

Donut Shaped Load Cells

Model D



Model D (Compression Only)

THRU-HOLE DESIGN

150 g - 30,000 lb.

FLEXIBLE DESIGN

The Model D Donut Shaped Load Cell features a smooth thru-hole design perfect for applications which require the load structure to pass directly through the cell. Such applications include bolt force measurements, clamping forces, and monitoring overloads. Load ranges as low as 150 grams and as great as 30,000 pounds can be measured within a maximum full scale non-linearity and hysteresis of $\pm 0.5\%$ F.S. These models are used in compression applications and are available in multiple hole sizes. For optimum performance, these cells must be mounted between load surfaces which are flat and parallel. The Model D miniature load cell is designed to have a minimum thickness.

PERFORMANCE

Model D (Compression Only)	
Load Ranges	150 g to 30,000 lb.
Non-linearity and Hysteresis (max)	$\pm 0.5\%$ F.S.
Non-repeatability (max)	$\pm 0.1\%$ F.S.
Output	20mV/V (gram units) 2mV/V (5 lb. and above)
Resolution	Infinite

ENVIRONMENTAL

Temperature, Operating	-65° F to 250° F
Temperature, Compensated	60° F to 160° F
Temperature Effect	
- Zero (max)	0.005% F.S./° F (5 lb. and above); 0.01%/° F (gram units)
- Span (max)	0.010% Rdg./° F (5 lb. and above); 0.02%/° F (gram units)

ELECTRICAL

Strain Gage Type	Semi conductor (gram units) Bonded foil (5 lb. and above)
Excitation (calibration)	Semi conductor 5V Bonded foil 10V
Bridge Resistance	500 ohms (gram units) 350 ohms (5 lb. and above)
Wiring Code (std)	#1 (See Pg. AP-8)
Electrical Termination (std)	Teflon cable (5 ft.)

MECHANICAL

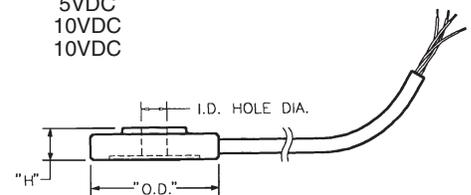
Overload, Safe	50% over capacity
Casing Material	Stainless Steel

Dimensions

Model D (Order Code BL912)

Selection Guide—150 g to 100 lb. units

Available Ranges	O.D."	I.D."	H"	Excitation
150; 250; 500; 1000 g	0.50	0.10	0.15	5VDC
5; 10 lb.	1.00	0.20	0.28	10VDC
25; 50; 100 lb.	1.00	0.20	0.28	10VDC



Options (See Appendix)

Temperature compensated 1b, 1c, 1f; Special calibration 9a, 9b
Premium Options: 1g (≥ 5 lb. only); 12b

Selection Instructions for Larger Capacity Units-30,000 lb.

Shown below are three separate outline drawings for the Model D Load Cell. The frame size selection guide below indicates that with a single shell size (outside diameter), different "donut holes" are available. For example, in the small frame size (A) it is possible to select a 250 lb. load cell with a nominal hole size of 1/8" (P), 3/16" (Q), 1/4" (R), or 3/8" (S) diameter. We manufacture the actual hole dimensions to provide some clearance; for example the 1/8" (P) diameter dimension, the actual dimension is 0.128".

Frame Size Selection Guide

HOW TO ORDER: SPECIAL ORDER INSTRUCTIONS

1. Specify the **order code** (See frame size A, B or C)
2. State the **load range** required in pounds and range code.
3. State the nominal **hole diameter** letter.

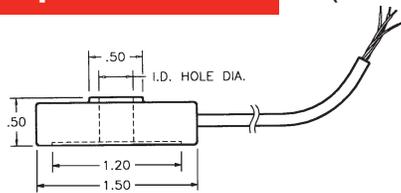
e.g. Model D: BL914CN R (1/4 inch) [250 lb.]

Hole Letters	P	Q	R	S	T	V	W	Y	Z
Nominal Hole Dia.	1/8"	3/16"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 -1/4"
Actual Hole Dia.	0.128"	0.193"	0.266"	0.391"	0.532"	0.656"	0.781"	1.032"	1.281"
100 lb.	A	A	A	A					
250 lb.	A or B	A or B	A or B	A or B	B	B			
500 lb.	A or B	A or B	A or B	A or B	B	B			
1,000 lb.	A or B	A or B	A or B	B	B	B			
2,000 lb.	A, B or C	A, B or C	A, B or C	B or C	B or C	B or C	C	C	C
3,000 lb.	B or C	B or C	B or C	B or C	B or C	C	C	C	C
5,000 lb.	B or C	B or C	B or C	B or C	B or C	C	C	C	C
7,500 lb.	B or C	B or C	B or C	B or C	B or C	C	C	C	C
10,000 lb.	B or C	B or C	B or C	B or C	B or C	C	C	C	C
15,000 lb.	C	C	C	C	C	C	C	C	C
20,000 lb.	C	C	C	C	C	C	C	C	C
30,000 lb.	C	C	C	C	C	C	C	C	C

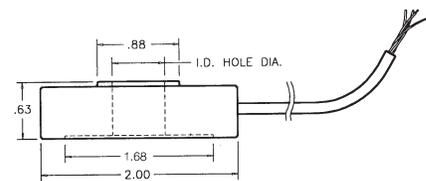
LOAD
DONUT

Options

(Dimensions in inches)

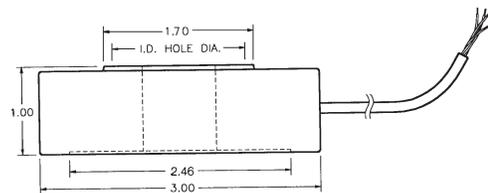


FRAME SIZE A
ORDER CODE BL913



FRAME SIZE B
ORDER CODE BL914

*Choose Hole Dia. from Selection Guide above.



FRAME SIZE C
ORDER CODE BL915