

Model LFH-7I

Top Hat Subminiature Load Cell



DESCRIPTION

Model LFH-7I subminiature load cell is a low profile force transducer for applications with minimal space and high capacity requirements. This transducer utilizes foil strain gages to measure compression loads of up to 10,000 lb and achieves

accuracy of $\pm 0.7\%$ full scale. The top of the load cell is the area where the force is applied and the base ring of the load cell must be placed on a hard, machine-ground flat surface to obtain optimum accuracy.

FEATURES

- 250 lb to 10000 lb range
- $\pm 0.7\%$ accuracy
- Stainless steel
- Column construction
- mV/V output

Model LFH-7I

PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Load ranges ⁴	250 lb to 10000 lb
Accuracy	±0.7 % full scale ¹
Tolerance on output	1.5 mV/V to 2.5 mV/V
Operation	Compression only

ENVIRONMENTAL SPECIFICATIONS

Characteristic	Measure
Temperature, operating	-54 °C to 121 °C [-65 °F to 250 °F]
Temperature, compensated	15 °C to 71 °C [60 °F to 160 °F]
Storage temperature	-70 °C to 149 °C [-100 °F to 300 °F]
Temperature effect, zero	0.01 % full scale/°F
Temperature effect, span	0.01 % full scale/°F (nominal)

ELECTRICAL SPECIFICATIONS

Characteristic	Measure
Strain gage type	Bonded foil
Excitation (calibration)	5 Vdc
Insulation resistance	5000 mOhm @ 50 Vdc
Bridge resistance	350 ohm
Zero balance	5 % max.
Electrical termination (std)	Cable (1,83 m [5 ft])

MECHANICAL SPECIFICATIONS

Characteristic	Measure
Maximum allowable load	150 % full scale ²
Weight	See table
Material	17-4 PH stainless steel
Deflection full scale	See table
Natural frequency	See table

WIRING CODES

Cable	Unamplified
Red	(+) excitation
Black	(-) excitation
Green	(-) output
White	(+) output

RANGE CODES

Range codes	Range
CN	250 lb
CR	500 lb
CV	1000 lb
DL	2000 lb
DN	3000 lb
DP	4000 lb
DR	5000 lb
DT	7500 lb
DV	10000 lb

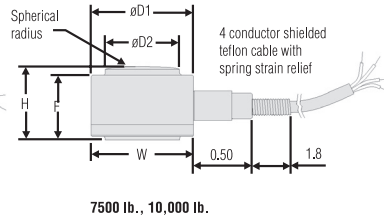
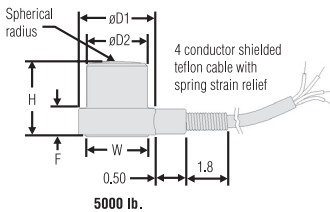
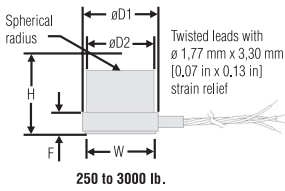
DEFLECTIONS AND RINGING FREQUENCIES

Capacity	Deflection at full scale	Ringling frequency (kHz)	Weight
250 lb	0,0127 mm [0.0005 in]	30	10 g [0.022 lb]
500 lb	0,0127 mm [0.0005 in]	34	10 g [0.022 lb]
1000 lb	0,03 mm [0.001 in]	37	10 g [0.022 lb]
2000 lb	0,03 mm [0.001 in]	44	10 g [0.022 lb]
3000 lb	0,03 mm [0.001 in]	46	10 g [0.022 lb]
5000 lb	0,03 mm [0.001 in]	47	30 g [0.066 lb]
7500 lb	0,038 mm [0.0015 in]	44	30 g [0.066 lb]
10000 lb	0,04 mm [0.002 in]	40	30 g [0.066 lb]

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MOUNTING DIMENSIONS

Ranges	ØD1 mm [in]	ØD2 mm [in]	H mm [in]	F mm [in]	W mm [in]
250 lb	12,7 [0.50]	6,86 [0.27]	9,65 [0.38]	3,3 [0.13]	10,92 [0.43]
500 lb	12,7 [0.50]	7,11 [0.28]	9,65 [0.38]	3,3 [0.13]	10,92 [0.43]
1000 lb	12,7 [0.50]	7,87 [0.31]	9,65 [0.38]	3,3 [0.13]	10,92 [0.43]
2000 lb	12,7 [0.50]	10,41 [0.41]	9,65 [0.38]	3,3 [0.13]	10,92 [0.43]
3000 lb	12,7 [0.50]	11,43 [0.45]	9,65 [0.38]	3,3 [0.13]	11,68 [0.46]
5000 lb	16,00 [0.63]	13,46 [0.53]	15,24 [0.60]	5,84 [0.23]	12,95 [0.51]
7500 lb	22,35 [0.88]	16,00 [0.63]	16,00 [0.63]	13,72 [0.54]	16,00 [0.63]
10000 lb	22,35 [0.88]	16,00 [0.63]	16,00 [0.63]	13,72 [0.54]	16,00 [0.63]



OPTION CODES

	<p>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.</p>
Load range	250, 500, 1000, 2000, 3000, 4000, 5000, 7500, 10000 lb
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 1j. 0 °C to 50 °C 1k. -20 °C to 85 °C 1m. -25 °C to 110 °C
Internal amplifiers	2u. Unamplified, mV/V output
Electrical termination	6e. Integral cable: Teflon 6h. Integral cable: Silicone 6v. Phoenix connector on end of cable 15d. Connector on end of cable
Special calibration	9a. 10 point (5 up/5 down) 20 % increments @ 70 °F 9b. 20 point (10 up/10 down) 10 % increments @ 70 °F
Shock and vibration	44a. Shock and vibration resistance

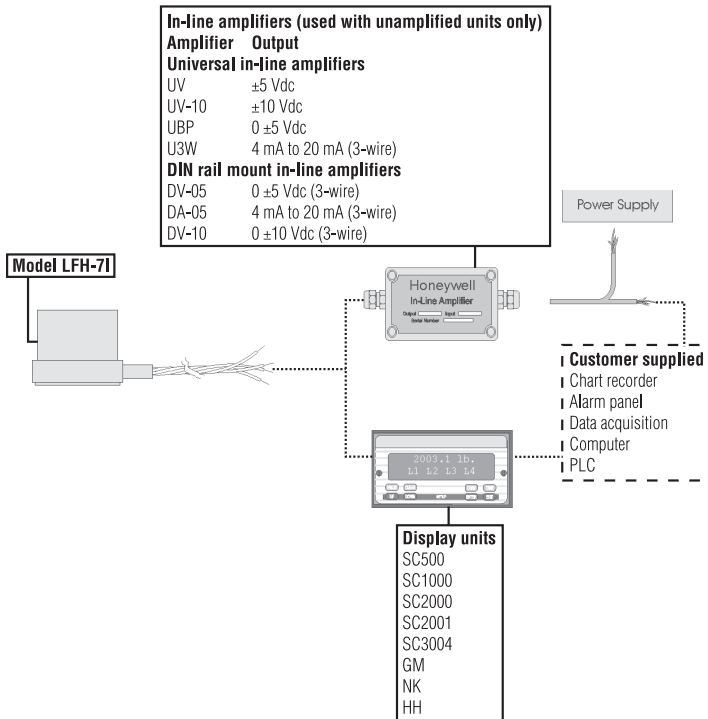
Model LFH-71

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NOTES

1. Accuracies stated are expected for best-fit straight line for all errors including linearity, hysteresis and repeatability through zero.
2. Allowable maximum loads – maximum load to be applied without damage.³
3. 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.
4. This unit calibrated to Imperial (non-Metric) units.

TYPICAL SYSTEM DIAGRAM



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Sensing and Control
Automation and Control Solutions
Honeywell
1985 Douglas Drive North
Golden Valley, MN 55422 USA
+1-815-235-6847

www.honeywell.com/sensing

SUNSTAR自动化 <http://www.sensor-ic.com/> TEL: 0755-83376489 FAX:0755-83376182 E-MAIL:szss20@163.com

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