

User Instructions for mini-Ligno DX and DX/C

Before taking measurements remove the green cap and place it on the other end of the meter. The cap serves as handle for easy pin insertion. To obtain measurements, push the pins into the wood. As soon as the on-off switch between the pins is depressed, red LEDs indicate wood moisture in percent for a wood temperature of 70°F (20°C). A correction table is included on page 4 for higher or lower wood temperatures.

Wood Group Corrections: All mini-Lignos are equipped with built-in wood group corrections. The indicated moisture values are corrected for the chosen setting. A chart for wood species and corresponding wood group settings is included with each mini-Ligno. Wood species with similar electrical properties are in the same group. Lignomat offers oven-dry testing to determine the wood group for unlisted wood species.

Battery: One 9-Volt Battery. If the LED lights get dim or step 1 and 2 described in the next column fail, remove screw on back cover, open-up into 2 halves and replace battery.

Pins: Longer pins are stored inside the mini-Lignos. Remove screw on back cover, open-up into 2 halves. Pins are stored in back cover on either side of the indentations for the pins. Remove and replace pins using pliers.

Electro-Magnetic Interference: If you measure close to computers, power tools or electrical wires, indicate the moisture jump. To avoid the interference, take measurements in a

different location. The wood, the meter and the person holding the meter should not move while taking measurements.

Core Measurements: For core measurements at least one third of the wood needs to be penetrated. The longer mini-Ligno pins reach 7/16" (10mm) deep into a board. For core measurements in lumber over 5/4" (30mm) thick, make a fresh cut. Measure the end grain close to the surface and at the core with the integral mini-Ligno pins. Compare readings to detect uneven drying. If it is not feasible to cut the wood, the core of the wood can only be reached with the mini-Ligno C-Models and the external Electrode E12. See page 3.

Performance Tests:

Step 1: When the on-off switch is depressed by hand without touching the pins, the lowest moisture value is indicated: 4.8% for mini-Ligno DX and DX/C on species setting #3.

Step 2: When the on-off switch is depressed by hand and both pins are touched with two fingers at the same time at least 12% should be indicated.

Step 3 optional: The external test block TP checks calibration and operation of all Lignomat pin meters, including cable and electrode. All Lignomat meters internally, automatically check and adjust the calibration. Therefore manual recalibration is not necessary.

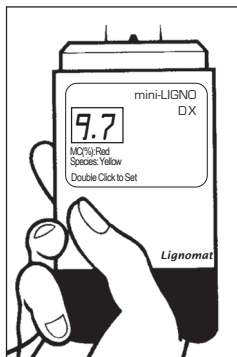
If steps 1, 2 or 3 fail either the battery needs to be replaced or the mini-Ligno is defective.

All mini-Lignos come with a two-year warranty, accessories have a one-year warranty, pins and batteries are excluded.

mini-Ligno DX and DX/C

Measuring Range:

4.8-65% dependent on wood group. Red LEDs indicate wood moisture in percent. For moisture values above the measuring range, the highest moisture value for the chosen wood group flashes. For moisture values below the measuring range, the lowest moisture value for the chosen wood group appears with a flashing decimal point.



Wood Group Settings: The blue laminated card lists domestic and tropical species and corresponding wood group settings. Click on-off switch twice to check/change settings. Yellow numbers indicate settings:

Number 1-40 is for different wood species.

Number 0 and 41 is for building materials.

Click on-off switch again to change setting. Check/Change Mode is only accessible when the meter is off. If a wood species is not listed on the laminated blue card, contact customer service at 800-227-2105.

Non-Wood Building Materials

Setting 41: For drywall and gypsum (range 0.1 to 7.5%). For acceptable moisture ranges see the table in the next column. For example, drywall has an equilibrium moisture content of 0.7% at a 65% relative humidity and 70° F (20°C). The corresponding WME is 12% (concrete, brick, stone, etc.). Use DX/C with Electrode E16, E/C pins.

Setting 0: Reference Scale (0-99) for comparative readings in building materials. Take measurements in a dry sample to establish a base value. Compare readings in test samples to base value. We recommend adding the Electrode E14M to the mini-Ligno DX/C to check hard to reach problem areas in water damage repair applications. For hard materials (concrete, brick, stone, etc.) we recommend using the DX/C with Electrode E16 and E/C pins. See page 3.

mini-Lignos DX, DX/C	Drywall Setting 41	Ref. Scale Setting 0
dry	0-0.5%	0-15
questionable	0.6-0.9%	16-23
moist	1-1.5%	24-35
wet	>1.5%	over 36

Measuring Concrete and other Non-Wood Building Materials with Electrode E14M or E16

For surface readings insert the pins 1/8" (3mm). For depth readings drill 2 holes about 3/16" (5mm) wide and approximately as deep as you want to measure (up to 7" with EL pins). Insert pins an additional 1/8" (3mm) so that the shanks of the pins are not touching the concrete. Be sure the contact area does not change from test to test. For deeper readings you can use regular nails and touch nail head with mini-Ligno pins.

For more accurate concrete moisture measurements and to determine if resilient floor coverings can be installed, use Lignomat's in-situ RH BluePeg system.

Electrodes for mini C-Models



E12 Electrode is for measurements up to 2" (50mm) deep in wood and soft building materials (drywall, gypsum, plaster, etc.) Allows comparing surface and core moisture.

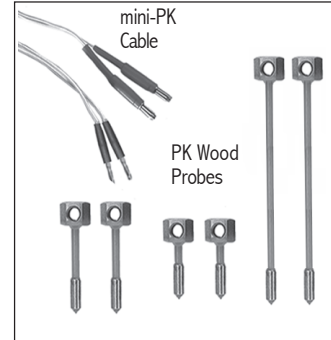
E14M Inspector Electrode in-Hand probe includes cable, EG Pins, teflon-coated. Measures hard to reach places easily, because of its slim shape. Extendable handle. Optional EL Pins 7" (17.5cm).

E16 Specialty/Concrete Electrode and mini-E16 Cable for moisture measurements of concrete and other hard building materials. Standard pins 5/8" (15mm). Optional add EL Pins 7" (17.5cm)

In-kiln - remote

In-Kiln PK Probes with mini-PK Cables

are used for measurements of stacked lumber in kilns, air-drying yards or warehouses. PK Probes are available to measure up to 2.75" deep. Cables can be made up to 50ft (15m) long.



Non-Kiln Applications

Lignomat's cable system works well for monitoring inaccessible areas (underside of floor planks, structural components, behind drywall, roof trusses, etc.) Teflon coated pins for a measuring depth of 3/4" and 7" are also available. For those applications cables with loops allow for an easy connection.

mini-Ligno C-Model

mini-Lignos MD/C, S/DC, DX/C have two integral pins and a cable connection built-in. When an external electrode is connected, depress the on-off switch between the pins by hand to activate the meter.



Wood Temperature Correction Chart

WOOD TEMP.		INDICATED MOISTURE CONTENT IN PERCENT																										
°C	°F	4	5	6	7	8	9	10	(11)	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27			
0	32	6	7	8.5	9.5	11	12	13	14.5	15.5	16.5	17.5	18.5	20	21	22	23	24	25	26	27	28	29.5	31	32			
5	(41)	5.5	6.5	7	9	10.5	11.5	12.5	(14)	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29.5	30.5			
10	50	5	6	7.5	8.5	10	11	12	13.5	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29			
15	59	4.5	5.5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			
20	68	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27			
25	77	3.5	4.5	6	7	8	9	10	10.5	11.5	12.5	13.5	14.5	15.5	16.5	17.5	18.5	19.5	20.5	21	22	23	24	25	26			
30	86	3	4	5.5	6.5	7.5	8.5	9.5	10	11	12	13	14	15	16	17	18	19	19.5	20	21	22	23	23.5	24.5			
35	95	2.5	3.5	5	6	7	8	9	9.5	10	11.5	12.5	13.5	14.5	15.5	16.5	17	18	18.5	19	20	21	21.5	22.5	23.5			
40	104	2	3.5	4.5	5.5	6.5	7	8	9	9.5	10.5	11.5	12.5	13.5	14.5	15.5	16	17	17.5	18	19	20	20.5	21	22			
45	113	1.5	2.5	4	5	6	6.5	8	8.5	9	10	11	12	13	14	15	15.5	16.5	17	17.5	18	19	20	20.5	21			
50	122	1	2	3.5	4.5	5.5	6.5	7.5	8	8.5	9.5	10.5	11.5	12.5	13.5	14.5	15	16	16	16.5	17.5	18.5	18.5	19	20			
55	131	0.5	1.5	3	4	5	6	7	7.5	8	9	10	11	12	12.5	13.5	14.5	15	15.5	16	17	17.5	18	18.5	19.5			
60	140		1.5	2.5	3.5	4.5	5.5	6.5	7	8	8.5	9.5	10.5	11	11.5	12.5	13.5	14	14.5	15	16	16.5	17.5	18	18.5			

WOOD TEMP.		INDICATED MOISTURE CONTENT IN PERCENT																
°C	°F	28	29	30	31	32	33	34	35	36	37	38	39	40				
0	32	33	34.5	36	37	38.5	40	41.5	42.5	43.5	44.5	46	47	47				
5	41	31.5	33	34	35	37	38.5	39.5	41	41.5	42.5	44	45	45				
10	50	30	31	32.5	33.5	35	36.5	37.5	39	40	41	42	43	43				
15	59	29	30.5	31	32	34.5	35	36	37	38	39	40	41	41				
20	68	28	29	30	31	32	33	34	35	37	37	38	39	39				
25	77	27	28	29	30	31.5	31.5	32.5	33.5	34.5	35.5	36.5	37.5	37.5				
30	86	25.5	26.5	27.5	28.5	29	30	31	32	33	34	35	36	36				
35	95	24.5	25.5	26	26.5	28	29.5	29.5	30.5	31.5	32.5	33.5	34.5	34.5				
40	104	23	24	24.5	25	26	27	28	29	30	31	32	33	33				
45	113	22	23	23.5	24	25.5	26	27	28	29	30	31	32	32				
50	122	21	22	22.5	23	24.5	25.5	26	27.5	28	29	30	31	31				
55	131	20	21	21.5	22.5	23.5	24.5	25.5	26.5	27.5	28	29	30	30				
60	140	19.5	20.5	21	22	22.5	23.5	24.5	25.5	26.5	27	28	29	29				

Example:

For an indicated moisture reading of (11)% taken with a mini-ligno at a wood temperature of (41)°F, the actual moisture value is (14) %.

If using the correction chart is too time consuming, Lignomat offers the Lignometer K and Ligno-VersaTec with built-in wood temperature corrections.

For info call **1-800-227-2105**

The mini-Lignos are calibrated for a wood temperature of 70°F (20°C). For wood temperature over 80°F and under 60°F we recommend using this chart.