

Series 850

Subminiature Tension and Compression Load Cell



Select ranges in stock.



Shown (above) actual size



Standard Features

- **Small Size**
- **0.50% Accuracy**
- **Tension or Compression**
- **2 mV/V**
- **All Welded Stainless Steel**
- **-40°F to 250°F Operating Temperature**
- **Shock and Vibration Resistant**
- **5 Point Calibration Record Traceable to NIST**

Optional Features

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

Description

The Series 850 load cells are subminiature sized tension and/or compression load cells designed specifically for applications requiring very small size, very little mass and rugged construction. Designed of all welded stainless steel, these bonded foil strain gaged force sensors provide reliable performance for demanding application conditions. The 850 comes in both a single in-line threaded stud or dual in-line threaded stud configurations. Additional features include shock and vibration protection. 850 load cells are ideal for applications involving skeletal analysis, filament and fiber testing, force over area pressure measurements, surgical robotics and haptics. Each unit is shipped with a 5 point calibration record traceable to NIST as standard.

Performance

Standard Ranges
(Ranges in Bold Type are available in stock)
10, 25, 50, 100, 250, 500, 1000 lb.

Output
2mV/V nominal.

Accuracy
0.50% BFSL.

Temperature Effect on Zero
0.01% FSO/°F.

Temperature Effect on Span
0.01% Reading/°F.

Zero Balance
3% FSO.

Environmental Characteristics

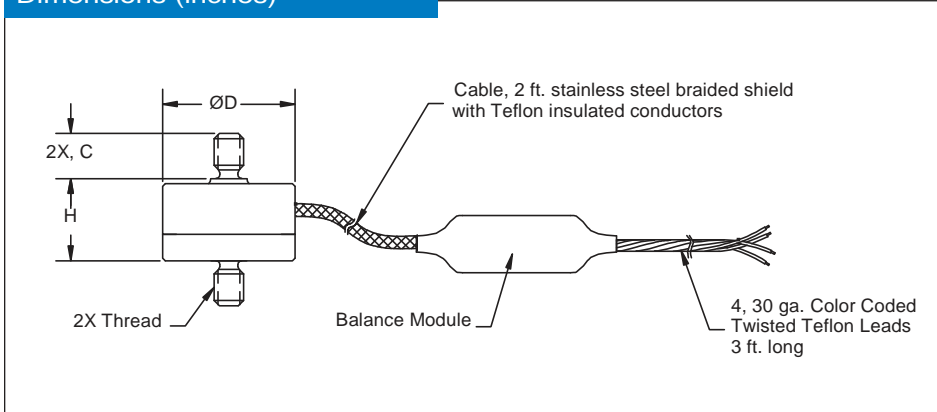
Operating Temperature Range
-40°F to 250°F.
(-65°F to 400°F optional.)

Compensated Temperature Range
70°F to 170°F.
(-65°F to 400°F optional.)

Series 850 Specifications

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

Dimensions (inches)



Capacity (lbs.)	ØD	Thread	C	H
10, 25, 50, 100	0.50	4-40 UNC	0.17	0.31
250, 500, 1000	0.75	1/4-28 UNF	0.31	0.40

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
Welded stainless steel.

Electrical Characteristics

Bridge Resistance
350 Ohms nominal.

Excitation
5 Vdc or Vac.

Insulation Resistance
Greater than 5000 megaohms at 50 Vdc.

Electrical Termination
Refer to dimensional drawing (above)

Electrical Characteristics

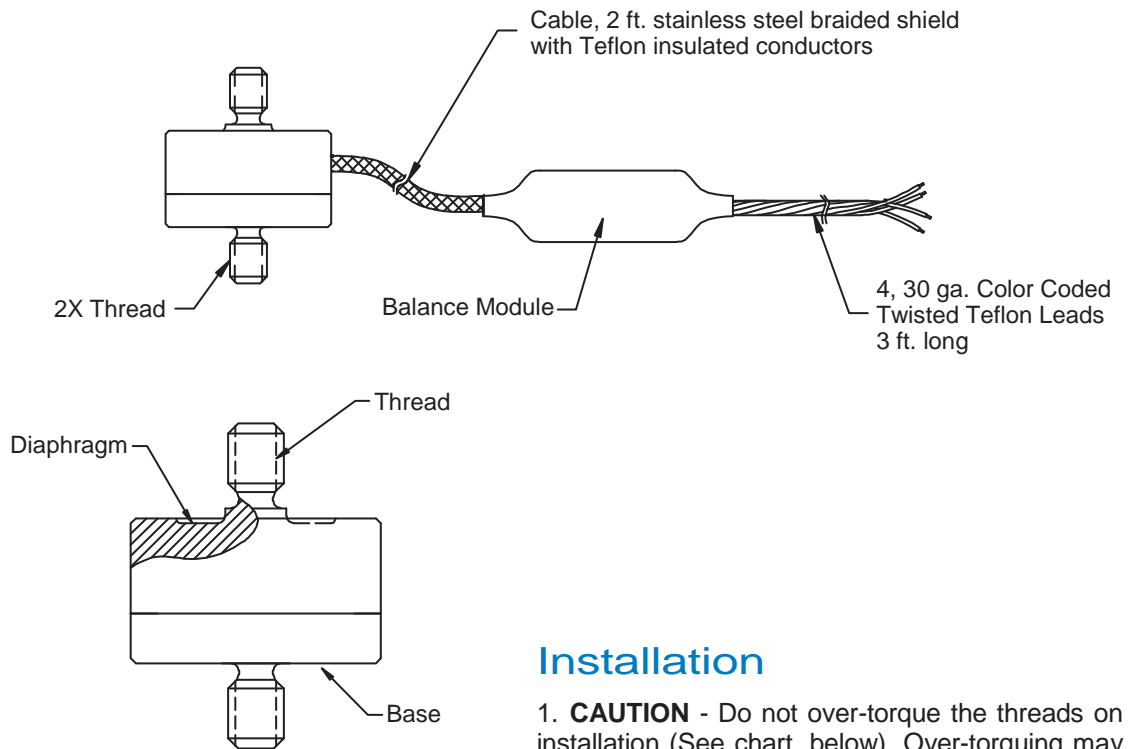
Connector Pins (Standard)

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

Customer specified wiring codes are available.

Series 850

Installation Guide



Installation

1. **CAUTION** - Do not over-torque the threads on installation (See chart, below). Over-torquing may result in damage to the unit.

<u>Capacity</u>	<u>Thread</u>	<u>Max. Torque</u>
10, 25, 50, 100	4-40 UNC	64 In-Oz
250, 500, 1000	1/4-28 UNF	90 In-Lbs

2. **CAUTION** - Do not overload. Low capacity load cells may be damaged if squeezed or handled incorrectly.

3. **CAUTION** - Do not load on diaphragm. Only load utilizing the threads. Damage and/or false readings may occur if the diaphragm is loaded..

ISO 9001:2000

T.C.E.

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