



PENKO Engineering BV

The Leading Experts In Weighing & Dosing

5kN-100kN

SB5



Product Description

The type SB5 is a stainless steel beam type load cell with an improved potting. It is suitable for use in industrial environments.

Application

- Platform scales, hopper and tank scales

Key Features

- Wide range of capacities from 5 kN to 100 kN (510 kg to 10 197 kg)
- Stainless steel construction
- Environmental Protection IP67
- Low profile design
- Unique blind loading hole
- High input resistance
- Calibration in mV/V/Ω

Approvals

- OIML approval to C1 (Y = 5 100) and C3 (Y = 11 000), for 5...50 kN only
- NTEP approval to 5 000 intervals, Class III (for 5 kN to 50 kN)
- ATEX hazardous area approval for Zone 0, 1, 2, 20, 21 and 22
- FM hazardous area approval

Packed Weight

Capacity (kN)	5-20	50	100
Weight (kg)	1.4	2.9	7.0

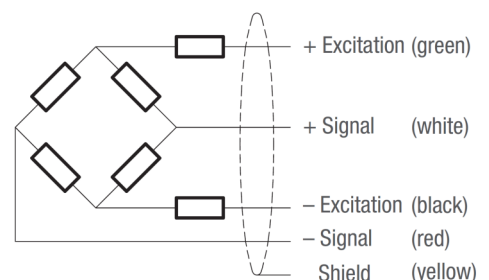
Available Accessories

- Compatible range of application hardware
- Compatible range of electronics

Wiring

- The load cell is provided with a shielded, 4 conductor cable (AWG 24). Cable jacket polyurethane
- Cable length:

3 m	for SB4-5 kN/10 kN/20 kN
4.5 m	for SB4-50 kN/100 kN
- Cable diameter: 5 mm
- On customer enquiry the shield is either floating or connected to the load cell body

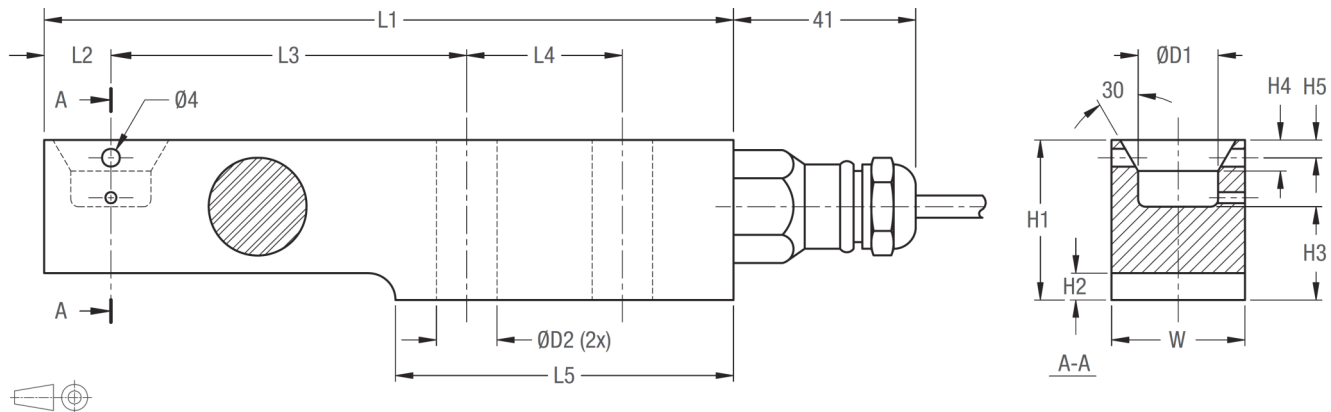


Specifications

Maximum capacity	(E _{max})	kN	5 / 10 / 20 / 50 / 100	5 / 10 / 20 / 50
Metric equivalents (1 N=0.10197 kg)		kg	510 / 1020 / 2039 / 5099 / 10197	510 / 1020 / 2039 / 5099
Accuracy class according to OIML R60			(GP)	C1 C3
Maximum number of verification intervals	(n _{max})		n.a.	1 000 3 000
Minimum load cell verification interval	(v _{min})		n.a.	E _{max} /5 100 E _{max} /11 000
Temperature effect on minimum dead load output	(TC ₀)	%*R ₀ /10°C	≤ ± 0.0400	≤ ± 0.0275 ≤ ± 0.0127
Temperature effect on sensitivity	(TC _{R0})	%*R ₀ /10°C	≤ ± 0.0200	≤ ± 0.0160 ≤ ± 0.0100
Combined error		%*R ₀	≤ ± 0.0500	≤ ± 0.0300 ≤ ± 0.0200
Non-linearity		%*R ₀	≤ ± 0.0400	≤ ± 0.0300 ≤ ± 0.0166
Hysteresis		%*R ₀	≤ ± 0.0400	≤ ± 0.0300 ≤ ± 0.0166
Creep error (30 minutes) / DR		%*R ₀	≤ ± 0.0600	≤ ± 0.0490 ≤ ± 0.0166
Rated Output	(R ₀)	mV/V		2 ± 0.1%
Calibration in mV/V/Ω (A...I classified)		%		≤ ± 0.05 (≤ ± 0.005)
Zero balance		%*R ₀		≤ ± 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		-20...+65 (ATEX -20...+60)
Load cell material				stainless steel 17-4 PH (1.4548)
Sealing				potted
Protection according EN 60 529				IP67

The limits for Non-Linearity, Hysteresis, and TC_{R0} are typical values.
The sum of Non-Linearity, Hysteresis and TC_{R0} 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	Mounting bolts	Torque *
SB5-5 kN/10 kN/20 kN	155	15	80	35	76	36	6	21	7	4	30	18	13	M12 8.8	90 Nm
SB5-50 kN	190	21	105	40	93	49	8	28.5	6	8	43	25	21	M20 8.8	400 Nm
SB5-100 kN	245	30	135	50	120	73	12.5	42	10	n.a.	60	30	27	M24 8.8	700 Nm

* Torque values assume oiled threads.