

ST120 Series

Aerospace Pressure Transducers

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Description

ST120 Series pressure transducers are designed to meet the rigorous requirements of the aerospace industry. These pressure transducers weigh approximately 3.5 oz. Besides their very small size, these pressure sensors combine rugged construction and unique sensor diaphragm designs to give highly accurate dynamic and static pressure measurements from 15 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. ST120 Series units with pressure ranges equal to or less than 2500 psi have built-in overpressure protection. These 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

- Extremely Small Size
- Lightweight (3.5 oz maximum)
- 3 mV/V Output
- Wide Compensated Temperature Range
- Pressure Ranges to 40,000 psi
- Built-in Overpressure Protection up to 2500 psi
- All Stainless Steel Construction
- Shock and Vibration Resistant
- 19 Point Calibration Record Traceable to NIST



Optional Features

- Expanded Temperature Compensation Range
- Expanded Temperature Operating Range
- Customer Specified Electrical Termination
- Special Calibrations

LORD DATA SHEET

PERFORMANCE

Static Accuracy

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

Resolution

Infinite

Thermal Error

$\pm 0.020\%$ FSO/ $^{\circ}$ F typical over the compensated temperature range

Zero Balance

$\pm 2\%$ FSO at 70° F

Full Scale Output

3.0 ± 0.03 mV/V FSO at 70° F

Natural Frequency

1.0 kHz at 15 psi to 347 kHz at 30000 psi

Acceleration Response

$< \pm 0.15\%$ FSO/G at 15 psi to
 $\pm 0.0015\%$ FSO/G at 30000 psi

MECHANICAL CHARACTERISTICS

Standard Ranges

0-15, 25, 30, 50, 75, 100, 200, 500,
750, 1000, 1500, 2000, 3000, 5000,
7500, 10000, 15000, 20000, 25000 and
30000 psia / psig

Proof Pressure

15-125 psi ranges: 250 psi
150 psi range and up: 1.5 X range

Burst Pressure

2.0 X range or 300 psi whichever is
greater

Operating Media

Fluids and gases compatible with 316
and 347 or 17-4PH stainless steel

Pressure Fitting

7/16-20 per MS33656-4 for ranges up to
and including 10000 psi
AE F250-C, 9/16-18 UNF for ranges
15000 psi and up

Enclosure

Body and pressure cavity of stainless
steel, hermetically sealed

Weight

3.5 oz. maximum

ELECTRICAL CHARACTERISTICS

Excitation

10 Vdc recommended, 15 Vdc max.

Input / Output Resistance

350 ± 3.5 ohms at 70° F

Insulation Resistance

$> 10K$ megaohms at 50 Vdc at 70° F

Electrical Termination

PTIH-10-6P stainless steel connector or
equivalent

Optional electrical terminations available.

Wiring

Excitation +A, -D; Signal +B, -C;
No connection E, F. (Shunt available)
Standard configuration shown.

Options available.

ENVIRONMENTAL CHARACTERISTICS

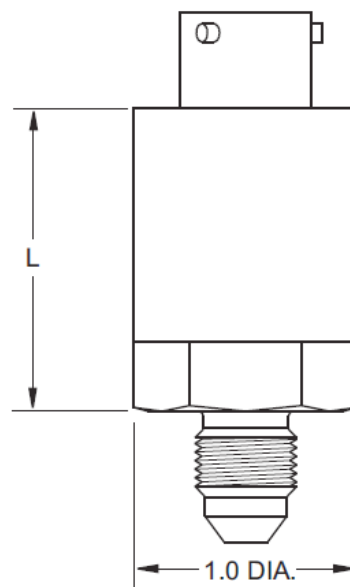
Compensated Temperature Range

-65° F to $+250^{\circ}$ F
(-320° F to $+425^{\circ}$ F optional)

Operating Temperature Range

-100° F to $+300^{\circ}$ F

DIMENSIONS (inches)



L (Length)=
1.5" - Ranges $< 7K$ psi
1.7" - Ranges $> 7K$ psi

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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ISO 9001/AS9100