

proSense®PTD25 Series Pressure Transmitters



The ProSense PTD25 pressure transmitter series is engineered to meet many industrial, commercial, and OEM pressure measurement applications. The ceramic sensing element with Viton seals provides high over pressure ratings and can be used to sense any compatible media. With a robust design resistant to vibration, shock, and EMI/RFI, the PTD25 series provides high accuracy over a wide compensated temperature range. Pressure sensing ranges from vacuum to 5000 psig are available along with a 1/4 inch NPT male threaded process connection. Choose from linear outputs of 4-20 mA or 0-10VDC with a 4-pin M12 quick-disconnect plug electrical connection. The PTD25 series is UL508 listed, CE marked and comes with a 3 year warranty.

Applications

- Process control & automation
- Pump & compressor control
- Hydraulic systems
- Pneumatic systems
- Engine monitoring
- Presses
- Machine tools

Features

- Ceramic sensing element with Viton seals
- High over pressure ratings
- Pressure ranges from vacuum to 5000 psig
- 1/4 inch NPT male threaded process connection
- Output options: 4-20 mA or 0-10 VDC
- M12 quick disconnect electrical connection
- UL508 listed, CE marked
- CE marked
- 3-year warranty




Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured. For gaseous media, limit the process pressure to 363 Psig (25 bar) maximum.

| ProSense PTD25 Series Pressure Transmitters | | | | |
|---|---|---------|--------|----------|
| Part Number | Description | Pcs/Pkg | Wt(lb) | Price |
| PTD25-10-VH | Vacuum transmitter, 10 to 0 V output, -14.5 to 0 psig range vacuum, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-10-0100WCH | Pressure transmitter, 0 to 10 V output, 0 to 100 inches wc* range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-10-0015H | Pressure transmitter, 0 to 10 V output, 0 to 15 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-10-0030H | Pressure transmitter, 0 to 10 V output, 0 to 30 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-10-0100H | Pressure transmitter, 0 to 10 V output, 0 to 100 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-10-0200H | Pressure transmitter, 0 to 10 V output, 0 to 200 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-10-0500H | Pressure transmitter, 0 to 10 V output, 0 to 500 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-10-1000H | Pressure transmitter, 0 to 10 V output, 0 to 1000 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-10-3000H | Pressure transmitter, 0 to 10 V output, 0 to 3000 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-10-5000H | Pressure transmitter, 0 to 10 V output, 0 to 5000 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-20-VH | Vacuum transmitter, 20 to 4 mA output, -14.5 to 0 psig range vacuum, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-20-0100WCH | Pressure transmitter, 4 to 20 mA output, 0 to 100 inches wc* range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-20-0015H | Pressure transmitter, 4 to 20 mA output, 0 to 15 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-20-0030H | Pressure transmitter, 4 to 20 mA output, 0 to 30 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-20-0100H | Pressure transmitter, 4 to 20 mA output, 0 to 100 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-20-0200H | Pressure transmitter, 4 to 20 mA output, 0 to 200 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-20-0500H | Pressure transmitter, 4 to 20 mA output, 0 to 500 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-20-1000H | Pressure transmitter, 4 to 20 mA output, 0 to 1000 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-20-3000H | Pressure transmitter, 4 to 20 mA output, 0 to 3000 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |
| PTD25-20-5000H | Pressure transmitter, 4 to 20 mA output, 0 to 5000 psig range, 1/4" NPT male port | 1 | 0.48 | \$151.00 |

*wc = water column

ProSense® PTD25 Pressure Transmitters

| ProSense PTD25 Series General Specifications | |
|--|---|
| Housing Material | Stainless steel (316S12); FPM (Viton); PA; EPDM/X (Santoprene) |
| Materials (wetted parts)* | Stainless steel (303S22); ceramics; FPM (Viton) |
| Operating Temperature | -13 to 176°F (-25 to 80°C) |
| Medium Temperature | -13 to 194°F (-25 to 90°C) |
| Storage Temperature | -40 to 212°F (-40 to 100°C) |
| Protection | IP 68 / IP 69K (Units with pressure range 1000 psig and higher) |
| Protection | IP 65 (Units with pressure range 500 psig and lower) |
| Protection Class | Class III  |
| Accuracy | < ± 0.75% of full range |
| Repeatability | < ± 0.15% of full range |
| Insulation Resistance | > 100 MΩ: (500V DC) |
| Shock Resistance | 50g (DIN / IEC 68-2-27, 11ms) |
| Vibration Resistance | 20g (DIN / IEC 68-2-6, 10 - 2000 Hz) |
| EMC | |
| EN 61000-4-2 ESD | 4 kV / 8 kV AD |
| EN 61000-4-3 HF Radiated | 30 V/m |
| EN 61000-4-4 Burst | 2 kV |
| EN 61000-4-6 HF Conducted | 10 V |
| EMC (PTD25-20-xxxx) | |
| EN 61000-4-2 ESD | 4 kV / 8 kV AD |
| EN 61000-4-3 HF Radiated | 30 V/m |
| EN 61000-4-4 Burst | 2 kV |
| EN 61000-4-6 HF Conducted | 10 V |
| Radiation of Interference | 2004/104/EC / CISPR25, according to the road vehicle guideline |
| Noise Immunity | 2004/104/EC / ISO 11452-2, according to the road vehicle guideline |
| HF Conducted | 100 V/m |
| Pulse Resistance | According to ISO7637-2: Severity level 3 |
| Agency Approvals | cULus (E320431), CE, RoHS |
| * Not cleaned for oxygen service | |

| ProSense PTD25 Series Technical Specifications | |
|--|--|
| Technical Specifications PTD25-10-xxxx | |
| Operating Voltage PTD25-10-xxxx | 16 to 32 VDC ¹ |
| Current Consumption | < 18 mA |
| Analog Output | 0 to 10 V (min/max 0 to 10.5V) |
| Minimum Load | 2000 Ω |
| Step Response Time Analog Output | 3 ms |
| Technical Specifications PTD25-20-xxxx | |
| Operating Voltage PTD25-20-xxxx | 9.6 to 32 VDC |
| Analog Output | 4 to 20 mA (min/max 3.85 to 22 mA) |
| Maximum Load | [(supply voltage - 9.6) x 50]Ω For example: [(24 VDC - 9.6) x 50] = 720Ω |
| Step Response Time Analog Output | 3 ms |
| Radiation of Interference | 2004/104/EC / CISPR25, according to the road vehicle guideline |
| Noise Immunity | 2004/104/EC / ISO 11452-2, according to the road vehicle guideline |
| HF Conducted | 100 V/m |
| Pulse Resistance | According to ISO7637-2: Severity level 3 |
| ¹) per EN50178, SELV, PELV | |
| *Note: BFSL = Best Fit Straight Line / FR = Full Range | |



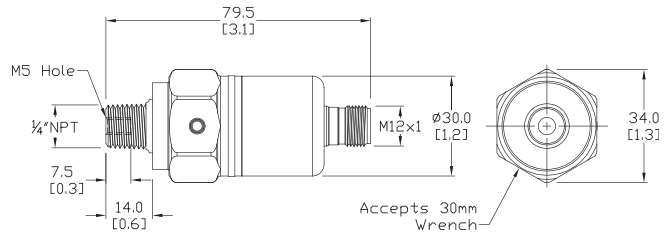
Warning! Avoid static and dynamic overpressure exceeding the given overload pressure.
Exceeding the bursting pressure for even a short time can cause destruction of the unit and possible injuries!

pro^{sense}® PTD25 Pressure Transmitters

| Applications (Type of Pressure: Relative Pressure, Liquids and Gases) | | | |
|--|-------------------------|-------------------------------|-------------------------|
| Part Number | Measuring Range | Permissible Overload Pressure | Bursting Pressure |
| | Psig | Psig | Psig |
| PTD25-10-5000H PTD25-20-5000H | 0 to 5000 | 11600 | 17400 |
| PTD25-10-3000H PTD25-20-3000H | 0 to 3000 | 5800 | 12300 |
| PTD25-10-1000H PTD25-20-1000H | 0 to 1000 | 4350 | 9400 |
| PTD25-10-0500H PTD25-20-0500H | 0 to 500 | 2175 | 5075 |
| PTD25-10-0200H PTD25-20-0200H | 0 to 200 | 1087 | 2175 |
| PTD25-10-0100H PTD25-20-0100H | 0 to 100 | 1087 | 2175 |
| PTD25-10-0030H PTD25-20-0030H | 0 to 30 | 290 | 725 |
| PTD25-10-0015H PTD25-20-0015H | 0 to 15 | 145 | 450 |
| PTD25-10-VH PTD25-20-VH | -14.5 to 0 (vacuum) | 145 | 450 |
| | <i>inH₂O</i> | <i>inH₂O</i> | <i>inH₂O</i> |
| PTD25-10-0100WCH PTD25-20-0100WCH | 0 to 100 | 2400 | 12043 |

Dimensions

mm [inches]

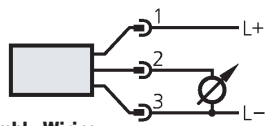


See our website www.AutomationDirect.com for complete Engineering drawings.

inH₂O = Inches of Water (represents Water Column)

All PTD25 series transmitters can withstand vacuum down to -14.5 psig

PTD25-10 Wiring Diagrams



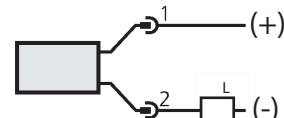
Cable Assembly Wiring

- Colors:
Pin 1 - Brown
Pin 2 - White
Pin 3 - Blue
Pin 4 - Black

See Proximity Sensor section for cable specs

Note: Wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.

PTD25-20 Wiring Diagrams



Cable Assembly Wiring

- Colors:
Pin 1 - Brown
Pin 2 - White
Pin 3 - Blue
Pin 4 - Black

See Proximity Sensor section for cable specs

Pressure Units Conversion Chart

| Pressure Conversion Table: Multiplication Factors | | | | | | | | | |
|---|----------------------------|----------------------------|----------------------------|------------------------------|----------------------------|---------------------------|---------------------------|--------------------------|--------------------------|
| Desired Units | Known Units | | | | | | | | |
| | Atmos | Bars | In of Hg (0°C) | In of H ₂ O (4°C) | K grams/meter ² | Lb/in ² (psig) | Lb/ft ² | mm of Hg torr | Pascals |
| Atmos | 1 | 9.86923 x 10 ⁻¹ | 3.34207 x 10 ⁻² | 2.458 x 10 ⁻³ | 9.678 x 10 ⁻⁵ | 0.068046 | 4.7254 x 10 ⁻⁴ | 1.316 x 10 ⁻³ | 9.869 x 10 ⁻⁶ |
| Bars | 1.01325 | 1 | 3.3864 x 10 ⁻² | 2.491 x 10 ⁻³ | 9.8067 x 10 ⁻⁵ | 6.8948 x 10 ⁻² | 4.788 x 10 ⁻⁴ | 1.333 x 10 ⁻³ | 10 ⁻⁵ |
| In of Hg (0°C) | 29.9213 | 29.53 | 1 | 7.355 x 10 ⁻² | 2.896 x 10 ⁻³ | 2.036 | 0.014139 | 3.937 x 10 ⁻² | 2.953 x 10 ⁻⁴ |
| In of H ₂ O (4°C) | 406.8 | 401.46 | 13.60 | 1 | 3.937 x 10 ⁻² | 27.68 | 0.1922 | 0.5354 | 4.014 x 10 ⁻³ |
| K grams/meter ² | 1.033227 x 10 ⁴ | 1.0197 x 10 ⁴ | 345.3 | 25.40 | 1 | 7.0306 x 10 ² | 4.882 | 13.59 | 1.019 x 10 ⁻¹ |
| Lb/in ² (psig) | 14.695595 | 14.504 | 0.4912 | 3.6126 x 10 ⁻² | 1.423 x 10 ⁻³ | 1 | 6.9444 x 10 ⁻³ | 1.934 x 10 ⁻² | 1.450 x 10 ⁻⁴ |
| Lb/ft ² | 2116.22 | 2088.5 | 70.726 | 5.202 | 0.2048 | 144.0 | 1 | 2.7844 | 2.089 x 10 ⁻² |
| mm of Hg torr | 760 | 750.06 | 25.400 | 1.868 | 7.3558 x 10 ⁻² | 51.715 | 0.35913 | 1 | 7.502 x 10 ⁻³ |
| Pascals | 1.01325 x 10 ⁵ | 1 x 10 ⁵ | 3.386 x 10 ³ | 2.491 x 10 ² | 9.8067 | 6.8948 x 10 ³ | 4.788 x 10 ¹ | 1.333 x 10 ² | 1 |

Example: To convert from 50 psig to "In of H₂O", (50 psig) (27.68) = 1384 In of H₂O