

TECHNOLOGY

HOLYKELL®

HPT604-A

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 604-A 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

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

Profiles

HPT604-A is a submersible level transducer suitable for liquid level and depth measurement. It consists of an imported TE piezoresistive sensing element encased in 316L 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.

HPT604-A 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 your inquiry.



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 strong steel 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
Sensor	Stainless steel 316	Titanium alloy
Housing&Filter	Stainless steel 316	Titanium alloy
Cable	PE	PU/FEP

Mounting position

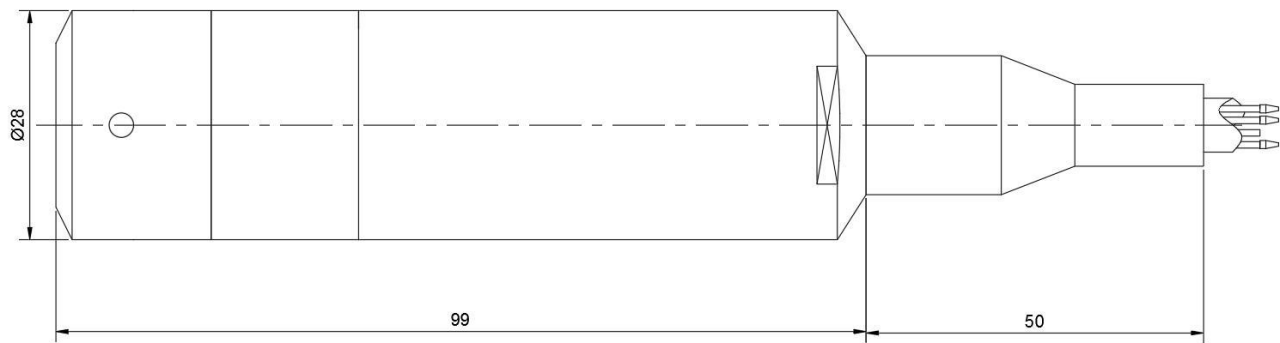
Calibrated in vertical mounting position with pressure connection facing downwards.

Specifications

Ambient Temperature: 25°C (unless specified)

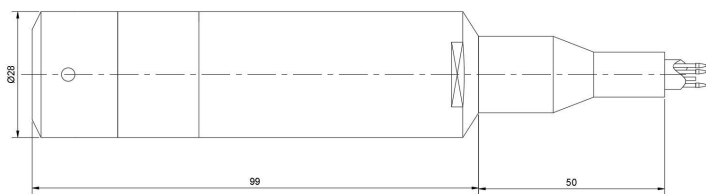
Parameter	HPT604-A					
Pressure Range	0-0.05 Bar.....50 Bar / 0-0.5m.....500m H ₂ O Optional (See P1 page description)					
Overload	150% F.S.					
Burst Pressure	500% F.S.					
Accuracy:	≤ ±0.5%F.S		≤ ±0.25%F.S (on request)			
(Linearity Hysteresis Repeatability)	Including non-lin., rep. and hys. Optional					
Long Stability	≤ ±0.2%F.S. of span/year					
Working Temp	-30℃~70℃ or -40℃~100℃ (Customized)					
Storage Temp	-40℃~85℃					
Temperature Compensation	0℃~50℃ or by Customize					
Medium compatible	Compatible with 316L Stainless Steel					
Electronic Wire Output	2 Wires		3 Wires			4 wires
	4~20mA	1~5V; 0~5V;0~10V	SDI-12	0.5~4.5V Radiometric	mV Signal	RS485 Modbus RTU
Power Supply	7~30Vdc	12~30Vdc	12Vdc	5Vdc±5%	5...10Vdc	10~30Vdc (3.3-12Vdc optional)
Polarity protection	Yes	Power wires-Yes; Signal Wires-Yes, Power&Signal Wires-No!				
Insulate resistance	> 100M Ω@50V					
Zero Temp. Drift	0.05%FS/℃ (≤100kPa) ; 0.05%FS/℃ (>100kPa)					
FS Temp. Drift	0.05%FS/℃ (≤100kPa) ; 0.04%FS/℃ (>100kPa)					
Electronic connection	Fixed cable and water proof IP68					
Response time	≤10 ms					
Pressure Type	Gauge pressure; Sealed gauge 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 to request, we offer 3 types of special cables as follow: PE Cable (Water Proof) ; PU Cable (Oil/Fuel Proof) ; FEP Cable (Anti-Corrosive)					
Weight	Net weight is about 0.35KG, Full Packing weight is about 1.0 KG (Excluding Cable)					

Dimensions and Drawing



Unit: mm

Electronic Connections



Directly sealed cable			
	Current	Red	V _{cc} +
		Green	I _{out}
		Yellow	Earth wire
	Voltage	Red	V _{cc} +
		Green	V _{out} +
		Yellow	Earth wire
		Black	GND
	RS485 RTU Modbus	Red	V _{cc} +
		Green	RS485+
		Black	GND
		Yellow	Earth wire
		Blue	RS485-

V_{cc}=Power Supply,GND=V_{cc}-&V_{out}-

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:

HPT604A Selection Type	19	H	G	E11	S10	HW	N	1	002
Range	Range reference to range selection table code								
Pressure & Level Units	H=m H ₂ O (Min: 0.5 mH ₂ O; Max:500 mH ₂ O) 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)								
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); E16=SDI-12 E8= 0.5-4.5 V (3 wires) X= By Customized								
Power Supply	S3=24Vdc S5=12Vdc S6=5Vdc (for code E11) S10=12 ~ 30Vdc S17=10 ~ 30Vdc (for code E11) S16=3.3-12Vdc (for code E11)								
Measuring Medium	CW= Water HW= Max 100 degree C geothermal water								
Others Function (Optional)	N= Standard Type (with short filter) TA =Titanium alloy process materials (high cost!) AN= Anti-corrosion type (for lower than 10m level range situation) AW=Additional weight EM=1/2"NPT male Electronic connector mounting NF=Nylon Filter Cover								
Accuracy	1=0.5%F.S(Typical) 2=0.25%F.S(by customize)								
Cable length	001= Cable 1m 002= Cable 2m 003= Cable 3m; X= By Customized								

Accessories

(Notes: Purchased 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 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. 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 $\pm 2000V/\pm 4000V$, 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