

ST350 Series

Aerospace Pressure Transducers

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Description

ST350 Series pressure transducers are designed to meet the rigorous requirements of the aerospace industry. These pressure sensors combine compact size, rugged construction, and a special high capacity sensing diaphragm designed to give highly accurate dynamic and static pressure measurements from 3000 psi to 40,000 psi. Additional design features include a wide compensated temperature range, all welded stainless steel construction, long term stability, low sensitivity to shock and vibration, and infinite resolution. ST350 Series aerospace pressure transducers are available in absolute, gage, and sealed pressure references. Each unit is shipped with a 19 point calibration record traceable to NIST as standard.

Standard Features

- Lightweight/Compact size (1 in. O.D.)
- Pressure Ranges to 40,000 psi
- 3 mV/V Output
- Low Thermal Error
- Wide Compensated Temperature Range
- All Stainless Steel Construction
- Shock and Vibration Resistant
- 19 Point Calibration Record Traceable to NIST
- 5000 psi Secondary Containment



Optional Features

- Customer Specified Electrical Termination
- Special Calibrations
- Additional Shock and Vibration Protection
- 9500 psi Secondary Containment (on Most Ranges)

LORD DATA SHEET

PERFORMANCE

Static Accuracy

Linearity: $\pm 0.20\%$ FSO
Hysteresis: $\pm 0.20\%$ FSO
Repeatability: $\pm 0.10\%$ FSO

Resolution

Infinite

Thermal Zero Shift

$< \pm 0.005\%$ FSO/ $^{\circ}$ F

Thermal Span Shift

$< \pm 0.005\%$ FSO/ $^{\circ}$ F

Zero Balance

$\pm 1\%$ FSO at 70° F

Full Scale Output

3.0 ± 0.015 mV/V at 70° F

Natural Frequency

5.0 kHz at 200 psi to 347 kHz at 40000 psi

Acceleration Response

$< \pm 0.15\%$ FSO/G at 200 psi to
 $\pm 0.0015\%$ FSO/G at 40000 psi

MECHANICAL CHARACTERISTICS

Standard Ranges

200, 300, 500, 750, 1000, 1500, 2000,
3000, 5000, 7500, 10000, 15000, 20000,
25000, 30000, 40000 psia / psig / psis

Proof Pressure

1.5 X range

Burst Pressure

2.0 X range

Operating Media

Fluids and gases compatible with 17-4
stainless steel
(Inconel and other materials optional)

Pressure Fitting

For ranges 300 psi thru 10000 psi:

7/16"-20 per AS4395E4 / MS33656-4
(Male) – (standard)

7/16"-20 per AS5202E4 / MS33649-4
(Female) – (No charge option)

For ranges >10000 psi thru 40000 psi:

AE F250-C, 9/16"-18 UNF, or equivalent
(standard)

For additional pressure fittings, please
consult factory.

Enclosure

Body and pressure cavity of stainless
steel, hermetically sealed

Weight

4.5 oz. maximum

ELECTRICAL CHARACTERISTICS

Excitation

10 Vdc recommended, 15 Vdc max.

Input / Output Resistance

350 ± 3.5 ohms at 70° F

Insulation Resistance

> 10 K megohms at 50 Vdc at 70° F

Electrical Termination

MIL-C-26482 Class No. 3113H-10-6P

Optional electrical terminations available.

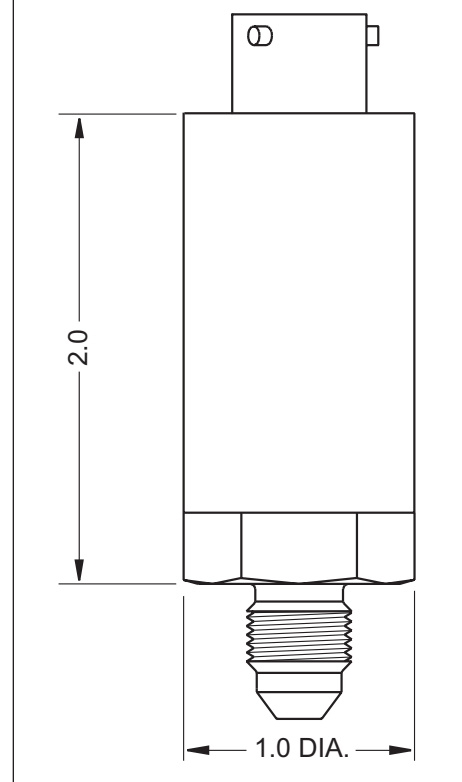
Wiring

PIN A (+) Excitation
PIN B (+) Signal
PIN C (-) Signal
PIN D (-) Excitation
PIN E, F No Connection
Shunt Available

Standard configuration shown.

Options available.

DIMENSIONS (inches)



ENVIRONMENTAL CHARACTERISTICS

Compensated Temperature Range

-65° F to $+250^{\circ}$ F

Operating Temperature Range

-100° F to $+300^{\circ}$ F

Values stated in this technical data sheet represent typical values as not all tests are run on each lot of material produced. For formalized product specifications for specific product end uses, contact the Customer Support Center.

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