



# GP SERIES

## Gage Pressure Transducer (Air, Gases, & Liquid)



The GP Series is designed to provide excellent accuracy and reliability in commercial, industrial, and process control applications where performance is critical. The bulk micro-machined transducer features a stainless steel diaphragm with welded construction that contains no O-rings, which makes them compatible with any gas or liquid compatible with 304L stainless steel. Some of the compatible gases and liquids include refrigerants, glycol, motor oil, diesel, hydraulic fluid, brake fluid, water, waste water, Hydrogen, Nitrogen and air. The GP Series transducers can also be ordered in an optional NEMA 4 rated, weatherproof metal enclosure (See on-line GP-NEMA 4 data sheet) or a NIST Calibration Certificate. Accessory items such as pressure snubbers and pigtail syphons are available to protect the transducers from line pressure surges (pulsations) or extreme operating temperatures. This series features packard connectors and separate harnesses allowing for installation flexibility.

**Applications:** Refrigeration, Fuel Cells, Pumps, Hydraulics, Compressors, Robotics, Pneumatics, Agriculture, Spraying Systems, Process Control, Flow, Hydrogen Storage, Steam Lines, Boilers, Chillers

**The GP Series is covered by ACI's Two (2) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's**

### PRODUCT SPECIFICATIONS

|                                                           |                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Supply Voltage:</b>                                    | <b>250 Ohm Load:</b> +13 to 30 VDC   <b>500 Ohm Load:</b> 18 to 30 VDC                                                                                                                                                                                                                                                                        |
| <b>Reverse Polarity Protection:</b>                       | +/- 16 V over 5 minutes                                                                                                                                                                                                                                                                                                                       |
| <b>Maximum Load Resistance:</b>                           | 800 Ohms @ 24 VDC   <b>Formula:</b> (Supply VDC – 8 VDC) / 0.020A                                                                                                                                                                                                                                                                             |
| <b>Supply Current:</b>                                    | 25 mA minimum                                                                                                                                                                                                                                                                                                                                 |
| <b>Output Signal:</b>                                     | 4 to 20 mA (2-Wire, Loop Powered)                                                                                                                                                                                                                                                                                                             |
| <b>Response Time:</b>                                     | < 1 ms                                                                                                                                                                                                                                                                                                                                        |
| <b>Pressure Ranges:</b>                                   | See "Ordering Grid" on back of data sheet                                                                                                                                                                                                                                                                                                     |
| <b>Accuracy <sup>1</sup> @ 22°C (71.6°F):</b>             | <b>15 to 60 psig:</b> < +/- 1.0% FS   <b>75 to 300 psig:</b> < +/- 0.5% FS   <b>500 psig:</b> < +/- 0.5% FS                                                                                                                                                                                                                                   |
| <b>Thermal Error <sup>2</sup> (-40° to 105°C):</b>        | <b>15 to 60 psig:</b> < +/- 1.0 FS   <b>75 to 300 psig:</b> < +/- 0.5% FS   <b>500 psig:</b> < +/- 0.5% FS                                                                                                                                                                                                                                    |
| <b>Stability (250 Hours @ 225°F (125°C)):</b>             | +/- 0.03% FS @ 0 PSIG; +/- 0.12% FS @ 1000 PSIG                                                                                                                                                                                                                                                                                               |
| <b>Proof Pressure:</b>                                    | <b>15 to 300 psig:</b> 3x FS   <b>500 psig:</b> 3x FS                                                                                                                                                                                                                                                                                         |
| <b>Burst Pressure:</b>                                    | <b>15 to 300 psig:</b> 3x FS   <b>500 psig:</b> 3x FS                                                                                                                                                                                                                                                                                         |
| <b>Thermal Shock:</b>                                     | 300 Cycles (105°C to -40°C, 0.5 hr soaks @ Temp. (2s Transfer))                                                                                                                                                                                                                                                                               |
| <b>Vibration (100 to 2000Hz, 20g Sinusoidal, 3 Axes):</b> | 144 Hours                                                                                                                                                                                                                                                                                                                                     |
| <b>Operating Temperature Range:</b>                       | -40 to 257°F (-40 to 125°C)                                                                                                                                                                                                                                                                                                                   |
| <b>Storage Temperature Range:</b>                         | -40 to 176°F (-40 to 80°C)                                                                                                                                                                                                                                                                                                                    |
| <b>Operating Humidity Range:</b>                          | 0 to 95% RH, non-condensing                                                                                                                                                                                                                                                                                                                   |
| <b>Media Types:</b>                                       | Any gas or liquid compatible with 304L Stainless Steel                                                                                                                                                                                                                                                                                        |
| <b>Transducer Housing Material:</b>                       | Stainless Steel                                                                                                                                                                                                                                                                                                                               |
| <b>Process Fitting Material   Thread Size:</b>            | 304L Stainless Steel   1/4"-18 NPT                                                                                                                                                                                                                                                                                                            |
| <b>Recommend Torque Specification:</b>                    | 150 lbs-in (16.95 Nm)                                                                                                                                                                                                                                                                                                                         |
| <b>Wiring Connections:</b>                                | Packard Connector (Cables ordered separately per "Ordering Grid" on back of data sheet)                                                                                                                                                                                                                                                       |
| <b>NIST Certificate:</b>                                  | Ordered Separately (See "Ordering Grid" on back of data sheet)                                                                                                                                                                                                                                                                                |
| <b>Approvals:</b>                                         | <b>EMC Compliance:</b> 10 V/m (EN61000-4-3), CE, RoHS2, WEEE, ISO 9001                                                                                                                                                                                                                                                                        |
| <b>Product Dimensions (Length x Diameter):</b>            | 2.60" (66.6 mm) x 0.87" (22.23 mm)                                                                                                                                                                                                                                                                                                            |
| <b>Product Weights:</b>                                   | <b>A/GP Series Transducer:</b> 0.30 lbs. (0.13 kg)   <b>A/GP 2' Harness:</b> 0.09 lbs. (0.04 kg)<br><b>A/GP 6' Harness:</b> 0.20 lbs. (0.09 kg)   <b>A/GP 10' Harness:</b> 0.32 lbs. (0.14 kg)<br><b>A/GP 20' Harness:</b> 0.62 lbs. (0.28 kg)   <b>A/GP 30' Harness:</b> 0.92 lbs. (0.41 kg)<br><b>A/GP 40' Harness:</b> 1.22 lbs. (0.55 kg) |

**Note<sup>1</sup>:** Accuracy includes Hysteresis, Repeatability, and Non-linearity (BFSL) | **Note<sup>2</sup>:** Additional error over temperature range | **Note<sup>3</sup>:** Sealed Gage pressure transducers are not vented to atmosphere, but are calibrated to have 4 mA at 14.5 PSIG to resemble a standard gauge pressure transducer output

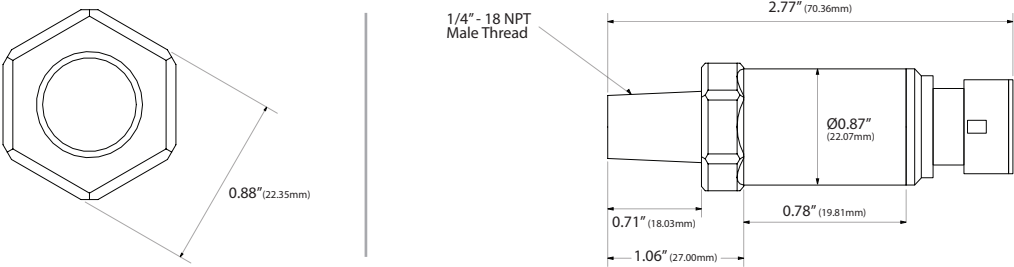


RoHS





DIMENSIONAL DRAWING



Front View

Right View

STANDARD ORDERING

Model # Example: GP(0-300G)-20-P -OR- 135749

| Model #         | Item # | Description                              | Gage | Sealed Gage | Packard Connector | Harness Required |
|-----------------|--------|------------------------------------------|------|-------------|-------------------|------------------|
| GP(0-15G)-20-P  | 135751 | 0-15 psig (103 kPa), 1/4" NPT, Packard   | ●    |             | ●                 | ●                |
| GP(0-30G)-20-P  | 143160 | 0-30 psig (207 kPa), 1/4" NPT, Packard   | ●    |             | ●                 | ●                |
| GP(0-50G)-20-P  | 143161 | 0-50 psig (345 kPa), 1/4" NPT, Packard   | ●    |             | ●                 | ●                |
| GP(0-100G)-20-P | 135747 | 0-100 psig (689 kPa), 1/4" NPT, Packard  | ●    |             | ●                 | ●                |
| GP(0-200G)-20-P | 135748 | 0-200 psig (1379 kPa), 1/4" NPT, Packard | ●    |             | ●                 | ●                |
| GP(0-300G)-20-P | 135749 | 0-300 psig (2069 kPa), 1/4" NPT, Packard | ●    |             | ●                 | ●                |
| GP(0-500S)-20-P | 135750 | 0-500 psig (3447 kPa), 1/4" NPT, Packard |      | ●           | ●                 | ●                |

ACCESSORIES ORDERING

Model # Example: A/GP 30' HARNESS -OR- 135703

| Model #          | Item # | Description                                           |
|------------------|--------|-------------------------------------------------------|
| A/GP 2'HARNESS   | 142606 | A/GP 2' (.61m) Packard Wire Harness, Plenum Rated     |
| A/GP 6'HARNESS   | 135614 | A/GP 6' (1.83m) Packard Wire Harness, Plenum Rated    |
| A/GP 10'HARNESS  | 116601 | A/GP 10' (3.05m) Packard Wire Harness, Plenum Rated   |
| A/GP 20'HARNESS  | 135613 | A/GP 20' (6.10m) Packard Wire Harness, Plenum Rated   |
| A/GP 30'HARNESS  | 135703 | A/GP 30' (9.14m) Packard Wire Harness, Plenum Rated   |
| A/GP 40'HARNESS  | 136995 | A/GP 40' (12.19m) Packard Wire Harness, Plenum Rated  |
| A/0.25"SNUB A/G  | 137105 | 1/4" NPT Stainless Steel Snubber for Air/Gas          |
| A/0.25"SNUB WTR  | 137104 | 1/4" NPT Stainless Steel Snubber for Water/Light Oils |
| GP NIST*         | 142927 | GP NIST Calibration Certificate                       |
| A/GP M10'HARNESS | 147878 | A/GP 10' (3.05m) Harness, Metal Clad                  |
| A/GP M20'HARNESS | 147881 | A/GP 20' (6.1m) Harness, Metal Clad                   |

**Note\*:** The A/GP Harness and GP NIST must be ordered separately when ordering transducers with Packard Connector or any of the Gage Pressure transmitters with a NIST Calibration Certificate

ADDITIONAL ACCESSORIES ORDERING

Item # Example: 100307

| Item # | Description                                                                                                            |
|--------|------------------------------------------------------------------------------------------------------------------------|
| 100307 | 249 Ohm, 1/4W, +/- 1% Tolerance, 50 PPM Resistor (Only Needed to Convert to 1-5 VDC)                                   |
| 100306 | 249 Ohm, 1/4W, +/- 0.1% Tolerance, 50 PPM Resistor (Recommended for Best Accuracy) (Only Needed to Convert to 1-5 VDC) |
| 100469 | 499 Ohm, 1W, +/- 1% Tolerance, 50 PPM Resistor (Only Needed to Convert to 2-10 VDC)                                    |

