

SB14 beam load cell



product description

The SB14 is a high accuracy, low profile bending beam available in a wide range of capacities. Full stainless steel construction and complete hermetic sealing ensures reliable accuracy and robustness in harsh industrial applications. The SB14 is the ideal choice for high accuracy weighing platforms due to the blind-hole load introduction arrangement when combined with the self-aligning feet.

applications

Industrial platform scales, pallet truck scales, vessel and tank weighing systems.

key features

Stainless steel construction

Hermetically sealed to IP68

Wide capacity range from 500lb to 10,000lb (227kg to 4,536kg)

High accuracy

Unique blind loading hole

High input resistance

Calibration in mV/V/Ω

approvals

OIML approval to C3 and C3 M16 (Y=11,500)

NTEP approval to 5,000 intervals, Class III (for 500lb to 5,000lb) for multiple load cell applications

ATEX hazardous area approval for Zone 0, 1, 2, 20, 21 and 22

FM hazardous area approval

accessories + options

Compatible range of hardware

Compatible range of electronics

Y = 23,000 for C3 and C3 M16 (for 500lb to 5klb)

Stainless steel cable gland



specifications

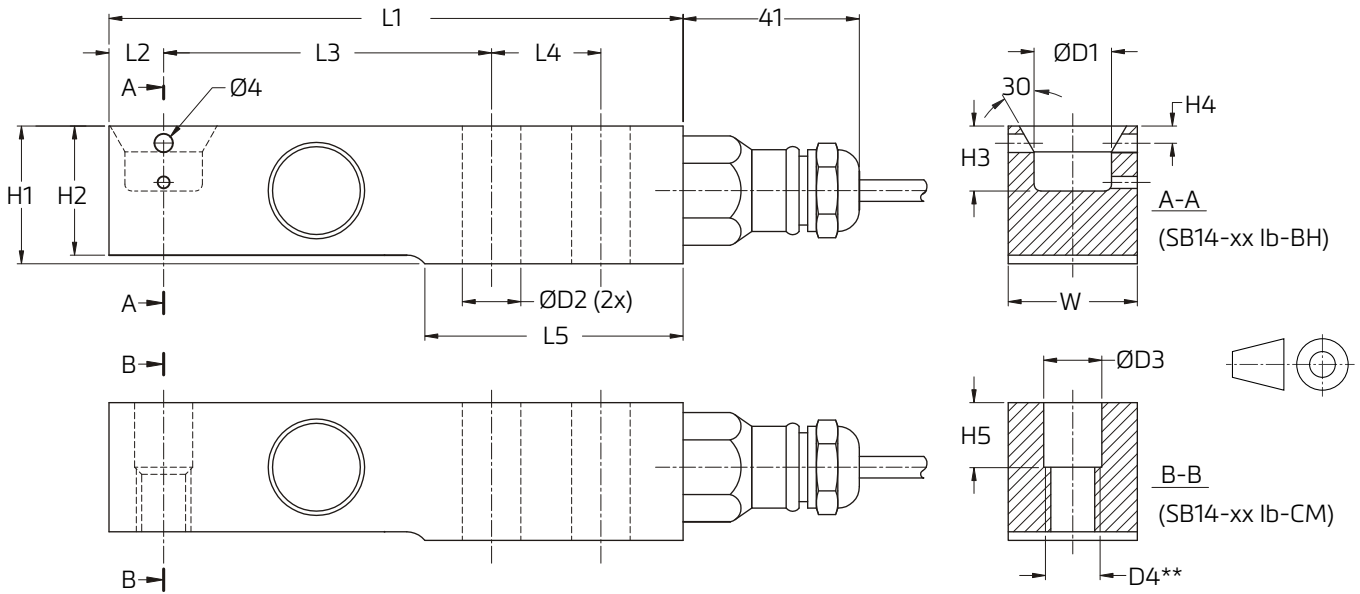
Maximum capacity (E_{max})	klb	0.5 / 1 / 2.5 / 5 / 10*		0.5 / 1 / 2.5 / 5
Metric equivalents (1 lb=0.45359 kg)	kg	227 / 454 / 1134 / 2,268 / 4,536		227 / 454 / 1,134 / 2,268
Accuracy class according to OIML R60		(GP)	C3	C3 MI 6
Maximum number of verification intervals (n_{max})		n.a.	3,000	3,000
Minimum load cell verification interval (v_{min})		n.a.	$E_{max} / 11,500$	
Temperature effect on minimum dead load output (TC_0)	%*RO/10°C	± 0.0400	± 0.0122	
Temperature effect on sensitivity (TC_{RO})	%*RO/10°C	± 0.0200	± 0.0100	
Combined error	%*RO	± 0.0500	± 0.0200	± 0.0180
Non-linearity	%*RO	± 0.0400	± 0.0166	± 0.0166
Hysteresis	%*RO	± 0.0400	± 0.0166	± 0.0083
Creep error (30 minutes) / DR	%*RO	± 0.0600	± 0.0166	± 0.0083
Optional Min.load cell verification interval ($v_{min opt}$)		n.a.	$E_{max} / 23,000$	
Optional Temp. effect on min. dead load output ($TC_0 opt$)	%*RO/10°C	n.a.	± 0.0061	
Rated Output (RO)	mV/V	2 ± 0.1%		
Calibration in mV/V/Ω (A...I classified)	%	± 0.05 (± 0.005)		
Zero balance	%*RO	± 5		
Excitation voltage	V	5...15		
Input resistance (R_{LC})	Ω	1,100 ± 50		
Output resistance (R_{out})	Ω	1,000 ± 2		
Insulation resistance (100 V DC)	MΩ	≥ 5,000		
Safe load limit (E_{lim})	%* E_{max}	200		
Ultimate load	%* E_{max}	300		
Safe side load	%* E_{max}	100		
Compensated temperature range	°C	-10...+40		
Operating temperature range	°C	-40...+80 (ATEX -40...+60)		
Load cell material		stainless steel 17-4 PH (1.4548)		
Sealing		cable entry hermetically sealed by glass to metal header		
Protection according EN 60 529		IP68 (up to 2m water depth) / IP69K		
Packet weight	kg	1.2 (500-5,000lb), 2.44 (10,000lb)		

The limits for Non-Linearity, Hysteresis, and TC_{RO} are typical values.

The sum of Non-linearity, Hysteresis and TC_{RO} meets the requirements according to OIML R60 with $p_{LC}=0.7$.

* Only available in GP version.

product dimensions (mm)



Type	L1	L2	L3	L4	L5	H1	H2	H3	H4	H5	W	D1	D2	D3	D4	Mounting bolts	Torque *
500/1000 lb	133.4	12.7	76.2	25.4	59.9	31	28.8	15	4	15	30	18	13	13.5	M12	M12 8.8	90 Nm
2500 lb	133.4	12.7	76.2	25.4	59.9	31	30.5	15	4	15	30	18	13	13.5	M12	M12 8.8	90 Nm
5000 lb	133.4	12.7	76.2	25.4	59.9	31	30.5	15	4	15	30	18	13	13.5	M12	M12 10.9	120 Nm
10,000 lb	177.8	19.1	95.3	38.1	92.7	43.6	38.1	20.5	8	20.1	43	25	21	21.5	M20	M20 8.8	400 Nm

* Torque values assume oiled threads.

** Unified thread 1/2-20 UNF (500...5000 lb) and 3/4-16 UNF (10000 lb) is available. Type designation SB14-xx-CU.

wiring

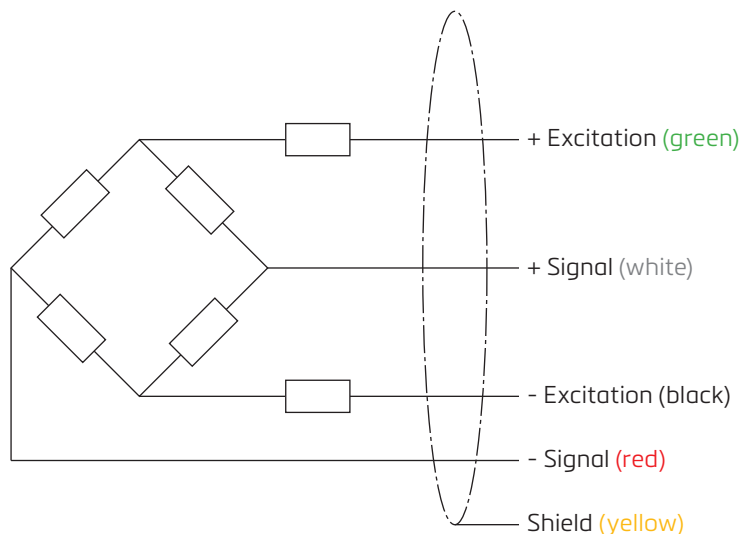
The load cell is provided with a shielded, 4 conductor cable (AWG 24).

Cable jacket: polyurethane

Cable length: 3 m for SB14-500lb to 5,000lb, 4.5 m for SB14-10,000lb

Cable diameter: 5 mm

The shield is floating (On request the shield can be connected to the load cell body)



Specifications and dimensions are subject to change without notice.