

Miniature Differential Pressure Transmitter

RP202-DPT



Accuracy : 0.5%FSO



Operating Temperature upto 150°C



Range Limit : upto 35bar



IP65 Protection

ROCKSENSOR AT A GLANCE (ABOUT US)

Rocksensor is one of the global leaders specializing in Process Instrumentation, Research and Development and Designing of Industrial Automation Equipment. We provide highly precise pressure sensors and transmitters, flow metres, level transmitters and temperature transmitters with a prime focus to help our clients efficiently, safely and economically run complex industrial processes.

Rocksensor, headquartered in Switzerland, has its footprint in various geographical regions such as the US, Russia, South Korea, Italy, Germany, Singapore, Malaysia, Morocco, China, Taiwan, Australia, UAE, Brazil and India. Our clients come from some of the major industries such as Oil and Gas, Petrochemicals, Pharmaceuticals, FMCG, Automobiles, Water, Cement, Metal & Mining, and mainly from the Power Industry like Nuclear, Thermal, Hydro, and Solar.

Rocksensor deals in a wide range of highly accurate industrial automation instruments ensuring that even the complex industrial processes happen efficiently.

To fulfill the needs of our clients we make sure that our instruments work in even the harsh environmental conditions offering accurate recordings and communication.

We, at Rocksensor, believe in creating bonds that last a lifetime and create a success story for each and every client. Rocksensor aims to achieve a perfect fit in the global market landscape and establish our footprints across the globe.



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KEY APPLICATION INDUSTRIES

- Oil and Gas sector
- Cement
- Metal
- Pulp and Paper
- Agriculture
- Textiles
- Chemicals
- Power
- Water
- Pharmaceutical
- Fertilizer
- Plastics and HVAC

1. Introduction

Low cost differential pressure transducer adopts diffusion silicon differential pressure sensor and stainless steel case, the two pressure interfaces can be connected on the measured pipeline or impulse line, suitable for measuring differential pressure of gas and liquid.

A wide range of process connection and electrical connection options are available to meet almost requirement.



Miniature Differential Pressure Transmitter

2. Key Features

- Measuring ranges from 0.1bar~35bar
- Maximum static pressure: 10Mpa
- Accuracy: $\pm 0.25\%$ FSO or $\pm 0.5\%$ FSO
- Calibrated and temperature compensated
- Piezoresistive pressure sensor design
- Variety of Pressure & Electrical connections
- Output 4...20mA, 0...10V, 0...5V & RS485

3. Key Applications

- Process control systems
- Refrigeration and HVAC controls
- Hydraulic systems and valve
- Machine building
- Pumps and compressors

4. Standard Pressure Ranges

| Nominal Pressure | Gauge |
|------------------|-------|
| 0~1bar | ● |
| 0~1.6bar | ● |
| 0~2.5bar | ● |
| 0~4bar | ● |
| 0~6bar | ● |
| 0~10bar | ● |
| 0~16bar | ● |
| 0~25bar | ● |
| 0~30bar | ● |
| 0~35bar | |

Note:
Other pressure ranges available. Please consult the factory.

5. Technical Specifications

| Parameter | Values | | | Units | Notes |
|-------------------------------|---|----------|----------|----------|--------------------------|
| General | | | | | |
| Pressure Range | 0-1~10 | | | bar | 1bar=14.5ps |
| Overpressure | 1.5xFS | | | | |
| Environmental | | | | | |
| Operating Temperature Range | -20 ~ +85(standard), -20 to +150 | | | °C | -4 °F ~ 185 °F |
| Compensated Temperature Range | -10 ~ +70 | | | °C | 14 °F ~ 158 °F |
| Storage Temperature Range | -40 ~ +125 | | | °C | -40 °F ~ 257 °F |
| Vibration | 10 | | | g | 20 ~ 2000Hz |
| Shock | 100 | | | g | 10ms |
| Cycles | 10x10 ⁵ | | | cycles | |
| Electrical @ 25°C(77°F) | | | | | |
| Output Signal | 4~20mA | 0~5VDC | 1~5VDC | 0~10VDC | 0.5~4.5VDC (ratiometric) |
| Power Supply(Vs) | 12~36VDC | 12~36VDC | 12~36VDC | 15~36VDC | 5VDC |
| Load Resistance | <(Vs-12)/0.02A (For current output), >10kΩ (For voltage output) | | | | |
| Insulation Resistance | 100MΩ @50VDC | | | | |
| Physical Specifications | | | | | |
| Media Compatibility | All media compatible with 316L stainless steel | | | | |
| Housing | SS304(Std.)/ SS316 (optional) | | | | |
| Diaphragm | SS316L | | | | |
| Seal Ring | Viton or NBR | | | | |
| Oil Filling | Silicone oil | | | | |
| Protection | IP65 (Standard) | | | | |
| Net Weight | Approx.400g | | | | |
| Parameter | Minimum | Typical | Maximum | Units | Notes |

Performance

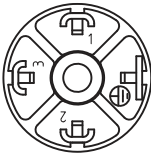
| | | | | | |
|---------------------|--|------|------|-----------|-----|
| Accuracy | | 0.25 | 0.5 | %FSO | 1,2 |
| Temp Coeff - Zero | | ±1.5 | ±2 | %FSO | 3 |
| Temp Coeff - Span | | ±1.5 | ±2 | ±%FSO | 3 |
| Long-Term Stability | | ±0.2 | ±0.3 | %FSO/year | 1 |

Notes:

1. All values measured at 25°C (77°F)
2. Including non-linearity, hysteresis and repeatability
3. -10°C ~ 70°C (14°F ~ 158°F) with reference to 25°C (77°F)
- The listed specifications and dimensions are subject to change without prior notice.

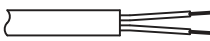
6. Connection Diagrams

Connector DIN43650



| | 2-wire(current) | 3-wire(voltage) |
|---------|-----------------|-----------------|
| Supply+ | 1 | 1 |
| Signal+ | 2 | 3 |
| Gnd | - | 2 |

Cable outlet



| | 2-wire(current) | 3-wire(voltage) |
|---------|-----------------|-----------------|
| Supply+ | red | red |
| Signal+ | yellow | blue |
| Gnd | - | yellow |

9. Model Selection Table

| RP202-DPT | | Miniature Differential Pressure Transmitter | | | | | | | |
|-----------|--|---|---|---|---|---|---|---|---|
| Code | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| Pressure Type | |
|-----------------------|---|
| Differential Pressure | D |

| Pressure Ranges | |
|-----------------|-----|
| 0~1bar | 010 |
| 0~1.6bar | 016 |
| 0~2.5bar | 025 |
| 0~4bar | 040 |
| 0~6bar | 060 |
| 0~10bar | 100 |
| 0~16bar | 160 |
| 0~25bar | 250 |
| 0~30bar | 300 |
| 0~35bar | 350 |
| Customised | XX |

| Diaphragm MOC | |
|---------------|---|
| SS316L | M |

| Sensor Housing | |
|----------------|---|
| SS304 | A |
| SS316 | B |

| Accuracy | |
|----------|----------|
| D | 0.25%FSO |
| E | 0.5%FSO |

| Electrical Connection | |
|-----------------------|--|
| H | Hirschman |
| C | Cable outlet with PVC-cable, length=1.5m |
| M | M12x1, 4-pin |

| Process Connection | |
|--------------------|----------------|
| M2 | M20x1.5 (male) |
| G4 | G1/4 (male) |
| G2 | G1/2 (male) |
| N4 | 1/4NPT (male) |
| F4 | G1/4 (female) |
| XX | Customised |

| Output Signal | |
|---------------|------------|
| A | 4~20mA |
| B | 0~5VDC |
| C | 1~5VDC |
| D | 0~10VDC |
| E | Customised |

Example: RP202-DPT-D010MAAM2HD

RP202-DPT - Miniature Differential Pressure Transmitter

D - Pressure Type : Differential Pressure

010 - Pressure Ranges : 0~1bar

M - Diaphragm MOC : SS316L

A - Sensor Housing : SS304

A - Output Signal : 4~20mA

M2 - Process Connection : M20x1.5 (male)

H - Electrical Connection : Hirschman

D - Accuracy : 0.25%FSO

Field Instrumentation Range



Pressure Measurement

- Smart Differential Pressure Transmitter
- Smart Gauge Pressure Transmitter
- Smart Absolute Pressure Transmitter
- Miniature Pressure Transducer without display
- Sanitary Gauge/ Absolute Pressure Transmitter

- Submersible Pressure Transmitter
- Remote Seal Differential P.T. with capillary
- Remote Seal Differential P.T. Direct Mount
- Remote Seal Gauge/Absolute P.T. with capillary
- Remote Seal Gauge/Absolute P.T. Direct Mount



Flow Measurement

- Coriolis Mass Flowmeter
- Thermal Gas Mass Flowmeter
- Positive Displacement Flowmeter
- Electromagnetic Flowmeter
- Vortex Flowmeter

- Turbine Flowmeter
- Variable Area Flowmeter
- Clamp On Ultrasonic Flowmeter
- Inline Ultrasonic Flowmeter
- Portable Ultrasonic Flowmeter



Level Measurement

- RADAR Level Transmitter Horn Antenna
- Compact RADAR Level Transmitter
- RADAR Level Transmitter Sanitary
- RADAR Level Transmitter
- Guided Wave RADAR Level Transmitter
- Guided Wave RADAR Level Transmitter
- RADAR Level Transmitter Lens Antenna

- RADAR Level Transmitter Rod Antenna
- Ultrasonic Level Transmitter
- Microwave Barrier Level Switch
- Admittance Level Switch Series
- Vibrating Rod Level Switch Series
- Tuning Fork Level Switch Series



Temperature Measurement

- Head Mount Temperature Transmitter
- Temperature Transmitter for Sanitary Applications

- DIN Rail Temperature Transmitter
- Field Mount Temperature Transmitter

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