

Single-Ended Beam Load Cell

FEATURES

- Capacities: 500–5000 kg, 1k–10k lbs.
- Low profile construction
- Certified to OIML R-60, 3000d and NTEP class III, 3000 divisions
- Sealing: IP67 (DIN 40.050)
- Nickel-plated alloy steel construction
- Threaded load hole
- **Optional**
 - FM certified for use in potentially explosive atmospheres



APPLICATIONS

- Floor scales
- Tank weighing
- Bin and hopper weighing

This product is suitable for small and medium platform scales, overhead track scales, hopper scales, and process weighing applications.

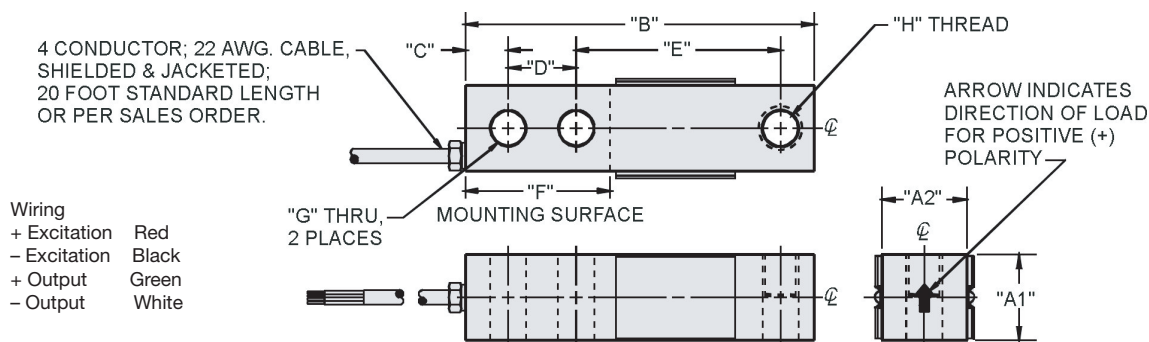
Reliable sealing is ensured by the proprietary TRANSEAL potting compound and additional mechanical protection of the strain gage area.

DESCRIPTION

Model 5123 is a low profile single-ended shear beam type load cell made from nickel-plated tool steel.

Ease of installation is made possible through the use of a partially threaded hole to accept levelling feet, load buttons, or loading cables.

OUTLINE DIMENSIONS in inches [millimeters]



CAPACITY	A ₁	A ₂	B	C	D	E	F	G	H	DEFLECTION	WEIGHT
1k–4k lbs.	1.25	1.25	5.12	0.62	1.00	3.00	2.25	0.53	1/2-20 UNF-2B, Ø0.53 x 0.62 DP C'BORE	0.017 - 0.025	4.0
5k–10k lbs.	1.50	1.50	6.75	0.75	1.50	3.75	3.00	0.78	3/4-16 UNF-2B, Ø0.78 x 0.75 DP C'BORE	0.025 - 0.035	6.5
[500 kg–2T]	[32.0]	[32.0]	[130.0]	[16.0]	[25.0]	[76.0]	[57.0]	[13.0]	M12 x 1.75-6H, Ø13 x 15 DP C'BORE	[0.432 - 0.635]	[1.8]
[3T–5T]	[38.0]	[38.0]	[171.0]	[19.0]	[38.0]	[95.0]	[76.0]	[20.7]	M20 x 2.5-6H, Ø20.5 x 19 DP C'BORE	[0.635 - 0.889]	[2.9]

Capacities are in pounds [kg/T]. Deflection is ±10%. Certified drawings are available.

Single-Ended Beam Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Standard capacities (E_{max})	500, 1000, 2000, 5000 ⁽¹⁾			kg
Standard capacities (E_{max})	1k, 2.5k, 4k, 5k, 10k ⁽¹⁾			lbs.
Accuracy class according to OIML R-60 /NTEP	NTEP III	Non-Approved	C3	
Max. no. of verification intervals	3000		3000	
Min. verification interval ($V_{min}=E_{max}/Y$)			$E_{max}/6000$	
Min. verification interval, type MR			$E_{max}/10000$	
Rated output (=S)	3			mV/V
Rated output tolerance	0.0075			±mV/V
Zero balance	1.0			±% FSO
Combined error	0.0200	0.050	0.023	±% FSO
Minimum dead load output return	0.0250	0.050	0.017	±% FSO
Minimum dead load output return, type MI8			0.0063	±% FSO
Non-repeatability	0.0100	0.01	0.01	±% FSO
Creep error (30 minutes)		0.060	0.025	±% FSO
Temp. effect on min. dead load output	(0.0008)	0.0250	0.0120	±% FSO/5°C (°F)
Temp. effect on min. dead load output, type MR			0.0070	±% FSO/5°C
Temperature effect on sensitivity	(0.0010)	0.0250	0.0088	±% FSO/5°C (°F)
Minimum dead load	0			% E_{max}
Maximum safe overload	150			% E_{max}
Ultimate overload	300			% E_{max}
Maximum safe side load	100			% E_{max}
Deflection at E_{max}	0.4 / 0.8 / 1.0 / 1.1 — kg 0.4 / 0.8 / 1.0 / 0.9 / 1.1 — lbs.			mm
Excitation voltage	5 to 12			V
Maximum excitation voltage	15			V
Input resistance	350±7			Ω
Output resistance	352±3			Ω
Insulation resistance	>1000			MΩ
Compensated temperature range	-10 to +40			°C
Operating temperature range	-18 to +65			°C
Storage temperature range	-50 to +85			°C
Element material	Nickel-plated alloy steel			
Sealing (DIN 40.050 / EN 60.529)	IP67			
Recommended torque on fixation bolts	0.5–2T and 1k–4k lbs.: 136 5k lbs. and 5T and over: 205			N*m

⁽¹⁾ 5T and 10k lbs. are not approved by OIML

FSO—Full Scale Output

Correct mounting of the load cell is essential to ensure optimum performance. Further information is available on request.

All specifications are subject to change without notice

CERTIFICATION MARKINGS

FM Approval markings (USA and Canada)

IS Class I, II, III, Division 1, Groups A, B, C, D, E, F and G;

NI Class I, Division 2, Groups A, B, C, and D;

DIP Class II, III, Division 2, Groups F and G;

T4;

Ta = -25°C to +40°C;

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.

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.