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 HPT604BH 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 HPT604BH 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.

Measuring range	
bar	0 to 0.05 … 0 to 5
inWC	0 to 20 … 0 to 2000
psi	0 to 1.0 … 0 to 72.5
mH2O/Fuel	0 to 0.5 … 0 to 50

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.

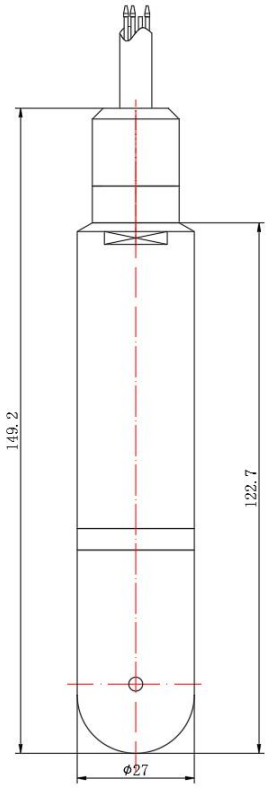
Specifications

Ambient Temperature: 25°C (unless specified)

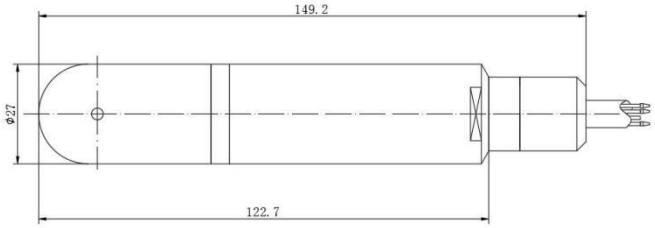
Parameter	HPT604 (Type BH)						
Pressure Range	0-0.05 Bar…..5 Bar / 0-0.5 m……..50 m fuel level Optional (See P1 page description)						
Overload	150% F.S.						
Burst Pressure	500% F.S.						
Accuracy(Linearity, Hysteresis,Repeatability)	≤ ±0.5%F.S(Typical); ≤ ±0.25%F.S (optional), 0.1%F.S (by customized) @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.	-20°C to +85°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 304 Stainless Steel						
Electrical Wire	2 Wires	3 Wires					4 wires
Signal 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±5%	12 V DC	12-30 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 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 request, we offer 3 type special cables as follow: PE Cable(Water Proof); PUR Cable(Oil/Fuel Proof); FEP Cable(Anti-Corrosive)						
Note	80m max for SDI-12 signal						

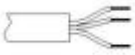
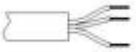
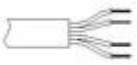
Dimensions and Drawing

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	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												
				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

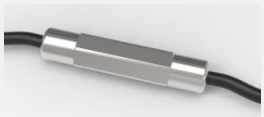
2. Part Number Selection Table:

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 Unit	F=m Fuel (Min: 0.5 m Fuel; Max:50 m Fuel) B=Bar (Min: 0.05 bar Max: 5 bar) P=Psi (Min:1Psi; Max:72.5Psi) K= kPa (Min:5 KPa; Max:500 KPa) I= inWC (Min: 20 inWC; Max:2000 inWC) MB= mbar (Min: 50 mbar Max: 500 mbar)									
Pressure Type	G=Gauge/Relative pressure type (universal) A=Absolute pressure (customized)									
Signal Output	E5=4-20mA E6=0-5V E7=0-10V E21=0.5-4.5V non-ratiometric (default) E8=0.5-4.5V ratiometric (by customized) E11=RS485(MODBUS) 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 S10=12-30 V DC S11=7-30 V DC S12=8-30 V DC S62=3.6-5 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	1=0.5%F.S 2=0.25%F.S 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, 4-20 mA, 7-30 V DC, 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 ±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

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