

User Instructions for all mini-Lignos

Before taking measurements with a mini-Ligno, the protective cap over the pins has to be removed and can be placed on the other end of the meter for easy pin insertion. As soon as the pins are pushed into the wood, 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). For higher or lower wood temperatures see correction table on page 6

All Lignomat meters internally check and adjust the calibration. Therefore manual checks and recalibration is not necessary and not possible.

Wood Group Corrections: All mini-Lignos are equipped with built-in wood group corrections. 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 wood group. For unlisted wood species Lignomat offers free of charge testing to determine the wood group.

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 over 5/4" (30mm) lumber, make a fresh cut. Measure the end grain close to the surface and at the core. If it is not feasible to cut the board, the core of the wood can only be reached with the external Electrode E12 and any mini-Ligno C-model.

Battery: One 9-Volt Battery. If the LED lights get

dim or step 1 and 2 described under "Performance Test" fail, remove screw on back cover, open-up into 2 halves and replace battery.

Pins: All mini-Lignos come with 2 sets of pins #MA for a measuring depth of 3/16" (5mm) and #MB for 7/16" (10mm). To exchange pins, remove screw on back cover, open-up into 2 halves. The longer pins are stored inside the back cover on either side of the indentations for the pins. Remove and replace pins.

Electro-Magnetic Interference and Static Electricity: If you measure close to computers, power tools or electrical wires, several LED lights may be on or the moisture readings jump. To avoid the interference, take readings in a different location. The wood, the meter and the person holding the meter should not move while taking readings.

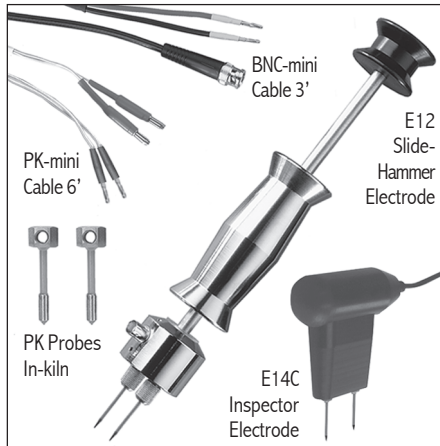
Performance Tests:

Step 1: When the on-off switch is pressed by hand without touching the pins, the lowest moisture value is indicated: for mini-Ligno DX or DX/C: 5% for mini-Ligno, mini-Ligno C, E/D, S/D or S/DC: 6%.

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: Lignomat offers an external testblock to check calibration and operation of any Lignomat pin meter, including cable and electrode. If steps 1, 2 or 3 fail either the battery needs to be replaced or the meter is defective.

Accessories for C-Models



E12 Electrode and BNC-mini Cable for depth measurements up to 2" (50mm) deep in wood and soft building materials (drywall, gypsum, plaster, etc.) To compare surface and core moisture.

PK Probes and PK-mini Cable for in-kiln monitors. A convenient way of obtaining moisture readings without having to walk into a hot kiln. Pre-drill 5/32" hole and insert Probes 1 1/4" apart.

E14C Inspector Electrode: No cable needed. Handprobe. EG pins 3/4" teflon-insulated. EC pins 5/8" not insulated. E14C can be used in all materials because of its size, measures hard-to-reach areas. See page 2.2 for more info.

mini-Ligno and mini-Ligno C

Measuring Range:

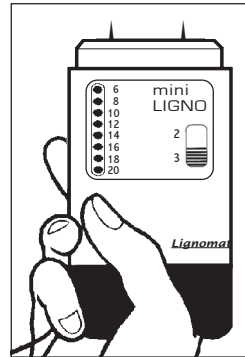
6-20%.

For moisture values above 20%, the LEDs for 6 and 20 light up. For values of 6% or less, the LED for 6 lights up.

Wood Group 2 and 3:

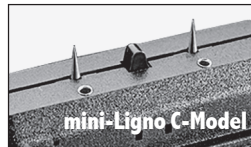
A 2-position switch permits selection for wood group 2 or 3.

Slide switch up or down to change setting. A green specification chart lists the most common wood species and the corresponding wood group.



mini-Ligno C-Model

Mini-Lignos C, S/DC, DX/C have two integral pins and a cable connection built-in. To measure connect cable ends into the inserts besides the pins. Depress on-off switch between pins by hand to activate meter.



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

mini-Ligno S/D and S/DC



● Red LED

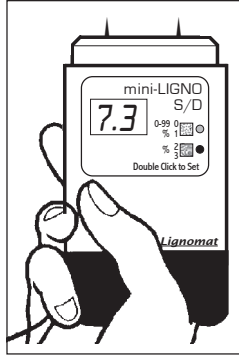
For Wood Measuring Range:

6-55% in group 3

6-45% in group 2

For values above the measuring range, the highest moisture value for the chosen wood group is flashing. For moisture values below 6%, meter reads 6.0 with a blinking decimal point.

Check/Change Settings: Click on-off switch twice to access Check/Change Mode. Red number indicates setting between 0-3. Click on-off switch again to change setting. Change Mode is only accessible when meter is off. A gray specification chart lists the most common species and corresponding wood groups.



mini-Ligno E/D

Measuring Range:

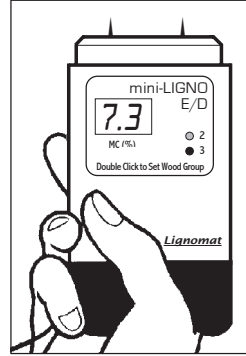
6-55% in group 3

6-45% in group 2

For values above the measuring range, the highest moisture value for the chosen wood group is flashing. For moisture values below 6%, meter reads 6.0 with a blinking decimal point.

Check/Change

Settings: Click on-off switch twice to access Check/Change Mode. Red LED indicates setting. To change setting click on-off switch again. Change Mode is only accessible when meter is off. A purple specification chart lists the most common wood species and corresponding wood groups.



○ Yellow LED

For Non-Wood Building Materials:

Setting 1 is for sheetrock and gypsum (0-4.6%). For moisture ranges see graph at the bottom of page 1.5. For example, at 65% rel humidity and 70°F (20°C) sheetrock measures 0.7%, the corresponding wood moisture WME is 12%. Add Electrode E14C to mini S/DC to investigate hard to reach problem areas.

Setting 0 is a 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 sample to base value. For hard building materials (concrete, brick, stone, etc.) use S/DC plus Electrode E14C with E/C pins. See 2.2.

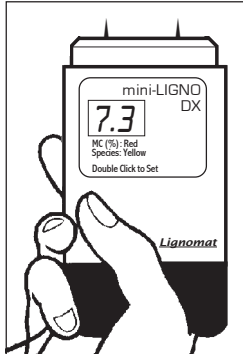
| Sheetrock S/D-C (DX-C) | Settings | | mini S, S/C |
|------------------------|----------|---------|--------------|
| | 1 (41) | 0 | |
| dry | 0-0.5% | 0-15 | green |
| questionable | 0.6-0.9% | 16-23 | green |
| moist | 1-1.5% | 24-35 | green/orange |
| wet | >1.5% | over 36 | orange/red |

mini-Ligno DX and DX/C

For Wood

Measuring Range: 5-55% dependent on wood group. Red numbers indicate the moisture content in percent.

For moisture values above the measuring range, the highest moisture value for chosen wood group is flashing. For moisture values below the measuring range, meter reads 4.0 with a blinking decimal point.



Check/Change Settings: Wait until meter turns itself off. Click on-off switch between pins twice. Yellow numbers indicate settings 1-40 for wood and settings 0 and 41 for building materials. To change setting, click on-off switch again or hold switch down to start count. Change Mode is only accessible when meter is off.

For Wood: Settings 1-40, a blue specification chart lists the most common wood species and the corresponding wood group settings. If a species is not listed call customer service for additional listings.

For Non-Wood Building Materials:

Setting 41 is for sheetrock and gypsum (0-4.6%).

For moisture ranges see graph at the bottom of page 1.5. For example, at 65% rel humidity and 70°F (20°C) sheetrock measures 0.7%, the corresponding wood moisture WME is 12%.

To investigate hard to reach problem areas we recommend the DX/C plus Electrode E14C with teflonized pins.

Setting 0 is a reference scale (0-99) for comparative readings in building materials. For moisture ranges see graph on page 1.5.

We recommend measuring a dry sample to establish a base value. Compare readings in test material to base value. For hard building materials such as concrete, brick or stone, we recommend DX/C plus Electrode E14C with E/C pins.

Measuring Concrete and other Non-Wood Building Materials with the E14C Electrode and EC pins:

For surface readings insert pins about 1/8" (3mm). For depth readings drill two holes about 3/16" (5mm) wide and approximately as deep as you want to measure. 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 or use insulated EL pins 7" (17.8mm). EL pins fit directly into the E14C.

More accurate evaluation of moisture in concrete can be obtained with Lignomats RH BluePeg System.

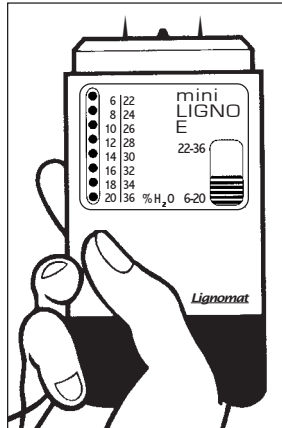
1-800-227-2105.

mini-Ligno E and mini-Ligno E/C

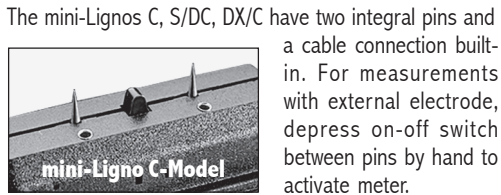
The mini-Ligno E and E/C have a **Moisture Range** from 6-36%. For moisture contents above 36% the LEDs for 6 and 36 light up. For moisture contents of 6% or less, the LED for 6 lights up.

Two-position switch permits selection of measuring range. Start measurements in lower switch position at 6-20%. Read moisture content in first row of numbers between 6-20%. If the LEDs for 6 and 20 light up at the same time, slide switch to upper position at 6-36%. Read moisture content in second row of numbers between 22-36%.

Wood Group: mini-Ligno E and E/C have only one calibration (#3). To obtain same accuracy as the mini-Ligno, a chart is included for manual corrections to wood group #2.



mini-Ligno C-Model



The mini-Lignos C, S/DC, DX/C have two integral pins and a cable connection built-in. For measurements with external electrode, depress on-off switch between pins by hand to activate meter.

Call 1-800-227-2105 and ask about our latest catalog for handheld moisture meters, kiln controllers and in-line moisture meters.

The new Ligno-VersaTec moisture meter combines the most advanced measuring technology for wood, concrete and other building materials:

- Pin Mode
- Non-Invasive Scan Mode
- RH Mode with relative humidity and temp sensor RH BluePeg. (1)

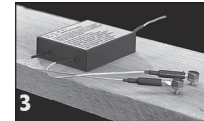


Lignomat's pinless meters for wood, concrete and other building materials are available for a measuring depth of 3/4" and/or 1/4" (20 or 7mm). All pinless meters have built-in corrections for different wood species (2).



Wireless Sensors: (3)

Lignomat is the world leader in wireless sensor systems for dry kilns and heat treatments.



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Wood Temperature Correction Chart

| WOOD TEMP °C °F | INDICATED MOISTURE CONTENT IN PERCENT | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---------------------------------------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|--|
| | 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 | 11.5 | 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 | 10.5 | 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 | 8.5 | 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 | 10.9 | 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 °C °F | 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 moisture meters with built-in wood temperature corrections. The following meters indicate moisture values internally corrected for chosen wood group and chosen wood temperature: mini-Master HT or HTC, Lignometer KF or KC, Ligno-VersaTec.

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

* The mini-Ligno 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.