

TECHNOLOGY

**HOLYKELL®**

# **HPT604-BM**

## **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-BM

## Fuel Tank Outside Bottom Mounting Pressure Level Transducer

### Applications

- Diesel Level Measurement on moving tanks
- Diesel Level Measurement on static tanks
- Petrol Level Measurement on moving tanks
- Oil Level Measurement on static tanks
- Fuel Level Measurement on different outside tank bottom

### Features

- Imported GE pressure cells, 0.5%F.S.
- Survives Harsh Environments
- EMI/RFI Protection
- Custom level ranges from 1m to 20m
- Unique impurities filter mesh design
- IP68 full sealed plastic water proof design
- CE, RoHS and ATEX Approved
- Custom PU or FEP cable lengths
- Resolution up to 0.1mm (range less than 6m)

### Profiles

HPT604-BM is a high performance tank bottom outside mounting pressure level transducer that is installed under the fuel tank drain port, no extra opening required. It is suitable for oil level measurement of different types of fuels, no matter static and dynamic mobile tanks.

It adopts the U.S.A. imported GE core. With a filter device equipped, there is no clogging and cleaning concern. And it features simple installation and disassembly, easy maintenance and use.

HPT604-BM incorporates lightning and surge protection utilizing dual arrestor technology to assure under the input and output short-circuit conditions to prevent reverse connection.

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 2
inWC	0 to 20 ... 0 to 1000
psi	0 to 1.0 ... 0 to 72.5
mH2O	0 to 0.5 ... 0 to 20

When choosing the FEP 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 and sensor	Stainless steel 304	Ceramic
Protection cap	Stainless steel 304	NA
Cable	PUR	FEP

### Mounting position

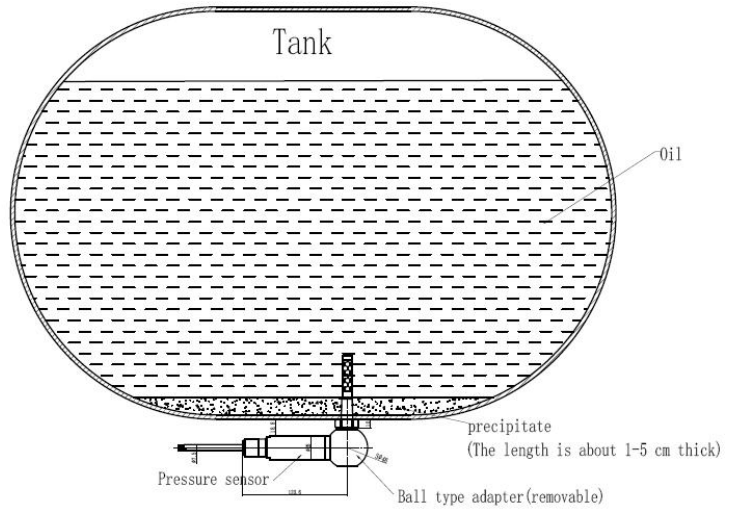
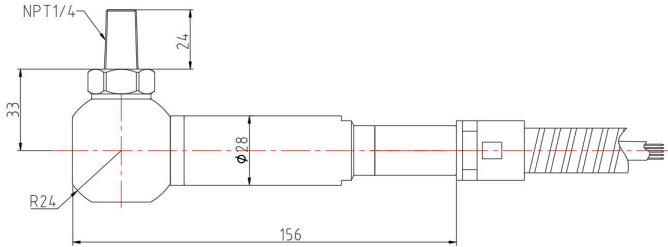
Calibrated in vertical mounting position with pressure connection facing downwards.

### Specifications

Ambient Temperature: 25°C (unless specified)

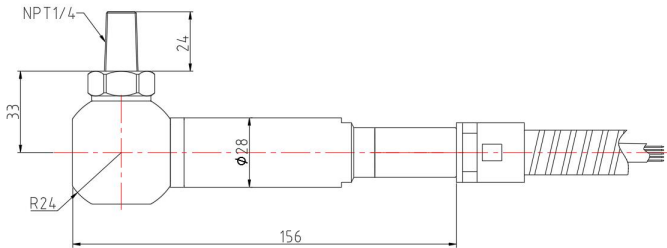
Parameter	HPT604 (BM Type)		
Pressure Range	0-0.1bar.....2 bar / 0-1m.....20m fuel level Optional (See P1 page description)		
Overload	150% F.S.		
Burst Pressure	300% F.S.		
Accuracy	$\leq \pm 0.5\% \text{F.S}$ ( $\geq 2\text{m}$ level range and between 0-50 degree C); $\leq \pm 1.0\% \text{F.S}$ ( $0.5\text{m} \leq \text{Level Range} < 2\text{m}$ level range and between 0-50 degree C)		
(Linearity Hysteresis	Including non-lin., rep. and hys.		
Repeatability)	Optional		
Long-term Stability	$\leq \pm 0.1\%$ of span/year		
Working Temp.	-40-80°C (non-corrosive medium)		
Storage Temp.	-40°C~80°C (Nitrile rubber sealing ring); -20°C~80°C (fluororubber rubber sealing ring)		
Temperature Compensation	0-50°C (Range < 100kPa); -10°C~80°C (Range $\geq 100\text{kPa}$ )		
Medium compatible	Compatible with SUS304 Stainless Steel		
Electrical Wire	2 Wires	3 Wires	4 wires
Output	4-20mA	0-5V	RS485 Modbus RTU
Power Supply	7-30Vdc	8-30Vdc	3.5-36Vdc
Polarity protection	Available for signal wires or Power wires each other reverse, unavailable signal and power wire reverse!		
Insulate resistance	$> 100\text{M } \Omega @ 100\text{V}$		
Zero Temp. Drift	0.5%FS/°C ( $\leq 100\text{kPa}$ ) ; 0.25%FS/°C ( $> 100\text{kPa}$ )		
FS Temp. Drift	0.02%FS/°C ( $\leq 100\text{kPa}$ ) ; 0.01%FS/°C ( $> 100\text{kPa}$ )		
Electrical connection	Fixed cable with vented tube and water proof IP68		
Response time	$\leq 10\text{ms}$ (digital signal $\leq 200\text{ms}$ )		
Data overtime interval	$\geq 20\text{ms}$		
Material of Housing	304 Stainless Steel		
Blind Zone of Probe	30 mm		
Pressure Type	Gauge pressure		
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)	Surge $\pm 2000\text{V}$ , Air conduction $\pm 8000\text{V}$ ; contact discharge $\pm 4000\text{V}$ protection.		
Cable optional	Cable materials are optional according request, we offer 3 type special cable as follow: PE Cable (Water Proof) ; PU Cable (Diesel Proof) ; FEP Cable (Anti-Corrosive for gasoline)		

Dimensions and Drawing



Unit: mm

Electrical Connections



	Direct sealed cable		
	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											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:

<b>604BM</b> Selection Type	<b>00</b>	<b>F</b>	<b>G</b>	<b>E5</b>	<b>S11</b>	<b>D1</b>	<b>N</b>	<b>1</b>	<b>003</b>
Range	Range reference to range selection table code								
Pressure & Level Units	F=m Fuel (Min: 0.5 m; Max:20 m ) B=bar (Min: 0.05bar Max: 2bar) P=Psi (Min:1Psi; Max:15Psi) K= kPa (Min:5 kPa; Max:200 kPa)								
Pressure type	G=Gauge/Relative pressure type A=Absolute pressure (customize)								
Signal Output	E5=4-20mA(2 wires)      E6=0-5V(3 wires) E11=RS485(MODBUS)      X= By Customized								
Power Supply	S11=7-30Vdc      S12=8-30Vdc S42=3.5-36Vdc 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 customize								
Others Function (Optional)	N=Standard Type      2= GE high performance cells								
Accuracy	0=1.0%F.S typical      1=0.5%F.S optional      2=0.25%F.S by customized								
Cable length	001= Cable 1M      002= Cable 2M      003= Cable 3M      X= By customized								

Example P/N: 604BM00FGE5S11D1N1003

### Accessories

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

	Description	Order number
	<b>Liquid level display control device</b> 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
	<b>Flange</b> 4 holes 316 SS flange, size can be customized 3 holes 304 stainless steel flange 70mm diameter	0001 0030
	<b>Locking flange</b> For locking cables, made of aluminum alloy	0029
	<b>Conduit adapter</b> 316 SS 1/2" NPT male cable conduit adapter. Must be factory installed.	0011
	<b>Terminal box</b> The terminal box, with IP 67 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
	<b>Additional weight</b> 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
	<b>Adapter Converter</b> 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
	<b>Surge Protection Box</b> 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 / Pressure type / Output signal / Power supply / medium / others option / Accuracy / Cable length / Accessories