

Pressure

Flow

Force

Vacuum

Tension

Position

Torque

# DS

**PRESSURE TRANSDUCERS**

From Full Vacuum to 7,000 psig (483 bar)

# DS-Series

DS series pressure transducers accurately measure pressure of gases or fluids. The output is an electrical signal based on the measurement.

Conditioning of the electrical signal from the strain gauge sensor gives either 0-10 VDC or 4-20 mA output depending on the model ordered (consult factory for other available outputs). The electrical output is a linear ratio of the pressure sensed. DS series transducers are enclosed in a rugged aluminum housing. A strain relief protects the wiring from damage caused by excessive pulling force.

The standard version (DS) measures pressure using a piezo-resistive semiconductor sensor chip.

The stainless steel version (DST) utilizes the same silicon etched device mounted on a stainless steel diaphragm. On these units, no elastomers or o-rings contact the pressurized media. All media wetted parts are ANSI type 316L stainless steel.

The NEMA4 version (DSW series) is electrically identical to the DS series. The DSW series is housed in a slightly larger canister that is sealed against fluid spray from any direction.

The compact package (DSL) utilizes a piezo-resistive strain gauge sensor housed in a miniature rugged anodized aluminum canister. The DSL has a 10-32 pneumatic connection is lightweight with high accuracy and repeatability.

## ELECTRICAL

Supply Voltage	15 to 24 VDC
Supply Current	35 to 50 mADC

DSZ, DSX, DSTX, DSTVX, DSY, DSTY, DSTVY, WTE

Supply Current	4 to 20 mADC
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DSI, DSTI, DSTVI, WTI

Analog Output	0 to 10 Vdc
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DSX, DSTX, DSTVX, DSY, DSTY, DSTVY, WTE

Analog Output	4 to 20 mA
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DSI, DSTI, DSTVI, WTI

## PNEUMATIC

Pressure Range	Full Vac - 7,000 psig
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Response Time	100 Microseconds
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Repeatability	±0.02% (DSB, DSW, DSL)
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Repeatability	±0.25% (DST)
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Accuracy (Pressure)	±0.2% (DSB, DSW, DSL)
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Accuracy (Pressure)	±0.5% (DST)
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Operation Temp	32 °F to 158 °F
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### Calibration Temp. Effect

Zero & Span adjustable <1% over Specified temp. range (0-50 °C, 122 °F)

Ask us about using the DS-series pressure transducers as direct feedback to our family of Electro-Pneumatic Pressure Regulators.

A proven method to achieve high accuracy and repeatability when using Proportion-Air to control pilot operated mechanical regulators.

### PHYSICAL - DSB

<b>Weight</b>	4.8 oz. (136g)
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Viton, Aluminum & 360 FC Brass

<b>Media</b>	Non corrosive gases
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<b>Shock</b>	100 G's of force
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### PHYSICAL - DSW

<b>Weight</b>	11.2 oz. (318g)
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Viton, Aluminum & 360 FC Brass

<b>Media</b>	Non corrosive gases
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<b>Shock</b>	100 G's of force
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### PHYSICAL - DST

<b>Weight</b>	5.4 oz. (154g)
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316L Stainless Steel & Aluminum

<b>Media</b>	NC fluids & gases
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<b>Shock</b>	100 G's of force
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### PHYSICAL - DSL

<b>Weight</b>	1.6 oz. (45g)
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Aluminum & Buna-N

<b>Media</b>	Non corrosive gases
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<b>Shock</b>	100 G's of force
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DSB



DSW



DST



DSL

ACCURACY 0.2% to 0.5% F.S.

PRESSURE RANGE Full Vacuum to 7,000 psig (483 bar)



FITTING SIZE 10-32, 1/8" & 1/4"

PRESSURE TRANSDUCERS

Example Part Number : **DS T E W 00 Z P 150 PS G A O2**

YOUR PART NUMBER : **DS**

Section —> 1 2 3 4 5 6 7 8 9 10 11 Options

**1 Type**

- B** Standard Button (Vac to 175 psig)
- L** Compact Package (Vac to 30 psig)
- T** Stainless Steel Durable Media (Vac to 7,000 psig)
- W** Watertight Package (Vac to 175 psig - NEMA4)

**2 Signal Type**

- E** 0 to 10 Vdc
- I** 4 to 20 mADC
- K** 0 to 5 Vdc
- V** 1 to 5 Vdc
- Z** 1.9 TO 9.5 Vdc

**3 Electrical Connection** Standard Length

<b>F</b>	3-pin Female RF Connector	18"
<b>W</b>	3-pin Male Connector*	18"
<b>Y</b>	3-pin Female Connector	18"
<b>X</b>	Flying Leads	18"

\*Cable Length Must Be '00' for 18 inches, Section #4

**4 Cable Length**

- 00** Standard Length (18 inches)
- 03** 3 Feet
- 06** 6 Feet
- 12** 12 Feet

**5 Zero Offset Pressure Type**

- N** 0% Pressure Starts Below Atmosphere
- P** 0% Pressure Starts Above Atmosphere
- Z** 0% Pressure Starts at Zero (Typical)

**6 Zero Offset Pressure**

Typical is 0\* - If Greater than 30% of Full Scale Pressure (#8 below) Please Consult Factory.

\*If Z for Zero Offset (#5), please leave blank

**7 Full Scale Pressure Type**

- N** 100% Pressure Ends Below Atmosphere
- P** 100% Pressure Ends Above Atmosphere
- Z** 100% Pressure Ends at Zero

**8 Full Scale Pressure**

Must be less than or equal to 7,000 psig

**9 Pressure Unit**

<b>PS</b>	PSI	Inches Hg	<b>IH</b>
<b>MB</b>	Millibars	Inches H <sub>2</sub> O	<b>IW</b>
<b>BR</b>	Bar	mm H <sub>2</sub> O	<b>MW</b>
<b>KP</b>	Kilopascal	Kilograms/cm <sup>2</sup>	<b>KG</b>
<b>MP</b>	Megapascal	Torr*	<b>TR</b>
<b>MH</b>	mm Hg	Centimeters H <sub>2</sub> O	<b>CW</b>

\*Requires A for Pressure Unit of Measure

**10 Pressure Unit of Measure**

- A** Absolute Pressure
- G** Gage Pressure

**11 Pneumatic Connection**

<b>A</b>	1/4" NPT Male	1/4" BSPT Male	<b>E</b>
<b>B</b>	1/8" NPT Male	1/8" BSPT Male	<b>F</b>
<b>C</b>	1/4" BSPP Female	10-32 UNF Female	<b>G</b>
<b>D</b>	1/8" NPT Female		

**Type B** A, B, F only - Standard Button

**Type L** G only - Compact

**Type T** A, B, C, D, F only - Stainless Steel

**Type W** A, B, E only - Watertight Package

**12 Options**

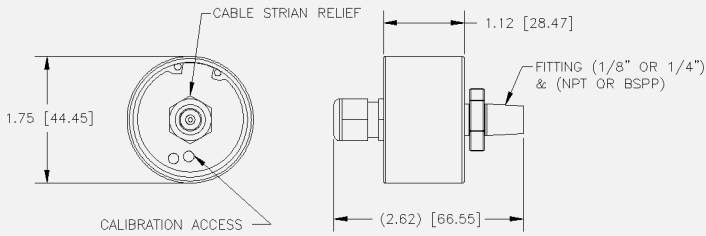
- O2** Oxygen Cleaned
- O3** O2 Cleaned for Non-Oxygen Use
- P1** 12 VDC Power

# DIMENSIONS

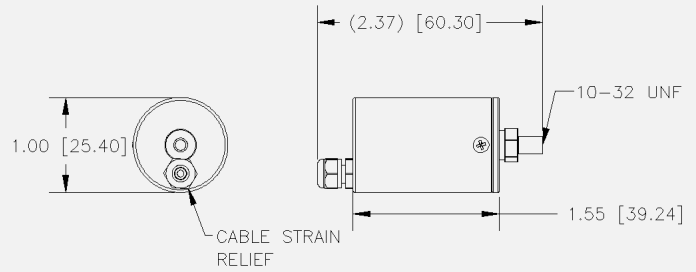
For reference only



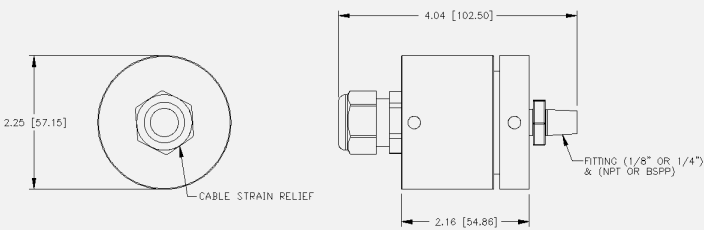
## DSB



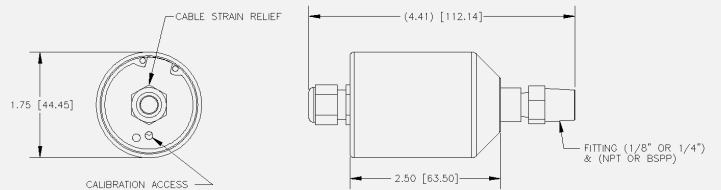
## DSL



## DSW



## DST



ONE PRODUCT THOUSANDS OF WAYS

Proportion-Air products are warranted to the original purchaser only against defects in material or workmanship for one (1) year from the date of manufacture. The extent of Proportion-Air's liability under this warranty is limited to repair or replacement of the defective unit at Proportion-Air's option. Proportion-Air shall have no liability under this warranty where improper installation or filtration occurred.

All specifications are subject to change without notice. **THIS WARRANTY IS GIVEN IN LIEU OF, AND BUYER HEREBY EXPRESSLY WAIVES, WARRANTIES OR LIABILITIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY OBLIGATION OF PROPORTION-AIR WITH REGARD TO CONSEQUENTIAL DAMAGES, WARRANTIES OF MERCHANTABILITY, DESCRIPTION, AND FITNESS FOR A PARTICULAR PURPOSE.**

**WARNING:** Installation and use of this product should be under the supervision and control of properly qualified personnel in order to avoid the risk of injury or death.