

Model Number

260M29

## 3-COMPONENT ICP® FORCE SENSOR

Revision: A

ECN #: 33646

## Performance

|  | ENGLISH      | SI           |        |
|--|--------------|--------------|--------|
| Sensitivity(± 15 %)(z axis)                  | 25 mV/lb     | 5.60 mV/N    | [1][2] |
| Sensitivity(± 15 %)(x or y axis)             | 50 mV/lb     | 11.25 mV/N   | [1][2] |
| Measurement Range(z axis)                    | 100 lb       | 0.445 kN     |        |
| Measurement Range(x or y axis)               | 100 lb       | 0.444 kN     |        |
| Maximum Force(z axis)                        | 1200 lb      | 5.33 kN      |        |
| Maximum Force(x or y axis)                   | 100 lb       | 0.445 kN     |        |
| Maximum Moment(z axis)                       | 14 ft-lb     | 18.98 N-m    |        |
| Maximum Moment(x or y axis)                  | 13 ft-lb     | 17.63 N-m    |        |
| Broadband Resolution(x or y axis)            | 0.006 lb-rms | 0.027 N-rms  | [3]    |
| Broadband Resolution(x or y axis)            | 0.002 lb-rms | 0.0089 N-rms | [3]    |
| Upper Frequency Limit                        | 90 kHz       | 90 kHz       |        |
| Low Frequency Response(-5 %)(z-axis)         | 0.01 Hz      | 0.01 Hz      |        |
| Low Frequency Response(-5 %)(x or y axis)    | 0.001 Hz     | 0.001 Hz     |        |
| Non-Linearity                                | ≤ 1 % FS     | ≤ 1 % FS     | [4]    |
| Cross Talk(between x and y axis)             | ± 3 %        | ± 3 %        |        |
| Cross Talk(between (x or y axis) and z axis) | ± 5 %        | ± 5 %        |        |

## Environmental

|                   |                |                |  |
|-------------------|----------------|----------------|--|
| Temperature Range | -65 to +250 °F | -54 to +121 °C |  |
|-------------------|----------------|----------------|--|

## Electrical

|   |                 |                 |  |
|---|-----------------|-----------------|--|
| Full Scale Output(Z Direction)            | ± 2.5 VDC       | ± 2.5 VDC       |  |
| Full Scale Output(X and Y Direction)      | ± 5 VDC         | ± 5 VDC         |  |
| Discharge Time Constant(z axis)           | ≥ 50 sec        | ≥ 50 sec        |  |
| Discharge Time Constant(x or y axis)      | ≥ 500 sec       | ≥ 500 sec       |  |
| Excitation Voltage(all channels)          | 20 to 30 VDC    | 20 to 30 VDC    |  |
| Constant Current Excitation(all channels) | 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     |  |
| Spectral Noise(1 Hz)(Z)                   | 0.0003 lb/√Hz   | 0.00134 N/√Hz   |  |
| Spectral Noise(10 Hz)(Z)                  | 0.00015 lb/√Hz  | 0.000668 N/√Hz  |  |
| Spectral Noise(100 Hz)(Z)                 | 0.00005 lb/√Hz  | 0.000223 N/√Hz  |  |
| Spectral Noise(1 kHz)(Z)                  | 0.000015 lb/√Hz | 0.0000668 N/√Hz |  |
| Spectral Noise(1 Hz)(X)                   | 0.0015 lb/√Hz   | 0.00668 N/√Hz   |  |
| Spectral Noise(10 Hz)(X)                  | 0.00055 lb/√Hz  | 0.00245 N/√Hz   |  |
| Spectral Noise(100 Hz)(X)                 | 0.0002 lb/√Hz   | 0.000891 N/√Hz  |  |
| Spectral Noise(1 kHz)(X)                  | 0.000055 lb/√Hz | 0.000245 N/√Hz  |  |
| Output Polarity                           | Positive        | Positive        |  |

## Physical

|   |  |  |        |
|---|--|--|--------|
| Preload Torque  | 56 in-lb   | 6.3 N-m  | [5][6] |
| Stiffness(z axis)   | 10 lb/μin  | 1.75 kN/μm   | [3]    |
| Stiffness(x or y axis)  | 4 lb/μin   | 0.7 kN/μm  | [3]    |
| Size (Height x Length x Width x Bolt Diameter x ID x Sensing Surface) | 0.390 in x 1.075 in x 0.95 in x 0.205 in x 0.319 in x 0.680 in | 9.90 mm x 27.3 mm x 24.1 mm x 5.21 mm x 8.10 mm x 17.27 mm |        |
| Weight  | 0.927 oz   | 26.27 gm   |        |
| Housing Material  | Stainless Steel  | Stainless Steel  |        |
| Sealing   | Hermetic   | Hermetic   |        |
| Electrical Connector  | 4-Pin  | 4-Pin  |        |
| Electrical Connection Position  | Side   | Side   |        |



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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## 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.

## M - Metric Mount

Supplied Accessory : Model M081A70 Mounting Stud (1) replaces Model 640B01

## W - Water Resistant Cable

Electrical Connection Position

Side Side

## NOTES:

- [1] Sensitivities are for listed preload. Sensitivities may vary ±5% depending on preload used.  
[2] Sensitivities are dependent upon supplied bolt.  
[3] Typical.  
[4] Zero-based, least-squares, straight line method.  
[5] Apply thin layer of lithium grease to sliding surfaces (washer, nut, threads).  
[6] Perform in steps of 2.5 in-lbs (28 N cm) to protect electronics (40 V max).  
[7] See PCB Declaration of Conformance PS023 for details.

## SUPPLIED ACCESSORIES:

Model 081A70 Mounting Stud (1)  
Model 082B02 Anti-Friction Washer (1)  
Model 083A10 Pilot Bushing (1)

|               |               |               |               |              |
|---------------|---------------|---------------|---------------|--------------|
| Entered: yomw | Engineer: mgh | Sales: hww    | Approved: CB  | Spec Number: |
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