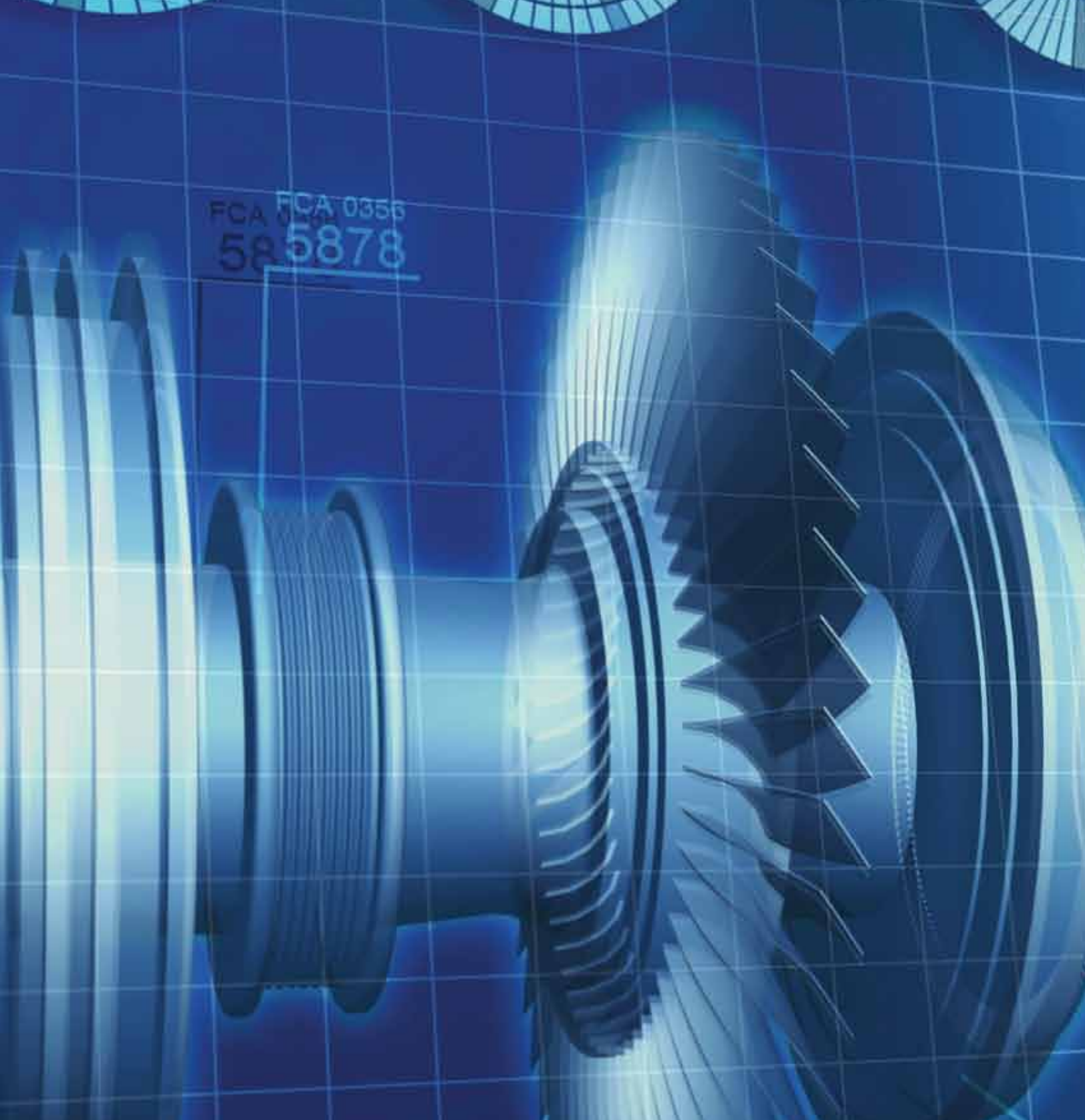




**SENSING AND CONTROL**

**Test and Measurement  
Product Range Guide**



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If you're under strain, we can help. More specifically, if you need to sense strain, we have a load cell for you.

Load cells, transducers that convert a force into an electric signal, are used in a wide variety of force and weight monitoring applications in industries ranging from industrial automation, oil and gas, transportation, and aerospace, to name just a few. Honeywell offers load cells in many form factors, such as low profile/pancake, miniature and subminiature, canister, donut, in-line/rod end, beam style, and S and Z beam style. Packaging options include stainless steel, carbon steel, and aluminum. Choose from multiple configurations and sizes, but never compromise on precision and reliability, which are standard in each load cell we build.

We've been building load cells to meet customer requirements for a long time. Even though we have an extensive product offering, if you can't find just what you're looking for, we'll work with you to modify a design or develop a completely new product to suit your needs.

Let us ease the strain. Choose Honeywell load cells for all your test and measurement force-sensing needs.

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# Load Cells

## Low Profile/Pancake Style – Stainless Steel



Honeywell offers two types of low profile or pancake style precision load cells to meet most test and measurement needs. Stainless steel low profile pancake load cells feature bonded foil gages to provide rugged high performance over many cycles of testing, such as in material testing applications.

Our cost-effective general purpose carbon steel pancake load cells offer a compact design which features exceptional structural capability to withstand extraneous loads, such as torque, bending movements, and side loads combined with a high degree of accuracy for general purpose applications.



Series	41	43
Range	5 lb to 500,000 lb [20 N to 20K N]	5 lb to 500,000 lb
Accuracy	±0.30 % full scale (5 lb to 25 lb) ±0.13 % full scale (50 lb to 500,000 lb)	±0.30 % full scale (5 lb to 25 lb) ±0.13 % full scale (50 lb to 500,000 lb)
Operation	Compression/Tension	Compression Only
Case Material	Stainless steel	Stainless steel
Fatigue Rated	No	No
Temperature, Operating	-54 °C to 121 °C [-65 °F to 250 °F]	-54 °C to 121 °C [-65 °F to 250 °F]
Temperature, Compensated	15 °C to 71 °C [60 °F to 160 °F]	15 °C to 71 °C [60 °F to 160 °F]
Electrical Termination	PTIH-10-6P (5 lb to 5,000 lb) MS3102E-14S-6P (7,500 lb to 500,000 lb)	PTIH-10-6P (5 lb to 5,000 lb) MS3102E-14S-6P (7,500 lb to 500,000 lb)
Tension Base (Pull Plate)	Optional	Optional



75	73	45	47
50 lb to 200,000 lb	50 lb to 200,000 lb	250 lb to 100,000 lb	250 lb to 100,000 lb
±0.14 % full scale	±0.14 % full scale	±0.04 % full scale (250 lb to 1,000 lb) ±0.05 % full scale (2,500 lb to 50,000 lb) ±0.06 % full scale (100,000 lb)	±0.02 % full scale (250 lb to 1,000 lb) ±0.03 % full scale (2,500 lb to 5,000 lb) ±0.04 % full scale (12,500 lb to 50,000 lb) ±0.05 % full scale (100,000 lb)
Compression/Tension	Compression Only	Compression/Tension	Compression/Tension
Stainless steel	Stainless steel	Stainless steel	Stainless steel
Yes	Yes	Yes	Yes
-54 °C to 121 °C [-65 °F to 250 °F]	-54 °C to 121 °C [-65 °F to 250 °F]	-54 °C to 93 °C [-65 °F to 200 °F]	-54 °C to 93 °C [-65 °F to 200 °F]
15 °C to 71 °C [60 °F to 160 °F]	15 °C to 71 °C [60 °F to 160 °F]	-1 °C to 54 °C [30 °F to 130 °F]	-1 °C to 54 °C [30 °F to 130 °F]
PTIH-10-6P (50 lb to 2,000 lb) MS3102E-14S-6P (3,000 lb to 200,000 lb)	PTIH-10-6P (50 lb to 2,000 lb) MS3102E-14S-6P (3,000 lb to 200,000 lb)	PC02A-10-6P	PC02A-10-6P
Optional	Optional	Optional	Standard

### Features

- Low profile pancake style constructed of either stainless steel or carbon steel
- Accuracy ranges from ±0.30 % up to ±0.02 % (enhanced)
- Load ranges from 5 lb to 500,000 lb (metric equivalents available)
- Low sensitivity to extraneous loads
- mV/V output
- Intrinsically safe option available
- Fatigue rated options available
- CE approved

### Typical Applications

- Tube mills
- Extruding processes
- Weighing
- Oil and gas exploration and production
- General material and component testing
- Process control and automation monitoring
- Press applications

# Load Cells

## Low Profile/Pancake Style – Carbon Steel/Aluminum



Series	3108	3132
Range	5 lb and 10 lb	500 lb to 5,000 lb
Accuracy	±0.15 % full scale	±0.15 % full scale
Operation	Tension/Compression	Tension/Compression
Case Material	Aluminum	Carbon steel
Fatigue Rated	No	No
Temperature, Operating	-54 °C to 93 °C [-65 °F to 200 °F]	-54 °C to 93 °C [-65 °F to 200 °F]
Temperature, Compensated	21 °C to 77 °C [70 °F to 170 °F]	21 °C to 77 °C [70 °F to 170 °F]
Electrical Termination	PT02E-10-6P	PT02E-10-6P
Tension Base (Pull Plate)	No	No



Series	3140-FR	3140
Range	50 lb, 100 lb, and 300 lb	300 lb to 100,000 lb
Accuracy	±0.05 % of rated output	±0.04 % of full scale (300 lb to 2,000 lb) ±0.07 % of full scale (5,000 lb to 100,000 lb)
Operation	Tension/Compression	Tension/Compression
Case Material	Carbon steel	Carbon steel
Fatigue Rated	Yes	No
Temperature, Operating	-54 °C to 93 °C [-65 °F to 200 °F]	-54 °C to 93 °C [-65 °F to 200 °F]
Temperature, Compensated	-9 °C to 46 °C [15 °F to 115 °F]	-9 °C to 46 °C [15 °F to 115 °F]
Electrical Termination	PT02E-10-6P	PT02E-10-6P
Tension Base (Pull Plate)	No	Standard



### 3397

25 lb, 50 lb, 100 lb, 200 lb, and 300 lb

±0.07 % full scale

Tension/Compression

Aluminum

No

-54 °C to 93 °C [-65 °F to 200 °F]

21 °C to 77 °C [70 °F to 170 °F]

PT02E-10-6P

No

### 3167

25 lb, 50 lb, 100 lb, 200 lb, and 300 lb

±0.07 % full scale

Tension/Compression

Aluminum

No

-54 °C to 93 °C [-65 °F to 200 °F]

21 °C to 77 °C [70 °F to 170 °F]

4.57 m [15 ft] flying lead 4-conductor shielded cable

No

### 3170

200 lb to 100,000 lb

±0.07 % full scale

Tension/Compression

Carbon steel

Yes

-54 °C to 93 °C [-65 °F to 200 °F]

21 °C to 77 °C [70 °F to 170 °F]

PT02E-10-6P

Optional



### 3140-P

300 lb to 100,000 lb

±0.04 % of full scale (300 lb to 2,000 lb)

±0.05 % of full scale (5,000 lb & 100,000 lb)

Tension/Compression

Carbon steel

No

-54 °C to 93 °C [-65 °F to 200 °F]

-9 °C to 46 °C [15 °F to 115 °F]

PT02E-10-6P

Standard

### 3140-CS

300 lb to 100,000 lb

±0.03 % of full scale (300 lb to 2,000 lb)

±0.05 % of full scale (5,000 lb to 100,000 lb)

Tension/Compression

Carbon steel

No

-54 °C to 93 °C [-65 °F to 200 °F]

-9 °C to 46 °C [15 °F to 115 °F]

PT02E-10-6P

Standard



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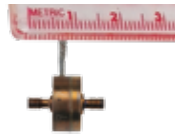
# Load Cells

## Miniature and Subminiature Styles



Honeywell's miniature and subminiature load cells are designed to fit into systems with limited space or tight clearances.

Constructed of rugged stainless steel for precise measurements and excellent long term stability and reliability under rugged operating conditions, these load cells are designed to eliminate or reduce to a minimum the effect of off-axis loads.



Series	11	13
Range	150 g to 1,000 lb	150 g to 1,000 g, 5 lb to 1,000 lb [0.5 N to 5K N]
Accuracy	±0.80 % full scale	±0.70 % full scale
Operation	Tension/Compression	Compression only
Case Material	Stainless Steel	Stainless Steel
Temperature, Operating	-54 °C to 121 °C [-65 °F to 250 °F]	-54 °C to 121 °C [-65 °F to 250 °F]
Temperature, Compensated	15 °C to 71 °C [60 °F to 160 °F]	15 °C to 71 °C [60 °F to 160 °F]
Electrical Termination	1,83 m [5 ft] cable with balance board	1,83 m [5 ft] integral cable with balance board





LFH-71	53	34	31
250 lb to 10,000 lb	5 lb to 50,000 lb [20 N to 200K N]	50 g to 250 lb 500 lb to 1,000 lb	50 g to 250 lb, 500 lb to 10,000 lb [0.5 N to 50K N]
± 0.70 % full scale	±0.60 % full scale	±0.25 % full scale (50 g to 250 lb) ±0.29 % full scale (500 lb to 1,000 lb)	±0.25 % full scale (50 g to 250 lb) ±0.30 % full scale (500 lb to 10,000 lb)
Compression only	Compression	Tension/Compression	Tension/Compression
Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
-54 °C to 121 °C [-65 °F to 250 °F]	-54 °C to 121 °C [-65 °F to 250 °F]	-54 °C to 121 °C [-65 °F to 250 °F]	-54 °C to 121 °C [-65 °F to 250 °F]
15 °C to 71 °C [60 °F to 160 °F]	15 °C to 71 °C [60 °F to 160 °F]	15 °C to 71 °C [60 °F to 160 °F]	15 °C to 71 °C [60 °F to 160 °F]
1,83 m [5 ft] integral cable	1,83 m [5 ft] integral Teflon cable	1,83 m [5 ft] integral Teflon cable	1,83 m [5 ft] integral Teflon cable

### Features

- Sized for use in extremely small or tight spaces
- Stainless steel construction
- Load ranges from 50 g up to 50,000 lb [0.5 kN to 5 kN]
- Miniature accuracies of ±0.15 % to ±0.25 % full scale
- Subminiature accuracies of ±0.7 % full scale
- All welded option available on select models for underwater applications
- mV/V output
- CE approved

### Typical Applications

- Cable tension monitoring/testing
- Electromechanical parts testing
- Medical control systems
- Medical equipment testing
- Pharmaceutical process or product control
- Semiconductor/electronics testing
- Aerospace test applications
- Press applications
- Weighing
- Sensing for applied load
- Automation process control
- Robotics
- Machine process control

# Load Cells

## Canister Style



Honeywell's canister-style load cells are constructed of either carbon steel or stainless steel. Our carbon steel models, with load measurement capacities up to 2,000,000 lb. are extremely resistant to extraneous bending and side-load forces. The fatigue-resistant, multi-beam structural design virtually eliminates bending strains at the strain gage, minimizing the primary cause of load failure. A dual-bridge option is available for feedback control and redundancy.

Stainless steel models offer high precision and reliability in a small footprint to fit into tight spaces, measuring compression load forces in ranges of 100 to 150,000 lb or 8 to 1,000 tons (15,000 lb to 200,000 lb).



Series	3156	3129
Range	25,000 lb, 50,000 lb, 100,000 lb & 150,000 lb [100K N to 750K N]	150,000 lb, 200,000 lb & 300,000 lb [750K N to 1.5M N]
Accuracy	±0.29 % full scale	±0.29 % full scale
Operation	Tension/Compression	Tension/Compression
Case Material	Carbon Steel	Carbon Steel
Temperature, Operating	-54 °C to 93 °C [-65 °F to 200 °F]	-54 °C to 93 °C [-65 °F to 200 °F]
Temperature, Compensated	21 °C to 77 °C [70 °F to 170 °F]	21 °C to 77 °C [70 °F to 170 °F]
Electrical Termination	MS3102E-14S-5P	MS3102E-14S-5P



3130	3127	MPB	UG
500,000 lb, 800,000 lb & 1,000,000 lb [2M N to 5M N]	2,000,000 lb [10M N]	20,000 lb to 2,000,000 lb	100 lb to 150,000 lb
±0.29 % full scale	±0.29 % full scale	± 0.25 % full scale	±0.05 % full scale
Tension/Compression	Tension/Compression	Compression only	Tension/Compression
Carbon Steel	Carbon Steel	Stainless Steel	Stainless Steel
-54 °C to 93 °C [-65 °F to 200 °F]	-54 °C to 93 °C [-65 °F to 200 °F]	-57 °C to 121 °C [-70 °F to 250 °F]	-34 °C to 85 °C [-30 °F to 185 °F]
21 °C to 77 °C [70 °F to 170 °F]	21 °C to 77 °C [70 °F to 170 °F]	21 °C to 71 °C [70 °F to 160 °F]	15 °C to 71 °C [60 °F to 160 °F]
MS3102E-14S-5P	MS3102E-14S-5P	Integral cable (1 ton to 5 ton) MS3102E-14S-6P (10 ton to 1,000 ton)	MS3102E-14S-6P MS3106A-14S-6S

### Features

- Stainless or carbon steel construction
- Enhanced resistance to side loads and bending movements
- Fatigue resistant models with multi-beam structure design
- Stainless steel models with button style design
- Load ranges from 100 lb to 2,000,000 lb
- Accuracies from ±0.29 % to ±0.05 %
- Models with small footprint to fit tight spaces
- English or metric threads
- Intrinsically safe option available (select models)
- CE Approved

### Typical Applications

- Military or aerospace structural testing
- Materials or product fatigue testing
- Spring testing
- Bridge weight monitoring/development
- Seismic testing
- Component structure testing
- Impact testing
- Mine shaft roof simulations
- Large capacity weighing applications
- Infrastructure monitoring
- Hopper tanks
- Bin weighing
- Weighing scales
- General purpose force monitoring

# Load Cells

## Donut Thru-Hole Style



Honeywell's donut style load cells feature a compact, smooth thru-hole design for use in applications where the load structure must pass through the cell. Available in carbon steel or stainless steel in either tension or tension/compression models, these devices measure load ranges from 150 g to 200,000 lb.



Series	D	TH
<b>Range</b>	150 g to 30,000 lb	15,000 lb to 200,000 lb
<b>Accuracy</b>	1.0%	±0.40 % full scale
<b>Operation</b>	Compression only	Compression only
<b>Case Material</b>	Stainless Steel	Stainless Steel
<b>Temperature, Operating</b>	-54 °C to 121 °C [-65 °F to 250 °F]	-54 °C to 121 °C [-65 °F to 250 °F]
<b>Temperature, Compensated</b>	15 °C to 71 °C [60 °F to 160 °F]	15 °C to 71 °C [60 °F to 160 °F]
<b>Electrical Termination</b>	1,83 m [5 ft] integral Teflon cable	1,83 m [5 ft] integral Teflon cable



### 3336

5,000 lb to 20,000 lb

±0.30 % full scale

Tension/Compression

Aluminum

-54 °C to 93 °C [-65 °F to 200 °F]

21 °C to 77 °C [70 °F to 170 °F]

MS3102E-14S-5P



### 3632

25,000 lb, 50,000 lb, and 100,000 lb

±0.25 % full scale

Compression only

Carbon Steel

-54 °C to 93 °C [-65 °F to 200 °F]

21 °C to 77 °C [70 °F to 170 °F]

PT02E-10-6P

#### Features

- Carbon or stainless steel construction
- Donut style with thru-hole design
- Compact column construction
- Load ranges from 150 g up to 200,000 lb
- Special model for bolt and engine mount force sensing
- CE approved

#### Typical Applications

- Post or leg mount
- Rolling mill systems
- Press or weigh applications
- Measuring press fit loads on bearings and tie-rod loads
- Metalworking/steel industry applications
- Bolt force measurements
- Clamping forces
- Monitoring overloads



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# Load Cells

## In Line / Rod End



Honeywell's in-line tension and tension/compression load cells are designed to be mounted in-line to the load axis to measure tension. Stainless steel rod-end models are available in either tension or tension/compression versions with a variety of thread configurations. Tension/compression models are capable of withstanding significant off-axis loads, making them an ideal choice for in-line compression measurement or tension measurement where side loading cannot be completely controlled.

Carbon steel models offer a smaller diameter design for mounting into tight spaces. Economical and easy to mount, these load cells allow simultaneous testing of multi-element systems and are commonly used in fluid power transfer systems.



Series	3124	3161	RGM
<b>Range</b>	5,000 lb to 25,000 lb	2,000 lb, 5,000 lb, 10,000 lb, and 25,000 lb	2,000 lb to 50,000 lb
<b>Accuracy</b>	±0.30 % full scale	±0.20 % full scale	±0.36 % full scale
<b>Operation</b>	Tension/Compression	Tension/Compression	Tension/Compression
<b>Case Material</b>	Carbon Steel	Carbon Steel	Stainless Steel
<b>Fatigue Rated</b>	No	Yes	No
<b>Temperature, Operating</b>	-54 °C to 93 °C [-65 °F to 200 °F]	-54 °C to 93 °C [-65 °F to 200 °F]	-54 °C to 121 °C [-65 °F to 250 °F]
<b>Temperature, Comp.</b>	21 °C to 77 °C [70 °F to 170 °F]	21 °C to 77 °C [70 °F to 170 °F]	15 °C to 71 °C [60 °F to 160 °F]
<b>Electrical Termination</b>	MS3102E-14S-5P	PT02E-10-6P	PTIH-10-6P
<b>Mechanical Connection</b>	Male/Female	Male/Female	Male/Male



RGF	RGH	RM	RF	RH
2,000 lb to 50,000 lb	2,000 lb to 50,000 lb	2,000 lb to 200,000 lb	2,000 lb to 200,000 lb	2,000 lb to 200,000 lb
±0.36 % full scale	±0.36 % full scale	±0.29 % full scale (100 lb to 1,000 lb) ±0.22 % full scale (2,000 lb to 50,000 lb) ±0.29 % full scale (75,000 lb to 200,000 lb)	±0.29 % full scale (100 lb to 1,000 lb) ±0.22 % full scale (2,000 lb to 50,000 lb) ±0.29 % full scale (75,000 lb to 200,000 lb)	±0.29 % full scale (100 lb to 1,000 lb) ±0.22 % full scale (2,000 lb to 50,000 lb) ±0.29 % full scale (75,000 lb to 200,000 lb)
Tension/Compression	Tension/Compression	Tension Only	Tension Only	Tension Only
Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
No	No	No	No	No
-54 °C to 121 °C [-65 °F to 250 °F]	-54 °C to 121 °C [-65 °F to 250 °F]	-54 °C to 121 °C [-65 °F to 250 °F]	-54 °C to 121 °C [-65 °F to 250 °F]	-54 °C to 121 °C [-65 °F to 250 °F]
15 °C to 71 °C [60 °F to 160 °F]	15 °C to 71 °C [60 °F to 160 °F]	15 °C to 71 °C [60 °F to 160 °F]	15 °C to 71 °C [60 °F to 160 °F]	15 °C to 71 °C [60 °F to 160 °F]
PTIH-10-6P	PTIH-10-6P	PTIH-10-6P (2,000 lb to 50,000 lb) MS3102E-14S-6P (75,000 lb to 200,000 lb)	PTIH-10-6P (2,000 lb to 50,000 lb) MS3102E-14S-6P (75,000 lb to 200,000 lb)	PTIH-10-6P (2,000 lb to 50,000 lb) MS3102E-14S-6P (75,000 lb to 200,000 lb)
Female/Female	Male/Female	Male/Male	Female/Female	Male/Female

### Features

- Rugged construction
- All-welded stainless steel or carbon steel
- Small diameter for easy mounting in tight spaces
- Fatigue resistant models available
- Load ranges from 2,000 lb up to 200,000 lb
- Accuracies up to ±0.20 % full scale (depending on model)
- CE approval

### Typical Applications

- Fluid power transfer systems
- Hydraulic actuator testing
- Rugged oil and gas applications
- Laboratory measuring

# Load Cells

## Beam Style



Honeywell offers two types of economical beam style load cells; built either of one-piece, nickel plated carbon alloy steel or aluminum. Both offer impressive measuring accuracies to measure even very low bending forces. Small physical dimensions ease integration into existing systems.



Series	MBL	MBH
<b>Range</b>	25 g to 1,000 g	150 g, 250 g, 500 g, and 1,000 g 5 lb & 10 lb
<b>Accuracy</b>	± 0.15 % full scale	± 0.15 % full scale
<b>Operation</b>	Tension/Compression	Tension/Compression
<b>Case Material</b>	Aluminum	Aluminum
<b>Temperature, Operating</b>	-18 °C to 93 °C [0 °F to 200 °F]	-18 °C to 71 °C [0 °F to 160 °F]
<b>Temperature, Compensated</b>	15 °C to 71 °C [60 °F to 160 °F]	15 °C to 71 °C [60 °F to 160 °F]
<b>Electrical Termination</b>	1,83 m [5 ft] integral cable	1,83 m [5 ft] integral cable





### 101

50 kg to 1,000 kg

±0.02 % full scale

Compression only

Carbon Steel

-30 °C to 70 °C [-22 °F to 158 °F]

-20 °C to 55 °C [-4 °F to 130 °F]

3 m [9.84 ft] flying leads

### 103

100 kg to 10,000 kg

±0.02 % full scale

Compression only

Carbon Steel

-30 °C to 70 °C [-22 °F to 158 °F]

-20 °C to 55 °C [-4 °F to 130 °F]

3 m [9.84 ft] flying leads (100 kg to 300 kg)  
 5 m [16.40 ft] flying leads (1,000 kg to 5,000 kg)  
 8 m [26.24 ft] flying leads (10,000 kg)

#### Features

- Economical load cell for measuring a variety of bending forces
- Constructed from aluminum or carbon steel
- Load ranges from 25 g up to 10,000 kg
- ±0.15 % to ±0.02 % accuracy full scale
- Small size to fit tight spaces
- Integral cable

#### Typical Applications

- Laboratory weighing
- Material weighing
- Scale weighing



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# Load Cells

## S and Z Beam Style



Honeywell's S and Z type beam load cells combine both a compact form and high precision to produce a superior tension force transducer. These load cells achieve maximum non-linearity of 0.02 % or 0.03 % in load ranges from 20 kg to 20,000 kg and feature nickel-plated alloy steel construction in a one-piece design.



Series	127	123
Range	50 kg and 100 kg	1,000 kg to 20,000 kg
Accuracy	±0.03 % full scale	±0.03 % full scale
Operation	Compression/Tension	Compression/Tension
Case Material	Nickel Plated Steel Alloy	Nickel Plated Steel Alloy
Temperature, Operating	-30 °C to 70 °C [-22 °F to 158 °F]	-30 °C to 70 °C [-22 °F to 158 °F]
Temperature, Compensated	-20 °C to 55 °C [-4 °F to 131 °F]	-20 °C to 55 °C [-4 °F to 131 °F]
Electrical Termination	5 m [16.40 ft] flying leads	6 m [19.69 ft] of 5 mm [0.2 in] diameter cable



### 102

20 kg to 1,000 kg

±0.02 % full scale

Compression/Tension

Nickel Plated Steel Alloy

-30 °C to 70 °C [-22 °F to 158 °F]

-20 °C to 55 °C [-4 °F to 131 °F]

3 m [9.84 ft] flying leads

### 125

100 kg, 200 kg, 300 kg, and 500 kg

±0.02 % full scale

Compression/Tension

Nickel Plated Steel Alloy

-30 °C to 70 °C [-22 °F to 158 °F]

-20 °C to 55 °C [-4 °F to 131 °F]

Mating connector and 5 m [16.40 ft] cable (included)

### 129

1,000 kg, 2,000 kg, 3,000 kg, and 5,000 kg

±0.02 % full scale

Compression/Tension

Nickel Plated Steel Alloy

-30 °C to 70 °C [-22 °F to 158 °F]

-20 °C to 55 °C [-4 °F to 131 °F]

5 m [16.40 ft] flying leads

#### Features

- Economical option for a variety of tension force measurements
- Load ranges from 20 kg up to 20,000 kg
- ±0.02 % or ±0.03 % accuracies full scale
- One-piece, nickel-plated alloy steel construction
- Compact size
- Integral cable

#### Typical Applications

- Mechanical weigh bridges
- Platform scales
- Electronic scales



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# Load Cells

## Special Applications



Honeywell offers a variety of load cells adaptable for special applications in aerospace, automotive/transportation, oil and gas, industrial automation, and many other industries. Listed below are just a few examples of products that we have developed for customers seeking specialized load cells for very specific applications.

If you need a specialized load cell not listed here, please contact us to discuss your specific requirements. Our in-house design, engineering, and manufacturing experts is experienced in working with customers to understand your application challenges and develop a specific solution to meet your individual test and measurement needs.



Series	3719	3419
<b>Description</b>	Bolt and Engine Mount Force Sensor	Seat Belt
<b>Range</b>	800 lb to 300,000 lb [17K N to 220K N]	3,500 lb
<b>Accuracy</b>	±5.8 % of full scale (ranges up to 67,000 N [25,000 lb]) ±8.0 % of full scale (ranges 102,000 N [30,000 lb] and up)	±4.6 % full scale
<b>Operation</b>	Compression only	Tension/Compression
<b>Temperature, Operating</b>	-54 °C to 93 °C [-65 °F to 200 °F]	-54 °C to 93 °C [-65 °F to 200 °F]
<b>Temperature, Compensated</b>	21 °C to 77 °C [70 °F to 170 °F]	21 °C to 77 °C [70 °F to 170 °F]
<b>Electrical Termination</b>	Integral cable with MS3101A-14S-5P connector on free end	1,83 m [6 ft] 4-conductor cable
<b>Case Material</b>	Stainless Steel	Carbon Steel



3663	6443	AL-JP	AL-SC
Pedal	X-Y Force Sensor	High Level Output	High Level Output
50 lb, 100 lb, 200 lb, and 300 lb	1,000 lb - X, radial; 500 lb - Y, side 1,500 lb - X, radial; 500 lb - Y, side 2,000 lb - X, radial; 500 lb - Y, side 6,600 lb - X, radial; 1,325 lb - Y, side	500 lb, 1,000 lb, and 2,000 lb	500 lb, 1,000 lb, and 2,000 lb
±0.29 % full scale	±0.15 % full scale	±0.15 % full scale (static error band)	±1.25 % full scale (static error band)
Compression only	Tension/Compression	Tension/Compression	Tension/Compression
-54 °C to 93 °C [-65 °F to 200 °F]	-54 °C to 93 °C [-65 °F to 200 °F]	-54 °C to 93 °C [-65 °F to 200 °F]	-54 °C to 93 °C [-65 °F to 200 °F]
21 °C to 77 °C [70 °F to 170 °F]	21 °C to 77 °C [70 °F to 170 °F]	-1 °C to 54 °C [30 °F to 130 °F]	-12 °C to 49 °C [10 °F to 120 °F]
Integral cable with PT06W-12-10P connector on free end	MS3102E-14S-5P (x2)	3 m [10 ft] Integral cable with 3106B-14S-5P connector on free end	0.35 m [1 ft] Integral cable with MS3100A-14S-5P connector on free end
Carbon Steel	Nickle Plated Carbon Steel	Stainless Steel	Stainless Steel

### Features

- Special application load cells for component and system testing in automotive, aerospace, oil and gas, and many other industries
- Load ranges from 50 lb up to 2,000 lb, depending on model
- Rugged construction for high performance and long life
- Can be modified or completely customized to meet specific requirements

### Typical Applications

- Radial tire component bearing force leads
- Tire uniformity test machines (radial and side load monitoring)
- Pedal force monitoring
- Seat belt load monitoring
- Extruding processes
- Weighing
- General material and component testing
- Process control and automation monitoring
- Bolt force and engine mount sensing

# Load Cells

## Digital Gauges



Honeywell's stainless steel digital gauges provide a highly portable force measurement device that's rugged enough to withstand field use. Compact in design, each features a load sensor separate from the gauge unit to minimize the chance of damage to the electronic body of the gauge. Set-up and operation are easy, with a peak capture feature so the highest force reading taken can be displayed with the push of a button.



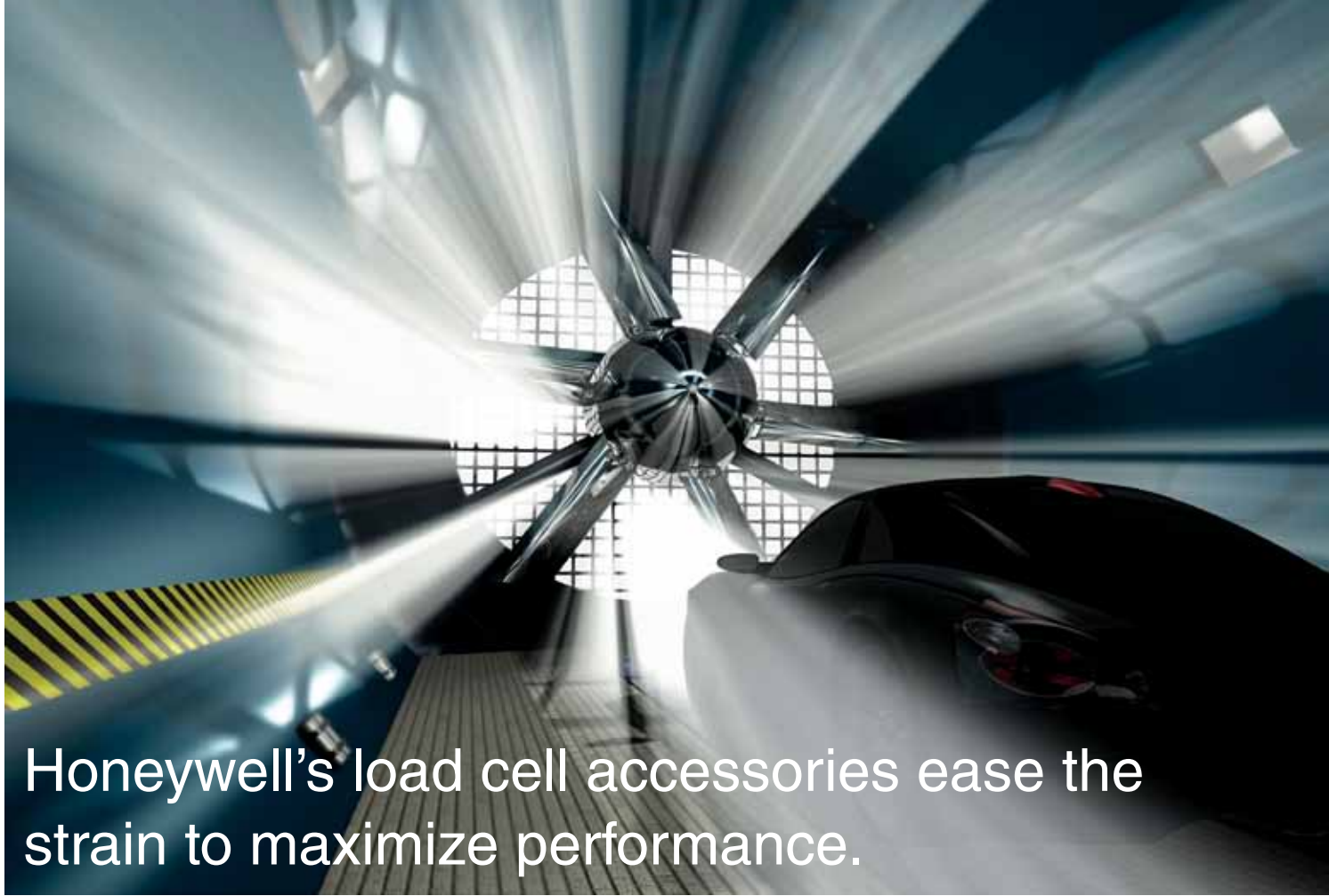
Series	LC	LK
<b>Description</b>	Digital Force Indicator	Digital Force Indicator
<b>Range</b>	5 lb to 50,000 lb	1 lb to 10,000 lb
<b>Accuracy</b>	±0.70 % full scale	±0.25 % full scale (1 lb to 250 lb) ±0.30 % full scale (500 lb to 10,000 lb)
<b>Output</b>	Digital Display	Digital Display
<b>Operation</b>	Tension/Compression	Tension/Compression
<b>Case Material</b>	Stainless Steel	Stainless Steel
<b>Temperature, Operating</b>	-54 °C to 121 °C [-65 °F to 250 °F] (Load Cell)	-54 °C to 121 °C [-65 °F to 250 °F] (Load Cell)
<b>Temperature, Compensated</b>	15 °C to 71 °C [60 °F to 160 °F] (Load Cell)	15 °C to 71 °C [60 °F to 160 °F] (Load Cell)
<b>Electrical Termination</b>	0,9 m [3 ft] cable connecting load cell to display	0,9 m [3 ft] cable connecting load cell to display

### Features

- Rugged, stainless steel design
- Battery operated power supply for easy portability
- Measures load ranges up to either 10,000 lb or 50,000 lb
- Tension and compression measurement
- High and low force capture
- Zero offset/tare
- Load sensor separate from gauge unit for increased durability
- Easy to read face with large buttons
- Quick and easy setup and operation
- Optional handles, panel mounting ring, and carrying case
- Optional NEMA 4 rating

### Typical Applications

- Cable tension monitoring/testing
- Electromechanical parts testing
- Press applications
- Weighing
- Sensing for applied load
- Automation process control



# Honeywell's load cell accessories ease the strain to maximize performance.

**B**ecause our load cells are used in so many different applications and industries, we know that sometimes you may need a specific accessory, connector, or display instrument to help maximize sensor performance and meet the precise requirements of your application.

Honeywell provides a wide range of both new and replacement accessories and many types of display instruments, amplifiers and other products to complement all of our test and measurement products. Many can be customized to meet the needs of a particular application or operating environment.

For example, our load cell accessories include pull plates, load buttons, bearing rod ends, tongue shackles, yoke shackles, and various cables and mating connectors all designed for proper fitting and connection of your load cells to your particular application.

Our in-line amplifiers are available in several configurations and materials, including plastic or die cast, din rail mount, and your choice of unamplified transducer input or strain gage transducer input.



Display and conditioning units for your pressure sensors can be selected from single channel, multi-channel, handheld, or portable options.



Most of these items are available to order with your new load cell, or you can visit our website at <http://measurementsensors.honeywell.com> to find replacement items. Should you have questions about any of our products or need help in finding exactly the accessory or instrument you need, please contact our Inside Sales team at **800-848-6564** or **+1 614-850-5000** or your local representative.

Like we said, when it comes selecting the right sensor for your test and measurement applications – and the right sensor company – we're here to help ease the strain. Contact us today.

## **Warranty/Remedy**

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 acknowledgment 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 other 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.

## **Find out more**

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office.

To learn more about Honeywell's test and measurement products, call **+1-614-850-5000**, visit

**<http://measurementsensors.honeywell.com>**, or e-mail inquiries to **[info.tm@honeywell.com](mailto:info.tm@honeywell.com)**

## **Honeywell Sensing and Control**

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