

Ultrasonic liquid level meter/level meter



Level



Pressure



Flow



Temperature



Liquid
Analysis



Registration



Systems
Components



Services



Solutions

Installation instruction manual

catalogue

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1. summary

Ultrasonic level meter is an intelligent non-contact level measuring instrument.

Without contact with industrial media can meet most of the liquid level, material level measurement requirements, completely solve the pressure type, capacitor type, float type and other traditional measurement methods brought by winding, blockage, leakage, medium corrosion, maintenance inconvenience and other shortcomings. Therefore, it can be widely used in various fields related to material level and liquid level measurement and control.

This product adopts imported industrial grade chip, digital temperature compensation and other... related special integrated circuit strong anti-interference. It has perfect material position measurement and control, data transmission and man-machine communication function. ABS engineering plastic waterproof shell, LCD LCD, high-definition Chinese and English menu interface. Support the isolation of 4-20 mA output, RS485 communication, two relays, support online output adjustment.

2. Product features

- LCD liquid-crystal display
- Chinese and English menu switch
- Level / level mode selection
- The output range start and end points are arbitrarily set
- With 4G / LoRa wireless communication (optional)
- With the restore setting function, support to restore the factory setting
- With digital filtering, and dynamic echo recognition



3. technical parameter

Range: 0-10m

Blind zone: 0.4m

Accuracy: $\pm 0.5\%$ F.S

Resolution: 1mm

Display: LCD LCD display

Key: a three-bit light patch button

Power supply voltage: DC12-28V

Power consumption: $< 0.6W$

Electrical interface: M16 * 1.5

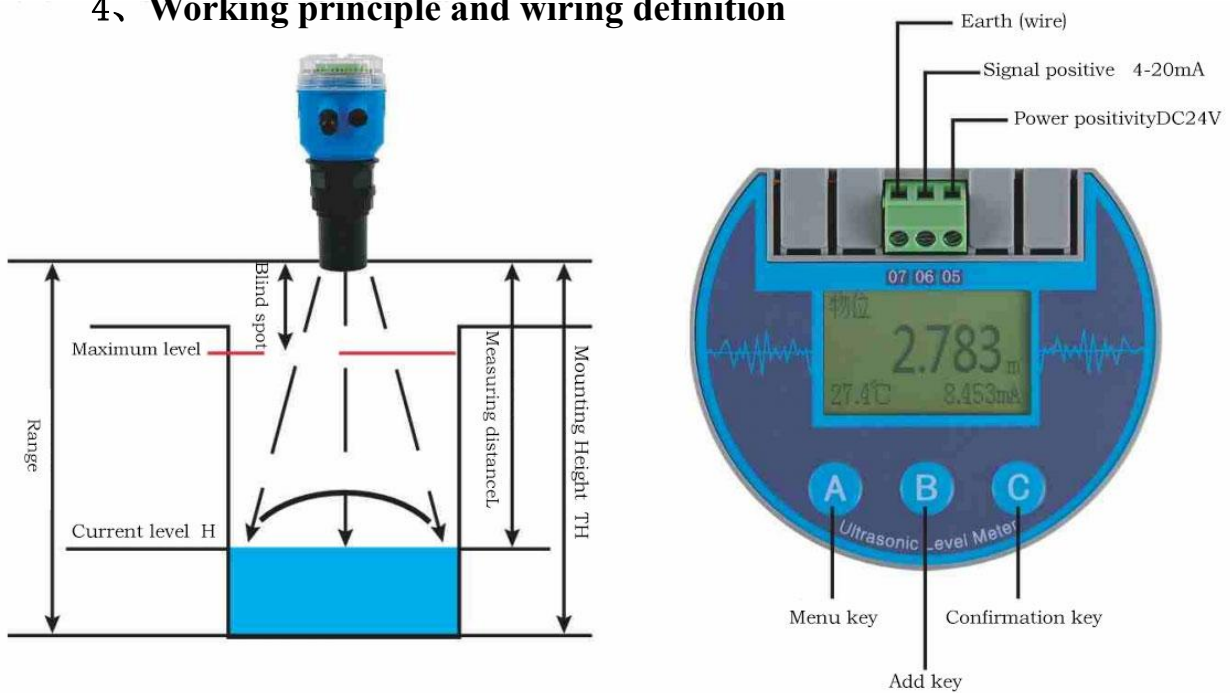
Thread: G2"

Protection level: IP65

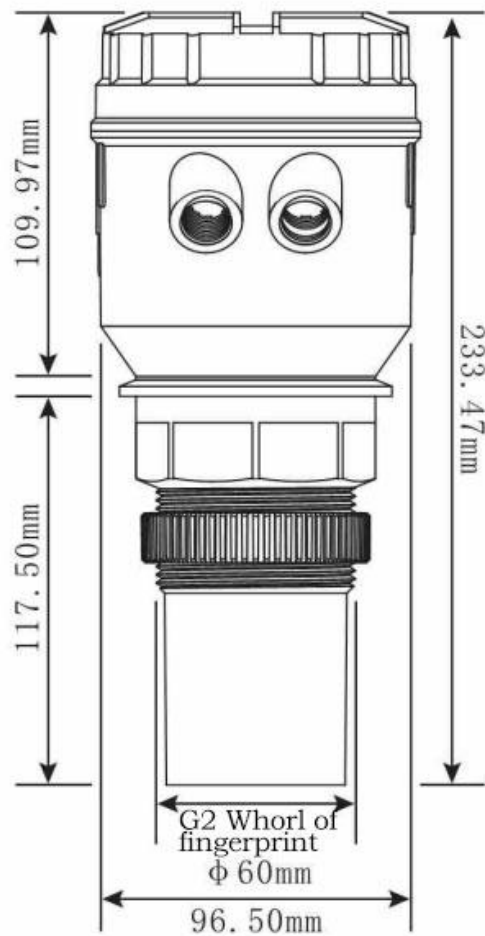
Working environment: normal temperature and normal pressure

Output signal: four-wire system 4-20 mA, RS485, two-way relay (standard equipment)

4、Working principle and wiring definition



5、 product size



6、Function menu

The default password is 00000, if you modify light remember

MOUNTING	MounHeight	The bottom plane to the bottom of the probe in m	
	LevelVal	After the probe is fixed, input the actual liquid level height, in m	
	Environment	Open / closed [default open]	
OUTPUT	HART SET	HART address setting [Default 001]	
	CURRENT TEST	Output current test	
	CURRENT RANGE	OUT LOW	Corresponding to 4 mA [default 00.000]
		OUT HIGH	Corresponding to 20 mA [default 10.000]
DISPLAY	Unit	Null / m / cm / mm / yard / meet / inch [default m]	
	Point	0/0.0/0.00/0.000/0.0000 [Default 0.000]	
	Convert	Display the magnification factor [default 1]	
	Contrast	Display screen contrast [Default 40]	
PROBE	Filtering	No / rapid / fast / general / stable Steam / foam / stirring [default general]	
SYSTEM	User set	Modify the menu password [default 00000]	
	Language	Chinese language / English	

Vii. Installation method and precautions for use

7.1 Installation of the probe

7.1.1 The probe simultaneously produces the ultrasonic pulse wave and detects the echo wave, and the ultrasonic pulse wave spreads out from the surface of the probe in a certain conical wave surface. There shall be no obstruction and away from the feed port. The installation position of the probe should be the position where no obstacles exist between the transmitting surface of the probe and the measured medium. See

figure one.

7.1.2 The shape of the container should be considered when installing the probe. If the probe is not installed correctly, a container of a certain shape will produce a secondary echo. Such problems are mainly focused on the conical shape and the top of the spherical tanks. This particular shape can refocus the emitted echo to produce false readings. Choosing the correct installation location can resolve this problem. Please see Figure 2.

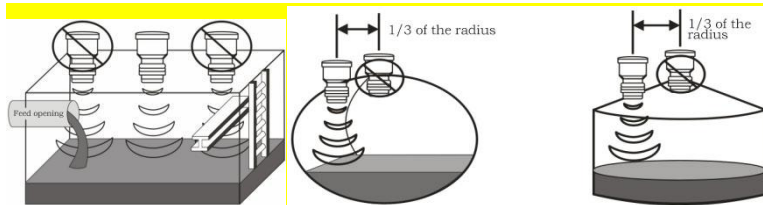


Figure 1

Figure 2

7.1.3 The probe can be installed with flange or standard M602 thread (installation interface and physical object shall prevail). Whether it is flange installation or thread installation, or whether the cone is selected, the bottom of the probe highlights the bottom of the process interface. Figure 3 illustrates the correct installation method.

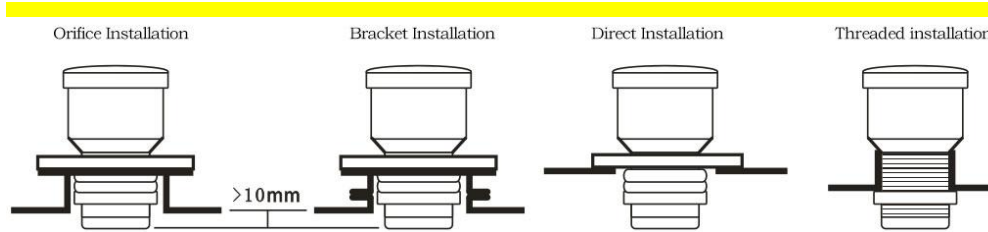


Figure 3

7.1.4 The probe shall be installed to avoid that the emitted acoustic channel and the vessel wall remain in the ideal area as shown in Figure 4. For the range shown in Figure 4 and the probe installation distance from the vessel wall, if the installation distance is less than the distance specified in the ideal area, the probe should be installed within the "minimum spacing" area. If the mounting distance from the side wall remains below the "minimum spacing" line, the transmitter may not properly measure the position. See figure four

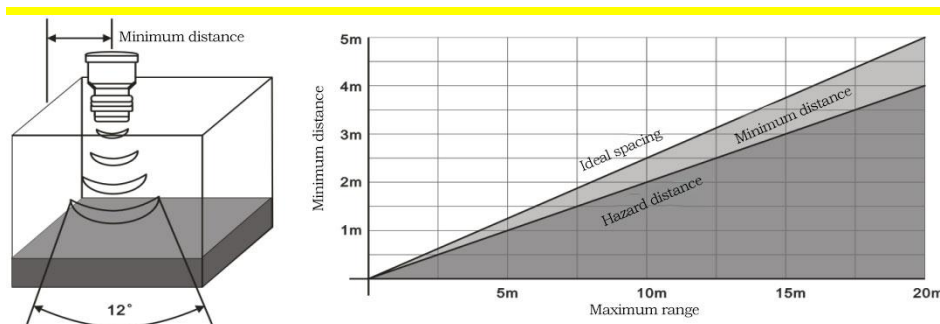


Figure 4

7.1.5 In the solid material measurement, the probe shall be typically installed at the

distance between the container wall of the side wall and the central feed inlet. A cone is formed when the material accumulates. The probe mounting position shown in Figure 5 and 6 will give a reading of the average position of the position height when the material is flat. This is true for the conical stacking or the concave stacking surface appearing during unloading.

The average level height measured by this installation is the correct position only for the cylindrical container and the inlet in the center line of the container. For other shapes of containers or feed ports that are not in the middle position, the probe shall be installed in accordance with the user's requirements and shall comply with the aforementioned requirements.

7.1.6 surface surface liquid without waves, ultrasonic measurement will achieve optimal results. If there are debris, bubbles or large fluctuations on the liquid surface, a guide tube should be installed. The diameter of the guide tube shall be greater than 120mm with no joint. As shown in figure 7

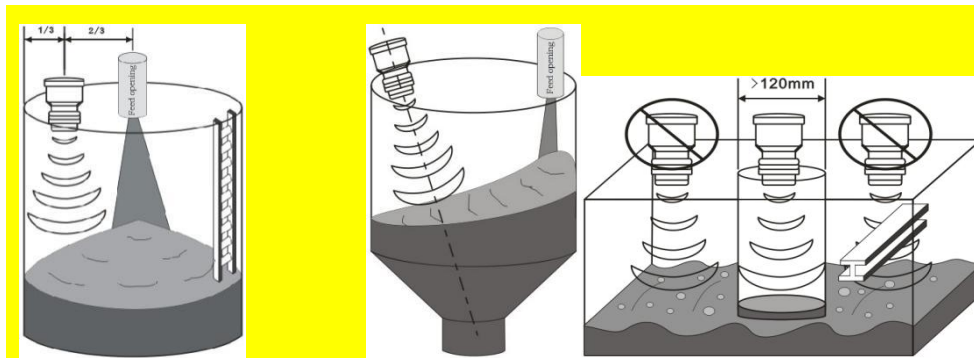


Figure 5 Solid material

Figure 6 Cone-shaped lower material

7.2 Working mode

This product has level mode (empty height) liquid level mode (difference), position mode is for any setting. The difference between the level and the level pattern is as shown in Figure 8

7.2.1 In the liquid level mode

The installation position (B) is the total from the bottom of the tank to the end surface of A is the distance from the probe end surface to level, D is the height of the liquid level, namely (installation position) -A. When using this the display value is the height of the liquid level (D).

7.2.2 When object position mode

Installation position (B) =0, the display value is the distance between the probe end to the liquid level (A).

7.3 Power Supply It is recommended to use DC20V greater than 2W DC voltage supply power supply. If the switching power supply is used to supply DC, the

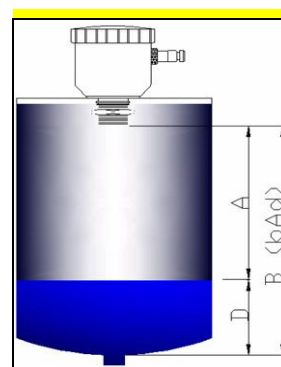


Figure 8

and
not used
pattern

height
the probe,
the liquid
 $D = B$
function,



negative DC power supply must be connected to the earth. For installation wiring, refer to the manual or the device body tag and the number marked inside the lid. In order to ensure the stable operation and analog output accuracy, please power up for > 15 minutes before normal use. Tighten the back cover to prevent water intake or dust. During field work, please build a sunshade above the object to avoid direct sunlight and rain. Lightning protection measures should be taken.