Honeywell

Model TH

Thru-Hole Load Cell

DESCRIPTION

Model TH Donut Shaped Load Cell features a smooth thru-hole design for use in applications which require the load structure to pass through the cell. Such applications include bolt force measurement, post or leg mount, and rolling mill systems. Load ranges as low as 15,000 pounds and as great as 200,000 pounds can be measured within a maximum full scale non-linearity of ±0.25. This model is used in compression applications. For optimum performance, this load cell must be mounted between load surfaces which are flat and parallel. The Model TH Donut Shaped Load Cell is designed to provide the customer with an internal hole diameter which is large relative to the outside diameter. The Model TH is a small size, high capacity load cell.

FEATURES

- 15000 lb to 200000 lb range
- Thru-hole design
- Compact column construction
- mV/V output
- 0.25 % linearity

Model TH

PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Load ranges[3]	15000 lb to 200000 lb
Accuracy	0.5 %
Linearity (max.)	±0.25 % full scale
Hysteresis (max.)	±0.25 % 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	0.005 % 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	350 ohm
Zero balance	±1 % full scale
Electrical termination (std)	Teflon cable (5 ft)

MECHANICAL SPECIFICATIONS

Characteristic	Measure
Maximum allowable load	150 % FS[1]
Weight	See table
Case material	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

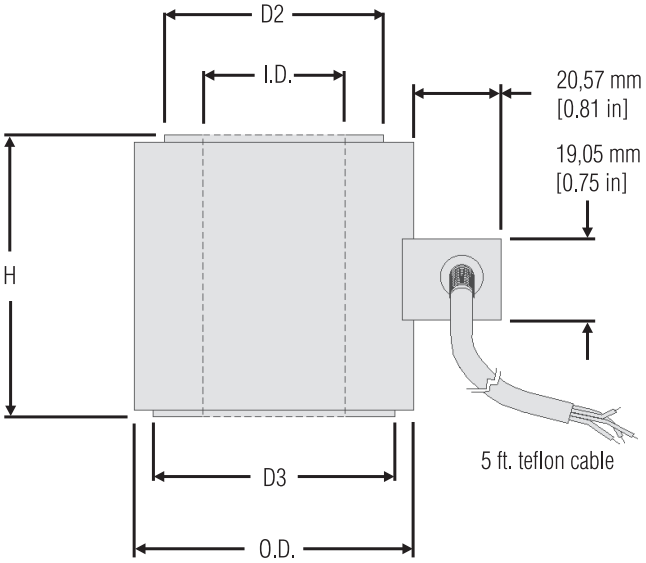
Range codes	Range
EJ	15000 lb
EL	20000 lb
EN	30000 lb
EP	50000 lb
ER	75000 lb
ET	100000 lb
FJ	150000 lb
FL	200000 lb

DEFLECTIONS AND RINGING FREQUENCIES

Capacity (lb)	Deflection at full scale mm [in]	Ringing frequency (kHz)	Weight kg [lb]
15000	0,025 [0.001]	35	0,18 [0.4]
20000	0,025 [0.001]	35	0,18 [0.4]
30000	0,051 [0.002]	17	0,45 [1.0]
50000	0,051 [0.002]	17	0,45 [1.0]
75000	0,076 [0.003]	14	0,90 [2.0]
100000	0,076 [0.003]	14	0,90 [2.0]
150000	0,152 [0.006]	12	1,13 [2.5]
200000	0,102 [0.004]	10	2,72 [6]

MOUNTING DIMENSIONS

Ranges (lb)	H mm [in]	OD mm [in]	ID mm [in]	D2 mm [in]	D3 mm [in]
15000, 20000	38,1 [1.50]	38,1 [1.50]	19,3 [0.76]	26,92 [1.06]	29,21 [1.15]
30000, 50000	50,8 [[2.00]	50,8 [[2.00]	25,65 [1.01]	38,1 [1.50]	38,1 [1.50]
75000, 100000	63,5 [2.50]	63,5 [2.50]	32,60 [1.26]	47,75 [1.88]	47,75 [1.88]
150000	76,2 [3.00]	76,2 [3.00]	38,35 [1.51]	58,67 [2.31]	61,97 [2.44]
200000	88,9 [3.50]	88,9 [3.50]	44,70 [1.76]	69,85 [2.75]	88,9 [3.50]



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	15K, 20K, 30K, 50K, 75K, 100K, 150K, 200K
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	6a. Bendix PTIH-10-6P (or equivalent), 6-pin (max. 250 °F) 6b. MS connector MS3102E-14S-6P (mates with MS3106E-14S-6S) (max. 160 °F)[4] 6e. Integral cable: Teflon (5 ft range) 6f. Integral cable: PVC 6g. Integral cable: Neoprene 6h. Integral cable: Silicone 6i. Integral underwater cable 6j. 1/2-14 conduit fitting with 5 ft of 4 conductor PVC cable 6q. Integral cable: Polyurethane 6v. Phoenix connector on end of cable 15d. Connector on end of cable
Shunt calibration	8a. Precision internal resistor
Special calibration	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 30a. Positive in compression, compression testing only 30c. Negative in compression, compression testing only
Bridge type	31a. Dual bridge
Bridge resistance	12b. 5000 ohm (foil)
Electrical connector orientation	15a. Horizontal electrical exit port orientation 15b. Vertical electrical exit port orientation 15c. Radial electrical exit port orientation 15d. Connector on end of cable
Shock and vibration	44a. Shock and vibration resistance
Interfaces	53e. Signature calibration 53t. TEDS IEEE 1451.4 module

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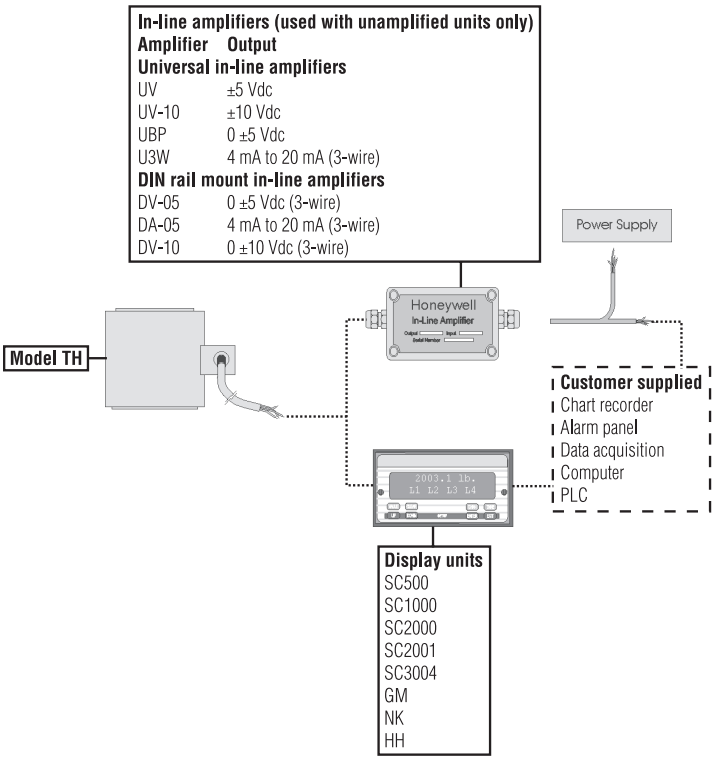
NOTES

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. This unit calibrated to Imperial (non-Metric) units.
4. Cannot be used with options 1c, 1e, 1f, 1g, 1h, or 1i.

TYPICAL SYSTEM DIAGRAM



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⚠ WARNING

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