Intelligent Digital Display Measurement Controller

T80 Series Single Channel

The digital display controller uses a microprocessor for high-precision operation control, linear to non-linear correction of the measured input signal, the controller integrates analog and digital instruments, and is suitable for the display of temperature, pressure, liquid level, and digital speed measurement signals. Control (high-brightness LED digital display) and relative analog display (column display) to make the measurement clearer and more intuitive.

■ Features

● **Can input 22 type signals**

RTD：Pt100, Cu50

Thermocouples: S/R/B/K/N/E/J/T with automatic cold junction temperature compensation。

Standard signals: 0-10mA/4-20mA/0-5V/1-5V

Linear non-standard signal: any signals within 0-100mV/0-400Ω, need set the range corresponding to input signal

● SCM intelligence

Can adjust the zero point and magnification manually, and there is no drift in linearity for long-term use

All parameters can be set freely as required

● **Alarm control parameters can be set**

Can use max four relay outputs

Can set each relay's alarm value and hysteresis

Can set each relay's alarm type (Upper alarm or lower alarm)

● Has various output

Transmission output type: 0-10mA/4-20mA/0-5V/1-5V/0-20mA

Can adjust light beam individually

MODBUS-RTU standard communication protocol。

■ Technical parameter

Measuring range: -1999-9999

Accuracy: ±0.5% of full scale

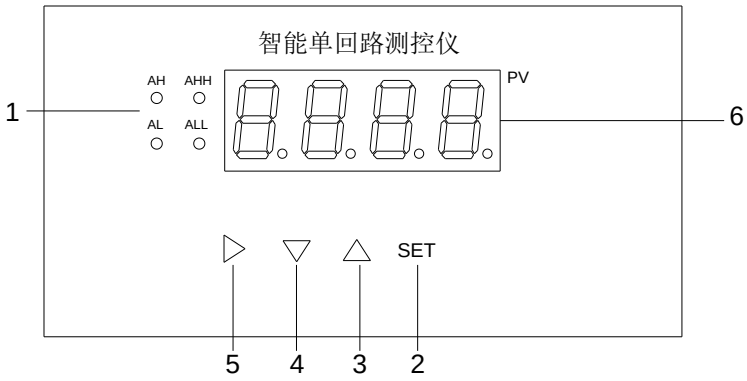
Supply voltage: AC0220(±10%); DC24V

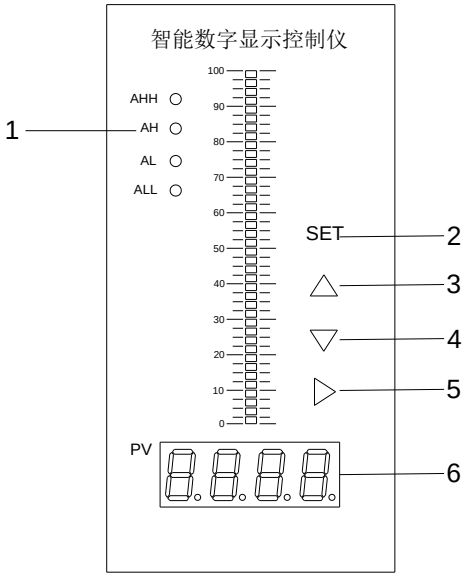
Operating temperature：0-50℃

Operating humidity: 85% RH max, non-condensing

Power consumption: ≤5W

■ Panel description (Take 160*80 panel as an example)





1) Indicator light AH light: The upper limit relay output; AHH light: The upper upper limit relay output
AL light: The lower limit relay output; ALL light: the lower lower limit relay output

2) Function key

3) Add key

4) Menus key

5) Shift key

6) Measurement and function menu display window

Model number legend

T
- Temperature controller

80
- Design code

-□
- Alarms:
- 1: No alarm
- 2: 2 alarms
- 3: 3 alarms

□
- Communication
- N: None
- R: RS485

□
- Output type:
- N: None
- C420: 4-20mA
- C010: 0-10mA
- V15: 1-5V
- v05: 0-5V

Input type code (corresponding to parameter Sn)

Code	Input type and measured range	Code	Code	Input type and measured range	Code
00	S(0-1600℃)	08	Pt100(-200-850℃)	16	mV no standard signal (0-100mV)
01	R(0-1600℃)	09	Cu50(-50-150℃)	17	Resistance no standard signal (0-400Ω)
02	B(200-1800℃)	10	0-5V(-1999-9999)	18	Frequency no standard signal (0-3000Hz)
03	K(0-1300℃)	11	1-5V(-1999-9999)	19	0-5V^2(-1999-9999)
04	N(0-1300℃)	12	0-10V(-1999-9999)	20	1-5V^2(-1999-9999)
05	E(0-800℃)	13	0-10mA(-1999-9999)	21	0-10mA^2(-1999-9999)
06	J(0-650℃)	14	0-20mA(-1999-9999)	22	4-20mA^2(-1999-9999)
07	T(-200-400℃)	15	4-20mA(-1999-9999)	23	Multiple input

First-level parameters setting

Push down the SET key for 3 second, will enter the following menu: can select the next parameter by clicking the minus key, the parameters is changed cyclically. If you want set the current parameter, can click SET key to enter the detailed parameters, you can modify it by clicking shift key, add and minus key, when finished, can click the SET key to confirm. If you want return the measured interface, can push down SET for 3 second to quite.

Parameter	Function	Measured range	Default
AH	Upper alarm value	-1999-9999	300.0
dH	Upper alarm hysteresis	0-9999	0
AL	Lower alarm value	-1999-9999	200.0
DL	Lower alarm hysteresis	0-9999	0
AHH	Upper upper alarm value	-1999-9999	400.0
Dhh	Upper upper alarm value hysteresis	0-9999	0.0
ALL	Lower lower alarm value	-1999-9999	100.0
Dll	Lower lower alarm hysteresis	0-9999	0.0
PASS	Second-level menu password	PASS	0 (When input 555, enter the second-level menu)

Second-level parameters setting

When appear PASS parameter in the first-level menu, click SET key, input password 555 in the PV window, then click SET key to enter the second-level menu, set parameter, save parameter and quite menu is same as the first-level parameters setting.

Parameter	Name	Set range	Description
Sn	Input type	0-22	See input type table
dot	Decimal point	dot=0 dot=1 dot=2 dot=3	Without decimal point Ten decimals (show XXX.X) Hundred decimals (show XX.XX) Thousand decimals (show X.XXX)
PUL	Lower limit of measured range	-1999-9999	Set the input signal's lower limit measured value
PUH	Upper limit of measured range	-1999-9999	Set the input signal's upper limit measured value
PbIR	Zero shift	Full scale range	Set zero point's shift value
FILt	Filter coefficient	0.100-0.900	Can't exceet0.900，otherwise will be an error
K1/SUH	Input range's magnification	0-9.999 magnification	Set input range's magnification
OU-A	Transmission output	1, 2	OU-R=1 0-10mA OU-R=2 4-20mA
PH	Upper limit alarm type	1, 2	Default is 0001 1 upward alarm 2 downward alarm
PL	Lower limit alarm type	Definition is the same as PH	Default is 0002
PHH	Upper upper limit alarm type	Definition is the same as PH	Default is 0001
PLL	Lower lower limit alarm type	Definition is the same as PH	Default is 0002
InPH	Non-standard signal input Maximum	0-400	Default is 100
InPL	Non-standard signal input minimum	0-400	Default is 0.0
bRUd	Communication baud rate	0=1200bps 1=2400bps 2=4800bps 3=9600bps	Communication speed
Id	Communication address	0-31	Cannot exceed 31

Application description

The range selection of instrument and sensor: All sensor's range must be same as instrument's range, otherwise, the display will display wrong value. For example: Liquid level transmitter range is 0-5m（According to the sensor label）, output 4-20mA, can set the instrument as the following: 1). enter the second-level parameters menu. 2). Set the parameters as follow:

Parameter	Name	Set value	Description
Sn	Input type	15	Must be same as the output signal
Dot	Decimal point	2	According to the accuracy requirement
PuL	Lower limit of measured range	0.00	The lowest range of the sensor
PuH	Upper limit of measured range	5.00	The highest range of the sensor

Can see the following three examples, the transmitter is 0-5m

Example 1: Require instrument alarm when higher than 4m or lower than 1m. Push down the SET key for 3 second, enter the first-level parameters menu， the parameters are as follow:

Parameter	Name	Set value	Description
AH	Upper alarm value	4.00	The relay output is upper alarm
dH	Upper alarm hysteresis	0.05	Can be set freely
AL	Lower alarm value	1.00	The relay output is lower alarm
dL	Lower alarm hysteresis	0.05	Can be set freely

Example 2: Require start pump when lower than 1m, stop pump when higher than 4m. Push down the SET key for 3 second, enter the first-level parameters menu， the parameters are as follow:

Parameter	Name	Set value	Description
AL	Lower alarm value	1.00	The relay output is lower alarm
dL	Lower alarm hysteresis	3.00	

Example 3: Require start pump when higher than 4m, stop pump when lower than 1m. Push down the SET key for 3 second, enter the first-level parameters menu， the parameters are as follow:

Parameter	Name	Set value	Description
AH	Upper alarm value	4.00	The relay output is upper alarm
dH	Upper alarm hysteresis	3.00	

The upper upper limit and upper limit, lower lower limit and lower limit, their function are same in default. According the actual requirement Buyer can select It themselves (Can change it by the actual requirement)

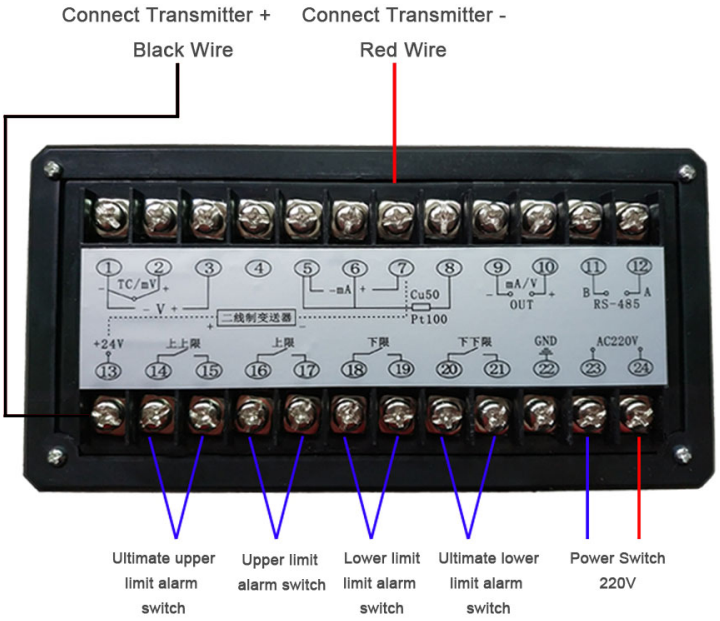
Example 4: Adjustable the light beam， when buyer use the light beam instrument, if transmitter range is 0-8m， the actual measured liquid level is 0-5m，need the light beam's percent display changed as 0-5m，display actual measured value. Can set the parameters as follow: set Sn=15， dot=2, PUL=0.00, PUH=5.00, SUH=8.00/5.00=1.600

Wiring

Before wiring, please confirm the corresponding relationship between the cable color and the positive and negative with the manufacturer of the sensor.

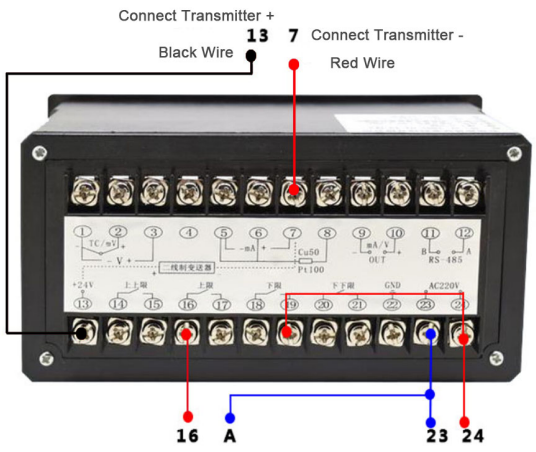
Example

T80 220V 4 Alarm and Relay, sensor 4-20mA, Black +, Red -
The positive (+) terminal (13) of the instrument is connected to the black wire of the sensor.
The negative (-) terminal (7) of the instrument is connected to the red wire of the sensor.



T80 220V Terminales

Drainage Wiring Diagram



16 A Connecting to water pump or solenoid valve, an external AC contactor or alarm is required if the current exceeds 3A

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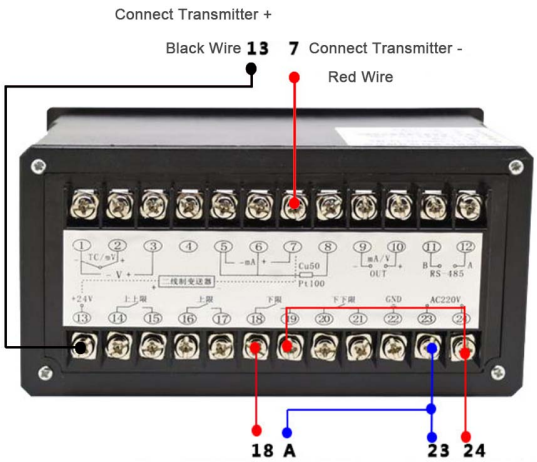
Water Inlet Wiring Diagram



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