HWU30 Integrated Ultrasonic Level Meter

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1. Overview

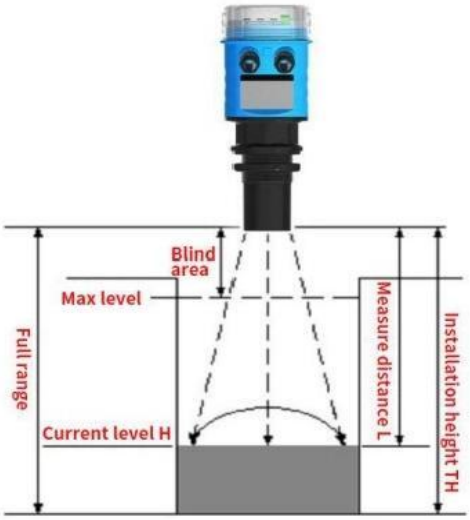
HWU30 integrated ultrasonic level meter is a new type of level switch. The working principle of the ultrasonic level meter is that the high-frequency ultrasonic pulse emitted by the transducer (probe) is reflected back when it meets the surface of the measured medium, and part of the reflected echo is received by the same transducer and converted into an electrical signal. The ultrasonic pulse propagates at the speed of sound waves, and the time interval required from the transmission to the receipt of the ultrasonic pulse is proportional to the distance from the transducer to the surface of the measured medium. The relationship between this distance value S and the sound speed C and the transmission time T can be expressed by the formula: S=CxT/2.
Because the emitted ultrasonic pulse has a certain width, the reflected wave and the emitted wave in the small segment close to the transducer overlap, which cannot be identified and its distance value can not be measured. This area is called the measurement dead zone. The size of the blind area is related to the model of the ultrasonic level meter.

2. Technical Parameters

Measuring range	0~25m(customized)
Blind area	0.25~0.5m
Accuracy	0.25~0.5%
Resolution	1mm
Working Pressure	Below 4 atmospheres
Display	LCD display,show level height and spatial distance
Analog output	4~20mA,0~10V,0~5V etc
Digital output	RS485 Modbus
Power supply	DC24V,AC220V(built-in lightning protection)
Ambient temperature	-20°C~+60°℃(high temperature customized)
Electrical connection	M18*1.5
Process connection	Thread (G2 Default) or Flange.
Probe material	ABS,PVC, PTFE optional
Transmitter housing material	ABS; Aluminum alloy(for explosion-proof type)
Protection grade	IP68
Explosion proof	Ex d ia IIC T6 Gb

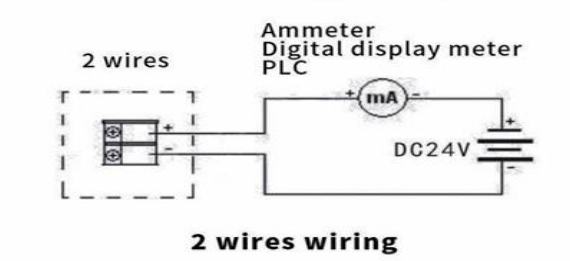
3. Structural Drawings(unit:mm)

(Thread material,size and length can be customized)



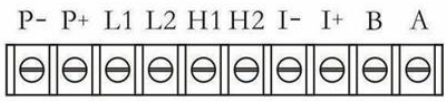
(Installation principle schematic)

4. Electrical Connection



2 wires wiring

Note: Do not use the same DC24V power supply as the inverter.

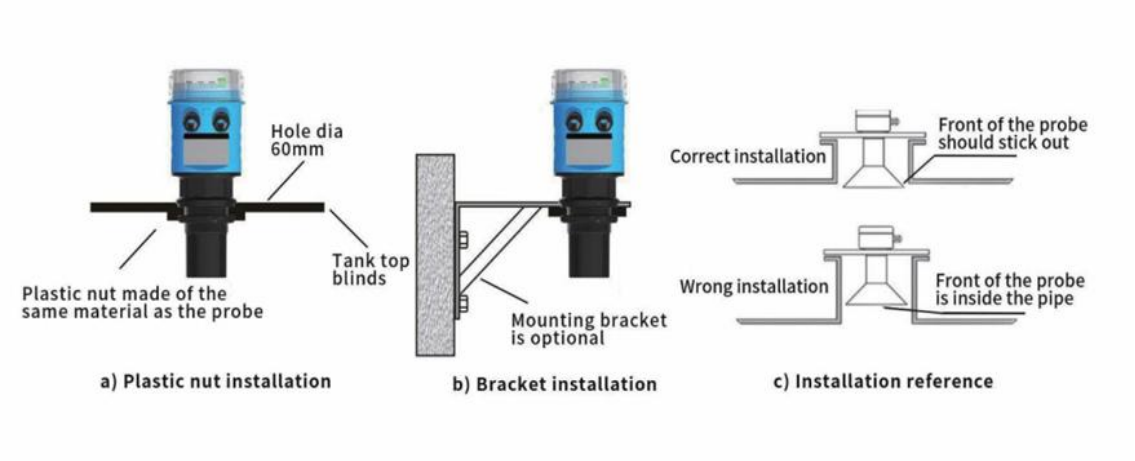


4 wires wiring

Note: P is power, DC24V or AC220V optional available. L1 L2 are low limits, H1 H2 are high limits. I- I+ are output 4-20mA, B A are for RS485.

5. Installation

In an open-air environment, the bracket installation method is generally adopted, and the flange or nut provided with the instrument is used to fix it. A hole slightly larger than the probe diameter (60mm) is cut on the pool or tank at the installation location, and the instrument is placed in it, and then the flange or nut is tightened from bottom to top. During installation, it is necessary to ensure that the probe surface of the instrument is flush with the measured liquid surface. There are three common installation methods.



6. Ordering Code

Model	Type					
HWU30	Integrated Ultrasonic Level Meter					
	Code	Fill out X Directly				
	Measuring Range	[0-X]m				
		Code	Process Connection			
		1	G2 thread(default)			
		3	Flange			
			Code	Output Signal		
			B1	4-20mA		
			B3	0-10V		
			B4	0-5V		
			B7	RS485		
			B8	HART		
			B9	2 Way Relay		
				Code	Measuring Probe	
				BS	ABS	
				PC	PVC	
				FE	PTFE	
					Code	Power Supply
					V1	24V DC
					V2	220V AC
e.g.HWU30	0-5m	1	B1B7B9	BS	V1	