HPT621

LEVEL
•DATASHEET•

1. Pressure Measurement   2. Level Measurement   3. Temperature Measurement
4. Flow Measurement   5. Display & Control Instruments
6.Wireless Monitoring System   7.Velocity Measurement

HPT 621

Industrial Capacitance Level Sensor
(Truck, Generator,Bus… Fuel Tank/Water tank /Underground tank…)

Applications

· Fuel / Oil /Diesel/Gasoline
· Water tanks and reservoirs
· Underground fuel tank
· Auto, Truck fuel storage
· Rooter, railway engine
· Sealed Pressure tank

Features

· Precise linear and temperature compensation
· Support local ZERO and SPAN calibration
· Surge, over-current and polarity resistant design
· Customize Max 300 Degree C High Temp Liquid
· Up to 0.1mm resolution,Min 7mm Bottom blind Zone
· Simple installation without any settings
· Sensitivity and hysteresis fluently adjustable
· Applicable for various non-conductive liquids

Profiles

HPT621 smart capacitance level sensors are designed for liquid level measurements where the levels are lower than 3 meter, for instance the fuel tank of automobile.

HPT621 smart capacitance level sensors features threads mounting and flange mounting. Both of the models are made from 316 stainless steel. 316 stainless steel allows the transmitters to be suitable for harsh environments and various measuring medium, such as oil, fuels, or other media compatible with 316 stainless steel.

As capacitive working principle, there are no moving parts in the transmitters, so the transmitters can provide excellent reliability. It can be customized high temperature type sensor (300℃）.

The smart capacitance level sensors capable of self-calibration. The user can realize the ZERO or RANGE self-calibration with two buttons or two lead lines to meet different requirements on various complex occasions. Each transmitter is factory calibrated according to the liquid type (or equivalent type) specified by customers so as to provide required accuracy.

Measuring range

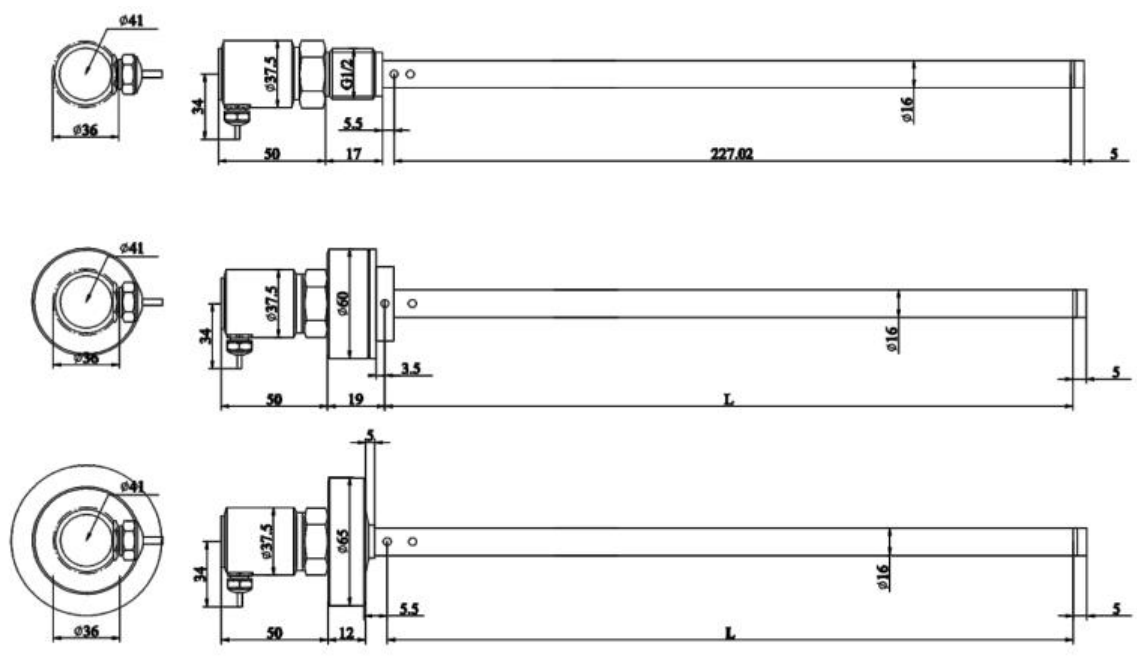| Level range	0 to 100mm... 0 to 3000mm

Materials

Wetted Parts	Standard	Optional
Case & sensor	Brass and PTFE	NA
Probe	Stainless steel 304	Stainless steel 316

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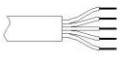## Specifications

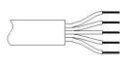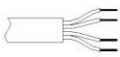Ambient Temperature: 25°C (unless specified)

Parameter	HPT621		
Probe Diameter	Φ16 mm (Typical); Φ12 mm (Customize)		
Overload	Standard atmosphere pressure or -1 Bar～10 Bar by customized		
Accuracy	≤ ±1.0%F.S(Typical); ≤ ±0.5%F.S(by customized)		
Resolution	0.1mm; 1 mm (RS485)		
Bottom Blind Zone	10mm(Standard).		
Stability	Standard: 0.1%F.S/year,Max: 0.15%F.S/year		
Medium working Temp.	-30 ℃ to 80℃ Standard , -40℃~300℃ by customized.		
Ambient Temp Span	-40 to +60 ℃		
Storage Temp.	-40 to +85 ℃		
Probe materials	304 stainless steel with PTFE/brass		
Electronic wire	3 wires type but with another two wires for calibration	3 wires type but with another two wires for calibration	4 wires Software for re-calibration
Output	4-20mA	0-5V	RS485 Modbus
Power Supply	11-33Vdc	12Vdc or 11-33Vdc	11-33Vdc
Zero Temp. Drift	0.2%f.s./10℃		
Temperature output	Suitable for CAN communication		
Electronic connection	Fixed cable by stainless steel cap and Explosion Proof and water proof IP67		
Process connection port	G1/2'' male, M20*1.5 male, Flanges 2.5''… (by customized)		
Response time	First time starting time≈2s; working status≤200 ms Diesel		
Medium compatible	gasoline; water and others liquid is customized		
EMC Standard	EN 61326-1:2013; EN 61326-2-3:2013; EN 61000-6-2:2005；EN61000-6-4:2007+A1		
Certificate	CE Certificate and Exia II CT6		

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Dimensions and Drawing

Unit, mm

Electronic Connections

Electronic Wire Connection			
Current	Red	Vcc+	
	Green	Signal+	
	Black	GND	
	Gray	Full range calibrate	
	White	Zero Point calibrate	
Voltage	Red	Vcc+	
	Black	GND	
	Green	Signal+	
	Gray	Full range calibrate	
	White	Zero Point calibrate	
Rs485 RTU Modbus	Red	Vcc+	
	Black	0Vcc-	
	Green	RS485A	
	White	RS485B	

S=Signal, Vcc=Power Supply, GND=Vcc-&S-

How to Order

1. Range Selection Table:

01	100mm	07	285mm	13	430mm	19	650mm	25	1000mm	31	1400mm	37	1700mm	43	2200mm	48	2800mm
02	150mm	08	300mm	14	450mm	20	660mm	26	1100mm	32	1450mm	38	1750mm	44	2250mm	49	3000mm
03	180mm	09	310mm	15	500mm	21	670mm	27	1200mm	33	1500mm	39	1800mm	45	2300mm		
04	200mm	10	350mm	16	525mm	22	690mm	28	1250mm	34	1550mm	40	1900mm	46	2350mm		
05	220mm	11	400mm	17	550mm	23	700mm	29	1300mm	35	1600mm	41	2000mm	47	2500mm		
06	250mm	12	420mm	18	600mm	24	800mm	30	1350mm	36	1650mm	42	2100mm	X	By Customized		

Kindly according to your application select suitable range code , Example: Code 10 =350mm.

2. Part Number Selection Table:

621 Selection Type		10	B	0	E6	S8	8	D	0	002
Range	Range reference to range selection table code									
Probe Diameter(mm)	B=16mm(standard type) C=12mm (by customized)									
Working Pressure	0=Standard Atmosphere Pressure 1=Sealed Pressure (-1Bar to 10 Bar) -Customized. 2=Special Pressure Grade -By Customized									
Signal Output	E6=0-5V(3 wires) E11=RS485 Modbus RTU (4 wires) E9=4-20 mA(3 wires)									
Power Supply	S5=12Vdc S8=11-33Vdc									
Process connection	8=M20x1.5 male 9=G1/2'' male 15=2.5'' Flange (63.5 mm) 4 holes X=By customized									
Measuring Medium	W=Water G=Gasoline D=Diesel X=Others liquid by customized									
Accuracy	0=1.0%F.S typical 1=0.5%F.S optional									
Cable length	000=Non-Cable 001= Cable 1m 002= Cable 2m X= By Customized									

Accessories

(Notes: Please purchase separately. For the price of accessories, please contact our sales.)

	Description	Order number
	Liquid level display control device With all kinds of liquid level sensor, measurement according to liquid level, and according to the setting of the container structure and size and the density of liquid, calculation, display liquid volume or quality.	0008
	Flange 4 holes 316 SS flange, size can be customized	0001
	Locking flange For locking cables, made of aluminum alloy	0029
	Conduit adapter 316 SS 1/2" NPT male cable conduit adapter.Must be factory installed.	0011
	Terminal box The terminal box, with IP67 ingress protection and watertight ventilation element, provides a moisture-free electrical termination for the submersible pressure transmitter. It should be mounted in dry environment or directly in the switch cabinet.	0003
	Additional weight The additional weight increases the dead weight of the submersible pressure transmitter.It simplifies the lowering into monitoring wells, narrow shafts and deep wells. It effectively reduces negative environmental influences on the measuring result from the measured medium (e.g. turbulent flow).Stainless steel 316L, approx. 1.46kg, height (H) 70 mm	0009
	Adapter Converter It is able to convert RS-232 signal to RS-485 balanced differential signal and extend the communication distance to 1.2km.It uses a particular pump to gain power from RS-232 signal (RTS, DTR, TXD) without initializing the RS-232 series interface.This interface converter does this without requiring any AC or DC power.	0005
	Surge electrostatic protector Anti-surge ±2000V/±4000V, anti-static 18KV, suitable for protecting 4-20ma and RS485 circuits.	0014

Ordering information

Model / Measuring range / Output signal / Temperature measurement / Cable material / Cable length / Case / Lightning protection / Accessories