



ISO 9001/AS9100 Certified

# GT100

AEROSPACE PRESSURE TRANSDUCERS

YOUR ENGINEERED SOLUTION SOURCE <sup>SM</sup>

## 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 pressures 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



A US Manufacturer of: Pressure, Temperature, Load/  
Force/Torque, and Displacement Sensors.

## 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

$350 \pm 3.5$  ohms at  $70^{\circ}$ F.

### INSULATION RESISTANCE

$> 10K$  megohms at  $50$  Vdc at  $70^{\circ}$ F.

### ZERO BALANCE

$\pm 1\%$  FSO at  $70^{\circ}$ F.

### FULL SCALE OUTPUT

$3.0 \pm 0.015$  mV/V FSO at  $70^{\circ}$ 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.)

### 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.

### MODIFICATIONS AND WARRANTY

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.

## 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

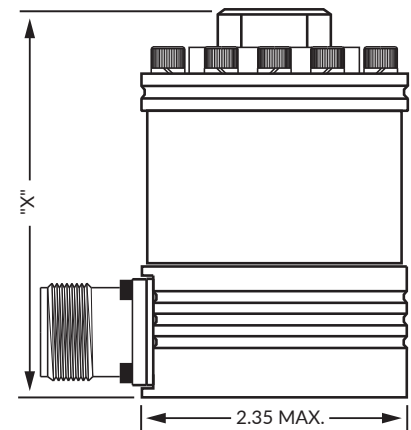
### COMPENSATED TEMPERATURE RANGE

$-30^{\circ}$ F to  $+170^{\circ}$ F.

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

### OPERATING TEMPERATURE RANGE

$-100^{\circ}$ F to  $+300^{\circ}$ F.



Range Dependent  
To  $6000$  PSI,  $X=3.5"$   
 $7500$  PSI and Up,  $X=3.15"$