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› [Dawson](#) /

› Dawson Tools DSM170 Multifunction Moisture Meter User Manual

## Dawson DSM170

# Dawson Tools DSM170 Multifunction Moisture Meter User Manual

Model: DSM170

## 1. INTRODUCTION

The Dawson Tools DSM170 is a versatile multifunction meter designed to accurately measure moisture content in various materials, ambient temperature, and relative humidity. This device is an essential tool for professionals and DIY enthusiasts requiring precise environmental and material condition assessments. Please read this manual thoroughly before operating the device to ensure safe and correct usage.

## 2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury and avoid damage to the meter:

- Do not attempt to open the meter casing. There are no user-serviceable parts inside.
- Keep the meter away from water and other liquids.
- Avoid using the meter in environments with high humidity or extreme temperatures beyond its specified operating range.
- Do not insert the measurement pins into electrical outlets or live circuits.
- Handle the measurement pins with care as they are sharp. Keep out of reach of children.
- Remove batteries if the meter is not used for an extended period to prevent leakage.

## 3. PRODUCT OVERVIEW

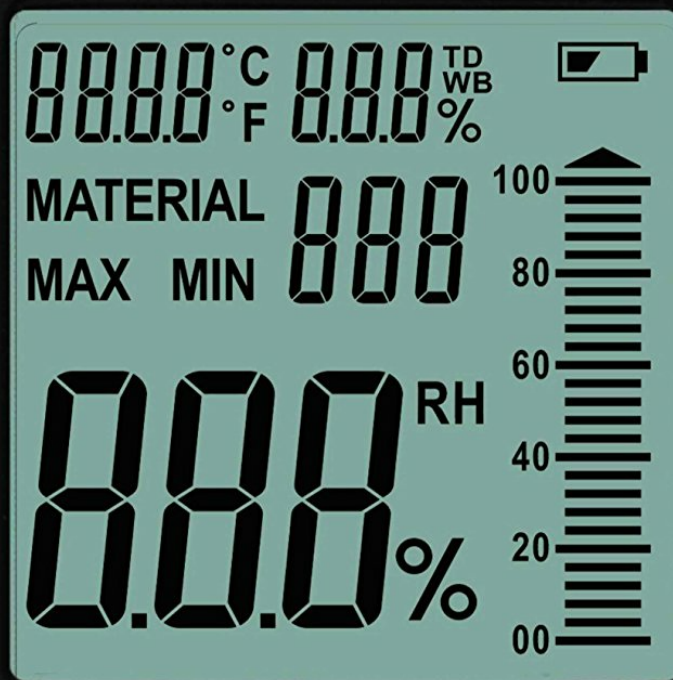
Familiarize yourself with the components of your DSM170 meter:



First turn on the meter  
wait for 3 seconds  
then remove the cover.

**DAWSON®**

**DSM170**



**MOISTURE TESTER**



Test/Hold

Unit



Material



**Figure 1:** Front view of the Dawson Tools DSM170 Multifunction Moisture Meter. Shows the LCD display, function buttons, and measurement pins at the top.

1. **Measurement Pins:** Used for contact moisture measurement in materials.
2. **LCD Display:** Shows measurement readings, units, and battery status.
3. **Power Button:** Turns the device on or off.
4. **Mode Button:** Cycles through measurement modes (e.g., moisture, temperature, humidity).
5. **Hold/MAX/MIN Button:** Freezes the current reading or displays maximum/minimum values.
6. **Unit Button:** Changes temperature units (Celsius/Fahrenheit).
7. **Battery Compartment:** Located at the rear, holds 2 AAA batteries.

## 4. SETUP

### 4.1. Battery Installation

1. Locate the battery compartment cover on the back of the meter.
2. Slide the cover open or unscrew it if applicable.
3. Insert two (2) 1.5V AAA batteries, ensuring correct polarity (+/-) as indicated inside the compartment.
4. Replace the battery compartment cover securely.

### 4.2. Initial Power On

Press the **Power** button to turn on the meter. The LCD display will illuminate and show the default measurement mode.

## 5. OPERATING INSTRUCTIONS

### 5.1. Power On/Off

- To turn on: Press the **Power** button.
- To turn off: Press and hold the **Power** button for approximately 2 seconds. The meter features an auto-power-off function to conserve battery life if inactive for a set period.

### 5.2. Selecting Measurement Modes

Press the **Mode** button to cycle through the available measurement functions:

- **Moisture Measurement:** For wood and building materials. The display will show a percentage (%).
- **Ambient Temperature:** Displays temperature in Celsius or Fahrenheit.

- **Relative Humidity:** Displays humidity in percentage (RH%).

### 5.3. Moisture Measurement (Pin-Type)

1. Ensure the meter is in moisture measurement mode.
2. Carefully push the measurement pins into the material to be tested. Ensure both pins penetrate the surface adequately for accurate contact.
3. Read the moisture content percentage directly from the LCD display.
4. Remove the pins from the material after measurement.

*Note: The measurement depth for moisture is approximately 0 to 50 mm.*

### 5.4. Temperature and Humidity Measurement

1. Select the desired mode (Temperature or Humidity) using the **Mode** button.
2. Hold the meter in the environment you wish to measure. Allow a few moments for the readings to stabilize.
3. Read the ambient temperature or relative humidity from the display.

### 5.5. Data Hold Function

Press the **Hold/MAX/MIN** button briefly to freeze the current reading on the display. Press it again to release the hold function and resume live measurements.

### 5.6. MAX/MIN Function

While in a measurement mode, press and hold the **Hold/MAX/MIN** button for approximately 2 seconds to activate the MAX/MIN recording function. The display will show the maximum recorded value. Press again to show the minimum value. Press and hold again to exit this mode.

### 5.7. Unit Selection (Temperature)

When in temperature measurement mode, press the **Unit** button to switch between Celsius (°C) and Fahrenheit (°F).

## 6. MAINTENANCE

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### 6.1. Cleaning

Wipe the meter's casing with a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure the measurement pins are clean and free of debris after each use.

### 6.2. Battery Replacement

When the low battery indicator appears on the display, replace the batteries as described in Section 4.1. Promptly replace depleted batteries to ensure accurate readings and prevent potential leakage.

### 6.3. Storage

Store the meter in a cool, dry place, away from direct sunlight and extreme temperatures. If storing for an extended period, remove the batteries.

## 7. TROUBLESHOOTING

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Problem	Possible Cause	Solution
Meter does not power on.	Dead or incorrectly installed batteries.	Check battery polarity; replace batteries.
Inaccurate moisture readings.	Pins not fully inserted; pins dirty; material too dense/hard for pins.	Ensure pins are fully inserted; clean pins; consider material limitations.
Display shows "LO" or "HI".	Measurement is outside the meter's specified range.	The meter is operating within its limits. The reading indicates the value is below or above the measurable range.
Temperature/Humidity readings are slow to stabilize.	Normal operation, especially when moving between different environments.	Allow sufficient time (1-2 minutes) for the sensors to acclimate to the new environment.

## 8. SPECIFICATIONS

Parameter	Value
Model Number	DSM170
Moisture Measurement Range	0% ~ 90%
Moisture Measurement Depth	0 ~ 50 mm
Ambient Temperature Range	-10 °C ~ 50 °C (14 °F ~ 122 °F)
Environmental Humidity Range	0 ~ 100% RH
Power Supply	2 x 1.5V AAA Batteries
Dimensions (L x W x H)	12.95 x 6.86 x 2.79 cm (5.1 x 2.7 x 1.1 inches)
Weight	Approximately 4.54 g (excluding batteries)
Manufacturer	MASTECH

## 9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided at the time of purchase or contact your local Dawson Tools distributor. Keep your purchase receipt as proof of purchase.