

Precision Miniature Load Cells

Model 31 and 34

WELDED STAINLESS

RUGGED, SMALL SIZE

TENSION/COMPRESSION



Model 31
(Tension/Compression)



Model 34
(Tension/Compression)

Models 31 and 34, Precision Miniature load cells measure both tension and compression load forces of 50 grams to 10,000 lbs. 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 while the Model 34 tension/compression load cell has female threaded load attachments. High accuracies of 0.15-0.25% full scale are achieved. Each bonded strain gage unit is built of welded 17-4 PH stainless steel for additional ruggedness. All load cells that have ranges ≤ 10 lbs. have a small electrical zero balance circuit board which is in the lead wire (approximately 1"x .087" thick). This balance board does not have to be the same temperature as the transducer. Applications include cable tension and electromechanical parts testing.

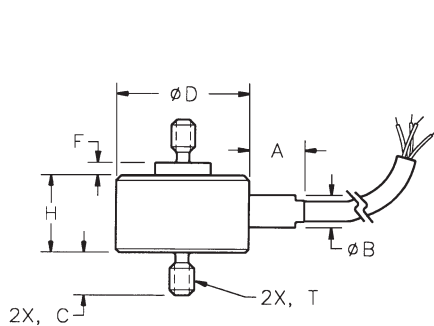
Dimensions

Model 31 (Order Code AL311)

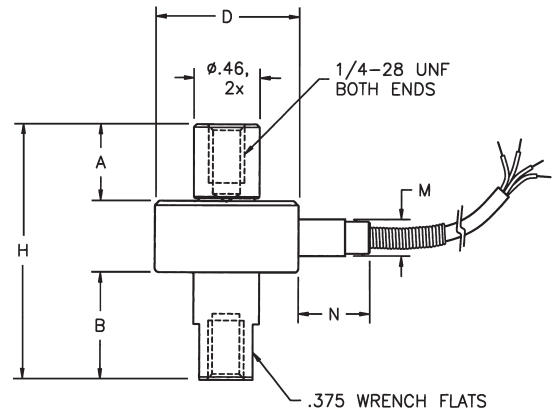
Available Ranges*	T Thread	D"	H"	C"	F"	A"	B"
50; 150; 250 ; 500; gm.	#6-32 UNC	1.00	.75	.25	.11	.50	.38
1000 gm.; 5; 10 lbs.	#6-32 UNC	.75	.45	.25	.05	.31	.19
25; 50; 100 lbs.	#10-32 UNF	1.00	.52	.25	.03	.50	.25
250; 500; 1000 lbs.	1/4-28 UNF	1.00	.52	.38	.03	.50	.25
2000; 3000 lbs.	3/8-24 UNF	1.00	.72	.50	.03	.50	.38
4000; 5000 lbs.	1/2-20 UNF	1.25	.94	.63	.03	.50	.38
7500; 10,000 lbs.	3/4-16 UNF	1.38	1.10	.88	.03	.50	.38

* Stocked ranges are in bold face print.

Notes: Model 31 load cells ≤ 250 grams have overload stops. For custom cells without overload stops consult SENSOTEC.



Model 31 Male Threads
(Tension/Compression)



Model 34 Female Threads
(Tension/Compression)

Model 34 (Order Code AL312)

Available Ranges	D"	H"	A"	B"	M"	N"
50; 150; 250; 500 gm.	1.00	1.75	.52	.52	.38	.50
1000 gm.; 5; 10 lbs.	.75	1.75	.60	.72	.19	.31
25; 50; 100 lbs.	1.00	1.75	.52	.72	.25	.50
250; 500; 1000 lbs.	1.00	2.00	.75	.75	.25	.50

Options (See Appendix)

Temperature compensated 1b, 1c, 1f; Special calibration 30a, 30b

Premium Options: 1d, 1e, 1g, 1h (≥25 lb), 1i; 6d; 9a (≥5 lb.)

Accessories: Rod end attachments for Model 31

	Model 31 (Male Threads) (Tension/Compression) Order Code AL311	Model 34 (Female Threads) (Tension/Compression) Order Code AL312
PERFORMANCE		
Load Ranges	50 gms to 10,000 lbs.	50 gms to 1,000 lbs.
Non-Linearity/Hysteresis (max)		
50 gms to 1000 gms	±0.15% F.S.	±0.15% F.S.
5 to 250 lbs.....	±0.15% F.S.	±0.15% F.S.
500 to 10,000 lbs.....	±0.2% F.S.	±0.2% F.S.
Non-Repeatability (max)		
50 gms to 1000 gms	±0.1% F.S.	±0.1% F.S.
5 to 10,000 lbs.....	±0.05% F.S.	±0.05% F.S.
Output (standard)		
50 to 150 gms (semi)1mV/V/gm max	.1mV/V/gm
250 to 500 gms (semi)	20mV/V	20mV/V
1000 gms.....	1.5mV/V (nominal)	1.5mV/V (nom)
5 lbs. to 10,000 lbs. (foil).....	2mV/V	2mV/V
Resolution	Infinite	Infinite
ENVIRONMENTAL		
Temperature, Operating	-65° F to 250° F	-65° F to 250° F
Temperature, Compensated	60° F to 160° F	60° F to 160° F
Temperature Effect		
– Zero/Span (max)		
50 gms to 500 gms015% F.S./° F	.015% F.S./° F
1000 gms.....	.005% F.S./° F	.005% F.S./° F
5 to 10,000 lbs.....	.005% F.S./° F	.005% F.S./° F
ELECTRICAL		
Strain Gage Type	Foil or Semiconductor	Foil or Semiconductor
Excitation (Calibration)		
50 gms to 10 lbs.....	5.00VDC	5.00VDC
20 lbs. to 10,000 lbs.....	10.0VDC	10.0VDC
Insulation Resistance	5000 megohm @ 50VDC	5000 megohm @ 50VDC
Bridge Resistance		
50 gms to 500 gms	500 ohm (semi)	500 ohm (semi)
1000 gms.....	350 ohm (foil)	350 ohm (foil)
5 to 10,000 lbs.....	350 ohm (foil)	350 ohm (foil)
Shunt Calibration Data	Included	Included
Wiring Code (std)	#1 (See Pg. AP-8)	#1 (See Pg. AP-8)
Electrical Termination (std).....	Teflon cable (5 ft.)	Teflon cable (5 ft.)
MECHANICAL		
Overload, Safe	50% over capacity	50% over capacity
Thread Size	See table	See table
Deflection – Full Scale0005"-.0020"	.0005"-.0020"
Casing material	17-4 PH Stainless	17-4 PH Stainless
Weight (nom).....	1.6 oz.	2.5 oz.
IN-LINE AMPLIFIERS (Optional)		
Outputs Available	±5VDC, 4-20mA	±5VDC, 4-20mA

NOTES *Standard calibration for tension/compression load cells is in tension only.

General Information

How to order (See Pg. AP-19)

Load cell selection flow chart (See Pg. LO-1)

Installation Note: Maximum torque for installation of Model 31 in ranges less than 25 lbs. is 12 inch lbs.

SUNSTAR 商斯达实业集团是集研发、生产、工程、销售、代理经销、技术咨询、信息服务等为一体的高科技企业，是专业高科技电子产品生产厂家，是具有 10 多年历史的专业电子元器件供应商，是中国最早和最大的仓储式连锁规模经营大型综合电子零部件代理分销商之一，是一家专业代理和分销世界各大品牌 IC 芯片和电子元器件的连锁经营综合性国际公司，专业经营进口、国产名厂名牌电子元件，型号、种类齐全。在香港、北京、深圳、上海、西安、成都等全国主要电子市场设有直属分公司和产品展示展销窗口门市部专卖店及代理分销商，已在全国范围内建成强大统一的供货和代理分销网络。我们专业代理经销、开发生产电子元器件、集成电路、传感器、微波光电元器件、工控机/DOC/DOM 电子盘、专用电路、单片机开发、MCU/DSP/ARM/FPGA 软件硬件、二极管、三极管、模块等，是您可靠的一站式现货配套供应商、方案提供商、部件功能模块开发配套商。商斯达实业公司拥有庞大的资料库，有数位毕业于著名高校——有中国电子工业摇篮之称的西安电子科技大学（西军电）并长期从事国防尖端科技研究的高级工程师为您精挑细选、量身订做各种高科技电子元器件，并解决各种技术问题。

更多产品请看本公司产品专用销售网站：

商斯达中国传感器科技信息网：<http://www.sensor-ic.com/>

商斯达工控安防网：<http://www.pc-ps.net/>

商斯达电子元器件网：<http://www.sunstare.com/>

商斯达微波光电产品网：[HTTP://www.rfoe.net/](http://www.rfoe.net/)

商斯达消费电子产品网：<http://www.icasic.com/>

商斯达实业科技产品网：<http://www.sunstars.cn/>

传感器销售热线：

地址：深圳市福田区福华路福庆街鸿图大厦 1602 室

电话：0755-83370250 83376489 83376549 83607652 83370251 82500323

传真：0755-83376182 (0) 13902971329 MSN: SUNS8888@hotmail.com

邮编：518033 E-mail:szss20@163.com QQ: 195847376

深圳赛格展销部：深圳华强北路赛格电子市场 2583 号 电话：0755-83665529 25059422

技术支持：0755-83394033 13501568376

欢迎索取免费详细资料、设计指南和光盘；产品凡多，未能尽录，欢迎来电查询。

北京分公司：北京海淀区知春路 132 号中发电子大厦 3097 号

TEL: 010-81159046 82615020 13501189838 FAX: 010-62543996

上海分公司：上海市北京东路 668 号上海赛格电子市场 2B35 号

TEL: 021-28311762 56703037 13701955389 FAX: 021-56703037

西安分公司：西安高新开发区 20 所(中国电子科技集团导航技术研究所)

西安劳动南路 88 号电子商城二楼 D23 号

TEL: 029-81022619 13072977981 FAX:029-88789382