

# Cover more space

[metergroup.com/environment/products/ec-5-soil-moisture-sensor/](https://metergroup.com/environment/products/ec-5-soil-moisture-sensor/)



## Large network soil moisture sensing

### ECH<sub>2</sub>O EC-5

#### Low cost individual sensors for large sensor networks

The EC-5 delivers research-grade accuracy at a price that makes large sensor networks economically practical. You can adequately characterize your site with sensors at multiple depths and locations, even if you're on a tight budget.

#### Engineered for accuracy

The 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 ~0.2 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.

## Reasons to pick the EC-5

- Volumetric water content is the only measurement you need
- Affordable
- Simple sensor with excellent accuracy
- Small volume of influence (eg., field spatial variability, lab column studies, or greenhouse research)

[Get pricing](#)

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## 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
- Plug and play capability
- Easy integration with other systems
- Use with [EM60G](#) data logger to collect data remotely

## Specifications

Accuracy	Mineral soil: ±3% VWC, most mineral soils, up to 8 dS/m ±1-2% VWC with soil specific calibration Rockwool: ±3% VWC, 0.5 to 8 dS/m Potting Soil: ±3% VWC, 3 to 14 dS/m
Resolution	0.1% VWC (mineral soil) 0.25% VWC (rockwool)
Range	Calibration dependent; up to 0-100% VWC with polynomial equation
Dimensions	8.9 cm × 1.8 cm × 0.7 cm
Cable length	Sensors come standard with 5 m cable. Custom cable lengths available. Maximum cable length of 40 m. Please contact METER if you need longer cable lengths.
Measurement time	10 ms

Power	2.5 - 3.6 V DC @ 10 mA. Output proportional to input voltage. 2.5 V and 3 V excitations supported with calibration equations
Output	10 to 40% of excitation voltage. Voltage, correlated linearly (soil) or polynomially (growing media) with VWC
Temperature	-40 °C to +50 °C
Connector types	3.5 mm "stereo" plug or stripped and tinned lead wires (3)
Data logger compatibility (not exclusive)	METER <a href="#">Em5b</a> , <a href="#">Em50/50G</a> , <a href="#">EM60/60G</a> , <a href="#">ProCheck</a> , Campbell Scientific
Measurement volume	See <a href="#">comparison article</a>
Warranty	One year, parts and labor

## Accessories

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## Splice Kit

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Probe Adaptor Pigtail for CSI Data Loggers

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Pigtail-to-Stereo Adaptor

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EM60

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SOLAR-POWERED DATA LOGGING



EM60G

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CELLULAR DATA LOGGING



### 50 Foot Extension Cable

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### 10 Foot Extension Cable

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### Support

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Have a question or problem? Our support team can help.

We manufacture, test, calibrate, and repair every instrument in house. Our scientists and technicians use the instruments every day in our product testing lab. No matter what your question is, we have someone who can help you answer it.

Email: [support.environment@metergroup.com](mailto:support.environment@metergroup.com)

Phone US: +1 509-332-5600

Phone Europe: +49 89 12 66 52 0

## Downloads

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[ECH<sub>2</sub>O CSI – SCWin \(shortcut\) ZIP / 92.91 KB](#)

[Ech<sub>2</sub>O EC-5 manual PDF / 2.50 MB](#)



[ECH<sub>2</sub>O Sensor Quick Start PDF / 7.99 MB](#)

## Related Products

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### TEROS 21

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