

## Shear Beam Load Cell

### FEATURES

- Rated capacities of 250 to 20,000 pounds, 125 to 10,000 kg
- “Thru” or “threaded” load hole configurations
- Low sensitivity to axial loads
- Low profile (ultra low available in 1000 to 2500 pound ranges)
- Sensorgage™ sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!).
- Trade certified for NTEP Class III: 5000d, IIII: 10000d and OIML R-60 3000d available
- **Optional**
  - Ex ia IIC T4, Ex ia IIIC T135°C hazardous area approval
  - Stainless steel versions available
  - 65059 TWA companion weighing assemblies available



It has high immunity to shock or side loading and is available in 2 or 3 mV/V sensitivity. Approved to OIML, NTEP standards. For hazardous environments this load cell is available with EEx ia IIC T6 level of European approval.

Nickel plating and full environmental sealing assures long-term reliability. A stainless steel option is available for the lb versions for use in harsh or corrosive environments.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension is achieved by feeding this voltage into the appropriate electronics.

### APPLICATIONS

- Floor scales
- Tank weighing
- Bin and hopper weighing

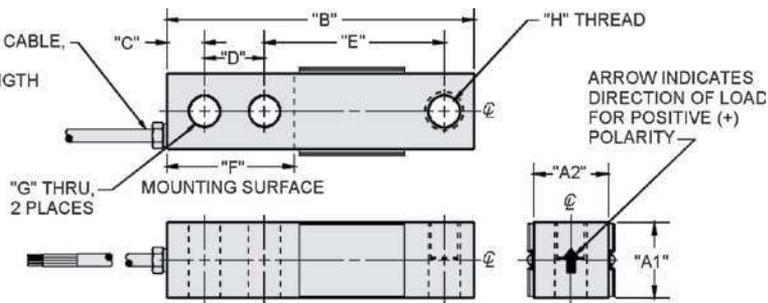
### DESCRIPTION

Model 65023 is a low profile shear beam load cell designed for high accuracy platform scales, pallet scales and process weighing applications.

### OUTLINE DIMENSIONS in inches [millimeters]

4 CONDUCTOR; 22 AWG. CABLE, SHIELDED & JACKETED; 20 FOOT STANDARD LENGTH OR PER SALES ORDER.

Wiring  
 + Excitation Red  
 - Excitation Black  
 + Output Green  
 - Output White



| CAPACITY     | A1     | A2     | B       | C      | D      | E       | F       | G      | H                                     | DEFLECTION    | WEIGHT |
|--------------|--------|--------|---------|--------|--------|---------|---------|--------|---------------------------------------|---------------|--------|
| 250–500 lbs  | 1.00   | 1.25   | 5.12    | 0.62   | 1.00   | 3.00    | 2.25    | 0.53   | 1/2-20 UNF-2B, Ø0.53 x 0.50 DP C'BORE | 0.013         | 1.7    |
| 1–4k         | 1.25   | 1.25   | 5.12    | 0.62   | 1.00   | 3.00    | 2.25    | 0.53   | 1/2-20 UNF-2B, Ø0.53 x 0.62 DP C'BORE | 0.017–0.025   | 4.0    |
| 5k–10k       | 1.50   | 1.50   | 6.75    | 0.75   | 1.50   | 3.75    | 3.00    | 0.78   | 3/4-16 UNF-2B, Ø0.78 x 0.75 DP C'BORE | 0.025–0.035   | 6.5    |
| 15k–20k      | 2.00   | 2.00   | 8.88    | 1.00   | 2.00   | 4.88    | 4.00    | 1.03   | 1"-14 UNF-2B, Ø1.03 x 1.00 DP C'BORE  | 0.048–0.063   | 9.0    |
| [125–250 kg] | [25.0] | [31.0] | [130.0] | [16.0] | [25.0] | [76.0]  | [57.0]  | [13.0] | M12 x 1.75-6H, Ø13 x 15 DP C'BORE     | [0.33]        | [0.8]  |
| [500 kg–2 t] | [32.0] | [32.0] | [130.0] | [16.0] | [25.0] | [76.0]  | [57.0]  | [13.0] | M12 x 1.75-6H, Ø13 x 15 DP C'BORE     | [0.432–0.635] | [1.8]  |
| [3 t–5 t]    | [38.0] | [38.0] | [171.0] | [19.0] | [38.0] | [95.0]  | [76.0]  | [20.7] | M20 x 2.5-6H, Ø20.5 x 19 DP C'BORE    | [0.635–0.889] | [2.9]  |
| [10 t]       | [51.0] | [51.0] | [226.0] | [25.0] | [51.0] | [124.0] | [102.0] | [25.0] | M24 x 2-6H, Ø25.4 x 25 DP C'BORE      | [1.219–1.600] | [4.1]  |

Capacities are in pounds [kg/t]. Deflection is ±10%. Certified drawings are available.

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| SPECIFICATIONS                          |   |                |          |                     |                   |
|---|---|----------------|----------|---------------------|-------------------|
| PARAMETER                               | VALUE   |                |          |                     | UNIT              |
| Rated capacity—R.C. (E <sub>max</sub> ) | 250, 500, 1k, 1.5k, 2k, 2.5k, 4k, 5k, 10k, 15k, 20k         |                |          |                     | lbs               |
|   | 125, 250, 500, 750, 1000, 2000, 5000, 10,000 <sup>(1)</sup> |                |          |                     | kg                |
| NTEP/OIML accuracy class                | NTEP III  | NTEP IIIIL     | Standard | OIML R60            |                   |
| Maximum no. of intervals (n)            | 3000 single   | 10000 multiple |          | 3000 <sup>(1)</sup> |                   |
| Y = E <sub>max</sub> /V <sub>min</sub>  | NTEP Cert. No. 86-044A2                                     |                |          | 6250                | Maximum available |
| Rated output—R.O.                       | 3.0   |                |          |                     | mV/V              |
| Rated output tolerance                  | 0.25  |                |          |                     | ±% mV/V           |
| Zero balance                            | 1.0   |                |          |                     | ±% FSO            |
| Combined error                          | 0.02  | 0.02           | 0.03     | 0.02                | ±% FSO            |
| Non-repeatability                       | 0.01  |                |          |                     | ±% FSO            |
| Creep error (30 minutes)                | 0.025   | 0.03           | 0.03     | 0.017               | ±% FSO            |
| Temperature effect on zero              | 0.0010  | 0.0010         | 0.0015   | 0.0010              | ±% FSO/°F         |
| Temperature effect on output            | 0.0008  | 0.0008         | 0.0008   | 0.0007              | ±% of load/°F     |
| Compensated temperature range           | 14 to 104 (–10 to 40)                                       |                |          |                     | °F (°C)           |
| Operating temperature range             | 0 to 150 (–18 to 65)  |                |          |                     | °F (°C)           |
| Storage temperature range               | –60 to 185 (–50 to 85)                                      |                |          |                     | °F (°C)           |
| Sideload rejection ratio                | 500:1   |                |          |                     |                   |
| Safe sideload                           | 100   |                |          |                     | % of R.C.         |
| Maximum safe central overload           | 150   |                |          |                     | % of R.C.         |
| Ultimate central overload               | 300   |                |          |                     | % of R.C.         |
| Excitation, recommended                 | 10  |                |          |                     | VDC or VAC RMS    |
| Excitation, maximum                     | 15  |                |          |                     | VDC or VAC RMS    |
| Input impedance                         | 343–357   |                |          |                     | Ω                 |
| Output impedance                        | 349–355   |                |          |                     | Ω                 |
| Insulation resistance at 50 VDC         | >1000   |                |          |                     | MΩ                |
| Material                                | Nickel-plated alloy tool steel <sup>(2)</sup>               |                |          |                     |                   |
| Environmental protection                | IP67  |                |          |                     |                   |
| Recommended torque                      | All capacities up to 5000 kg–136.0<br>5000 kg–205.0         |                |          |                     | N*m               |

**Notes**

<sup>(1)</sup> OIML approval 1k–10k lbs and 500–5000 kg only

<sup>(2)</sup> Stainless steel available

FSO—Full Scale Output

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