

TECHNOLOGY

**HOLYKELL®**

**HPT604**  
**LEVEL**  
• DATASHEET •

1. Pressure Measurement   **2. Level Measurement**   3. Temperature Measurement  
4. Flow Measurement   5. Display & Control Instruments

# HPT 604 series

## Submersible Pressure Water Level Transducers & Transmitters

### Applications

- Irrigation Equipment
- Sea Water Level Measurement and Control
- Deep Well and Groundwater Monitoring
- Vessel and Storage Monitor Systems
- Control of Lift and Pumping Stations
- Surface Water Monitoring
- Dewatering

### Characters

- MEAS TE pressure cell, 0.25% F.S.,
- 316L stainless steel diaphragm, welded 316SS body construction shock and erosion
- Custom level ranges from 50cm to 500m
- Unique 8 pressure holes design
- IP68 full sealed plastic waterproof design
- Optional Lifetime Lightning Protection
- Custom PU, PE or PTFE cable lengths

### Profiles

HPT604 is a submersible level transducer suitable for liquid level and depth measurement. It consists of an imported MEAS TE piezoresistive sensing element encased in 316 SS housing. It's all stainless steel, hermetically sealed housing make it suitable. The given measuring ranges are also available in mbar, kPa and MPa. for immersion in most industrial liquids and oils.

Each submersible pressure transducer features a removable nose cone at the sensor which protects the diaphragm from damage. Units come equipped with a 270-pound tensile strength shielded and vented cable. Ventilation tube in the cable automatically compensates for changes in atmospheric pressure above the tank. The vent is protected with a maintenance free filter eliminating particulate or water droplets from entering the transducer.

The HPT604 incorporates lightning and surge protection utilizing dual arrestor technology, and to assure under the input and output short-circuit conditions to protect prevent reverse connection. The grounded to case, eliminating both power supply surges and lightning ground strike transients.

Holykell can provide a cost effective solution for level monitoring for a variety of applications. Welcome to your inquiry.



RoHS

### Measuring range

#### Measuring range

bar	0 to 0.05 ... 0 to 50
inWC	0 to 20 ... 0 to 20000
psi	0 to 1.0 ... 0 to 725
mH2O	0 to 0.5 ... 0 to 500

When choosing the PTFE cable, only measuring ranges up to 0 ... 10 bar, 0 ... 150 psi and 0 ... 100 mH2O are available. The given measuring ranges are also available in mbar, kPa and MPa

### Materials

Wetted Parts	Standard	Option
Case and sensor	Stainless steel 316	Ceramic Capacitor
Protection cap	Stainless steel 316	316/PTFE/PVC
Cable	PUR	PTFE

### Mounting position

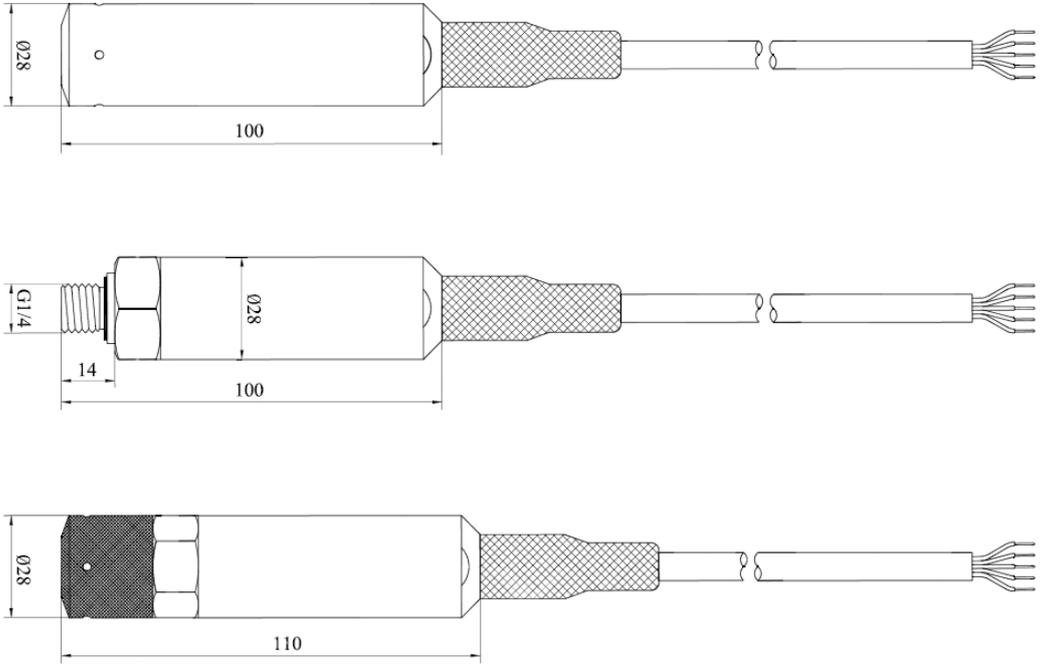
Calibrated in vertical mounting position with pressure connection facing downwards.

### Specifications

Ambient Temperature: 25°C (unless specified)

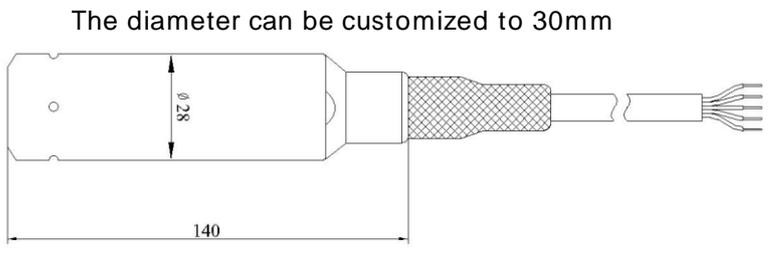
Parameter	HPT604					
Pressure Range	0-0.05 Bar.....50 Bar / 0-0.5M.....500M H2O Optional (See the P1 page description)					
Overload	200% F.S.					
Burst Pressure	300% F.S.					
Accuracy: (Linearity Hysteresis Repeatability)	≤ ±0.1%F.S    ≤ ±0.15%F.S    ≤ ±0.25%F.S Including non-lin., rep. and hys. Optional					
Long Stability	≤ ±0.2 % of span/year					
Working Temp	-30°C~80°C or -40°C~100°C(Customized)					
Storage Temp	-40°C~125°C					
Temperature Compensation	Standard:-10°C~60°C or by Customized					
Medium compatible	Compatible with 316L Stainless Steel					
Electronic Wire	2 Wires		3 Wires		4 wires	
Output	4~20mA	1~5V 0~5V	0~10 V	0.5~4.5 V Radiometric	0-100 mV/V	Rs485 Modbus RTU
Power Supply	12~30 V DC (7-30Vdc optional)		15~30 Vdc	5Vdc±5%	10 Vdc	10~30 Vdc (2.7-5.5Vdc optional)
Polarity protection	yes	yes	yes	yes	yes	yes
Insulate resistance	> 100M Ω@100V					
Zero Temp. Drift	0.03%FS/°C ( ≤100kPa ) ; 0.02%FS/°C ( >100kPa )					
FS Temp. Drift	0.003%FS/°C ( ≤100kPa ) ; 0.002%FS/°C ( >100kPa )					
Electronic connection	Fixed cable and water proof IP68					
Response time	≤4 to 10 ms (standard); ≤1 ms (Customized)					
Pressure Type	Gage pressure; Sealed gage and absolute optional.					
Certificate approving	ATEX intrinsic safety or ExdIICT6, TUV RoHS and CE Certificate approving					
EMC Standard	EN 61326-1:2013; EN 61326-2-3:2013 EN 61000-6-2:2005; EN61000-6-4:2007+A1					
Lighting Protection (optional functions)	Air conduction more than 8000V; external sensor more than 4000 Voltage protection.					
Cable optional	Cable materials are optional according request, we offer 3 type special cable as follow: PE Cable ( Water Proof ) ; PUR Cable ( Oil Proof ) ; PTFE Cable ( Anti-Corrosive )					
Weight	Net weight is about 0.35KG, Full Packing weight is about 1.0 KG (Not Include Cable)					

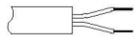
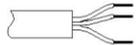
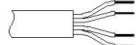
**Dimensions and Drawing**



Unit: mm

**Electronic Connections**



		Directly sealed cable	
	Current	Red	Vcc+
		Green	S+(0Vcc)
		Black	Shield Wire
	Voltage	Red	Vcc+
		Green	Vcc-&S-(GND)
		Yellow	S+
		Black	Shield Wire
	Rs485 RTU Modbus	Red	Vcc+
		Green	0Vcc-(GND)
		Yellow	RS485A
		Black	RS485B

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

### How to Order

#### 1. Range Selection Table:

00	0~0.5	01	0~1.0	02	0~1.1	03	0~1.2	04	0~1.3	05	0~1.4	06	0~1.5	07	0~1.6	08	0~1.7
09	0~1.8	10	0~1.9	11	0~2	12	0~2.1	13	0~2.2	14	0~2.3	15	0~2.4	16	0~2.5	17	0~3
18	0~4	19	0~5	20	0~6	21	0~7	22	0~8	23	0~10	24	0~12	25	0~15	26	0~16
27	0~20	28	0~25	29	0~30	30	0~35	31	0~40	32	0~50	33	0~60	34	0~80	35	0~100
36	0~150	37	0~200	38	0~250	39	0~300	40	0~500	X	By Customized						

Kindly according to your application select suitable range code , Example: code 19 = 5 .  
 Unit of measure select on the Part Number Selection Table . Example: Code H=mH2O , that's 5m H2O

#### 2. Part Number Selection Table:

<b>HPT604</b>	<b>19</b>	<b>H</b>	<b>G</b>	<b>S10</b>	<b>E11</b>	<b>HW</b>	<b>TF</b>	<b>1</b>	<b>002</b>
Selection Type									
Pressure Range	Range reference to range selction table code								
Pressure & Level Units	H=m H2O (Min: 0.5 mH2O; Max:500 mH2O ) F=m Fuel (Min: 0.5 m Fuel; Max:500 m Fuel ) B=Bar (Min: 0.05Bar Max: 50Bar) P=Psi (Min:1Psi; Max:725Psi) K= kPa (Min:5 kPa; Max:5000 kPa) I= inWC (Min: 20 inWC; Max: 20000 inWC ) MB= mbar (Min: 50 mbar Max: 50000 mbar)								
Pressure type	G=Gauge/Relative pressure type (universal) A=Absolute pressure (customized)								
Power Supply	S3=24 V DC (standard)    S5=12 V DC    S6=5 V DC (for code E11) S10=12 ~ 30 V DC    S17=10 ~ 30 V DC (for code E11) S16=2.7-5.5 V DC (for code E11)								
Signal Output	E5= 4-20mA    E0=1-5 V (3 wires)    E6=0-5 V (3 wires) E7=0-10 V (3 wires)    E11= RS485(MODBUS) E8= 0.5-4.5 V (3 wires)    X= By Customized								
Measuring Medium	CW= Water HW= Max 100 degree C geothermal water								
Others Function (Optional)	N= Standard Type (with short filter)    TF= With Tapered Filter Covers PT= PTFE materials cap    TA= Titanium alloy materials (high cost!) AN= Anti-corrosion type (high cost!) LP=Lightning protection    AW=Additional weight								
Accuracy	1=0.5%F.S.    2=0.25%F.S    3=0.1%F.S (high cost!)    4=0.15%F.S(by customized)								
Cable length	001= Cable 1M    002= Cable 2M    003= Cable 3M XXX= By Customized								

**Accessories**

	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
	NPT adapter The 316 SS G1/2 adapter replaces the removable protective cap and converts the threads to 1/2"NPT male external, 1/4" female internal threads.	0001
	Surge Protector (Lightning Arrestor)14052336 This DIN rail mounted surge protector is designed to protect PMC transmitters to a maximum discharge current of 20 kA.	0007
	Conduit adapter 316 SS 1/2" NPT male cable conduit adapter. Must be factory installed	0011
	Terminal box The terminal box, with IP 67 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. 500 g, length (L) 130 mm	0009
	<b>Adapter Converter</b> 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
	<b>Desiccant drying cartridge</b> Desiccant Pack installed on Vented Transducer cable. The cartridge will have to be field replaced as site environment requires.	0010

**Ordering information**

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