

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 BH)

Highly Precise and Stable Type
Submersible Analog & Digital Pressure
Fuel Level Transducer & Transmitter

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

The HPT604-BH series digital pressure level transducer offers high stability and reliability, featuring a USA TE pressure chip and precision circuit board housed in robust stainless steel. Its integrated design and standard output signal allow for easy and convenient operation in local working conditions. The specially designed cable enables long-term immersion in the measured media.

The HPT604-BH incorporates monolithic computing and sensor digital conversion technologies. Its core 24-bit AD MCU microprocessor ensures high performance, fast operation, and reliable measurements.

Engineered for demanding industrial environments, the transducer delivers high accuracy, stability, and robust functionality without the need for manual operation. Advanced digital signal processing provides excellent interference immunity, along with automatic zero-point tracking and temperature compensation for consistent performance.

Holykell offers cost-effective level monitoring solutions for a wide range of applications. Inquiries are welcome.



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/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/Titanium Alloy
Cable	PUR	FEP

Mounting position

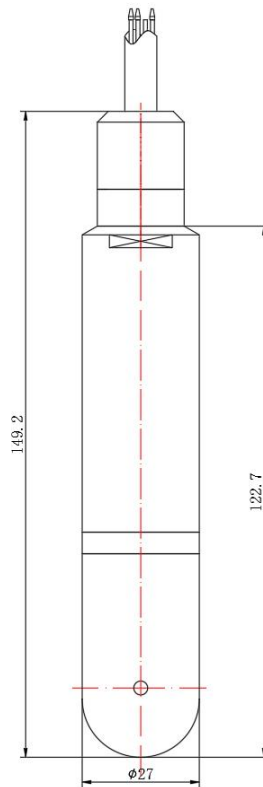
Calibrated in vertical mounting position with pressure connection facing downwards.

Specifications

Ambient Temperature: 25°C (unless specified)

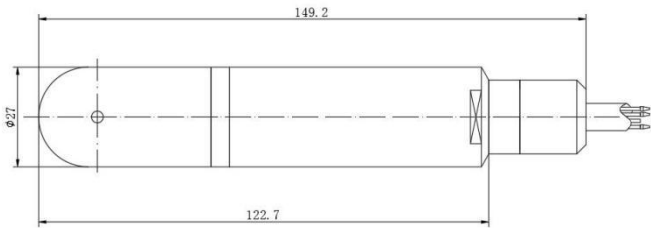
Parameter	HPT604 (Type BH)						
Pressure Range	0-0.05 Bar.....20 Bar / 0-0.5M.....200m fuel level Optional (See P1 page description) * 80m max for SDI-12 signal						
Overload	200% F.S.						
Burst Pressure	500% F.S.						
Accuracy	Better than $\pm 0.25\%$ F.S @25°C (Typical for 1m to 50m range)						
(Linearity Hysteresis Repeatability)	Including non-lin., rep. and hys.						
Long-term Stability	$\leq \pm 0.1\%$ of span/year						
Working Temp.	-30-80°C (non-corrosive medium)						
Storage Temp.	-40°C~80°C						
Temperature Compensation	-10~80°C						
Medium Compatible	Compatible with 304 Stainless Steel						
Electrical Wire	2 Wires		3 Wires			4 wires	
Output	4-20 mA	0-5 V; 1-5 V	0-10 V	0.5-4.5 V	SDI-12	Dual 4-20 mA	RS485 Modbus RTU
Power Supply	7-30 V DC	8-30 V DC	13-30 V DC	5 V DC $\pm 5\%$	12 V DC	12-30 V DC	3.5-36 V DC
Polarity Protection	Yes Power wires-Yes; Signal Wires-Yes, Power&Signal Wires-No!						
Insulate Resistance	> 100M Ω @50V						
Zero Temp. Drift	0.01%FS/°C(≤ 100 kPa); 0.01%FS/°C(>100kPa)						
FS Temp. Drift	0.01%FS/°C(≤ 100 kPa); 0.01%FS/°C(>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

Electrical Connections



Direct cable outlet		
	Current	Red U+
		Green Iout(U-)
		Yellow \perp Connect to earth ground
	Current(4-20mA P/L+T)	Red U+
		Green Iout(U-)
		Yellow \perp Connect to earth ground
		Blue T
	Voltage/SDI-12	Red U+
		Green Vout(for voltage) Signal(for SDI-12)
		Yellow \perp Connect to earth ground
		Black U-
	RS485 RTU Modbus	Red U+
		Black U-
		Green RS485A
		Blue RS485B
		Yellow \perp 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 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:

604 Selection Type	BH (Type BH)	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) E21=0.5-4.5V non-ratiometric (default, 3 wires) E8=0.5-4.5V ratiometric (by customized, 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=5 V DC S5=12 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 S17=10-30 V DC 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 T=With Temperature Sensor/Output (only RS485) FC=FEP Cable									
Accuracy	2=0.25%F.S (Typical) 1=0.5%F.S (temp 0 to 50°C) 3=0.1%F.S (By customized)									
Cable length	001= Cable 1m 002= Cable 2m 003= Cable 3m X= By customized									

Example of a complete PN: 604BH11FGE5S11D3N1003

(Model: HPT604-BH, fuel level range 0-2m, gauge type, 4-20mA, 7-30 V DCsupply, 0.85g/cm3 density diesel, standard type, 0.5%F.S accuracy with 3 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
	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