

Series ST120

Aerospace Pressure Transducer



Description

The Series ST120 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. Series ST120 units with pressure ranges equal to or less than 2500 psi, have built in over pressure 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
- Light weight (3.5 oz maximum)
- 3 mV/V output
- Wide Compensated Temperature Range
- Pressure ranges to 40,000 psi
- Built-in Over Pressure Protection up to 2,500 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

ST120

Series ST120 Specifications

Baseline Configuration Specs Represented.
Modifications Encouraged - See Below
Custom Designs Available

Performance

Static Accuracy

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

Resolution

Infinite

Thermal Error

$\pm 0.020\%$ FS/°F typical over the compensated temperature range.

Zero Balance

$\pm 1\%$ FSO at 70°F.

Full Scale Output

3.0 ± 0.015 mV/V FSO at 70°F.

Natural Frequency

1.0 kHz at 15 PSI to 347 kHz at 30,000 PSI.

Acceleration Response

$< \pm 0.15\%$ FS/G at 15 PSI to
 $\pm 0.0015\%$ FS/G at 30,000 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 - 200 PSI ranges: 250 PSI.
500 PSI range and up: 1.5 times range.

Burst Pressure

2 X range or 500 PSI whichever is greater.

Operating Media

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

Mechanical Characteristics

Pressure Fitting

7/16-20 per MS33656-4 for ranges up
to and including 10,000 PSI.
AE F250-C, 9/16-18 UNF for ranges
15,000 PSI and up.

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

$> 10K$ megohms 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 avail.)
*Standard configuration shown.
Options available.*

Environmental Characteristics

Compensated Temperature Range

-65°F to +250°F.
(-320°F to +425°F optional)

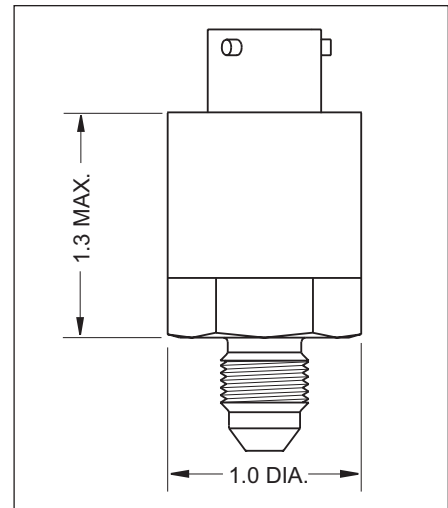
Operating Temperature Range

-100°F to +300°F.
(-320 to +450°F optional)

Enclosure

Body and pressure cavity of stainless
steel, hermetically sealed.

Dimensions (inches)



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MODIFICATIONS: We realize transducer applications vary greatly and as such our designs are flexible. Choice of pressure port, electrical termination, material compatibility and performance characteristics are a few of the many options available. Specifications on this datasheet represent the standard configuration only. Product and company names listed are trademarks of their respective companies. Specifications subject to change without notice.
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