

Device Maintenance

Battery Replacement

Materials:
Small Phillips Head Screwdriver
Replacement Battery (LTC-7PN)

- Puncture the center of the back label with the screw driver and unscrew the enclosure.
- Remove the battery by pulling it perpendicular to the circuit board.
- Insert the new battery into the terminals and verify it is secure.
- Screw the enclosure back together securely.

Note: Be sure not to over tighten the screws or strip the threads.

Battery Warning

WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT SHORT CIRCUIT, CHARGE, FORCE OVER DISCHARGE, DISASSEMBLE, CRUSH, PENETRATE OR INCINERATE. BATTERY MAY LEAK OR EXPLODE IF HEATED ABOVE 80°C (176°F).

Recalibration

The SMR110 system is based on strain measurement in mVs. The device is calibrated at 0 volts and 900-1000mV. If a more accurate calibration is desired, refer to the Calibrating ECH2O Soil Moisture Probes application note on the MadgeTech website.

Pricing:

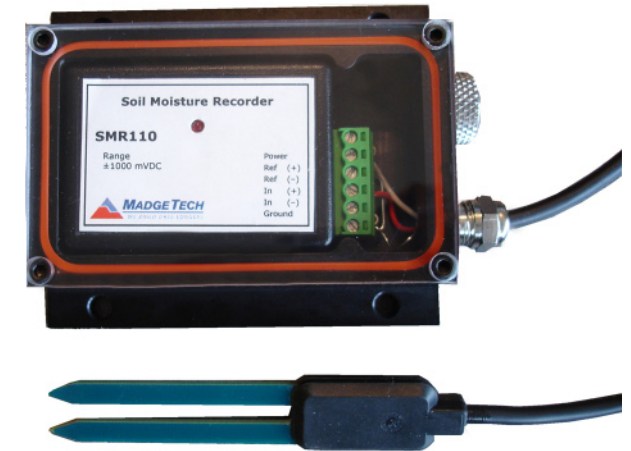
Recalibration traceable to NIST \$60.00
Recalibration \$40.00

Additional:

As Found Data \$15.00
Additional Points \$15.00 per point

To send the devices back, visit www.madgetech.com, select Services then RMA Process.

Part Number	SMR110-5	SMR110-20
Probe Range	0 to 100% VWC saturation	0 to 40% VWC saturation
Probe Resolution	0.002m ³ /m ³	
Probe Accuracy	±3% typical, ALL soils	±4% typical on low EC and medium textured soils
Logger Accuracy	+0.01% FSR	
Typical Battery Life	10 years	
Reading Rate	2 seconds up to 12 hours	
Memory	32,767	
Required Interface Package	IFC110 or IFC200	
Probe Life Expectancy	3-5 years	
Logger Operating Environment	-40 to +80°C 0-95% RH (non-condensing)	
Probe Operating Environment	-40 to +60°C 0-100% RH	
Logger Dimensions	0.8" x 1.7" x 2.7" (21mm x 44mm x 69mm)	
Probe Dimensions	2.1" x 0.6" x 0.06" (55mm x 15mm x 1.5mm)	10" x 1.25" x 0.06" (255mm x 32mm x 1.5mm)
Cable Length	16' (5m) (Tinned, Wire Leads)	
Approvals	CE	



SMR110-5

Soil Moisture Recorder with EC-5 probe

SMR110-20

Soil Moisture Recorder with EC-20 probe

Specifications subject to change.

See MadgeTech's terms and conditions at www.madgetech.com

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Product Notes

EC Probe Soil Insertion

Refer to the “ECHO Probe Insertion Guide” application note on the MadgeTech website for instructions on how to insert the probe into the soil.

Calibrating Soil Moisture Probes

Refer to the “Calibrating ECH20 Soil Moisture Probes” application note on the MadgeTech website for information on how to calibrate the probe.

Additional Information

Response of the ECH20 Soil Moisture Probe to variation in the water content, soil type, and solution electrical conductivity application note.

Measuring water content in organic soils using ECH20 probe application note.

Installation Guide

Installing the Interface cable

- IFC200, IFC202 or IFC300
Refer to the “Quick Start Guide” included in the package.

- IFC110, IFC102 or IFC103
Plug the serial cable into the port and verify it is secure.

- USB-1 or USB-101
Install the USB drivers from the CD provided in the kit, then plug the USB cable into the computer and the serial cable into the serial port.

Installing the software

Insert the Software CD in the CD-ROM Drive. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Follow the instructions provided in the Wizard.

Connecting the data logger

- Once the software is installed and running, plug the interface cable into the data logger.
- Click the **Communication Menu**, then **Auto Configure Port**.
- After a moment, a box similar to the following will appear;



- Click **OK**. The **Device Status** box will appear. Click **OK**.
- At this point, communications have been configured for your logger. These settings can be found under the **Communication Menu**.

Note: For additional installation instructions refer to your “Data Logger & Software Operating Manual”.

Device Operation

Starting the data logger

- Click **Device Menu** then **Start Device**.
- Choose the desired start method.
- Choose the start parameters by selecting a **Reading Rate** suitable for your application.
- Enter in any other desired parameters and click **Start**.
- A box will appear stating the data logger has been started. Click **OK**.



- Disconnect the data logger from the interface cable and place it in the environment to measure.

Note: The device will stop recording data when the end of memory is reached or the device is stopped. At this point the device cannot be restarted until it has been re-armed by the computer.

Downloading data from a data logger

- Connect the data logger to the interface cable.
- Click the **Device Menu** then **Read Device Data**. This will offload all recorded data onto the PC.

Technical Support

Visit www.madgetech.com, or call (603) 456-2011. Technical support is also available by e-mailing support@madgetech.com

Additional product information is available by e-mailing info@madgetech.com.