
Monad Electronics

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Introduction



Winner of National Award for year 2009-2010 in R&D

Monad Electronics is An ISO 9001:2015 certified company, which has been involved for over 20 year in the business of designing, manufacturing and export of Electronic Industrial products, Testing equipments , sensors and related indicating and controlling devices and allied products related to Data logging & Acquisition.

Monad is specialized in providing high end and high accuracy customized Force Transducers, Multi-Axial Force Transducers and Torque Sensors. Monad is an expert in providing import substitutes of high end Load Cells, Safe Load Indicators, etc

We are supplying to leading industries and government institutions and are also exporting our products to USA, Germany, Belgium, Turkey, Australia, U.A.E., Singapore, Spain, Brazil, New Zealand, Philippines, UK, Croatia and to the African countries.

TENSION LOAD CELL

Monad manufacture various types of Load cells for the tension applications. Tension load cells are for used for the measurement of load, tension, force, weighing during lifting, load testing and overload prevention.

During the past 17 years, Monad's load cells and overload detectors have gained international recognition for their high quality, reliability, compact dimensions & unique features which ensure the user's safety and convenience.

The best raw materials and components together with the highest standards of manufacturing are matched to Monad's leading technology.

All Monad products are produced to nationally and internationally recognized standards.

SHACKLE TYPE TENSION LOAD CELL

Monad's shackle type Load Cell are Clevis Pin Type Load cells integrated With D-Shackles to make it a unique Load cell System to fit in the requirement of Lifting and Rigging Industry. its rugged construction and long life cycles, easy installation and hassle free system makes it perfect for the industries and construction sites.

Integrated load shackle systems are installed in some of the harshest and extreme conditions to measure tensile (or tension) forces such as those exerted from loads generated in heavy and other plant lifting, rigging, pulling and weighing systems.

- # Available With in Built Amplifier 4-20 mA O/P
- # Available with Wireless connectivity



SHACKLE TYPE TENSION LOAD CELL

Features And Benefits:-

- * Compact Size
- * High Accuracy
- * Light Weight
- * Tare Facility
- * Peak Hold
- * Rugged Construction
- * Clevis Pin Type Load cell
- * High Over Load Capacity
- * Capacity Range 100, 500, 1000, 5000 Kg, 10T, 20T & 50T

Applications:-

- * Cranes

SHACKLE TYPE TENSION LOAD CELL

SPECIFICATIONS

Rated load (R.L.)	100, 500, 1000, 5000 kg 10 T, 20T, 30T, 50T, 100T
Accuracy	$\pm 0.1\%$ of R.O
Non Linearity	$\pm 0.05\%$ of R.O.
Non Repeatability	$\pm 0.02\%$ of R.O.
Overload safe	150*% of R.L.
ultimate	300*% of R.L.
Side load safe	100*% of R.L.
Input voltage recommended	10V DC
maximum	15 V DC
Input resistance	382 ± 3 ohm
Output resistance	350 ± 3 ohm
Zero balance	$\pm 0.01\%$ Of R.O.
Temperature range	-10°C to +50°C
Temperature effect on output	$\pm 0.01\%$ of Output/°C
on zero balance	$\pm 0.005\%$ of R.O./°C
Insulation resistance at 200 V DC	$\geq 500M\Omega$ @500 V DC
Material	Stainless Steel / Die Steel
Degree of protection	IP67

CLEVIS PIN TYPE LOAD CELL FOR SHACKLE TYPE SYSTEM



FATIGUE RATED TENSION-COMPRESSION LOAD CELL

The low profile Fatigue Rated compression-Tension Load cell is designed as the ultimate solution for some difficult applications with critical height for safety reasons. The shear web design provides excellent performance even when the side force inevitably exists in normal operations. The typical example for side force resistance is the applications in motor truck scales. Load cell is constructed of alloy steel and fully potted with special chemical compounds to IP67 providing excellent protection against moisture and humidity.



FATIGUE RATED TENSION-COMPRESSION LOAD CELL

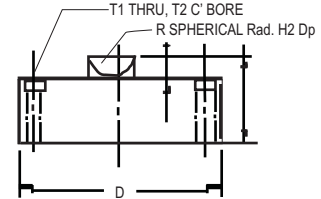
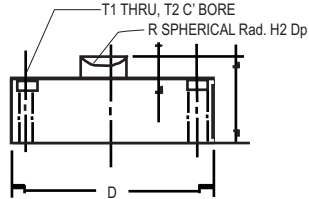
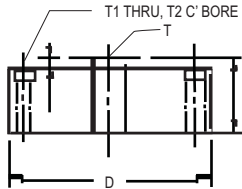
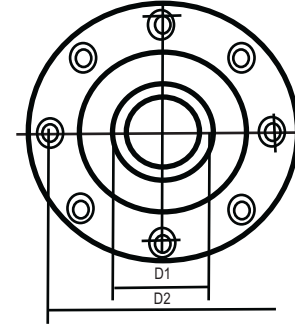
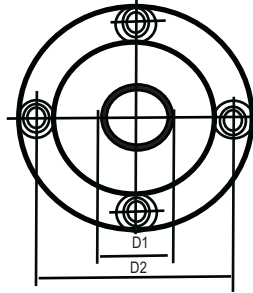
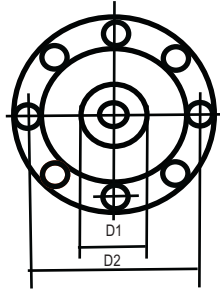
FEATURES

- Capacities: 5t, 10t, 25t, 50t, 100t,250t,300t
- Electroless nickel plated alloy tool steel
- Compact size with low profile
- Stainless Steel available
- Surge protection optional for 5K-100Klb

APPLICATIONS

- Truck / Rail scales
- Silo / Hopper / Tank weighing
- Universal Material Tester
- Tensile / Pulling Force

FATIGUE RATED TENSION-COMPRESSION LOAD CELL



PARAMETER	VALUE	UNIT
Rated Output-R.o.	2.0	\pm mV/V
Rated Output Tolerance	0.1	\pm mV/V
Zero balance	0.1	\pm mV/V
Non Linearity	0.015	\pm % of rated output
Hysteresis	0.015	\pm % of rated output
Non- repeatability	0.02	\pm % of rated output
Creep Error (20 minutes)	0.030	\pm % of rated output
Zero Return (20 miutes)	0.030	\pm % of applied Load
Temperature Effect On min. Dead Load Output	0.0026	\pm % of rated output/C
Temperature effect on Sensivity	0.0015	\pm % of Applied Load/C
Temperature Range, Compensated	0 to +50	$^{\circ}$ C
Operating Temperature Range	-20 to +60	$^{\circ}$ C
Maximum Safe Overload	150	% of R.C.
Ultimate Overload	200	% of R.C.
Excitation, recommended	10	Vdc or Vac rms
Excitation, maximum	15	Vdc or Vac rms
Input Impedance	730 \pm 10	ohms
Output impedance	700 \pm 5	ohms
Insulation Resistance	>5000	mega-ohms
Construction	Alloy Steel, Stainless Steel	
Environmental protection	IP 67	

TENSION LINK LOAD CELL

The Tension link Load cell of Monad offers so much versatility, but it is easy to use. Load cell mounted as well as separate Digital units are available with standard functions of On-Off, Zero, Peak Hold and user programmable set points.

For Load cell mounted unit, Power is provided from internal "C" size batteries.

Designed for indoor and outdoor industrial use, the Load cell will perform under virtually all environmental conditions (please consult for further details). Surface mounted electronics provide a space saving compact design and reliability in heavy shock and vibration applications. Mechanical switches and a alpha numeric LCD ensure user- friendly performance and operator acceptance.

Capacities range from 1 to 250 tons and units can be selected to read in pounds, kilograms, metric tons.

TENSION LINK LOAD CELL



TENSION LINK LOAD CELL

Capacity	1,2,5,10,20,30,50,75,100,150,200,250 T
Rated Output	2mV/V \pm 0.1 mV/V
Accuracy	\leq 0.1% of Rated Out put
Combined Error	\pm 0.2% of Applied Load
Repeatability	\pm 0.1% of Rated Out put
Hysteresis	\pm 0.5% of Rated Out put
Zero Balance	\pm 1.0% of Rated Out put
Temperature Effect On Zero Balance	\pm 0.1% of Rated Out put/ $^{\circ}$ C
Temperature Effect On Span	\pm 0.1% of Applied Load/ $^{\circ}$ C
Compensated Temperature Range	\geq -10 $^{\circ}$ C To +50 $^{\circ}$ C
Operating Temperature Range	\geq -20 $^{\circ}$ C To +70 $^{\circ}$ C
Storage Temperature Range	\geq -20 $^{\circ}$ C To +70 $^{\circ}$ C
Humidity	90%RH @50 $^{\circ}$ C
Safe Over Load	\geq 150% of Rated Capacity
Unlimited Overload	\geq 300% of Rated Capacity
Excitation, Recommended	5/10 Volt DC \pm 5%

S-TYPE LOAD CELL

The MES-HD S-Beam Load Cell is a high capacity tension and compression transducer with a wide capacity, ranging from 100 Kgf to 100T

This Monad Cylindrical S-Beam Load Cell is unique since it offers a compact and robust design with a high accuracy and nonlinearity of $\pm 0.1\%$, minimal deflection of 0.12 mm, . Monad's Cylindrical S-beam Load Cell is exceptional because of its compact size compared to its high capacity range. High Extraneous Load Factors , High non axial over load range.

This is perfect for platforms, silos, material testing, press insertion stands, cranes and is specifically designed for use inline with actuator and control systems to provide force feedback, This load cell may be used for both compression and tension applications. They may also be used in-line or end mounted or a combination of both.

Features of the load cells:

- Metal Foil Strain Gauge Technology.
- Signal Output: 2mV/V.
- Alloy Steel? Stainless Steel Material.
- Protection against tension over load
- Protection against compression over load
- Cylindrical design for high side & non axial bending protection

S-TYPE LOAD CELL



S-TYPE LOAD CELL

IMPORTANT FEATURES:

Capacities: 100 to 2000 Kg, 5T,10T,20T, 30T, 50T, 100T

Miniature 50 gm, 50 Kg.

High Accuracy.

Total Stainless steel/ Alloy Steel construction.

Protection IP 67

Calibration in mV/V

Easy cable replacement.

Complete range of loading hardware available.

S-TYPE LOAD CELL

SPECIFICATIONS:

Rated Output	mV/V	$2/3 \pm 0.1/1 \pm 0.1$
Calibration in	mV/V/ %RO	$<\pm 0.05$
Combined error	%RO	$<\pm 0.1$
Creep error (30 minutes)/DR	%RO	$<\pm 0.06$
Temperature effect on sensitivity	%/° C	$<\pm 0.02$
Excitation voltage	V	5-15
Zero balance	%RO	$<\pm 1.0$
Insulation Resistance	M ohm	> 2000
Compensated temperature range	°C	15 to 45
Operating Temperature range	°C	0 to 50
Safe Load limit	%	150
Load cell material		Alloy steel/SS/Aluminium Alloy
Protection		IP67/IP65