Laserliner 082 017 DampFinder Compact Plus Moisture Meter Temperature Reading Instruction Manual

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Contents

DampFinder Compact Plus Moisture Meter Temperature Reading

A

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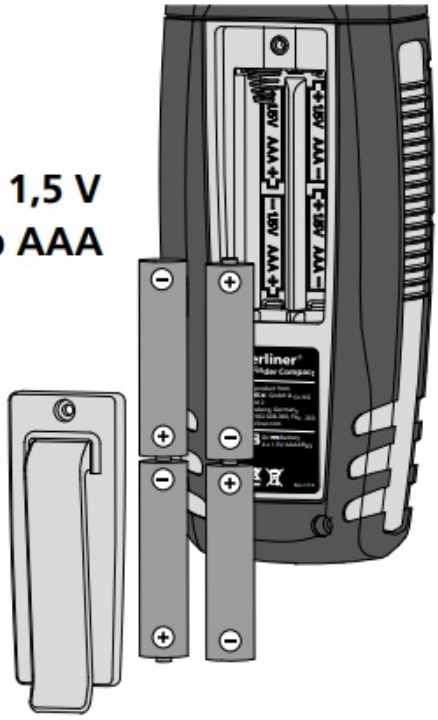
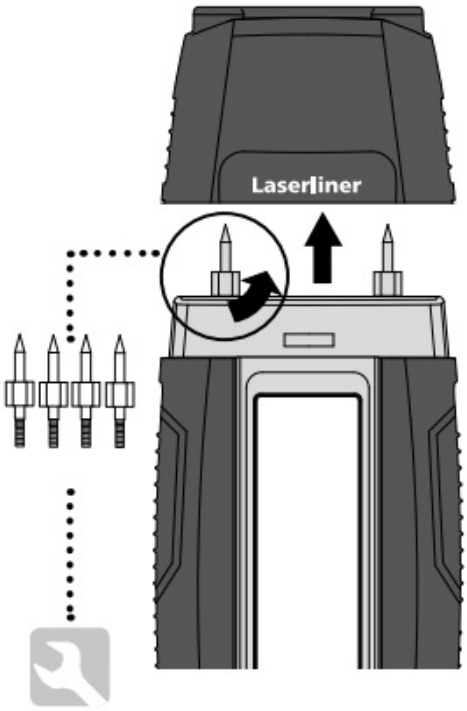
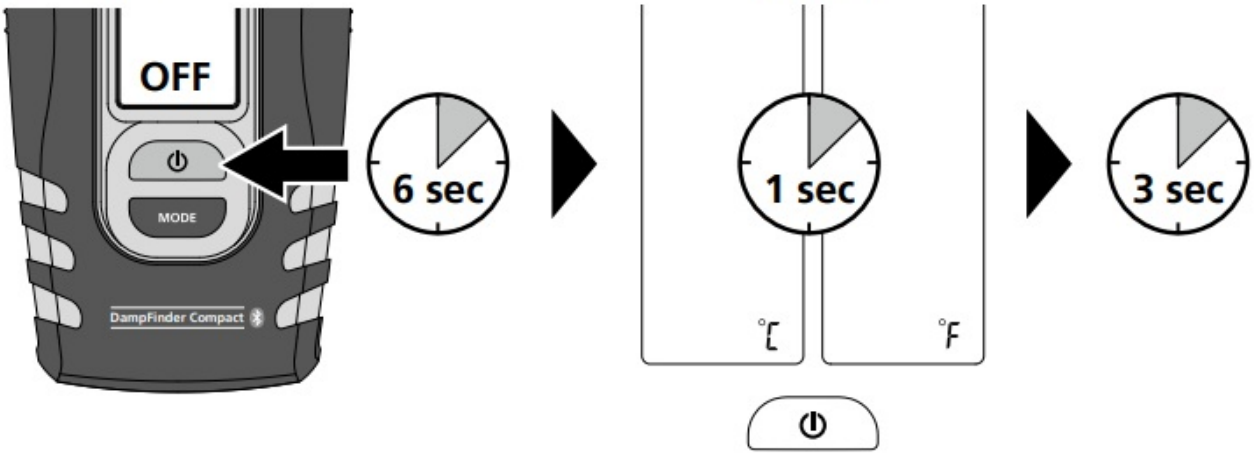
Typ AAA

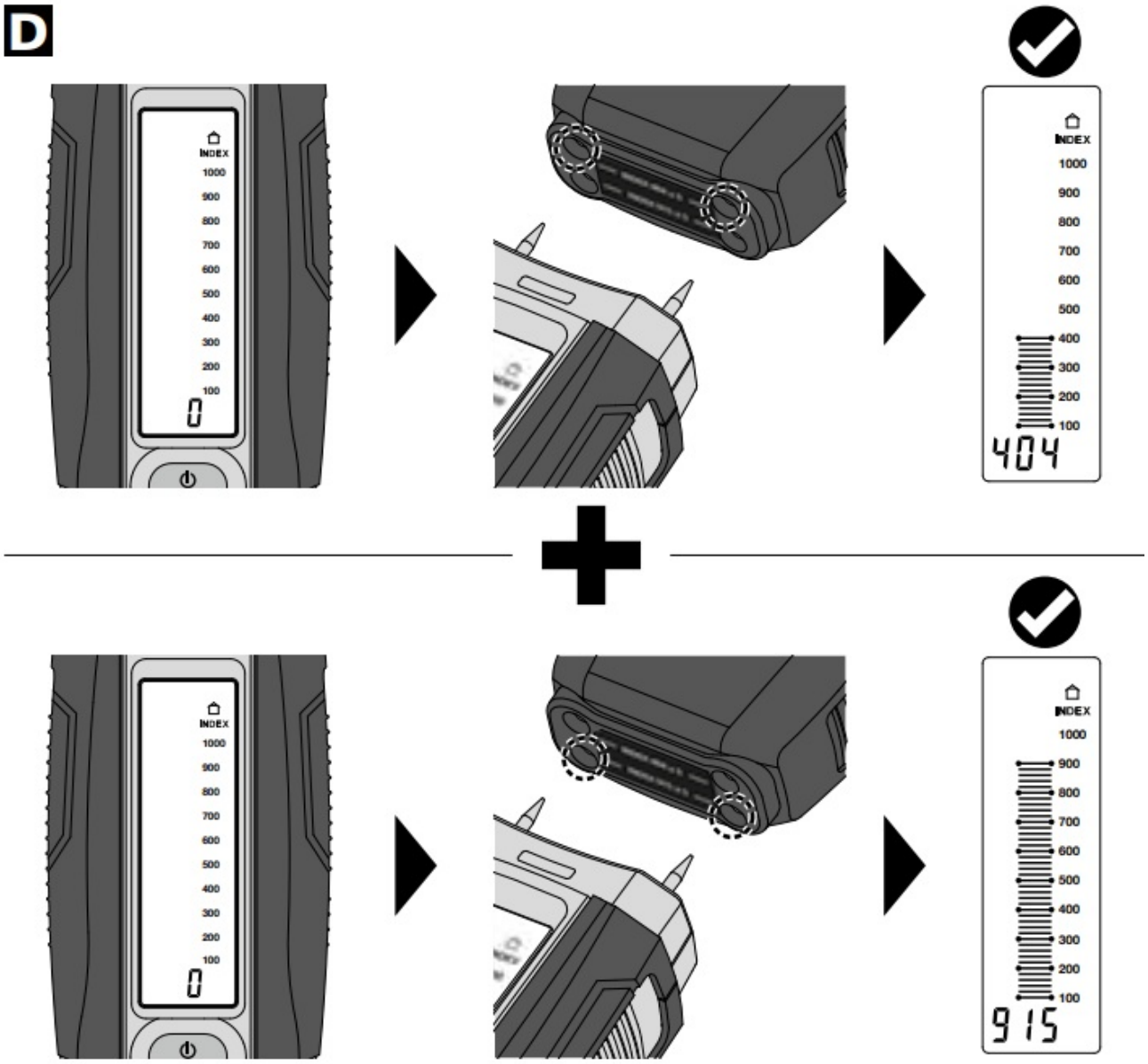


B



C °C / °F





DampFinder Compact Plus

! Completely read through the operating instructions, the Warranty, and the Additional Information" booklet as well as the latest information under the internet link at the end of these instructions. Follow the instructions they contain. This document must be kept in a safe place and passed on together with the device.

Function / Application

This material moisture device detects and evaluates the material moisture content of wood and building materials by way of electric resistance measurement. The displayed value (wood) or the calculated value (building materials) is material moisture in % with respect to dry mass.
Example: 100% material moisture for 1 kg of wet wood = 500 g water. The measuring instrument also features a material-independent index mode. Measured data transfer via Bluetooth® interface.
Measurement procedure notice:
Be sure neither supply lines (electric lines, water pipes, etc) nor a metal subsurface is present at the location to be measured. Insert the electrodes as far into the material as possible but never use excessive or sudden impact force as this could damage the unit. Always pull the unit out of the material with a left/right twisting motion. Perform several comparative measurements at different locations to minimize measurement error.

! The sharply pointed electrodes present an injury hazard. Always put the safety cap on the unit when it is not in

use or being transported.

General safety instructions

- The device must only be used in accordance with its intended purpose and within the scope of the specifications.
- The measuring tools and accessories are not toys. Keep out of reach of children.
- Modifications or changes to the device are not permitted, this will otherwise invalidate the approval and safety specifications.
- Do not expose the device to mechanical stress, extreme temperatures, moisture, or significant vibration.
- The device must no longer be used if one or more of its functions fail or the battery charge is weak.
- Do not use the measuring probe with an external voltage.
- Please ensure compliance with the safety regulations set out by local and national authorities with regard to the correct and proper use of the device.

Safety instructions
Dealing with electromagnetic radiation

- The measuring device complies with electromagnetic compatibility regulations and limits in accordance with the EMC Directive 2014/30/EU which is covered by the Radio Equipment Directive 2014/53/EU.
- Local operating restrictions for example, in hospitals, aircraft, petrol stations, or in the vicinity of people with pacemakers may apply. Electronic devices can potentially cause hazards or interference or be subject to hazards or interference.
- The measuring accuracy may be affected when working close to high voltages or high electromagnetic alternating fields.

Safety instructions
Dealing with RF radiation

- The measuring device is equipped with a wireless interface.
- The measuring device complies with electromagnetic compatibility and wireless radiation regulations and limits in accordance with the RED 2014/53/EU.
- Umarex GmbH & Co. KG hereby declares that the DampFinder Compact Plus radio equipment complies with the essential requirements and other provisions of the European Radio Equipment Directive 2014/53/EU (RED).
  The EU Declaration of Conformity can be found in its entirety at the following address: **http://laserliner.com/info?an=ABT**

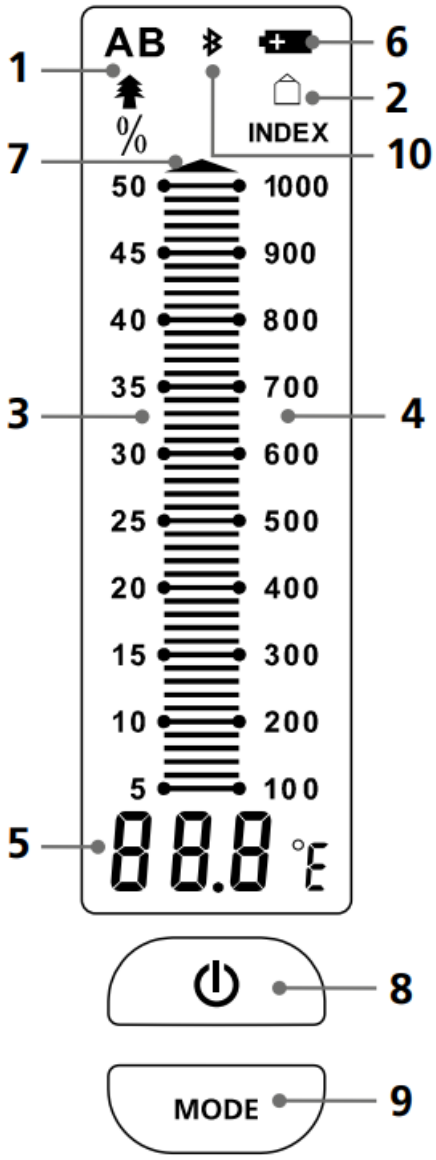
Information on maintenance and care

Clean all components with a damp cloth and do not use cleaning agents, scouring agents, or solvents. Remove the battery(ies) before storing it for longer periods. Store the device in a clean and dry place.

1. **Inserting batteries (see fig. A, page 02)**
   Open the battery compartment and insert the battery according to the symbols. Be sure to pay attention to

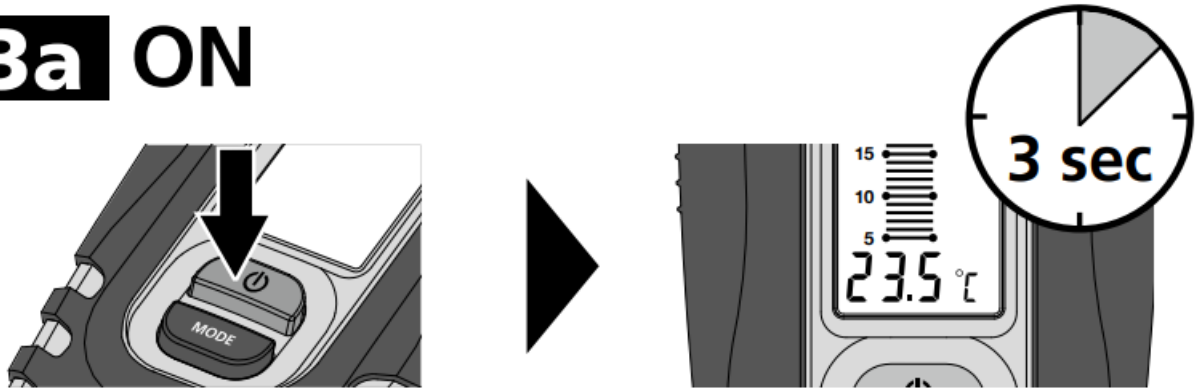
polarity.

2. **Change measuring prods (see fig. B, page 02)**



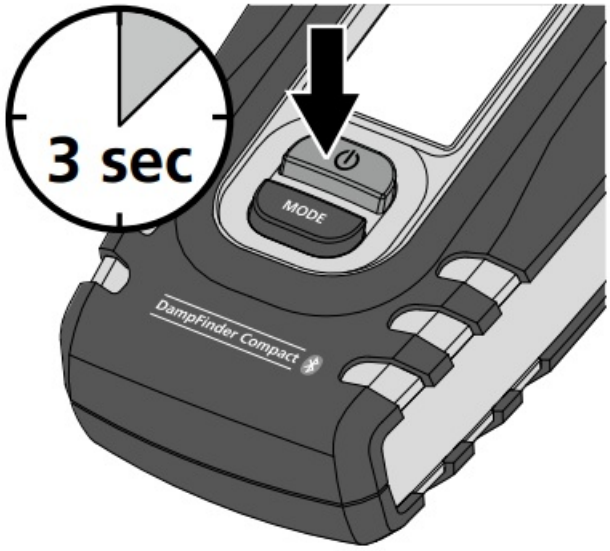
1. **Wood groups A** / **B, moisture in %**2
2. Index mode (building materials)
3. Bar graph display for wood groups A/B
4. Bar graph display for index mode
5. Numeric measurement value in % /index value
6. Low battery charge
7. Display arrow: value out of range indicator
8. On/Off switch, READ: transfer measured data via Bluetooth ® interface, switch the temperature unit between °C and °F
9. Switch-over to wood groups A and B, index mode
10. Bluetooth active

3a ON

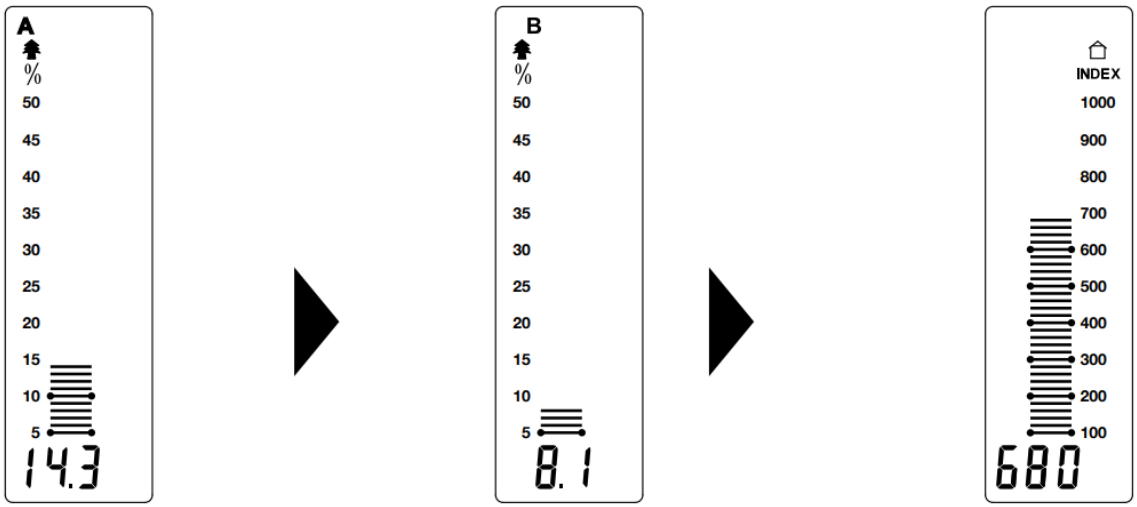


When the device is turned on, the display will show the ambient temperature for 3 seconds.

3b OFF



To change the measuring mode



1x ⏻ **Wood group A**

1x MODE **Wood group B**

1x MODE **Index mode**

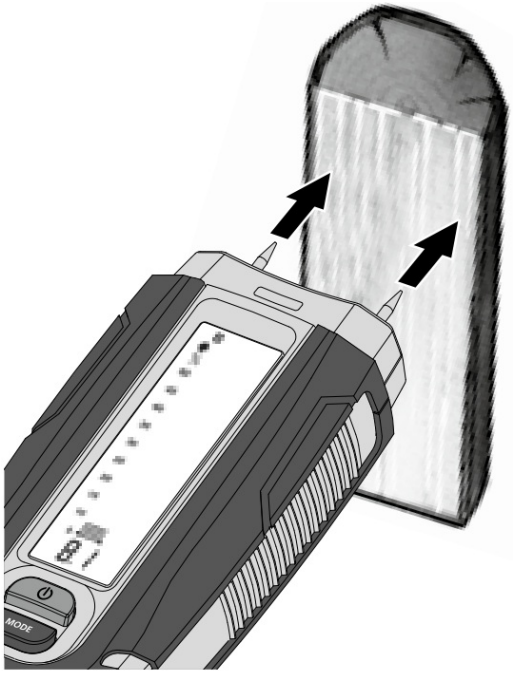
The device starts with the measuring mode last selected.

Self-test function

(see fig. D, page 02)

Switch to index mode

Determine wood moisture



The location to be measured should be untreated, free of knots, dirt, and resin. Measurements should not be made on the end faces of wood because these areas dry particularly quickly such that they produce incorrect measurement results.

Carry out several comparison measurements across the grain structure.

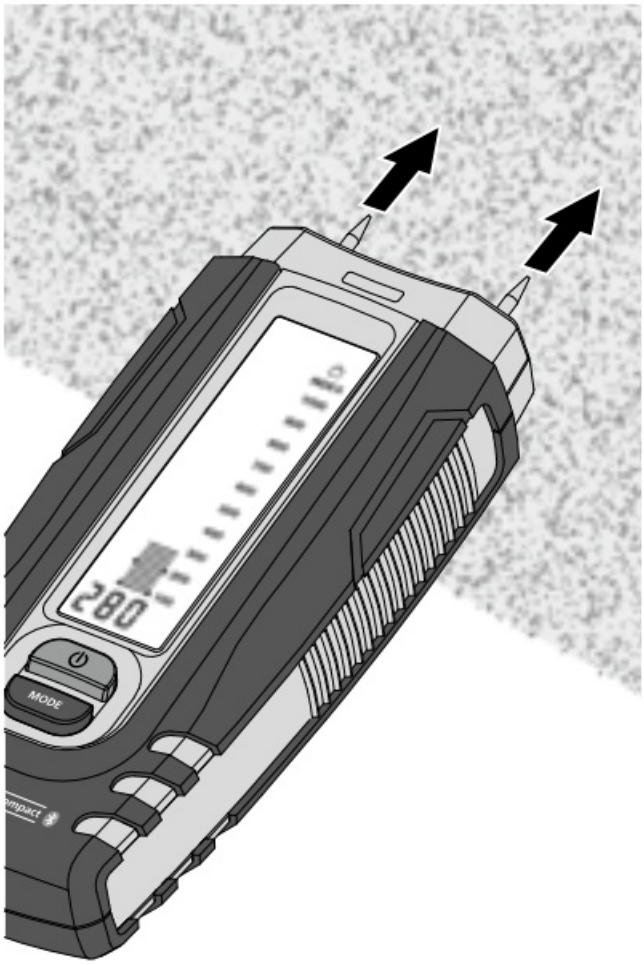
The table shows which wood types are grouped under A and B.

A		
Abachi	Cypress Pine, Mexican	Niové
Abura	Ebony, African	Oak, Red
Afzelia	Gum, Manna	Oak, White American
Albizia falcata	Hickory, Mockernut	Okoumé
Ash, American	Hickory Pecan	Pau Amarillo
Ash, Japanese	Hickory, Pignut	Pear
Ash, White American	Idigbo	Pine, Brazilian
Beech, American	Colombia	Rosewood, Brazilian
Beech, European	Ipe	Rosewood, Indian
Beech, Red (Sapwood)	Iroko	Teak
Canarium, Grey	Lime, American	Willow
Canarium, (PG)	Lime, European	Willow, Black
Cedar, common	Mockernut	
Cypress, Alaska	Yangon	

B		
Agba	Cembra Pine	Mahogany, Cherry
Alder, Black	Cherry, European	Maple Black
Alder, Common	Chestnut, Horse	Maple, Great
Alder, Red	Chestnut, Sweet	Maple Red
Alerce	Cypress, Italian	Oak, European
Andiroba	Douka	Pine, Common
Ash, Common	Elm	Pine, Maritime
Ash, Silver (Southern)	Emmen	Pine, Ponderosa
Aspen	Fir, Douglas	Pine, Western Yellow
Balsa	Fréne	Plum, European
Basralocus / Angelique	Hornbeam, common	Poplar, all
Bean, Black	Izombé	Poplar, White
Birch	Jacareuba	Purpleheart
Birch, European White	Jarrah	Sandalwood, Red
Birch, Yellow	Kapok	Scots Pine
Bloodwood, Red	Karri	Spruce, European
Box, Black	Kosipo	Tola Branca
Canarium (SB)	Larch, European	Tree heath
Cedar, Incense	Limba	Walnut, European
Cedar, Pencil	Logwood	
Cedar, Western Red	Mahogany, African	

dry	**moist**	**wet**
≤ 10%	≥ 11%	≥ 20%

Index mode (Determine building moisture)
The universal index mode is used to compare measuring points and therefore to ascertain moisture. The moisture content of building materials can be additionally determined in % with the aid of the conversion table.



Be aware that walls (or surfaces) with differing material structures, or even variations in material composition, can cause measurement results to be falsified. Perform multiple comparative measurements.
You read off the measurement results from the following index scale and convert them to % with the aid of the table.
Example Building material: anhydrite screed Measured value: 265 Result: 0.1% material moisture

! If there is no response when measuring, it is possible that the measured material is too dry. Perform a self-test of the device with the protective cap to make sure the device is in good working order.
Unit of temperature selection °C / °F (see fig. C, page 02)

Auto-Hold function

The last measurement value will continue to display for about 5 seconds after removing the device from the measured material. The symbol of the selected mode flashes and the measured value last determined is displayed. The device is ready for a new measurement as soon as the flashing stops and the measured value is reset to 0.

Index mode value	All values in material moisture %							
	Anhydrite screed AE/AFE	Concrete (C12/15)	Concrete (C20/25)	Concrete (C30/37)	Gypsum plaster	Chalky sandstone, density 1.9	Aerated concrete (Hebel)	Cement screed
1000	29,5	3,3	3,9	3,7	38,2	12,7	171,2	4,5
994	25,3	3,2	3,7	3,6	36,0	12,5	161,6	4,3
989	20,3	3,0	3,6	3,5	33,7	12,4	151,0	4,2

wet	927	13,2	2,8	3,4	3,3	28,5	12,0	128,4	3,8
	887	10,0	2,6	3,2	3,1	25,1	11,7	112,8	3,6
	865	8,0	2,5	3,1	3,0	22,8	11,6	103,1	3,4
	830	6,5	2,3	2,9	3,0	20,8	11,3	92,7	3,3
	768	4,8	2,1	2,7	2,8	16,6	10,5	72,8	3,0
	710	3,2	1,9	2,5	2,6	12,5	9,8	53,8	2,8
	644	1,8	1,8	2,3	2,5	9,0	9,0	38,1	2,6
	589	1,4	1,6	2,2	2,4	7,4	8,1	31,3	2,5
	566	1,3	1,6	2,2	2,3	7,1	7,9	29,8	2,4
	491	0,8	1,5	2,0	2,2	5,0	6,8	21,0	2,3
	448	0,6	1,4	1,9	2,1	4,1	6,3	17,3	2,2
moist	403	0,4	1,3	1,8	2,1	3,4	5,4	14,2	2,0
	375	0,3	1,2	1,7	2,0	2,9	4,9	11,9	2,0
	345	0,2	1,2	1,6	1,9	2,3	4,3	9,5	1,8
	327	0,2	1,1	1,6	1,9	2,1	4,0	8,6	1,8
	306	0,2	1,1	1,6	1,9	2,0	3,9	8,1	1,8
	295	0,2	1,1	1,5	1,8	1,9	3,8	7,8	1,7
	278	0,2	1,1	1,5	1,8	1,8	3,6	7,2	1,7
	269	0,2	1,1	1,5	1,8	1,7	3,5	6,9	1,7
	265	0,1	1,1	1,5	1,8	1,7	3,4	6,6	1,7
	260	0,1	1,0	1,5	1,8	1,6	3,3	6,2	1,7
	248	0,1	1,0	1,4	1,7	1,4	3,1	5,7	1,6
	229	0,1	1,0	1,4	1,7	1,3	3,0	5,2	1,6
	209	0,1	0,9	1,3	1,6	1,0	2,6	4,6	1,5
	189	0,1	0,9	1,3	1,6	0,8	2,2	4,1	1,4
	180	0,1	0,9	1,3	1,6	0,7	2,1	3,8	1,4
dry	174	0,1	0,9	1,3	1,6	0,6	2,0	3,7	1,4
	164	0,1	0,8	1,2	1,5	0,5	1,9	3,5	1,3
	150	0,1	0,8	1,2	1,5	0,4	1,7	3,2	1,3
	112	0,1	0,8	1,2	1,5	0,2	1,2	2,7	1,1
	105	0,1	0,8	1,2	1,5	0,2	1,1	2,6	1,1
	96	0,1	0,7	1,1	1,4	0,1	1,0	2,4	1,1
	88	0,0	0,7	1,1	1,4	0,1	0,9	2,3	1,1
	80	0,0	0,7	1,1	1,4	0,1	0,8	2,2	1,0

! Functional and operational safety is only warranted when the instrument is operated within the specified climatic conditions and is only used for those purposes for which it is designed. The assessment of measurement results and actions taken as a consequence lie in the user`s scope of responsibility, depending on the given type of work.

Data transfer

The device features a Bluetooth®* function that enables wireless data transfer to mobile devices with a Bluetooth®* interface (such as a smartphone or tablet). The system prerequisites for a Bluetooth®* connection

are specified at **http://laserliner.com/info?an=ble**
The device can set up a Bluetooth®* connection with Bluetooth 4.0 compatible devices. The range is set to a maximum distance of 10 m from the terminal device and greatly depends on the ambient conditions such as the thickness and composition of walls, sources of interference as well as the transmit/receive properties of the terminal device. Once it has been activated, Bluetooth®* remains switched on indefinitely as the radio system is designed with exceptionally low power consumption.
A mobile device can link up to the active measuring device via an app.
* The Bluetooth® word mark and the logo are registered trademarks of Bluetooth SIG Inc.

Application (app)
An app is required to use the Bluetooth®* function. You can download the app from the corresponding stores for the specific type of terminal device:

Make sure that the Bluetooth®* interface of the mobile device is activated.
After starting the app and activating the Bluetooth®* function, a connection can be set up between a mobile device and the measuring device. If the app detects several active measuring devices, select the matching device.
This measuring device can be connected automatically the next time it is switched on.
* The Bluetooth® word mark and the logo are registered trademarks of Bluetooth SIG Inc.

Calibration
The meter needs to be calibrated and tested on a regular basis to ensure it produces accurate measurement results. We recommend carrying out calibration once a year.

Technical data

Measurement principle	Resistive material moisture measurement by way of integrated electrodes
Materials	102 types of wood, 8 building materials
Accuracy (absolute)	Wood: ± 1% (5%…30%) ± 2% (<5% and >30%) Building materials: ± 0.15% (0%…10%) ± 1% (>10%)
Nominal temperature	23°C
Operating conditions	0°C…40°C, Max. humidity 85% rH, no condensation, Max. working altitude 2000 m above sea level
Storage conditions	-10°C…60°C, Max. humidity 85% rH
Radio module operating data	Bluetooth LE 4.x interface; Frequency band: ISM band 240 0–2483.5 MHz, 40 channels; Transmission power: max. 10 mW; Bandwidth: 2 MHz;Bit rate: 1 Mbit/s; Modulation: GFS K/FHSS
Power supply	4 x 1.5 V type AAA
Battery service life	Approx. 700 hours
Dimensions (W x H x D)	58 mm x 155 mm x 38 mm
Weight (incl. batteries)	183 g
Auto power off	after 3 minutes

Technical revisions reserved. 18W38

EU directives and disposal


This device complies with all necessary standards for the free movement of goods within the EU.


This product is an electric device and must be collected separately for disposal according to the European Directive on waste electrical and electronic equipment.

Further safety and supplementary notices at: **http://laserliner.com/info?an=ABT**

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Documents / Resources

	Laserliner 082 017 DampFinder Compact Plus Moisture Meter Temperature Reading [pdf] Instruction Manual 082 017 DampFinder Compact Plus Moisture Meter Temperature Reading, 082 017, DampFinder Compact Plus Moisture Meter Temperature Reading

References

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