

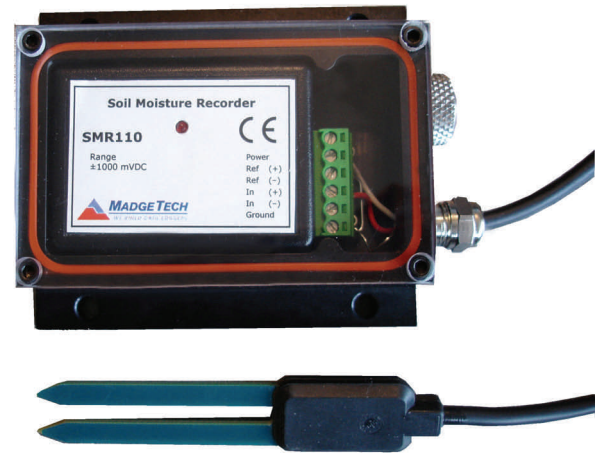
Features

- High accuracy sensor
- Fast response time
- Simple soil insertion (vertical or horizontal orientation)
- Programmable start time and date
- Miniature size
- User calibration through MadgeTech software
- Weatherproof enclosure
- Probe is powered from data recorder's battery. No external power required.

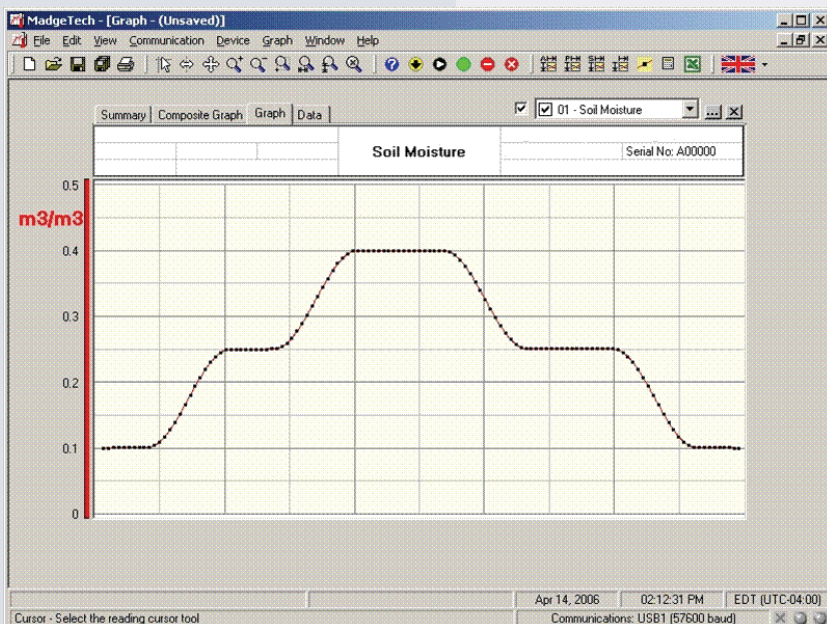
Applications

- Irrigation Management
- Potted plant and greenhouse monitoring
- Soil moisture trends
- Plant growth studies
- Peat Moss and organic soil studies

The SMR110 is a small, battery powered, soil moisture data recorder in a weatherproof enclosure. It provides accurate volumetric water content measurements over a complete range from dry to saturated. The SMR110 features a 10-year battery for long-term deployments and soil studies, over multiple seasons. With it's built-in memory, the data recorder can monitor and record over 32,767 soil moisture measurements. The EC-5, a high accuracy soil moisture probe (pictured above), has a response time of 10ms and can be placed in any type of soil. The EC-20* probe (below) is designed for use in medium-textured soils. For easy soil moisture analysis and trend information, MadgeTech software provides a time and date stamped graph. This data may be viewed, printed or exported to third-party programs (Excel, etc...) for more detailed analysis and irrigation management. Soil moisture data is essential in determining and scheduling irrigation for proper plant growth, care and research. This data is also useful in determining the health of the soil and plant root systems.



The *EC-20 Soil Moisture probe (pictured below) is also available for use with the SMR110



MadgeTech Data Recorder Software

displays water per soil content data in an easy to use graph.

The Windows®-based software package allows the user to effortlessly collect, display and analyze data. A variety of powerful tools allow you to examine, export, and print professional looking data with just a click of the mouse.

Click [MadgeTech Software](#) for more information or to download the software.

SOIL MOISTURE RECORDER SPECIFICATIONS

Data Recorder

Measurement Range: +/- 1200mV
Accuracy: +/-0.01% FSR

Input range: 0 to 2.5V DC
Memory Capacity: 32,767 readings
Data sampling rate: 1 reading every 2 seconds to 1 every 12 hours

Input Connection: Removable screw terminal plug
Operating Environment: -40 to +80°C (-40 to +176°F), 0-95% RH, non-condensing

Power Requirement: 3.6vDC (LTC-7PN, lithium battery, included), 10 years (recording @ 15 minute intervals, typical), user-replaceable

Dimensions: 0.8"x1.7"x2.7"(21mmx44mmx69mm)
Weight: 2 oz. (56 g)

Weatherproof Enclosure: Anodized aluminum case w/mounting flange. Communications port plug 3.5"x2.9"x1.1"(87mmx73mmx27mm) 7 oz. (198 g)

Soil Moisture Probes

Measurement Range: (EC-5) 0 to 100% VWC saturation
 (EC-20) 0 to 40% VWC saturation
Measurement Type: VWC (Volumetric Water Content)

Measurement Accuracy: (EC-5) +/- 3% typical, ALL soils
 (EC-20) +/- 4% typical on low EC and medium textured soils
 (Both models) +/-1% with soil specific calibration

Calibration: Digital calibration through software
Calibration Date: Automatically recorded within device

Life Expectancy (probes): 3-5 years

Measurement Time: 10ms
Measurement Resolution: 0.002m³/m³
Operating Environment: -40 to +60 degC (-40 to +140 degF), 0-100% RH (EC-5 and EC-20 models)

Power Requirement (probes): Powered from data recorder's internal battery. No external power required.

Dimensions (probes): (EC-5) 2.1"x0.6"x0.06" (55mm x 15mm x 1.5mm) Cable length) - 16' (5 m), (tinned, wire leads)
 (EC-20) 10"x1.25"x0.06" (255mmx32mm x1.5mm) Cable length) - 16' (5 m), (tinned, wire leads)

SOFTWARE FEATURES

Multiple Graphs: Simultaneously analyze data from several units or deployments; easily switch to a single data series

Real-Time Recording: Collect and display data in real-time while continuing to log

Data Table: Instantly access tabular view for detailed dates, times, values, and annotations

Scaling Options: Autoscale function fits data to the screen, or allows user to manually enter their own values

Printing: Automatically print graphical or tabular data

Statistics: Calculate averages, min, max and standard deviation

Export Data: Export data in a variety of common formats, or switch to Excel® with a single click

Calibration: Automatically calculate and store calibration parameters

Logger Configuration: Easy set up and launch of data loggers with immediate or delayed start, preferred sample rate, and device ID

Communications: Automatic or user-enabled communications port configuration (Baud rate, COM port selection)

ORDERING INFORMATION

| Model | Description | Price (U.S.) |
|-----------|--|--------------|
| SMR110-5 | Soil Moisture recorder w/EC-5 probe, weatherproof enclosure (Software NOT included) | \$299.00 |
| SMR110-20 | Soil moisture recorder w/EC-20 probe, weatherproof enclosure (Software NOT included) | \$299.00 |
| EC-5 | Soil moisture probe, ONLY | \$130.00 |
| EC-20 | Soil moisture probe, ONLY | \$130.00 |
| IFC110 | Software, manual and serial interface cable | \$99.00 |
| IFC200 | Software, manual and USB interface cable | \$119.00 |
| LTC-7PN | Replacement battery for data recorder | \$10.00 |

BATTERY WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT RECHARGE, DISASSEMBLE, HEAT ABOVE 212°F, INCINERATE OR EXPOSE CONTENTS TO WATER.

ASK ABOUT OUR OTHER DATA RECORDERS

| | |
|-------------|--------------------|
| Temperature | Pulse/Event/State |
| Humidity | Low Level Current |
| Pressure | Low Level Voltage |
| pH | RF Transmitters |
| Level | Intrinsically Safe |
| Shock | Spectral Vibration |

For Quantity Discounts call 603-456-2011 or email sales@madgetech.com

