

# SB14 CAN beam load cell



## product description

The SB14 CAN is a high-accuracy, low-profile bending beam load cell available in capacities from 500 lb to 10,000 lb (227 kg to 4,536 kg), now with embedded CAN output functionality supporting both CANopen and J1939 protocols.

The full stainless steel construction and complete hermetic sealing ensure reliable accuracy and robustness in harsh industrial environments. The embedded CAN board transforms the SB14 into a digital load cell with direct CAN interface, ideal for modern industrial systems requiring efficient and reliable communication.

Setup is straightforward and can be performed with a terminal emulation program or the Flintec FDC application, available from [flintec.com](http://flintec.com).

## applications

Industrial platform scales, on-board vehicle weighing systems, vessel and tank weighing systems, systems requiring direct CAN communication.

## accessories + options

Compatible range of hardware

Blind-hole (BH), counterbore metric (CM) or counterbore unified (CU)

Default: Plastic cable gland; Optional: stainless-steel cable gland

Default: Free leads; Optional: M12, 5-pin male code-A connector

## key features

Stainless steel construction

Hermetically sealed to IP68

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

High accuracy and reliability

Range of loading hole options

Embedded CAN output (user-selectable CANopen or J1939)

Software-configurable parameters

Works with Flintec FDC application for analysis & configuration



## load cell specifications

Maximum capacity ( $E_{max}$ )	klb	0.5 / 1 / 2.5 / 5 / 10*	
Metric equivalents (1 lb=0.45359 kg)	kg	227 / 454 / 1134 / 2,268 / 4,536	
Accuracy class		GP	G3
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
Non-linearity	%*RO	± 0.0400	± 0.0166
Hysteresis	%*RO	± 0.0400	± 0.0166
Creep error (30 minutes) / DR	%*RO	± 0.0600	± 0.0166
Optional Temp. effect on min. dead load output ( $TC_0$ opt)	%*RO/10°C	n.a.	± 0.0061
Zero balance	%*RO	± 5	
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	
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 10klb model is only available as a GP version.

## embedded CAN board specifications

Board model	-	CED-20
Supply voltage	VDC	9–32
Supply reversal protection	-	Yes
Oversvoltage protection	-	Yes
Software enabled CAN termination resistor	-	Yes
Operating temperature range	°C	-20 to +70
Storage temperature range	°C	-40 to +80
ADC type	-	24-bit Sigma-Delta
Digital filters	-	Rolling average, IIR
CAN output cable	-	Free leads or an M12, 5-pin male Code A connector
Protocols supported	-	CANopen (default), J1939 (selectable)
Baud rates (CANopen)	bits/s	10k, 20k, 50k, 125k, 250k, 500k, 800k, 1,000k
Baud rates (J1939)	bits/s	250k
Update rates (CANopen)	Hz	5 to 2,500
Update rates (J1939)	Hz	5 to 1,600
Designed to meet	-	Regulation 10, ISO 13766:2018, ISO 14982:1998

The embedded CAN board includes components designed to meet standards such as Regulation 10, ISO 13766:2018, and ISO 14982:1998. However, it is not currently certified for these standards. Customers requiring compliance must confirm suitability with their regulatory requirements.

## wiring

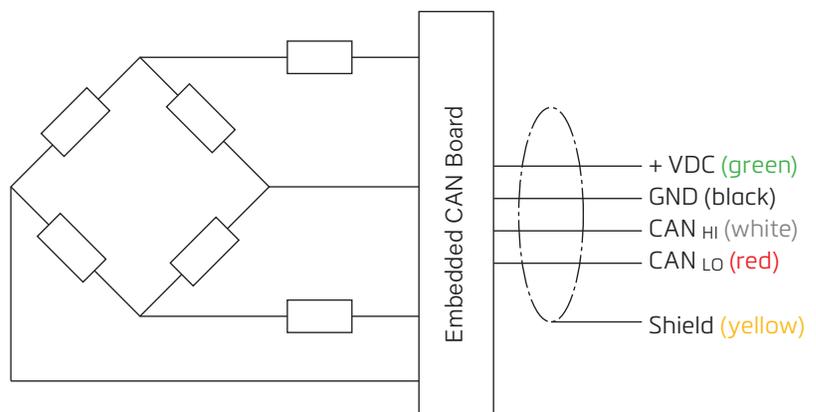
The load cell is provided with a shielded, 4 conductor cable (AWG 24).

Cable jacket: polyurethane

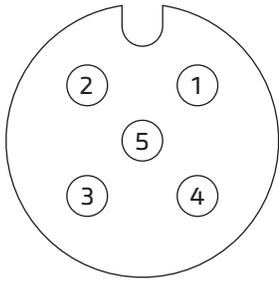
Cable length: 3m for SB14-0.5klb to 5klb, 4.5 m for SB14-10klb

Cable diameter: 5mm

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



M12 5-PIN Male Code A

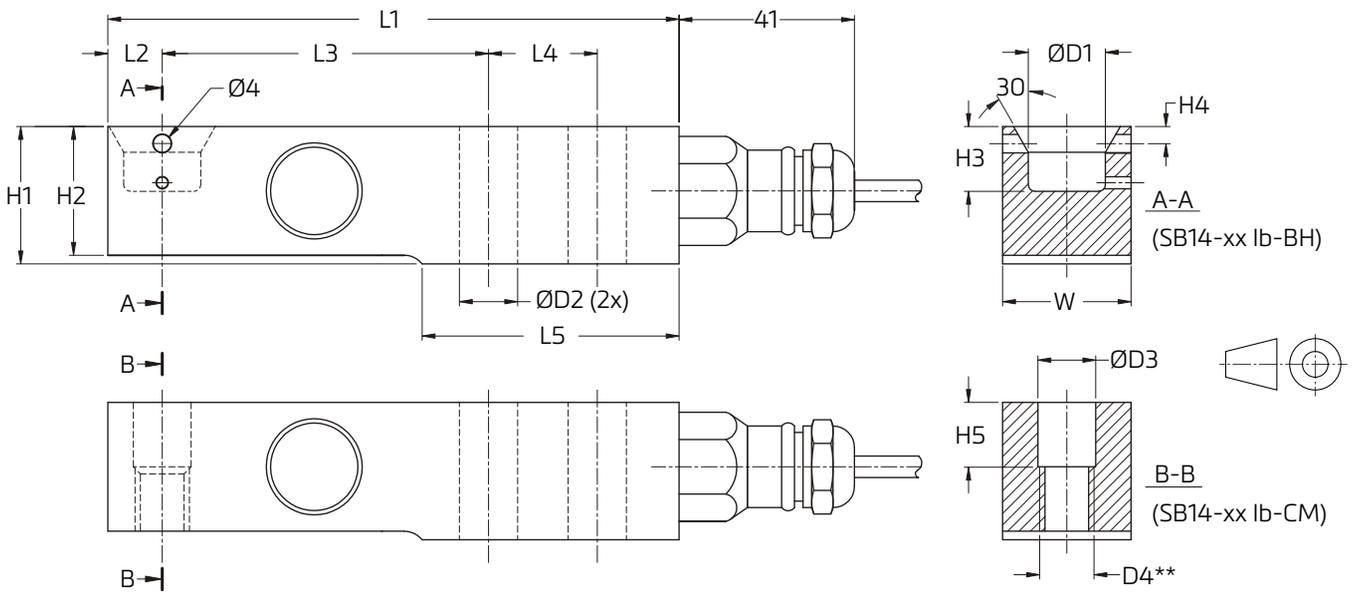


Pin	Function	Colour
1*	Shield**	Yellow
2	+ VDC	Green
3	GND	Black
4	CAN <sub>HI</sub>	White
5	CAN <sub>LO</sub>	Red

\* Pin 1 shield connection is optional.

\*\* Shield connected at sensor is optional.

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.

Specifications and dimensions are subject to change without notice.