

Scimetic SM3 Sensor

Product Sheet: Wireless Soil Moisture Sensor

Introduction

The Wireless Soil Moisture Sensor is a cutting-edge device designed to accurately measure soil moisture, soil temperature, and electrical conductivity (EC) of the soil. This innovative sensor provides valuable data that can greatly assist with irrigation and nutrient planning in various agricultural applications.



Key Features

- **Accurate measurement of soil moisture levels:** The sensor utilizes advanced technology to provide precise readings of soil moisture content, allowing farmers to optimize their irrigation practices.

- **Real-time monitoring of soil temperature:** By continuously monitoring soil temperature, the sensor helps farmers make informed decisions regarding crop growth and development.
- **Electrical conductivity measurement:** The sensor also measures the EC of the soil, providing insights into the nutrient content and salinity levels, enabling farmers to adjust their fertilization strategies accordingly.
- **Wireless connectivity:** With wireless capabilities, the sensor seamlessly transmits data to a central hub or mobile device, ensuring convenient access to real-time information.

Benefits

- **Improved irrigation efficiency:** By accurately measuring soil moisture, farmers can avoid overwatering or underwatering their crops, leading to optimal water usage and increased water conservation.
- **Enhanced crop health and yield:** Real-time monitoring of soil temperature allows farmers to identify potential issues such as frost damage or heat stress, enabling timely interventions to protect crop health and maximize yield.
- **Precise nutrient management:** The EC measurement helps farmers understand the nutrient availability and salinity levels in the soil, enabling them to tailor their fertilization plans for optimal plant nutrition.
- **Time and labor savings:** The wireless connectivity eliminates the need for manual data collection, saving farmers valuable time and effort.

Technical Specifications

- **Dimensions:** 16CM (Long) x 5cm (High) x 6cm (Wide)
- **Weight:** 373g
- **Measurement range:**
 - Soil moisture: 0-100% volumetric water content
 - Soil temperature: -40°C to 85°C (-40°F to 185°F)
 - Electrical conductivity: 0-10000us/cm
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- **Accuracy:**
 - Soil moisture: $\pm 3\%$ volumetric water content
 - Soil temperature: $\pm 0.5^\circ\text{C}$ ($\pm 0.9^\circ\text{F}$)

- Electrical conductivity: ± 10 uS/cm
- **Wireless connectivity:** IEEE 802.11 b/g/n 2.4GHz; (Wi-Fi)
- **Housing:** Waterproof (IP6X)
- **Operating Temperature:** -10°C to 60°C
- **Power Supply:** 220V

Applications

- **Agriculture:** Suitable for a wide range of crops, including fruits, vegetables, grains, and ornamental plants.
- **Horticulture:** Ideal for greenhouse or nursery operations, ensuring optimal growing conditions for various plant species.
- **Landscaping:** Helps maintain healthy lawns, gardens, and turf by providing accurate soil moisture data.
- **Research:** Valuable tool for scientific studies and experiments related to soil and plant sciences.

Conclusion

The Wireless Soil Moisture Sensor is an indispensable device for modern farmers and agricultural professionals. With its accurate measurement capabilities and wireless connectivity, it empowers users to make informed decisions regarding irrigation, nutrient planning, and overall crop management. Invest in this state-of-the-art sensor to optimize your farming practices and achieve higher yields while conserving valuable resources.