

twilight

INSTRUMENTOS DE MEDICIÓN INDUSTRIAL

**Medidor de Humedad,
Básico Madera
DH-JLITE**

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J-Lite

owner's manual

For 65 years Delmhorst Instrument has been the leading manufacturer of high quality, US-made moisture meters and thermo-hygrometers. Today we offer a wide range of meters for applications including water damage restoration, construction, flooring, lumber/woodworking, paper, and agriculture.



DELMHORST
INSTRUMENT CO.
WHEN ACCURACY IS THE POINT.™

51 Indian Lane East
Towaco, NJ 07082

(877)-DELMHORST
(335-6467)
www.delmhorst.com
info@delmhorst.com

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INSTRUMENT CO.
WHEN ACCURACY IS THE POINT.™

TEMPERATURE CORRECTION TABLE												
METER READINGS												
°C	°F	6	7	10	15	20	25	30	35	40	50	60
-20	0	9	11	15	22	31	38	45	53			
-10	20	8	10	14	20	28	34	40	47	55		
5	40	7	8	12	18	24	30	36	42	48		
15	60	6	7	11	16	21	27	32	38	43	54	
30	80	6	7	9	14	19	23	28	33	38	47	55
40	100	5	6	8	12	17	21	25	29	34	42	50
50	120	5	5	7	11	15	19	22	26	30	38	44
60	140	4	5	7	10	14	17	20	23	27	34	40
70	160	4	4	6	9	12	15	18	21	24	30	36
80	180	3	4	5	8	11	13	16	19	22	27	33
95	200	3	4	5	7	10	12	14	17	19	24	28
105	220	2	3	4	6	9	11	13	15	17	21	26

Moisture content values shown in **bold** are only qualitative since they are above fiber saturation point (30%MC).

Pin correction:

METER READINGS WITH INSULATED PINS (26-ES ELECTRODE)

7 8 10 12 14 16 18 20 22 24

CORRECTED READINGS (TRUE INDICATED MOISTURE CONTENT)

7.3 8.4 10.6 12.8 14.9 17.0 19.2 21.4 23.7 26.0

WOOD SPECIES CORRECTION TABLE

METER READINGS WITH NON-INSULATED PINS

METER READING ▶	7	8	9	10	12	14	16	18	20	22	24
ALDER	8	9	10	11	13	15	17.5	19.5	21.5	24	27
APITONG	8	9	10	11	13	15	17	20	22	24	27
ASPEN	7	8	9	10	11.5	13	15	16.5	18	20	21
ASH, WHITE	6.5	7.5	8	9	11	13	14.5	16	18	19.5	21
BASSWOOD	7	8	8	9	10.5	13	15	17	19	20.5	22
BIRCH	8	9	10	11	13	15	17	19	21.5	23.5	25.5
CEDAR, EAST. RED	8	9.5	10.5	12	14	17	19	21	23	25	26
CEDAR, INCENSE	7	8	9.5	10.5	12.5	15	17	19	21	23	25
CHERRY	8	9	10	11	13.5	15.5	18	20	22	24	26
COTTONWOOD	6	7.5	8.5	9.5	12	14	15	17	19.5	21	23
CYPRESS	7	8	9	10	12	14	16	18	19.5	21.5	23.5
ELM, AMERICAN	7	7.5	8	8.5	10	11.5	13	15	16	18	19
FIR, DOUGLAS	7	8	9	10	12	14	16	18	20	22	24
FIR, RED	7	8	9	10	12.5	15	17	19	21	23	25
FIR, WHITE	8	9	9.5	10.5	12.5	15	17	19	21	23	25
GUM, BLACK	7.5	9	10	11	13	15	16	18	19	20.5	22
GUM, RED	7	8	9	10	12.5	14.5	16.5	19	20.5	22.5	24
HEMLOCK, WESTERN	7	8	9	10.5	13	15	17	19	20.5	22	23.5
HACKBERRY	7	8.5	9	9.5	12	13	15	17	18.5	20	22
HICKORY	8	8.5	9	10	11	12.5	14	15.5	17	19	20.5
KERUING	8	9	10	11	13	15	17	20	22	24	27
LARCH	7.5	9	10	11	13	15	17	19	21	23	25.5
MAGNOLIA	7.5	9	10	11.5	14	16	17.5	19	21	22.5	24.5
MAHOGANY, AFRICAN (ALSO KHAYA)	8	9.5	10.5	12	15	17	19.5	22	24	26	28
MAHOGANY, HOND.	7	8	9	10.5	12.5	14.5	16	18	19.5	21.5	22.5
MAHOGANY, PHIL.	6	7	7.5	8	9.5	11	13	14	15.5	17	18
MAPLE, HARD/SOFT	8	9	9.5	10	12	14	16	18	20	22.5	25
MERANTI, DARK RED	8.5	9.5	10.5	11.5	12.5	16	18	20.5	22.5	24.5	26.5
OAK, RED	7	8	9	10	12	14	16	18	20	22	24
OAK, WHITE	7	8	8.5	9.5	11.5	13.5	15	17	18.5	20	22
PECAN	6.5	8	9.5	11	12.5	14	16	17.5	19	22	24
PINE, LONGLEAF	8	8.5	10	11	13	15.5	17.5	19.5	21	23	25
PINE, PONDEROSA	7.5	8.5	10	11	13.5	15.5	17.5	19.5	21	23	25.5
PINE, SHORTLEAF	7.5	9	10	11	13	15.5	17.5	19.5	21.5	23.5	25
PINE, SO. YELLOW*	8	9.5	10.5	12	14.5	16.5	19	21	23	25	28
PINE, SUGAR	7	8	9	10	12	15	17	19	21	23	25
PINE, WHITE	7	8	9	10	13	15	17	19	21	23	25.5
POPLAR, YELLOW	8	8.5	10	11	13	15.5	17.5	19.5	22	24	26
RAMIN	7	8	9	10	11	13	15	16	18	20	21
RADIATA PINE	10	11	11	12	14	16	18	20	23	25	27
REDWOOD	7	8	9	10	12	13.5	15	17	19	22	24
SPRUCE, SITKA	7	8	9	10	12.5	14.5	17	19	21	23.5	26
SPF*▲	9	10	11.5	13	15.5	18	20.5	23	25	28	30
SPF/COFI	8	9	10	11	13	15	17	19	21	23	25
TEAK	7	8	8.5	9	11	12	14	15	17	18.5	20
VIROLA	6.5	7	8	9	11	12.5	14	16	18	18.5	20.5
WALNUT, BLACK	7.5	8.5	9.5	10.5	12.5	14.5	16	18	20	22	23.5

The species correction values shown in this table have been rounded for easy reference.

* Meter readings taken with 26-E 2-pin electrode with insulated pins. Do not apply 2-pin correction.

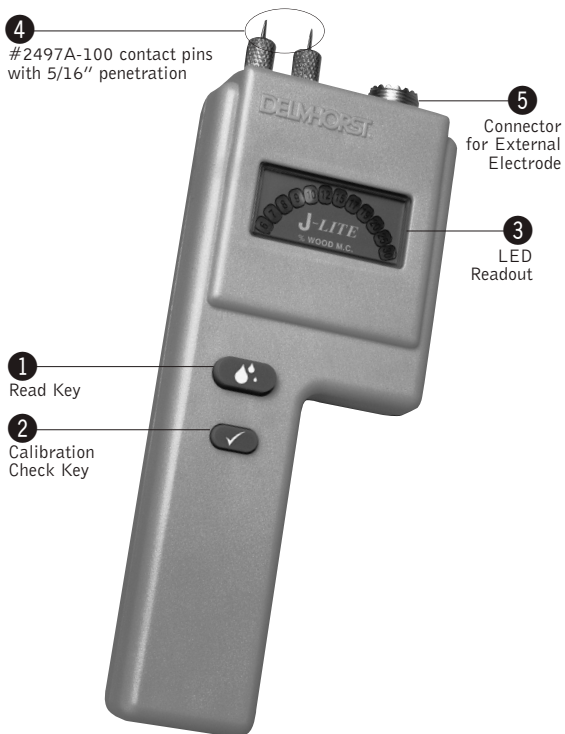
▲ SPF correction is based on USDA/Forintek data and can be used for the following species:

Lodgepole Pine, Alpine Fir, Eastern White Spruce, Black Spruce, Jack Pine

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DELMHORST J-LITE



J-LITE FEATURES

- ▶ Resistance technology recognized worldwide as the most accurate method for measuring moisture
- ▶ 6% to 30% MC range on wood (Douglas Fir)
- ▶ LED readout
- ▶ Proven microcontroller circuit
- ▶ Built-in calibration check
- ▶ Easy one-hand operation
- ▶ Includes (1) 9-Volt Battery
- ▶ Includes sturdy carrying case
- ▶ Three-year warranty

CHECK CALIBRATION

Press the calibration check key **2**. Meter is in calibration when the “12” lights up.

If you check the calibration and an LED other than the “12” lights up, it is likely an indication of a low battery. If this occurs, change the battery immediately. Continued use with a low battery may cause the meter to go out of calibration. If you have a fresh battery and the instrument still does not indicate a proper calibration, return it to DELMHORST for service. **See Service for Your Meter** section.

When the battery is removed and then reconnected, all the LEDs will flash for a few seconds, then the meter will turn itself off.

NOTE:

A hard Reset is required if, after changing the battery, the display is frozen. This is sometimes caused by the interruption of contact between the battery and the battery lead wire. Resolve this as follows:

Disconnect the battery. Press and hold the Read key for 15 seconds. Release the Read key. Press and hold the Check key for 15 seconds. Release the Check key. Connect a fresh battery to the lead wire in a single action, making sure to align the poles properly and without interrupting contact. If the display remains frozen, repeat this procedure. If this procedure does not solve the problem, refer to the Service for Your Meter section.

TAKING A READING IN WOOD

- ▶ **Remove the protective cover** to expose the contact pins. Check that the contact pins’ retainers **4** are firmly hand tightened.
- ▶ **Align the contact pins** **4** parallel to the grain, pushing them to full penetration into the wood, if possible.
- ▶ **Press the read key** **1** and read the %MC on the LED display.

Note:

The integral contact pins (2497/A-100) are best for hardwoods up to 6/4 or softwoods up to 2”. Push the non-insulated pins into the wood to their full penetration, if possible. The external electrode, 26-ES is fitted with insulated contact pins and a slide hammer. It is recommended for applications when a moisture gradient may be present, or on hardwoods of any thickness (up to 6 in). The insulated pins read only at the non-insulated tip and can be driven to the desired depth to obtain shell and core (gradient) information.

UNDERSTANDING YOUR READINGS

Refer to the chart on page 5 for interpretation of meter readings. Since the J-LITE displays %MC in a range between two values, corrections for wood temperature, pin, and species have less impact on the accuracy of the meter readings, especially below 12%. Meter readings taken on construction-grade lumber material can be taken at face value, without making these corrections for many applications. If your application requires a higher level of accuracy (ex. finish flooring, furniture-making) Delmhorst recommends applying the following corrections, even with the limitations of the meter display.

Temperature – As wood temperature increases, its electrical resistance decreases and indicated moisture content rises. Lower wood temperatures result in lower indicated moisture content. If the wood temperature, which is typically the ambient temperature, is between 50°F/10°C and 90°F/32°C, there is no need to apply a correction. Refer to the temperature correction table at the end of the manual.

Pin (insulated vs non-insulated) – The reference calibration of the meter was made with non-insulated pins that penetrate 5/16 inch. Insulated pins read slightly lower than non-insulated ones. When using an electrode with insulated pins, such as the 26-ES, refer to the pin corrections at the end of the manual.

Species – Delmhorst uses Douglas Fir, the USDA standard, as the basis for all wood calibrations. Because the electrical characteristics of different wood species vary, all species read differently at the same moisture content. For this reason, a species correction is required. Refer to the species correction table at the end of the manual.

METER READINGS

If the LED displays:	The %MC is:
Blinking 6%	Below 5.5%
6%	Between 5.5 and 6.0
7%	Between 6.1 and 7.0
8%	Between 7.1 and 8.0
9%	Between 8.1 and 9.0
10%	Between 9.1 and 10.0
Blinking 10% and 12%	Between 10.1 and 11.0
12%	Between 11.1 and 12.0
Blinking 12% and 15%	Between 12.1 and 13.5
15%	Between 13.6 and 15.0
Blinking 15% and 17%	Between 15.1 and 16.0
17%	Between 16.1 and 17.0
Blinking 17% and 19%	Between 17.1 and 18.0
19%	Between 18.1 and 19.0
20%	Between 19.1 and 20.0
Blinking 20% and 25%	Between 20.1 and 22.5
25%	Between 22.6 and 25.0
Blinking 25% and 30%	Between 25.1 and 27.5
30%	Between 27.6 and 30.0
Blinking 30%	Above 30%

The J-Lite can be used to test many other building materials such as drywall, plywood, OSB, MDF. Call 877-DELMHORST (335-6467) or e-mail info@delmhorst.com for more information on using the meter on other materials.

CARE OF YOUR METER

To keep your meter in good working order:

- ▶ Store your meter in a clean, dry place. The protective carrying case provided is an ideal storage place when the meter is not in use.
- ▶ Change the 9-Volt battery as needed. Continued use with a low battery may cause the meter to go out of calibration.
- ▶ Change contact pins as needed. Keep pin retainers hand tightened.
- ▶ Clean the meter and contact pins with any biodegradable cleaner. Use the cleaner sparingly and on external parts only. Keep cleaner out of the external connector **5**.
- ▶ Remove the battery if the meter will not be used for one month or longer.

SERVICE FOR YOUR METER

If your meter is not working properly, replace the battery with a new one and check the calibration. If this does not resolve the problem, go to www.delmhorst.com and follow the instructions under the Product Support tab.

If you require further assistance please call 877-DELMHORST (335-6467) OR 973-334-2557

WARRANTY

Delmhorst Instrument Co., referred to hereafter as Delmhorst, guarantees its J-Lite meter for three years from date of purchase and any optional electrodes against defects in material or workmanship for 90 days. If, within the warranty period, you find any defect in material or workmanship return the meter following the instructions in the **Service for Your Meter** section. This limited warranty does not cover abuse, alteration, misuse, damage during shipment, improper service, unauthorized or unreasonable use of the meter or electrodes. This warranty does not cover batteries or contact pins. If the meter or any optional electrodes have been tampered with, the warranty shall be void. At our option we may replace or repair the meter.

Delmhorst shall not be liable for incidental or consequential damages for the breach of any express or implied warranty with respect to this product or its calibration. With proper care and maintenance the meter should stay in calibration; follow the instructions in the **Care of Your Meter** section.

UNDER NO CIRCUMSTANCES SHALL DELMHORST BE LIABLE FOR ANY INCIDENTAL, INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES OF ANY TYPE WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS OR DOWNTIME ARISING OUT OF OR RELATED IN ANY RESPECT TO ITS METERS OR ELECTRODES AND NO OTHER WARRANTY, WRITTEN, ORAL OR IMPLIED APPLIES. DELMHORST SHALL IN NO EVENT BE LIABLE FOR ANY BREACH OF WARRANTY OR DEFECT IN THIS PRODUCT THAT EXCEEDS THE AMOUNT OF PURCHASE OF THIS PRODUCT.

The express warranty set forth above constitutes the entire warranty with respect to Delmhorst meters and electrodes and no other warranty, written, oral, or implied applies. This warranty is personal to the customer purchasing the product and is not transferable.

NOTES



INSTRUMENTOS DE MEDICIÓN INDUSTRIAL



LLÁMANOS

+52(81) 8115-1400 / +52 (81) 8173-4300

**LADA Sin Costo:
01 800 087 43 75**

**E-mail:
ventas@twilight.mx**

www.twilight.mx