



HIGH TEMPERATURE - PRESSURE & TEMPERATURE TRANSDUCER

MODEL 7790

FEATURES:

- +70 °F to +350 °F (+20 °C to +177 °C) Process temperature
- High accuracy temperature output to $\pm 1\%$ FSO
- High accuracy pressure output to $\pm 0.1\%$ FSO
- Lightweight, < 10 oz (0.2 kg)
- Hydrogen and LOX compatibility
- Designed to meet *MIL-STD-810 shock and vibration

APPLICATIONS:

- High temperature gas measurement
- Propulsion Systems
- Military and Defense Applications

PRODUCT OVERVIEW:

GP:50's 7790 High Temperature series transducer provides pressure and temperature measurement up to +350 °F (+177 °C). The remote electronics provides a high level output of 4-20 mA or 0 to 5 Vdc while reducing the overall footprint by integrating pressure and temperature measurement in one device.

FIELD OPTIONS:

- Custom temperature probe lengths
- 0 to 5 Vdc, 0 to 10 Vdc (4-wire isolated output options) or 4-20 mA output
- Alternate remote cable lengths
- Cryogenic version rated to -320 °F (-196 °C) see Model 7730

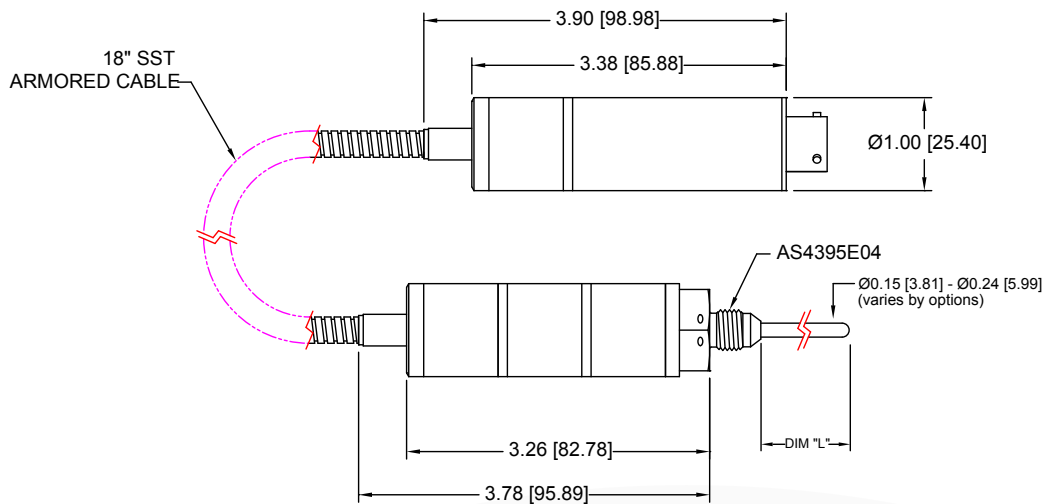


Model 7790
High Temperature-Pressure
& Temperature Transducer

GP:50 MODEL 7790

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	RTD	RTD
F/6	RTD	RTD

L = 0.50 TO 7.00 INCH PROBE LENGTH

REFERENCE SPECIFICATIONS

ELECTRICAL

- **Output Signal:** 0 to 5 Vdc, 0 to 10 Vdc (isolated or non-isolated) and 4-20 mA
- **Supply Voltage:** 18 to 36 Vdc
- **Temperature Output:** 100 Ω 2 wire platinum RTD standard, 1,000 Ω 2 wire platinum RTD optional
- **Response Time:**
Pressure: <4 ms
Temperature: <2 sec
- **Connection:** MIL PTIH-10-6P standard, options available
- **Circuit Protection:** Designed to meet *MIL-STD-461/462 EMI/RFI, some options may affect EMI/RFI rating

MATERIALS OF CONSTRUCTION

- **Probe:** 17-4 stainless steel (Inconel, Hastelloy and Monel available)
- **Housing:** 316 stainless steel
Flex Tubing 18" Armored Capillary Tube

ACCURACY

- **Static Accuracy:**
Pressure (RSS): $\leq \pm 0.3$ FSO, ± 0.10 FSO available
Temperature: $\pm 3\%$ FSO, $\pm 1\%$ optional
- **Non-repeatability:** $\leq \pm 0.1$ FSO
- **Hysteresis:** $\leq \pm 0.2$ FSO
- **Non-linearity:** $\leq \pm 0.2$ FSO

MECHANICAL

- **Process Connection:** AS4395E04 pressure port
- **O-Ring:** Buna-N (Nitrile) is standard. For expanded temp ranges -65 °F to 350 °F Fluorosilicone is standard.
- **Probe Length:** 1" From port end (custom lengths available)

PRESSURE RANGES

- **Ranges:** 0 to 150 thru 0 to 15K PSIA, PSIG or PSISG options (10 thru 1,034 BAR)

THERMAL SPECIFICATION

- **Compensated:** +70 °F to +350 deg F (+21°C to +177 °C)
- **Operating process:** -50 °F to +400 °F (-54 °C to +204 °C)
- **Operating ambient:** -50 °F to +195 °F (-54 °C to +91 °C)
- **Effect on Zero/Span Pressure output:** $\pm 2.0\%$ FSO/100 °F (Improved to $\pm 1.0\%$ /100 deg F available)

OPTIONAL

- **NIST Traceability/Calibration:** ANSI-Z540-1
- **Workmanship:** J-001/NASA 8739.3 standard
- **Quality System:** ISO 9001:2008

*Options may affect Mil-specifications.
Please consult factory for your specific needs.

**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.