



# Series BEM980

## Low Profile Beam Load Cell



### Description

The Series BEM980 load cells are high accuracy, low profile force sensors for tension and compression applications. Constructed of stainless steel, these bonded foil strain gaged force sensors provide reliable performance for demanding applications. Features include shock and vibration protection. BEM980 load cells are ideal for force measurement applications in factory automation, robotics, and structural analysis where space limitations require a low profile force sensor. These load cells are often used in combination with our LVDT's for force versus displacement measurements. Each unit is shipped with a 5 point calibration record traceable to NIST as standard.

### Standard Features

- Ultra Low Profile
- 0.10% Accuracy
- Tension and Compression
- 2 mV/V
- Stainless Steel
- -40°F to 250°F Standard Temperature
- Shock and Vibration Resistant
- 5 Point Calibration Record Traceable to NIST

### Optional Features

- Multiple Bridges
- Special Full Scale Ranges
- Metric Versions
- Special Calibration
- Customer Specified Cable Lengths
- -65°F to +400°F Operating Temperature

### Performance

#### Standard Ranges

500, 1000, 2500, 5000 lbs.

#### Output

2mV/V nominal.

#### Accuracy

0.10% BFSL.

#### Temperature Effect on Zero

0.005% FSO/°F.

#### Temperature Effect on Span

0.005% Reading/°F.

#### Zero Balance

1% FSO.

### Environmental Characteristics

#### Operating Temperature Range

-40°F to 250°F.

(-65°F to 400°F optional.)

#### Compensated Temperature Range

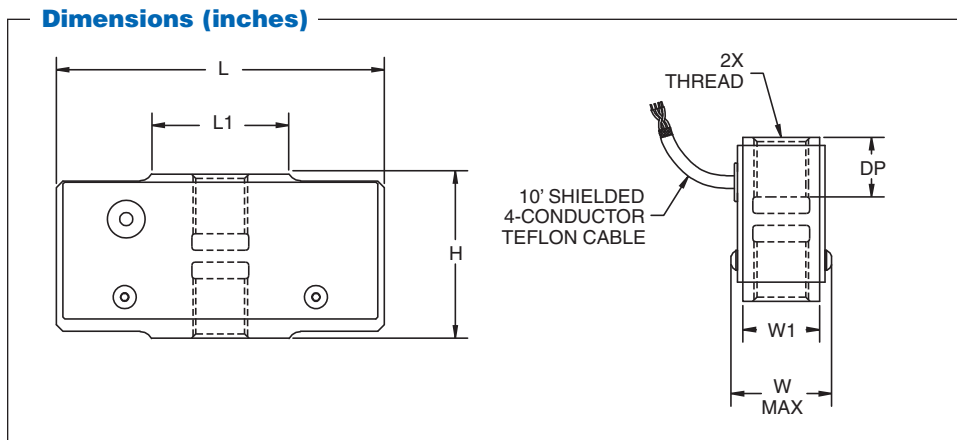
70°F to 170°F.

(-40°F to 400°F optional.)

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## Specifications

Baseline Configuration Specs Represented.  
Modifications Encouraged - See Below  
Custom Designs Available



| Capacity (lbs) | L    | L1   | W    | W1   | H    | THREAD     | DP   | NATURAL RINGING FREQUENCY (Hz) | DEFLECTION | WT (OZ) |
|----------------|------|------|------|------|------|------------|------|--------------------------------|------------|---------|
| 500            | 3.00 | 1.25 | 1.00 | 0.70 | 1.50 | 1/2-20 UNF | 0.53 | 2100                           | 0.003      | 12      |
| 1000           | 3.00 | 1.25 | 1.00 | 0.70 | 1.50 | 1/2-20 UNF | 0.53 | 2850                           | 0.003      | 12      |
| 2000           | 3.00 | 1.25 | 1.25 | 0.95 | 1.63 | 1/2-20 UNF | 0.53 | 5000                           | 0.003      | 17      |
| 3000           | 4.00 | 1.79 | 1.50 | 1.20 | 1.75 | 1/2-20 UNF | 0.53 | 4500                           | 0.005      | 34      |
| 5000           | 4.12 | 1.79 | 1.88 | 1.62 | 2.00 | 3/4-16 UNF | 0.75 | 6250                           | 0.005      | 43      |

### Mechanical Characteristics

**Static Overload Without Damage**  
150% FSO.

#### Standard Calibration

**Tension only:**

5 points (0, 50%, 100%, 50%, 0 of FSO).

#### Optional Calibrations

- **Compression only:**

5 points (No charge option)

- **Tension and Compression:**

5 points in each direction

- **Special multipoint calibration (customer specified):**

in tension or compression or both tension and compression.

#### Material

Stainless steel environmentally protected.

#### Threads

See table.

### Electrical Characteristics

#### Bridge Resistance

350 Ohms nominal.

#### Excitation

10 Vdc or Vac.

#### Insulation Resistance

Greater than 5000 megaohms at 50 Vdc.

#### Electrical Termination

10', 4 Conductor Shielded Teflon Cable.

### Electrical Characteristics

#### Connector Pins (Standard)

RED +EXE GREEN +SIG  
BLACK - EXE WHITE - SIG

Customer specified wiring codes are available.



### Modifications and Warranty

MODIFICATIONS: We realize transducer applications vary greatly and as such our designs are flexible. Choice of pressure port, electrical termination, material compatibility and performance characteristics are a few of the many options available. Specifications on this datasheet represent the standard configuration only. Product and company names listed are trademarks of their respective companies. Specifications subject to change without notice.

WARRANTY: Stellar Technology warrants that its product shall be free from defective workmanship and/or material for a twelve month period from the date of shipment, provided that Stellar Technology's obligation hereunder shall be limited to correcting any defective material FOB our factory. No allowance will be made for any expenses incurred for correcting any defective workmanship and/or material without written consent by Stellar Technology. This warranty is in lieu of all other warranties expressed or implied.



ISO 9001/AS9100

Due to the nature of technology, changes are inevitable. For latest technical specifications, see our website.

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