TECHNOLOGY

**HOLYKELL**®

**HPT700**

# 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 700 Series

## Standard Industrial
## Differential Pressure Transducers

### Applications

- Process Controls
- Tank Level Measurement
- Filter Performance Monitoring
- Corrosive Fluids and Gas Measurement Systems
- Flow Measurement with Pitot Tubes
- Orifice Plates and Mass Flow Meters
- Static Pressure Measurement and Control
- Combustion Chambers and Clean Rooms

### Features

- Precision Micro-Machined Silicon Core
- Explosion Proof and Non-Incentive Available
- High Stability, Low Drift
- 316L Welded Stainless-Steel Construction
- Premium Temperature Performance
- Broad Compensated Temperature Range
- Durable, 1 million Cycle Life
- Ruggedness with Secondary Containment



Ex  TÜVRheinland  RoHS  CE

### Profiles

HPT700 series differential pressure transducers can measure the differential pressure of liquids or gases, for wide range of general purpose and industrial applications. Get all the great performance characteristics of the micro-machined silicon transducers in these 316L stainless steel differential pressure models. It utilizes a double diaphragm sensor technology that outperforms standard double sensor products in accurate, reliable and static operating pressure.

HPT700 DP sensor offers excellent linearity and performance over temperature, long and reliable service life with excellent long-term stability. Customers can choose from multiple accuracy, outputs.

This differential pressure sensing technology offers 0.25% accuracy with static operating pressures up to 10 bar. With its digital compensation, the pressure ports, electrical terminations and pressure ranges.

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

| **Measuring range** | |
| --- | --- |
| bar | 0.1 to 0. 5.. 0.5 to 1… 1 to 10 |
| KPa | 10 to 50... 50 to 100…100 to 1000 |
| Psi | 1.5 to 7... 7 to 15 … 15 to 150 |
| mbar | 0.01 to 0. 05.. 0.05 to 0.1… 0.1 to1 |

They give measuring range also available in Mpa , Pa,in Hg,mm Hg

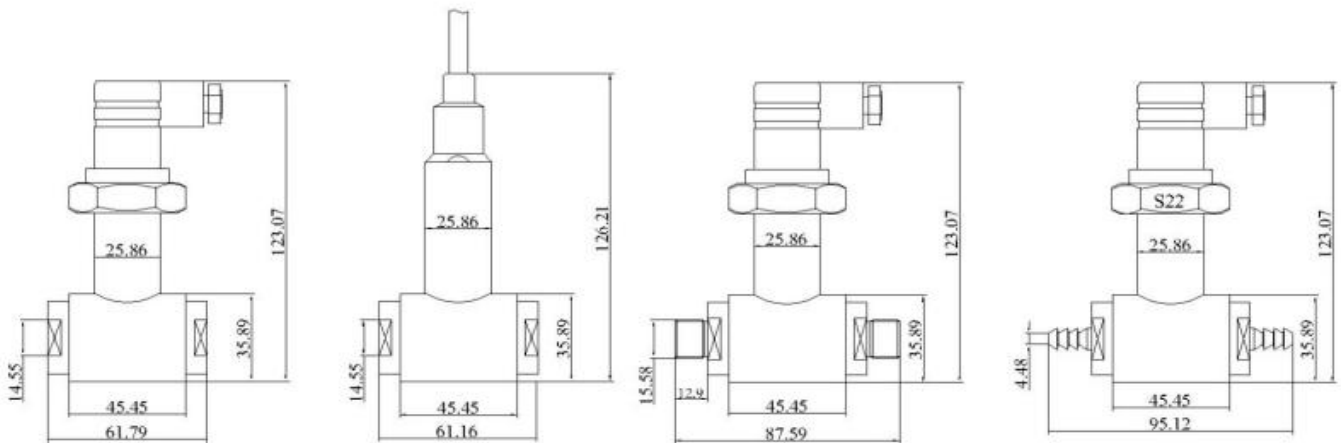### Materials

| **Wetted Parts** | **Standard** | **Optional** |
| --- | --- | --- |
| Case and sensor | Stainless steel 316 | 316L SST/ SUS321 |
| Filled Oil | Silicone oil | Fluorocarbon oil |
| Cable | PVC | PTFE/PUR/PE |

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## Specifications
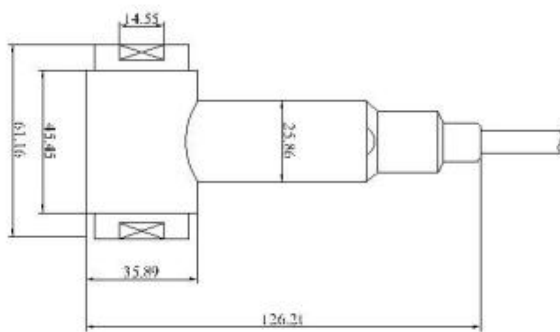
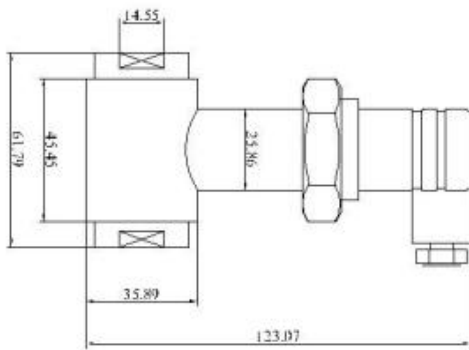Ambient Temperature: 25°C (unless specified)

| Parameter | HPT700 | | | |
|---|---|---|---|---|
| Pressure Range | 10~50KPa | 51~100KPa | 101~200KPa | 201~1000KPa |
| High port overload | 50~500 kPa | 500~1000 KPa | 10~20 Bar | 20~40Bar |
| Low port overload | 30~150KPa | 150~300KPa | 300~600KPa | 600~1000KPa |
| Max Static Pressure | 50 bar | 100 bar | 150bar | 200bar |
| Accuracy (Linearity hysteresis repeatability) | ≤±0.5%F.S at 25℃ (Typical)<br>≤±0.25%F.S at 25℃ (by customized) | | | |
| Stability | 0.1%F.S/Year | | | |
| Ambient Temp Span | -40℃~85℃ | | | |
| Medium Temp Span | -40℃~85℃ / -40℃~125℃(with cool device) | | | |
| Storage Temp. | -40℃~105℃ | | | |
| Temp. compensation | 0℃~50℃ | | | |
| Zero Temp Drift | 0.02%F.S/℃ | | | |
| Span Temp Drift | 0.02%F.S/℃ | | | |
| Medium compatible | Compatible with 316L Stainless Steel | | | |
| Electrical Wire | 2 Wires | 3 Wires | | 4 wires |
| Output | 4~20mA Loop | 0~5V/1-5V analog signal / 0~10 V analog signal / I²C | | RS485 MODBUS (Digital signal) |
| Power Supply | 7~30Vdc | 8~30Vdc / 15~30Vdc / 3.3-5.5Vdc | | 7-30Vdc |
| Load resistance | (U-10)/0.02(Ω ) | >100kΩ | | Max 255 |
| Insulate resistance | >100M Ω @100V | | | |
| Electrical connection | Fixed cable and water proof IP67 (HPT700-S); Terminal Box DIN43650 IP65 (HPT700-H,HPT700-G) | | | |
| Pressure connect port | 1/4''-18NPT Female; G1/4'' Male; G1/2'' Male; RG=Ø8/ Ø10gas mouth optional. (by customized) | | | |
| Process structure | All-Welded Construction (non-O-rings) | | | |
| Response time | ≤10ms | | | |
| Pressure Type | Differential Pressure (Gauge Type) | | | |
| Certificate | ExiaIICT6 and CE Certificate. | | | |
| EMC Standard | EN 61326-1:2013; EN 61326-2-3:2013<br>EN 61000-6-2:2005; EN61000-6-4:2007+A1 | | | |
| Water Proof | IP65 to IP68 optional by model | | | |
| Weight | Net weight is about 0.4KG, Full Packing weight is about 0.7KG (Including 3 Meters Cable) | | | |

## ■ Dimensions and Drawing

Unit: mm

## ■ Electrical Connections

| DIN 43650 Connector | | |
|---|---|---|
| Current | 1 | U+ / Red |
| | 2 | Iout(U-) / Green |
| | 3 | NC |
| | 4 | ⏚ Connect to earth ground / Black |
| Voltage | 1 | U+ / Red |
| | 2 | U- / Black |
| | 3 | Iout(U-) / Green |
| | 4 | ⏚ Connect to earth ground |

| Direct cable outlet | | |
|---|---|---|
| Current | Red | U+ |
| | Green | Iout(U-) |
| | Black | ⏚ Connect to earth ground |
| Voltage | Red | U+ |
| | Green | Iout(U-) |
| | Black | U- |
| | Yellow | ⏚ Connect to earth ground |
| RS485 Modbus RTU | Red | U+ |
| | Black | U- |
| | Green | 485A |
| | Blue | 485B |
| | Yellow | ⏚ Connect to earth ground |

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## How to Order

### 1. Pressure Range Selection Table:

| 01 | 0.5 | 02 | 1 | 03 | 1.5 | 04 | 2 | 05 | 2.5 | 06 | 3 | 07 | 3.5 | 08 | 4 |
|----|-----|----|---|----|-----|----|---|----|-----|----|---|----|-----|----|---|
| 09 | 5 | 10 | 10 | 11 | 14 | 12 | 14.5 | 13 | 15 | 14 | 20 | 15 | 25 | 16 | 30 |
| 17 | 35 | 18 | 40 | 19 | 50 | 20 | 100 | 21 | 150 | 22 | 160 | 23 | 200 | 24 | 250 |
| 25 | 300 | 26 | 350 | 27 | 500 | X | By Customized | | | | | | | | |

Kindly according to your application select suitable range code , Example: Code 09 =5 .
Unit of measure select on the Part Number Selection Table . Example: Code B=Bar , that's 5 bar.

### 2. Part Number Selection Table:

| **700** Selection Type | | | | H | 09 | B | E5 | S11 | 10 | P1 | 1 | 002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

| Electrical Connection | H=Hirschmann DIN43650<br>S=Directly cable outlet<br>G=LED digital display |
|---|---|
| Pressure range | Range refer to pressure range selection table code. |
| Pressure unit | B= bar    P=Psi    K=KPa<br>M=MPa    H=mH2O |
| Signal output | E5=4-20mA(2 wire)  E6=0-5V (3 wire)<br>E7=0-10V (3 wire)    E0=1-5V (3 wire)<br>E11=RS485 MODBUS RTU (4 wire)<br>E13=$I^2$C digital output<br>E14=4-20mA +Hart (2 wire) |
| Power supply | S3=24 Vdc          S4=3Vdc<br>S5=12 Vdc         S9=15-30Vdc<br>S10=12-30 Vdc    S11=7-30Vdc<br>S12=8-30 Vdc     S50=3.3-5.5Vdc |
| Pressure connection | 3= 1/4'' NPT male     6=G1/4"male    7=G1/4"Female<br>8= M20x1.5 male     9=G1/2'' male    10 =1/2'' NPT male<br>26=1/4''-18NPT Female       40= Ø8 gas mouth<br>42= Ø10 gas mouth    X= By customized |
| Max static pressure | P1=Standard by DP Range     P2=High Static Pressure Type (20MPa)<br>X=By Customized |
| Accuracy | 0=1%F.S     1=0.5%F.S    2=0.25%F.S (by customized) |
| Cable length | 000=Non-Cable   001= Cable 1M   002= Cable 2M  X= By Customized |

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## ◼ Accessories

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

| Description | | Order number |
|---|---|---|
| | **Liquid level display control device**<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 LED indicator for transmitters standard version | 0006 |
| | Attached LCD indicator for transmitters standard version | 0007 |
| | **Terminal box**<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 |
| | **Locking flange**<br>For locking cables, made of aluminum alloy | 0029 |
| | **Surge electrostatic protector**<br>Anti-surge ±2000V/±4000V, anti-static 18KV, suitable for protecting 4-20ma and RS485 circuits. | 0014 |

**Order information**

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

**HOLYKELL TECHNOLOGY COMPANY LIMITED**  | •www.holykell.com•  •E-mail：info@holykell.com | •Tel : +86 731 89873265  •Fax: +86 731 89873646