HPT604-BC

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-BC

Submersible Fuel Level Pressure Transducer & Transmitter

Applications

· Level Measurement in Bio-Fuels
· Monitoring of Gasoline & Diesel Fuel Tanks
· Level Measurement in Ballast Tanks
· Level Measurement in Oil Tanks
· Monitoring of Contain Coolant for Diesel Engines
· Level Measurement in AdBlue Tanks
· Level Measurement in Kerosene

Features

· Imported pressure chips, 0.5% F.S.,
· Survives Harsh Environments
· EMI/RFI Protection
· Custom level ranges from 50cm to 50m
· Unique impurities filter mesh design
· IP68 full sealed plastic waterproof design
· CE, RoHS and ATEX Approved
· Custom PUR or FEP cable lengths

Profiles

HPT604-BC type is a submersible fuel level transducer suitable for differential fuel level and depth measurement. It consists of an Germany imported FS piezoresistive sensing element encased in 316 SS housing. It's all stainless steel, hermetically sealed housing makes it suitable for most industrial measurement of 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. Vented 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.

HPT604-BC incorporates lightning and surge protection which utilizes the dual arrestor technology, to assure normal work under the input and output short-circuit conditions, which prevents 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.

Measuring range

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/PVDF/POM
Cable	PUR	FEP

Mounting position

Calibrated in vertical mounting position with pressure connection facing downwards.

Specifications

Ambient Temperature: 25°C (unless specified)

Parameter	HPT604 (BC Type)				
Pressure Range	0-0.1 Bar…..5 Bar / 0-1m……..50m fuel level Optional				
Overload	150% F.S.				
Burst Pressure	300% F.S.				
Accuracy	≤ ±0.5%F.S (Typical for 2m to 50m range) ; ≤ ±1.0%F.S(Typical for 0-1m range) @25 degree C				
(Linearity Hysteresis Repeatability)	Including non-lin., rep. and hys.				
Long-term Stability	≤ ±0.15% of span/year				
Working Temp.	-40℃~80℃(non-corrosive medium)				
Storage Temp.	-40℃~80℃(Nitrile rubber sealing ring); -20℃~80℃(fluororubber rubber sealing ring)				
Temperature Compensation	0~50℃				
Medium compatible	Compatible with 304 Stainless Steel				
Electrical Wire	2 Wires	3 Wires			4 wires
Output	4-20mA	1-5V;0-5V	0-10V	0.5-4.5V non-ratiometric	RS485 Modbus RTU
Power Supply	7-30Vdc	8-30Vdc	13-30Vdc	5Vdc±5%	3.5-36Vdc
Polarity protection	Yes	Power wires-Yes; Signal Wires-Yes, Power&Signal Wires-No!			
Insulate resistance	> 100M Ω@50V				
Zero Temp. Drift	0.2%FS/℃（≤100kPa）; 0.1%FS/℃（>100kPa）				
FS Temp. Drift	0.02%FS/℃（≤100kPa）; 0.02%FS/℃（>100kPa）				
Electrical connection	Fixed vented tube cable and water proof IP68				
Response time	≤10 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 to request, we offer 3 types of special cables as follow: PE Cable（Water Proof）; PUR Cable（Oil/Fuel Proof）; FEP Cable（Anti-Corrosive）				

Dimensions and Drawing
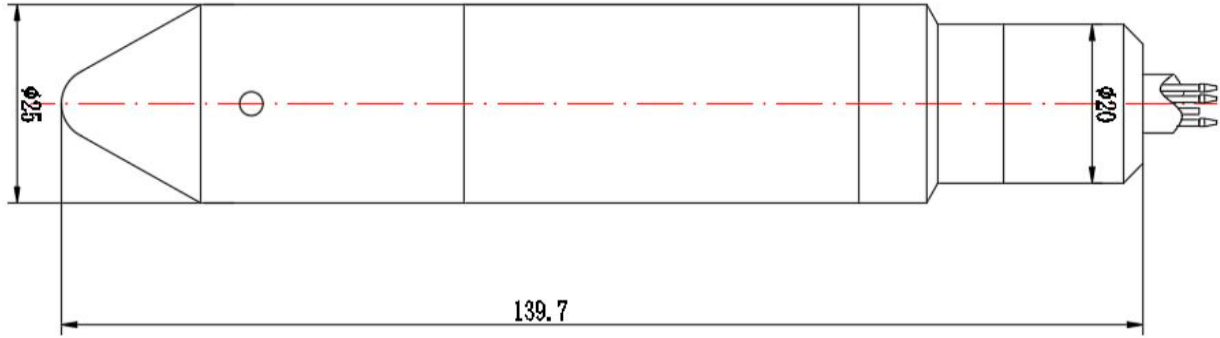
Unit: mm

Electrical Connections
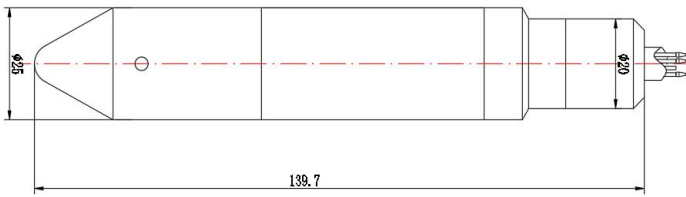
Directly cable outlet			
Current	Red	$V_{cc}+$	
	Green	S_i+	
	Yellow	Shield	
Voltage	Red	$V_{cc}+$	
	Green	V_{out}	
	Yellow	Shield	
	Black	GND	
RS485 RTU Modbus	Red	$V_{cc}+$	
	Black	GND	
	Green	RS485A	
	Blue	RS485B	
	Yellow	Shield	

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	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:

604BC 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: 1m Fuel; Max:50 m Fuel) B=Bar(Min: 0.1Bar Max: 5Bar) P=Psi(Min:1Psi; Max:72.5Psi) K= kPa (Min:10 KPa; Max:500 KPa) I= inWC (Min: 40 inWC; Max: 2000 inWC) MB= mbar (Min: 100 mbar Max: 5000 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) E0=1-5V(3 wires) X= By Customized								
Power Supply	S6=5Vdc S11=7-30Vdc S12=8-30Vdc S42=3.5-36Vdc S17=10-30Vdc S43=13-30Vdc 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 X=Others Liquid and Density By Customized								
Others Function (Optional)	N= Standard Type (with tapered filter) PFC= PTFE filter cover or filter cap FC=FEP Cable								
Accuracy	0=1%F.S 1=0.5%F.S								
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 pres-sure 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