

Type SB14 Load Cell



Product Description

The type SB14 is a stainless steel beam type load cell with complete hermetic sealing. It is a perfect fit for use in industrial environments.

Application

- Platform scales, hopper and tank scales

Key Features

- Wide range of capacities from 500 lb to 10 000 lb (227 kg to 4 536 kg)
- Stainless steel construction
- Environmental Protection IP68 with complete hermetic sealing
- Unique blind loading hole
- High input resistance
- Calibration in mV/V/Ω

Options

- Y = 23 000 for C3 and C3 MI6 (for 500 lb to 2 500 lb)
- Stainless steel cable gland

Approvals

- OIML approval to C3 and C3 MI6 (Y = 11 500)
- NTEP approval to 5 000 intervals, Class III (for 500 lb to 5 000 lb)
- ATEX hazardous area approval for Zone 0, 1, 2, 20, 21 and 22
- FM hazardous area approval

Packed Weight

Capacity (lb)	500–5 000	10 000
Weight (kg)	1.2	2.44

Available Accessories

- Compatible range of application hardware
- Compatible range of electronics

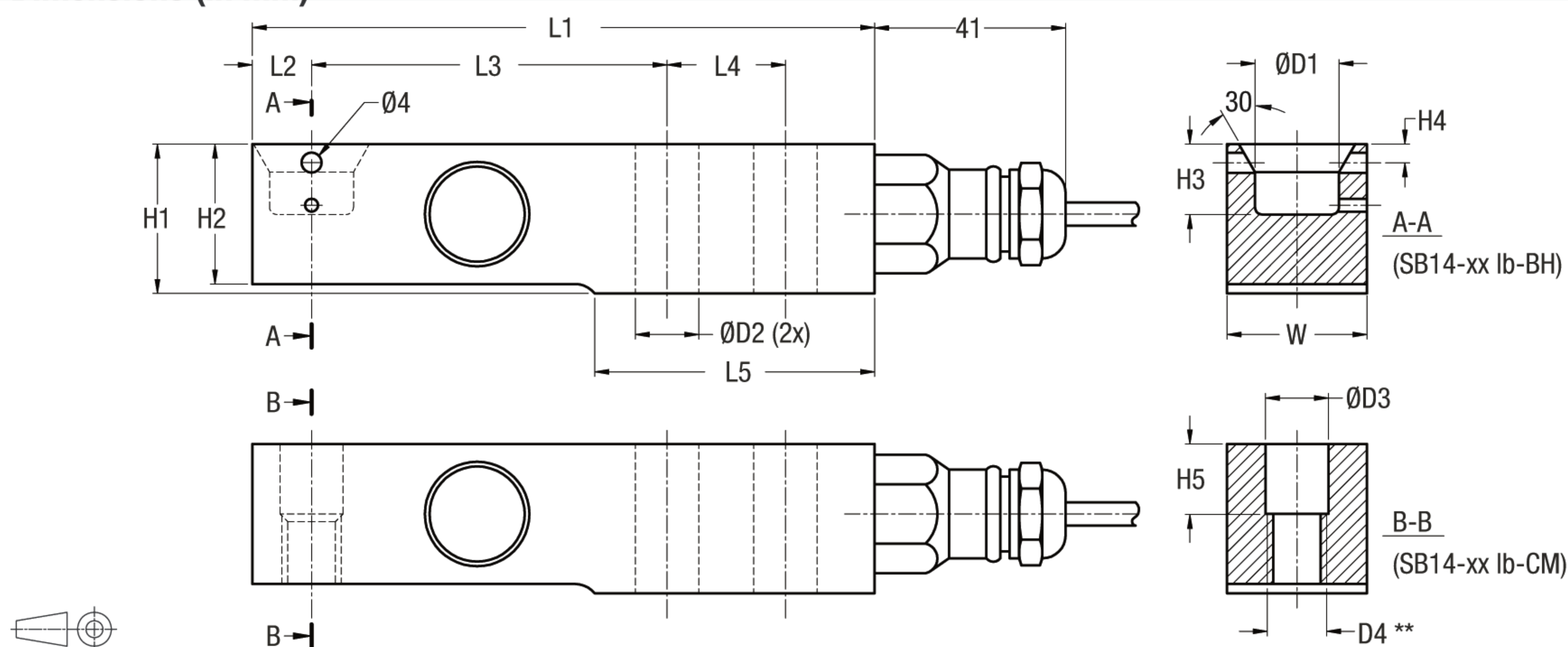
Specifications

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 / 2268 / 4536		227 / 454 / 1134 / 2268
Accuracy class according to OIML R60			(GP)	C3	C3 MI 6
Maximum number of verification intervals	(n _{max})		n.a.	3000	3000
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
Option	Min.load cell verification interval	(v _{min opt})	n.a.	E _{max} / 23 000	
	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			complete hermetic sealing; cable entry sealed by glass to metal header		
Protection according EN 60 529			IP68 (up to 2 m water depth) / IP69K		

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.

Dimensions (in mm)



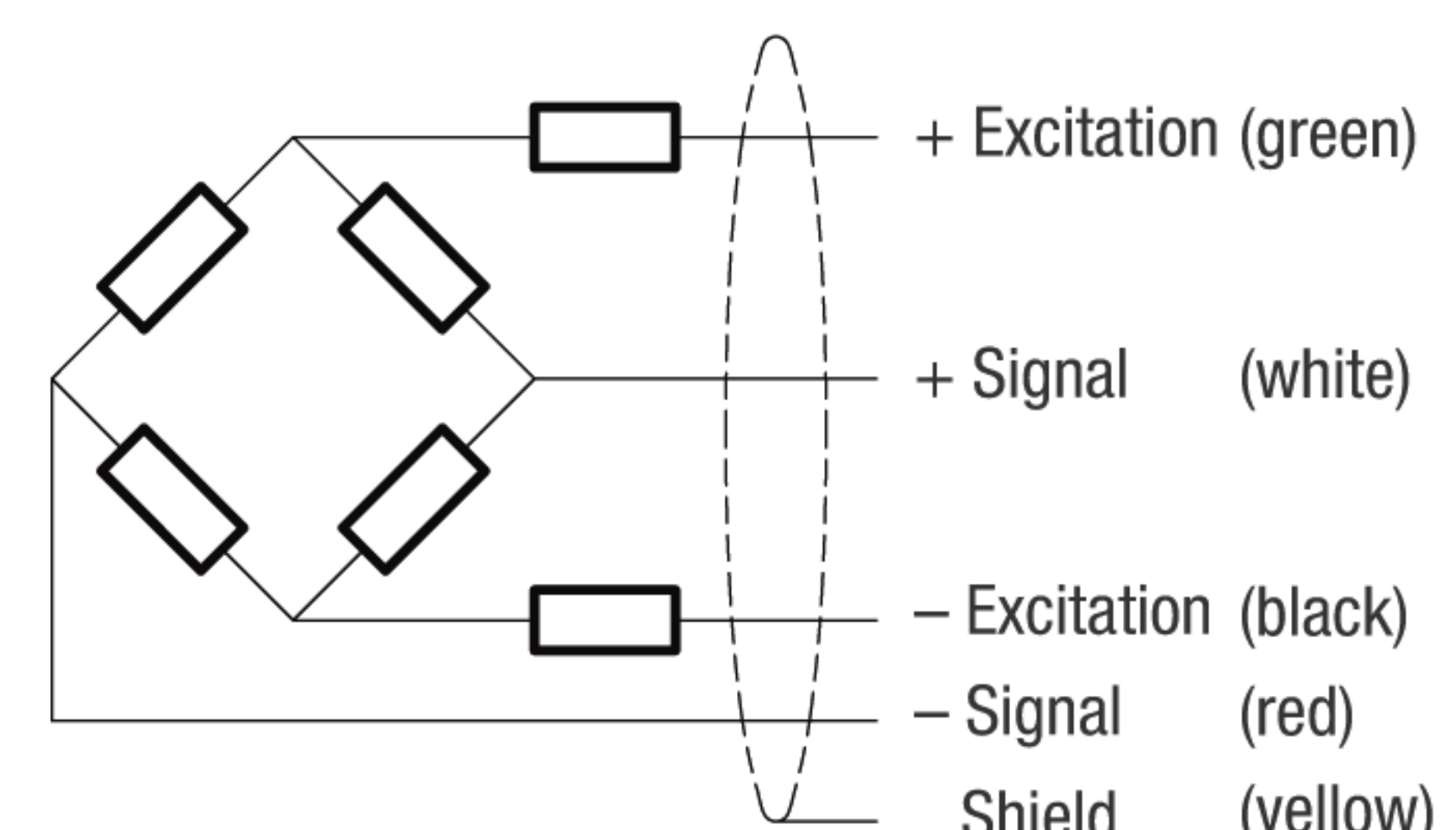
Type	L1	L2	L3	L4	L5	H1	H2	H3	H4	H5	W	D1	D2	D3	D4	Mounting bolts	Torque *
SB14-500 lb/1000 lb	133.4	12.7	76.2	25.4	59.9	31	28.8	15	4	15	30	18	13	13.5	M12	M12 8.8	90 Nm
SB14-2500 lb	133.4	12.7	76.2	25.4	59.9	31	30.5	15	4	15	30	18	13	13.5	M12	M12 8.8	90 Nm
SB14-5000 lb	133.4	12.7	76.2	25.4	59.9	31	30.5	15	4	15	30	18	13	13.5	M12	M12 10.9	120 Nm
SB14-10000 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 SB14-500 lb to 5 000 lb
4.5 m for SB14-10 000 lb
- Cable diameter: 5 mm
- The shield is floating
(On request the shield can be connected to the load cell body)



A31-Rev8-GB-2(2) Specifications and dimensions are subject to change without notice.