



## CRYOGENIC & HIGH TEMPERATURE PRESSURE TRANSDUCER

### Model 311-HD (Cryogenic) Model 311-QX (High Temperature)

#### FEATURES:

- Cryogenic service down to -320 °F (-195 °C) process (311-HD)
- High temperature operation to +350 °F (+177 °C) process (311-QX)
- Remote electronics via stainless armored flex cable
- ATEX & CSA hazardous area approvals
- Remote electronics provide analog or digital output
- Pressure ranges from 0-150 thru 0-15K PSI (10 thru 1020 BAR)
- Corrosion-resistant, all stainless steel housings and wetted parts
- Economically priced

#### APPLICATIONS:

- CNG/LNG processing, transportation, dispensing & storage
- Oil field and well service nitrogen pumping equipment
- High Temperature Reactor pressures

#### PRODUCT OVERVIEW:

The Model 311-HD & 311-QX series from GP:50 offer reliable pressure sensing in cryogenic or high temperature applications. Remote mounted electronics provide a high-level 4-20 mA or 0-5 Vdc output with optional CANbus, RS485 Modbus, USB or RS232 digital protocols. The SST, armor jacketed cable provides flexibility in mounting the electronics away from the process temperature. 18"-36" remote flex lengths are available.

#### FIELD OPTIONS:

- ATEX, CSA approvals
- 18"-36" armor jacketed cable lengths
- Zero and span adjustments
- Inconel, Monel and Hastelloy ports/sensors
- CANbus, RS485 Modbus, USB, or RS232 digital protocols



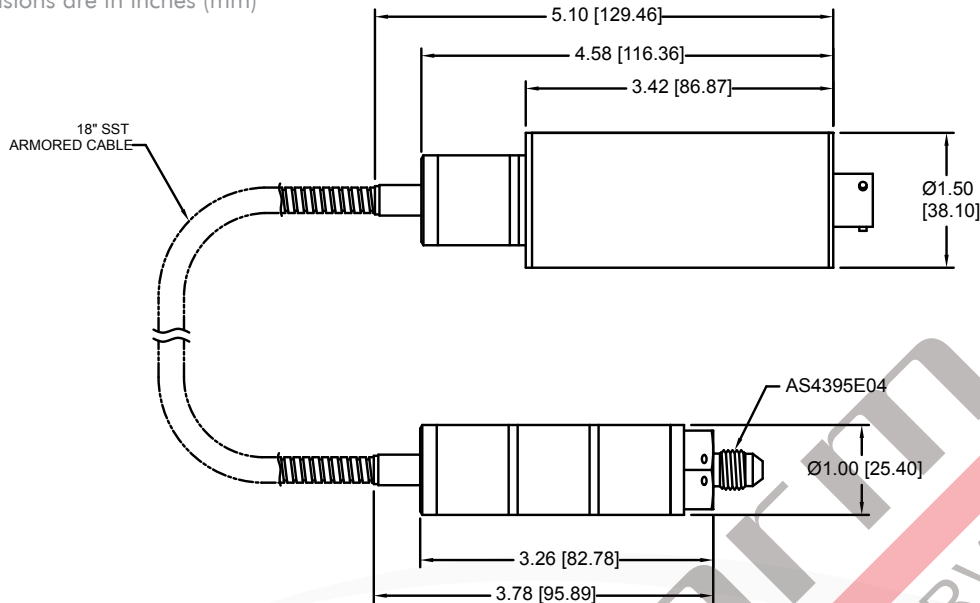
Model 311  
Cryogenic or High Temperature  
Pressure Transducer



# GP:50 MODEL 311-HD / 311-QX

## DIMENSIONAL DRAWING

All dimensions are in inches (mm)



### STANDARD WIRING

PIN	MODEL 311 SERIES
A/1	+EXC/SIG
B/2	CASE GND
C/3	N/C
D/4	-EXC/SIG
E/5	N/C
F/6	N/C

## REFERENCE SPECIFICATIONS

<b>ELECTRICAL</b> <ul style="list-style-type: none"><li>• <b>Output Signal:</b> 0 to 5 Vdc or 4-20 mA</li><li>• <b>Excitation Voltage:</b> (mA Output) 10 to 28 Vdc (Voltage Output) 14.5 to 32 Vdc</li><li>• <b>Response Time:</b> &lt;4 ms</li><li>• <b>Zero &amp; FSO Balance:</b> <math>\pm 1\%</math> FSO</li><li>• <b>Connection:</b> PTIH-10-6P (6-Pin Amphenol)</li></ul>	<b>PRESSURE RANGES</b> <ul style="list-style-type: none"><li>• <b>Cryogenic Ranges:</b> 150 PSI thru 6K PSIG (10 thru 345 BAR)</li><li>• <b>High Temperature Ranges:</b> 150 PSI thru 15K PSIG (10 thru 1,020 BAR)</li><li>• Sealed gauge or absolute formats</li></ul>
<b>MATERIALS OF CONSTRUCTION</b> <ul style="list-style-type: none"><li>• Port/Sensor: 17-4PH stainless steel (Inconel, Hastelloy, Monel optional)</li><li>• Armored cable: 316L</li><li>• Housing: 316/316L</li></ul>	<b>THERMAL SPECIFICATIONS</b> <p><b>Cryogenic Unit (311-HD):</b></p> <ul style="list-style-type: none"><li>• <b>Compensated:</b> -320 °F to +70 °F (-195 °C to +21.1 °C)</li><li>• <b>Operating Range:</b> (Ambient) -40 °F to +250 °F (-40 °C to +122 °C)</li><li>• <b>Effect on Zero/Span:</b> <math>\pm 1.0\%</math> FSO/100 °F for ranges <math>\geq 1</math> K PSI (69 BAR) <math>\pm 2.0\%</math> FSO/100 °F for ranges &lt; 1K PSI (69 BAR)</li></ul> <p><b>High Temperature Unit (311-QX):</b></p> <ul style="list-style-type: none"><li>• <b>Compensated:</b> +70 °F to +350 °F (+21.1 °C to +177 °C)</li><li>• <b>Operating Range:</b> (Ambient) -40 °F to +250 °F (-40 °C to +122 °C)</li><li>• <b>Effect on Zero/Span:</b> <math>\pm 1.0\%</math> FSO/100 °F for ranges <math>\geq 1</math> K PSI (69 BAR) <math>\pm 2.0\%</math> FSO/100 °F for ranges &lt; 1K PSI (69 BAR)</li></ul> <p><i>Units are optimized to run at the extreme temperature.</i> <i>Cryogenic Units: -320 °F</i> <i>High Temperature Units: +350 °F</i></p>
<b>STATIC ACCURACY (BFSL) (HYSTERESIS, NON-LINEARITY &amp; REPEATABILITY @ +70 °F)</b> <p>Standard: 0.5% FSO Improved: 0.2% FSO</p>	
<b>MECHANICAL</b> <ul style="list-style-type: none"><li>• <b>Process Connection:</b> AS4395E04 pressure port</li><li>• <b>Proof Pressure:</b> 1.5X Pressure Range</li><li>• <b>Burst Pressure:</b> 2X Pressure Range</li><li>• <b>Approximate Weight:</b> 1 lb (0.5 kg)</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.