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| * **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 | | | | A2G | Voltage output is isolated from 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** |   3、**Technical Specifications**  ⏵          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, according to 24 VDC / 0.5 A 12V DC / 2A power supply configuration. And pay attention to the length and diameter of the power cord.  ⏵          Working environment: 0 ℃ to 50 ℃, humidity below 90% R H, non-condensing.  ⏵          Display range: -1999 to 9999, decimal point position can be set  ⏵          Input signal type: universal input parameter setting  ★          Note: 0 to 10VDC input when ordering Note Ming or user make changes to the cover of the instrument chassis, instrument motherboard (input signal terminal where the circuit board) on the back (the opposite of components) SL connection severed, and then modify the input signal selection parameters. The instrument can only input voltage and current signals. | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 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 | | 接线方式 | 2 | | （3）instrument with 2-wire transmitter current signal wiring | （4）meter and 3-wire and 4-wire voltage, current transmitter wiring | | 接线方式 | 接线方式 | | 接线方式 | 接线方式 |  * AH Specifications size of 160 × 80 meter (mm)   Dimensions  16080 | Hole Size  a-h开孔尺寸  Terminals map  图形1   * AS specifications 80 × 160 meter size (mm)   Dimensions  80160   |  |  | | --- | --- | | Hole Size | Terminals map | | 80160开孔 | 图形1 |  * BF Specifications size of 96 × 96 meter (mm)   Dimensions  9696   |  |  | | --- | --- | | Hole Size | Terminals map | | 9696开孔 | 图形1 | | * CH Specifications size of 96 × 48 meter (mm)  |  |  | | --- | --- | | Dimensions | | | **9648** | | | Hole size | Terminals map | | | 9648开孔 | 图形1 | |  * CS specifications instrument of the size of 48 × 96 (mm)  |  |  | | --- | --- | | Dimensions  **4896** | | | Hole size | Terminals map | | 4896开孔 | 图形1 |  * D-F specifications size of 72 × 72 meter (mm)   Dimensions   |  |  | | --- | --- | | 7272 | | | Hole size | Terminals map | | 72开口尺寸 | 图形1 |  * Instrument of the E-F on the size of the size 48 × 48 (mm)   Dimensions  4848 | |
| |  |  | | --- | --- | | Hole Size | Terminal Map | | 开孔 | 图形1 |  |  | | --- | | **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 | v-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 | Bovt | 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 | | 15 | BAFi | bAFi | Transmitting output full-scale correction settings | 0.500-1.500 | 7.3 |  |  | | --- | | **6、the operation** |   6.1 **panel and buttons description (the AH specification of instrument example)**  接线方式 | |  |  |  | | --- | --- | --- | | **Name** | | **Description** | | **Display Window** | The ① measurement value display window | * Display of measured values * Parameters symbols, parameter values ​​in the parameter setting state | | | ② Indicator | | • Alarm status display for each alarm point | | **Operation Keys** | ③Set key 01 | • Measuring status, press and hold without releasing more than 2 seconds to enter the parameter setting state  • In 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 state  • Modified parameter values ​​in the state set parameter values, click the deposit | | ④ Left Key 02 | • Measurement state is invalid  ①bring up the original parameter values ​​set state ②mobile modify bit | | ⑤ Up Key 03 | • Increase the parameter values ​​in the set state or change parameters content | | ⑥ Down Key 04 | • 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 01 Release, more than 2 seconds to enter the setting status, instrument display AH  ② single press 01 The key can be sequentially select other parameters in this group  ③ Press 02 The key to bring up the current parameters of the original setting, flashing bits to correct bit  ④ by 02 Keys to move the modified bit 03 Key value-added 04 The key impairment value, modify the parameters as needed  ⑤ Press 01 The key is stored in the modified parameters automatically go to the next parameter. Oriented group last a parameter, press 01 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.  ① hold the set key 01 Do not loosen until AH  ② and press 01 Until the display oA  ③ Press 02 Modify the key to enter the state in 02 And 03 And 04 Modify key with 1111  ④ Press 01 Key, password set up  ★ Password electric meter or no key operation for more than one minute will be automatically cleared.  6.5 Other parameter setting method  ① First, set a password 6.4  ② first set of parameters oA Parameters after the parameter, the password setting is complete, press 01 Key to select  ③ the parameters of the other groups is provided by holding the key 01 Not release the order to enter each parameter group instrument display signs of the parameters of one of the group  ④ into the need to set the parameters where the group, press 01 Key sequence and cycle to select the parameters of this group is to be set  ⑤ Press 02 Key to bring up the current parameters of the original setting, flashing bits modified bit  ⑥ through 02 Keys to move the modified bit, 03 Key value-added 04 The key impairment value, modify the parameters as needed  ★ represented in symbolic form the parameter values ​​of the parameters, modify, flashing bits in the bottom.  ⑦ Press 01 Key stored in the modified parameters, and go to the next parameter  Repeat ④ ~ ⑦ step, other parameters can be set in this group.  Exit settings: parameter symbol is displayed, press and hold the set key 01 Not loosen, state until exit parameter settings. | |  | | --- | | **7、the function and the corresponding parameters** |   7.1 measurement and display  Sampling → Digital filtering → Dimensionless conversion→ To adjust→  警告符号 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 |  | No | Display Symbols | Input Signal | | 0 | P100 | Pt100 |  | 10 | 下划线下划线下划线N | N | | 1 | c100 | cu100 |  | 11 | 下划线下划线下划线E | E | | 2 | cu50 | cu50 |  | 12 | 下划线下划线下划线J | J | | 3 | 下划线BA1 | BA1 |  | 13 | 下划线下划线下划线t | T | | 4 | 下划线BA2 | BA2 |  | 14 | 下划线20 | 4mA~20mA | | 5 | 下划线G53 | G53 |  | 15 | 0下划线10 | 0mA~10mA | | 6 | 下划线下划线下划线H | K |  | 16 | 0下划线20 | 0mA~20mA | | 7 | 下划线下划线下划线S | S |  | 17 | 1下划线Sv | 1V~5V | | 8 | 下划线下划线下划线r | R |  | 18 | 0下划线Sv | 0V~5V | | 9 | 下划线下划线下划线B | B |  | 19 | 下划线10v | 0V~10V |  * 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,   * v-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 = -20 iN-d = 0.000  v-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: limit alarm:  上限报警  7.3 Transmitter output  The transmission output has five parameters:   * oP（oP）——the output signal selector   Selected as -20 When: output of 4 mA -20 mA (or 1 V -5 V)  0-10 When: output 0 mA -10 mA  0-20 When: output 0 mA -20 mA (or 0 V -5 V, 0V-10V)   * BA-L（bA-L）——the lower limit of the transmitter output setting * BA-H（bA-H）——Transmitter output ceiling set | | Example: thermocouple input instrument, requires transmission output of 4 mA -20 mA, corresponding to 500 -1200 ℃ is set oP = -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℃~60℃.  ★Note: LA Is set to 99 when cold junction compensation   * 警告符号 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   * Bovt（bout）——the alternative measurement values ​​when the input signal failure   When the meter determines whether the input signal failure to set Bovt Value as the input value of the alarm and the transmitter output.  Instrument display o.l When can still parameter settings.   |  | | --- | | **10、anti-jamming measures** |   When the instrument showing the value of greater volatility or beating, generally due to interference caused by too strong, take the following measures to reduce or eliminate the interference.  ·Using twisted pair connection meter transmitter output terminals to load, can reduce the interference.  ·Instrument input signal cables shielded cable shield connected to earth. And try to separate the power lines above 100V  ·And instrument power supply with inductive load (AC contactor) to be separated as much as possible (see below)  Error connection  错误接法  Correct connection   |  |  | | --- | --- | | 正确接法 | C — 0.033μF/1000V R — 100Ω 1/2W |  * Absorption circuit (pictured above) in the control of inductive loads contacts parallel RC spark * Appropriate setting instrument digital filtering time constant |