

TECHNOLOGY

HOLYKELL[®]

HPT603 **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 603

Submersible Pressure Water Level Transducer & Transmitter



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
- Level Measurement in Oil Tanks
- Monitoring of Gasoline & Diesel Fuel Tanks

Features

- GE pressure cell, 0.5% F.S
- 316L stainless steel diaphragm, 316L body construction shock and erosion
- Custom level ranges from 50cm to 200m
- Customization installation thread
- IP68 full sealed waterproof design
- Lightning and Surge Protection
- Custom PU, PE or FEP cable lengths

Profiles

HPT603 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 make 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.

HPT603 incorporates lightning and surge protection utilizing dual arrestor technology, and assures under the input and output short-circuit conditions to prevent reverse connection. It 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.



RoHS

Measuring range

bar	0 to 0.05 ... 0 to 20
inWC	0 to 20 ... 0 to 8000
psi	0 to 1.0...0 to 300
mH2O	0 to 0.5...0 to 200

When choosing the PTFE cable, only measuring ranges up to 0 ...2 bar, 0..30 psi and 0 ... 20 mH2O are available.

The given measuring ranges are also available in mbar, KPa and MPa

Materials

Wetted Parts	Standard	Optional
Case & sensor	Stainless steel 316L	Flush Ceramic
Protection cap	NA	NA
Cable	PUR/PE	FEP

Mounting position

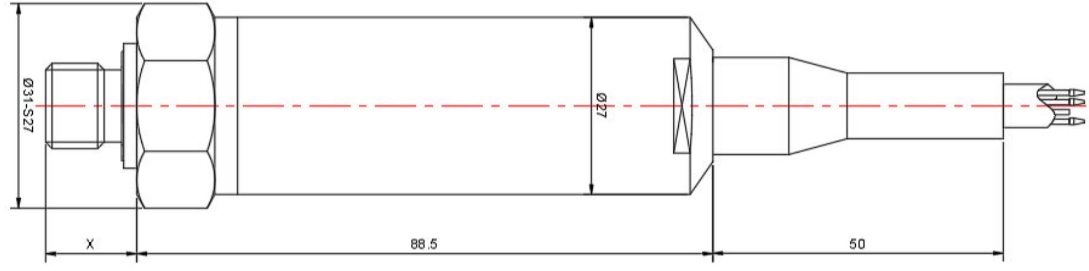
Calibrated in vertical mounting position with pressure connection facing downwards.

Specifications

Ambient Temperature: 25°C (unless specified)

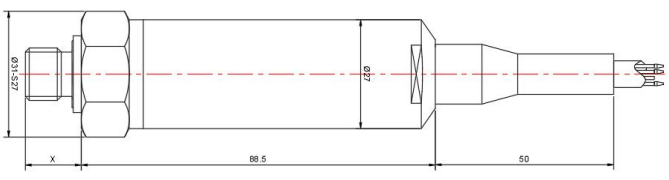
Parameter	HPT603				
Pressure Range	0-0.05 Bar.....20 Bar / 0-0.5m...200m H2O optional				
Overload	150% F.S				
Burst Pressure	500% F.S				
Accuracy (Linearity, Hysteresis, Repeatability)	≤ ±0.5%F.S @25°C; (≤ ±0.25%F.S@25°C by customized) including non-lin., rep. and hys. optional				
Long-term Stability	≤ ±0.2% FS/year				
Working Temp.	-40 to +80°C(non-corrosive medium)				
Storage Temp.	-40 to +80°C(Nitrile rubber sealing ring); -20 to +80°C(fluororubber rubber sealing ring)				
Temperature Compensation	0 to +50°C				
Medium Compatible	Compatible with 316L Stainless Steel				
Electrical Wire	2 Wires	3 Wires			4 wires
Output	4-20 mA	1-5 V;0-5 V	0-10 V	0.5-4.5 V	RS485 Modbus RTU
Power Supply	7-30 V DC	8-30 V DC	13-30 V DC	5 V DC±5%	3.5-36 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				
Process Connection	G1/2" male, M20*1.5 male, 1/4"NPT male; M10*1 male Flange mounting, 2", 3", 4" flange or by customized				
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), IECEx, TUV RoHS and CE Certificate				
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 request, we offer 3 type special cable as follow: PE Cable (Water Proof); PU Cable(Oil/Fuel Proof); FEP Cable(Anti-Corrosive)				

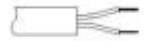
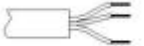

Dimensions and Drawing



Unit: mm

Electronic Connections



		Direct cable outlet	
	Current	Red	U+
		Green	Iout(U-)
		Yellow	⊥ Connect to earth ground
	Voltage	Red	U+
		Green	Vout
		Yellow	⊥ Connect to earth ground
		Black	U-
	RS485 RTU Modbus	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	X	By Customized												

Kindly according to your application select suitable range code , Example: code 23 = 10 .







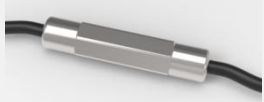
Unit of measure select on the Part Number Selection Table . Example: Code H=m H₂O, that's 10m H₂O .

2. Part Number Selection Table:

603 Selection Type	23	H	G	E5	S11	3	CW	N	1	003
Range	Range reference to range selection table code									
Pressure & Level Units	H=m H ₂ O (Min: 0.5 mH ₂ O; Max:200 mH ₂ O) B=Bar(Min: 0.05 bar Max: 20 bar) P=Psi(Min:1Psi; Max:300Psi) K= kPa (Min:5 kPa; Max:2000 kPa) I= inWC (Min: 20 inWC; Max: 8000 inWC) MB= mbar (Min: 50 mbar Max: 20000 mbar)									
Pressure type	G=Gauge/Relative pressure type (universal) A=Absolute pressure (customized)									
Signal Output	E5=4-20 mA(2 wires) E6=0-5 V(3 wires) E7=0-10 V(3 wires) E21=0.5-4.5 V non-ratiometric (default, 3 wires) E8=0.5-4.5 V ratiometric (by customized, 3 wires) E0=1-5 V(3 wires) E11=RS485(MODBUS) X= By Customized									
Power Supply	S6=5 V DC S10=12-30 V DC S11=7-30 V DC S12=8-30 V DC S42=3.5-36 V DC S43=13-30 V DC X= By Customized									
Pressure connection	6=G1/4" male (Typical) 3=1/4" NPT male 7=G1/4" Female 8=M20x1.5 male 9=G1/2" male 10=1/2" NPT male 26=1/4"-18 NPT Female 11=M10x1.0 male X= By Customized									
Measuring Medium	CW=Water SW=Sea water D1=0.84g/cm ³ density diesel D2=0.83g/cm ³ density diesel D3=0.85g/cm ³ density diesel D4=0.86g/cm ³ density diesel X=By Customized									
Others Function (Optional)	N=Standard Type TAP=Titanium alloy process materials T=With Temperature Sensor/Output (only RS485) ELP=With external surge and lightning protection box/device									
Accuracy	1=0.5%F.S (Typical) 2=0.25%F.S(by customized) 3=0.1%F.S(by customized)									
Cable length	001= Cable 1M 002= Cable 2M 003= Cable 3M X= By Customized									

Accessories

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

	Description	Order number
	<p>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.</p>	0008
	<p>Desiccant drying cartridge Desiccant Pack installed on Vented Transducer cable. The cartridge will have to be field replaced as site environment requires.</p>	0010
	<p>Locking flange For locking cables, made of aluminum alloy</p>	0029
	<p>Surge electrostatic protector Anti-surge $\pm 2000V/\pm 4000V$, anti-static 18KV, suitable for protecting 4-20ma and RS485 circuits.</p>	0014
	<p>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.</p>	0003
	<p>Adapter Converter It is able to convert RS232 signal to RS485 balanced differential signal and extend the communication distance to 1.2km. It uses a particular pump to gain power from RS232 signal (RTS, DTR, TXD) without initializing the RS232 series interface. This interface converter does this without requiring any AC or DC power.</p>	0005
	<p>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</p>	0028

Ordering information

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