

ULTRASONIC LEVEL TRANSMITTER

—— Profession
Builds up extraordinary quality

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—— Genuineness
Creates famous service

—— Innovation
Leads advanced technology

Models	UTG21-BE	UTG21-H(E)	UTG21-R	UTG21-PY	UTG21-K	UTG21-S	UTG21-PS	UTG21-PR
Pictures								
Measuring range	0~20m							
Blind area	0.35m							
Ranging accuracy	0.3% (Standard condition)							
Ranging resolution	1mm							
Supply voltage	DC24V/AC220V							
Analog Output	4~20mA							
Digital Output	Rs485 ModBus-RTU						Rs485 / ModBus-RTU	
Protection grade	Ip67		Ip65					
Ambient temperature	-20℃~ +60℃							
Pressure	Less than four atmospheric pressure							
Explosive-proof grade	Exd(ia)ia II BT4	Exd(ia)ia II BT6						

The **UTG21** series ultrasonic level transmitter are suitable for the level of the non-contact measurement of liquids (aqueous solutions, sewage water, oil etc.), in closed or open vessels, wells, reservoirs and tank and so on.

Through different, adapted emitting frequencies, levels in a measuring range of 0~20 m can be measured. The resistant transducers and process fittings also allow applications in corrosive, flammable and explosive liquid.

Feature

- * Patent sonic-wave intelligent technology software can make intelligentized echo analysis, which greatly improves the accuracy.
- * The accuracy of liquid level is up to 0.3%,
- * Non-contact type, reduce failure rate
- * All input and output lines must be with lightning protection and short circuit prevention function
- * Integrated design; higher cost performance;
- * Automatic detection of on-site electrical interference, and interference suppression;
- * Sensitive response, and rapid measurement for the quick rise and fall of the liquid level.

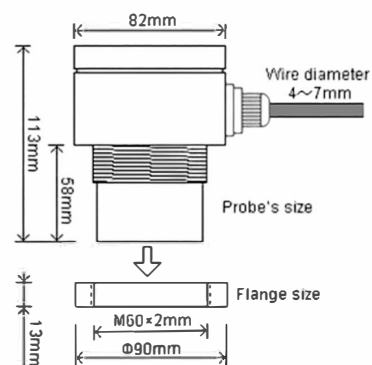


UTG21-BE Ultrasonic Level Transmitter

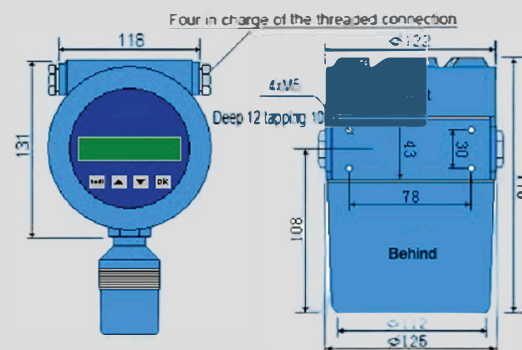
Specifications

Measuring range	0~10m,0~15m,0~20m
Blind area	0.35m
Ranging accuracy	0.3% (Standard condition)
Ranging resolution	1mm
Supply voltage	DC24V/AC220V
Output	4~20mA or Rs485 /ModBus-RTU
Protection grade	IP67/68
Explosive-proof grade	Exd(ia)ia II BT4
Ambient temperature	-20℃~+60℃
Pressure	Less than four atmospheric pressure

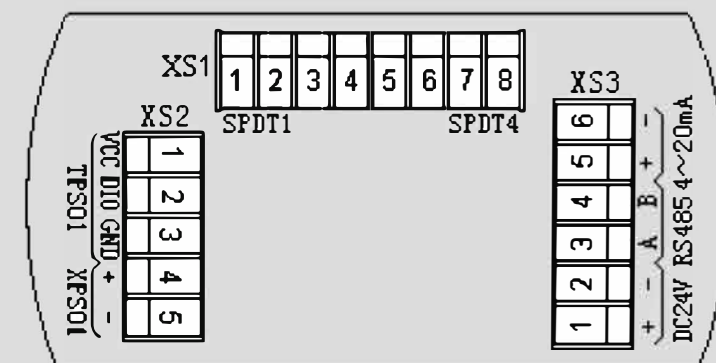
Dimensions Drawings



- ◆ 2/4 wire system
- ◆ Suitable for narrow tanks
- ◆ High accuracy
- ◆ Integrated/Remoted type
- ◆ Explosive-proof function for flammable and explosive environment



Electrical Connection Drawings



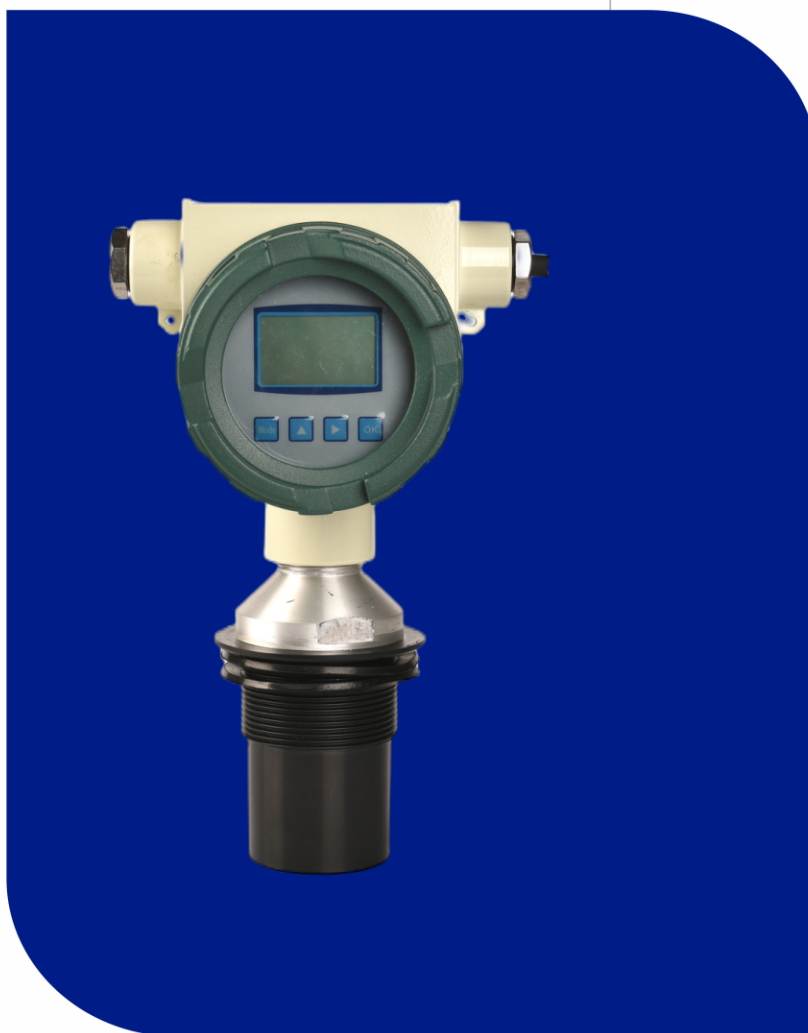
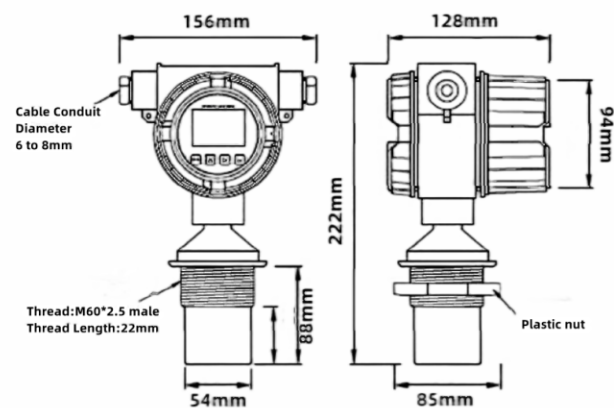
- ▶ Xs1 terminals
- ▶ 1-8 terminals corresponding 1~4 relay output
- ▶ XS3 terminals
- ▶ 1-2 terminals for DC 24V power input, 3-4 terminals for RS485 output, 5-6 terminals for 4~20mA output

UTG21-H(E) Ultrasonic Level Transmitter

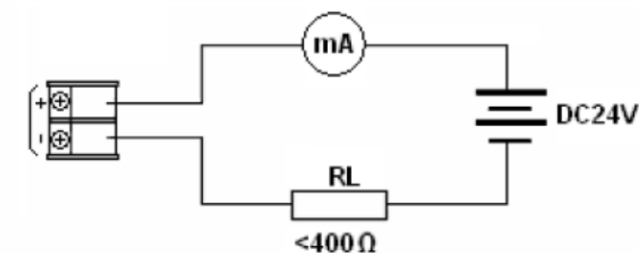
Ultrasonic Level Transmitter

Measuring range	0~10m,0~15m,0~20m
Blind area	0.35m
Ranging accuracy	0.3% (Standard condition)
Ranging resolution	1mm
Supply voltage	DC24V/AC220V
Output	4~20mA
Protection grade	IP67
Explosive-proof grade	Explosive-proof grade:Exd(ia)ia II BT6
Ambient temperature	-20°C~+60°C
Pressure	Less than four atmospheric pressure

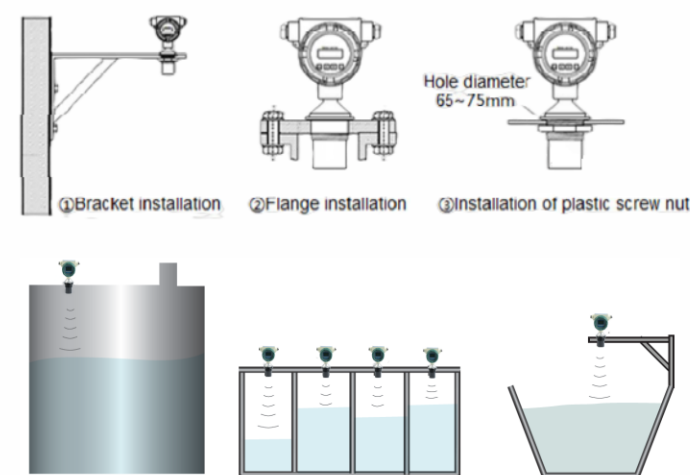
Dimensions Drawings



Electrical Connection



Installation



As shown, instrument's transducers made after the wave hit the level reflected back to transducer, the transducer receives income calculated after the hair waves to waves of time, are measured from the L, meter installation height minus the measurement of TH the distance L will be the current level H. Meter range means the instrument can measure the distance, the installation should be less than a high degree of TH range.

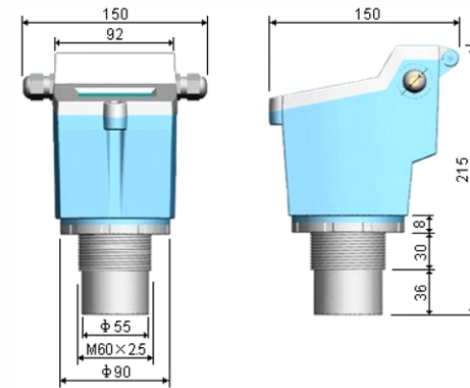
Instrument blind means measuring instruments in the vicinity of the transducer can not be measured in the region, the highest level with the transducer spacing should be greater than the blind, for example: blind spot for the 0.3m, the highest level with the transducer spacing must be greater than 0.3m.

UTG21-R Ultrasonic Level Transmitter

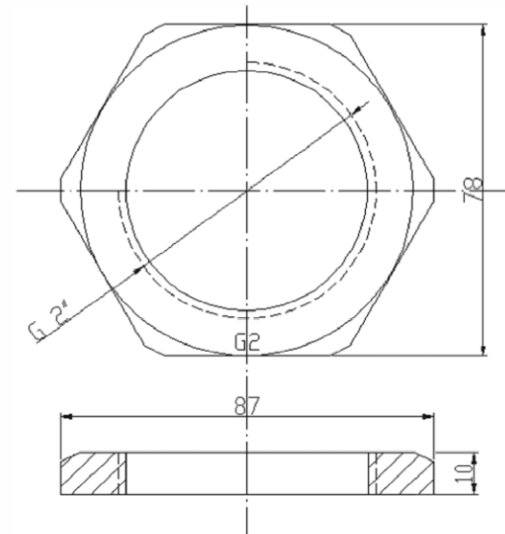
Specifications

Measuring range	0~10m,0~15m,0~20m
Blind area	0.35m
Ranging accuracy	0.3% (Standard condition)
Ranging resolution	1mm
Supply voltage	DC24V/AC220V
Output	4~20mA
Protection grade	IP65
Ambient temperature	-20°C~+60°C
Pressure	Less than four atmospheric pressure

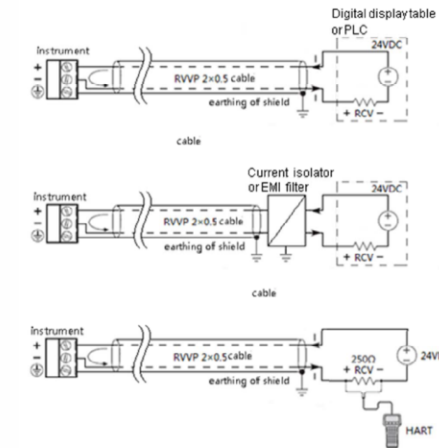
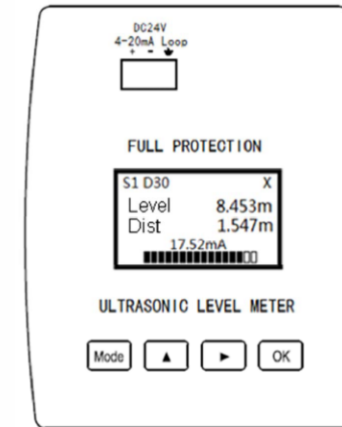
Dimensions Drawings



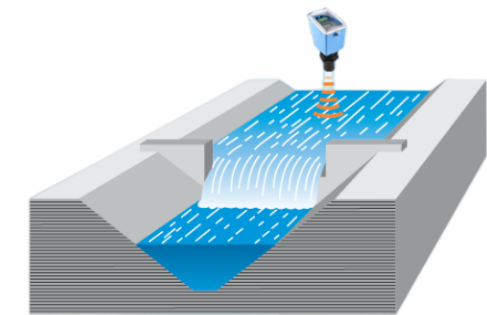
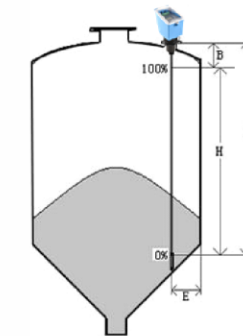
Dimensions of Screw Nut



Electrical Connection Drawings



Installation



Description:

H----measuring range

L----distance of empty tank

B----blind area at the top

E----minimum distance between sensor and tank wall

The blind area at the top refers to the minimum distance between material max. level and the measuring reference point
The blind area at the bottom refers to the distance near the very bottom area of the cable that can not be measured precisely
The distance between the blind area at the top and the blind area at the bottom is the effective measuring distance.

Attention:

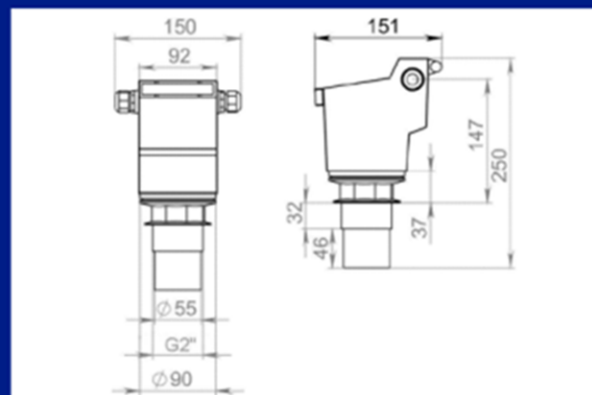
Only when the material is between the blind area at the top and the blind area at the bottom, a reliable measurement of the material level inside the tank can be secured

UTG21-PY Ultrasonic Level Transmitter

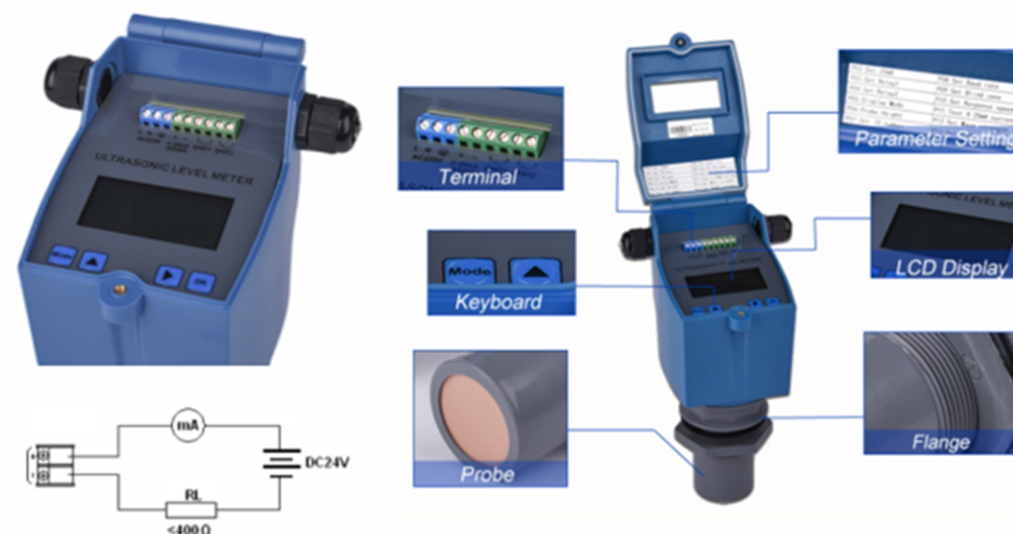
Specifications

Measuring range	0~10m,0~15m,0~20m
Blind area	0.35m
Ranging accuracy	0.3% (Standard condition)
Ranging resolution	1mm
Supply voltage	DC24V/AC220V
Output	4~20mA
Protection grade	IP65
Ambient temperature	-20°C~+60°C
Pressure	Less than four atmospheric pressure

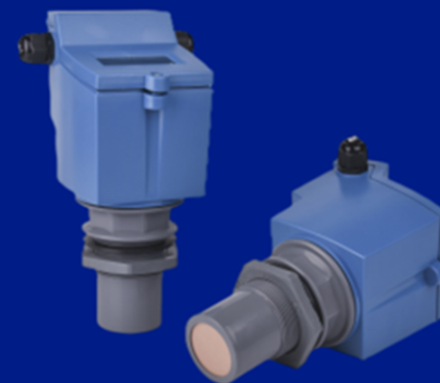
Dimensions Drawings



Electrical Connection Drawings



Installation



UTG21-K

Ultrasonic Level Meter

Continuous and non-contact measurement for the material level of the liquid, pasty and small particle materials.

Features

- Display the liquid level and distance;
- Automatic detection of on-site electrical interference, and interference suppression;
- Internal integrated temperature sensor, and real-time temperature compensation for sound velocity;
- Support 4-20 mA current simulation, RS485 communication test, and other functions;
- Use the keys to carry out on-site parameter setting;
- All input and output lines have the overvoltage and overcurrent protection;
- Non-contact measurement, and long service life;

Maximum measuring distance of the instrument

Measuring Medium	Maximum Measuring Distance			
Liquid and Fluid	5m	10m	15m	20m
High Temperature with Water Vapor*	3m	6m	9m	12m
Solid (Particle>4mm)*	2m	4m	6m	8m

* Note: The maximum measuring distance of the ultrasonic level meter is affected by operating conditions. The data in the above table are for reference only.



Product Details



Technical Data

Type	Two-wire system	Three/four-wire system
Measuring Range	0.15m~2m, 0.3m~5m, 0.35m~10m, 0.5m~15m, 0.8m~20m	
Blind Zone	0.15m~0.8m (Depend on the measuring range)	
Measuring Precision	±0.3%FS* (Standard conditions*)	
Resolution	1mm	
Instrument Display	Display liquid level, distance and relay status	
Supply Voltage	DC12V~36V / 22mA	DC12V~36V / 70mA or AC100V~240V / 5W
Analog Output	4~20mA loop current output (Load < 400Ω)	4~20mA/ bit12 current output (Load < 5000)
Digital Output	-	RS485 /Modbus-RTU protocol
On-off Output	-	2-channel SPST relay Contact power3A 250VAC/5A 30VDC
Transmitter Material	ABS	
Probe Material	ABS / ETFE / PTFE	
Electrical Interface	PG11 Interface	PG11 Interface
Process Interface	G2"(Customize G1 / 2½"NPT screw thread)	
Environmental Temperature	-35°C~+70°C (Please emphasize the temperature when placing an order if the temperature below -20°C)	
Process Temperature	-40°C ~ +80°C	
Waterproofing Grade	IP67	
	If the instrument is in the humid environment all the year round. It is recommended to apply the glass cement to the waterproof joints.	
Process Pressure	0.8~3bar/altitude < 2,000 m	

Ultrasonic Level Sensor

Specifications

	UTG21-S	UTG21-W
Measuring range	0~8m	0~2m
Blind area	0.35m	0.15m
Ranging accuracy	0.3% (Standard condition)	
Ranging resolution	1mm	
Supply voltage	DC24V/AC220V	
Output	4~20mA	
Protection grade	IP65	
Ambient temperature	-20°C~+60°C	
Pressure	Less than four atmospheric pressure	

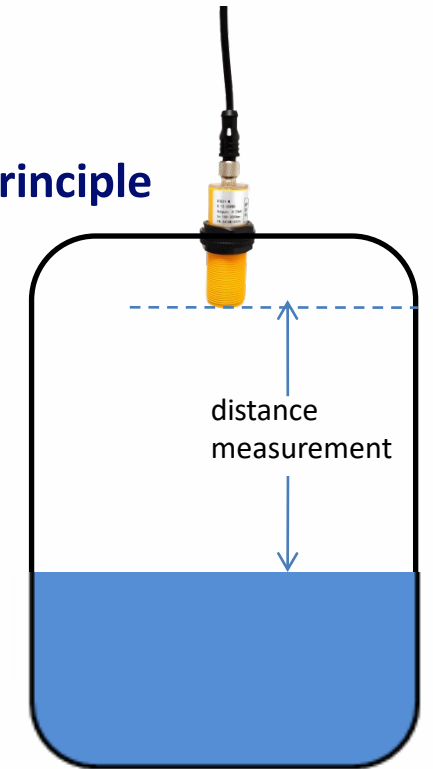
Product Display

**UTG21-S****UTG21-W**

Working Site



Principle



UTG21 series ordering code

Item	Model	Protection class		Installation method		Wire system		Com munication interface			
		Waterproof type	Explosion-proof	Integrated	Remoted	Two-wire system	Three/Four-wire system	4~20mA	RS485	Hart	GPRS
"Ultrasonic Level Transmitter"	UTG21-H	●	○	●		●		●		○	
	UTG21-B(E)	●	○	●	○	●	●	●	●		
	UTG21-R	●		●			○	●	○	○	
	UTG21-PY	●		●		●	○	●	○		○
	UTG21-K	●		●		●	○	●	○		
	UTG21-S/W	●		●			●	●	○		
	UTG21-PR	●					●	●	●	○	○
	UTG21-PS	●					●	●	●		

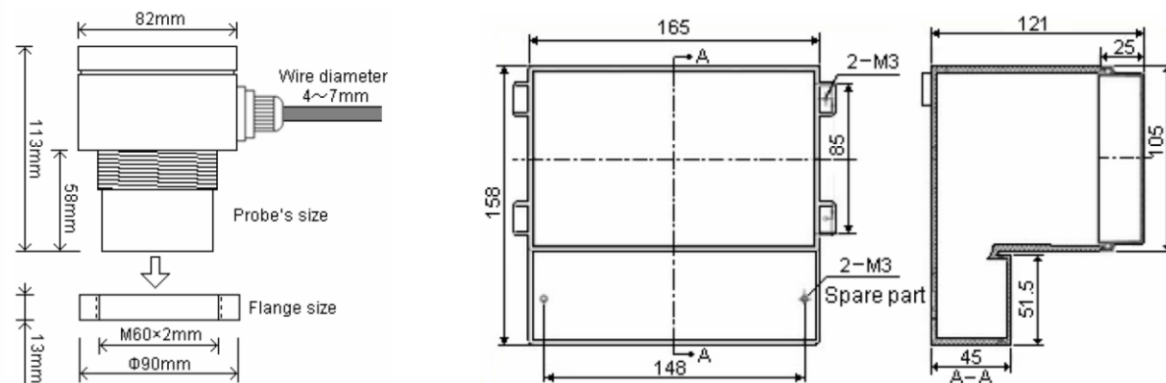
● Standard Accessories ○ Optional Accessories

UTG21-PS

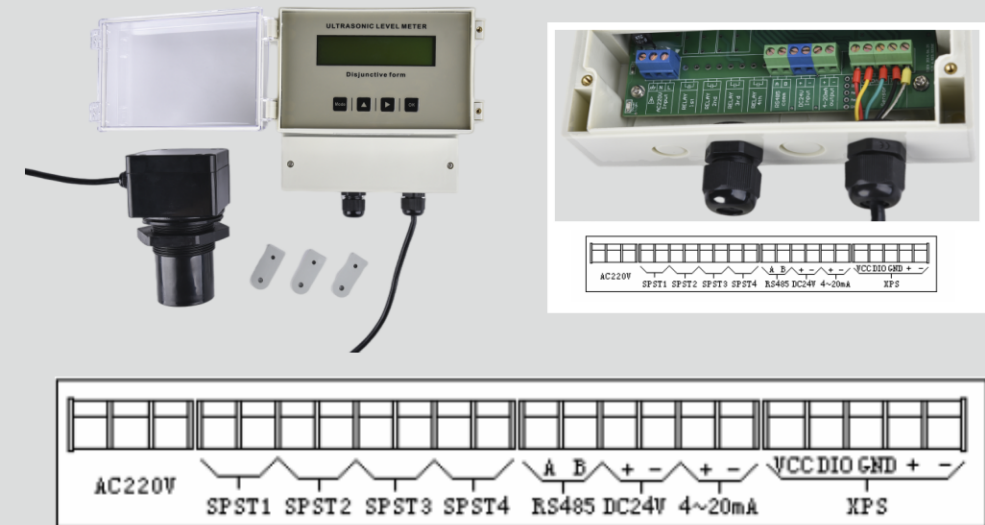
Ultrasonic Level Transmitter

Measuring range	0~5m,0~10,0~20
Blind area	0.35m
Ranging accuracy	0.3% (Standard condition)
Ranging resolution	1mm
Supply voltage	DC24V/AC220V
Output	4~20mA or Rs485 /ModBus-RTU
Protection grade	IP65
Ambient temperature	-20℃~+60℃
Pressure	Less than four atmospheric pressure

Dimensions Drawings



Electrical Connection Drawings



Wiring directive

- ◆ Please carefully check the power supply wiring of AC220V and DC24V before it is powered, and do not misconnect.
- ◆ SPST1~SPST4 is the switch signal of four circuits and will be set according to menus P03 (Relay) respectively.
- ◆ XPS is the terminal of Probe; they are separately connected with the two probes by independent twin-core shield wires or four-core shield wires.

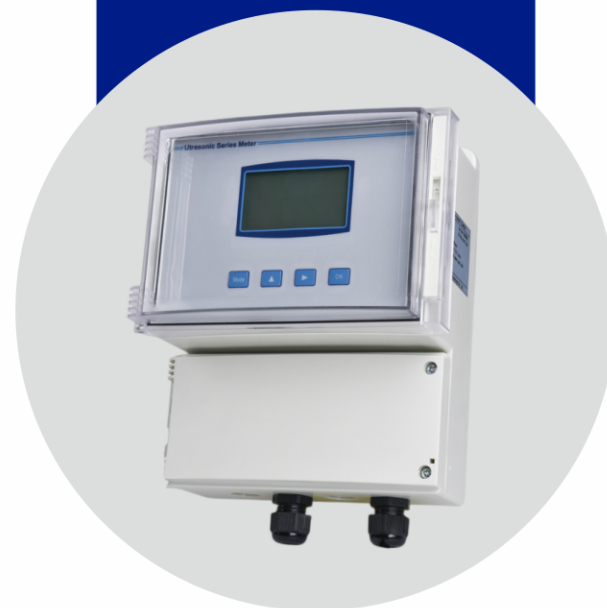
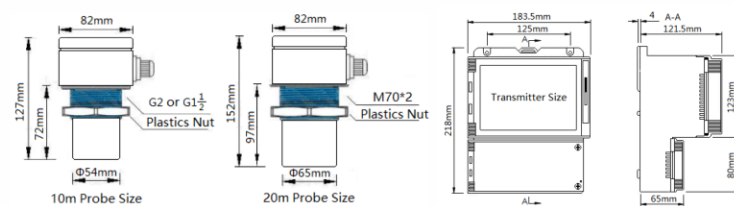
UTG21-PR

Ultrasonic Level Transmitter

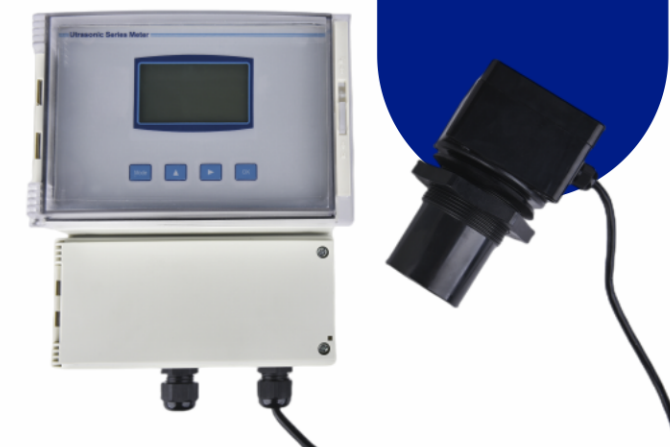
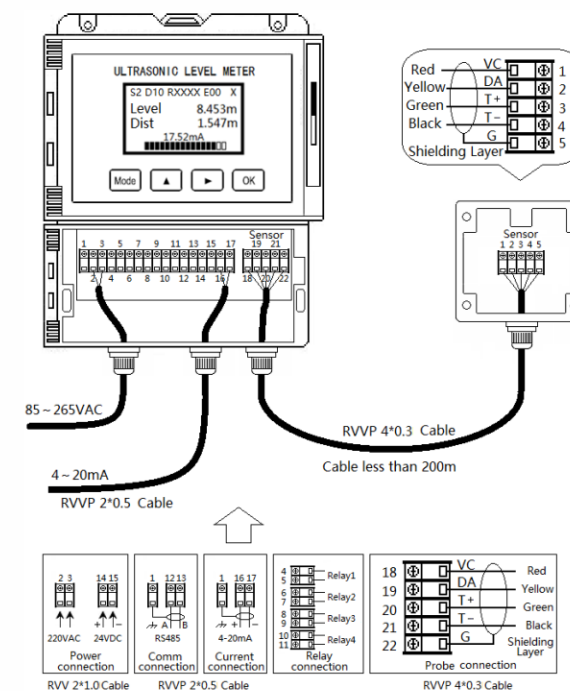
Specifications

Measuring range	0~10m,0~15m,0~20m
Blind area	0.35m
Ranging accuracy	0.3% (Standard condition)
Ranging resolution	1mm
Supply voltage	DC24V/AC220V
Output	4~20mA or Rs485 /ModBus-RTU
Protection grade	IP65
Ambient temperature	-20°C~+60°C
Pressure	Less than four atmospheric pressure

Dimensions Drawings



Electrical Connection



Installation

