



Owner's Manual – Moisture Counter Moisture Meter

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The Moisture Counter reads the amount of moisture contained in most kinds of building materials. Because it is quick and easy to use, and does not damage surfaces, it is a standard meter in restorative drying.

Read and Save These Instructions

WARRANTY

FILL OUT WARRANTY CARD: Please stop before proceeding and fill out the warranty card.

INSPECT ON ARRIVAL: When your Dri-Eaz product arrives, check immediately for signs of shipping damage. If you notice damage, save the shipping carton for claim purposes, and immediately report the problem to your supplier and the shipping company. Also, save the carton for shipping in case your product ever needs repair at a remote location.

Dri-Eaz promises, to the original purchaser, to perform the following as needed to correct defects in materials and workmanship:

1 Year on Parts and Labor: Cover parts and labor costs for the repair of a Dri-Eaz Instrument, for a period of one year from the date of purchase.

90 Days on Shipping: Cover shipping costs for the repair of a Dri-Eaz Instrument, both to and from the Service Center, for a period of 90 days from the date of purchase.

MODELS COVERED: Instruments: HydroSensor, HydroSensor II, Moisture Counter, Moisture Pro, DHT600, DHT200.

LIMITATIONS: This warranty shall not extend to any products showing effects of misuse, accident damage, disassembly, alteration, lack of proper maintenance, corrosive chemicals, improper voltage, unauthorized repairs, use of other than genuine parts and materials, fire, flood, normal wear and tear, or any other causes beyond Dri-Eaz Products' control. The warranty obligation extends only to the repairs or replacement of parts found, upon Dri-Eaz Products' examination, to be defective. The foregoing constitutes the entire warranty and no other warranty, liability, contingency or responsibility, direct, indirect, consequential or in any way connected with the sale or operation of products is expressed or implied.

TO RECEIVE WARRANTY SERVICE: You must write or call for a Return Authorization. You must have the serial number available. The Dri-Eaz Service Department must

authorize all costs, including shipping, for any Service Centers world-wide. Please direct questions to an authorized distributor, or to Dri-Eaz at (360) 757-7776, extension 238.

THE MOISTURE COUNTER

The Moisture Counter is designed to give fast but accurate measurements of moisture in building materials and contents. It is especially useful while inspecting for excess moisture after water damage.

The meter is very accurate for measuring the moisture content of about the top one-half inch of wood, and does so without using pins that penetrate and damage the material. It can also give useful moisture-content readings on almost all non-metallic building materials

OPERATING INSTRUCTIONS

1. Select Setting 1 for wood and wood products, Setting 2 for drywall, or Setting 3 for plaster, brick, or tile.
2. Switch the unit on. The red LED light above the scale flashes, reminding you not to leave the unit on, which would drain the battery.
3. Press the Moisture Counter directly on to the material being tested. Make sure the soft rubber pads are in firm contact with the surface.
4. Read the moisture content of wood on the top scale, which is marked "Wood." For other building materials including drywall, plaster, brick, and tile, read the bottom scale marked "Relative," as described below.
5. **CAUTION:** Do not drag the meter across rough surfaces, which can damage pads. To take readings, press the meter against the surface, then lift to the next spot.
6. If the battery needs replacing, use a 9-volt PP3, 1604, 6F22, 6LF22, or equivalent. Note: on new units the battery is wrapped in plastic.

Principles of Operation

The Moisture Counter uses a non-destructive electronic signal based on low-frequency impedance. Electrodes behind the pads generate this electrical field, which reaches into about the top 1/2 inch of the surface being measured. When materials are dry, the resistance is high and the signals are insulated from one another. When the material is wet the resistance is decreased six-fold and the meter reads the level of moisture.

The Moisture Counter non-penetrating moisture meter allows rapid evaluation of the moisture content of many building materials.

Wood – Setting 1, Wood Scale

For wood, read from the top half of the curved scale, which measures 10% to 20% MC or moisture content (the meter is marked "% H₂O"). The meter is calibrated for accurate readings of wood products including structural lumber, plywood, engineered wood, hardwood flooring, and paneling.

The Moisture Counter reads the percentage of moisture in the wood, compared with an oven-dried sample of the same wood (a sample with no moisture). A reading of 10% says that the weight of the water in the wood is 10% of the total weight of the sample. On a fifty-pound plywood sheet, the sheet contains 5 pounds of water and 45 pounds of wood.

For most indoor wood products, the normal or equilibrium moisture content is under 10%. In these conditions the needle will not move.

As a general rule, the moisture content for wood products should never exceed about 20%, even in moist climates. This is an excessive condition that could encourage wood-rot or mold growth.

The typical average moisture content of wood varies from one building to another, and from one geographic location to another because of differences in climate. The

calibration of the Moisture Counter is an average of many different readings on the most popular species. Thus, you can regard its reading as a close approximation.

Other Materials – Settings 2-3, Relative Scale

The bottom half of the scale, marked "Relative," gives readings from 0-100. Use either Setting 2 or Setting 3, whichever gives the best range for the particular material. (Setting 2 works well for drywall, Setting 3 for plaster and brick.) The relative scale is needed because the meter is calibrated for wood, and non-wood products do not yield the same readings.

To use this method, compare the reading on a suspected material with the reading on a similar material that you know is dry. This reading from a known dry material is called a "dry standard."

For clarity, read the top half of the scale as percentages, and the bottom half as points. If possible take these measurements in unaffected buildings, because after even a few days of water damage, moisture content may rise throughout the structure as materials absorb the moisture from high humidity.

FALSE READINGS

Hidden Metal

Hidden metal is the most frequent cause of a "false positive" reading (the meter indicates moisture even though the material is dry). Unseen nails beneath paint or plaster, corner metal, metal studs, and even electrical conduit can cause such false readings.

Carpet

Readings on carpet and pad will not be accurate, because these materials are not solid. Use the Moisture Counter only on solid building materials and contents.

Concrete

The Moisture Counter is usually not a good meter for concrete, which in a state of normal equilibrium holds much more water than wood or other materials listed. Concrete usually causes the meter to peg, or read off the scale, even when the concrete is not abnormally wet.

Surface Water

Surface water, even a thin film on materials like drywall or vinyl, usually causes the meter to peg, or give a maximum reading. However, this does not tell you whether the inside of the material is wet. Thus, surface water can cause false positive readings.

Air Spaces

The meter will not read through an air space. For example, if there is a thin sur-

face material such as vinyl, then an air space gap, and then a wet material, the Moisture Counter will not read. This would be a false negative reading.

RESTORATION

Initial Procedures

Take measurements every 12 to 24 inches moving outwards from the apparent source of the water damage. Examine and test all affected areas and adjoining rooms. Keep in mind that the obvious limits of flooding may be only the "tip of the iceberg." Check every area that has a remote chance of being wet.

Evaluating Materials

Evaluate the materials for type and condition. Make note of any obvious signs of moisture within materials. Observe any swelling and buckling of wood flooring materials. Quantify the degree of saturation and moisture with the Moisture Counter meter. Take a series of moisture readings and note them on a graph or chart.

Subfloor

Regardless of the type of floor covering, learn the type of affected sub-flooring materials. The most common are particle board, plywood, hardwood and concrete. The type and condition of sub-floor may help determine the best drying response for carpet, cushion, and other coverings. In all cases, take moisture readings of flooring and sub-flooring materials. Compare them with your moisture standards. In many cases there are several layers of saturated flooring materials. This holds true even when hard-surface flooring materials such as vinyl or tile cover the sub-floor. Water can seep around the edges and become trapped below the non-porous floor covering, where it can weaken the adhesive and/or cause floor damage.

Particle Board

Particle board is quite porous and is quickly damaged by standing water, especially if the water was hot. Are there any signs of swelling around nails? Do nails appear rusty? Has the particle board warped and delaminated? Are there signs of pre-existing urine or water damage? Use the Moisture Counter to evaluate if underlayment is wet below a vinyl floor covering. If the particle board has swelled or delaminated, the damaged sections must be removed.

Plywood

Plywood is generally not very porous, and is very resistant to water. Even interior plywood can remain wet for several days with-

out permanent damage. As with particle board, look for delamination, rusty nails, and sign of swelling around nail-heads.

Contents

Use the Moisture Counter to evaluate and quantify primary moisture in furniture and other contents. Evaluate and quantify primary moisture in and under built-in furniture, cabinets, and bookcases. Determine if water is trapped below built-in furniture.

SPECIFICATIONS

Frequency	5-25 kHz depending on range
Length	6 inches (150 mm)
Width	3 inches (75 mm)
Depth	1.5 inches (30 mm)
Weight w/ case	0.75 lb. (260 grams)
Power Supply	9 Volt Battery
Electrodes	Coplanar conductive rubber
Accessories	Case, batteries, instructions

Other Moisture Instruments

Moisture Pro Penetrating Moisture Meter

The Moisture Pro is a penetrating pin-type meter for very accurate readings on all types of structural materials.

HydroSensor Moisture Probe

Use the HydroSensor for simple, quick moisture detection of carpets, cushion, and other flooring materials, walls, and furniture. The amount of moisture present in the material causes a beep and flashing light. The response is faster and louder when more moisture is present.

DHT 200 Thermo-Hygrometer

The DHT 200 is a dual-function digital meter that measures the percent of relative humidity or air over a range of 5% to 95%, as well as the air temperature. Knowing these numbers, you can also calculate GPP (grains per pound).

DHT 600 Thermo-Hygrometer

The DHT 600 utilizes a high-reliability humidity sensor that gives very accurate readings, and adjusts quickly when moved from one condition to another, such as areas of different temperature. The DHT 600 also has a HOLD function for the display, and automatic power-off function