SensorsX

SX-FLSNB Series

S-Beam Compression Load Cell

Force & Weighing | S-Beam Compression Load Cell



5 – 150 kg Rated Capacity (11 – 331 lb)	**≤ ±0.05% F.S.** Non-Linearity / Hysteresis / Repeatability	**2.0 mV/V ±10%** Output Sensitivity
IP65 Ingress Protection	**−20 to +60 °C** Operating Temp. (−4 to +140 °F)	**5 – 12 V DC** Recommended Excitation (max 15 V DC)

■ PRODUCT OVERVIEW

The SX-FLSNB Series is a compression load cell featuring a combined S-beam sensing structure, metal foil strain gauges, and overload protection. It provides stable measurement performance and is suitable for static and dynamic force measurement and electronic weighing systems. Rated capacities of 5, 10, 30, 100, and 150 kg are available, with a nominal output sensitivity of 2.0 mV/V.



■ KEY FEATURES

- ◆ Combined S-Beam Structure with Metal Foil Strain Gauges
- ◆ Integrated Overload Protection
- ◆ High Measurement Accuracy
- ◆ Stable Performance and Good Temperature Characteristics

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■ TYPICAL APPLICATIONS

Application Fields

- Dynamic Force Measurement
- Static Force Measurement
- Electronic Weighing Systems

■ PERFORMANCE SPECIFICATIONS

Measurement	
Rated Capacity	5, 10, 30, 100, 150 kg (11, 22, 66, 220, 331 lb)
Output Sensitivity	2.0 mV/V ±10%
Accuracy	
Non-Linearity	≤ ±0.05% F.S.
Hysteresis	≤ ±0.05% F.S.
Repeatability	≤ ±0.05% F.S.
Creep	±0.05% F.S. / 30 min
Temperature Sensitivity Drift	±0.05% F.S. / 10 °C (±0.05% F.S. / 18 °F)
Zero Point Temperature Drift	±0.05% F.S. / 10 °C (±0.05% F.S. / 18 °F)
Zero Output	< ±1% F.S.
Overload	
Safe Overload	150% F.S.
Ultimate Overload	300% F.S.

■ ELECTRICAL SPECIFICATIONS

Excitation	
Recommended Excitation Voltage	5–12 V DC
Maximum Excitation Voltage	15 V DC
Bridge	
Input Resistance	380 ± 10 Ω
Output Resistance	350 ± 3 Ω
Insulation Resistance	≥ 5,000 MΩ
Output Signal	
Signal Output Options	Optional transmitter modules are available for signal conditioning, with output options including 4–20 mA, 0–5 V, 0–10 V, PROFIBUS, Modbus, CANopen, and RS-485.
Electrical Connection	
Cable	Direct cable outlet

Note: These excitation ratings apply to the mV/V-output load cell. Supply requirements for configurations with a transmitter depend on the selected transmitter module.

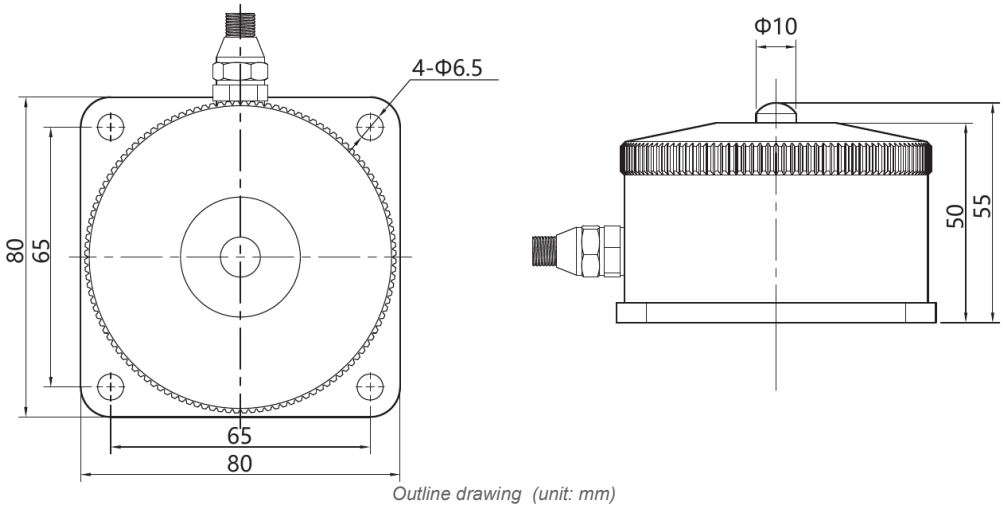
■ ENVIRONMENTAL SPECIFICATIONS

Temperature	
Operating Temperature	−20 to +60 °C (−4 to +140 °F)
Mechanical & Environmental	
Ingress Protection	IP65
Housing	
Material	Alloy steel

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■ MECHANICAL DIMENSIONS

Dimensions



Outline drawing (unit: mm)

Key Dimensions — mm (in)

Dimensions — mm (in)	
Base Plate	80 × 80 mm (3.15 × 3.15 in)
Mounting Holes	4 × Φ6.5 mm (Φ0.26 in) on 65 × 65 mm (2.56 × 2.56 in) pattern
Height Excluding Load Button	50 mm (1.97 in)
Overall Height Including Load Button	55 mm (2.17 in)
Load Button Diameter	Φ10 mm (Φ0.39 in)

Note: All dimensions are in millimeters, with inch equivalents in parentheses, unless otherwise specified.

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■ ORDERING INFORMATION

Complete model number example: SX-FLSNB-100kg24I0L

Measurement Range	
5kg	5 kg (11 lb)
10kg	10 kg (22 lb)
30kg	30 kg (66 lb)
100kg	100 kg (220 lb)
150kg	150 kg (331 lb)
Power Supply	
05	5 V DC
10	10 V DC
12	12 V DC
24	24 V DC
Output	
I	4–20 mA
V1	0–5 V
V2	0–10 V
RS	RS-485
L	2.0 mV/V ±10%
Electrical Connection	
0	Cable outlet
Mounting	
L	Bolt mounting
Customization Options	
D	Custom configuration — specify requirements when ordering

Example: SX-FLSNB-100kg24I0LD — SX-FLSNB Series, 100 kg rated capacity, 24 V DC supply, 4–20 mA output, integral cable, bolt mounting, and custom configuration.

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