SensorsX

SX-FFANB Series

Miniature Tension / Compression Load Cell

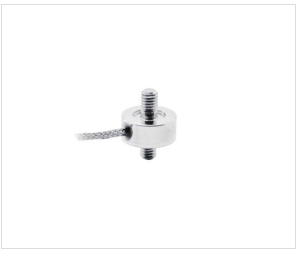
Force & Weighing | Miniature Threaded Tension / Compression Load Cell



0.05 – 2 t Rated Capacity (110 – 4,409 lb)	**≤ ±0.3% F.S.** Non-Linearity / Hysteresis	**1.5 mV/V ±10%** Output Sensitivity
IP65 Ingress Protection (IEC 60529)	**−20 to +60 °C** Operating Temp. (−4 to +140 °F)	**5 – 12 V DC** Recommended Excitation (max 15 V DC)

■ PRODUCT OVERVIEW

The SX-FFANB Series is a compact load cell for tension and compression force measurement in press-fitting, automated assembly and electronic product testing. It features a stainless steel body with threaded load connections and is available in rated capacities from 50 kg to 2 t. The load cell has a nominal output sensitivity of 1.5 mV/V and a recommended excitation voltage of 5–12 V DC. Optional transmitter modules provide conditioned analog or digital outputs, depending on the selected configuration.



■ KEY FEATURES

- Tension and Compression Force Measurement
- Good Temperature Characteristics
- High Overload Capacity
- Stainless Steel Construction With IP65 Ingress Protection

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■ TYPICAL APPLICATIONS

Application Fields

- Automotive Press-Fitting
- Automated Assembly
- Electronic Product Testing

■ PERFORMANCE SPECIFICATIONS

Measurement	
Rated Capacity	0.05, 0.1, 0.2, 0.5, 1, 2 t (110, 220, 441, 1,102, 2,205, 4,409 lb)
Output Sensitivity	1.5 mV/V ±10%
Accuracy	
Non-Linearity	≤ ±0.3% F.S.
Hysteresis	≤ ±0.3% F.S.
Repeatability	≤ ±0.1% F.S.
Creep	±0.1% 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, 0 to ±5 V, 0 to ±10 V, PROFIBUS, Modbus, CANopen, and RS-485
Electrical Connection	
Cable	Integral cable, 3 m (9.8 ft); Φ5 mm (Φ0.20 in) standard version, Φ3 mm (Φ0.12 in) small version

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.

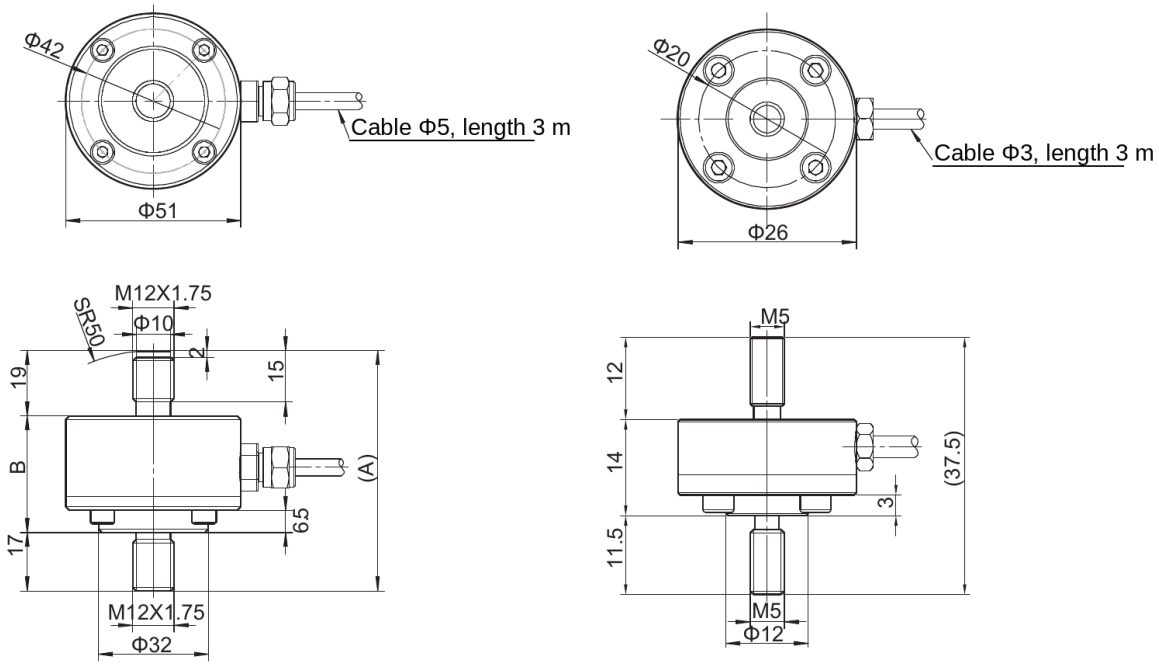
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■ ENVIRONMENTAL SPECIFICATIONS

Temperature	
Operating Temperature	−20 to +60 °C (−4 to +140 °F)
Mechanical & Environmental	
Ingress Protection	IP65 (IEC 60529)
Housing	
Material	Stainless steel

■ MECHANICAL DIMENSIONS

Dimensions



Standard version (50 kg – 2 t) **Small version (10 kg, 20 kg, 30 kg)**

Outline drawings (unit: mm)

Dimension Table (standard version) — mm (in)

Capacity	A	B
50 kg (110 lb)	70 (2.76)	34 (1.34)
100 kg (220 lb)	70 (2.76)	34 (1.34)
200 kg (441 lb)	70 (2.76)	34 (1.34)
500 kg (1,102 lb)	70 (2.76)	34 (1.34)
1,000 kg (2,205 lb)	70 (2.76)	34 (1.34)
2,000 kg (4,409 lb)	75 (2.95)	39 (1.54)

Note: All dimensions are in millimeters, with inch equivalents in parentheses, unless otherwise specified. Thread specifications (M12 × 1.75 and M5) are metric.

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■ ORDERING INFORMATION

Complete model number example: SX-FFANB-0.1t242I0

Measurement Range	
0.05t	0.05 t (110 lb)
0.1t	0.1 t (220 lb)
0.2t	0.2 t (441 lb)
0.5t	0.5 t (1,102 lb)
1t	1 t (2,205 lb)
2t	2 t (4,409 lb)
Power Supply	
05	5 V DC
10	10 V DC
12	12 V DC
24	24 V DC
Working Mode	
1	Tension only
2	Compression only
3	Tension and compression — tension positive, compression negative
4	Tension and compression — compression positive, tension negative
Output	
I	4–20 mA
V1	0–5 V
V2	0–10 V
V3	0–±5 V
V4	0–±10 V
RS	RS-485
L	1.5 mV/V ±10%
Electrical Connection	
0	Cable outlet
Customization Options	
D	Custom configuration — specify requirements when ordering

Example: SX-FFANB-0.1t242I0D — SX-FFANB Series, 0.1 t rated capacity, 24 V DC supply, compression-only measurement, 4–20 mA output, integral cable, and custom configuration.

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