



# GoSense $\rho$ -Stat ID™ Mobile NFC Resistivity Node

PRELIMINARY

## FEATURES

- Mobile NFC-enabled Resistivity Node
- Ultra Low-Power Data Logger
- Contactless Data Transfer to Mobile Device
- Communicates by NFC to Smartphone
- ISO 15693 Compatible RFID Air Interface
- Integral Temperature Sensor
- Four-Point Probe Input
- True Differential Voltage Inputs with Constant Current Drive
- Semi-Active Operation with Coin Cell
- Long Battery Lifetime
- Wide Operating Temperature Range
- Micro-Power CMOS Instrumentation Amplifier with Zero-Drift
- Programmable Sampling/Wakeup Period
- 10-bit ADC and 8kB EEPROM Memory

## TYPICAL APPLICATIONS

- Resistivity Measurement
- Resistive Bridge Sensors
- Four Point Probes
- Aggregate Materials Monitoring
  - Soil, Sand, Concrete Resistivity
- Structural Monitoring
- Embedded/Down Hole Resistivity Sensor
- Mobile and Wearable Sensor Applications
- Soil Moisture Monitoring
- Precision Agriculture
- Environmental Monitoring
- Field Based Measurements
- Autonomous Data Logging
- Internet of Things (IoT) Applications

## DESCRIPTION

The GoSense  $\rho$ -StatID™ is a wireless sensor node and autonomous data logger for use with an external 4-point probe for resistivity measurements.

The  $\rho$ -StatID™ communicates data wirelessly with RFID readers and NFC-v enabled mobile devices such as Smartphones and tablets.

The precision instrumentation in the GoSense  $\rho$ -StatID™ provides all necessary conditioning for the four-point probe, including constant current drive. Multiple GoSense  $\rho$ -StatID™ probes may be interrogated simultaneously for profiling studies.

The GoSense  $\rho$ -StatID™ provides a complete instrument, data logger and seamless mobile interface that enables the simple connection of resistivity sensors to the web.

The GoSense  $\rho$ -StatID™ has a read range of up to 2.5 cm with NFC-v Smartphones or up to 1.5 m with ISO15693 RFID card readers.

## SPECIFICATION SUMMARY

Measurement range: 1 – 100 k $\Omega$ cm typ.

Data Logger:  
real-time clock (RTC)  
64 kbit non-volatile memory (750 samples)  
programmable out-of-limits function

Operating temperature: - 20 to + 60 °C

Temperature sensor resolution:  $\pm$  0.5 °C

Current source: 10  $\mu$ A typ. (factory set)

Input sensitivity: 10  $\mu$ V/ $\Omega$  typ.

Input impedance: 10 M $\Omega$  || 3 pF typ.

Air interface: ISO15693 compliant and NFCv compatible, 26kbps data rate

Power Supply  
Internal 3 V lithium coin cell (CR1216 or CR2032)

Size: 80 mm x 50 mm x 10 mm

Weight: e10 g

Rev. 2. September 2015