Honeywell



Model 31 Low

Low Range Precision Miniature Load Cell

DESCRIPTION

Model 31 low range precision miniature load cells measure both tension and compression load forces of 50 grams to 500 g. These models are our highest accuracy, rugged miniature load cells. Model 31's welded, stainless steel construction is designed to eliminate or reduce to a minimum, the effects of off-axis loads. (The internal construction assures excellent long-term stability for ranges 1000 grams and above.) A modification permits this model to be completely welded for underwater applications. The Model 31 tension/compression load cell has male threads attachments. High accuracies of 0.15 % to 0.25 % full scale are achieved. Each bonded strain gage unit is built of welded 17-4 PH stainless steel for additional ruggedness.

FEATURES

- 50 g to 500 g
- mV/V output
- Stainless steel
- Miniature design
- Double diaphragm construction

Model 31 Low

PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Load ranges[5]	50 g, 150 g, 250 g, 500 g
Linearity	±0.15 % full scale
Hysteresis	±0.15 % full scale
Non-repeatability	±0.1 % full scale
Tolerance on output 50 g to 150 g	0,1 mV/V max.
Tolerance on output 250 g to 500 g	20 mV/V
Operation	Tension/compression [3]
Resolution	Infinite

ENVIRONMENTAL SPECIFICATIONS

Characteristic	Measure
Temperature, operating	-53 °C to 121 °C [-65 °F to 250 °F]
Temperature, compensated	15 °C to 71 °C [60 °F to 160 °F]
Storage temperature	-73 °C to 148 °C [-100 °F to 300 °F]
Temperature effect, zero	0.015 % full scale/°F
Temperature effect, span	0.015 % full scale/°F

ELECTRICAL SPECIFICATIONS

Characteristic	Measure
Strain gage type	Semiconductor
Excitation (calibration)	5 Vdc
Insulation resistance	5000 Mohm @ 50 Vdc
Bridge resistance	500 ohm
Zero balance	1 % max.
Electrical termination (std)	Teflon cable (5 ft)

MECHANICAL SPECIFICATIONS

Characteristic	Measure
Maximum allowable load	5 lb[1]
Weight	90 g
Material	17-4 PH stainless steel
Deflection full scale	0,020 mm [0.0008 in]
Natural frequency	740 Hz

WIRING CODES

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

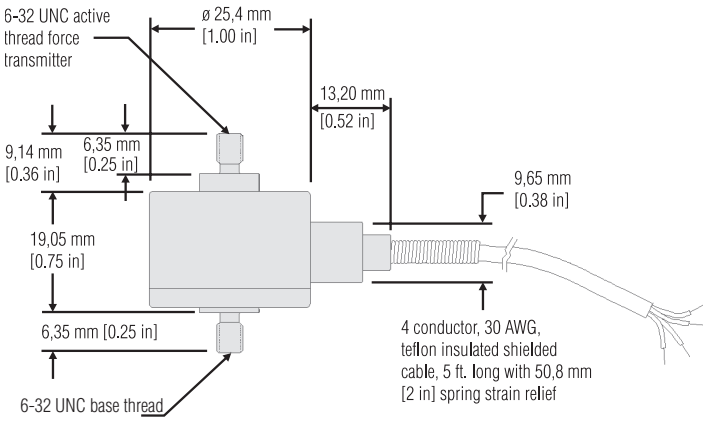
RANGE CODES

Range Codes	Range
AJ	50 g
AL	150 g
AN	250 g
AP	500 g

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 range	50, 150, 250, 500 g	
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 1j. 0 °F to 50 °C 1k. -20 °C to 85 °C 1m. -25 °C to 110 °C
Internal amplifiers	2u. Unamplified, mV/V output	
Overload stops	4a. Overload stop	
Electrical termination	6d. Microtec DR-4S-4H 4-pin 6e. Integral cable: Teflon 6f. Integral cable: PVC 6h. Integral cable: Silicone	6i. Integral underwater cable (max. 82 °C [180 °F]) 6v. Phoenix connector on end of cable 15d. Connector on end of cable
Special calibration	30a. Compression only calibration, positive in compression 30b. Tension and compression calibration, positive in tension 30c. Compression only calibration, negative in compression	
Shock and vibration	44a. Shock and vibration resistance	
Interfaces [4]	53e. Signature calibration[6] 53t. TEDS IEEE 1451.4 module	

MOUNTING DIMENSIONS



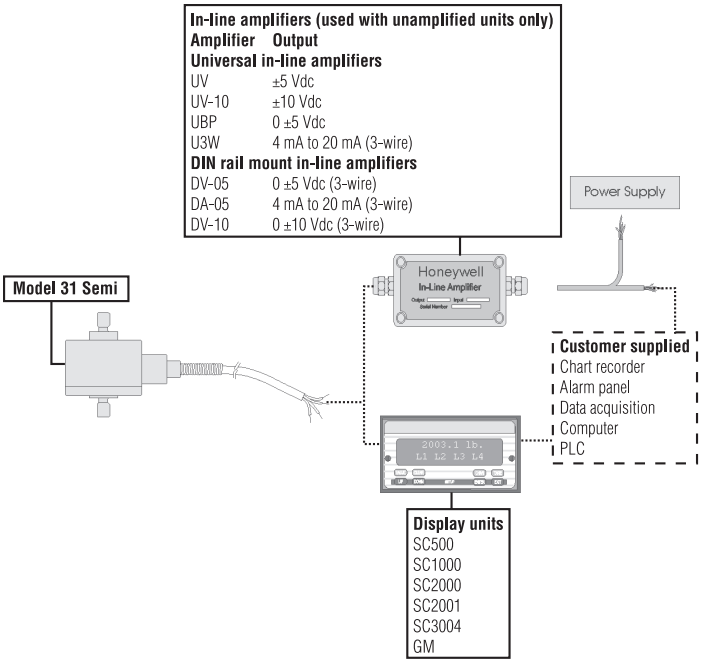
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NOTES

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 or long term use and structural integrity. All structurally critical applications (overhead loading, etc.) should always be designed with safety redundant load paths.
3. Standard calibration for tension/compression load cells is in tension only.
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



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.**

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.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

For more information about Sensing and Control products, visit www.honeywell.com/sensing or call +1-815-235-6847
Email inquiries to info.sc@honeywell.com

⚠ 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 catalogue 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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Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

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