

Series GT100

Aerospace Pressure Transducers



Description

The Series GT100 aerospace pressure transducer is a reliable and rugged mV/V pressure sensor. These pressure transducers are used for applications involving dynamic and static pressure measurements requiring high frequency response and are industry standards for rocket engine testing and jet engine testing. The major design feature is a fully cleanable pressure cavity with replaceable stainless steel diaphragms. The removable pressure caps incorporate metal-to-metal seals eliminating the use of O-rings. The Series GT100 is designed with a unique sensing element which is isolated from the diaphragm thus providing improved thermal stability during the initial phases of testing. Other design features include long term stability, low sensitivity to both mechanical shock and vibration and thermal shock, excellent response to transient pressures, infinite resolution and built in over pressure protection. Each GT100 pressure transducer is shipped with a 19 point calibration record traceable to NIST as standard.

Standard Features

- Fully Cleanable Pressure Cavity
- Replaceable Stainless Steel Diaphragms
- Thermal Stability
- 316 SS Wetted Material (Hydrogen Compatible)
- Removable Pressure Caps with Metal-To-Metal Seals
- High Frequency Response
- Built In Over Pressure Protection
- 3 mV/V Output
- Low Sensitivity to Shock and Vibration
- Pressure Ranges to 20,000 PSIG
- All Stainless Steel Construction
- 19 Point Calibration Record Traceable to NIST

Optional Features

- Improved Thermal Coefficients
- Customer Specified Pressure Ports
- Customer Specified Electrical Connections
- Extended Temperature Compensation Ranges
- Alternate Materials for Media Compatibility
- Special Calibrations

GT100

Your Application-Solution SourceSM

Series GT100 Specifications

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

Performance

Static Accuracy

Linearity: $\pm 0.25\%$ FSO.
Hysteresis: $\pm 0.25\%$ FSO.
Repeatability: $\pm 0.10\%$ FSO.

Resolution

Infinite

Thermal Zero Shift

$< \pm 0.010\%$ FSO/ $^{\circ}$ F.
($< \pm 0.005\%$ FSO/ $^{\circ}$ F optional)

Thermal Sensor Shift

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

Input / Output Resistance

350 ± 3.5 ohms at 70° F.

Insulation Resistance

> 10 K megohms at 50 Vdc at 70° F.

Zero Balance

$\pm 1\%$ FSO at 70° F.

Full Scale Output

3.0 ± 0.015 mV/V FSO at 70° F.

Natural Frequency

3.0 kHz at 150 PSI to 150 kHz at
20,000 PSI.

Acceleration Response

$< \pm 0.01\%$ FSO/G.

Mechanical Characteristics

Standard Ranges

0 - 150, 200, 300, 500, 750, 1000, 1500,
2000, 2500, 3000, 3500, 4000, 5000,
6000, 7500, 10000, 15000, 20000 PSIG.

Proof Pressure

150 - 750 PSI ranges: 3.0 X range.
1K - 2K PSI ranges: 2.5 X range.
2.5K - 3.5K PSI ranges: 2.0 X range.
4.0K PSI range and up: 1.5 X range.

Operating Media

Fluids and gases compatible with 316
stainless steel. Removable pressure cap &
replaceable isolation diaphragms.
(Inconel, Monel, Hastalloy are available
options.)

Mechanical Characteristics

Pressure Fitting

(For ranges up to & including 10,000 psi)
7/16"-20 per AS5202E4 / MS33649-4
(Female).

(For ranges 15K psi and 20K psi)

AE F250-C, 9/16"-18 UNF.

Note: Pressure cap is removable.

Enclosure

Body and pressure cavity of
stainless steel, environmentally sealed.

Weight

55 oz. maximum.

Electrical Characteristics

Excitation

10 Vdc recommended, 15 Vdc max.

Electrical Termination

MS3102-14S-2P stainless steel connector
or equivalent.

Optional electrical terminations available.

Wiring

PIN A (+) Excitation.

PIN B (+) Signal.

PIN C (-) Signal.

PIN D (-) Excitation.

Standard configuration shown.

Options available.

Environmental Characteristics

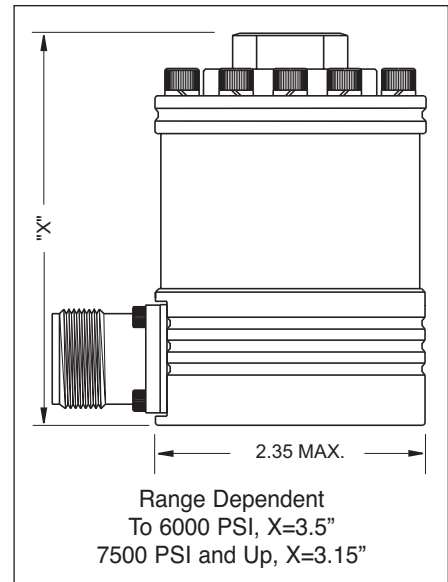
Compensated Temperature Range

-30° F to $+170^{\circ}$ F.
(-65° F to $+250^{\circ}$ F optional)

Operating Temperature Range

-100° F to $+300^{\circ}$ F.

Dimensions (inches)



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.

Find More Information at:
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Due to the nature of technology, changes are inevitable. For latest technical specifications, see our website.

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