

Navigate for you

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Instrument Characteristics and Warranty

V. Instrument Characteristics

Instruments are safe, clean, precise, long life, stable and reliable, Easy installation and maintenance And other characteristics, i.e. Suitable for acid, alkali, salt, antiseptic, high temperature and other fields. It can be connected to display meters, PLC and various DCS systems through 4 ~ 20mA to provide real-time liquid level data for industrial automation operation. The instrument circuit selects high-quality power components from the power supply part, selects imported highly stable and reliable devices, and can completely replace the same type of foreign imported instruments; the acoustic intelligent technology software can perform intelligent echo analysis without any debugging and other special steps. This technology has the function of dynamic thinking and dynamic analysis, so that the accuracy of the instrument is greatly improved, the liquid level accuracy reaches $\pm 0.25\%$, and it can resist various interference waves. Non-contact instruments, which do not come into direct contact with liquids, have a low failure rate. Instrumentation provides a variety of installation methods, and users can completely calibrate the instrument through this manual. All the input and output lines of the instrument have the protection function of lightning protection and short-circuit protection.

VI. Warranty Scope and Warranty

The following Not at Free Warranty Within range:

PRODUCT OR ITS PARTS EXCEED THE FREE WARRANTY .

Hardware failure due to use environment not meeting product use requirements.

Malfunction or damage caused by poor power environment or foreign matter entering device.

The fault caused by failure to operate according to the use method and precautions written in operation manual.

Faults caused by non-resistable force such as lightning, water fire and other natural factors.

Failure or damage caused by unauthorized disassembly for repair or unauthorized modification or misuse .

Instrument warranty period

Warranty Period: Our company Product Warranty Period By Delivery Date Calculation Two Within a month.

VII. Restriction Description

Please properly keep the warranty card as the warranty voucher, and the loss will not be repaired .

THIS WARRANTY EXPLANTS PERMISSION Ben Company owned, Ben The company has the right to modify the contents of this card without prior notice.

3. meaning of installation parameters

In the open environment, the bracket installation method is generally used, and the instrument is provided with a spiral ring to fix it. Or directly open a circular hole with a diameter of 60 mm at the installation position on the top of the tank or the lid, put the meter in, and then tighten the screw ring from the bottom to the top. The installation must ensure that the probe surface of the instrument is level with the measured liquid surface. As shown in the right figure, the probe of the instrument hits the liquid level and reflects back to the probe. After the probe receives it, it calculates the time from the wave to the wave to obtain the measurement space H. The installation height TH of the instrument minus the measurement space H will be Get the current level L. Meter range refers to the distance that the meter can measure. The installation height TH should be less than the range. The instrument blind zone refers to the area where the meter cannot measure near the probe. The distance between the highest liquid level and the probe should be greater than the blind zone. For example, the blind zone is 0.5m, then the distance between the highest liquid level and the probe must be greater than 0.5m. Such as: measuring range: 6 meters, blind zone: 0.45 meters, the actual measured maximum liquid level is: 0 ~ 5.55 meters.

The wave propagation of the probe is a diffusion process, that is, there is a directional angle. Pay attention when installing, otherwise it may hit the protrusions of the pool wall or the edge of the channel

4. Principles for instrument installation

The distance from the emitting surface of the probe to the lowest liquid level should be less than the range of the optional instrument

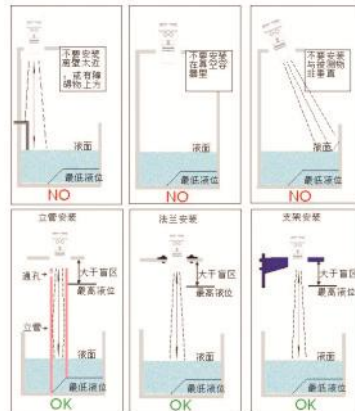
The distance from the emitting surface of the probe to the highest liquid level should be greater than the blind area of the optional instrument.

The emitting surface of the probe shall be parallel to the liquid surface.

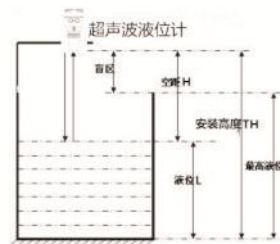
The installation position of probe shall avoid the position where the liquid level such as inlet and outlet directly below fluctuates sharply as far as possible.

If the cell wall or tank wall is not smooth, the installation position of instrument shall leave the cell wall or tank wall 0.5m Above.

If the distance from the emission surface of probe to the maximum liquid level is less than the blind zone of optional instrument, it is necessary to add extension tube, and the diameter of extension tube is greater than 150 mm, length 0.45m ~ 0.60m It shall be vertically installed with smooth inner wall. The opening on the tank shall be greater than the inner diameter of extension tube. If there is stirring in the tank and floaters or foam on the surface of the medium, it is necessary to install a tube with a diameter of greater than or equal to 150 mm The waveguide tube, having a smooth inner wall, is vertically mounted



Installation method :



to the bottom of the tank.

5. Installation Precautions

It is recommended to install sunshade plate outdoors to prolong the service life of the instrument.

Electric wire, cable protection tube, to pay attention to seal to prevent water.

Although the instrument has its own lightning protection device, but when the instrument is used in the torpedo area, it is recommended to install a special lightning protection device at the inlet and outlet ends of the instrument.

When the instrument is used in a particularly hot and cold place, that is, when the ambient temperature may exceed the working requirements of the instrument, it is recommended to add a high-temperature and low-temperature device around the liquid level instrument.

II. Instrument debugging (The instrument cannot move the instrument and cut off power during debugging!)

1. key description



[SET] Per SET About 3 seconds, 0000 appears, the first 0 flashes, change the first 0 to 1, and then press OK key to enter the menu; during the setting, press SET to cancel the setting; after the setting, press SET key to exit the menu.

[▲]: Up and numeric keys. In the menu, this key is used as the up key of the menu. When the data is changed, this key is used as the addition key.

[▼]: Flip down key. In the menu, this key is used as a flip down key for the menu, and when changing the data, this key is used as a subtraction key.

[OK]: Confirm key, used to select menu or shift key when changing data data.

2. rapid calibration steps of the instrument site:

Modify P06 (probe height setting) menu

The P06 menu is set for the installation height of probe, that is, the vertical distance from the probe surface to the battery bottom or tank bottom, also known as the installation height, which is mainly used for calibration. Set the method as follows: Press SET key for about 3 seconds, 0000 appears, the first 0 is flashing, change the first 0 to ▲ key to 1, and then press OK to enter the menu. Press key to turn to P 06 Menu interface, press OK to confirm, and then set the installation height. Use the and ▲ keys to change the number to the value of the actual installation height, (O K Key shift) after modification, press SET, then press SET, return to the main interface to calibrate, at this time the instrument display data is the current actual liquid level or object level value.

III. Technical indicators

Technical indicators	Parameter	Technical indicators	Parameter
Measuring range	0 ~ 15m (customized based on the measured range)	Blind area	0.35m ~ 0.6m
Range accuracy	± 0.5% (standard conditions)	Distance resolution	1 mm
Compression force	Atmospheric pressure	Meter Display	Own LCD display
Analog Output	4 ~ 20 mA	Supply voltage	DC24V
Ambient temperature	- 20 °C ~ + 60 °C	Protection class	IP65

Other parameters and setting method

IV. Parameter Settings

1. P01 (level calibration)

Internal parameters, use if necessary.

2. P02 (20 mA setting)

Press SET for about 3 seconds while the instrument is working, 0000 appears, the first 0 is flashing, change the first 0 to 1, and then press OK to enter the menu. Press key to select P02, which is the corresponding liquid level of 20 mA. If you need to modify, first press OK key, then press ▲ and to modify. After the modification, press SET to exit. Press key, P03 appears, P03 is the output current setting of 4 mA, the default value is 0, and modification is generally not required. If it needs to be modified, the same way as 20 mA.

3. P05 (Display mode setting)

Enter P05 menu as above. In P05 menu, 1 represents liquid level, 2 represents liquid level and temperature, 3 represents air level and 4 represents display height and temperature.

4. P07 (response speed)

Option 1: Indicates rapid instrument response;

Option 2: Indicates rapid instrument response;

Option 3: Slow instrument response;

Option 4: Indicates that the instrument reacts very slowly;

This menu can be selected with the OK and ▲ keys depending on the site.

5. P08 (current test)

Internal parameters, no need to set.

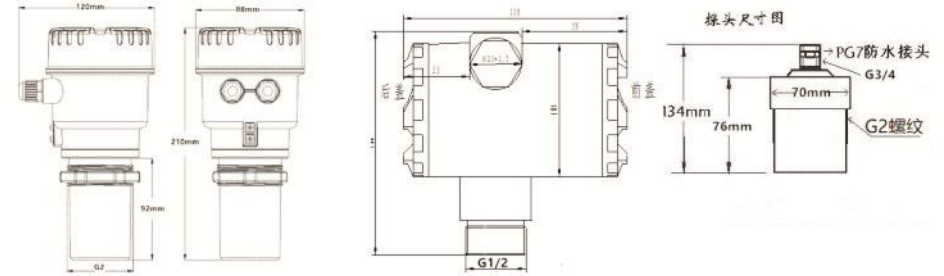
6. P09 (Magnification sensitivity)

Internal parameters, no need to set.

Installation and debugging of instruments

Instrument installation

1. instrument dimensions (i.e. The probe size may be changed according to the range of instrument. If there is any difference, it is necessary to make advance notification)

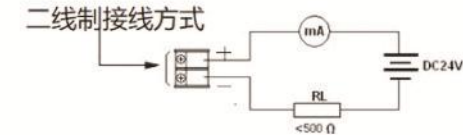


Integrated specification and dimension (Figure 1)

Explosion-proof split size (Figure 2)

2. instrument wiring

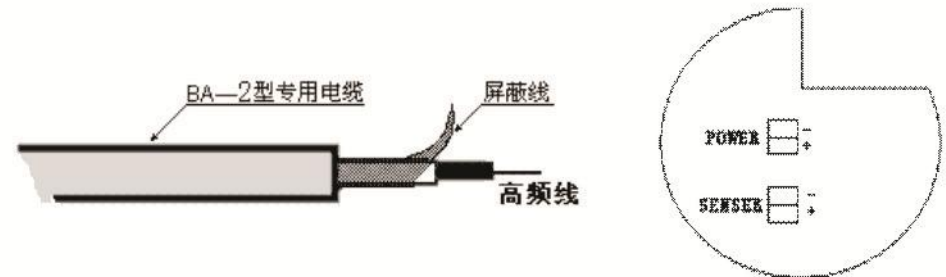
Integrated instrument wiring method: (as shown below)



Explosion-proof split wiring method:

POWER: positive and negative poles of DC24V power supply;

SENSE: -- shielded line, + high-frequency line;

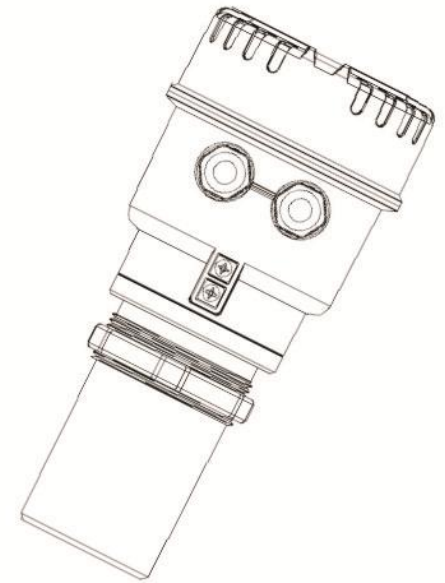


Caution: The Controller is exposed to direct sunlight, its operating temperature may exceed its specified limiting temperature, and visibility of the display may be reduced. **Suggestion:** In the case of direct sunlight, use sunshade to avoid the display screen of the instrument from direct sunlight, otherwise the service life of the instrument will be reduced.

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Mandatory Manual



Warm tips: Please read the user manual carefully before installation and debugging!