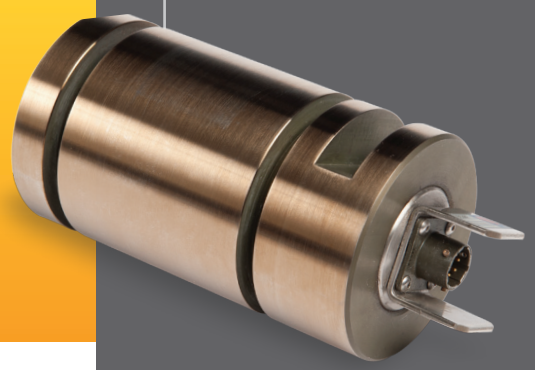
SENTRAN

Dual Shear Load Pin

LA Series

The LA Series is an extremely rugged, high performance load pin. The LA Series is designed to accurately measure compression and tension loads ranging from 0-2000 lbs. to 0-500,000 lbs.



The LA Series is an extremely rugged, high performance load pin. The LA Series load pins are designed to accurately measure compression and tension loads in capacities ranging from 0-2,000 lbs. to 0-500,000 lbs. The robust Dual Shear Beam design readily tolerates angular, end loading and side loading effects, with minimal sensitivity to these anomalies. Proprietary, axial "gun-bore" gauging techniques produce the benefits of relatively compact size and enhanced environmental sealing. The LA Series is Harsh Environment Sealed (IP67-Limited Immersion) by virtue of proprietary, multi-redundant barriers uniquely integrated to protect all internal components. The load pins are fitted with durable MS connectors. Companion cable/connector assemblies are available in a variety of lengths. The LA Series offers unique mounting capabilities to address application-specific requirements. The attributes of the LA Series make it ideal for crane/lift/winch loading, mooring line tension monitoring, sprocket/pulley force measurements, specialty applications such as web tension and steel coil weighing, as well as for O.E.M. situations where a versatile, rugged and high performance solution is needed. The LA Series reliability produces exceptional performance yields under extraordinary conditions in aerospace, automotive, steel processing, off-shore, power generation, mining, material handling, wood/pulp/paper, petrochemical and similarly demanding applications.

ISO 9001:2015 CERTIFIED

IP 67

APPLICATIONS

- Tension/Compression Measurements
- Crane, Lifting & Winch Systems
- Mooring Line Tension Measurements
- Sprockets & Pulley Axles

FEATURES

- 2,000 to 500,000 lbs. Capacities
- Shear Beam Technology
- Alloy or Stainless Steel Construction
- Application Versatility
- 0.5% Accuracy Class
- Excellent Overall Performance
- IP67 Environmental Sealing
- OEM and Custom Configurations
- Options and Accessories
- Two Year Warranty

For more information call **1-888-545-8988**

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LA Series Specifications

Innovative Measurement Solutions

PERFORMANCE	
Rated capacities [1] (lbs.)	3K, 10K, 15K, 25K, 50K, 75K, 100K, 125K, 160K, 200K, 300K, & 400K
Rated output (FSO)	2 mV/V
Output Tolerance	Nominal
Combined Error Band	≤ 0.5 % FSO
Non-Linearity	≤ 0.5 % FSO
Hysteresis	≤ 0.5 % FSO
Non-Repeatability	≤ 0.2 % FSO
Side Load Rejection Ratio	500:1
Zero balance	± 2 % FSO
Creep (20 minutes)	0.05 % of Load

[1] ("K" = thousand)

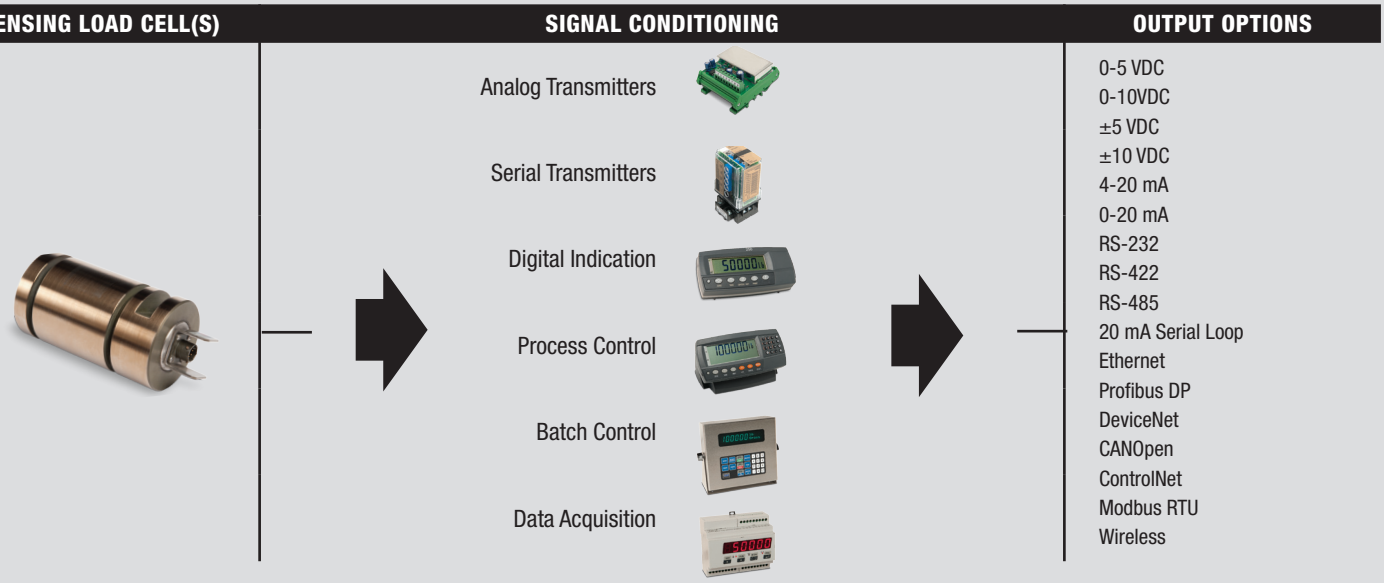
MECHANICAL	
Material	Alloy tool steel (LA1) Stainless steel (LA3)
Finish	Natural
Safe overload	Compression 150 % FSO Tension 150 % FSO Side Load 100% FSO
Ultimate overload	Compression 300% FSO Tension 300% FSO Side Load: 200% FSO
Deflection	See Dimensions Page
Weight	See Dimensions Page

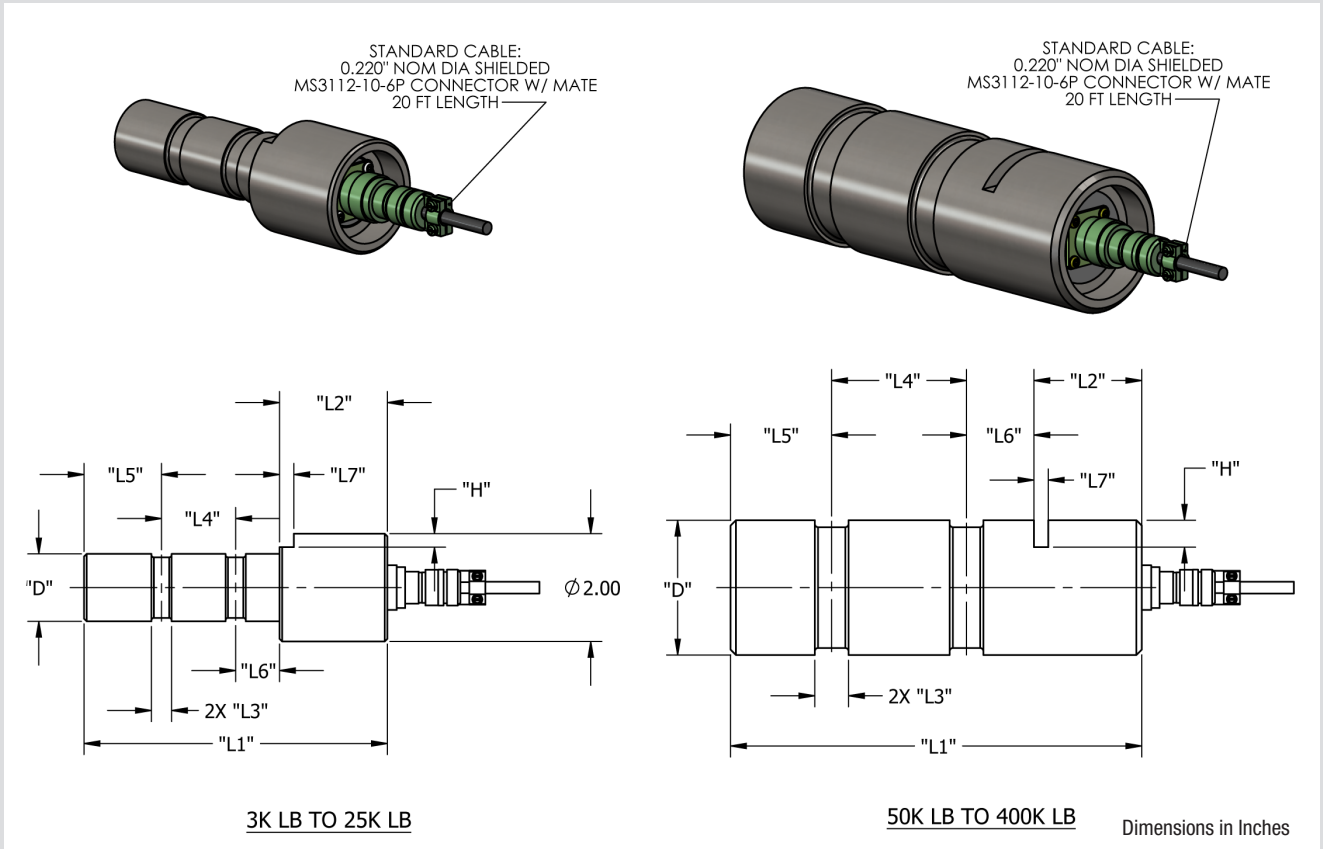
ELECTRICAL	
Input Impedance	350 (nominal)
Output Impedance	350 (nominal)
Insulation Resistance	>5000 Megohms @ 50VDC
Excitation Voltage	10 V AC/DC (15 V maximum)
Connector Pin Functions	+ Excitation (A) - Excitation (D) + (Optional) Remote Sense (E) - (Optional) Remote Sense (F) + Signal (B) - Signal (C) Shield (G)
Cable Color Code	+ Excitation (red) - Excitation (black) + Signal (green) - Signal (white) Shield (natural)
Cable Type	4-conductor, 22 AWG, Polyurethane Jacket, Tinned Copper Braid, Diameter: 0.220"
Cable Length	See Dimensions Table
Cable Termination	Finished Conductors
Cable Seal	Compression Gland Fitting

ENVIRONMENTAL	
Temperature, Operating	-65 to +250 °F (-54 to +120°C)
Temperature, Compensated	15 to +115 °F (-9 to +46°C)
Temperature, Storage	-65 to +300 °F (-54 to +149°C)
Temperature Effects	Zero < 0.005% FSO/°F < 0.009% FSO/°C
Temperature Effects	Output < 0.008% of Rdg./°F < 0.014% Rdg./°C
Sealing	IP67; Multi-redundant; Limited Immersion Tolerance

The temperature ratings provided do not include the companion cable/connector assembly. If PUR or PVC cable is employed, the maximum operating temperature is 180°F (82°C)

LA Typical System Configuration





3K LB TO 25K LB

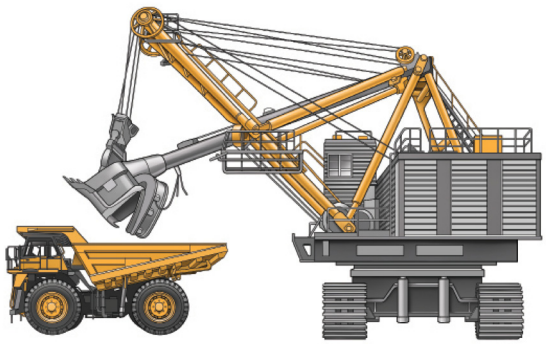
50K LB TO 400K LB

Dimensions in Inches

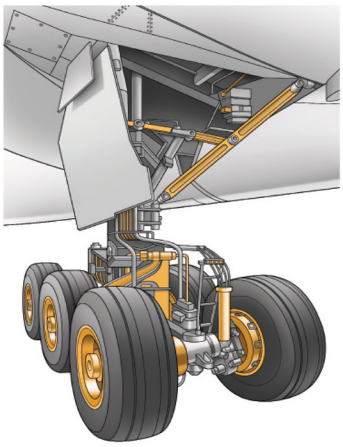
Capacity (LBS)	H	L1	L2	L3	L4	L5	L6	L7	D	Deflect	Weight
						DIMENSIONS (INCHES)					
3K	0.25	4.50	2.00	0.31	1.00	0.91	0.60	0.20	0.75	0.005" NOM	2.0 LBS
10K	0.25	4.75	2.00	0.31	1.00	1.13	0.63	0.20	1.00	0.005" NOM	2.5 LBS
15K	0.25	5.63	2.00	0.38	1.38	1.44	0.81	0.27	1.25	0.005" NOM	3.0 LBS
25K	0.25	6.13	2.00	0.50	1.63	1.56	0.94	0.27	1.50	0.005" NOM	3.7 LBS
50K	0.38	6.63	2.00	0.56	2.00	1.63	1.00	0.27	2.00	0.005" NOM	5.7 LBS
75K	0.50	7.63	2.00	0.63	2.50	1.88	1.25	0.27	2.50	0.005" NOM	10.5 LBS
100K	0.50	8.38	2.00	0.69	2.69	2.22	1.47	0.40	2.75	0.005" NOM	13.8 LBS
125K	0.63	8.75	2.00	0.69	3.00	2.31	1.44	0.40	3.00	0.005" NOM	17.2 LBS
160K	0.63	10.00	2.00	0.88	3.50	2.75	1.75	0.53	3.50	0.005" NOM	26.7 LBS
200K	0.75	11.75	2.00	1.00	4.00	3.50	2.25	0.53	4.00	0.005" NOM	41.0 LBS
300K	1.00	15.25	2.25	1.13	5.00	4.75	3.25	0.78	5.00	0.005" NOM	83.2 LBS
400K	1.13	17.75	2.25	1.38	6.00	5.63	3.88	0.78	6.00	0.005" NOM	140.0 LBS

Application Examples

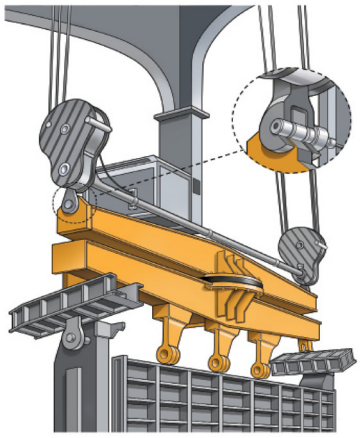
Excavating



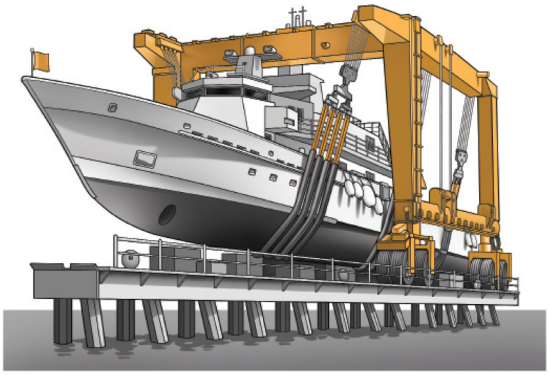
Landing Gear



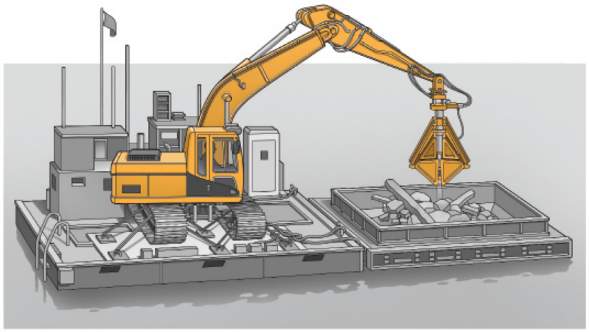
Spreader Beam



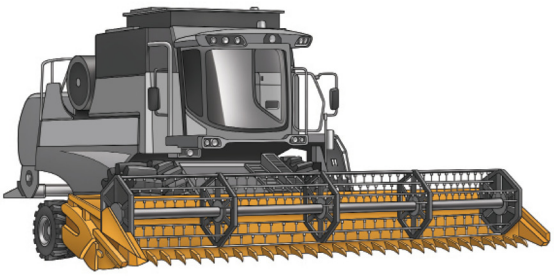
Vessel Lifting



Dredging

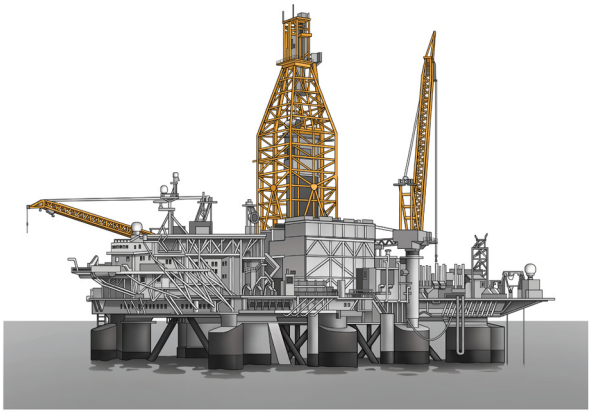


Mass Flow

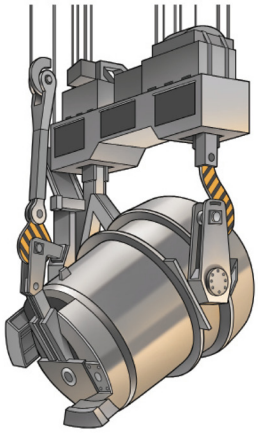


Application Examples

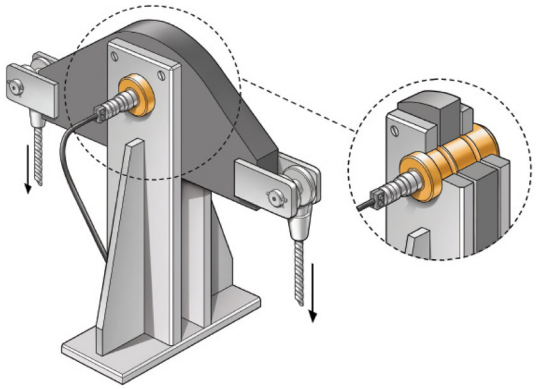
Off Shore Drilling



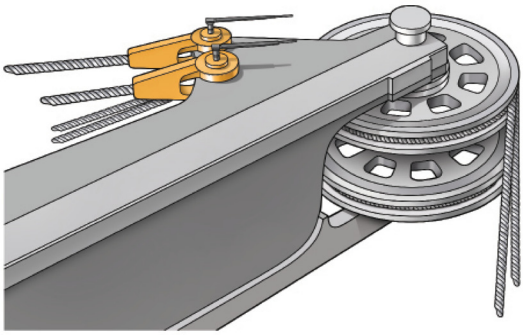
Molten Metal Ladle



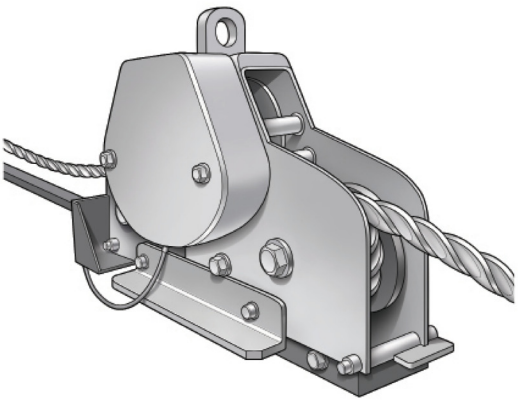
Equalizer Beam



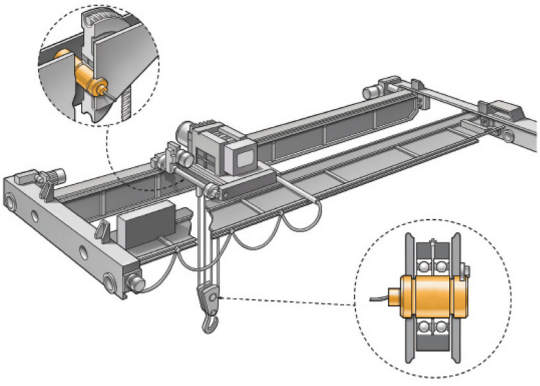
Spelter Socket Wireless



Tensiometer



Overhead Crane



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