



LA

PRECISION DUAL SHEAR LOAD PIN

applications

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

features

- 5,000 to 200,000 lbs. Capacities
- Dual Shear Beam Technology
- Stainless Steel Construction
- Application Versatility
- 0.5% Accuracy Class
- Excellent Overall Performance
- IP67 Environmental Sealing
- Non-Standard Configurations
- Two Year Warranty

SENTRAN, LLC
California Commerce Center
4355 Lowell Street
Ontario, CA 91761-2225

Toll Free: 1(888) 545-8988
Phone: 1(909) 605-1544
Fax: 1(909) 605-6305
Email: mail@sentranllc.com
URL: www.sentranllc.com



APPLICATION TIP:

The Model LA load pins feature Dual Shear Beam Technology, field-proven as the best solution for reliable force measurements.

The LA Series is an extremely rugged, high performance load pin constructed of tool steel (LA1) or stainless steel (LA3). The LA Series load pins are designed to accurately measure compression and tension loads in capacities ranging from 5,000 lbs. to 200,000 lbs. (Non-standard capacities from 2,000 of pounds to 500,000 pounds+ available.) 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. To achieve a sealing rating of IP67 (thoroughly sealed against airborne particles and the effects of immersion up to 1 meter.) metal seal and composite environmental barriers are integrated to protect the load pin. The cable is a durable polyurethane-jacketed cable, with a tinned-copper braided shield for mechanical protection and to minimize the effects of RFI and EMI. The LA Series offers unique mounting capabilities to address application-specific requirements. The attributes of the LA Series make it ideal for clevis pin/shackle loading, 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.

Innovative Measurement Solutions





performance

Model LA Load Pins feature Dual Shear Beam Technology!

Rated capacities ⁽¹⁾ (lbs.):	5K, 10K, 20K, 50K, 100K & 200K (Custom Range 2K-500K+)
Rated output (FSO)	0.5, 1, 2 mV/V (nominal)
Combined error	≤ 0.50 % FSO
Non-linearity	≤ 0.30 % FSO
Hysteresis	≤ 0.20 % FSO
Non-repeatability	≤ 0.10 % FSO
Side Load Rejection Ratio	≤ 500:1
Creep (30 minutes)	≤ 0.05% of load
Zero balance	≤ 2.0 % FSO
Zero return (30 minutes)	Better than 0.05 % FSO

⁽¹⁾ ("K" = thousand)

mechanical

Material:	Alloy tool steel (LA1) Stainless Steel (LA3)
Finish:	Electroless nickel (LA1) Electro-polished (LA3)
Safe overload	Compression/Tension: 200% FSO Side load: 100% FSO
Ultimate overload	Compression/Tension: 400% FSO Side load: 200% FSO
Weight	See table below
Deflection	See table below

electrical

Input impedance (ohms)	380 (nominal)
Output impedance (ohms)	350 (nominal)
Insulation resistance	>1000 Megohms @ 50VDC
Excitation Voltage	10 V AC/DC (15 V maximum)
Cable Color code:	+ Excitation (red) - Excitation (black) + Output (green) - Output (white) + Remote Sense Option (Blue) - Remote Sense Option (Brown) Shield (bare)
Cable type	4-conductor; 22 AWG; tin-copper, braided shield; polyurethane jacket
Cable termination	Finished conductors

environmental

Temperature, operating	0 to +175 °F (-18 to +79°C)
Temperature, compensated	40 to +150 °F (4 to +65°C)
Temperature effects:	Zero < 0.0020% FSO/°F < 0.0036% FSO/°C Output < 0.0020% of Rdg./°F < 0.0036% Rdg./°C
Sealing	IP67, Multi-redundant; IP66/68, Hermetic

options

Special Cable Lengths, High Temperature Operation, Conduit Adapters, MS Connectors, Instrumentation and Non-Standard Configurations.

dimensions

100%
CUSTOMER
SATISFACTION
GUARANTEED

CABLE LENGTH: 20 FT

CAPACITY (LB)	"A"	"B"	"C"	"D1"	"D2"	DEFLECTION (IN)	WEIGHT(LB)
5K	3.00	0.25	0.150	0.970	1.375	0.005	2.0
10K	3.75	0.38	0.250	1.457	1.875	0.008	3.0
20K	4.75	0.44	0.250	1.957	2.375	0.010	5.5
50K	6.00	0.50	0.375	2.200	2.750	0.013	7.5
100K	9.00	0.75	0.375	2.450	3.250	0.017	14.0
200K	11.50	1.00	0.500	3.450	4.500	0.020	33.0