

Series ST130

Space Rated Pressure Transducer



Description

The Series ST130 pressure transducers are designed to meet the environmental demands of orbital space flight. These space rated pressure sensors combine rugged all welded stainless steel construction and radiation hardened electronic components to ensure reliable performance over the life of the mission. Additional design features include a wide compensated temperature range, long term stability, low sensitivity to shock and vibration, and infinite resolution. Standard pressures range from 15 psi to 40,000 psi. Series ST130 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

- Designed for orbital environments
- Small Size
- Electronics manufactured to NASA 8739.3
- Radiation grade components
- 3 mV/V output
- Improved thermal performance
- Pressure ranges to 40,000 psi
- All Stainless Steel Construction
- Shock and Vibration Resistant
- 19 Point Calibration Record Traceable to NIST

Optional Features

- Grade 1 Electronics per EEE-INST-002
- Expanded Temperature Compensation Range
- Customer Specified Process Connections
- Customer Specified Electrical Termination
- Special Pressure Ranges
- Special Calibrations

ST130

Series ST130 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 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 FSO at 70° F.

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.

Proof Pressure

1.5 X range or 250 PSI, whichever is greater.

Burst Pressure

2.0 X range or 500 PSI,
whichever is greater.

Operating Media

Fluids and gases compatible with
stainless steel. Inconel and other
materials optional.

Enclosure

Body of stainless steel.

Pressure Fitting

Stainless Steel/Titanium weld tubes and
MS type ports available.

Vibration and Shock

Random > 25 Grms.
Pyroshock > 5000 G.

Weight

Approximately 4.0 oz.

Electrical Characteristics

Excitation

10 Vdc regulated recommended,
15 Vdc maximum.

Electronics Reliability Classification

Class S / Grade 1 per
GSFC INST-EEE-002/MSFC-STD-3012.

MTBF (MIL-STD-217)

Greater than 3000 years in orbit.

Insulation Resistance

Greater than 100 megohms at 500 Vdc
at 70° F.

Electrical Termination

Customer specify.

Input/Output Resistance

350 ± 3.5 ohms at 70° F.

Environmental Characteristics

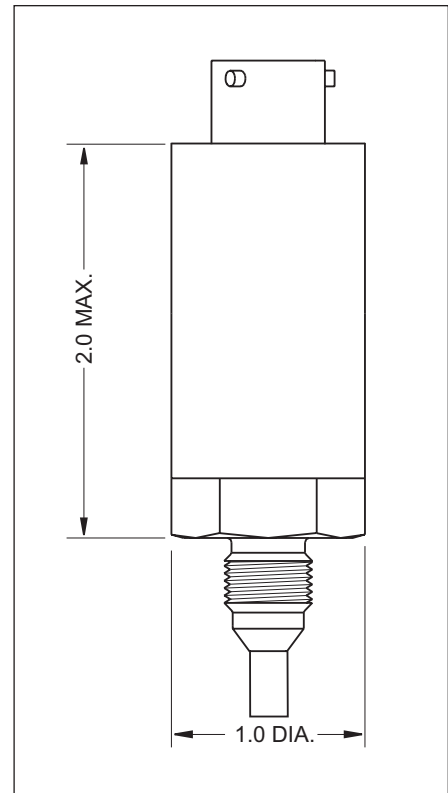
Compensated Temperature Range

-65° F to $+250^{\circ}$ F.
Options available.

Operating Temperature Range

-100° F to $+300^{\circ}$ F.

Dimensions (inches)



CE

0539

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.
WARRANTY: Stellar Technology warrants that its product shall be free from defective workmanship and/or material for a twelve month period from the date of shipment, provided that Stellar Technology's obligation hereunder shall be limited to correcting any defective material FOB our factory. No allowance will be made for any expenses incurred for correcting any defective workmanship and/or material without written consent by Stellar Technology. This warranty is in lieu of all other warranties expressed or implied.

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