



METER

ECH₂O EC-5 SOIL MOISTURE SENSOR



Engineered for accuracy

EC-5 determines volumetric water content (VWC) by measuring the dielectric constant of the media using capacitance/frequency domain technology. Its 70 MHz frequency minimizes salinity and textural effects, making this sensor accurate in almost any soil or soilless media. Factory calibrations are included for mineral soils, potting soils, rockwool, and perlite.

Easy installation

Just 5 cm long with a 0.24 L measurement volume, this handy little sensor is easy to install in the field and can also be used in nursery pots. The EC-5's compact design makes it easy to push directly into undisturbed soil to ensure good accuracy.

Easy integration

The EC-5's analog signal means no-hassle integration with systems manufactured by other companies.

Features

- Measures volumetric water content
- Affordable: ideal for large sensor networks
- Simple sensor with excellent accuracy
- Small volume of influence (eg., field spatial variability, lab column studies, or greenhouse research)
- 70 MHz frequency minimizes salinity and textural effects
- Factory calibrations included for mineral soils, potting soils, rockwool, and perlite
- Small size means easy installation
- 240 mL volume of influence
- Plug and play capability
- Easy integration with other systems
- Use with ZL6 data logger to collect data remotely



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Specifications

MEASUREMENT SPECIFICATIONS

Volumetric water content (VWC)	Range: 0-100% Resolution: 0.001 m ³ /m ³ VWC in mineral soils, 0.25% in growing media Accuracy: Generic calibration: ±0.03 m ³ /m ³ (±3.00% VWC) typical in mineral soils that have solution EC <8 dS/m Medium specific calibration: ± 0.02 m ³ /m ³ (± 2% VWC) in any porous medium
Measurement duration	Maximum: 10 ms

COMMUNICATION SPECIFICATIONS

Output	10%-50% of excitation voltage (250-1,250mV at 2,500mV excitation)
Data logger compatibility	METER data loggers (ZL6, EM50/60) or any data acquisition system capable of switched 2.5-3.6 VDC excitation and single-ended voltage measurement at greater than or equal to 12-bit resolution.

PHYSICAL SPECIFICATIONS

Dimensions	Length: 8.9 cm Width: 1.8 cm Height: 0.7 cm
Prong length	5 cm
Cable length	5 m (standard) 40 m (maximum custom cable length)
Connector types	3.5-mm stereo plug connector or stripped and tinned wires
Operating temperature range	-40°C to 60°C

ELECTRICAL AND TIMING CHARACTERISTICS

Supply voltage (VIN to GND)	2.5 to 3.6 VDC at 10 mA
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COMPLIANCE	Manufactured under ISO 9001:2015 EM ISO/IEC 17050:2010 (CE Mark) 2014/30/EU and 2011/65/EU EN61326-1:2013 and EN55022/CISPR 22
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