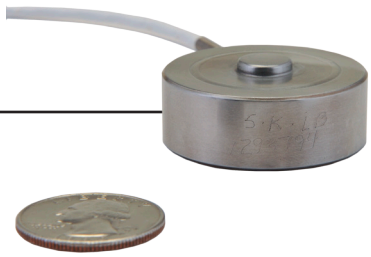
Honeywell

Model 53

Low Cost Load Cell



DESCRIPTION

Model 53 load cells are bonded foil strain gage transducers designed for cost efficient production and testing applications (i.e. press calibration). Engineered compression force measurements up to 50K lb., this model achieves a maximum non-linearity of 0.5 % full scale. Precision gaging techniques and a stainless steel construction provides excellent long-term stability and reliability under severe operating conditions. The Model 53 compression-only load cell has an integral load button machined as part of the load cell. The Model 53 must be mounted on a smooth flat surface for proper operation. Three tapped holes are provided for mounting.

FEATURES

- 5 lb to 50K lb
- Stainless steel
- Mini footprint
- Button-style design
- mV/V output

Model 53

PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Load ranges[5]	5 lb to 50K lb
Linearity (max.)	±0.5 % full scale
Hysteresis (max.)	±0.3 % full scale
Non-repeatability (max.)	±0.1 % full scale
Output (tolerance)	2 mV/V (nominal)
Operation	Compression
Resolution	Infinite

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]
Temperature effect, zero	±0.005 % full scale/°F
Temperature effect, span	±0.01 % full scale/°F

ELECTRICAL SPECIFICATIONS

Characteristic	Measure
Strain gage type	Bonded foil
Excitation (calibration) 5 lb to 100 lb	5 Vdc
Excitation (calibration) 250 lb to 50K lb	10 Vdc
Insulation resistance	5000 Mohm @ 50 Vdc
Bridge resistance (tolerance)	350 ohm (nominal)
Zero balance (tolerance)	±3 % full scale
Shunt calibration data	Included
Electrical termination (std)	Teflon cable 1.83 m [5 ft]

MECHANICAL SPECIFICATIONS

Characteristic	Measure
Weight	See table
Material	17-4 PH stainless steel
Maximum allowable load	150 % full scale[1]
Deflection full scale	See table
Natural frequency	See table

WIRING CODES

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

RANGE CODES

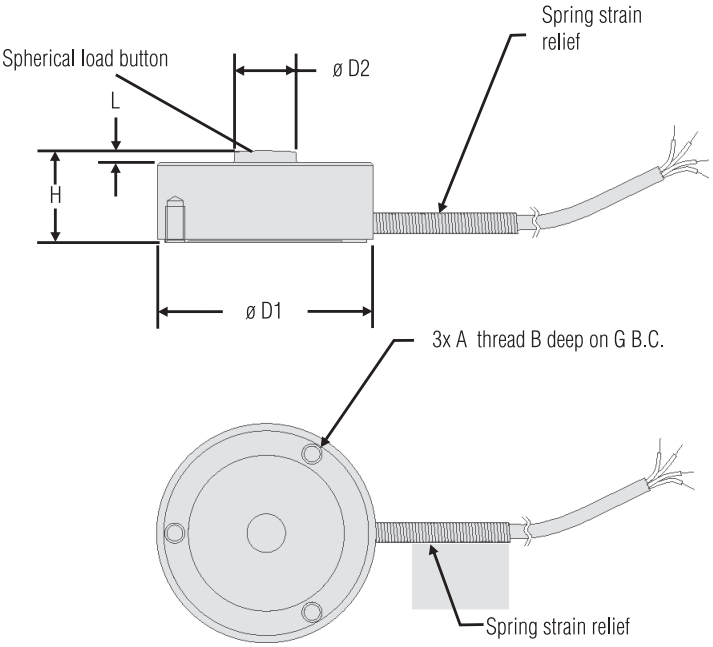
Range Code	Available ranges	Range Code	Available ranges
AT	5 lb	**DN**	3000 lb
AV	10 lb	**DP**	4000 lb
BL	25 lb	**DR**	5000 lb
BN	50 lb	**DT**	7500 lb
BR	100 lb	**DV**	10K lb
CN	250 lb	**EJ**	15K lb
CR	500 lb	**EL**	20K lb
CV	1000 lb	**EN**	30K lb
DL	2000 lb	**EP**	50K lb

DEFLECTIONS AND RINGING FREQUENCIES

Capacity (lb)	Deflection @ full scale (in)	Natural ringing frequency (Hz)	Weight with cable g [lb]
5	0.001	2000	59 [0.13]
10	0.001	3000	59 [0.13]
25	0.001	16K	62 [0.136]
50	0.001	21K	63 [0.138]
100	0.001	28K	64 [0.141]
250	0.001	25K	72 [0.158]
500	0.001	32K	72 [0.158]
1000	0.001	42K	75 [0.165]
2000	0.001	53K	77 [0.17]
3000	0.001	27K	137 [0.30]
4000	0.001	31K	138 [0.304]
5000	0.001	34K	140 [0.306]
7500	0.001	41K	142 [0.313]
10K	0.001	47K	145 [0.32]
15K	0.002	24K	368 [0.811]
20K	0.002	28K	372 [0.820]
30K	0.002	33K	377 [0.831]
50K	0.003	24K	1270 [2.8]

MOUNTING DIMENSIONS

Ranges lb	D1 mm [in]	D2 mm [in]	H mm [in]	L mm [in]	A in	B mm [in]	G mm [in]
5, 10, 25, 50, 100	25,4 [1.00]	5,33 [0.21]	15,75 [0.62]	1,27 [0.05]	#4-40 UNC	5,59 [0.22]	19,05 [0.750]
250, 500, 1000, 2000	31,75 [1.25]	8,13 [0.32]	9,91 [0.39]	1,78 [0.07]	#6-32 UNC	6,35 [0.25]	25,4 [1.000]
3000, 4000, 5000, 7500, 10K	38,1 [1.50]	10,16 [0.40]	16,0 [0.63]	2,03 [0.08]	#6-32 UNC	6,35 [0.25]	31,75 [1.250]
15K, 20K, 30K	50,8 [2.00]	15,24 [0.60]	25,4 [1.00]	3,05 [0.12]	#6-32 UNC	6,35 [0.25]	41,28 [1.625]
50K	76,2 [3.00]	19,81 [0.78]	38,1 [1.50]	4,57 [0.18]	#6-32 UNC	6,35 [0.25]	60,33 [2.375]



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	5, 10, 25, 50, 100, 250, 500, 1000, 2000, 3000, 4000, 5000, 7500, 10K, 15K, 20K, 30K, 50K 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	1g. 70 °F to 325 °F 1h. 70 °F to 400 °F 1i. -65 °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	6d. Microtec DR-4S-4H 4-pin 6e. Integral cable: Teflon 6f. Integral cable: PVC 6g. Integral cable: Neoprene	6h. Integral cable: Silicone 6i. Integral underwater cable[3] 6v. Phoenix connector on end of cable
Special calibration	9a. 10 point (5 up/5 down) 20 % increments @ 68 °F 9b. 20 point (10 up/10 down) 10 % increments @ 68 °F	
Shock and vibration	44a. Shock and vibration resistance	
Interfaces	53e. Signature calibration[6] 53t. TEDS IEEE 1451.4 module[4]	

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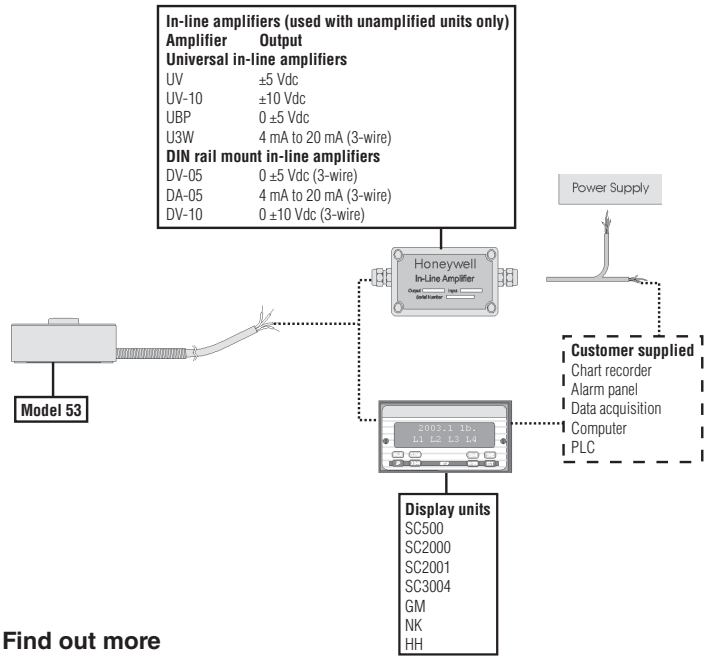
NOTES

1. Allowable maximum loads – maximum load to be applied without damage.[2]
2. 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.
3. Dimension “H” may increase with option 6i. Consult factory. Maximum temperature is 180 °F.
4. TEDS available with integral cable units only.
5. This unit calibrated to Imperial (non-Metric) units.
6. Signature calibration only available as inline module.

TYPICAL SYSTEM DIAGRAM



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While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

⚠ WARNING

PERSONAL INJURY

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

⚠ WARNING

MISUSE OF DOCUMENTATION

- The information presented in this datasheet is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

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Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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- Поставка более 17-ти миллионов наименований электронных компонентов;
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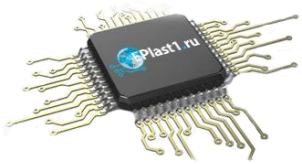
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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