



## CRYOGENIC PRESSURE TRANSDUCER

### MODEL 7720



Model 7720  
Cryogenic Pressure Transducer

#### FEATURES:

- Reliable cryogenic performance to  $-320\text{ }^{\circ}\text{F}$  ( $-196\text{ }^{\circ}\text{C}$ )
- Hydrogen and LOX compatible
- Isolated remote electronics via stainless steel armored flex tubing
- Standard accuracy to  $+0.3\%$  FSO (Optional  $+0.1\%$  FSO)
- Lightweight, all stainless steel construction ( $<10\text{ oz.}$ ;  $0.2\text{ kg}$ )
- Designed to meet \*MIL-STD-810 vibration and shock requirements
- Choice of 4-20 mA, 0-5 Vdc, 0-10 Vdc or optional digital output

#### APPLICATIONS:

- LNG pressures
- Aerospace propulsion systems
- Military and defense programs
- Liquid gas custody transfer

#### PRODUCT OVERVIEW:

The Model 7720 Series from GP:50 is a family of cryogenic pressure transducers, offering consistent measurement accuracy in temperatures as low as  $-320\text{ }^{\circ}\text{F}$  ( $-196\text{ }^{\circ}\text{C}$ ). 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 7720 Series has been successfully field-proven over 25 years and hundreds of critical applications.

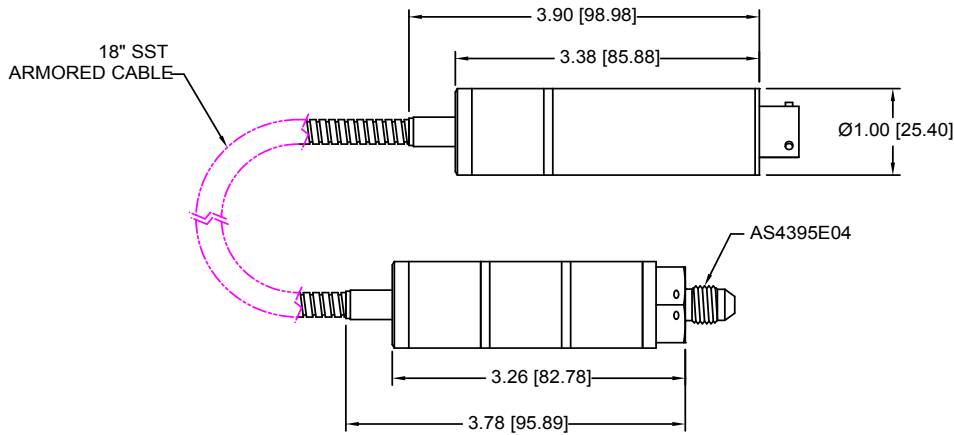
#### FIELD OPTIONS:

- 0 to 5 Vdc, 0 to 10 Vdc or 4-20 mA output
- RS232, RS485 and CAN outputs
- Zero and span adjustments
- Optional electrical connections
- High-temperature version to  $+350\text{ }^{\circ}\text{F}$  ( $+177\text{ }^{\circ}\text{C}$ ) (see Model 7780)

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## 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

<p><b>ELECTRICAL</b></p> <ul style="list-style-type: none"> <li>• <b>Output Signal:</b> 0 to 5 Vdc, 0 to 10 Vdc (3- and 4-wire isolated or non-isolated) and 4-20 mA</li> <li>• <b>Supply Voltage:</b> 18 to 36 Vdc, 9 to 36 Vdc (unregulated)</li> <li>• <b>Response Time:</b> 4 ms</li> <li>• <b>Connection:</b> MIL PTIH-10-6P standard, options available</li> <li>• <b>Circuit Protection:</b> Designed to meet *MIL-STD-461/462 EMI/RFI, some options will affect EMI/RFI rating</li> </ul>	<p><b>MECHANICAL</b></p> <ul style="list-style-type: none"> <li>• <b>Process connection:</b> AS4395E04 pressure port</li> <li>• <b>O-Ring:</b> Buna-N (Nitrile) is standard. For expanded temp ranges -65 °F to 350 °F Fluorosilicone is standard.</li> <li>• <b>Proof Pressure:</b> 1.5X range</li> <li>• <b>Burst Pressure:</b> 2X range</li> </ul>
<p><b>MATERIALS OF CONSTRUCTION</b></p> <ul style="list-style-type: none"> <li>• <b>Wetted Parts:</b> 17-4 stainless steel (Optional Inconel, Hastelloy and Monel)</li> <li>• <b>Housing:</b> 316 stainless steel Tubing 18" Flexible metal hose</li> </ul>	<p><b>PRESSURE RANGES</b></p> <ul style="list-style-type: none"> <li>• Ranges 0 to 150 thru 0 to 5K PSIA or PSISG (10 thru 207 BAR)</li> </ul>
<p><b>ACCURACY</b> (HYSTERESIS, NON-LINEARITY &amp; REPEATABILITY @ +70 °F)</p> <p>Static Accuracy (RSS): &lt;±0.3% FSO, ±0.10% FSO            Non-repeatability: &lt;±0.1% FSO            Hysteresis: &lt;±0.2% FSO            Non-linearity: &lt;±0.2% FSO</p>	<p><b>THERMAL SPECIFICATIONS</b></p> <ul style="list-style-type: none"> <li>• <b>Compensated:</b> -320 °F to +70 °F (-196 °C to +21.1 °C)</li> <li>• <b>Operating Temperature Range:</b>                Ambient: -40 °F to +185 °F (-40 °C to +85 °C)                Process: -320 °F to +265 °F (-196 °C to +129 °C)</li> <li>• <b>Effect on Zero/Span:</b>                ±1.0% FSO/100 °F for ranges ≥1K PSI (69 BAR)                ±2.0% FSO/100 °F for ranges &lt;1K PSI (69 BAR)</li> </ul>
<p>*Options may affect Mil-specifications.            Please consult factory for your specific needs.</p>	<p><b>OPTIONAL</b></p> <ul style="list-style-type: none"> <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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