

Dynamic Load Cell Family

Models DLN and DLS

HIGH STIFFNESS

LOW PROFILE

HIGH OUTPUT

HIGH FREQUENCY RESPONSE



Model DLN



Model DLS

The new SENSOTEC Dynamic Load Cell family features two designs to address a wide variety of dynamic force measurements. Applications include automotive crash testing, crimping, stamping, pressing, and machine vibration analysis. The low profile Model DLN has an overall thickness of only 0.19" and a capacity of 1000 lbs. The DLN can be installed in new or existing test structures with little or no alterations to the original design. This unit requires a through-bolt mount and is available for standard metric bolt sizes (6, 8, 10, or 12 mm). The Model DLN includes 3 feet of low-noise coaxial cable with a 10-32 connector for interfacing to signal conditioning hardware.

The Model DLS is designed for higher capacities, up to 10,000 lbs. This model is ideal for measuring unknown impact forces and dynamic loads with high static preloads. The Model DLS is also suitable for indirect force measurements when installed in press fixture blocks. This model also requires a bolt mount and will accommodate a standard 5/16" bolt. The DLS has an internal impedance converter with low output impedance, eliminating the need for costly low noise cable. A constant current power supply is required.

PERFORMANCE

ENVIRONMENTAL

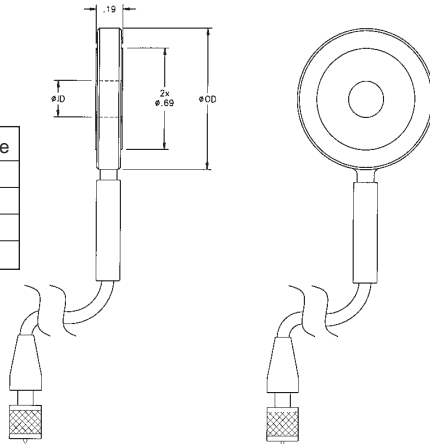
ELECTRICAL

MECHANICAL

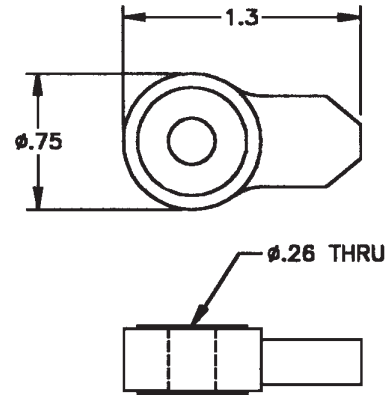
	Model DLN Order Code AL811/2/3/4	Model DLS Order Code AL821
Capacity	1000 lbs.	10,000 lbs.
Sensitivity	10 pC/lb.	.5 to 5mV/lb.
Accuracy.....	±1% full scale	±1% full scale
Natural Frequency (Min.)	20 kHz	40 kHz
Operating Temperature.....	20 F to 300 F	20 F to 200 F
Overload Limit.....	200% of full scale	200% of full scale
Vibration Limit.....	1000 g	2000 g
Shock Limit.....	2500 g	5000 g
Electrical Termination.....	Integral low-noise coaxial cable (3¢) w/ 10-32 connector	10-32 coaxial connector
Polarity in Compression	Positive	Positive
Grounding.....	Case Ground	Case ground
Nominal Capacitance.....	200 pF	
Housing Material	Heat treated 17-4 stainless steel	Heat treated 17-4 stainless steel
Bolt Mount	6, 8, 10, 12 mm	5/16"
Weight	1.1 oz.	1.4 oz.

Dimensions

BOLT SIZE	O.D.	I.D.	Order Code
6mm	0.97	0.25	AL 811
8mm	1.01	0.33	AL 812
10mm	1.05	0.41	AL 813
12mm	1.10	0.48	AL 814



Model DLN
Order Code AL811/2/3/4

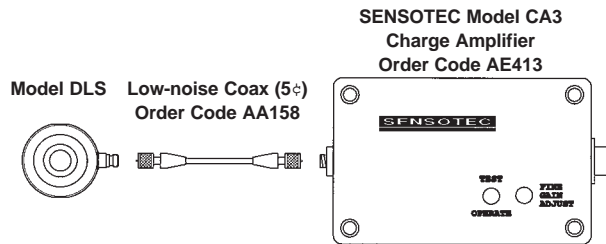


Model DLS
Order Code AL821

Wiring Details

Both the Model DLN and DLS utilize the piezoelectric effect to generate a high impedance output signal (an electrical charge measured in picocoulombs) proportional to the force applied. There are two different methods to convert this to a millivolt signal useable by most data acquisition hardware. The first uses a SENSOTEC Inline Impedance Converter (Model IIC) powered by a SENSOTEC Constant Current Power Supply (Model CC2). With the IIC located close to the load cell, the output signal can be driven through long cables with virtually no signal loss. The second conditioning option uses a SENSOTEC Charge Amplifier (Model CA3). This setup works particularly well when measuring unknown forces and gain adjustment is required. The CA3 also features a long time constant option, enabling the load cell to measure short-duration static loads.

Charge amp and constant current power supply details located on page IN-14.



LOAD
DYNAMIC

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