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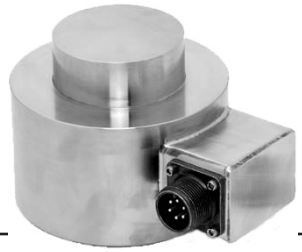


Model MPB

High Capacity Compact Compression Load Cell

DESCRIPTION

The compact Model MPB Load Cells are designed for applications requiring high capacity yet where space restrictions require that the cell be small in size. The Model MPB will measure compression load forces in ranges between 15,000 to 2,000,000 pounds.

Applications include impact testing and mine shaft roof simulations. The diameter of these load cells range between 1.25 in and 10 in while the height ranges between approximately 0.63 in and 14 in depending on the load range desired.

FEATURES

- 8 ton to 1000 ton range
- Stainless steel
- mV/V output
- 0.25 % accuracy
- CE approved

Model MPB

PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Load ranges[9]	1 ton to 1000 ton
Accuracy	± 0.25 % best fit straight line[2]
Non-repeatability	± 0.02 % full scale
Output (tolerance)	2 mV/V (nominal)
Operation	Compression
Resolution	Infinite

ENVIRONMENTAL SPECIFICATIONS

Characteristic	Measure
Temperature, operating	-57 °C to 121 °C [-70 °F to 250 °F]
Temperature, compensated	21 °C to 71 °C [70 °F to 160 °F]
Temperature, storage	-73 °C to 149 °C [-100 °F to 300 °F]
Temperature effect, zero	0.005 % full scale/°F
Temperature effect, span	0.005 % full scale/°F

ELECTRICAL SPECIFICATIONS

Characteristic	Measure
Strain gage type	Bonded foil
Excitation (calibration)	10 Vdc
Insulation resistance	5,000 mOhm @ 50 Vdc
Bridge resistance (tolerance)	350 ohm (nominal)
Zero balance (tolerance)	± 1% of full scale
Shunt calibration data	Included
Electrical termination (std) 1 ton to 5 ton	Cable
Electrical termination (std) 10 ton to 1000 ton	Connector

MECHANICAL SPECIFICATIONS

Characteristic	Measure
Maximum allowable load	150 % FS[3]
Material	All welded stainless steel
Life cycles (approx.)	1 million cycles

RANGE CODES

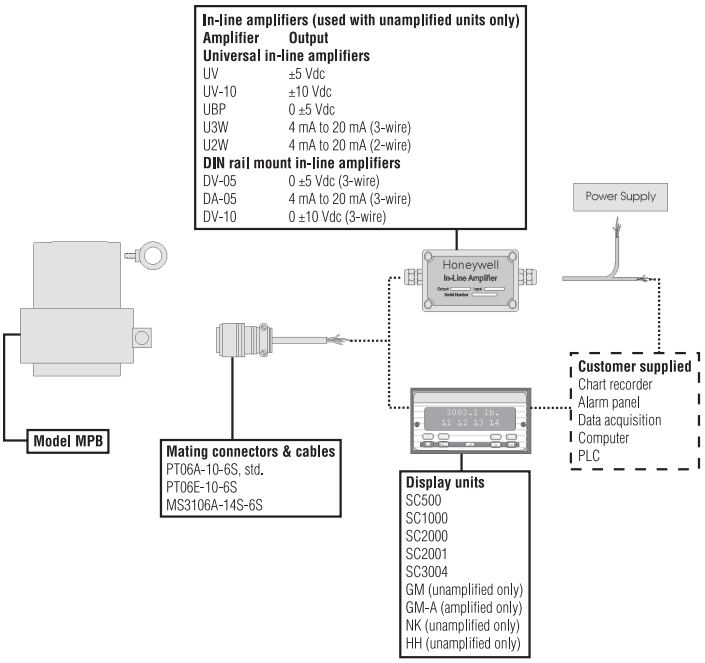
Range Code	Available ranges	Range Code	Available ranges
DL	1 ton	**ET**	50 ton
DR	2.5 ton	**FL**	100 ton
DV	5 ton	**FR**	250 ton
EL	10 ton	**FT**	500 ton
EP	25 ton	**FV**	1000 ton

WIRING CODES

Connector	Unamplified
A	(+) excitation
B	(+) excitation
C	(-) excitation
D	(-) excitation
E	(-) output
F	(+) output

Wire	
Red	(+) excitation
Black	(-) excitation
Green	(-) output
White	(+) output

TYPICAL SYSTEM DIAGRAM



INTERNAL AMPLIFIERS

Amplifier specifications	Voltage output: Option 2a	Voltage output: Option 2b	Vehicle voltage output: Option 2c	Vehicle voltage output: Option 2t	Current three-wire: Option 2j	Current two-wire: Option 2k	Intrinsically safe amp: Option 2n (2N)***
Output signal	0 V to 5 V	±5 V	0 V to 5 V or ±5 V @ 45 mA	0 V to 10 V or ±10 V @ 45 mA	4 mA to 20 mA	4 mA to 20 mA	4 mA to 20 mA
Input power (voltage)	±15 V or 26 Vdc to 32 Vdc	±15 V or 26 Vdc to 32 Vdc	18 Vdc to 28 Vdc	15 Vdc to 28 Vdc	22 Vdc to 32 Vdc	9 Vdc to 32 Vdc	9 Vdc to 28 Vdc
Input power (current)	45 mA	45 mA	40 mA	40 mA	65 mA	4 mA to 28 mA	4 mA to 24 mA
Freq. resp (amp)	3000 Hz	3000 Hz	3000 Hz	3000 Hz	2500 Hz	300 Hz	2000 Hz
Power supply rej.	60 db	60 db	60 db	60 db	60 db	60 db	60 db
Operating temp.	-20 °F to 185 °F	-20 °F to 185 °F	-20 °F to 185 °F	-20 °F to 185 °F	0 °F to 185 °F	0 °F to 185 °F	-20 °F to 185 °F
Reverse voltage protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Short cir. protection	Momentary	Momentary	Momentary	Momentary	Yes	Yes	Yes
Wiring code: connector (std)	A (+) Supply B (-)Output/supply C (-)Supply D (+) Output E Shunt cal 1 F Shunt cal 2	A (+) Supply B (-)Output/supply C (-)Supply D (+) Output E Shunt cal 1 F Shunt cal 2	A (+) Supply B Output common** C Supply return ** D (+) Output E Shunt cal 1 F Shunt cal 2	A (+) Supply B (-) output C Supply return D (+) Output E Shunt cal 1 F Shunt cal 2	A (+) Supply B Output common** C Supply return** D (+) Output E Shunt cal 1 F Shunt cal 2	A (+) Supply B No connection C No connection D (+) Output E Case ground F No connection	A (+) Supply B No connection C No connection D (+) Output E Case ground F No connection
Wiring code: cable[4,5,6]	R (+) Supply Br (-) Supply O (-)Output/supply G (+) Output B Shunt cal 1 Y Shunt cal 2	R (+) Supply Br (-) Supply O (-)Output/supply G (+) Output B Shunt cal 1 Y Shunt cal 2	R (+) Supply Bl Output common* G Supply return* W (+) Output B Shunt cal 1 Br Shunt cal 2	R (+) Supply Bl Supply return G (+) Output W (+) Output B Shunt cal 1 Br Shunt cal 2	R (+) Supply Bl Output common* G Supply return* W (+) Output B Shunt cal 1 Br Shunt cal 2	R (+) Supply Bl (+) Output W Case ground	R (+) Supply Bl (+) Output W Case ground

* Black and green wires are internally connected.
** Pins B and C are internally connected.
*** See our Web site for the most up-to-date information regarding intrinsically safe approvals, ref. #008-0547-00.

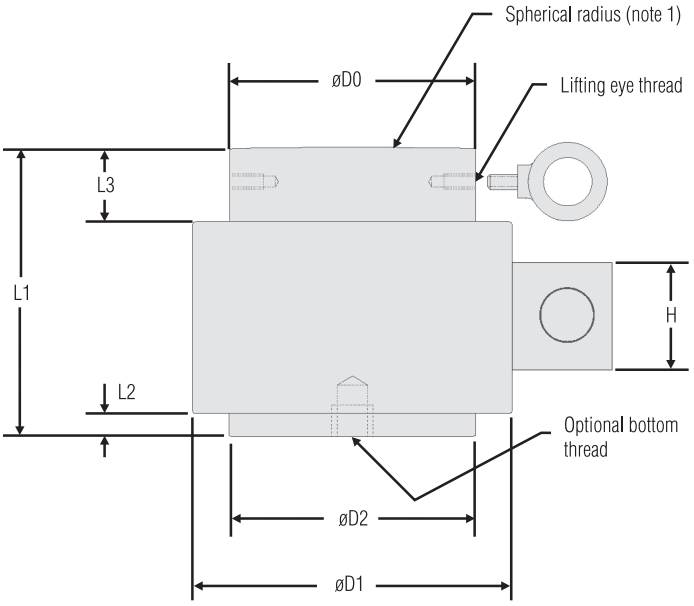
Model MPB

OPTION CODES

	Many range/option combinations are available in our quick-ship and fast-track manufacture programs. Please see http://sensing.honeywell.com/TMsensor-ship for updated listings.	
Load ranges	1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000 ton	
Temperature compensation	1a. 60 °F to 160 °F 1b. 30 °F to 130 °F 1c. 0 °F to 185 °F 1d. -20 °F to 130 °F 1e. -20 °F to 200 °F 1f. 70 °F to 250 °F	1g. 70 °F to 325 °F[10] 1h. 70 °F to 400 °F[10] 1i. -65 °F to 250 °F[10] 1j. 0 °C to 50 °C 1k. -20 °C to 85 °C 1m. -25 °C to 110 °C
Internal amplifiers[6, 7]	2a. Four-wire, 0 Vdc to 5 Vdc output 2c. 0 Vdc to 5 Vdc 2j. 4 mA to 20 mA (three-wire) output 2k. 4 mA to 20 mA (two-wire)[11]	2n (2N) 4 mA to 20 mA (two-wire) intrinsically safe[11] 2t. 0 Vdc to 10 Vdc output 2u. Unamplified, mV/V output
Electrical termination	6a. Bendix PTIH-10-6P (or equivalent), 6-pin (max. 250 °F) 6b. MS3102E-14S-6P connector (10 ton to 1000 ton range)[5] 6e. Integral cable: Teflon (1 ton to 5 ton range) 6f. Integral cable: PVC (-20 °F to 160 °F)	6g. Integral cable: Neoprene (0 °F to 180 °F)[6] 6i. Integral underwater cable (max. 180 °F)[6] 6j. 1/2-14 conduit fitting 6q. Integral cable: Polyurethane 6v. Phoenix connector on end of cable
Electrical connector orientation	15a. Horizontal electrical exit port orientation 15b. Vertical electrical exit port orientation 15c. Radial electrical exit port orientation	
Shunt calibration	8a. Precision internal resistor (max. 250 °F)[10]	
Bridge type	11a. Square bridge[10] 11b. Symmetrical bridge[10] 11c. Square and symmetrical bridge[10] 31a. Dual bridge	
Bridge resistance	12b. 5000 ohm (foil) (max. 250 °F)	
Special calibration	30a. Positive in compression, compression testing only 9a. 10 point (5 up/5 down) 20 % increments @ 70 °F 9b. 20 point (10 up/10 down) 10 % increments @ 70 °F 9c. ASTM E-74 calibration 9e. CE mark 30c. Negative in compression, compression testing only	
Shock and vibration	44a. Shock and vibration resistance	
Interfaces	53e. Signature calibration[5] 53t. TEDS IEEE 1451.4 module[8]	

NOTES

1. For standard configuration with spherical radius, a hardened surface is recommended to maintain the best loading conditions. RC42 is recommended minimum hardness. Bearing lubricant at loading interface recommended for maximum life.
2. Accuracies stated are expected for best-fit, straight-line for all errors including linearity, hysteresis and non-repeatability thru zero.
3. Allowable maximum loads – Maximum load to be applied without damage.[4]
4. Without damage – loading to this level will not cause excessive zero shift or 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.
5. Special wiring code.
6. Not available with option 1e, 1f, 1g, 1h, or 1i.
7. Amplifier option not available with low ranges. Consult factory.
8. Consult factory for TEDS availability with amplified models.
9. This unit calibrated to Imperial (non-Metric) units.
10. Non-amplified only.
11. 5000 ohm bridge required.



Model MPB

High Capacity Compact Compression Load Cell

MOUNTING DIMENSIONS

Capacity (tons) (v.s.)	D0 mm [in]	D1 mm [in]	D2 mm [in]	L1 mm [in]	L2 mm [in]	L3 mm [in]	H mm [in]	Thread lifting eye	Optional bottom thread
1	6,6 [0.26]	22,1 [0.87]	9,4 [0.37]	19,05 [0.75]	0,51 [0.02]	1,52 [0.06]	9,53 [0.375]	NA	8-32 UNC x 0.18 in deep
2.5	6,6 [0.26]	22,1 [0.87]	9,4 [0.37]	19,05 [0.75]	0,51 [0.02]	1,52 [0.06]	9,53 [0.375]	NA	8-32 UNC x 0.18 in deep
5	10,41 [0.41]	24,89 [0.98]	13,46 [0.53]	22,35 [0.88]	1,02 [0.04]	1,52 [0.06]	9,53 [0.375]	NA	8-32 UNC x 0.18 in deep
10	19,05 [0.75]	37,85 [1.49]	19,05 [0.75]	28,45 [1.12]	1,52 [0.06]	4,06 [0.16]	9,53 [0.375]	NA	1/4-28 UNF x 0.25 in deep
25	29,97 [1.18]	49,78 [1.96]	29,97 [1.18]	44,96 [1.77]	3,05 [0.12]	7,62 [0.30]	19,05 [0.75]	NA	1/4-28 UNF x 0.25 in deep
50	40,39 [1.59]	61,98 [2.44]	40,39 [1.59]	64,0 [2.52]	4,57 [0.18]	4,83 [0.19]	38,1 [1.5]	NA	3/8-24 UNF x 0.38 in deep
100	57,15 [2.25]	81,03 [3.19]	57,15 [2.25]	85,85 [3.38]	6,35 [0.25]	17,53 [0.69]	38,1 [1.5]	NA	3/8-24 UNF x 0.38 in deep
250	90,68 [3.57]	112,78 [4.44]	90,68 [3.57]	135,89 [5.35]	6,35 [0.25]	43,18 [1.7]	38,1 [1.5]	1/4-28	3/4-16 UNF x 0.75 in deep
500	128,27 [5.05]	163,58 [6.44]	128,27 [5.05]	192,28 [7.57]	6,35 [0.25]	66,04 [2.6]	38,1 [1.5]	1/4-28	3/4-16 UNF x 0.75 in deep
1000	181,36 [7.14]	214,38 [8.44]	181,36 [7.14]	264,41 [10.41]	6,35 [0.25]	101,6 [4.0]	38,1 [1.5]	3/8-16	1-12 UNF x 1.0 in deep

Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

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⚠ WARNING

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