PROTIMETER

TimberMaster

Protimeter Moisture Meter

(BLD5605, BLD5609, BLD5605-SW, BLD5609-SW)



Instruction Manual

Amphenol

Advanced Sensors

INS5605-EN Rev. D
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1 Safety Considerations

Caution note for the WME pins - The Pin Moisture measurement pins are extremely sharp and the instrument should be handled with due care. The pins should be covered with the cap provided with the unit when the function is not in use.

Calibration of unit - The accuracy specifications of the product are valid for one year from the date of calibration. Periodic calibration checking, as outlined in section 4, is advised.

Only operate the measuring instrument properly, for its intended purpose and within the parameters specified in the technical data. Readings from moisture meters are not definitive but are used to help a professional make informed judgement to the material's moisture condition. Conductive material such as salts, carbon and metal can give false positive readings.

2 Pin (WME) Mode Operation

The *Protimeter TimberMaster* is a conductivity moisture meter designed for use in wood. Moisture measurements can be taken using the integral pin electrodes. When used with the temperature probe, the moisture measurements are automatically corrected with respect to temperature. This feature is particularly relevant for users testing wood that is significantly above or below 20°C (68°F).

TimberMaster is switched on by pressing and holding it for a few seconds.

To switch OFF, press and hold for 3 seconds.

Unit turns off automatically after few minutes (can be set) when no key press is detected.

3 Using the Protimeter TimberMaster without the Temperature Probe

The TimberMaster is calibrated for wood at 20°C (68°F). In general, the effect of temperature on the moisture measurement calibration can be approximately compensated as follows:

For every 5°C above 20°C, subtract 0.5%mc from the value displayed.

For every 5°C below 20°C, add 0.5%mc from the value displayed.

Examples:

Wood temp: 20°C, Moisture value: 15.5%. Temp correction: 0 moisture content: 15.5%
Wood temp: 25°C, Moisture value: 15.5%. Temp correction: -0.5 moisture content: 15%
Wood temp: 15°C, Moisture value: 15.5%. Temp correction: +0.5 moisture content: 16%
Wood temp: 30°C, Moisture value: 15.5%. Temp correction: -1 moisture content: 14.5%
Wood temp: 10°C, Moisture value: 15.5%. Temp correction: +1 moisture content: 16.5%

3.1 Reading with Integral Electrode Pins

Remove the cap to expose the needle electrodes and switch the instrument ON by pressing . Select the appropriate wood calibration scale (A, B, C, D, E, F, G, H or J) by referring to the enclosed Protimeter wood calibration tables and pressing . Push the pins in to the surface of the wood and observe the reading.

3.2 Reading with Moisture Probe or Hammer Electrode

Connect the moisture probe or (optional) hammer electrode to the 3.5mm socket at the right hand side of the TimberMaster, and switch ON by pressing . Select the appropriate wood calibration scale (A, B, C, D, E, F, G, H or J) by referring to the enclosed Protimeter wood calibration tables and pressing . Drive the moisture probe pins or hammer electrode needles in to the wood and observe the reading.

4 Using the Protimeter TimberMaster with the Temperature Probe

If the timber being measured is significantly above or below 20°C (68°F), the TimberMaster should be used in conjunction with the *Temperature Probe.* When this probe is connected the TimberMaster, it automatically

corrects the measured moisture value with respect to temperature.

4.1 Automatically Temperature Corrected (ATC) Readings

Switch the TimberMaster ON and select the appropriate wood calibration scale as detailed in section 3.1 or 3.2. Using either a hammer electrode, or a hammer and nail of nominal 2mm diameter, make a hole in the wood to be tested. Remove the hammer electrode or nail, and push the temperature probe into the hole until the tip is at the required depth. Connect the temperature probe to the TimberMaster via the 2.5mm socket. To obtain the ATC moisture value, take moisture readings as detailed in sections 3.1 or 3.2 while the temperature probe is positioned in the wood and connected to the TimberMaster. If the temperature of the wood is assumed to be equal to the ambient air temperature, ATC moisture values can be obtained by holding the connected temperature probe in air. Switch between temperature and moisture displays by pressing .

5 Calibration Check

The calibration of the TimberMaster is checked by holding the electrode needles across the exposed wires of the “calcheck” device (supplied) or across the terminals of the protimeter check box (optional accessory). When checking the calibration, the A scale should be selected and the temperature probe must be disconnected. Correctly calibrated TimberMaster will register a (%MC) value in the range of 18.0 ± 1%.

6 Care and Maintenance

When the TimberMaster is not in use, keep it in its pouch together with its accessories. Store the kit in a stable, dust-free environment out of direct sunlight. Remove the battery from the instrument if it is to be stored for periods of more than four weeks, or when the low battery power symbol appears on the display. Check the condition of accessories used with the TimberMaster instrument on a regular basis and replace them if they become worn or

damaged.

7 Reference Mode

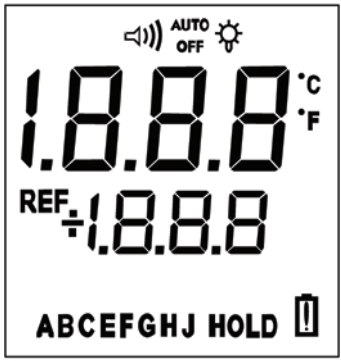
Measure the material until the meter's reading is stable then press ▷ for 2 seconds. This will store the reading until the mode changes or the meter turns off. Now all readings taken after will be displayed as normal, but below you will see a second reading that shows you if the material is measured above or below the original reading. Reference mode can be useful when trying to establish what materials are above or below a point of reference or dry standard. See page 6 for further information.

8 Operating TimberMaster

8.1 Switch On:

Press the ⏻ ON/OFF button.

The unit turns on, with the LCD displaying all the segments and sweeping the LED bar graph.



8.2 Reference Mode of Measurement:

Note: *For application information, see* Pin (WME) Mode Operation> on page 2.

In Measure Mode, take the first measurement which needs to be taken as reference. While the first reading is displayed on the screen, press and hold the ▷ button for 2 seconds to enter the Reference Mode. The display will be similar to the one shown on the next page.



To return to the normal measurement mode, press ▷ again.

8.3 Settings:

Press and hold the ▷ button and switch on the unit by pressing ⏻. Hold both buttons until the TimberMaster displays the version.



Release both buttons while it shows the version number. The unit enters Settings Mode.

8.3.1 Buzzer ON/OFF Settings:

Once in Settings, go to Buzzer ON/OFF to turn the Buzzer ON or OFF.



To change the settings, press the button.

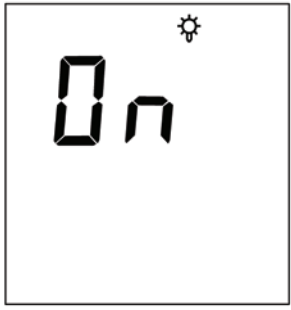


If the unit detects no key press for 2 seconds in the Setting screen, it moves to the next setting.

Pressing the button, after you have entered the desired setting, will save the setting and move the screen to the next setting.

8.3.2 Backlight Settings:

Once the Buzzer Settings are entered, the next setting turns the backlight ON or OFF.



To change the settings, press the button.



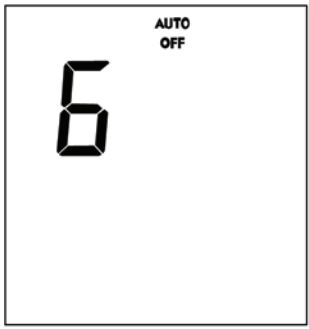
If the unit detects no key press for 2 seconds in the Setting screen, it moves to the next setting.

Pressing the button, after you have entered the desired setting, will save the setting and move the screen to the next setting.

8.3.3 Auto Off Time Settings:

When Auto Off is set, the unit will shut down automatically at a specified time between 1 and 6 minutes, if there is no key press detected within the set time.

For example, if the Auto Off time is set as 1, then the unit will automatically shut down after a minute when no key is pressed.



The duration will change based on the set time of 1- 6 minutes.

If the auto off time is set to be “0”, then the unit will not automatically turn off. A user must manually turn it off by pressing and holding the button for 5 sec.

Turn off time can be set by pressing the button, and can be saved by pressing .

After you save this setting, the unit will exit to the measurement screen.

8.4 Battery Low Indication:

Whenever the battery is low, there will appear a battery low indication symbol on the screen (bottom right). This indicates that the battery is low and should be replaced soon. The unit will continue to perform in battery condition within the specified accuracy, and turns off when the battery reaches the limit.



8.5 Holding / Freezing the Reading:

While measuring, if the reading needs to be frozen for any observation, press during measurement. A text “HOLD” will be displayed on the screen.



9 Battery Replacement

A 550mAh battery will last continuously for more than 20 hours for a TimberMaster in operation. A Battery Low indication on the screen indicates that the battery needs to be changed in a short time.

Remove the screw assembled to fix the battery lid on the back side of the unit

Slide the battery lid downwards applying a little pressure with the thumb to open the battery compartment.

9 Battery Replacement *(cont.)*

Remove the battery, and replace. Care must be taken to ensure that the polarity is correct as below. Place the battery inside the compartment.

10 Technical Specifications

Operating Conditions:

Operating temperature range: 0°C to 50°C Humidity: 0 to 90% RH, non-condensing.

Moisture Measurement Specifications:

For integrated and remote pin probes:
Strong and reliable integrated pins, with a cap to protect
Pin measurement range (% MC in wood/%WME) - 7.9 to 99% (readings over 30% are relative).

11 Physical Specifications

Power:

9V- Alkaline 550mAh
Battery low indication on LCD

Size:

19cm x 6.5cm x 3.5cm (7.5” x 2.5” x 1.4”)

Gross Weight (without Battery)

~228g

Maximum Needle Depth

For WME pins: 0.4” (10mm)

Buzzer

Audible buzzer for key tone and measurement indication, user configurable

Regulatory Compliance

CE, RoHS, ETL

MODEL : BLD5605 / BLD5605-SW



Meter



BLD5060
Heavy Duty Moisture Probe



BLD5059
Timber Temperature Probe

Accessories

MODEL : BLD5609 / BLD5609-SW



Meter



BLD5060
Heavy Duty Moisture Probe

Accessories

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