



SOIL MOISTURE SENSORS EC-5, 10HS, 5TE, 5TM, and GS3

METER



SUPPORT

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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.

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SOIL MOISTURE SENSORS QUICK START

EC-5, 10HS, 5TE, 5TM, and GS3

Preparation

The ECH₂O EC-5, 10HS, 5TE, 5TM, and GS3 can all be installed using the same installation method. Inspect and verify sensor components. When using the sensors in lightning-prone areas, follow the directions for providing protection for the sensors found in the application note [Lightning surge and grounding practices](#) (metergroup.com/environment/articles/lightning-surge-grounding-practices/).

Testing Sensors

Take some measurements with the sensor using a data logger. Keep in mind that sensors will not necessarily read 100% VWC in water and 0% in air. The sensors are optimized to read soils, and the factory mineral calibration is done in real soils, not air and water. It is important to check the sensor functionality in air and water (see Functionality in air and water table). Values are given in % VWC using the factory mineral soils calibration. Sensor values vary less than 1% from one sensor to the next. For more information on performing soil-specific calibrations, please review the article entitled [Soil-specific calibrations for METER soil moisture sensors](#) (metergroup.com/environment/articles/how-calibrate-soil-moisture-sensors/).

What is soil moisture?

Soil moisture is a key variable in controlling the exchange of water and heat energy between the land surface and the atmosphere through evaporation and plant transpiration.

[Learn more at metergroup.com](http://metergroup.com)

Functionality in air and water

Model name	Water	Air
EC-5	50–60%	Slightly negative
10HS	50–60%	Slightly negative
5TE	–98%	Slightly negative
5TM	–98%	Slightly negative
GS3	–98%	Slightly negative

Values are given in % VWC using the factory mineral soils calibration. The container must be large enough to encompass the sensor's measurement volume.

Field Installation

Proper installation of the sensors is critical for proper operation. Refer to the user manuals at metergroup.com for details.

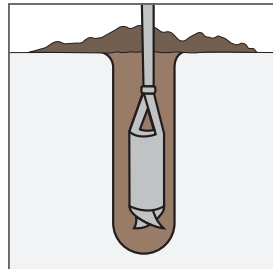
⚠ ATTENTION

The firmware associated with the soil moisture sensors 5TE, 5TM, and GS3 should be kept up-to-date for best results. Please go to metergroup.com/environment/downloads/ to get the most current software or firmware versions for each sensor.

Installation

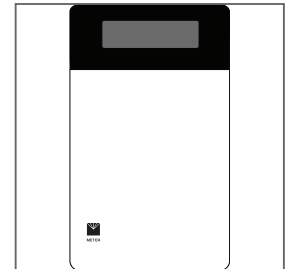
1. Backfill Hole and Protect Cables

Secure and protect cables with PVC casing or flexible conduit and backfill the trench or hole.



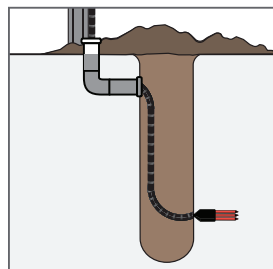
2. Check Sensor Operation

Use the data logger to make sure the sensor is reading properly.



3. Insert Sensor

Auger or trench a hole to the desired sensor depth. Insert the sensor into the undisturbed soil vertically or horizontally.



4. Plug Sensor In and Configure Logger

Plug the sensor into the data logger. Use data logger software to apply appropriate settings to the sensors plugged into each data logger port.

