



## DUAL CRYOGENIC PRESSURE & TEMPERATURE TRANSDUCER

### MODEL 7730

#### FEATURES:

- Cryogenic service down to  $-320^{\circ}\text{F}$  ( $-196^{\circ}\text{C}$ )
- Isolated electronics provide 4-20 mA, 0-5 Vdc or digital outputs
- Remote electronics via stainless steel armored cable
- High accuracy, 0.3% RSS standard (0.1% available)
- Lightweight, < 10 oz. (0.2 kg)
- Hydrogen and LOX compatibility
- Designed to meet vibration and shock per MIL-STD-810
- Platinum RTD

#### APPLICATIONS:

- Liquefied fuel pressures
- Manifolds, propulsion systems
- Military and defense programs
- Liquid gas custody transfer

#### PRODUCT OVERVIEW:

GP:50's 7730 cryogenic series provides pressure and temperature measurement in one device down to  $-320^{\circ}\text{F}$  ( $-196^{\circ}\text{C}$ ). The remote mounted electronics offers a high level output of 4-20 mA, 0 to 5 Vdc or various digital protocols at high accuracies. 100 or 1,000  $\Omega$  platinum RTD is available as well as dual analog outputs.

#### FIELD OPTIONS:

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

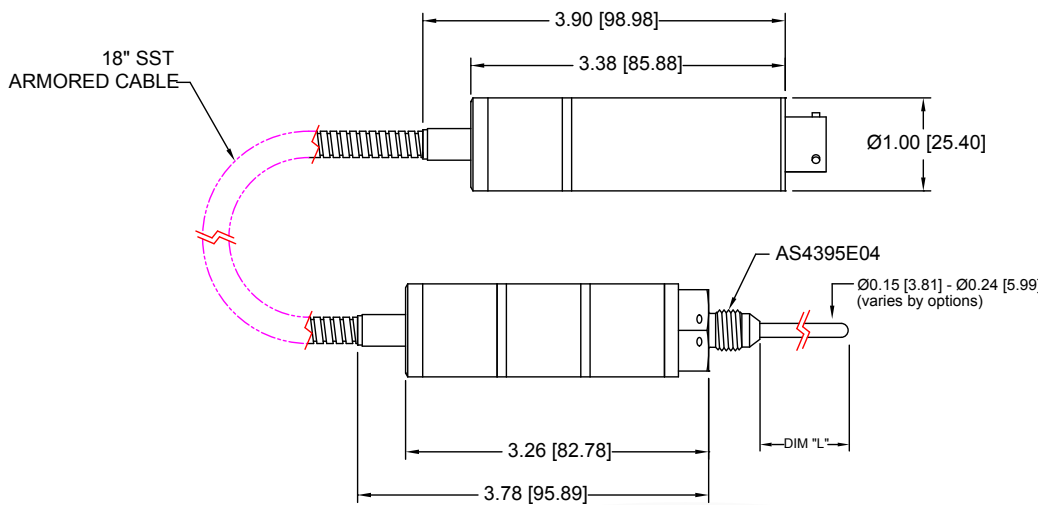


Model 7730  
Dual Cryogenic Pressure &  
Temperature Transducer

# GP:50 MODEL 7730

## 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 (3 and 4 wire isolated or non-isolated) and 4-20 mA
- **Supply Voltage:** 18 to 36 Vdc
- **Temperature Output:** 100  $\Omega$  2 wire platinum RTD standard, 1,000  $\Omega$  2 wire platinum RTD optional
- **Response Time:**  
Pressure: <4 ms  
Temperature: <2 seconds
- **Connection:** MIL PTIH-10-6P standard options available
- **Circuit Protection:** meets MIL-STD-461/462 EMI/RFI, some options will affect EMI/RFI rating

### MATERIALS OF CONSTRUCTION

- **Wetted Parts:** 17-4 stainless steel (Inconel, Hastelloy and Monel available)
- **Housing:** 316 stainless steel  
Tubing 18" Flexible metal hose

### ACCURACY (HYSTERESIS, NON-LINEARITY & REPEATABILITY @ +70 °F)

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

### MECHANICAL

- **Process connection:** AS4395E04 pressure port
- **Probe length (temp):** 1.55" (custom lengths available)
- **Proof Pressure:** 1.5X pressure range
- **Burst Pressure:** 2X pressure range

### PRESSURE RANGES

- 0 to 15 thru 0 to 15K PSIA, PSIG or PSISG options (1 thru 1,034 BAR)

### TEMPERATURE RANGES

- -320 °F to +70 °F (-200 °C to +20 °C)

### THERMAL SPECIFICATIONS

- **Compensated:** -320 °F to +70 °F (-196 °C to +21.1 °C)
- **Operating Range:**  
(Ambient) -40 °F to +185 °F (-40 °C to +85 °C)  
(Process) -320 °F to +265 °F (-196 °C to +129 °C)
- **Effect on Zero/Span:**  
 $\pm 1.0\%$  FSO/100 °F for ranges  $\geq$  1K PSI (69 BAR)  
 $\pm 2.0\%$  FSO/100 °F for ranges  $<$  1K PSI (69 BAR)

### OPTIONAL

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

**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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