

**Model Number**  
176B02

# CHARGE OUTPUT PRESSURE SENSOR

Revision: C  
ECN #: 55628

**Performance**

|                             | ENGLISH   | SI        |        |
|-----------------------------|-----------|-----------|--------|
| Sensitivity(+/- 20%)        | 6 pC/psi  | 87 pC/bar |        |
| Measurement Range           | 725 psi   | 50 bar    |        |
| Maximum Pressure(Total)     | 5,200 psi | 358.5 bar |        |
| Resonant Frequency          | ≥ 100 kHz | ≥ 100 kHz |        |
| Transverse Resonance        | > 15 kHz  | > 15 kHz  |        |
| Frequency Response(± 5.0 %) | 20,000 Hz | 20,000 Hz | [1][2] |
| Non-Linearity               | ≤ 1 % FS  | ≤ 1 % FS  | [3]    |

**Environmental**

|   |                        |                            |     |
|---|------------------------|----------------------------|-----|
| Maximum Shock(Axial)                              | 2,000 g pk             | 19,600 m/s <sup>2</sup> pk | [4] |
| Acceleration Sensitivity                          | 0.0036 psi/g           | .00025 bar/g               | [5] |
| Acceleration Sensitivity                          | .002 psi/g             | .00014 bar/g               | [6] |
| Temperature Range(Continuous)                     | -94 to 1,400 °F        | -70 to 760 °C              |     |
| Temperature Range(Connector)                      | -76 to 500 °F          | -60 to 260 °C              |     |
| Temperature Response                              | See Graph              | See Graph                  | [6] |
| Hazardous Area Approval                           | See Manual             | See Manual                 |     |
| Radiation Exposure Limit(Integrated Neutron Flux) | 1E10 N/cm <sup>2</sup> | 1E10 N/cm <sup>2</sup>     |     |
| Radiation Exposure Limit(Integrated Gamma Flux)   | 1E8 rad                | 1E8 rad                    |     |

**Electrical**

|                                    |                        |                        |     |
|------------------------------------|------------------------|------------------------|-----|
| Output Polarity                    | Differential           | Differential           |     |
| Capacitance(with cable pin - pin)  | 150 pF                 | 150 pF                 | [6] |
| Resistance(Pin-Pin)(Room Temp)     | ≥ 10 <sup>12</sup> Ohm | ≥ 10 <sup>12</sup> Ohm |     |
| Resistance(Pin-Case)(Room Temp)    | ≥ 10 <sup>12</sup> Ohm | ≥ 10 <sup>12</sup> Ohm |     |
| Resistance(Pin-Pin)(1400°F/760°C)  | ≥ 50,000 Ohm           | ≥ 50,000 Ohm           |     |
| Resistance(Pin-Case)(1400°F/760°C) | ≥ 100,000 Ohm          | ≥ 100,000 Ohm          |     |

**Physical**

|                      |                 |                 |     |
|----------------------|-----------------|-----------------|-----|
| Sensing Element      | UHT-12™         | UHT-12™         |     |
| Sensing Geometry     | Compression     | Compression     |     |
| Housing Material     | Nickel Alloy    | Nickel Alloy    |     |
| Sealing              | Welded Hermetic | Welded Hermetic |     |
| Electrical Connector | 7/16-27 2-Pin   | 7/16-27 2-Pin   |     |
| Cable Type           | Hardline        | Hardline        |     |
| Cable Length         | 10 ft           | 3 m             |     |
| Weight(with cable)   | 4.6 oz          | 130 gm          | [6] |

**OPTIONAL VERSIONS**

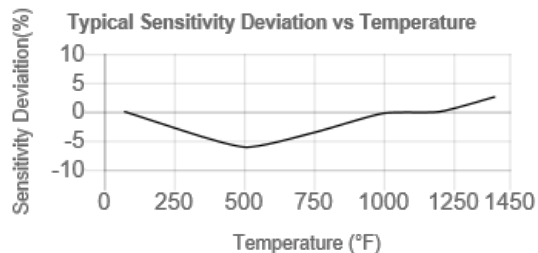
Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.

**NOTES:**

- [1]Low frequency response is determined by external signal conditioning electronics.
- [2]Upper frequency response is calculated from Resonant Frequency.
- [3]Zero-based, least-squares line method.
- [4]Half-sine pulse duration, 1 msec
- [5]Maximum.
- [6]Typical.
- [7]See PCB Declaration of Conformance PS058 for details.

**SUPPLIED ACCESSORIES:**

Model 060A59 Mounting Adaptor, 20 mm Hex, M18 x 1.5 Threads (1)  
Model PCS-1 Calibration of dynamic pressure sensors up to 100% range



All specifications are at room temperature unless otherwise specified.  
In the interest of constant product improvement, we reserve the right to change specifications without notice.

|                  |                  |                  |                  |              |
|------------------|------------------|------------------|------------------|--------------|
| Entered: ND      | Engineer: RPF    | Sales: RWM       | Approved: RPF    | Spec Number: |
| Date: 04/03/2025 | Date: 04/03/2025 | Date: 04/03/2025 | Date: 04/03/2025 | 78282        |

**PCB PIEZOTRONICS** Phone: 716-684-0001  
AN AMPHENOL COMPANY Fax: 716-684-0987  
E-Mail: info@pcb.com

3425 Walden Avenue, Depew, NY 14043