

Soil-SENSE

Biofiltration (bioswale) monitoring system

Component Images



Wireless (cellular) Data Transmission

- Cat-M1 cellular (2G, 3G, 4G LTE compatible)

Power

Computer & Power Supply:

- Voltage – 12 VDC
- Battery Pack with Solar-Panel Recharge
- Stand-Alone Pole Computer Support Option
- Existing Pole Computer Support Option

Soil Sensor(s):

- Voltage Range – 0 to 12 VDC

Exposure Allowance & Compliance

- FCC and RoHS
- Computer & Battery Enclosure – IP67
- Integral Cellular Antenna in IP67 Enclosure
- Sensor Direct-Bury Connection Cable (IP 68 / NEMA 6P)
- Operating Temperatures:
 - Fahrenheit: -30 to 120 deg F
 - Celsius: -34 to 49 deg C

Specifications & Mounting

- Soil (or media) Measurements:
 - Volumetric Moisture Content (VMC)
 - Electrical Conductivity (EC)
 - Soil Temperature
- Data Sample Frequency: 10-min (std)
- Accuracy:
 - 3.0% (VMC)
 - 1 L Volume of Influence
 - 1 mS/CM (bulk EC)
- Power to Sensor Supplied by Soil-SENSE Computer
- Sensor Connection Cable Suitable for Direct Burial
- Gradient Measurements over Height Possible with Multiple Soil Sensors

Features



Nationwide Cellular Connectivity (Wi-Fi Option)



Soil (Filter Media) Measurements:

- Volumetric Moisture Content
- Electrical Conductivity
- Soil (Media) Temperature
- Gradient Over Height



Browser-based dashboard (viewing and data download). Advanced notice of potential problems. Data-driven maintenance notification.



Water-level monitoring system to complement other P4 sensor systems (synchronized data)

Maintenance (low to zero)

- Modular Plug-and-Play (sensors, computer, battery, solar panel)
- Remote Health Assessment of Battery via Dashboard
- Visual Inspection of Solar Panel (bi-annual)