

## SentinelCorr™ ICE System



The SentinelCorr™ ICE system can be used to monitor the condition of coatings, temperature, relative humidity, time of wetness, and environmental corrosiveness or corrosivity. Each SentinelCorr™ ICE system is capable of monitoring up to 2 coating sensors, 3 environmental corrosiveness sensors, 3 time of wetness sensors, and 1 temperature/relative humidity sensor. The coating sensors can also be used to monitor for inhibitor effectiveness and can be correlated to environmental conductivity/resistivity. Environmental corrosiveness (corrosivity) can often be correlated with corrosion rate in many cases.

The ICE transmitter is powered using a replaceable 3.6V Li-ion battery. A plug-in power option is also available. All data collected can be stored using on-board memory for eventual download using a micro-USB or WiFi. Using the WiFi solution, a dedicated network for the sensors can easily be set up (including the use of a cellular modem to ensure total isolation from existing company networks) or the transmitters can be programmed to send data using your existing network.



## Specifications

### Measurement and Operating Specifications

- Simultaneously Monitor Up to:
  - 2 Coating Degradation Sensors
    - AC impedance at 1 kHz is measured between two wires mounted on a surveillance coupon; can also be used to monitor inhibitor performance
  - 3 Corrosivity Sensors
    - Measures changes in DC resistance between a copper and steel galvanic couple; can be correlated with corrosion rate in some cases
  - 3 Wetness Sensors
    - Measures changes in DC resistance between a set of interdigitated copper elements; when dry, the resistance is infinite whereas when water contacts the sensor, the resistance drops
  - 1 Temperature/Relative Humidity Sensor
    - Temperature Measurement Resolution: 0.2 °F (0.1 °C)
- Sampling Frequency: As rapid as 1 measurement of all sensors in 15 seconds
- Data Memory Capacity: Approximately 10,000 data points
- Battery Life: Up to 5 years depending on use

### Electronics Details

- Enclosure:
- NEMA IP65 rated enclosures
  - Pelican™ enclosure options also available (Pelican™ is a registered trademark of Pelican Products [www.pelican.com](http://www.pelican.com))
  - Complete polymer encapsulation of the electronics is an available option
  - Enclosures can easily be panel or stake mounted
- Size: 3.9" x 3.9" x 3" (98mm x 98mm x 76mm)
- Weight with electronics and battery: 10.6 oz (300 g)
- 3.6V Li battery powered or wall power
- Data transfer via WiFi or micro usb

### Probe Details

- Sensors can be mounted on individual probes
- Probes with multiple sensors are possible
- Mounting on test panels and actual structural panels and systems is possible