

PDWT25 Series

Wide Temperature Range High Accuracy Differential Pressure, Gage Pressure Transducer

XRI's PDWT25 series pressure sensor is a wide temperature range, multi-function, high accuracy pressure transducer. Utilizing advanced micro-machined silicon MEMS technology, unique oil-filled sensing capsule, robust EMI and EMD anti-interference design, and stainless steel internal and external parts. All make PDWT25 a pressure sensor with high precision, high reliability, and suitable for a variety of measurement applications. It furthermore provides electronic circuits with a 10KHz frequency bandwidth. The series is configured with a variety of pressure connections and can provide a number of different electrical output signals and methods. The series is designed with wet-wet differential pressure as the base model with a single low price allowing for wet-wet wet-dry and dry-dry applications. The sensors offer a high degree of overload tolerance and measurement safety through their solid, all stainless steel construction. The highly modular design allows customers to quickly meet special customization requirements.

About Us

- *XRI Innovation, Inc. (XRI) is a vertically integrated company aimed at reaching the pinnacle of sensing-with innovative and modern designs and manufacturing technologies.*
- *XRI is committed to offering high-end products with technology innovation, quality control and production efficiency.*
- *Portfolio includes pressure, temperature, flow, position, displacement, rotational speed, gas and others. The products are positioned for high-end applications, especially in aerospace, precision manufacturing, oil and gas and transportation vehicles.*
- *XRI adheres to the principle that company employees as a team are the most valuable asset, and focuses on building a company that values reliability, devotion and innovation.*
- *XRI firmly believes that 'Satisfying Customers' Wants is the Primary Mission of XRI.'*

Specifications

Physical properties

Item	Description
Range ¹	Differential pressure: 0~5MPa selectable Gage pressure: 0~5MPa selectable
Proof Pressure ²	2x FS ⁵ both positive and negative side pressure.
Burst Pressure ³	3 x line pressure, must not exceed 7Mpa

Mechanical Parameters

Item	Description
Pressure Connection	See configuration guide
Vibration Resistance	20g Max 10-2500HZ; Shock <20ms
Exposed Material	316L SS optional
Test Medium	All fluid compatible with 316L SS
Weight	140g Max. Cable and connector weight extra

Temperature Properties⁴

Item	Description
Compensated Temperature Range	See configuration guide
Storage Temperature	-55°C~150°C
Accuracy (Combined best Fit Straight Line Nonlinearity, Re- peatability and Hysteresis)	±0.1% FS ⁵ (Typical), ±0.5% FS ⁵ Max
Total Error ⁶ :	< ±0.2% FS ⁵ /100°C

Electrical Performance

Item	Description
Excitation / Output Options	See configuration guide
Circuit Bandwidth	10KHz
Warm Up Time	EC, ED, EE, EF < 200ms
Room Temperature Zero Offset	EC 4mA
	ED EF 0.5±0.25V
	EE ±0.25V
	EF ±0.5V
Room temperature full scale output	EC 20mA
	ED 4.5±0.25V
	EE 5±0.25V
	EF 10±0.5V
Insulation Resistance	≥ 100MΩ @50VDC
Dielectric Strength	Leakage current ≤ 5mA @50VAC RMS
Max Input Current	< 25mA
Output Impedance	< 150 Ω
Long Term Stability	Not exceeding 0.1% FS ⁵ /year
Electrical Connection Options	See configuration guide

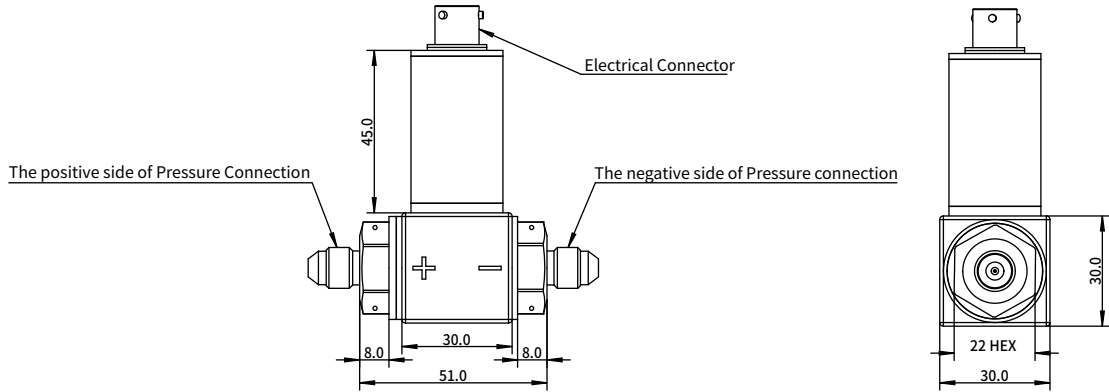
Electrical Interface Description:

Electrical connector	Pin / Wire color	Function			
		EC	ED	EE	EF
E5	A/1	Vin+	Vin+	Vin+	Vin+
	B/2		Vout+	Vout+	Vout+
	C/3			Vcom(2.5V)	Vcom(5V)
	D/4	Vin-	Vin-	Vin-	Vin-
E8	Red	Vin+	Vin+	Vin+	Vin+
	Green		Vout+	Vout+	Vout+
	White			Vout-	Vout-
	Black	Vin-	Vin-	Vin-	Vin-
E9	Red	Vin+			
	Black	Vin-			

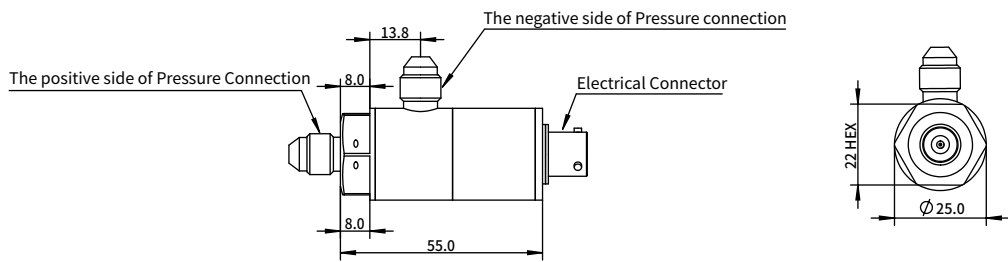
- 1: Also offers composite ranges such as from 5-100kPa Absolute Pressure .
- 2: Pressure exposure not exceeding proof pressure does not affect transducer performance .
- 3: Burst Pressure is a safety upper limit. Over this value transducer may be permanently damaged .
- 4: Temperature effects are related to sensor accuracy variations within the compensation temperature range.
- 5: FS= Full scale
- 6: Error based on deviations away from the best endpoint fit straight line baseline calibration.

Outline Drawing:

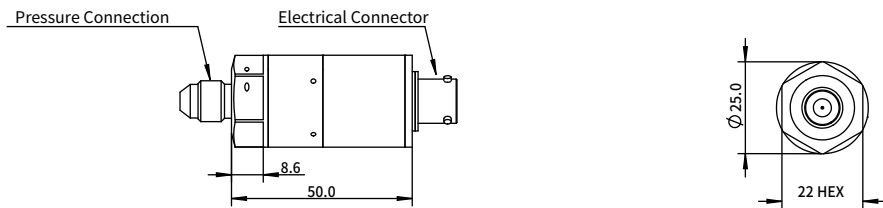
T-Type Differential Pressure Sensor:



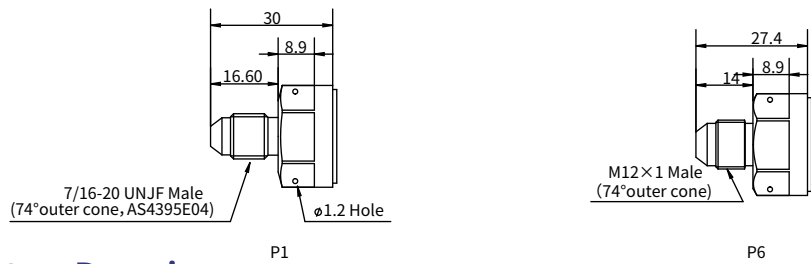
L-Type Differential Pressure Sensor:



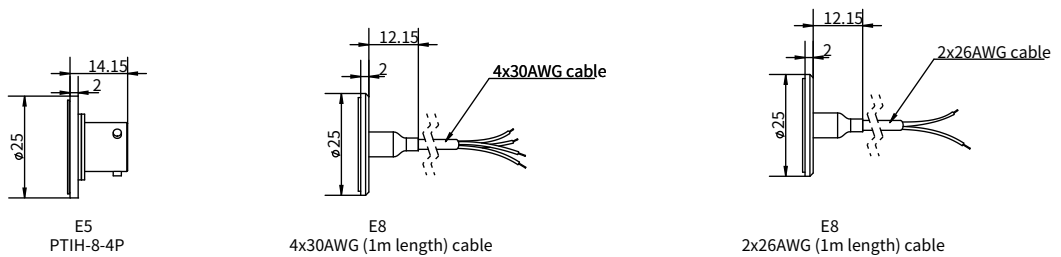
Gage Pressure Sensor:



Pressure Connections Drawing:



Electrical Connector Drawing:



Configuration Guide

Base Model

PDWT25

Structure type

- T T-Type Differential Pressure Sensor
- L L-Type Differential Pressure Sensor
- G Gage Pressure Sensor

Electrical Properties

- EC 4~20mA output, 12~28V power supply, high precision digital compensation, 2-wire
- ED 0.5~4.5V output, 8~32V power supply, high precision digital compensation, 3-wire
- EE 0~5V output, 8~32V supply, high precision digital compensation, 4-wire, output common mode 2.5V (typical)
- EF 0~10V output, 12~32V supply, high precision digital compensation, 4-wire, output common mode 5V (typical)

Electrical Connector

- E5 PTIH-8-4P
- E8 4x30AWG (1m length) cable
- E9 2x26AWG (1m length) cable

Other choices available upon request

Pressure Connections

- P1 7/16-20 UNJF Male (74°outer cone, AS4395E04)
- P6 M12×1 Male (74°outer cone)

Other choices available upon request

**Positive Negative
Pressure pressure**

Temperature Compensation

- TA 25°C~80°C
- TB -20°C~125°C
- TC -40°C~125°C
- TD -55°C~150°C

(Full Scale Pressure Range)Pressure types

- (0-5)MPa D Differential
- (0-5)MPa G Gage

Special requests

SDetails in purchase order

Example:PDWT25-T -EC -E5 -P1 P6 -TD -(0-1)MPa D -S

