

## Thermo-Hygrometer PN

The Thermo-Hygrometer PN is used in manufacturing facilities, warehouses, shops, offices and homes to measure relative humidity and temperature. It is an important tool for wood floor installers, restoration and remediation specialists. The PN also works great to check for comfortable live-in conditions in homes and offices (ambient conditions around 70°F and 35-50% ).

Relative humidity affects wood and building materials as well as the health and comfort of people. Low humidity can cause wood to shrink and cup. High humidity can cause wood to expand and mold to develop. We recommend the Thermo-Hygrometer PN for its wide measuring range from 5% to 95% RH and the fast response time, which makes the PN especially suitable for job-site estimates.

**The perfect addition to your moisture meter.**

**Operation is simple:** Push the on button and the meter indicates relative humidity and temperature values within seconds. Display shows both RH in % and temperature in °F or °C. The PN has a fast response time, when the relative humidity changes. It takes a little longer to adjust, when the temperature changes and the meter itself is coming in being warmer or colder.

**Hold function:** The hold function can be activated, when measuring in places where the display cannot be seen. It freezes the last measurement and allows the user to move the meter closer so that the last measurement can be seen.

**Min / max function:** The PN thermo-hygrometer keeps track of highest and lowest values within the present memory cycle. To start a new memory cycle, the old memory has to be cleared. After clearing the old memory, new min and max values are saved as they occur within the new cycle.

**Sleep mode:** Once the meter is turned on, it turns itself off after 20 minutes. No measurements are taken and no new values are added to the min / max memory after the meter turns itself off. If you want the meter "on" at all times either because you want the display showing at all times or because you want to continue to keep track of min / max values, you can put the meter into non-sleep mode.

### Specifications:

Relative Humidity: Range 5% to 95% | ±5 %

Temperature: Range 14°F to 122°F | ±2°F (-10°C to 45°C | ±1°C)

Resolution: 0.1%, 0.1°F, 0.1°C

Sensing element: Electronic capacitance, Polymer Film

Battery: 1 CR2032 (included)

Battery Life: 150 hours

Dimensions: 6.9" x 1.7" x 0.6", tip diameter 0.5" x 1"

Weight: 1.6 oz. (45g)

Specifications subject to change without notice.

- If you are looking for greater accuracy when measuring RH and ambient temperature, select one of Lignomat's RH meters:  
**Ligno-Tec RH, Ligno-DuoTec BW, Ligno-VersaTec** (also show DPT, GPP)
- If you are looking to log humidity conditions, select the BL2 data logger. Better yet, if you want to record changes in moisture content related to humidity changes, select the MC Tracker with BL2.



Once dried lumber can pick up moisture again, if not stored in a dry place. Check relative humidity to keep your lumber dry.



Relative humidity is an important factor when stability of wood floors is in consideration.

Relative Humidity - Wood Moisture - Chart											
Temp	20	25	30	35	40	45	50	55	60	65	70
30	4.6	5.5	6.3	7.1	7.8	8.7	9.5	10.4	11.3	12.4	13.5
40	4.6	5.5	6.3	7.1	7.8	8.7	9.5	10.4	11.3	12.4	13.5
50	4.6	5.5	6.3	7.1	7.8	8.7	9.5	10.3	11.2	12.3	13.4
60	4.6	5.4	6.2	7.0	7.8	8.6	9.4	10.2	11.1	12.1	13.3
70	4.5	5.4	6.2	6.9	7.7	8.5	9.2	10.1	11.0	12.0	13.1
80	4.4	5.3	6.1	6.8	7.6	8.3	9.1	9.9	10.8	11.7	12.9
90	4.3	5.1	5.9	6.7	7.4	8.1	8.9	9.7	10.5	11.5	12.6

Wood movement becomes predictable. The EMC chart lists values for stable wood moisture content and the corresponding relative humidity.

**See page 2 for complete EMC chart up to 120°F**

## EMC: Relative Humidity and Wood Moisture Content

From the US Dept. of Agriculture Wood Handbook, "Wood as an Engineering Material"  
Humidity recommendations range from **30% – 50%** in a building.

Temperature recommendations range from **60°F – 80°F** in a building.

If ambient conditions stay within these recommendations, the moisture content of wood stays between 6% and 9% and the amount of expansion and contraction of wood is limited.

Examples:

(1) Lumber at 7.7% will not change its moisture content if kept at 40% relative humidity and a temperature of 70°F.

(2) Conditions in a warehouse are 60% relative humidity at 50°F. Dry wood is left in the warehouse for an extended period of time. The wood will pick up moisture until 11.2% wood moisture is reached, regardless of wood species and initial moisture content.

EMC Table

T		Relative Humidity																		
°C	°F	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
-1	30	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.8	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3
4	40	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.8	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3
10	50	1.4	2.6	3.6	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.3	11.2	12.3	13.4	14.8	16.4	18.4	20.9	24.3
16	60	1.3	2.5	3.6	4.6	5.4	6.2	7.0	7.8	8.6	9.4	10.2	11.1	12.1	13.3	14.6	16.2	18.2	20.7	24.1
21	70	1.3	2.5	3.5	4.5	5.4	6.2	6.9	7.7	8.5	9.2	10.1	11.0	12.0	13.1	14.4	16.0	17.9	20.5	23.9
27	80	1.3	2.4	3.5	4.4	5.3	6.1	6.8	7.6	8.3	9.1	9.6	10.8	11.7	12.9	14.2	15.7	17.7	20.2	23.6
32	90	1.2	2.3	3.4	4.3	5.1	5.9	6.7	7.4	8.1	8.9	9.7	10.5	11.5	12.6	13.9	15.4	17.3	19.8	23.3
38	100	1.2	2.3	3.3	4.2	5.0	5.8	6.5	7.2	7.9	8.7	9.5	10.3	11.2	12.3	13.6	15.1	17.0	19.5	22.9
43	110	1.1	2.2	3.2	4.0	4.9	5.6	6.3	7.0	7.7	8.5	9.2	10.0	11.0	12.0	13.2	14.7	16.6	19.1	22.5
49	120	1.1	2.1	3.0	3.9	4.7	5.4	6.1	6.8	7.5	8.2	8.9	9.8	10.7	11.7	12.9	14.4	16.2	18.6	22.0

The values shown in the table above represent moisture content of wood in %



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