

INTERFACE 2-AXIS LOAD CELL CHEAT SHEET

COMMON ABBREVIATIONS

pound force-inch	lbf-in	Volts	V
pound-force	lbf	Millivolt per Volt	mV/V
newton-meter	Nm	Full Scale	FS
newtons	N	Ohm	Ohm
Hertz	Hz	Megohm	Mohm
Milliampere	mA	Degree Fahrenheit	°F
Rated Output	RO	Degree Celsius	°C

ACCURACY

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

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

A 2-axis force/torque load cell measures force and torque along two perpendicular directions, or load in one direction and force in the other direction, using strain gages that convert mechanical strain into electrical signals. It's commonly used in robotics, assembly, and bio-mechanical testing for precise load monitoring.

ELECTRICAL

Rated Output	Signal level at full load
Excitation Voltage	Max power supply allowed
Input Resistance	The resistance of the load cell circuit measured at the excitation terminals with no load applied and with the output terminals open-circuited
Output Resistance	The resistance of the load cell circuit measured at the SIGNAL terminals with no load applied and with the excitation terminals open-circuited
Zero Balance	The signal of the load cell in the no load condition
Crosstalk	The way loading one axis effects the other axis

MECHANICAL

Safe Overload	Max load it can handle without permanent damage
Ultimate Overload	Max load that can be applied without causing structural failure of the sensor
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 torque sensor and entire system, ensuring accuracy and reliable performance
ISO/IEC 17025:2017 Scope	Standard certification Interface is certified to

AVAILABLE OPTIONS

Cables	Various lengths, gauges, and configurations available
Connectors	Type of electrical interface or connection method