RESENSYS

SenSpot™ Wireless Weather Station
Ultra-Low Power Precision Sensing & Wireless Communication

Typical Applications

- Weather awareness
- Aviation industry
- Agronomy
- Hydrometeorology
- Military meteorology
- Maritime meteorology
- Extend wireless communication range by relaying data between SenSpot™ and SeniMax™ when the RF link is weak (as repeater)
- Gateway (Type cellular) for collecting data from other Resensys wireless SenSpot™s and send them to remote server.

Benefits

- **Long lifetime**
- **Wireless transmission:** No wiring is required for data collection
- **Lightweight**
  - o Wireless transceiver (Type Lite): 400g (0.88 lb.)
  - o Wireless transceiver (Type Cellular): 500g (1.10 lb.)
  - o Weather station transmitter: 0.7kg (1.5lb)
  - o Solar panel with mount and 3m (10ft) cable: 300g (0.66lb)
- **Easy mounting:** Flange mount or adhesive tape

- **Ingress Protection:** IP68, weatherproof and protected against rain, snow, and UV exposure

- **Maintenance free:** No battery replacement, calibration or post-installation maintenance is required

- **Two types:**
  - **Lite:** smaller. Need a gateway to connect to remote server.
  - **Cellular:** has a built-in modem. Does not need a gateway to connect to remote server.

Specifications

- **Wind Speed:**
  - Range: 0–70 m/s (156mph)
  - Resolution: 0.01 m/s
  - Accuracy: ±2% or 0.3 m/s (0–30m/s), ±3% (30 – 70 m/s)

- **Wind Direction:**
  - Azimuth Range: 0-360°
  - Resolution: 0.1°
  - Accuracy: ±2°

- **Temperature:**
  - Range: -40 to +60°C
  - Resolution: 0.1°C
  - Accuracy: ±0.3°C (-20 to +50°C), ±0.7° (other)

- **Relative Humidity:**
  - Range: 0–100%
  - Resolution: 0.1%
  - Accuracy: ±2% (5-95%)

- **Atmospheric Pressure:**
  - Range: 500–1100 hPa
  - Resolution: 0.1 hPa
  - Accuracy: ±0.3 hPa (0 to +60°C), ±1.0 hPa (-40 to 0°C)

- **Working temperature:** -40°C to +65°C (-40°F to +150°F)

- **Wireless communication range:** 300m (980ft) for reliable communication.

- **Customizable cable length:** 0.3m (1ft) to 4m (12ft)

- **Transceiver Box Dimension:** 140mm (5.50") x 105mm (4.12") x 62mm (2.44")
  - Wireless transceiver box (Type Lite): 140mm (5.50") x 105mm (4.12") x 62mm (2.44")
  - Wireless transceiver box (Type Cellular): 155mm(6.125") × 117mm(4.625") × 62mm (2.44")
  - Weather station transducer : 30 cm high x 13 cm wide

Description

SenSpot™ wireless weather station provides an easy way to install a scalable solution for measuring key meteorological variables including wind speed and direction, atmospheric pressure, temperature, humidity. It comes with high-capacity lithium-ion battery and solar panel and its mount. As a result, it does not require battery replacement and once installed, it is almost maintenance free.

There are two different wireless Weather station SenSpot™ types. Lite type is smaller and cheaper but need a gateway for sending the data to remote server while the cellular type has a built-in cellular modem that allow it to connect and send data to remote server without a gateway. The cellular type can function as a gateway at the same time to collect and send data of other Resensys Wireless SenSpot™ s eliminating need for a separate gateway.

It can also serve as SenSpot™ repeater at the same time to extend the wireless communication range between SenSpot™ and SeniMax™.

Installation

Wireless transceiver box comes with mounting flanges. It can be installed either with screws and anchors through the flange holes or with VHB adhesive tape (for steel and smooth surfaces).

Figure 1: Wireless transceiver dimensions (Type Lite). All dimensions are in inch.

Figure 2: Wireless transceiver dimensions (Type Cellular). All dimensions are in inch.

Figure 3: An installed wireless weather station SenSpot at the top of a utility tower
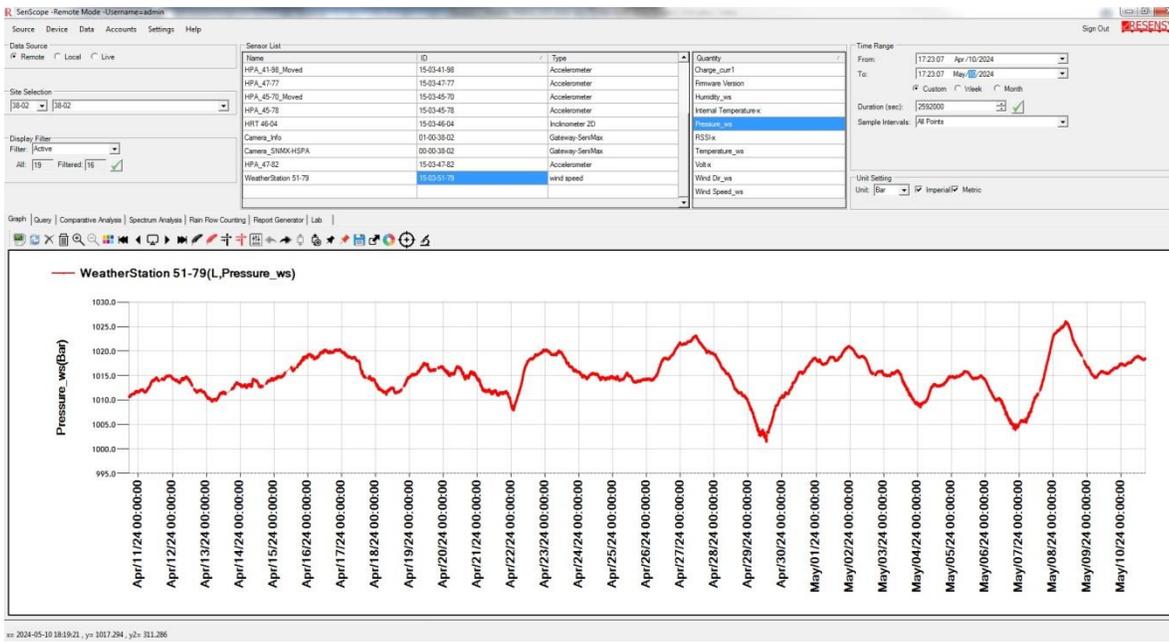
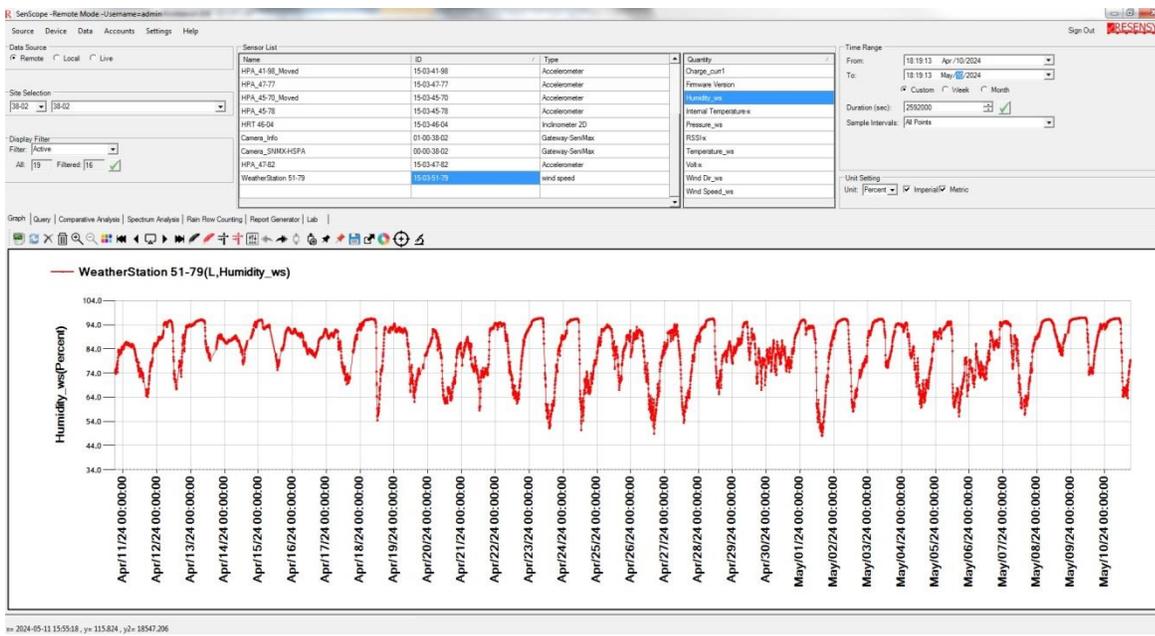**Figure 4: Air barometric pressure readings of an installed Resensys weather station SenSpot^{TM}**

Figure 5: Relative humidity readings of an installed Resensys weather station SenSpot^{TM}

Ordering Information:

Type	Part Number
Cellular (with built-in modem)	SP-WS-CEL
Lite (smaller, no built-in modem)	SP-WS-LIT