

# Scanning Moisture Meter

**850002**

Instruction Manual

SPER  
SCIENTIFIC

---

Environmental Measurement Instruments

## TABLE OF CONTENTS

INTRODUCTION .....	3
FEATURES.....	4
MATERIALS SUPPLIED .....	4
FRONT PANEL DESCRIPTION.....	5
LCD DISPLAY .....	6
SET UP .....	7
CALIBRATION .....	8
SETTING THE AUDIBLE ALARMS.....	8
MEASUREMENT PROCEDURES.....	9
CARE AND MAINTENANCE.....	11
SPECIFICATIONS .....	11
WARRANTY .....	12

## **INTRODUCTION**

This Sper Scientific Scanning Moisture Meter (model 850002) uses cutting edge electromagnetic wave technology to measure the moisture content of wood and drywall without the damaging effects caused by a penetrating pin-style meter. With a single point of contact, this scanning moisture meter produces the material's accurate moisture content on a large backlit LCD display within seconds. Unlike penetration meters, the scanning moisture meter can be used at any angle, making it an invaluable tool in many industries including building inspection, forestry, construction, water damage, and timber processing. With the added feature of a user-defined dual-point audible alarm, critical situations arising from unexpected moisture exposure such as flooding can be quickly identified, allowing you to pinpoint and respond to areas of high risk quickly.

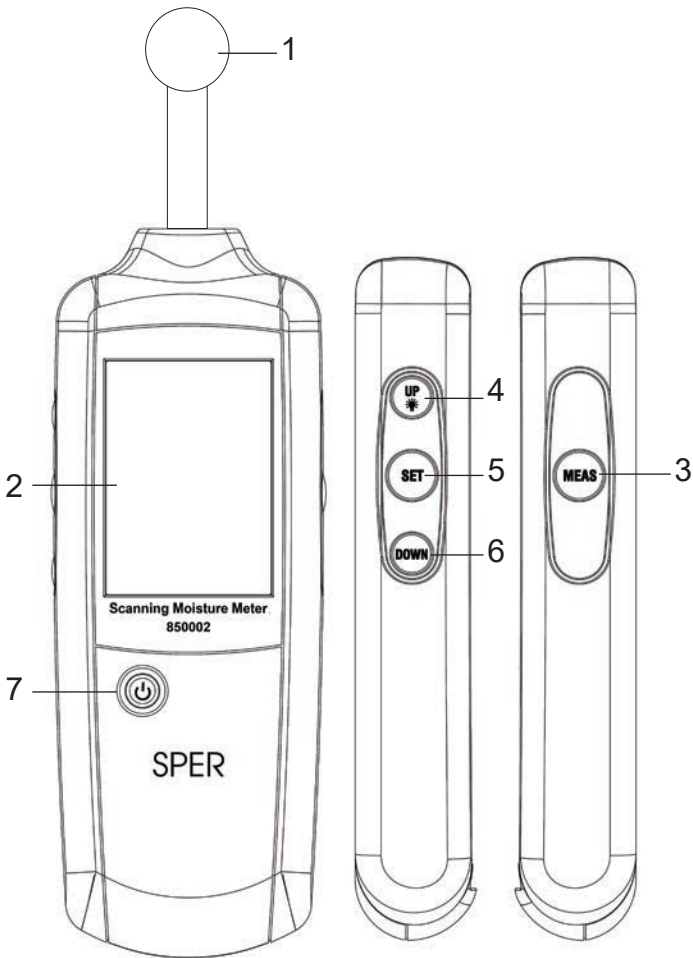
## **FEATURES**

- Min/Max feature
- Backlight
- Hold function
- Large LCD display
- Fast calibration in air
- Audible low/high risk alarms
- Reads at any angle

## **MATERIALS SUPPLIED**

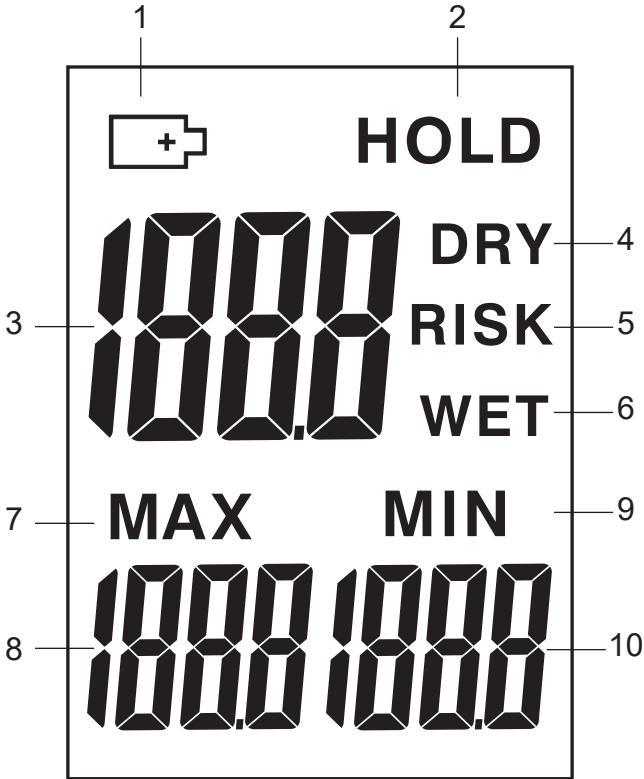
- Scanning Moisture Meter
- 3 AAA batteries
- Instruction manual

# FRONT PANEL DESCRIPTION



1. Moisture Probe
2. LCD Display
3. MEASURE/HOLD button
4. UP arrow and BACKLIGHT Button
5. SET Button
6. DOWN Button
7. Power Button

# LCD DISPLAY



1. Low Battery Indicator
2. HOLD Function Activated
3. Moisture Value
4. Dry Material Indicator
5. Low Risk Valued Activated
6. High Risk Valued Activated
7. Maximum Mode Activated
8. Maximum Moisture Value
9. Minimum Mode Activated
10. Minimum Moisture Value

## SETUP

### Battery Installation

This meter uses 3 AAA batteries. To install the batteries before first use:

1. Unscrew the screw on the battery door.
2. Invert the meter and gently tap it so the battery door comes out.
3. Insert three new AAA batteries, ensuring correct polarity.
4. Reinstall the battery door, tightening the single screw.

Replace the batteries when the low-battery icon blinks on the LCD.

#### Note...

Before replacing the batteries, turn the meter **off**.

### Meter On and Off

1. Press **POWER** to turn the meter **on/off**.
3. The meter will automatically turn off after 60 seconds of inactivity.

### Backlight On and Off

1. Press **UP** to turn the backlight **on/off**.

## CALIBRATION

Each time the meter is powered on, a brief calibration must be performed.

1. Ensure the moisture probe is clean and dry.
2. Turn the meter **on**.
3. Hold the meter at arm's length in open air and press **MEASURE** once.
4. The LCD will show CAL and beep four times.
5. The meter will return to measuring mode and display a value between 0.0 and 0.5.

### Note...

If the meter does not display a value less than 0.5, try the following troubleshooting steps:

- Avoid extreme conditions such as extreme temperatures and inclement weather. If it is raining, calibrate the meter indoors before use.
- Ensure the moisture probe is clean and dry.
- Ensure the meter is not touching any objects such as skin, clothing, wires, etc.

## SETTING THE AUDIBLE ALARMS

The meter has two audible alarms to allow for low and high risk conditions. You can set these based on the desired values of your materials. The default settings are 20% for low risk and 50% for high risk.

1. Activate the HOLD feature by pressing **MEASURE**. HOLD will appear in the upper right hand corner of the LCD.
2. Press and hold **SET**. Risk will appear on the LCD, along with a numerical value.
3. Using the **UP** and **DOWN** arrows, adjust the numerical value to your desired alarm setting for a low risk moisture content. Press **SET** to confirm your choice.



4. The meter will now display WET. This is the high risk alarm value. Use the UP and DOWN arrows to set your high risk alarm value. Press **SET** to confirm your choice.
5. The meter will return to HOLD mode. Press **MEASURE** to return to normal measuring mode.

**Note...**

During normal operation, your meter will produce a slow audible beep when it is exposed to moisture content in the low risk range and a fast audible beep when exposed to moisture content in your high risk range. An easy way to demonstrate this feature is to place the meter directly onto your skin.

## **MEASUREMENT PROCEDURES**

### **Normal Measuring Mode**

1. Once calibration is complete, your meter will automatically enter normal measuring mode. Normal measuring is underway when the main LCD does not display HOLD in the upper right corner.
2. Place the moisture probe on the surface to be measured. The moisture content will display on the LCD screen as a percentage.
3. For the most accurate readings, slide the moisture probe to several different areas of your material. Moisture content can vary widely within a single sample, especially at edges, areas close to moisture sources, and areas of varying thickness.

## Data Hold Mode

Data Hold mode can be used in areas with limited screen visibility. During data hold mode, the Minimum/Maximum functions on the meter are disabled and new readings cannot be taken.

1. Place the moisture probe on the desired surface and press **MEASURE**. This locks the moisture reading on the screen.
2. Remove the moisture probe and read the screen for the moisture content. The value will remain on the LCD until **MEASURE** is pressed again.

## Minimum/Maximum Scan

Minimum/Maximum Scan is especially useful in situations where your sample has been exposed to an external moisture source or is in the process of drying. The meter will produce the minimum and maximum values of a set of readings.

1. In normal measuring mode, place the sensing head on your sample and press **MEASURE** twice to begin the Min/Max data set. **HOLD** will temporarily show on the screen.
2. Take the desired number of data points by sliding the moisture probe across your sample.
3. To complete your data set, press **MEASURE** again before removing the moisture probe from the surface. **HOLD** will display on the LCD.
4. The minimum, maximum, and last record will display on the LCD.

### Note...

If you accidentally remove the moisture probe from your sample before pressing **MEASURE** during step 3, the minimum value will read 0.0 because the meter will detect the air. If this occurs it will not damage the meter, but you will have to restart the min/max data scan.

## CARE AND MAINTENANCE

- Periodically wipe the meter with a dry, lint-free antistatic cloth.
- Do not use abrasives, solvents or cleaning agents containing carbon, alcohol or benzenes on the meter body.
- The sensing head and shaft can be cleaned with isopropyl alcohol if necessary to ensure cleanliness and dryness.
- Repairs or services not covered in this manual should be performed by qualified personnel only. Please contact Sper Scientific to speak with a technician.

## SPECIFICATIONS

	<b>Materials</b>	<b>Resolution</b>	<b>Accuracy</b>
<b>Moisture Content</b>	All soft and hard woods including but not limited to Pine, Poplar, Oak, Maple, and Teak.	0.1%	± 2%
	All forms of drywall and sheetrock including cementboard, ¼" and ½" gypsum drywall, soundboard, and greenboard.		
	NOTE: This meter is not appropriate for testing concrete, brick, mortar, or screed		
<b>Operating Temperature and Humidity</b>	0 - 40°C And less than 85% Relative Humidity		
<b>Reading Depth Range</b>	6 - 40 mm		
<b>Power Supply</b>	AAA, 1.5V battery x 3		
<b>Battery Life</b>	200 hours without backlight 50 hours with backlight constantly on.		

## **WARRANTY**

Sper Scientific warrants this product against defects in materials and workmanship for a period of **five (5) years** from the date of purchase, and agrees to repair or replace any defective unit without charge. If your model has since been discontinued, an equivalent Sper Scientific product will be substituted if available. This warranty does not cover batteries, battery leakage, or damage resulting from accident, tampering, misuse, or abuse of the product. Opening the meter to expose its electronics will void the warranty. To obtain warranty service, ship the unit postage prepaid to:

### **SPER SCIENTIFIC LTD.**

8281 E. Evans Rd., Suite #103

Scottsdale, AZ 85260

(480) 948-4448

The defective unit must be accompanied by a description of the problem and your return address. Register your product online at [www.sperwarranty.com](http://www.sperwarranty.com) within 10 days of purchase.