

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

# HPT604 (Type FW)

## Submersible Water Detector and Fuel Level & Temperature Transducer



### Features:

- Accuracy:  $\leq \pm 0.25\% \text{F.S.}$
- Wide working temperature scope
- Advanced digital temperature compensation
- Excellent resistance against impact, overload, shock and erosion.
- Water detection, fuel level & temperature optional
- Impact resistance and disturbance

### Applications:

- Fuel Tank Level Monitor Systems
- Water detection Under the diesel
- Water Under Oil and Fuel Level Monitor
- Oil and Water Separation Location Detection
- Position Detector Of Silt Layer
- Water Level Position Detector
- Fuel containers
- And so on

### Profiles

HPT604-FW is full sealed submersible level transducer. Users can select different versions to detect water presence, fuel level and fuel temperature. It is made by high stable and reliable piezo-resistive pressure sensor with water detect sensors and high accurate circuit board into the stainless steel housing. Integrated conductivity sensor and standard signal provide the user easy and convenient application in the local working place. The special cable connected with housing, can be immersed into the media for a long time.

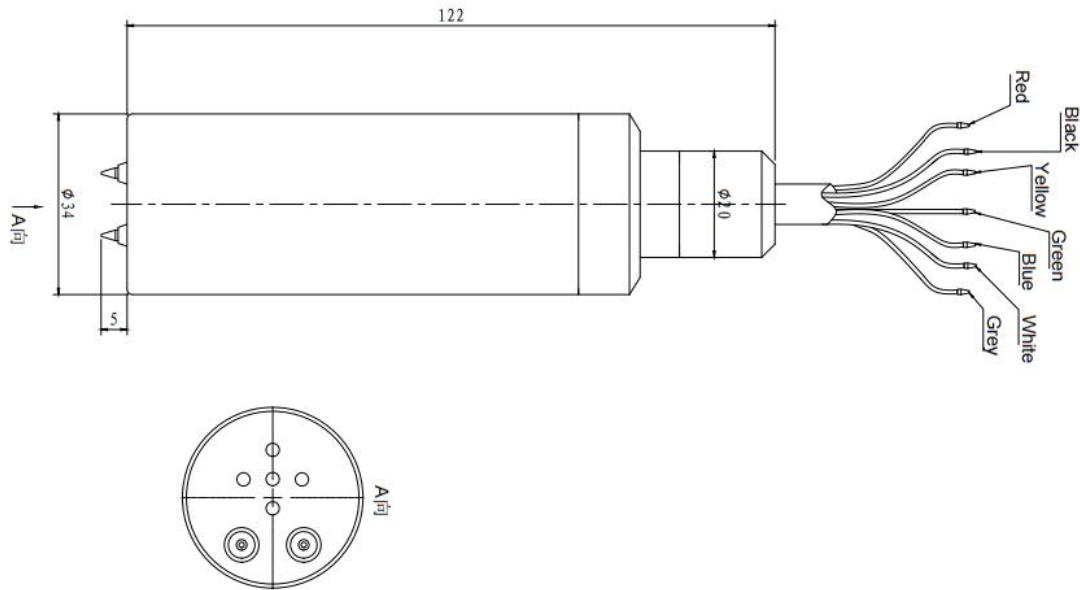
HPT604-FW has compact size, light weight and good stability; it can be used for water alarm for the diesel tanks, water position and others hierarchy liquids level and position monitor.

### Specifications

Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS					
Level range	0m~0.5m~20m Optional				
Pressure Type	Gauge/Relative pressure type(Typical); Absolute pressure Optional				
Overload	150%F.S Rated				
Water Existence alarm Output	ohm, or PNP switch, or NPN switch signal output optional. Water detection signal: ohm signal (When $\geq 100 \Omega$ , it means that water has been detected, and 0 ohm means no water exists).				
Fuel Level Output	4~20mA	0~5V	0~10V	RS485 Modbus RTU optional	
Electrical Wire	3 wires	3 wires	3 wires	4 wires	
Power Supply	DC 7...30V	DC 8...30V	DC 13...30V	DC 7...30V	
Polarity protection	Yes	Power supply+&- only		Power supply+&-; Signal A&B only	
Accuracy	0.5	0.25	0.1	%FS	By Customized
Long-term Stability	0.15%FS/year				
Zero temp. drift	$\pm 0.02\%FS/^\circ C$				
Sensitivity temp. drift	$\pm 0.02\%FS/^\circ C$				
Temperature Compensation	0~50°C(Typical); -10~60°C(by customized)				
Medium Temp.	-30...70 degree C				
Load Resistance	Current: $(U-12)/0.02(\Omega)$				
Max work current	(4-20mA) 21.8mA	(0-5/10V) 5mA		(RS485 MODBUS RTU) 10mA	
Max signal transfer distance	1000m	200m		1000m	
Lightning&Surge protection	Surge: $\pm 2000V$ Air conduction more than 8000V; external sensor more than 4000 Voltage protection.				
EMC Standard	EN61326-1:2013;EN61326-2-3:2013 EN61000-6-2:2005;EN61000-6-4:2007+A1				
Intrinsic safety Certificate	Exia IICT6				
Water Proof Grade	IP68				

### Dimensions and Drawing



### Electrical Connections

Ohm signal	Signal output	4-20mA+100Ω	RS485+100Ω	0-5V/0-10V+100Ω
	Wire color			
	Red	U+	U+	U+
	Black	U-	U-	U-
	Green	Iout(U-)	RS485A	Vout
	Blue	R	RS485B	R
	Yellow	R	R	R
	Grey	⊥ Connect to earth ground	⊥ Connect to earth ground	⊥ Connect to earth ground
White		R		

PNP signal	Signal output	4-20mA+PNP	RS485+PNP	0-5V/0-10V+PNP
	Wire color			
	Red	U+	U+	U+
	Black	U-	U-	U-
	Green	Iout(U-)	RS485A	Vout
	Blue	PNP+	RS485B	PNP+
	Yellow	⊥ Connect to earth ground	⊥ Connect to earth ground	⊥ Connect to earth ground
White		PNP+		

### How to Order

Use the **bold** characters from the chart below to create a product number

		<b>604FW</b>	<b>F</b>	<b>G</b>	<b>11</b>	<b>S11</b>	<b>E5E50</b>	<b>D1</b>	<b>N</b>	<b>1</b>	<b>003</b>		
Model:		_____		_____	_____	_____	_____	_____	_____	_____	_____	Cable Length	
		<b>604FW</b>									<b>003</b>	3 meters	
Pressure & Level Units		_____									<b>X</b>	By Customized	
<b>B</b>	bar(Min: 0.05bar Max: 2bar)											Accuracy	
<b>P</b>	Psi(Min:0.73Psi; Max:29Psi)									<b>1</b>	≤±0.5%F.S (Typical)		
<b>F</b>	m Fuel(Min:0.5m; Max:20m)									<b>2</b>	≤±0.25%F.S		
										<b>3</b>	≤±0.1%F.S(by customized)		
Pressure type		_____										Other Function (Optional)	
<b>G</b>	Gage/Relative pressure type (universal)									<b>N</b>	Standard with water detection & fuel level		
<b>A</b>	Absolute pressure (customized)									<b>A</b>	Water detection, fuel level & fuel temp.		
Pressure Range		_____										Measuring Medium	
<b>00</b>	0...0.5	<b>18</b>	0...4.0							<b>D1</b>	0.84g/cm3 density diesel		
<b>01</b>	0...1.0	<b>19</b>	0...5.0							<b>D2</b>	0.83g/cm3 density diesel		
<b>03</b>	0...1.2	<b>21</b>	0...7.0							<b>D3</b>	0.85g/cm3 density diesel		
<b>06</b>	0...1.5	<b>24</b>	0...10							<b>D4</b>	0.86g/cm3 density diesel		
<b>09</b>	0...1.8	<b>25</b>	0...12							<b>X</b>	By Customized		
<b>11</b>	0...2.0	<b>26</b>	0...15								Signal Output		
<b>13</b>	0...2.2	<b>27</b>	0...16								<b>Fuel/oil level signal</b>		
<b>16</b>	0...2.5	<b>28</b>	0...20							<b>E5</b>	4-20 mA (3 wires)		
<b>17</b>	0...3.0	<b>X</b>	By Customized							<b>E6</b>	0-5 V (3 wires)		
										<b>E7</b>	0-10 V (3 wires)		
										<b>E11</b>	RS485 MODBUS RTU (4 wires)		
										<b>X0</b>	By Customized		
Power supply:	_____										<b>Water detection signal</b>		
	<b>S11</b>	7-30 Vdc								<b>E50</b>	Ohm		
	<b>S12</b>	8-30 Vdc								<b>E51</b>	PNP		
	<b>S43</b>	13-30 Vdc								<b>E52</b>	NPN		
	<b>X</b>	By Customized								<b>X1</b>	By Customized		

Example of a complete PN: 604FWFG11S11E5E50D1N1003

(Model: HPT604-FW, fuel level range 0-2m, gauge type, 7-30Vdc supply,4-20mA+Ohm signal, 0.84g/cm3 density diesel, standard type, 0.5%F.S accuracy with 3 meters cable)