

Model Number

221B02

## ICP® FORCE SENSOR

Revision: H

ECN #: 30732

**Performance**

|                                      | ENGLISH      | SI             |     |
|--------------------------------------|--------------|----------------|-----|
| Sensitivity(± 15 %)                  | 50 mV/lb     | 11,241 mV/kN   |     |
| Measurement Range(Compression)       | 100 lb       | 0.4448 kN      |     |
| Measurement Range(Tension)           | 100 lb       | 0.4448 kN      |     |
| Maximum Static Force(Compression)    | 600 lb       | 2.669 kN       |     |
| Maximum Static Force(Tension)        | 500 lb       | 2.224 kN       |     |
| Broadband Resolution(1 to 10,000 Hz) | 0.002 lb-rms | 0.008896 N-rms | [1] |
| Low Frequency Response(-5 %)         | 0.006 Hz     | 0.006 Hz       | [2] |
| Upper Frequency Limit                | 15 kHz       | 15 kHz         | [3] |
| Non-Linearity                        | ≤ 1 % FS     | ≤ 1 % FS       | [4] |

**Environmental**

|                                        |                |                |  |
|----------------------------------------|----------------|----------------|--|
| Temperature Range                      | -65 to +250 °F | -54 to +121 °C |  |
| Temperature Coefficient of Sensitivity | ≤ 0.03 %/°F    | ≤ 0.054 %/°C   |  |

**Electrical**

|                                       |              |              |  |
|---------------------------------------|--------------|--------------|--|
| Discharge Time Constant(at room temp) | ≥ 120 sec    | ≥ 120 sec    |  |
| Excitation Voltage                    | 20 to 30 VDC | 20 to 30 VDC |  |
| Constant Current Excitation           | 2 to 20 mA   | 2 to 20 mA   |  |
| Output Impedance                      | ≤ 100 ohm    | ≤ 100 ohm    |  |
| Output Bias Voltage                   | 8 to 14 VDC  | 8 to 14 VDC  |  |
| Output Polarity(Compression)          | Positive     | Positive     |  |

**Physical**

|                                |                    |                     |     |
|--------------------------------|--------------------|---------------------|-----|
| Stiffness                      | 2 lb/μin           | 0.35 kN/μm          | [1] |
| Size (Diameter x Height)       | 0.65 in x 1.25 in  | 16.51 mm x 31.75 mm |     |
| Weight                         | 1.1 oz             | 31 gm               |     |
| Housing Material               | Stainless Steel    | Stainless Steel     |     |
| Sealing                        | Hermetic           | Hermetic            |     |
| Electrical Connector           | 10-32 Coaxial Jack | 10-32 Coaxial Jack  |     |
| Electrical Connection Position | Side               | Side                |     |
| Mounting Thread                | 1/4-28 Female      | 1/4-28 Female       |     |

**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.

J - Ground Isolated

M - Metric Mount

Mounting Thread

M6 x 0.75 Female

N - Negative Output Polarity

Output Polarity(Compression)

Negative

Negative

W - Water Resistant Cable

Electrical Connector

Sealed Cable

Sealed Cable

Electrical Connection Position

Side

Side

**NOTES:**

- [1] Typical.  
 [2] Calculated from discharge time constant.  
 [3] Estimated using rigid body dynamics calculations.  
 [4] Zero-based, least-squares, straight line method.  
 [5] See PCB Declaration of Conformance PS023 for details.

**OPTIONAL ACCESSORIES:**

Model 081A06 Mounting stud, 1/4-28 to 1/4-28 x .37 in. long, BeCu, no shoulder (1)

|               |               |               |               |              |
|---------------|---------------|---------------|---------------|--------------|
| Entered: BLS  | Engineer: APB | Sales: KW     | Approved: EB  | Spec Number: |
| Date: 5/26/09 | Date: 5/26/09 | Date: 5/26/09 | Date: 5/26/09 | 1242         |



[5]

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.

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