

# Welded, Stainless Steel Double-Ended Shear Beam Load Cell

## FEATURES

- Rated capacities of 1000 to 100,000 pounds
- Stainless steel, welded seal construction
- Insensitive to side loads and bending moments
- High output—well suited to high deadload/low liveload applications
- Load cells have matched outputs for multi-cell systems
- Integral conduit adaptor
- *Sensorgage*™ sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)
- **Optional**
  - Fully hermetically sealed version available



65016-TWA



65086



## APPLICATIONS

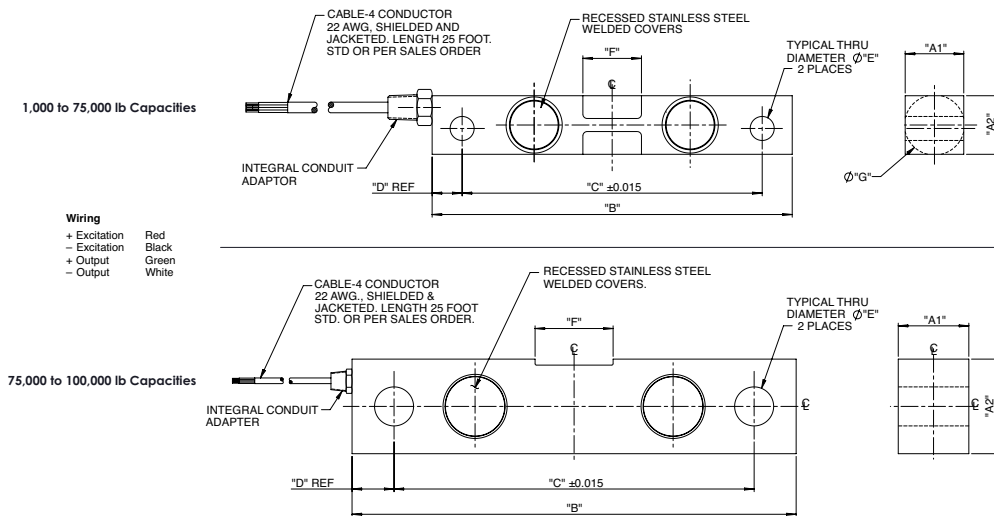
- Hostile environments:
  - Food and beverage processing
  - Chemical and plastics processing
  - Pharmaceutical and biomedical processing
- Tank, bin, and silo weighing
- Batching, blending and mixing systems
- Level and inventory monitoring

## DESCRIPTION

The Model 65016-W is designed to be center-mounted with double-linked loading. This design provides free movement in all horizontal directions, virtually eliminating binding or friction points. The double Shear Beam design gives an excellent performance for high capacity loading.

The Stainless steel construction and IP67 rating make this load cell ideal for any environmental installation.

## OUTLINE DIMENSIONS in inches



CAPACITY	A1	A2	B	C	D	E	F	G	THREAD	LOADING SURFACE
1k-5k	1.22	1.22	7.50	6.25	0.62	0.50	1.12	1.25	1/4-18NPT	Round
10k-25k	1.44	1.94	8.75	7.50	0.62	0.81	1.62	1.99	1/4-18NPT	Round
35k	1.44	2.44	8.75	7.50	0.62	0.81	1.62	2.50	1/4-18NPT	Round
50k-60k and 75k*	2.44	2.94	13.50	11.50	1.00	1.31	3.75	2.99	1/2-14NPT	Round
75k*-80k	2.44	2.94	13.50	11.50	1.00	1.31	3.25	-	1/2-14NPT	Square
100k	2.94	3.94	18.50	15.00	1.75	1.63	3.25	-	1/2-14NPT	Square

Capacities are in pounds.

\* Only 75k capacity is possible in either round or square loading surface.

### Welded, Stainless Steel Double-Ended Shear Beam Load Cell

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated capacity—R.C. (E <sub>max</sub> )	1k, 1.5k, 2.5k, 5k, 10k, 15k, 25k, 35k, 50k, 60k, 75k, 80k, 100k	lbs
NTEP/OIML accuracy class	Standard	
Maximum no. of intervals (n)	—	
Rated output—R.O.	3.0	mV/V
Rated output tolerance	0.25	±% mV/V
Zero balance	1.0	±% FSO
Non-linearity	0.07%	±% FSO
Hysteresis	0.07%	±% FSO
Non-repeatability	0.01	±% FSO
Creep error (20 minutes)	0.03	±% FSO
Temperature effect on zero	0.0015	±% FSO/°F
Temperature effect on output	0.0008	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)	°F (°C)
Operating temperature range	0 to 150 (–18 to 65)	°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)	°F (°C)
Sideload rejection ratio	500:1	
Safe sideload	100	% of R.C.
Maximum safe central overload	150	% of R.C.
Ultimate central overload	300	% of R.C.
Excitation, recommended	15	VDC or VAC RMS
Excitation, maximum	25	VDC or VAC RMS
Input impedance	686–714	Ω
Output impedance	699–707	Ω
Insulation resistance at 50 VDC	>1000	MΩ
Material	Stainless steel	
Environmental protection	IP67 IP68 welded seals, glass to metal seal	Standard Special

FSO—Full Scale Output

All specifications subject to change without notice.



## Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "VPG"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify VPG's terms and conditions of purchase, including but not limited to, the warranty expressed therein.

VPG makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, VPG disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on VPG's knowledge of typical requirements that are often placed on VPG products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. You should ensure you have the current version of the relevant information by contacting VPG prior to performing installation or use of the product, such as on our website at [vpgsensors.com](http://vpgsensors.com).

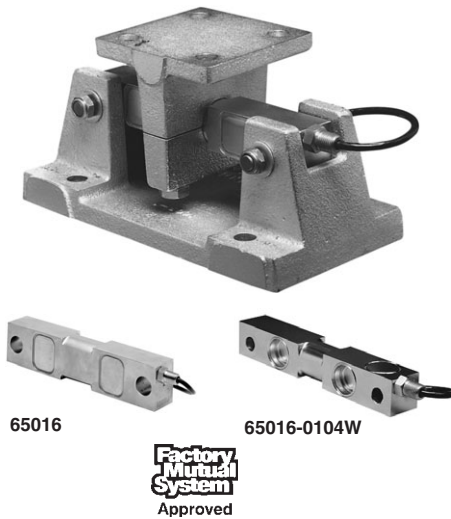
No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of VPG.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling VPG products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify VPG for any damages arising or resulting from such use or sale. Please contact authorized VPG personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Copyright Vishay Precision Group, Inc., 2014. All rights reserved.

## Tank Weighing Assembly



### FEATURES

- Capacity ranges of 1000 to 125,000 pounds
- Mounts directly to the floor or structural support
- Self-checking with provisions for thermal expansion and contraction
- Insensitive to side loads and bending moments
- High output - well suited to high deadload/low liveload applications
- Load cells have matched outputs for multi-cell systems
- Excellent combined error and repeatability
- Accuracies exceed 0.1% with agitated loads
- Integral conduit adaptor
- Certified for uniform building code seismic zones 1 thru 4
- *Sensorgage*™ sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!).

### OPTIONAL FEATURE

- Stainless steel, welded seal assemblies available

### DESCRIPTION

The 65016-TWA is a mid to high capacity nickel plated alloy steel weighing assembly.

This product is the standard in tank and container weighing due to the Zone 4 earthquake rating. It has high side load rejection, and is able to withstand loads in all directions up to and exceeding its rated capacity without permanent damage or the threat of structural failure. This weighing assembly is also designed to move in the direction of thermal expansion, guaranteeing accurate measurements regardless of

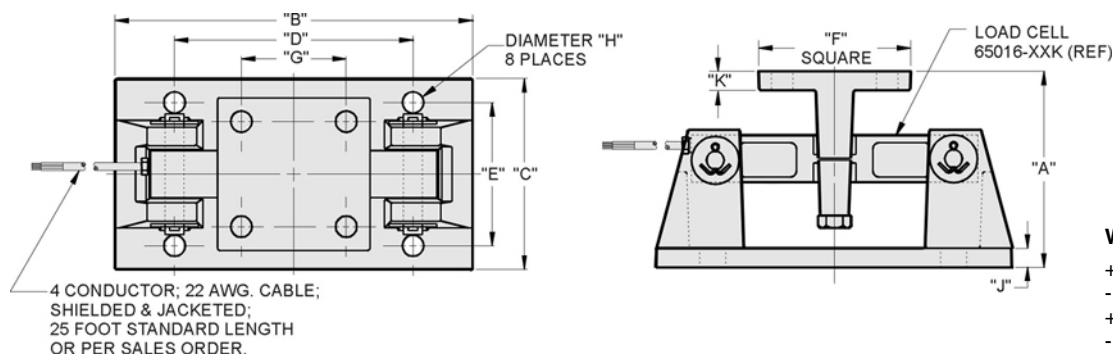
conditions. Nickel plating and IP67 rated sealing make this load cell suitable for use in outdoor applications as well as applications that are subject to high pressure wash down. For a higher degree of corrosion and water resistance please see 65016-0104W, the stainless steel and welded seal version of 65016.

This load cell is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environments.

### APPLICATIONS

- Tank, bin and hopper weighing
- Silo weighing
- Batching, blending, mixing, level and inventory monitoring

### OUTLINE DIMENSIONS in inches



#### Wiring

+Excitation	Red
- Excitation	Black
+Output	Green
- Output	White

CAPACITY	A	B	C	D	E	F	G	H	J	K	WEIGHT
1K - 5K	5.13	9.35	5.00	6.25	3.75	4.00	2.75	0.56	0.90	0.50	22.0
10K - 35K	7.90	12.00	8.00	7.50	6.00	8.00	6.00	0.78	0.75	0.75	73.0
50K - 75K	9.30	16.25	12.00	11.50	9.50	9.00	6.50	0.78	1.00	1.00	172.0
100K - 125K	11.75	23.50	14.00	20.00	12.00	10.00	8.00	1.12	1.50	1.50	250.0

Capacities are in pounds.



## SPECIFICATIONS

PARAMETER	VALUE	UNIT
Rated capacity-R.C. ( $E_{max}$ )	1K, 1.5K, 2.5K, 5K, 10K, 15K, 25K, 35K, 50K, 75K, 100K, 125K	lbs
NTEP/OIML Accuracy class	Standard	
Maximum no. of intervals (n)	--	
Rated output-R.O.	3.0	mV/V
Rated output tolerance	0.25	±% mV/V
Zero balance	1.0	±% FSO
Combined error	0.03	±% FSO
Non-repeatability	0.01	±% FSO
Creep error (20 minutes)	0.03	±% FSO
Temperature effect on zero	0.0015	±% FSO/°F
Temperature effect on output	0.0008	±% of load/°F
Compensated temperature range	14 to 104 (-10 to 40)	°F (°C)
Operating temperature range	0 to 150 (-18 to 65)	°F (°C)
Storage temperature range	-60 to 185 (-50 to 85)	°F (°C)
Sideload rejection ratio	500:1	
Safe sideload	100	% of R.C.
Maximum safe central overload	150	% of R.C.
Ultimate central overload	300	% of R.C.
Excitation, recommended	15	Vdc or Vac rms
Excitation, maximum	25	Vdc or Vac rms
Input impedance	686 - 714	Ω
Output impedance	699 - 707	Ω
Insulation resistance at 50VDC	>1000	MΩ
Material load cell	Nickel plated alloy tool steel or stainless steel	
Material assembly	Zinc plated cast steel	
Environmental protection	IP67	

FSO -Full Scale Output

## VISHAY TRANSDUCERS (VT) SALES OFFICES

**VT Americas**  
 City of Industry, CA  
 PH: +1-626-858-8899  
 FAX: +1-626-332-3418  
 vt.us@vishaymg.com

**VT Netherlands**  
 Breda  
 PH: +31-76-548-0700  
 FAX: +31-76-541-2854  
 vt.nl@vishaymg.com

**VMG UK**  
 Basingstoke  
 PH: +44-125-646-2131  
 FAX: +44-125-647-1441  
 vt.uk@vishaymg.com

**VMG Israel**  
 Netanya  
 PH: +972-9-863-8888  
 FAX: +972-9-863-8800  
 vt.il@vishaymg.com

**VMG Germany**  
 Heilbronn  
 PH: +49-7131-3901-260  
 FAX: +49-7131-3901-2666  
 vt.de@vishaymg.com

**VT China**  
 Tianjin  
 PH: +86-22-2835-3503  
 FAX: +86-22-2835-7261  
 vt.prc@vishaymg.com

**VMG France**  
 Chartres  
 PH: +33-2-37-33-31-20  
 FAX: +33-2-37-33-31-29  
 vt.fr@vishaymg.com

**VT Taiwan\***  
 Taipei  
 PH: +886-2-2696-0168  
 FAX: +886-2-2696-4965  
 vt.roc@vishaymg.com  
 \*Asia except China



## Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.