

Series RDE905

Rod-End Compression and Tension Load Cell



Description

The Series RDE905 load cells are rod-end configurations for both in-line compression and in-line tension force applications with extreme side, bending, and torque loads — up to 20% of full scale loads. In applications with little side loads, the Series RDE905 load cells are ideal for fatigue testing and high-cycle applications. Constructed of all welded stainless steel, these bonded foil strain gaged force sensors are compact in size and provide reliable performance for demanding application conditions. The RDE905 features shock and vibration protection. These load cells have a variety of male/female thread arrangements. Internal signal conditioning is an available option with analog outputs (4-20 mA, 0-5V, 0-10V) or digital outputs (RS232, RS485, CANbus, MODbus). RDE905 load cells are used in many in-line applications such as actuator testing, flight simulators, aircraft and automotive component testing, and industrial automation. Each unit is shipped with a 5 point calibration record traceable to NIST as standard.

Standard Features

- Ranges from 2,500 lbf to 50,000 lbf
- 0.25% Accuracy
- High Off-Axis Capability (Up to 20% of Full Scale Loads)
- In-line Compression and In-Line Tension
- All Welded Stainless Steel
- -65°F to 250°F Standard Operating Temperature
- mV/V Output
- Shock and Vibration Resistant
- 5 Point Calibration Record Traceable to NIST

Optional Features

- Metric Versions
- Special Full Scale Ranges
- Amplified Output (Analog or Digital)
- Special Calibrations
- Dual or Triple Bridges
- -320°F to +400°F

Performance

Standard Ranges

2.5K to 50K lbs.

Output

1mV/V nominal.

Linearity

0.20% FSO.

Hysteresis

0.15% FSO.

Repeatability

0.05% FSO..

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

-65°F to 250°F.

(-320°F to 400°F optional.)

Compensated Temperature Range

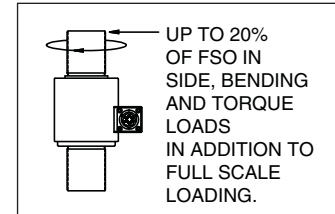
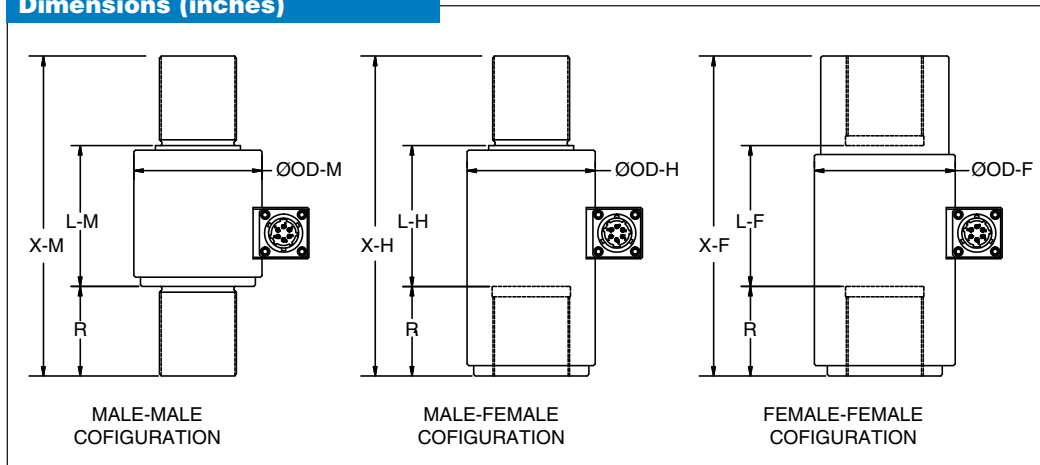
70°F to 170°F.

(-65°F to 400°F optional.)

Series RDE905 Specifications

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

Dimensions (inches)



Capacity (lbs.)	X-M	X-H	X-F	ØOD-M	ØOD-H	ØOD-F	L-M	L-H	L-F	Thread	R
2.5K, 5K	4.15	3.40	3.40	1.75	1.75	1.75	2.25	1.50	1.50	7/8-14 UNF	0.95
10K, 15K	6.25	6.25	6.25	2.50	2.75	2.75	2.75	2.75	2.75	1 1/2-12 UNF	1.75
25K, 50K	9.30	7.60	7.60	3.50	3.50	3.50	4.80	3.10	3.10	2-12 UN	2.25

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.

Threads

See table.

Electrical Characteristics

Bridge Resistance

350 Ohms nominal or
700 Ohms nominal.

Excitation

10 Vdc or Vac.

Insulation Resistance

Greater than 5000 megaohms
at 50 Vdc.

Electrical Termination

PTIH-10-6P Stainless Steel Connector.

Electrical Characteristics

Connector Pins (Standard)

A	+EXE	B	+SIG
C	-SIG	D	-EXE
E	NC	F	NC

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.

LORD SENSING
Stellar Technology

ISO 9001/AS9100

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

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