

## Typical Applications

- Bridge health monitoring
- General structural integrity monitoring (buildings, dams, tunnels, etc.)

## Benefits

- **Long lifetime** (minimum expected life without battery replacement 10 years)
- **Power source:** replaceable lithium-ion battery
- **Wireless communication** (IEEE 802.15.4)
- **Lightweight**, about 120 gr
- **Easy mounting**
  - Self-adhesive, no drilling is required (e.g. steel)
  - Flange-mount, drilling is required (e.g. concrete)
- **Quick installation**, 1-2 minutes
- **Adjustable sampling interval**
- **Resolution**, 0.01 degrees (0.1 degrees repeatability)
- **Working temperature:** -40 to +150°F (-40 to +65°C)
- **Long communication range:** 0.62mi (1.0Km) free space
- **Small size:** 1.96" x 1.96" x 1.34"
- **Ingress Protection:** IP65

## Description

SenSpot™ provides an easy to install, scalable solution for distributed structural integrity monitoring. SenSpot™ inclination/tilt uses Resensys's proprietary Active RF Technology. Resensys ART technology offers a high performance method for



SenSpot™ Inclination/Tilt

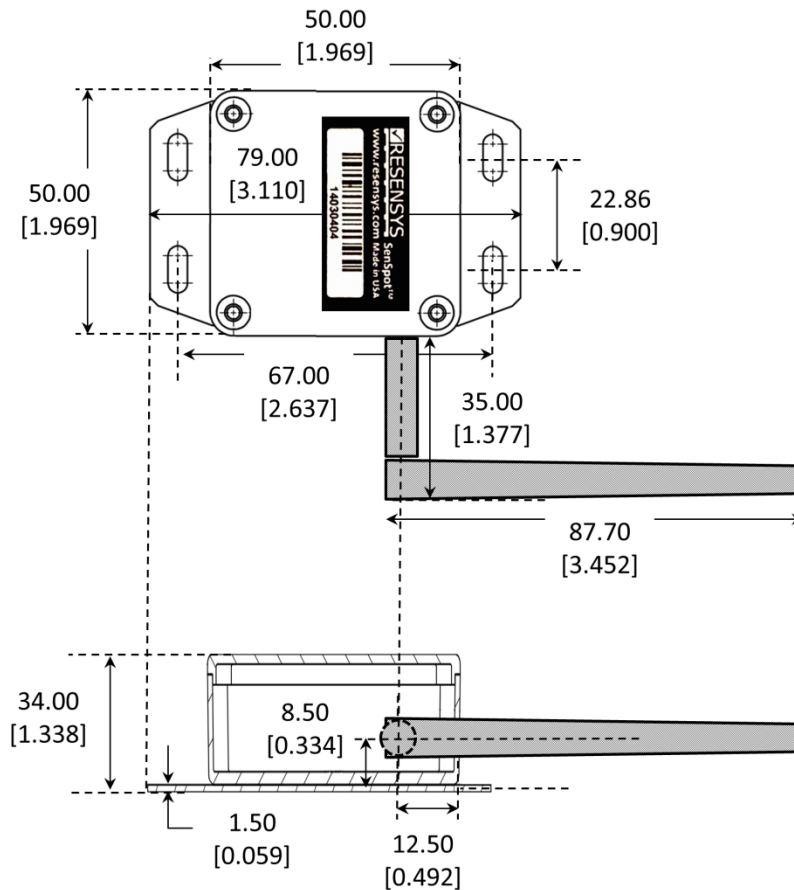
large-scale sensing, wireless synchronization, and ultra-energy efficient wireless communication.

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 for at least 10 years. Due to small size and lightweight, adhesive-mount SenSpot™ sensors can be applied easily to as many critical spots on a structure as needed, with minimal installation effort.

As a part of the Resensys solution for integrity monitoring system, SenSpot™ inclination/tilt can be used to monitor smallest movements of structural components such as piers, decks, bearings on a highway bridge. In addition, SenSpot™ inclination/tilt monitors changes in these parameters as the structure expands or contracts as a result of temperature variations. In addition to bridges, SenSpot™ inclination/tilt can be used in a variety of other structures. Examples include buildings, dams, etc.

## Tilt SenSpot

Tilt SenSpot comes in either self-adhesive or flange-mount form factors. The attachment of flange-mount SenSpot is done using four bolts. This option is mostly used for installation on concrete structure. The picture below shows a diagram for such a unit.



All dimensions are in mm (inch).

In order to install the SenSpot on metal surfaces, a piece plexi sheet is used as an intermediate. The SenSpot is screwed to the plexi sheet which provides a smooth surface for metal attachment using a double sided adhesive.

# Inclination/Tilt SenSpot Direction Diagram

