

Typical Applications

- Structural Health Monitoring (Airlanes, Bridges, Buildings, Cranes, Platforms, Machines, etc.)
- Tunnel Monitoring
- Dam Safety
- Pipe Monitoring

Benefits

- **Long battery lifetime** (10 years, typical)
- **Small size and light weight**
- **Wireless communication:** no wiring needed
- **Adjustable sampling interval:** The regular sampling interval can be adjusted remotely by user from 100 milliseconds (10 samples/second , Hz) to 15 seconds (0.067 samples/second , Hz)
- **Adjustable transmission interval:** Can be adjusted remotely by user from 18 seconds to 6 minutes
- **Easy mounting:**
 - Self-adhesive, no drilling is required (on metallic/smooth surfaces)
 - Flange-mount (on concrete, wood)
- **Quick installation:** 5-6 minutes
- **High compatibility:** integrates with different thirds party rope and leaf sensors
- **Complementary sensing:** the ambient temperature is also measured for reference
- **Adjustable sensing length:** can easily be integrated to various ropes with different sensing lengths from 3ft/0.91m to 100ft/30.48m



Specifics

- **Dimensions:**
 - Wireless transmitter: 50mm (1.96") x 50mm (1.96") x 34mm (1.34")
 - Sensing element (rope): 6.35mm (0.25") x 13.03mm (0.51") x 0.91m (3') to 30.48m (100')
- **Weight:**
 - Wireless transmitter: 120 g (4.23 oz.)
 - Sensing element: 29.7g/m (0.02lb/ft)
- **Operating temperature:** -40°C to +65°C (-40 °F to +150°F)
- **Sensing element operating environment:**
 - Temperature: 32° to 185°F (0° to 75°C)
 - Humidity: 5% to 95% RH, non-condensing
 - Altitude: 15000ft (4572m) max

- **Long communication range:** 1.0km free space
- **Different rope sensor lengths:** 3ft/0.91m, 10ft/3.04m, 17ft/5.18m, 25ft/7.62m, 50ft/15.24m, 100ft/30.48m
- **Sensing element specifications:**
 - Continuity and signal wires: 2×18 AWG
 - Sensing wires: 2×27 AWG
 - Sheer strength: 160lb (72.6kg)
 - Cut through resistance: >50lb with 0.005 in blade
 - Abrasion resistance: >65 cycles per UL719
 - Chemical resistance: In accordance with ASTM D543, cable functions normally after seven days exposure to the followings:
 - Tap water
 - Fresh deionized water
 - Sulfuric acid (98%)
 - Hydrochloric acid (37%)
 - Sodium hydroxide (10%)
 - Aqua regia
 - Ethylene glycol (60% in DI water)
 - Certifications: CE, RoHS Compliant

Description

SenSpot™ provides an easy-to-install and scalable instrument for distributed testing and monitoring. SenSpot™ uses Resensys's proprietary sensing, scheduling and ultra-low power synchronization technology. 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 entire service life. Due to the small size and the light weight, large number of adhesive mount

wireless SenSpot™ sensors can be installed on any kind of structure in a short time.

Leak detector (wetness sensor) SenSpot™ comes with a range of transducers from third party manufacturers such as SC-C series from RLC or SmartZone series from Panduit Corp.

The sampling interval can be remotely adjusted by user. The highest sampling rate is 100 milliseconds (10 samples/second, Hz) and the lowest sampling rate is every 15 seconds (0.067 samples/second, Hz).

Moreover, Senimax™ gateway transmission interval can be remotely adjusted by user. The highest sampling rate is 18 seconds and the lowest sampling rate is every 6 minutes.

The systems will self-report in the unlikely event that a data-discontinuity occurs.

By default, Resensys wireless leak SenSpot™ come with SC-C series of leak sensors from RLE technologies which is a pretty well-known manufacturer.

These are rugged leak sensors that are designed to work reliably in extreme and harsh conditions. They are resistant to chemical corrosion. Also, they are capable of detecting any kind of liquid (water, Acid, etc.). The sensing element (rope) can be reused for other locations and projects after exposure to extreme chemicals. For more information about the sensing element, rope (leak detector) please visit:

https://assets.kele.com/product-assets/rle-technologies/skus/sc-c-10/related/datasheet_3044_sc-c-10.pdf

Wireless Transmitter Dimensions

The wireless transmitter is universal and it reads the analog measurement from the sensing element and transmits the digitized data wirelessly to SeniMax™ Gateway or to USB-Sink receiver. These SenSpot™ sensors can be attached with the adhesive on the enclosure (e.g., on metallic surfaces) or it can be bolted (on concrete) as well.

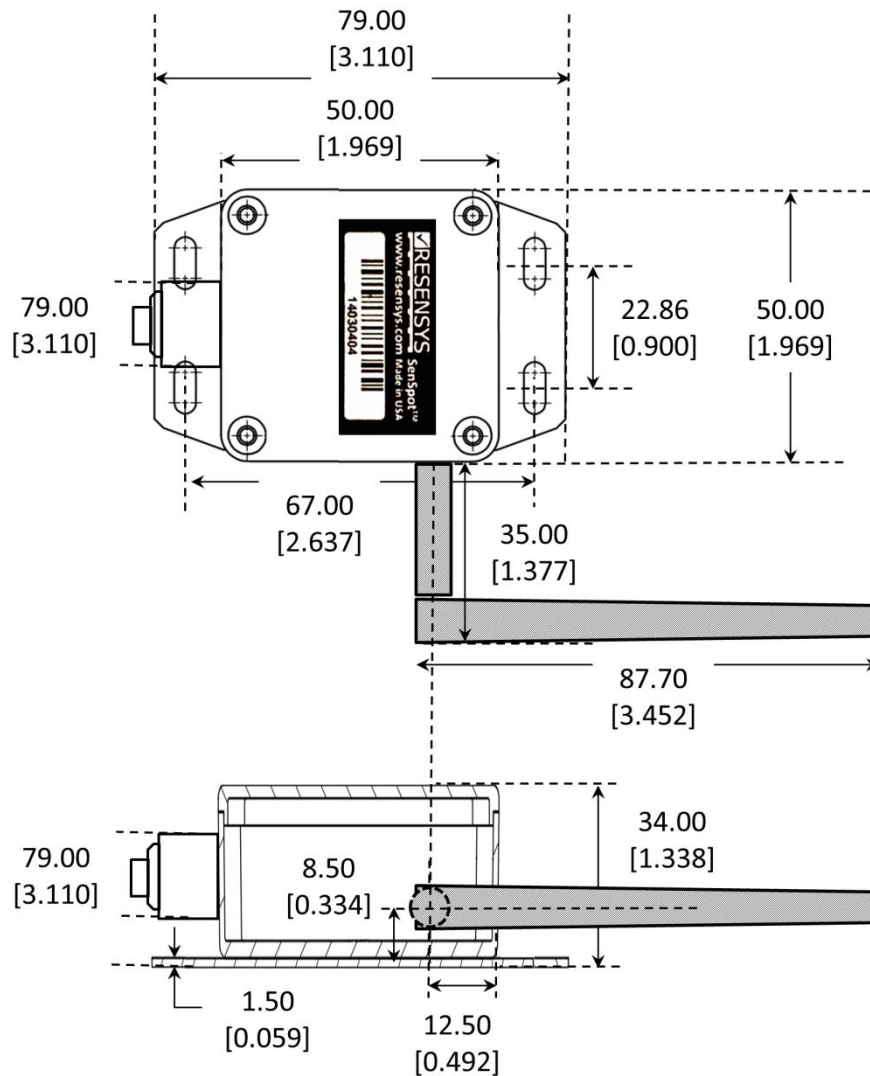
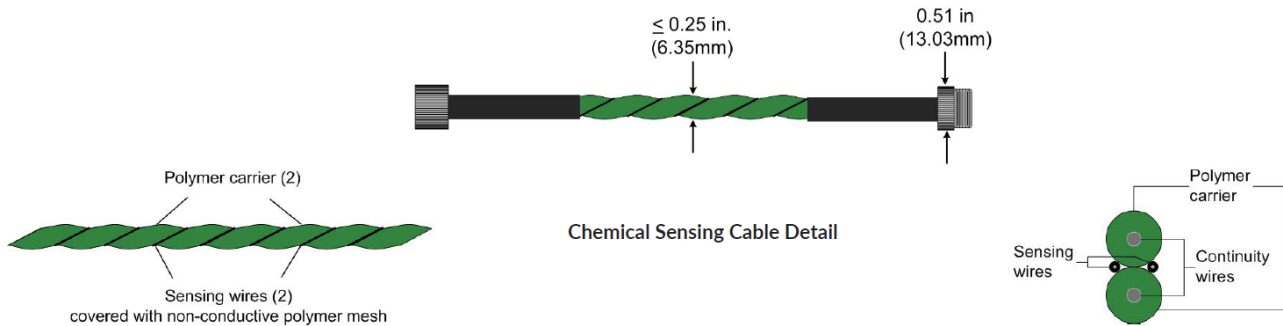


Figure 1: Wireless transmitter dimensions for leak detector SenSpot™. All dimensions are in mm [inch].

Leak Detector Sensing Element (Rope/Cable) Dimensions

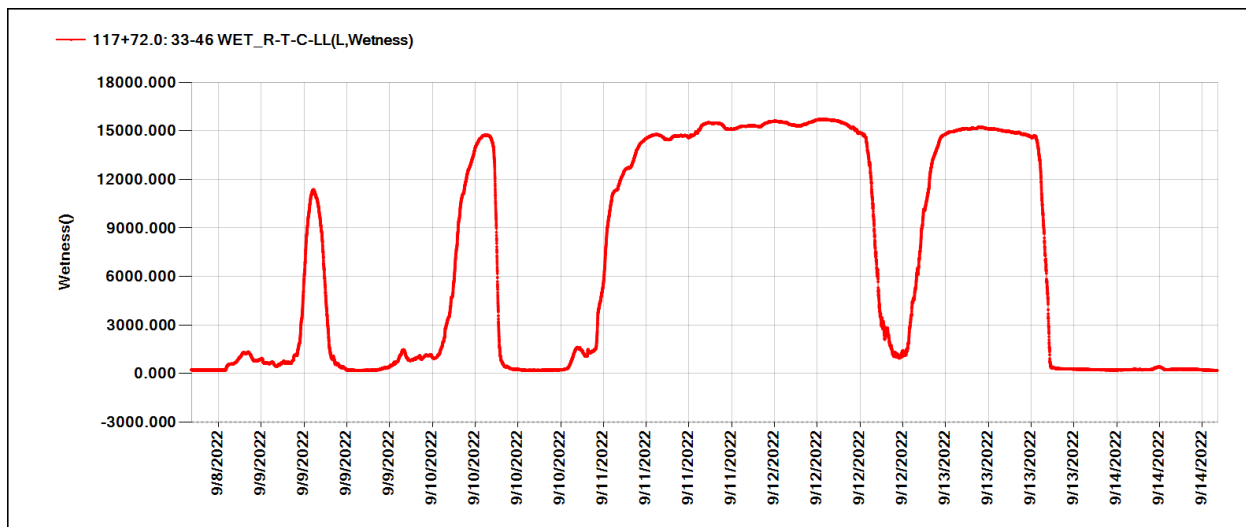
Conductive fluid contact at any point along the length of the rope triggers a detection measurement and alarm. The leak detector sensing element produces the detection measurement analog signal through its cable/rope after it gets the excitation signal from the wireless transmitter part (SenSpot™).



The length of the sensing element (rope/cable) is customizable from 3ft/0.91m to 100ft/30.48m.

Figure 2: Leak detector SenSpot™ sensing element (rope/cable) dimensions.

The data shown in SenScope™



Measurements of zero (0) mean the completely dry surface/area. Small readings indicate that there is humidity in the area/surface. Larger readings mean the higher percent of humidity in the area/surface.

Figure 3: Wetness measurements for a wireless leak detector (wetness sensor) SenSpot™, rope type