

Package SPP-M

Applications

Used by inspectors, contractors and water restoration specialists, anyone who needs to investigate moisture conditions in wood floors, drywall, roofing materials and structural elements. With the three electrodes, you can always choose the right tool to trace a moisture problem back to its origin.

When the integral pins of the mini-Ligno S/DC are not reaching the areas to be measured or the material is too hard for the pins to be pushed in by hand (concrete).

Advantages

The S/DC moisture meter has a wide moisture range, low enough for hardwood floors and high enough to assess water damage to 45%. The meter comes with settings for softwood, hardwood and panel products and percentage scales for different types of drywall and a reference scale for other building materials including concrete.

This multi-use package includes mini-Ligno S/DC with 3 electrodes. The electrode E12 is mainly used to measure wood, wood floors and subfloors, even without removing the floor planks. The slim shape and long pins of the electrode E14-m allow for measuring in corners, under baseboards, around window sills, behind wall cavities, places which cannot be reached with the integral pins of a meter. The electrode E16 is for measuring hard building materials such as concrete, brick, tile or grout.

The **mini-Ligno S/DC** is a perfect meter for the construction, restoration and building maintenance professional. It comes with pins and a connection for external electrodes and monitor cables. Features are the wide measuring range and corrections for measuring softwood, hardwood and panel products, gypsum and different types of wall boards and a reference scale for concrete and other building materials.

For wood: The integral pins at the mini-Ligno measure 7/16" deep. When measuring thick wood, you can make a fresh cut and measure the end grain to reach the core. If it is not feasible to cut the wood, you can use the electrode E12 for depth measurements.

For building materials: The pins on the meter work well in soft materials such as drywall to a measuring depth of 7/16". If corners and tight places cannot be reached with the integral meter pins, use the electrode E14-m or E16, whichever is more convenient. Add EL pins for measuring in-depth up to 7" deep

The **slide-hammer electrode E12** is designed to measure wood from the surface up to 2" deep (with DB pins). All E12 pins are insulated and measure only at the tip. The slide hammer helps inserting and removing the pins. As pins are hammered into the material, consecutive readings show the moisture distribution within the material at every depth level the pins are driven to. The ability to measure a moisture gradient is one of the main reasons for our customers to use the E12.

Wood: Taking numerous readings as the pins are driven towards the core indicate if a moisture gradient exists or if the wood is dry throughout the core. Making sure wood is evenly dried is the best assurance for quality and stability of wood products. When inspecting wood floors, using the E12 gives you a tool to assess moisture distribution through floor planks into the sub floor without having to remove any floor planks.

Restoration: The moisture in structural component even behind wall coverings can be checked with the electrode E12.

When assessing water damage, the pins of the E12 can be driven to different depth levels and thus indicate how far water has been absorbed or if there is still residual moisture inside the structure after drying. Insulated pins can measure dry material behind a wet surface.



Pin meter mini-Ligno S/DC with Electrode E12, E14M and E16.

Moisture control from drying to finishing assures quality wood products.



Bright LED display for optimum visibility. Display has a life-time warranty. Quality, performance and price have made mini-Ligno very popular.



In-depth measurements detect unevenly dried wood and help avoid costly mistakes. Used when installing, inspecting floors and for restoration jobs.

Inspector Electrode E14-V can be used for measuring moisture on any surface up to 3/4" deep with insulated pins EG. In addition, the slim shape allows for checking places, which cannot be reached with the electrode E12; around pipes, below window sills, into corners, through roof coverings. The light weight of the E14 makes it easier to obtain measurements in hard-to-reach areas. Adding the 7" long EL pins lets you reach through wall covers and insulation or under baseboards into structural components. Great for EIFS inspections.

The knob at the end of the handle can be removed and replaced by a paint brush handle or broom stick. Using the **paint brush** handle allows to extend the reach. You can stay a safe distance from mold infested areas and still be able to get reliable measurements. Extending the handle with a **broom stick** makes measuring carpets and carpet padding easy without crouching down. Ceilings can be checked for moisture leakage without a ladder.

Pins measure only at the tip. EG and EL pins are teflon-coated up to the electrode handle. Moisture from a wet surface is never picked up, even if the pins are pushed all the way into the material.

Using the external electrode E14-m allows you to keep the meter display visible in front of you. Measuring ceilings, walls or floors with the meter itself can make it impossible to read the numbers on the display.

Hard Materials: Electrode E14-V and pins EG are very sturdy and allow hard pounding to insert the pins into hard materials. Works for strand bamboo as well as hard and cementitious panel products.

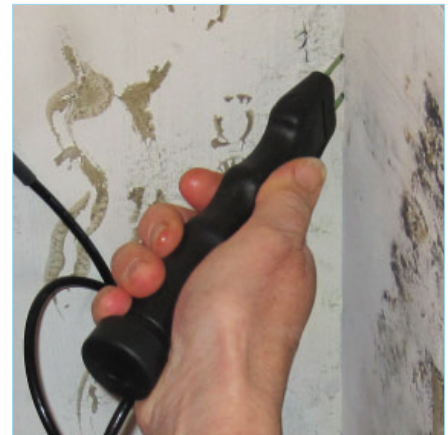
Electrode E16 is mainly to measure hard building materials, such as concrete slabs, brick walls, tile. The electrode can also be used when the distance or the angle between the 2 measuring pins need to be changed. Standard distance between pins is 1 1/4".

The electrode E16 consists of two separate posts. Each post is 2" long with a ball head. The cable is connected through a hole in the post using a 4mm banana plug. The bottom of the posts have threads for the pins. An assortment of pins is available with lengths from 3/16" to 7" (Pins EG, EL and EC, EA, EV). Tapping on top of the ball head with a mallet or hammer will drive pins into the material. Pre-drilling holes maybe required for deeper measurements.

We recommend a distance of 4" (10cm) between the pins for measuring cementitious materials including concrete. Cementitious materials have a low electrical resistance compared to wood and tend to give high values, therefore changing the distance allows a wider moisture range.

Measurements obtained from concrete or cementitious materials are not true percent values. They only can be used as reference numbers or comparative readings. Comparative measurements become meaningful, when a dry (wet) sample piece of the material is available. Measurements can then be compared to the moisture value for dry (wet).

Using the mini-Ligno S/DC with the Electrode E16 gives immediate results when measuring concrete. The measurements can show areas of high and low moisture. If measurements are taken with the EL pins at different depth levels, the moisture profile of the slab becomes obvious. However, it cannot replace the in-situ probe test or the Calcium-Chloride test which allow to determine, if a wood floor can be installed.



For all areas in the building envelope where the meter pins cannot reach or the display cannot be read. Detect moisture where it hides!



Hard-to-reach areas can be easily measured when adding the long EL pins. Reaching through insulation and wall boards.



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Meter Specifications

Size: 5.5"L X 2.75"W X 1"H

Measuring Range:

- Wood: 6-45%
- Gypsum, Sheetrock, Wall Boards: 0-7.5%
- Reference Scale: 0-99

Display: Resolution: 0.1% below 10% and 1% steps above 10%, life-time warranty

Calibrated for a wood temp of 70°F (20°C).

A correction table for different wood temperatures is listed in the manual.

Species Corrections

- 2 settings for wood species corrections: hardwoods, softwoods and panel products
- 3 Settings for gypsum, drywall and wall boards (water resistant, exterior, interior)
- 1 reference scale 0-99 for non-wood building materials (concrete)

Electrode E12 Specifications

Weight 3.5 lbs. Length without pins 12".

A cable connector (BNC) is mounted at the head of the electrode.

A mini-BNC cable (3ft) to connect electrode E12 to mini-Ligno C's is included in the pkg.

E12 pins are teflon coated to only measure at the tip and come in three options:

- DZ Pins insulated, measuring depth 1"
- DA Pins insulated, measuring depth 1.5"
- DB Pins insulated, measuring depth 2"

1 pair DZ pins and 1 pair DA pins are included in the package. DB Pins are not included.

Electrode E14-V Specifications

Weight 5 oz. Length without pins 7".

The electrode E14-V comes with a cable to connect to the mini-Ligno C's..

E14 pins are teflon coated to only measure at the tip and come in two options:

- EG Pins insulated, measuring depth 3/4"
- EL Pins insulated, measuring depth 7"

1 pair EG pins is included in the package. EL pins are not included.

Electrode E16 Specifications

Electrode E16 consists of 2 posts. Each post is connected with the mini-E16 cable to the mini-Ligno C's. The split cable with two 4mm plugs and the two 2mm plugs for the mini-Ligno C's is included in the package.

E16 Pins:

- teflon-coated pins EG and EL
- un-coated pins EC, EA, EV (1 pair EC pins is included with E16)

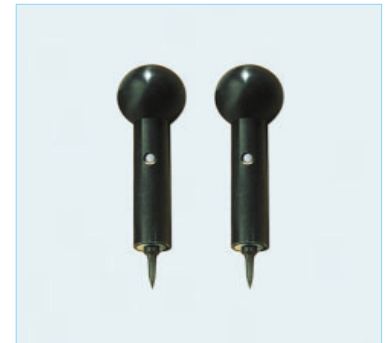
1 pair EC pins is included in the package. EG, EL, EA and EV pins are not included.

Package Includes

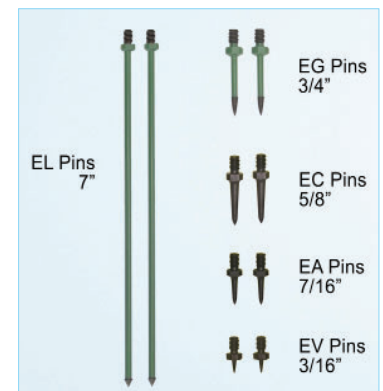
- 1 mini-Ligno S/DC meter with wrist strap in carrying pouch with belt loop, 1 9V battery
- 1 laminated wood group card and 1 instruction manual
- 2 pair pins: 1 pair of 3/16" and 1 pair of 7/16" measuring depth (5mm, 10mm)
- Built in connector for an assortment of external electrodes and in-kiln probes
- 1 inspector electrode E14M
- 1 Slide-hammer electrode E12, 1 pair pins DZ 1" and 1 pair pins DA 1.5", teflon-coated
- 1 BNC cable for E12
- 1 Inspector electrode E14-V with mini-BNC cable, 1 pair pins EG 3/4", teflon-coated
- 1 Specialty electrode E16, 1 pair pins EC 5/8", un-coated
- 1 mini-E16 cable for E16
- 1 Case M



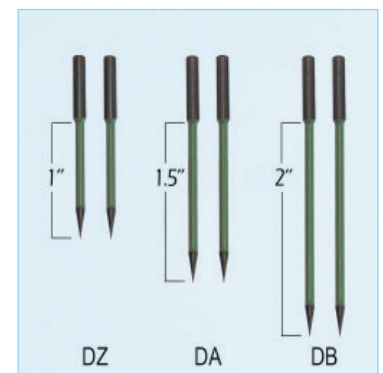
Inspector Electrode E14M is designed to reach where moisture hides. E14M is tough enough to hammer pins into hard materials.



Electrode E16 for hard bldg materials and cement-based panels for mini-Ligno C' models



Pins for electrodes E14 and E16



Pins for electrode E12

Package Includes

- 1 mini-Ligno S/DC meter with wrist strap in carrying pouch with belt loop
- 1 9V battery
- 1 laminated wood group card and 1 instruction manual
- 2 pair pins: 1 pair of 3/16" and 1 pair of 7/16" measuring depth (5mm, 10mm)
- Built in connector for an assortment of external electrodes and in-kiln probes
- 1 mini-BNC Cable
- 1 slide-hammer electrode E12
- 2 pair pins: 1 pair 1" DA pins and 1 pair 1.5" DZ pins
- 1 inspector electrode E14M
- 1 pair EG Pins, 3/4" measuring depth (19mm)
- 1 specialty electrode E16
- 1 pair 5/8" EC pins



Selection of Pins for E14M and E16:
coated EG 3/4" and EL 7"