

TECHNOLOGY

**HOLYKELL®**

# **HPT708**

## **PRESSURE**

### **• 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 708 Series

## Oxygen Services Industry Differential Pressure Transducer

### Applications

- Liquid oxygen/ nitrogen/CO<sub>2</sub> level application
- Automatic testing system
- Storage and fuel, Oil, Water Tank applications
- Gas DP pressure measurement
- Chemistry Industry level application
- Petrochemical industry

### Features

- Filling fluid Fluorocarbon oil/100% O<sub>2</sub> compatible
- Highest overload resistance
- All media wetted parts are clean oil grease free
- Improved EMC resistance and reduced installation sensitivity
- Linearized and temperature -compensated output signal
- System without any sealings
- Calibration of zero /Span and Turn -down

### Profiles

HPT708 DP transmitter is a highly reliable, stable, and accurate DP transmitters. Oxygen clean sensors & instruments which have sensor cells that are dry or filled with Fluorocarbon oil filled, which will not burn when exposed to an ignition source in an Oxygen environment, It can be used in areas where there is a risk that the device will be exposed to high levels of pure Oxygen.

The HPT708 with 316L stainless steel construction is designed to meet intrinsically safe standards, ATEX approved. All media welded parts are clean oil grease free for oxygen applications. Pressure transmitters can be delivered with analog signals including 4-20mA ,voltage output or digital 4-20mA +Hart , RS485 RTU output signal,min measuring ranges up to 100mbar.

Holykell can provide a cost effective solution for pressure monitoring for a variety of applications. Welcome your inquiry.



### Measuring Range/Span

|      |                          |
|------|--------------------------|
| bar  | Min: 0-0.1 to Max: 0-35  |
| Kpa  | Min: 0-10 to Max: 0-3500 |
| psi  | Min: 0-1.5 to Max: 500   |
| mbar | Min: 0-100 to Max: 35000 |

They give measuring range also available in MPa , mH<sub>2</sub>O , in Hg, mm Hg...

### Materials

| Wetted Parts | Standard             | Optional |
|--------------|----------------------|----------|
| Case         | 316L Stainless steel | NA       |
| Diaphragm    | 316L Stainless steel | NA       |
| Filled Oil   | Fluorocarbon oil     | NA       |

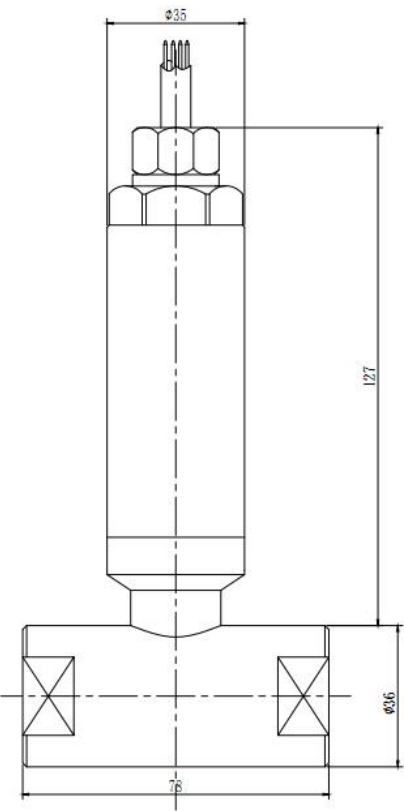
### Specifications

Ambient Temperature: 25°C (unless specified)

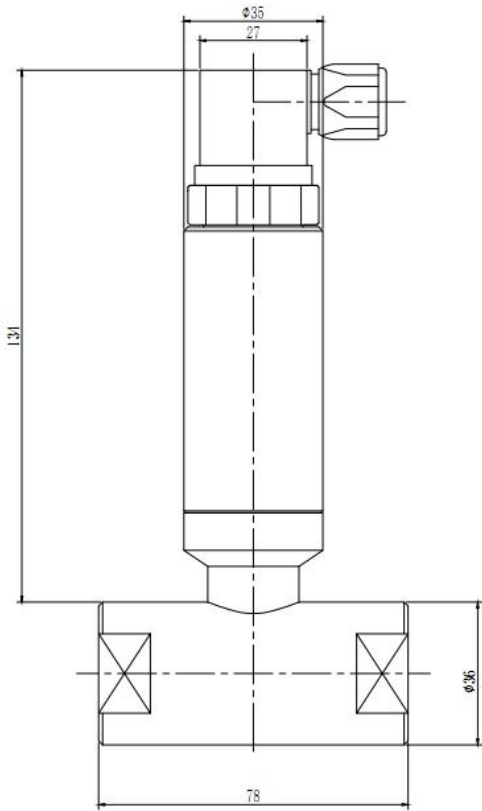
| Parameter                | HPT708   |               |                |                  |                  |
|--------------------------|--|---------------|----------------|------------------|------------------|
| Pressure Range           | 10~35 KPa  | 35~200 KPa    | 200~1000 KPa   | 1000~3500 KPa    |                  |
| High port overload       | 30...100 KPa   | 100...500 KPa | 500...3000 KPa | 3000...10000 KPa |                  |
| Low port overload        | 20...70 KPa  | 70...400 KPa  | 400...2000 KPa | 2000...7000 KPa  |                  |
| Max Static Pressure      | 20bar  | 100bar        | 200bar         | 200bar           |                  |
| Pressure Type            | Differential pressure  |               |                |                  |                  |
| Accuracy                 | ≤ ±0.5%F.S at 25℃ (Typical);<br>≤±0.25%F.S at 25℃ (by customized )               |               |                |                  |                  |
| Stability                | 0.1%F.S.±0.05%/Year    Max:0.2%F.S/Year  |               |                |                  |                  |
| Working Temp.            | -40℃~85℃ or -40℃~125℃ with cooling device  |               |                |                  |                  |
| Storage Temp.            | -40℃~125℃  |               |                |                  |                  |
| Temperature compensation | 0~50℃  |               |                |                  |                  |
| Medium compatible        | Compatible with 316L Stainless Steel   |               |                |                  |                  |
| Electrical Wire          | 2 Wires  |               | 3 Wires        |                  | 4 Wires          |
| Output                   | 4~20mA   | 4~20mA + HART | 0-5V           | 0~10 V           | RS485 MODBUS RTU |
| Power Supply             | 12 ~ 30VDC   | 12 ~ 30VDC    | 12 ~ 30VDC     | 15~30Vdc         | 10~30VDC         |
| Load resistance          | (U-10)/0.02(Ω )  |               | >100kΩ         |                  | Max 255          |
| Insulate resistance      | >100M Ω @100V  |               |                |                  |                  |
| Filled oil               | Fluorocarbon oil (suitable for oxygen/nitrogen/CO2 medium)                       |               |                |                  |                  |
| Zero Temp. Drift         | 0.02%F.S/℃   |               |                |                  |                  |
| Sensitivity Temp Drift   | 0.02%F.S/℃   |               |                |                  |                  |
| Electrical connection    | Fixed cable and water proof IP67; DIN43650 Hirschmann Terminal Box IP65 optional |               |                |                  |                  |
| Mounting connect         | NA   |               |                |                  |                  |
| Pressure connection port | 1/4”-18NPT Female hose connection, Others by customize                           |               |                |                  |                  |
| Certificate              | ATEX ExiaIICT6 Explosion Proof, TUV CE and RoHS Certificates                     |               |                |                  |                  |
| IP Rating                | IP65 and IP68 according electronic connector type                                |               |                |                  |                  |
| EMC Standard             | EN 61326-1:2013; EN 61326-2-3:2013<br>EN 61000-6-2:2005; EN61000-6-4:2007+A1     |               |                |                  |                  |
| Response time            | ≤10ms  |               |                |                  |                  |

**Dimensions and Drawing**

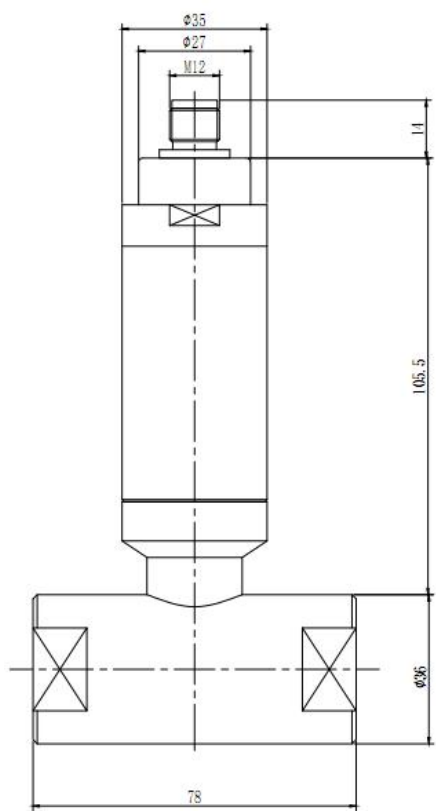
Unit: mm



HPT708-C8

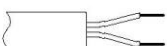
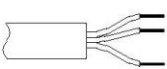
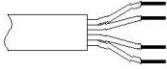


HTP708-H5



HTP708-M7

**Electrical Connections**

| <br><br> | Direct cable outlet |        |               |
|---|---------------------|--------|---------------|
|   | Current             | Red    | Vcc+          |
|   |                     | Green  | S+            |
|   |                     | Black  | GND&Shield    |
|   | Voltage             | Red    | Vcc+          |
|   |                     | Green  | Vcc-&S-       |
|   |                     | Yellow | S+            |
|   |                     | Black  | Ground&Shield |
|   | RS485 RTU MODBUS    | Red    | Vcc+          |
|   |                     | Green  | Vcc-/0Vcc     |
|   |                     | Yellow | RS485A        |
|   |                     | Blue   | RS485B        |

S=Signal, Vcc=Power Supply, GND=Vcc-&S-

### How to Order

#### 1. Pressure Range Selection Table:

|    |       |    |       |    |        |    |               |    |       |    |       |    |       |    |       |  |  |
|----|-------|----|-------|----|--------|----|---------------|----|-------|----|-------|----|-------|----|-------|--|--|
| 01 | 0~0.1 | 02 | 0~0.2 | 03 | 0~0.35 | 04 | 0~0.7         | 05 | 0~1   | 06 | 0~1.5 | 07 | 0~2   | 08 | 0~2.5 |  |  |
| 09 | 0~3   | 10 | 0~3.5 | 11 | 0~5    | 12 | 0~10          | 13 | 0~15  | 14 | 0~20  | 15 | 0~25  | 16 | 0~30  |  |  |
| 17 | 0~35  | 18 | 0~38  | 19 | 0~40   | 20 | 0~50          | 21 | 0~100 | 22 | 0~150 | 23 | 0~200 | 24 | 0~250 |  |  |
| 25 | 0~300 | 26 | 0~500 | 27 | 0~1000 | X  | By Customized |    |       |    |       |    |       |    |       |  |  |

Kindly according to your application select suitable range code , Example: Code 09 =3 .





Unit of measure select on the Part Number Selection Table . Example: Code B=Bar , that's 3 bar .

#### 2. Part Number Selection Table:

|                              |  |          |           |            |           |          |          |          |            |
|------------------------------|--|----------|-----------|------------|-----------|----------|----------|----------|------------|
| <b>708</b><br>Selection Type | <b>23</b>  | <b>K</b> | <b>E5</b> | <b>S10</b> | <b>26</b> | <b>N</b> | <b>1</b> | <b>1</b> | <b>002</b> |
| Pressure Range               | Range refer to <i>pressure range selection table</i> code  |          |           |            |           |          |          |          |            |
| Pressure Unit                | B=bar    P=Psi    K=KPa<br>M=MPa    H=mH2O   |          |           |            |           |          |          |          |            |
| Signal Output                | E5=4-20mA(2 wires) E6=0-5V (3 wires)<br>E7=0-10V (3 wires)<br>E11=RS485 MODBUS RTU (4 wires)<br>E14=4-20mA +Hart (2 wires)                   |          |           |            |           |          |          |          |            |
| Power Supply                 | S13=12~24Vdc S10=12~30Vdc<br>S17=10~30Vdc S9=15~30Vdc  |          |           |            |           |          |          |          |            |
| Pressure Connection          | 26= 1/4"-18NPT Female (Typical)    9=G=1/2" male<br>6=G1/4" male    7=G1/4" Female<br>8= M20x1.5 male    10=1/2"NPT male<br>X= By Customized |          |           |            |           |          |          |          |            |
| Installation Mounting        | N=Top Clamp (Typical)<br>X=By customized   |          |           |            |           |          |          |          |            |
| Electrical Connection        | 1=Direct outlet cable<br>2=Hirschmann terminal box<br>3=M12*1.0 4 Pins<br>4=M12*1.0 5 Pins (Modbus type application)                         |          |           |            |           |          |          |          |            |
| Accuracy                     | 1=0.5%F.S (Typical)    2=0.25%F.S (by customized)  |          |           |            |           |          |          |          |            |
| Cable length                 | 000=Non-Cable    001= Cable 1M    002= Cable 2M    X= By customized  |          |           |            |           |          |          |          |            |

### Accessories

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

|  | Description  | Order number |
|--|--|--------------|
|   | <b>Liquid level display control device</b><br>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         |
|   | Attached indicator for transmitters local display (4-1/2bits)  | 0006         |
|   | <b>Cooling device</b><br>For thread attachment   | 0004         |
|  | <b>Terminal box</b><br>The terminal box, with IP67 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         |

### Order information

Model /Measuring range /Output Signal/Medium/Cable length/Case/Accessories