

SENSPOT WIRELESS STRAIN GAUGE

SenSpot is designed to operate maintenance-free for more than a decade. After installation, SenSpot does not need calibration, battery replacement or any other maintenance during its service life. Due to the small size and the light weight, large number of adhesive mount wireless SenSpot sensors can be installed on a structure in a short time.

Full Bridge Foil Strain Gauge (Default)

Consists of four 350-ohm gauges in a full-bridge configuration.

Ideal for mounting on smooth surfaces like steel.

By default, every SenSpot device comes equipped with this strain gauge.

Rosette Foil Strain Gauge

Built with three 350-ohm gauges arranged at 0°/45°/90° angles in a quarter-bridge configuration.

Supplied with Type-R SenSpot models.

Load Cell

Includes four 350-ohm gauges in a full-bridge configuration.

Designed for accurate weight and force-strain measurements.

Bolted Strain Gauge

Consists of four 350-ohm gauges in a full-bridge configuration.

Designed for mounting on concrete or wood surfaces.

Can be removed and reused for future applications after measurements.

Embedded (Concrete) Strain Gauge

Built with four 350-ohm gauges in a full-bridge configuration.

Embedded into concrete during casting to measure internal strain and stress within the structure.



SENSPOW WIRELESS STRAIN GAUGE

SPECIFICATION

- **Long battery lifetime:** lasts several years.
- **Small size and lightweight**
- **High accuracy:** delivers 1 micro-strain typical resolution.
- **Wireless communication:** no wiring required.

Easy Mounting

- **Self-adhesive:** no drilling needed (for metallic or smooth surfaces).
- **Flange-mount:** drilling required (for concrete or wood).

Quick Installation

5-6 minutes

High Compatibility

Compatible with third-party strain transducers with resistance ranging from **120-ohm to 1000-ohm**.

Supports multiple configurations:

- Full-bridge
- Half-bridge

- Quarter-bridge
- Rosette (three quarter-bridge gauges)

By default, it is equipped with a **350-ohm full-bridge foil strain gauge** for smooth surfaces (e.g., steel).

Complementary Sensing

Measures and transmits **ambient temperature** along with strain data.

Different Gauges Available

Can be configured with various strain gauges for different applications and surface types.

(Refer to Table 1 for details.)

Dimensions:

- **Wireless transmitter:** 50mm (1.96") × 50mm (1.96") × 34mm (1.34")
- **Strain gauge sensor:** 76.2mm (3") × 33.4mm (1.3") × 10mm (0.4")

Weight:

- Total: **147 g (5.19 oz.)**
- Wireless transmitter: **120 g (4.23 oz.)**
- Strain transducer: **27 g (0.95 oz.)**

Operating Temperature:

-40°C to +65°C (-40°F to +150°F)

Adjustable Transmission Interval:

From **12 sec to 360 sec**

Ingress Protection:

IP66, weatherproof—protected against rain, snow, and UV exposure.

Power Source:

Standard **non-rechargeable CR123** battery

Adjustable Sampling Interval:

From **50 ms (20 samples/sec)** to **15 sec**

Burst Mode: High-Rate Data Transmission (Only for Type C)

- Ideal for capturing sudden strain changes caused by live loads
(e.g., heavy trucks on a bridge, wind gusts, loading cycles).

- Adjustable sampling rate for burst-mode event detection and high-rate data:
10 to 100 samples per second.
- Adjustable triggering threshold:
8 micro-strain to 512 micro-strain for burst-mode event detection.

Communication Range

300m (980 ft) for reliable wireless communication.

Different Types

Type D

- Normal sampling interval: **100 ms (10 samples/sec)** to **15 seconds.**
- No event-detection capability.

Type C

- Normal sampling with event detection.
- Upon detecting sudden strain change, starts **high-rate measurement (up to 100 samples/sec).**

Type R

- Same as Type D but can measure **up to three different strain signals.**
- Ideal for Rosette gauges (see Table 1), where three gauges are oriented differently on one sensor.

FEATURES

- Structural Health Monitoring of Bridges, Buildings, Cranes, Platforms, Machines, aircraft, etc.)
- Fatigue Analysis, Bridge Load Rating, Fracture Critical Monitoring, Extreme Load Tests
- Roof Load Monitoring: monitoring the roof deflection due to snow