

## **HIGH-TEMPERATURE PRESSURE TRANSDUCER**



Model 7780 High-Temperature Pressure Transducer

# **MODEL 7780**

### FEATURES:

- Process temperature rated to +350 °F (+177 °C)
- Onboard remote electronics via stainless steel armored flex cable
- Standard accuracy to +0.3% RSS (Optional +0.1%)
- Lightweight all stainless steel design <10 oz (0.2 kg)
- Hydrogen and LOX compatibility
- Designed to meet \*MIL-STD-810 vibration and shock standards

#### **APPLICATIONS:**

- Fuel and propulsion systems
- Military and defense
- High-temperature process media
- Aircraft engine test stands
- R&D laboratory research

### **PRODUCT OVERVIEW:**

The Model 7780 Series from GP:50 is a family of high-temperature pressure transducers, offering consistent measurement accuracy in temperatures up to +350 °F (+177 °C). The Series features a lightweight, all stainless steel construction with choice of either 4-20 mA, 0 to 5 Vdc, or 0 to 10 Vdc output; or optional digital protocols. On-board isolated transducer electronics are remotely mounted via stainless steel armor jacketed flex tubing. The high-reliability of the Model 7780 Series is field-proven over 25 years and hundreds of applications, including higher shock and vibration environments.

### FIELD OPTIONS:

- Choice of 0 to 5 Vdc, 0 to 10 Vdc (also 4-wire isolated version), 4-20 mA, CANBus, RS485 or USB output
- Alternate remote electronic cable lengths
- Zero and span adjustments
- Cryogenic service down to -320 °F (-196 °C) (see GP:50 Model 7720)



## GP:50 MODEL 7780

#### **DIMENSIONAL DRAWING**

All dimensions are in inches (mm)



#### STANDARD WIRING

PIN	VDC	4-20mA
A/1	+EXC	+EXC/SIG
B/2	+SIG	N/C
C/3	-SIG	N/C
D/4	-EXC	-EXC/SIG
E/5	SHUNT (OPT.)	SHUNT (OPT.)
F/6	SHUNT (OPT.)	SHUNT (OPT.)

#### **REFERENCE SPECIFICATIONS**

ELECTRICAL	MECHANICAL	
<ul> <li>Output Signal: 0 to 5 Vdc, 0 to 10 Vdc (also 4-wire isolated version), 4-20 mA, CANBus, RS485 or USB output</li> <li>Supply Voltage: 18 to 36 Vdc, 9 to 36 Vdc unregulated</li> <li>Response Time: 4 ms</li> <li>Connection: MIL PTIH-10-6P standard, options available</li> <li>Circuit Protection: Designed to meet *MIL-STD-461/462 EMI/RFI, some options may affect EMI/RFI rating</li> </ul>	<ul> <li>Process connection: AS4395E04 pressure port</li> <li>O-Ring: Buna-N (Nitrile) is standard. For expanded temp ranges -65 °F to 350 °F Flourosilicone is standard.</li> <li>Proof Pressure: 1.5X pressure range</li> <li>Burst Pressure: 2X pressure range</li> <li>PRESSURE RANGES</li> </ul>	
MATERIALS OF CONSTRUCTION	Ranges 0 to 150 thru 0 to 15K PSIA, PSIG or PSISG options	
• Wetted Parts: 17-4 stainless steel (Optional Inconel, Hastelloy	(10 thru 1,034 BAR)	
and Monel available)  Housing: 316 stainless steel	THERMAL SPECIFICATION	
Flex Tubing 18" armored capillary tube	• Compensated: 70 °F to +385 deg F ( 21°C to +197 °C)	
ACCURACY (Hysteresis, non-linearity & repeatability @ +70 °F)	<ul> <li>Operating process: -50 °F to +400 °F (-54 °C to +204 °C)</li> <li>Operating ambient: -50 °F to +195 °F (-54 °C to +91 °C)</li> <li>Effect on Zero/Span: ±2.0% FSO/100 °F (Improved to +/-1.0%/100 °F available)</li> </ul>	
• Static Accuracy (RSS): <±0.3% FSO, ±0.10% FSO available		
<ul> <li>Hon-repeated inty: &lt; ±0.1% FSO</li> <li>Hysteresis: &lt;±0.2% FSO</li> <li>Non-linearity: &lt;±0.2% FSO</li> </ul>	OPTIONAL	
*Options may affect Mil-specifications. Please consult factory for your specific needs.	<ul> <li>NIST Traceability/Calibration: ANSI-Z540-1</li> <li>Workmanship: J-001/NASA 8739.3 standard</li> <li>Quality System: ISO 9001:2008</li> </ul>	

Standard configurations shown. Please consult factory for other options.

All specifications are for reference purposes only. In the interests of continuous product improvement, all specifications are subject to change without notice. Please contact GP:50 for assistance with your application.

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