

Model DPT 209 Transducer

Gauge Pressure

Range: 0 to 1 psig up to 0 to 10,000 psig

Now Available!

COMPOUND
& VACUUM
RANGES



Setra Systems Model 209 pressure transducers have been designed specifically for industrial applications with demanding price and performance requirements. The 209 offers exceptional reliability in typical industrial grade environments. Standard features tailor the Model 209 for applications with more extreme environmental conditions or more stringent performance needs. The Model 209 offers unparalleled performance in a configurable transducer designed specifically for the budget conscious OEM.

NOTE: Setra quality standards are based on ANSI-Z540-1. The calibration of this product is NIST traceable.

Setra's proven center mount electrode configuration is the heart of this simple, yet industrialized, design. A 17-4 PH stainless steel sensor and a rigid stainless steel electrode form the variable capacitor.

Setra 209 transducers are packaged in rugged stainless steel/Valox housings, which are small and lightweight for optimum compatibility with system designs. As a totally self-contained electronic package, the 209 stainless steel capacitance sensing element, coupled with a high level output IC-based circuit, assures excellent accuracy and long term stability.

Pressure Ranges

| Full Scale Range | Proof Pressure | Burst Pressure |
|------------------|----------------|----------------|
| 1 | 2 | 250 |
| 2 | 4 | 250 |
| 5 | 10 | 250 |
| 10 | 20 | 500 |
| 25 | 50 | 500 |
| 50 | 100 | 750 |
| 100 | 200 | 1000 |
| 200 | 400 | 2000 |
| 250 | 500 | 2000 |
| 500 | 1000 | 3000 |
| 1000 | 2000 | 5000 |
| 2000 | 3000 | 6500 |
| 3000 | 4500 | 7500 |
| 5000 | 7500 | 10,000 |
| 10,000 | 12,500 | 20,000 |

Applications

- Industrial OEM Equipment
- Hydraulic Systems
- Compressor Control
- HVAC/R Equipment
- Industrial Engines
- Process & Containerized Refrigeration Systems

Benefits

- Unparalleled Price/Performance
- Rugged Design Survives Harsh Environments
- Operates Over a Wide Temperature Band
- Compatible with Wide Range of Gases & Liquids
- Operates on Low Cost Unregulated DC Power
- Suitable for High Shock & Vibration Applications
- No Seals or "O" Rings to Cause Leakage
- No Brazed Joints Susceptible to Corrosion Problems
- 3 to 5 Day Shipment for Small Quantities, Standard Configurations



setra

Model DPT 209 Specifications

Performance Data

| | |
|----------------------------------|-----------|
| Accuracy RSS* (at constant temp) | ±0.25% FS |
| Non-Linearity (BFSL) | ±0.22% FS |
| Hysteresis | 0.10% FS |
| Non-Repeatability | 0.05% FS |

Thermal Effect

| | |
|---------------------------------|-------------------------|
| Compensated Range °F (°C) | -4 to +176 (-20 to +80) |
| Zero Shift %FS/100°F (%FS/50°C) | 2.0 (1.8) |
| Span Shift %FS/100°F (%FS/50°C) | 1.5 (1.3) |

| | |
|---------------|----------------|
| Warm-up Shift | ±0.1% FS total |
| Response Time | 5 milliseconds |
| Stability | 0.5% FS/Year |

*RSS of Non-Linearity, Non-Repeatability and Hysteresis.

Environmental Data

| | |
|--------------------------|---------------------------|
| Temperature | |
| Operating °F (°C) | -40 to +260 (-40 to +127) |
| Storage °F (°C) | -40 to +260 (-40 to +127) |
| Vibration* | 20g |
| Shock** | 200g |
| Environmental Protection | Weather Resistant |

*MIL-STD 202, Method 204, Cond. C

**MIL-STD 202, Method 213B, Cond. C

Electrical Data (Voltage)

| | |
|------------------|------------------------|
| Circuit | 3-Wire (Com, Out, Exc) |
| Excitation | 9 to 30 VDC |
| Output* | 0.5 to 5.5 VDC** |
| Output Impedance | 10 ohms |

*Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.

**Zero output factory set to within ±50mV.

***Span (Full Scale) output factory set to within ±50mV.

Note: Other outputs are available with 9 to 30 VDC excitation. An output of 0.5 to 4.5 VDC output is available with 15 VDC excitation.

Electrical Data (Current)

| | |
|---------------|---------------|
| Circuit | 2-Wire |
| Output* | 4 to 20 mA** |
| External Load | 0 to 800 ohms |

Minimum supply voltage (VDC) = $9 + 0.02x$
(Resistance of receiver plus line).

Maximum supply voltage (VDC) = $28 + 0.004x$
(Resistance of receiver plus line).

*Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.

**Zero output factory set to within ±0.16mA.

***Span (Full Scale) output factory set to within ±0.16mA.

Physical Description

| | |
|-----------------------|-----------------------------|
| Case | Stainless Steel & Valox |
| Sensor | 17-4 PH Stainless Steel |
| Electrical Connection | 2 ft. multi-conductor cable |
| Pressure Fitting* | 1/4" - 18 NPT external, |
| | 17-4 PH Stainless Steel |

| | |
|------------------|-----------------------|
| Vent | Through cable |
| Weight (approx.) | 2.3 ounces (65 grams) |

*See ordering information for other fittings available (minimum quantities apply).

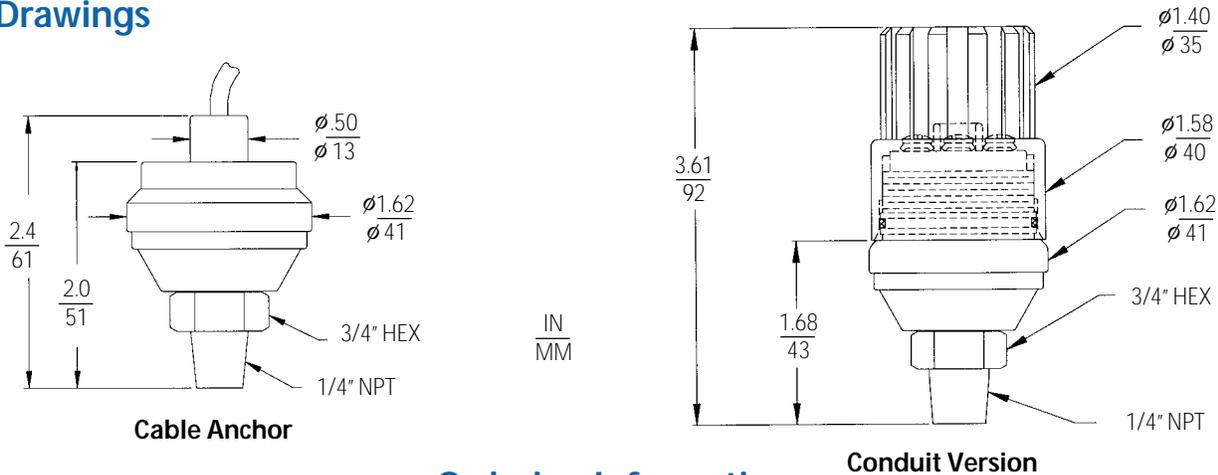
Pressure Media

Liquids or gases compatible with 17-4 PH Stainless Steel*.

*Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel.

Specifications subject to change without notice.

Outline Drawings



Ordering Information

| Input Range PSIG | Product Codes-Cable Version | | Input Range PSIG | Product Codes-Conduit Version | |
|---------------------|-----------------------------|----------------------|---------------------|-------------------------------|----------------------|
| | 0.5 to 5.5 VDC Output | 4 to 20 mA Output | | 0.5 to 5.5 VDC Output | 4 to 20 mA Output |
| 0 to 5 | DPT2090-5G | DPT2091-5G | 0 to 5 | DPT2090C-5G | DPT2091C-5G |
| 0 to 10 | DPT2090-10G | DPT2091-10G | 0 to 10 | DPT2090C-10G | DPT2091C-10G |
| 0 to 25 | DPT2090-25G | DPT2091-25G | 0 to 25 | DPT2090C-25G | DPT2091C-25G |
| 0 to 50 | DPT2090-50G | DPT2091-50G | 0 to 50 | DPT2090C-50G | DPT2091C-50G |
| 0 to 100 | DPT2090-100G | DPT2091-100G | 0 to 100 | DPT2090C-100G | DPT2091C-100G |
| 0 to 250 | DPT2090-250G | DPT2091-250G | 0 to 250 | DPT2090C-250G | DPT2091C-250G |
| 0 to 500 | DPT2090-500G | DPT2091-500G | 0 to 500 | DPT2090C-500G | DPT2091C-500G |
| 0 to 1000 | DPT2090-1000G | DPT2091-1000G | 0 to 1000 | DPT2090C-1000G | DPT2091C-1000G |
| Compound | | | Compound | | |
| -14.7 to 30 | DPT2090-30C | DPT2091-30C | -14.7 to 30 | DPT2090C-30C | DPT2091C-30C |
| -14.7 to 100 | DPT2090-100C | DPT2091-100C | -14.7 to 100 | DPT2090C-100C | DPT2091C-100C |
| Vacuum | | | Vacuum | | |
| 14.7 PSIV | DPT2090-14.7V | DPT2091-14.7V | 14.7 PSIV | DPT2090C-14.7V | DPT2091C-14.7V |

Add DPT-CAL-CERT for Calibration Certificate