TECHNOLOGY

HOLYKELL®

HPT604-BH

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-BH series

High Precision and Stable Type Submersible Analog&Digital Pressure Fuel Level Transducers&Transmitters

Applications

- Level Measurement in Bio-Fuels
- Monitoring of Gasoline & Diesel Fuel Tanks
- Level Measurement in Ballast Tanks
- Level Measurement in Ground Water Level
- Monitoring of Irrigation Equipment
- Control of Pumping Stations

Features

- Imported TE pressure cell, 0.25% F.S.
- Survives Harsh Environments
- EMI/RFI Protection
- Custom level ranges from 50cm to 200m
- Optional PT100 temperature measurement
- IP68 full sealed plastic waterproof design
- CE, RoHS and ATEX Approved
- Custom PU, PE or FEP cable length

Profiles

HPT604-BH series digital pressure level transducer with high stable and reliable, which uses USA TE pressure chips and high accurate circuit board into the stainless steel housing. Integrated construction and standard signal provide the user easy and convenient application in the local working place. The special cable connects with housing, can be immersed into the media for a long time.

HPT604-BH designed incorporating with monolithic computer technology and sensor digital conversion technology, which core component adopts 24-bit AD MCU micro-processor to ensure high quality of the transducer relaying on its strong function and high speed operation capacity.

The overall designed framework is to meet the requirements of increasingly enhanced industrial site application with a view to reliability, stability, high accuracy and the product also features strong function and without manually operating device to ensure good interaction. Application digital signal processing technology is made for good disturbance immunity. It's also feature zero point automatic stable follow up capacity and temperature automatic compensation.

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 20
inWC	0 to 20 … 0 to 8000
psi	0 to 1.0… 0 to 300
mH2O/Fuel	0 to 0.5 … 0 to 200

When order sensor for gasoline/petrol, please choosing the FEP cable.
The given measuring ranges are also available in mbar, KPa and MPa.

Materials

Wetted Parts	Standard	Optional
Sensor	Stainless steel 316L	Titanium Alloy
Housing & Protection cap	Stainless steel 304	316L/PVDF/Titanium Alloy
Cable	PUR	FEP

Mounting position

Calibrated in vertical mounting position with pressure connection facing downwards.

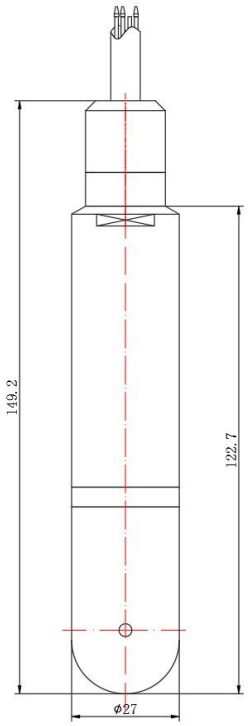
Specifications

Ambient Temperature: 25°C (unless specified)

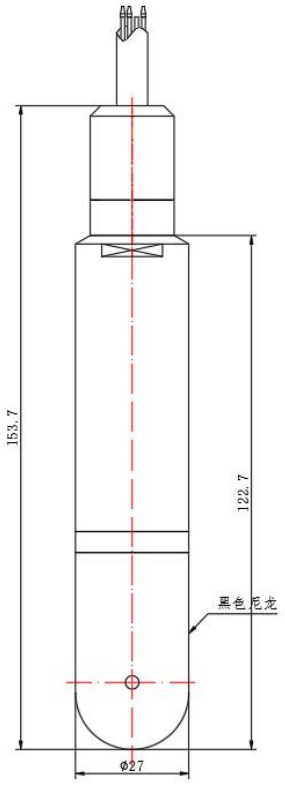
Parameter	HPT604 (BH Type)						
Pressure Range	0-0.05 Bar…..20 Bar / 0-0.5M……..200m fuel level Optional (See P1 page description) * 80m max for SDI-12 signal						
Overload	200% F.S.						
Burst Pressure	500% F.S.						
Accuracy	Better than ±0.25%F.S@25 degree C (Typical for 1m to 50m range)						
(Linearity Hysteresis	Including non-lin., rep. and hys.						
Repeatability)							
Long-term Stability	≤ ±0.1% of span/year						
Working Temp.	-30-80℃(non-corrosive medium)						
Storage Temp.	-40℃~80℃						
Temperature Compensation	-10~80℃						
Medium compatible	Compatible with 304 Stainless Steel						
Electrical Wire	2 Wires			3 Wires			4 wires
Output	4-20mA	0-5V;1-5V	0-10V	0.5-4.5V non-ratiometric	SDI-12	Dual 4-20mA	RS485 Modbus RTU
Power Supply	7-30Vdc	8-30Vdc	13-30Vdc	5Vdc±5%	12Vdc	12-30VDC	3.5-36Vdc
Polarity protection	Yes	Power wires-Yes; Signal Wires-Yes, Power&Signal Wires-No!					
Insulate resistance	> 100M Ω@50V						
Zero Temp. Drift	0.01%FS/℃（≤100kPa）；0.01%FS/℃（>100kPa）						
FS Temp. Drift	0.01%FS/℃（≤100kPa）；0.01%FS/℃（>100kPa）						
Electrical connection	Fixed cable and water proof IP68						
Response time	≤4 ms						
Pressure Type	Gauge pressure and absolute optional.						
Certificate	Exia IICT6, 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						
Lightning 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 cables as follow: PE Cable（Water Proof）; PUR Cable（Oil/Fuel Proof）; FEP Cable（Anti-Corrosive）						

Dimensions and Drawing

Unit, mm

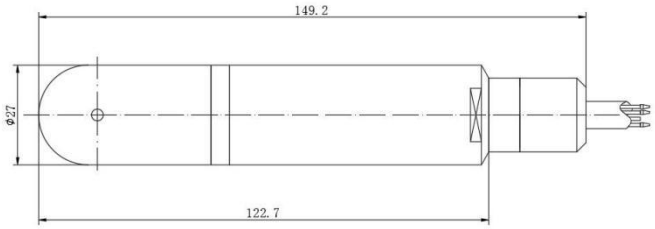


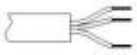
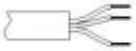
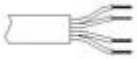
Full stainless steel housing



Stainless steel housing with black filter cover

Electrical Connections



	Directly cable outlet		
	Current	Red	V_{cc}+
		Green	S_i+
		Yellow	Shield
	Current (4-20mA P/L+T)	Red	V_{cc}+
		Green	S_i+
		Yellow	Shield
		Blue	T
	Voltage/ SDI-12	Red	V_{cc}+
		Green	V_{out}(for voltage) S(for SDI-12)
		Yellow	Shield
		Black	GND
	RS485 RTU Modbus	Red	V_{cc}+
		Black	GND
		Green	RS485A
		Blue	RS485B
		Yellow	Shield

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 19 = 5 .
Unit of measure select on the Part Number Selection Table . Example: Code F=m Fuel , that's 5m Fuel

2. Part Number Selection Table:

604BH Selection Type	**11**	**F**	**G**	**E5**	**S11**	**D3**	**N**	**1**	**003**
Range	Range reference to range selection table code								
Pressure & Level Units	F=m Fuel (Min: 0.5 m Fuel; Max:200 m Fuel) 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: 2000 mbar)								
Pressure type	G=Gauge/Relative pressure type (universal) A=Absolute pressure (customized)								
Signal Output	E5=4-20mA(2 wires) E6=0-5V(3 wires) E7=0-10V(3 wires) E8=0.5-4.5V(3 wires) E11=RS485(MODBUS) E16=SDI-12 E22=Dual 4-20mA(P/L+T)(3 wires) E0=1-5V(3 wires) X= By customized								
Power Supply	S6=5Vdc S5=12Vdc S10=12-30Vdc S11=7-30Vdc S12=8-30Vdc S42=3.5-36Vdc S43=13-30Vdc S17=10-30Vdc X= By customized								
Measuring Medium	CW=Water D1=0.84g/cm3 density diesel D2=0.83g/cm3 density diesel D3=0.85g/cm3 density diesel D4=0.86g/cm3 density diesel G2=0.725g/cm3 density gasoline G5=0.737g/cm3 density gasoline X=Others Liquid and Density By customized								
Others Function (Optional)	N= Standard Type (with short filter) T=With Temperature Sensor/Output (only RS485) PFC=PTFE material cap/filter cover PPC=PP material white color cap/filter cover MFC=POM materials black color cap/filter cover FC=FEP Cable								
Accuracy	2=0.25%F.S (Typical) 1=0.5%F.S (temp 0 to 50 ℃) 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
	**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

HOLYKELL TECHNOLOGY COMPANY LIMITED
•www.holykell.com•
•E-mail: info@holykell.com
•Tel : +86 731 89873265
•Fax: +86 731 89873646