



WLRC-S34



Wireless Soil Moisture/Temperature/Electrical Conductivity Sensor

Sensor for monitoring soil moisture levels and soil temperature values in precision farming and environmental monitoring applications. It provides the data required for cost-efficient irrigation, crop yield optimization and protection of natural resources. Designed to work in any type of soil. It has low current consumption and an 5TE interface. It is ideally suited for solar-powered remote applications.

Features:

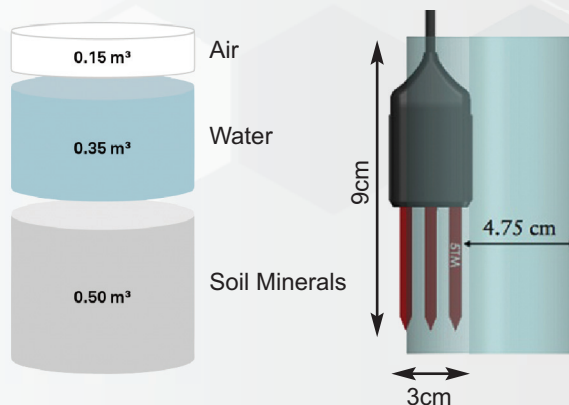
- Super Long Range Signal Penetration
- 5 years plus Battery Life*
- Easy Installation
- Frequency Hopping Spread Spectrum (FHSS)
- Improved interference immunity
- Encrypt-RF™ Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- Over-the-air updates
- Interactive WatchNET IoT platform with dashboard, search and notification settings
- * Magnetized ABS enclosure for easy installation

Applications:

- Indoor / Outdoor precision farming
- High yield Green Houses
- Environmental monitoring

Schematic Diagram:

- Soil moisture content detection
- Soil temperature detection
- Soil electrical conductivity



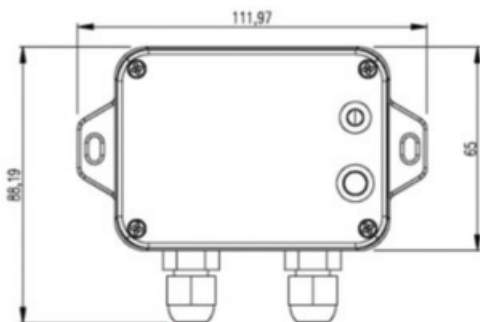
Technical Specifications

Electrical	
Power Supply	2 sections of ER14505 battery AA SIZE (3.6V / section) parallel power supply*
Operating Current	Battery life is about 3.4 years (Condition: ambient temperature 25°C/77°F, reports once every 15 mins, txpower = 20 dBm, LoRa spread factor SF = 10)
Sleeping Current	36uA
Wake up Current	6.3mA@3.3V
TX Current	120mA @3.3V
RX Current	11mA @3.3V
Battery Measurement Accuracy	±1%
<i>*The actual electrical characteristics will vary depending on the power supply voltage.</i>	
Frequency	
Frequency Range	863MHz-928MHz 470MHz-510MHz
Rx Sensitivity	-136dBm (LoRa, Spreading Factor=12, Bit Rate=293bps) -121dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
TX Power	19dBm±1dBm
Wireless Soil Moisture Sensor	
Antenna Type	Built-in antenna
Communication Range	Up to 5km/3.11miles, the actual transmission distance depends on the environment*
Data Transfer Rate	0.3kbps~50kbps
Spread Technique	LoRa/FSK
Available Frequency	EU863-870, US902-928. Configured before shipment
STE Sensor	
Rated power Supply	3.6VDC-15VDC
Soil Temperature Measurement Accuracy	± -1°C @25°C / ± 30.2°F @77°F
Soil Moisture Content Resolution	0.08% VWC within 0-50% vwc range
Soil Moisture Content Accuracy	± 3% VWC (typical)
Physical	
Dimension	L:112mm x W:88.19mm x H:32mm / L:4.41" x W:3.47" x H:1.26"
Weight	160g / 0.35lb
Protection Class	Main Part IP65
Environment Temperature Range	-20°C ~ 55°C / -4°F ~ 131°F
Environment Humidity Range	<90%RH
Storage Temperature	-40°C ~ 85°C / -40°F ~ 185°F

* Actual signal range may vary depending on the environment.

* Battery life is determined by sensor reporting frequency and other variables.

Dimensions



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