p>②mobile modify bit</p>
	⑤ Up Key (↑)	<ul style="list-style-type: none">Increase the parameter values in the set state or change parameters content
	⑥ Down Key (↓)	<ul style="list-style-type: none">Reduce the parameter values in the set state or change parameters content

★Note: electricity meter takes 6 to 7 seconds, the instrument display window to full brightness, and then increments starting from 0 until well into the normal measurement state.

6.2 parameter setting instructions

The parameters of the instrument were divided into 2 groups, where each parameter group are listed in Chapter 5, "Parameter List"

- ★ Group 1 oA Parameters and group 2 parameters are controlled by password, the password is not set, can not enter
 - ★ AH, AL Parameters are password-controlled by oA1 Parameter selection. oA1 Is set to OFF, without password control; When set to ON, If you do not set a password, although you can enter, modify, but can not be deposited.
- Enter the parameter setting state, if no key operation for more than one minute, the meter will automatically exit the set state.

6.3 alarm setpoints

- Alarm settings in the first set of parameters.
- ① hold the set key (SET) Release, more than 2 seconds to enter the setting status, instrument display AH
 - ② single press (SET) The key can be sequentially select other parameters in this group
 - ③ Press (←) The key to bring up the current parameters of the original setting, flashing bits to correct bit
 - ④ by (←) Keys to move the modified bit (↑) Key value-added (↓) The key impairment value, modify the parameters as needed
 - ⑤ Press (SET) The key is stored in the modified parameters automatically go to the next parameter. Oriented group last a parameter, press (SET) The key will go to this group a parameter.
- Repeating step-by-step ② ~ ⑤, and other parameters can be set in this group.
- ★ If the modified parameters can not be deposited because oA1 Parameter is set to ON, the parameters under password control, you should set a password.

6.4 password set method

When the meter is measuring state, the password settings.

7、the function and the corresponding parameters

7.1 measurement and display

- Sampling → Digital filtering → Dimensionless conversion → To adjust →
- ① Show by tuning (see Chapter 8)
- The following is the measurement and display of relevant parameters not set correctly, may be the instrument display is not normal.
- incH (incH) ——Input signal selection
- Setting should be consistent with the instrument model and the actual input signal.
- The value of this parameter is expressed in symbolic form, the following table of correspondence between:

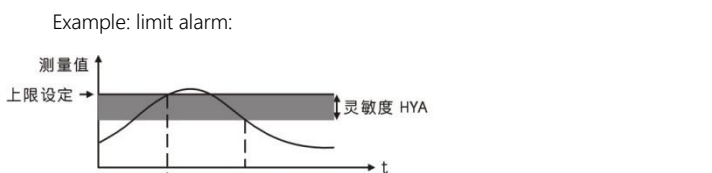
No.	Display Symbols	Input Signal
0	P100	Pt100
1	cu100	cu100
2	cu50	cu50
3	BA1	BA1
4	BA2	BA2
5	G53	G53
6	K	K
7	S	S
8	R	R
9	B	B

- in-d (in-d) ——Measured values of the decimal point position selection
- RTD input should be selected: 000.0
- Thermocouple input: should be selected for 0000.
- : According to need, select the other signal input,
- u-r (u-r) ——Lower Range Value
 - F-r (F-r) ——Upper range limit
- These two parameters provides the start and end of the start and end points of the input signal corresponding to the displayed value. Thermal resistance and thermocouple input, has nothing to do with it, you can not set.
- Example: 4 mA ~ 20mA input, set the following four parameters corresponds to 0 to 1.600MPa
- incH = 4-20 in-d = 0.000
u-r = 0.000 F-r = 1.600

7.2 Alarm output

- Each alarm point three parameters are used to set the alarm value, alarm mode and alarm sensitivity.
- AH And AL Respectively for the first and second alarm point alarm settings.
 - ALo1 ~ ALo2 Respectively for the first and second alarm point alarm settings.
 - HYA1 ~ HYA2 2 alarm point alarm options.
 - Alarm mode: 2 alarm: -HH- Said limit alarm
-LL- Lower limit alarm

Alarm sensitivity: to prevent the measured value alarm setting near fluctuations caused frequent movement of the relay, based on the need to set an alarm to lift the epitaxial region.



Example: thermocouple input instrument, requires transmission output of 4 mA -20 mA, corresponding to 500 -1200 °C is set oP = 4-20 And bA-L = 500 And bA-H = 1200

- bA-A (bA-A)、 bAFi (bAFi) parameter is used to adjust the transmitter output zero and full scale adjustment method is as follows:
First adjust the full-scale bAFi Zero, and then adjust bA-A
 - ① The transmitter output full-scale low, increase bAFi The value of the Transmitter output full high, reduce bAFi The value of the
 - ② Transmitter output zero low, increase bA-A The value of the
The transmitter output zero high, reducing bA-A The value of the
- Note: Average first adjust the transmission of full scale bAFi To meet the transmitter output accuracy, transmission zeros there are errors, the transmitter full scale adjust, and then adjust the transmitter zero bA-A
- Transmission zero adjustment must again adjust the transmitter full scale bAFi.

8、adjusting

- The adjustment can be reduced due to the sensors, transmitters, lead caused zero and full-scale error, to improve the measurement accuracy of the system. By zero correction parameter and full-scale correction parameters.
- The adjustment should be the first zero correction, and then a full-scale correction.
- in-A (in-A) ——Zero corrected. The factory setting is generally 0
- Display value = Display before the zero correction value + in-A
- Fi (Fi) ——The full-scale correction value. Factory settings generally 1.000 (range: 0.500 to 1.500)
 - Display value = Full-scale the displayed value before the correction × Fi
- Thermocouple input instrument, LA Parameters CJC calibrated.
- LA (LA) ——cold junction correction factor
- Meter factory, the parameters have been set up and tested, do not easily change. If the cold junction compensation error, can correct the following formula:
Compensation before the temperature + LA = Compensation temperature compensation range 0°C~60°C.
- ★Note: LA Is set to 99 when cold junction compensation

- ① When the input signal is short-circuited, instrumentation should display the actual temperature at the input terminal by meter the influence of self-heating, the temperature may be higher than room temperature. In practical applications, compensation wires to the input terminals of the instrument its temperature is the measurement of the temperature of the cold junction, so the instrument fever does not affect the measurement accuracy.
 - FLtr (FLtr) ——Digital filter time constant (range: 1 to 20)
- Used to overcome the fluctuation of the display signal instability caused, the larger the set value, the stronger the effect, but the change of the input signal reflects the slower. This parameter is factory set to 1.

9、the input signal fault handling

- Fault handling function of the input signal, the use of the instrument can be more effective in preventing the input signal failure caused by abnormal operation of equipment, such as interlock stop. Instrument display o.L Indicates that the input signal fault, the input signal failure refers to the following situations:
- RTD or thermocouple disconnect
 - Other input signal input signal overflow caused by excessive instrumentation within the A / D conversion

- bout (bout) ——the alternative measurement values when the input signal failure
- When the meter determines whether the input signal failure to set bout Value as

