

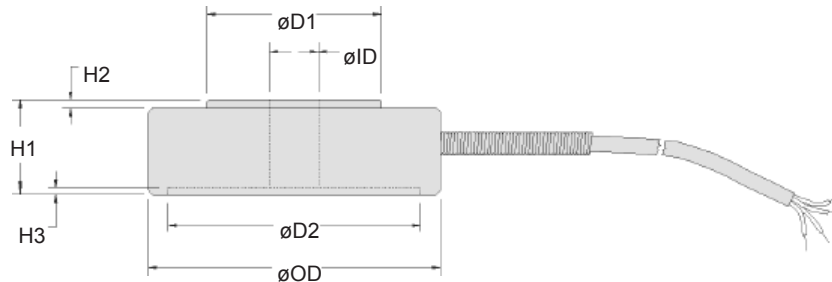
Model D Thru-Hole Load Cell

Order Code (see below)

- 150 g to 30,000 lb.
- Thru-Hole Design
- Flexible Design



Dimensions



Wiring Code

Cable/ Unamplified

- Red (+) Excitation
- Black (-) Excitation
- Green (-) Output
- White (+) Output

Range/ Frame	Order Code	øOD (in.)	øID (in.)	H1 (in.)	H2 (in.)	H3 (in.)	øD1 (in.)	øD2 (in.)
150; 250; 500; 1000 g	BL912	0.50	0.10	0.15	0.02	0.01	0.20	0.45
5; 10 lb.	BL912	1.00	0.20	0.28	0.03	0.02	0.26	0.85
25; 50; 100 lb.	BL912	1.00	0.20	0.28	0.03	0.02	0.36	0.85
Frame A (100 to 2000 lb.)	BL913	1.50	See below	0.50	0.05	0.03	0.50	1.21
Frame B (250 to 10,000 lb.)	BL914	2.00	See below	0.63	0.06	0.03	0.88	1.68
Frame C (2000 to 30,000 lb.)	BL915	3.00	See below	1.00	0.08	0.03	1.70	2.46

Listed above are four different order codes; BL912, BL913, BL914, BL915. The frame size selection guide below indicates that with a single shell size (outside diameter), different thru holes are available for order codes BL913, BL914 and BL915 (frames A, B, and C, respectively). To choose a product, first select the desired load capacity. Then, if applicable, choose the desired inner diameter and an appropriate frame size. For example, a 250 lb. load cell is available in the small frame size (A) with a nominal thru hole size of 1/8" (P), 3/16" (Q), 1/4" (R) or 3/8" (S) diameter, or in the medium frame size (B) with thru hole sizes up to 5/8" (V). We manufacture the actual hole dimensions to provide some clearance; for example the 1/8" (P) dimension, the actual dimension is 0.128".

Hole Letters	P	Q	R	S	T	V	W	Y	Z
øID (nominal)	1/8"	3/16"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"
øID (actual)	0.128 in.	0.193 in.	0.266 in.	0.391 in.	0.532 in.	0.656 in.	0.781 in.	1.032 in.	1.281 in.
100 lb.	A	A	A	A	N/A	N/A	N/A	N/A	N/A
250 lb.	A or B	A or B	A or B	A or B	B	B	N/A	N/A	N/A
500 lb.	A or B	A or B	A or B	A or B	B	B	N/A	N/A	N/A
1000 lb.	A or B	A or B	A or B	B	B	B	N/A	N/A	N/A
2000 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
3000 lb.	B or C	B or C	B or C	B or C	B or C	C	C	C	C
5000 lb.	B or C	B or C	B or C	B or C	B or C	C	C	C	C
7500 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

Performance

- Load Ranges.....150 g to 30,000 lb.
- Linearity (max.).....+/- 0.5% Full Scale
- Hysteresis (max.).....+/- 0.5% Full Scale
- Non-Repeatability (max.).....+/- 0.1% Full Scale
- Output (tolerance)
- 150 to 1,000 g.....20 mV/V (nominal)
- 5 to 30,000 lb.....2 mV/V (nominal)
- Operation.....Compression
- Resolution.....Infinite

Model D

Environmental

Temperature, Operating.....-65° to 250° F
 Temperature, Compensated.....60° to 160° F
 Temperature, Effect
 Zero
 150 to 1000 g.....0.01% F.S./° F
 5 to 30,000 lb.....0.005% F.S./° F
 Span
 150 to 1000 g.....0.02% F.S./° F
 5 to 30,000 lb.....0.010% F.S./° F

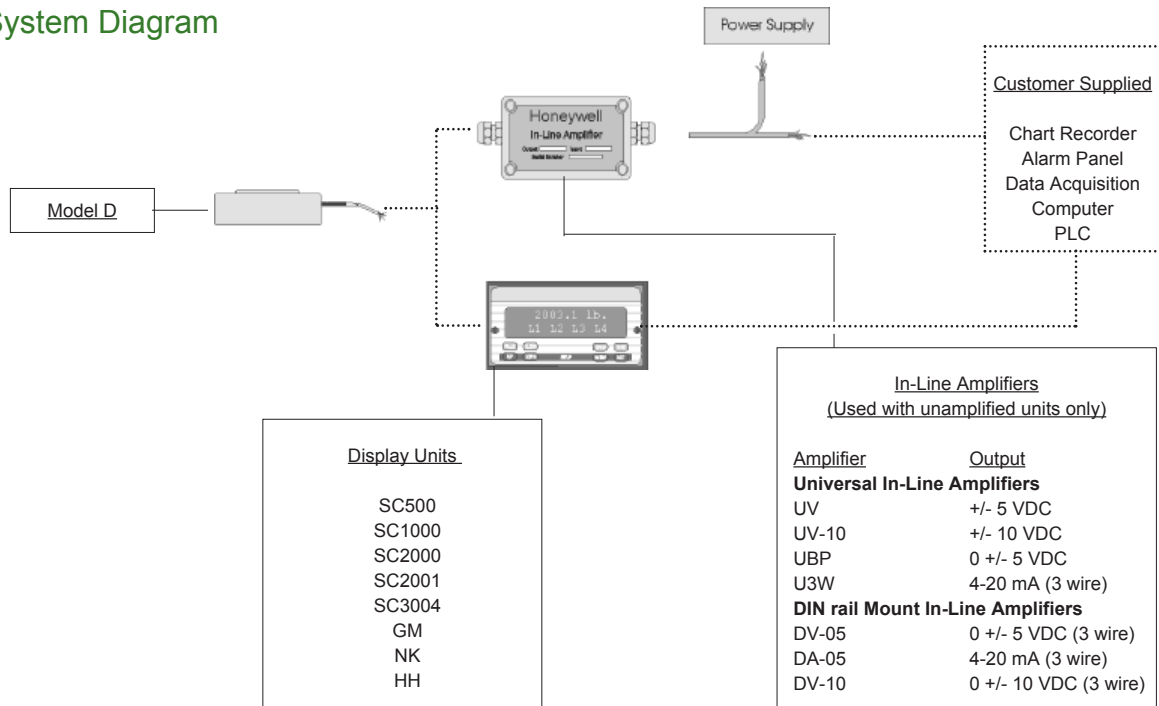
Electrical

Strain Gage Type
 150 to 1000 g.....Semiconductor
 5 to 30,000 lb.....Bonded Foil
 Excitation (calibration)
 150 to 1000 g.....5 VDC
 5 to 30,000 lb.....10 VDC
 Insulation Resistance.....5000 Megohms @ 50 VDC
 Bridge Resistance (tolerance)
 150 to 1000 g.....500 Ohms (nominal)
 5 to 30,000 lb.....350 Ohms (nominal)
 Zero Balance (tolerance).....+/- 1% of Full Scale
 Shunt Calibration Data.....Included
 Electrical Termination (std).....Teflon Cable (5 ft.)

Mechanical

Maximum Allowable Load.....150% F.S. (note 1)
 Weight.....(note 4)
 Material.....Stainless Steel
 Life Cycles (approx.).....>10 million cycles
 Deflection Full Scale.....(note 4)
 Natural Frequency.....(note 4)

Typical System Diagram




Range Codes

Range	Range Code	Range	Range Code
150 g	AL	500 lb.	CR
250 g	AN	1000 lb.	CV
500 g	AP	2000 lb.	DL
1000 g	AR	3000 lb.	DN
5 lb.	AT	5000 lb.	DR
10 lb.	AV	7500 lb.	DT
25 lb.	BL	10,000 lb.	DV
50 lb.	BN	15,000 lb.	EJ
100 lb.	BR	20,000 lb.	EL
250 lb.	CN	30,000 lb.	EN

Model D

Options

	Built to Order
Load Range	150 g to 30,000 lb.
Temperature Compensation	1a. 60° to 160° F 1b. 30° to 130° F 1c. 0° to 185° F 1d. -20° to 130° F 1e. -20° to 200° F 1f. 70° to 250° F 1i. -65° to 250° F 1g. 70° to 325° F (note 3) 1h. 70° to 400° F (note 3)
Internal Amplifiers	2u. Unamplified, mV/V output
Electrical Termination	6e. Integral Cable: Teflon (5 ft.) 6a. Bendix PTIH-10-6P -(or equivalent) 6 pin (max. 250°F) on end of cable 6v. Phoenix connector on end of cable 6i. Integral underwater cable (note 6)
Electrical Connector Orientation	15d. Connector on end of cable (note 5)
Load Direction	30a. Positive in compression, compression testing only 30c. Negative in compression, compression testing only
Shock & Vibration	44a. Shock rated wiring
Interfaces	53s. Signature Calibration (note 5) 53t. T.E.D.S. IEEE 1451.4 Module (note 7)

 Supplied as standard

Special Customer Requirements (Consult Factory)

- OEM Labels
- Radiation rated
- Different cable lengths
- Custom threads
- Increased fatigue life
- Custom cable exit
- Alternate cable materials
- Custom interior/ outer diameter
- Thru mounting holes
- Flange mount
- Integral Connector

Notes

1. Allowable Maximum Loads- Maximum load to be applied without damage (note 2). Loads described allow for 100% full scale axial loading with the bending loads specified. Torque loading maximum is without axial or other load. For any other combination consult factory.
2. Without Damage- loading to this level will not cause excessive zero shift of performance degradation. The user must consider fatigue life for long term use and structural integrity. All structurally critical applications (overhead loading, etc.) should always be designed with safety redundant load paths.
3. Only for ranges greater than or equal to 5 lb.
4. Varies by features selected, consult factory.
5. Be sure to specify electrical termination option 6a or 6v in options code. For custom connector, consult factory.
6. Dimension "H1" may increase with this option, consult factory. Not available with options 1c, 1e, 1f, 1g, 1h, or 1i.
7. Only available with integral cable units.

How to Order

Combine the order code, the range code and the options code.

Sample Code: **BL913** **BR** **P** **1b**
 Order Code Range Code Thru Hole dia. Options Code