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HOBO EC-5 Soil Moisture Smart Sensor

Product Images

Short Description

This affordably priced soil water content sensor provides ±3% accuracy in typical soil conditions, and ±2% accuracy with soil-specific calibration.

Description

This affordably priced soil water content sensor offers a two-tine design for easy installation. In addition, the EC-5 is a smart sensor, which allows users to launch monitoring systems quickly, easily, and affordably. Since HOBO data loggers recognise this sensor, no complicated programming or setup is required.

The EC-5 integrates with the field-proven ECH2O EC-5 Sensor and a 12-bit A/D. It provides ±3% accuracy in typical soil conditions, and ±2% accuracy with soil-specific calibration. Readings are provided directly in volumetric water content. This sensor is designed to maintain low sensitivity to salinity and textural

effects.

- Measures a 0.3 litrE volume of soil
- Sensor uses a high-frequency (70 MHz) circuit that provides good accuracy even in high-salinity and sandy soils.
- Compatible with HOBO standalone and web-based data loggers.

Also available in a wireless model for use with the HOBOnet Field Monitoring System.

Additional Information

	The country of origin for this product is the United States. To see the full specifications for this product, please see the Product Manual found under the Resources tab. **Measurement Range** **In soil:** 0 to 0.550(m³/m³) **Extended range:** -0.401 to 2.574 m³/m³ (full scale) The sensor is capable of providing readings outside the standard volumetric water content range. This is helpful in diagnosing sensor operation and installation. See User Manual for additional information. **Accuracy:** ±0.031 m³/m³ (±3.1%) typical 0 to 50°C (32° to 122°F); ±0.020 m³/m³ (±2%) with soil specific calibration. This is a system-level accuracy specification and is comprised of the ECH2O probe's accuracy of ±0.03 m³/m³ typical (±0.02 m³/m³ soil specific) plus the smart sensor adapter accuracy of ±0.001 m³/m³ at 25°C (77°F). There are additional temperature accuracy deviations of ±0.003 m³/m³ / °C maximum for the ECH2O probe across operating temperature environment, typical <0.001 m³/m³ / °C. (The temperature dependence of the smart sensor adapter is negligible.)
Explanation	**Resolution:** 0.0007 m³/m³ (0.07%) **Soil probe dimensions:** 89 x 15 x 1.5 mm (3.5 x 0.62 x 0.06 in.) **Weight:** 180 grams (6.3 oz) **Decagon ECH2O probe part No.:** EC-5 **Sensor operating temperature:** 0° to 50°C (32° to 122°F). While the sensor probe and cable can safely operate at below-freezing temperatures (to -40°C/F) and up to 75°C (167°F), the soil moisture data collected at these extreme temperatures is outside of the sensor's accurate measurement range. **Volume of influence:** 0.3 liter (10.1 oz) **Sensor frequency:** 70 MHz **Bits per sample:** 12 **Number of data channels:** 1 Note: A single smart sensor-compatible HOBO logger can accommodate 15 data channels and up to 100 m (328 ft) of smart sensor cable (the digital communications portion of the sensor cables) **Measurement averaging option:** No **Cable length available:** 5 m (16 ft) **Length of Smart Sensor network cable:** 0.5 m (1.6 ft) - The CE Marking identifies this product as complying with all relevant directives in the European Union (EU)

Ideal For	Professional, Agronomy
Brand	Onset HOBO
Housing	Cable
Typical applications	Environmental (Outdoor), Field Research
Measurements	Soil Moisture
Compatible With	RX3000, RX2100, RX2100-WL, U30, H21, H22