

General Purpose Load Cells

Description

Model 3397 TENSION AND COMPRESSION 5 LBS. TO 300 LBS.



3397 - Capacities available 25 to 300 lbs.
3108 - Capacities available 5 and 10 lbs.

Features

- Low profile
- Calibration traceable to the National Bureau of Standards
- Low sensitivity to extraneous loads
- Low deflection
- Barometrically compensated construction (except 3108)
- Built-in temperature compensation
- Circuitry provides true temperature compensation

Application Examples

This line of general purpose tension and compression load cells has been used over a very broad range of applications over the years. Its low profile, low deflection and high output are ideal for many installations.

Specifications

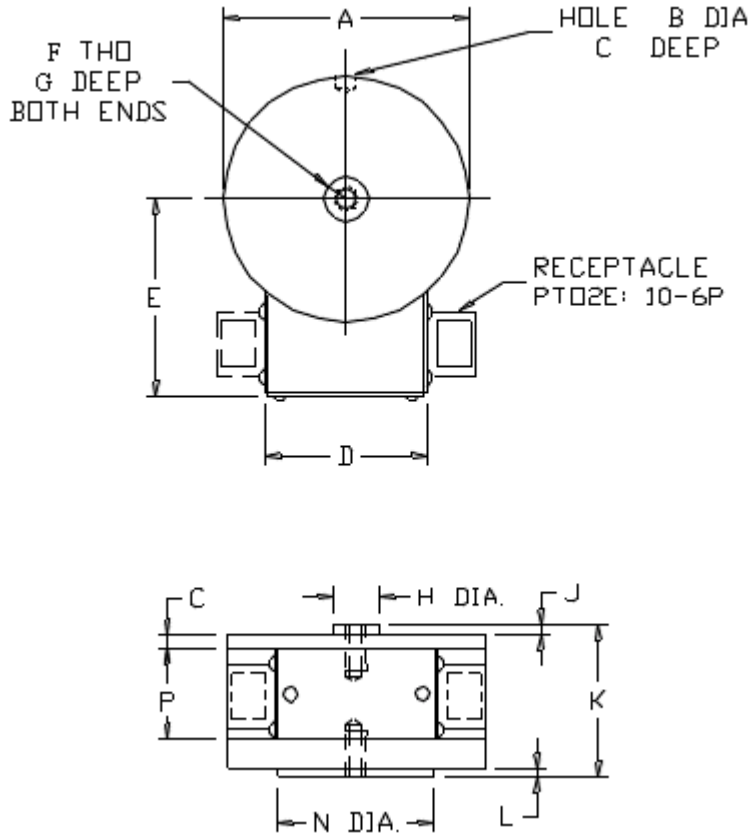
| | 3108 | 3397 |
|--|-------------|-------------|
| Output at rated capacity: millivolts per volt (refer to page 00) | 2±0.25% | 2±0.25% |
| Nonlinearity: of rated output | ±0.10% | ±0.05% |
| Hysteresis: of rated output | ±0.10% | ±0.05% |
| Repeatability: of rated output | ±0.05% | ±0.02% |
| Zero balance: of rated output | ±1.0% | ±1.0% |
| Bridge resistance: ohms nominal | 350 | 350 |
| Temperature range, compensated: °F | +70 to +170 | +70 to +170 |
| Temperature range, compensated: °C | +21 to +77 | +21 to +77 |
| Temperature range, useable: °F | -65 to +200 | -65 to +200 |
| Temperature range, useable: °C | -54 to +93 | -54 to +93 |
| Temperature effect of output: of reading per °F | ±0.002% | ±0.002% |
| Temperature effect of output: of reading per °C | ±0.0036% | ±0.0036% |
| Temperature effect on zero: of rated output per °F | ±0.002% | ±0.002% |

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| | | |
|---|----------|----------|
| Temperature effect on zero: of rated output per °C | ±0.0036% | ±0.0036% |
| Excitation voltage, maximum: volts DC or AC rms | 20 | 20 |
| Insulation resistance, bridge/case: megohms at 50 VDC | >5000 | >5000 |
| Number of bridges | 1 or 2 | 1 or 2 |

Design Drawings



Design Information

The load cells listed are precision general purpose designs, having exceptional structural capability to withstand extraneous loads, such as torque, bending moments and side loads.

Available in capacities from 5 lbs. to 300 lbs., they offer maximum performance and highest accuracy under changing environmental conditions.

Minimum deflection, no moving parts and compactness, make Lebow® general purpose load cells easy to install and use.

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| Model | | A | B | C | D | E | F | G | H | J | K | L | N | P |
|-------|-----|-------|------|-------|-------|-----------|------------|------|------|------|-------|------|-------|------|
| 3397 | In. | 2 3/4 | 7/32 | 1/8 | 1 3/4 | 2 7/32 | 1/4- 28 | 1/2 | 7/16 | 3/32 | 1 1/2 | 1/16 | 1 3/4 | 1 |
| | cm | 6.98 | 0.55 | 0.317 | 4.44 | 5.6 | - | 1.27 | 1.1 | 0.24 | 3.8 | 0.16 | 4.44 | 2.54 |
| 3108 | In. | 2 3/4 | 7/32 | 1/8 | 1 3/4 | 2 7/32 | 1/4- 28 | 3/8 | 7/16 | 9/32 | 1 1/2 | 1/16 | 1 5/8 | 1 |
| | cm | 6.98 | 0.55 | 0.317 | 4.44 | 5.6 | - | 1.27 | 1.1 | 0.28 | 3.8 | 0.16 | 4.13 | 2.54 |

Note: The 3108 mounting configuration is similar to the 3397.

| Model | Nominal Load Limit Capacity Fz | | Static Overload Capacity % of Nom. Capacity | Static Extraneous Load Limits | | | Deflection At Nom. Load Limit Inches | Ringing Frequency Hz |
|-------|--------------------------------|---------|---|-------------------------------|-----------------------------|----------------------|--------------------------------------|----------------------|
| | Lbs. | Newtons | | Shear Fx or Fy Lbs. | Bending Mx or My Lb. inches | Torque Mz Lb. Inches | | |
| 3108 | 5 | 20 | 150 | 30 | 30 | 3 | 0.005 | 500 |
| | 10 | 50 | 150 | 40 | 40 | 4 | 0.005 | 900 |
| 3397 | 25 | 125 | 150 | 150 | 150 | 40 | 0.003 | 2100 |
| | 50 | 200 | 150 | 150 | 150 | 40 | 0.003 | 2800 |
| | 100 | 500 | 150 | 250 | 180 | 40 | 0.003 | 3800 |
| | 200 | 1K | 150 | 250 | 180 | 40 | 0.003 | 5400 |
| | 300 | 1.5K | 150 | 250 | 180 | 40 | 0.003 | 7000 |

Static extraneous load limits are calculated such that only one extraneous load (Fx or Fy or Mx or My or Mz) can be applied simultaneously with half the nominal load limit capacity.

Also note that these values are for static application.

Ringing frequency values are calculated or determined by test with no external force or load.

NOTE: Refer to technical information for Extraneous Load Coefficients

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