

INTERFACE LOAD CELL CHEAT SHEET

COMMON ABBREVIATIONS

pound-force	lbf	Volt (Direct Current)	VDC
kilopound-force	K lbf	Millivolt per Volt	mV/V
Newton	N	Full Scale	FS
kilonewton	kN	Ohm	Ω
gram-force	gf	Megohm	M Ω
kilogram-force	kgf	Milliampere	mA
kilogram	kg	Rated Output	RO
hertz	Hz	Degree Fahrenheit	$^{\circ}$ F
kilohertz	kHz	Degree Celsius	$^{\circ}$ C

ACCURACY

Static Error Band	The worst-case deviation from a straight line that includes nonlinearity, hysteresis, and nonrepeatability, expressed as a percentage of full scale
Nonlinearity	The deviation from a perfectly straight calibration curve, expressed as a percentage of full scale
Hysteresis	The difference in output when approaching the same load from increasing vs. decreasing directions, as a percentage of full scale
Nonrepeatability	The variation in output when the same load is applied repeatedly under identical conditions, expressed as a percentage of rated output
Creep	The change in load cell signal occurring with time while under load and with all environmental conditions and other variables remaining constant
Side Load Sensitivity	The change in output caused by forces applied perpendicular to the primary loading axis, shown as a percentage of the output
Eccentric Load Sensitivity	The output change per inch of load offset from the centerline, expressed as a percentage per inch

TEMPERATURE PERFORMANCE

Compensated Range	The range of ambient temperatures over which the load cell is guaranteed to maintain its specified accuracy
Operating Range	The full range of ambient temperatures over which the load cell can safely function without physical or electrical damage
Effect on Zero	How much the zero output, the output signal when no load is applied, changes with temperature
Effect on Output	Describes how the sensitivity or output signal changes as temperature varies, while under load

ELECTRICAL

Rated Output	Signal level at full load
Excitation Voltage	Max power supply allowed
Bridge Resistance	Resistance across the sensor circuit
Insulation Resistance	The DC resistance measured between the bridge circuit and the case
Toggle/Zero Float	The shift in zero balance resulting from a complete cycle of equal tension and compression loads

MECHANICAL

Safe Overload	Max load it can handle without damage
Deflection @ RO	How much it bends at full load
Natural Frequency	How fast it vibrates naturally
Weight	How much the load cell itself weighs
Dimensions	Physical size details
Calibration	Verified output under known loads
Material	What the load cell is made of

CALIBRATION

System Calibration	Verifies the performance of the load cell and entire system, ensuring accuracy and reliable performance
ISO/IEC 17025:2017 Scope	Standard certification Interface is certified to

AVAILABLE OPTIONS

Adapters (M/F)	Threaded adapters to match mounting requirements
Vacuum Rated	Suitable for use in vacuum environments
Cables	Various lengths, gauges, and configurations available
Connectors	Type of electrical interface or connection method
Optional Base	Add-on base option, part number listed

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WHY INTERFACE IS BETTER...

Interface manufactures over 60 types of load cells, ranging from miniature to jump, supporting capacities from 0.02 lbf to 2,000K lbf. Our blue LowProfile® Load Cells are the most popular. We also offer various designs, like canister, S-type, and calibration-grade load cells. What sets us apart? We use proprietary strain gages, guaranteeing the most accurate force measurement sensors.

In-House CNC Machining

- Total control of manufacture and quality standards

Moment Compensated during Production

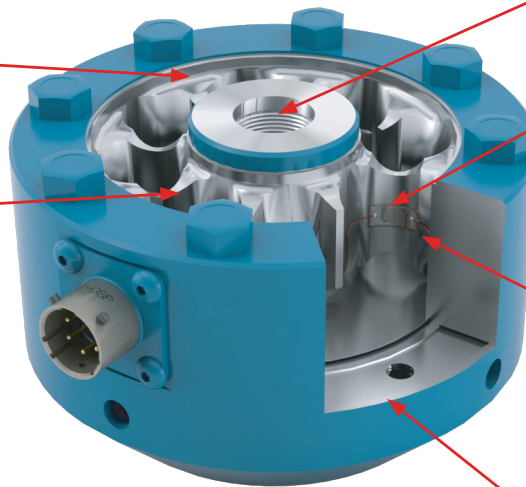
- Reduces the effects of off-axis loads

TRUE Fatigue Specification

- Fully reversed cycles through zero at full capacity

Class Leading Performance

- Published accuracy (Static Error Band) specification as low as $\pm 0.02\%FS$ and actual performance as low as $\pm 0.01\%FS$ on a regular basis
- Will never be less accurate than published spec



High Quality Threads

- 0.002" perpendicularity
- 0.003" concentricity

Proprietary High Output Strain Gages

- Matched to flexure for best performance
- 8-16 Strain Gages per bridge

Temperature Compensated Strain Gages

- No signal loss from compensation resistors
- Measures temperature at the strain gage

Accurate Machined Base (0.0002" flatness)

- Provides excellent mounting surface