TECHNOLOGY

HOLYKELL®

HPT604

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 (Type A)

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

Features

·GE 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

HPT604A is a submersible level transducer suitable for liquid level and depth measurement. It consists of an U.S.A imported GE piezoresistive sensing element encased in 316L housing. It's all stainless steel, hermetically sealed housing makes it suitable 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.

HPT604A incorporates lightning and surge protection utilizing dual arrestor technology, and assures under the input and output short-circuit conditions to prevent reverse connection. It also eliminates 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 FEP 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	Optional
Sensor	Stainless steel 316L	Titanium alloy
Housing & filter cap	Stainless steel 316L	Titanium alloy
Cable	PE	PU/FEP

Mounting position

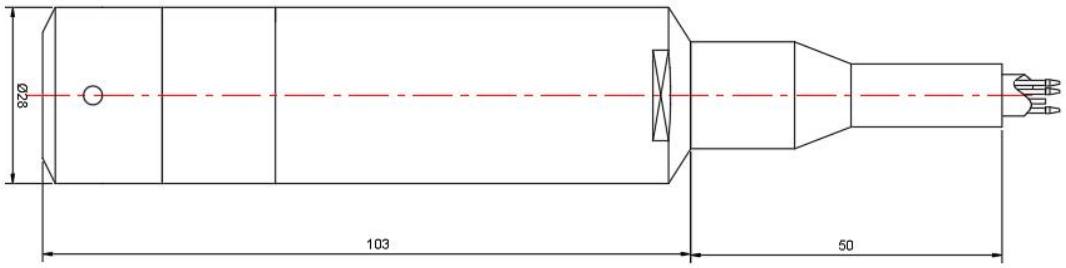
Calibrated in vertical mounting position with pressure connection facing downwards.

Specifications

Ambient Temperature: 25°C (unless specified)

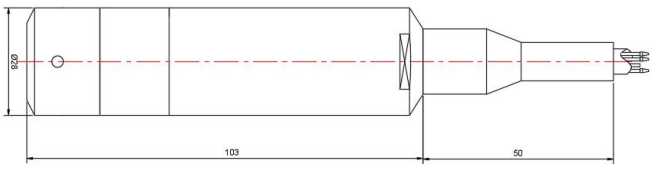
Parameter	HPT604 (Type A)						
Pressure Range	0-50bar/500m (See Page 1 description). Others by request						
Overload	150% F.S						
Burst Pressure	500% F.S						
Accuracy(Linearity, Hysteresis,Repeatability)	≤ ±0.5%F.S(Typical); ≤ ±0.25%F.S (optional), 0.1%F.S (by customized) @25°C including non-lin., rep. and hys. optional						
Long-term Stability	≤ ±0.2%F.S/ year						
Working Temp.	-40 °C to +85°C						
Medium Temp.	0°C to +70°C						
Storage Temp.	-40°C to +85°C						
Temp.Compensation	0°C to 50°C; -10°C to 70°C (Range > 200 kPa / 20 mH_2O)						
Medium Compatible	Compatible with 316L Stainless Steel						
Electrical Wire	2 Wires		3 Wires				4 Wires
Signal Output	4-20mA	Double Current Signal (4-20mA for P/L+Temp)	1-5 V;0-5 V	0-10 V	0.5-4.5 V	SDI-12	RS485 Modbus RTU
Power Supply	7-30 V DC	12-30 V DC	8-30 V DC	13-30 V DC	5 V DC±5%	12 V DC	3.6-5 V DC / 8-30 V DC
Polarity Protection	The power lines feature reverse polarity protection; however, the signal lines do not have reverse polarity protection against the positive power supply and must not be cross-connected.						
Insulation Resistance	> 100M Ω@100V						
Zero-point Temp. Drift	0.01%FS/°C						
Full scale Temp. Drift	0.005%FS/°C						
Power Consumption	24V: 2.8mA; 12V: 5.1mA; 5V: 10.1mA						
Electrical Connection	Fixed cable with vented tube and water proof IP68						
Response Time	≤20 ms(Current and voltage signals); ≤100 ms (digital signals)						
Pressure Type	Gauge pressure; Sealed gauge and absolute optional						
Certificate	ATEX (II 1G Ex ia IIC T5 Ga), TUV, RoHS and CE						
EMC Standard	EN 61326-1:2013; EN 61326-2-3:2013 EN 61000-6-2:2005; EN61000-6-4:2007+A1						
Surge & Lightning Protection	Surge ±2000V (digital); Air discharge ±8000V; contact discharge ±6000V						
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)						
Note	80m max for SDI-12 signal						

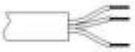
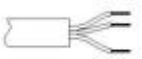
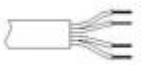
Dimensions and Drawing



Unit: mm

Electrical Connections



	Cable-out		
	Current	Red	U+
		Green	Iout(U-)
		Yellow	⏚ Connect to earth ground
	Current (4-20mA P/L+T)	Red	U+
		Green	Iout(U-)
		Yellow	⏚ Connect to earth ground
		Blue	T
	Voltage/ SDI-12	Red	U+
		Green	Vout(for voltage) Signal (for SDI-12)
		Yellow	⏚ Connect to earth ground
		Black	U-
	RS485 RTU Modbus / Dual RS485 P/L+T)	Red	U+
		Black	U-
		Green	RS485A
		Blue	RS485B
		Yellow	⏚ Connect to earth ground

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=mH_2O , that's 5m H_2O

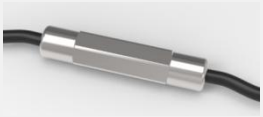
2.Part Number Selection Table:

604 Selection Type	**A** (Type A)	**19**	**H**	**G**	**E5**	**S11**	**CW**	**N**	**1**	**002**
Range	Range reference to range selection table code									
Pressure & Level Units	H=m H2O(Min: 0.5 mH2O; Max:500 mH2O) 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=4-20 mA E6=0-5 V E7=0-10 V E21=0.5-4.5 V non-ratiometric (default) E8= 0.5-4.5 V ratiometric (by customized) E11=RS485 (MODBUS) E60=Dual RS485 (P/L+T) E16=SDI-12 E22=Dual 4-20mA(P/L+T) E0=1-5V X= By Customized									
Power Supply	S6=5 V DC S5=12 V DC S11=7-30 V DC S12=8-30 V DC S62=3.6-5 V DC S17=10-30 V DC S43=13-30 V DC X= By customized									
Measuring Medium	CW= Water HW= Max 100 °C geothermal water									
Others Function (Optional)	N= Standard Type TAP =Titanium alloy process materials (high cost!) ANC= Anti-corrosion type (for lower than 10 m level range situation) AW=Additional weight 10=1/2"NPT male electronic connector mounting									
Accuracy	1=0.5%F.S (Typical) 2=0.25%F.S (optional) 4=0.1%F.S (by customized)									
Cable length	001= Cable 1 m 002= Cable 2 m 003= Cable 3 m X= By customized									

Example of a complete PN: 604A19HGE5S11CWN1002
(Model: HPT604A, level range 0-5m, gauge type, 4-20 mA, 7-30 V DC, measuring water, standard type, 0.5%F.S accuracy with 2 meters cable)

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
	**Locking flange** For locking cables, made of aluminum alloy	0029
	**IP68 rated deep water level cable extender** Mainly used to extend the cable of deep water level transmitter. Users can rewire it locally. It can work continuously for more than 10 years 500 meters underwater, and the safe tensile strength of the cables at both ends can reach 200N	0028
	Desiccant drying cartridge Desiccant Pack installed on Vented Transducer cable.The cartridge will have to be field replaced as site environment requires.	0010
	**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, 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 4-20 mA and RS485 circuits.	0014

Ordering information

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

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