Schaller
Messtechnik / humimeter.com

Moisture meter

Operating Manual

humimeter BLW

Moisture meter with ram electrode for measuring the moisture content of round and log wood

78,0 °F | 6,16% | 456kg/m³ | −27,3td | 0,64aw | 51,9%r.H. | 14,8%abs | 100,4g/m² | 09m/s | 4,90Ugl | 1

Version 3.4

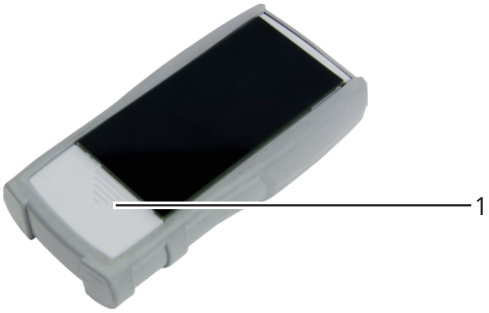
Always read this operating manual before using the humimeter BLW!

Your humimeter BLW at a glance

The main unit

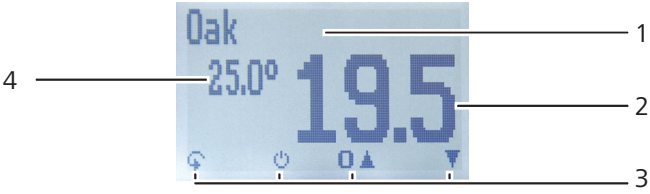
No.	Name
1	Sensor cable
2	USB port (optional)
3	Ram electrode
4	Keypad
5	Rubber protection cover
6	Measuring tips
7	Display

Rear of the main unit



No.	Name
1	Battery compartment

The display



No.	Name
1	Wood type
2	Moisture content in % ("6.1 How moisture is defined")
3	Display symbols
4	Temperature display

The display symbols

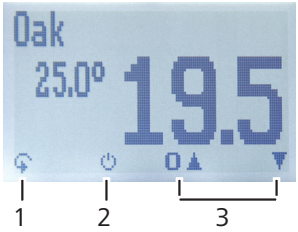
Symbol	Name
	Enter
	Up
	Down
	Back
	Enter numbers
	Enter letters
	Continue / go right
	Left
	Yes

Symbol	Name
	No
	Change input level
	OK
	Change menu
	Enter data
	View measurements
	Delete measurements
	On/off button, display light
	Save measured value

The menus

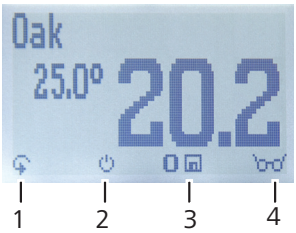
The device has three different menus: Data Log, product selection and main menu:

Product selection menu



No.	Name
1	Change menu
2	Display illumination / device on/off
3	For changing the product type

Data Log menu



No.	Name
1	Change menu
2	Display illumination / device on/off
3	Save measured value
4	Show the last recorded values

Main menu

The main menu comprises the following menu items:

- **Edit Logs:**
  Manual Logs, Clear Logs
- **Print Logs:**
  Last Log, All Logs, Clear Logs
- **Send Logs:**
  Manual Logs, Clear Logs
- **Options:**
  Bluetooth, Date/Time, Log Time, Language, Unlock, °C/°F, BL On Time, Auto Off Time, Materialcalib., Password, Reset
- **Status**

Table of contents

1. Introduction

1.1 Information about this operating manual

This operating manual is designed to enable you to use the humimeter BLW safely and effectively. It is part of the device, has to be stored nearby and must be easily accessible to users at all times.

All users are required to carefully read and make sure that they have understood this operating manual before using the humimeter BLW. All of the safety and operating instructions detailed in this manual have to be observed to ensure the safety of the device.

1.2 Limitation of liability

All of the information and instructions provided in this operating manual have been compiled on the basis of the current standards and regulations, the state of the art, and the extensive expertise and experience of Schaller Messtechnik GmbH.

Schaller Messtechnik GmbH does not accept any liability for damage associated with the following, which also voids the warranty:

- Non-observance of this operating manual
- Improper use
- Inadequately qualified users
- Unauthorised modifications
- Technical changes
- Use of unapproved spare parts

This fast measuring procedure can be affected by a range of different factors. For this reason, we recommend periodically checking the device's measurements with a standardised oven-drying method.

We, as the manufacturer, do not accept any liability for any incorrect measurements and associated consequential damage.

1.3 Symbols used in this manual

All of the safety information provided in this manual is shown with a corresponding symbol.

WARNING

It is essential to observe this warning. Non-compliance can lead to serious irreversible or fatal injury.

CAUTION

It is essential to observe this warning. Non-compliance can lead to injury.

ATTENTION

It is essential to observe this warning. Non-compliance can lead to damage to property or equipment.

Information

This symbol indicates important information that enables users to use the device more efficiently and cost-effectively.

1.4 Customer service

For technical advice, please contact our customer service department at:

Schaller Messtechnik GmbH
Max-Schaller-Straße 99
A - 8181 St.Ruprecht an der Raab

Telephone: +43 (0)3178 28899
Fax: +43 (0)3178 28899 - 901

E-Mail: info@humimeter.com
Internet: www.humimeter.com

2. For your safety

The device complies with the following European directives:

- Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS)
- Electromagnetic compatibility (EMC)

The device corresponds to state-of-the-art technology. However, it is still associated with a number of residual hazards.

These hazards can be avoided through strict observance of our safety information.

2.1 Proper use

- Easy to use device for quickly measuring the moisture content of round and log wood
- The device must only be used for taking measurements on the products defined in the following sections of this manual (see "6. Wood types").

2.2 Improper use

- The device is not suitable for measuring frozen wood or wood with a temperature over +50 °C.
- The device is not waterproof and must be protected from water and fine dust (IP40).

2.3 User qualifications

The device must only be operated by people who can be expected to reliably take the measurements. The device must not be operated by people whose reaction times may be slowed due to, e.g. the use of drugs, alcohol or medication.

All persons using this device must have read, understood and follow the instructions provided in the operating manual.

2.4 General safety information

The following safety information has to be observed at all times to avoid damage to objects and injury to people:

- Remove the batteries if the device isn´t used for a prolonged period of time (4 weeks).
- Keep the measuring tips away from your body throughout all activities.
- Keep the measuring tips away from other people throughout all activities.
- In case of damages or loose parts on the device, remove the batteries and contact Schaller Messtechnik GmbH or your dealer.

All of the device's technical features have been inspected and tested before delivery. Every device has a serial number. Do not remove the tag with the serial number.

2.5 Warranty

The warranty does not apply to:

- Damage resulting from non-observance of the operating manual
- Damage resulting from third-party interventions
- Products that have been used improperly or modified without authorisation
- Products with missing or damaged warranty seals
- Damage resulting from force majeure, natural disasters, etc.
- Damage from improper cleaning
- Batteries older than six months
- Damage resulting from improper strain (pressure, bending) of the ram electrode or the measuring tips
- Damage by dropping the ram electrode

3. On receipt of your device

3.1 Taking the device out of its packaging

- Take the device out of its packaging.
- Next, make sure that it is not damaged and that no parts are missing.

3.2 Making sure that all of the components have been included

Make sure that all of the components have been included by checking the package contents against the following list:

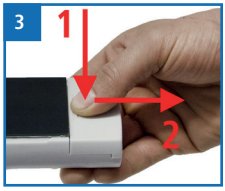
- humimeter BLW
- Ram electrode
- 20 pieces of measuring tips without insulation (40 mm & 60 mm, 10 pieces each)
- 2 pieces of measuring tips, insulated (60 mm)
- 4 pieces of AA Alkaline batteries
- Rubber protection cover
- Open-end wrench
- Plastic case
- Operating manual

Optional accessories:

- humimeter USB data interface module - USB stick with software and USB cable
- Battery operated portable thermal printer (only possible together with humimeter USB data interface module) - Described in a separate operating manual
- Bluetooth module (only possible together with humimeter USB data interface module) - Described in a separate operating manual
- Set of 20 replacement tips for measuring electrodes, without insulation, 40 mm length
- Set of 20 replacement tips for measuring electrodes, without insulation, 60 mm length
- 2 replacement tips for measuring electrodes, insulated, 60 mm length
- Test block

3.3 Inserting batteries

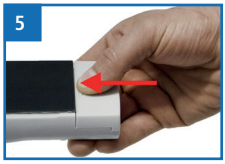
1. Remove the rubber protection cover. To do so, hold the rubber protection cover at the upper side and pull it over (figure 1 and 2). In case the ram electrode is connected, disconnect the ram electrode before (see "4.4 Disconnecting the ram electrode"). If your device is provided with an optional USB port, remove the protection cap of the USB socket before.



2. Take hold of the device with one hand, press your thumb onto the engraved area of the battery compartment (1) and drag downwards (2) (figure 3).

3. Insert the batteries with negative and positive terminals matching those indicated on the battery compartment. Press down the batteries so that they lay flat on the bottom of the housing (figure 4).

» As soon as all batteries have been inserted, the device switches on automatically.

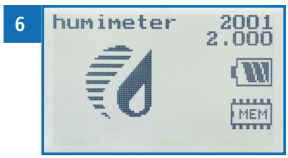


4. Push the battery cover onto the housing until it clicks into place. Then mount the rubber protection cover onto the housing, beginning at the end where the battery compartment is situated (figure 5).

4. Using the device - Basics

4.1 Switching the device on

- Press the ⏻ button for 3 seconds.
- The display will then show the status indicator (figure 6).



» After inserting the batteries, the device switches on automatically.

4.2 Selecting the product type

To do so: The device has to be in the product selection menu (figure 7).

For an overview of the different product types and the criteria for selecting them, please refer to: "6. Wood types".

1. Press the ▽ or △ button to move from one product to the next Or
2. Press the ▽ or △ button for 3 seconds to open the product type overview (figure 8).
3. Use the arrow keys to move from one product type to the next
4. and keep any of them pressed to scroll through the types.
5. Confirm your selection by pressing ↵

» The product type you selected will now be shown at the top of the display.

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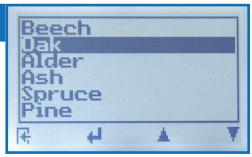

4.3 Plugging in the ram electrode

- Connect the ram electrode to the device.

» Pay attention to the elevation at the socket and the guides in the plug and their correct positioning (figure 9).

- Now tighten the plug clockwise by turning it a quarter of a turn.

» The plug engages noticeably at the end of the guides.

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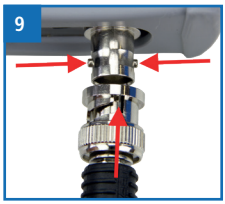

4.4 Disconnecting the ram electrode

- Push the plug towards the device with little force (figure 10).
- Now turn the plug counterclockwise with a quarter turn at the beginning of the guides (figure 11).
- Now pull the plug straight off the device.

» This should be done without great effort.

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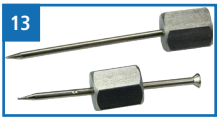
4.5 Inserting the measuring tips



- Unscrew the two nuts located on the head of the ram electrode counterclockwise (figure 12).

» Loosen only the upper nuts. The nuts below must not be loosened!

- Insert one measuring tip per nut from behind through the nut (figure 13).

» Measuring tips without insulation (article no. 12146 & 11775) always measure the wettest spot over the entire insertion depth.

» By using insulated measuring tips (article no. 11482) it is possible to determine the humidity at a defined measuring depth, as these only measure at the measuring tip.

- Now screw the nuts with measuring tips to the threads located on the head of the ram electrode and tighten the nuts with the open-end wrench included in the scope of delivery (figure 14).

WARNING

Risk of injury

Risk of injury due to measuring tips

► Keep the measuring tips away from your body throughout all activities.

► Keep the measuring tips away from other people throughout all activities.

4.6 Taking a measurement

- For information on how to take a measurement, see section "5. The measuring process".

4.7 Switching the device off

To do so: The device has to be in the product selection, the Data Log or the additional function menu. It is not possible to switch off the device when it is in the main menu.

- Press the ⏻ button for 3 seconds.

5. The measuring process

5.1 Preparing a measurement

To do so: The device has to have nearly the same temperature than the product being measured. It is recommended to let your humimeter device adjust to the surrounding temperature for at least 30 minutes before the measurement.

1. Insert the measuring tips (see "4.5 Inserting the measuring tips").
2. Select a suitable point for taking a measurement.
   - » Make sure that there are no knots, resin pockets or cracks in this area.
   - » Hint: Statistically, the spot that shows best the average moisture of the wood is at about 20% of the total wood length.
   - » Make sure that the measuring depth is between a quarter and a third of the diameter of the block or log. If necessary, cut away part of the diameter at the point to be measured.
3. If present, remove the bark at the point to be measured before starting the measurement (Bild 16).
4. Switch on the device (see "4.1 Switching the device on").
5. Select the desired wood type (see "6. Wood types"). To do so, press  or  (see "4.2 Selecting the product type") (figure 18).

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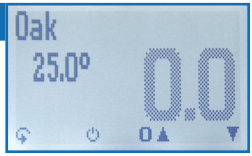

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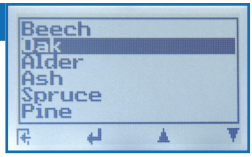

5.2 Taking a measurement

To do so: The device has nearly the same temperature than the product being measured. At the point to be measured the bark has been removed.

1. Put the ram electrode with measuring tips straight to the point to be measured (figure 19).

   » Make sure that the measuring tips are placed at right angles to the grain of the wood.

   » The ram electrode must not be dropped!

2. Hold the upper side of the ram electrode firmly, lift the metal handle and strike it downwards with force until the measuring tips penetrate the wood to the desired measuring depth (figure 20).

3. Connect the sensor cable (see "4.3 Plugging in the ram electrode").

4. The device will now instantly display the moisture content on the display (figure 21).

   » The displayed value flashes when the moisture content exceeds the measuring range of the selected product type (figure 22). A flashing value signals lowered accuracy of the measurement. The measuring range is dependent on the product type (see "6. Wood types").

   » Once the reading has been taken, it can be saved on the device (see "5.4 Saving individual readings" or "5.5 Saving several readings (a measurement series) at the same time").

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WARNING

Risk of injury

Risk of injury due to the measuring tips.

- ► Keep the measuring tips away from your body throughout all activities.
- ► Keep the measuring tips away from other people throughout all activities.

CAUTION

Risk of injury

Crushing when striking the metal handle downwards.

- ► Hold the metal handle in the middle and pay attention to the position of your fingers.

Information - Measuring accuracy

This rapid measuring procedure allows you to take moisture readings at a number of different points. When saving the individual readings, the device will automatically calculate the readings' average (see "5.5 Saving several readings (a measurement series) at the same time").

Information - Incorrect readings

Always make sure to select the correct product type for the material you are measuring. This prevents taking incorrect readings (see "11. Faults").

5.3 Hold function - Freezing the displayed values

The device can be configured in such a way that the information being shown on the display will freeze at the touch of a button until a new button is pressed. This function can be very useful when e.g. taking readings in spaces where it is not possible to see the display.

5.3.1 Activating the Hold function in the Options menu

To do so: The device has to be switched on and be in the product selection menu.

1. Press twice or hold for 2 seconds.
2. Select **Options**. To do so, press or and confirm by pressing .
3. Select **Log Time** (figure 23). To do so, press or and confirm by pressing .
4. Select **Hold** (figure 24). To do so, press or and confirm by pressing .
   - » The setting has been saved.
5. Press to leave the **Options** menu.
6. Press to leave the main menu.

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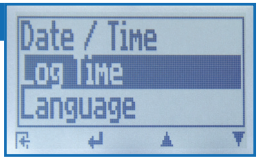

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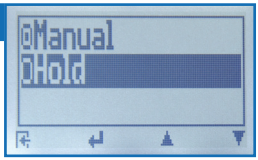

5.3.2 Using the Hold function

To do so: The device has to be switched on and be in the Data Log menu (see "Data Log menu" page 5).

- Press .
- » The current reading will be frozen. All of the four symbols will now be displayed as (figure 25).
- To reactivate the frozen display, simply press any button.

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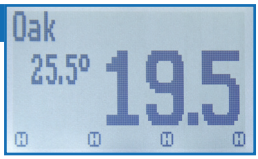

5.4 Saving individual readings

The device can be configured in such a way that the device will save a reading every time a button is pressed. This option (manual save function) is the device's default setting.

5.4.1 Activating the manual save function in the options menu

To do so: The device has to be switched on and be in the product selection menu.

1. Press twice or hold for 2 seconds.
2. Select **Options**. To do so, press or and confirm by pressing .
3. Select **Log Time** (figure 26). To do so, press or and confirm by pressing .
4. Select **Manual** (figure 27). To do so, press or and confirm by pressing .
   - » The setting has been saved.
5. Press to leave the **Options** menu.
6. Press to leave the main menu.

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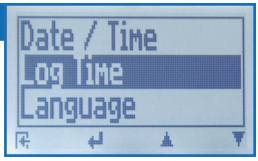

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5.4.2 Using the manual save option

To do so: The device has to be in the Data Log menu (see "Data Log menu" page 5). The manual save option is set on the device.

1. Press .
   - » The display will now appear as shown in figure 29 and the disc symbol will be preceded by the digit one.
2. Press to enter a name for the saved reading and to finish the measuring process.
   - » The display will now appear as shown in figure 30.

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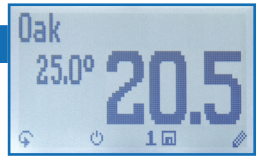

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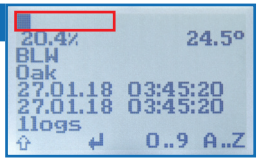
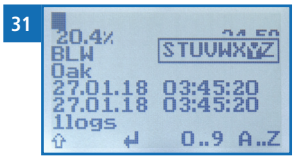


3. The data you have inputted can be overwritten at any time.

4. Inputting letters:
Press and hold A..Z to quickly scroll to the required letter and either press it for 3 seconds or press ↵ to confirm the selected letter (figure 31).



5. Inputting numbers:
Press and hold 0..9 to quickly scroll to the required number and either press it for 3 seconds or press ↵ to confirm the selected number.

6. Moving forward/back:
Press ⇧ to switch to another input level. Press ← or → to move forward or back.

7. Confirm your entry by pressing ↵.

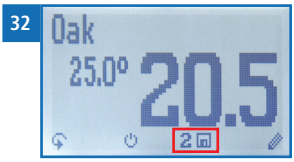
» The data you entered has been saved.

5.5 Saving several readings (a measurement series) at the same time

To do so: The device has to be in the Data Log menu.

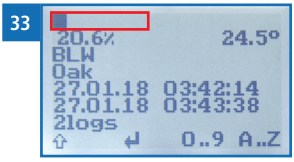
1. Take several readings of the same material (see "5. The measuring process").

2. After each measurement, press 🖫 to save the reading.



» The display will appear as shown in figure 32. The marked number shows the number of readings that have already been saved.

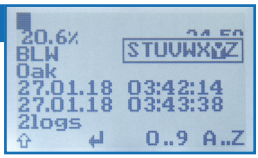
3. Press ✎ to enter a name for the saved measurement series and to finish the measuring process.



» The display will now appear as shown in figure 33.

4. The data you have inputted can be overwritten at any time.

5. Inputting letters:
Press and hold A..Z to quickly scroll to the required letter and either press it for 3 seconds or press ↵ to confirm the selected letter (figure 34).



6. Inputting numbers:
Press and hold 0..9 to quickly scroll to the required number and either press it for 3 seconds or press ↵ to confirm the selected number.

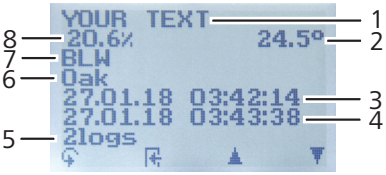
7. Moving forward/back:
Press ⇧ to switch to another input level. Press ⇨ or ⇦ to move forward or back.

8. Confirm your entry by pressing ↵.

» The data you entered has been saved.

» The device automatically determines the average moisture content of the saved measuring values.

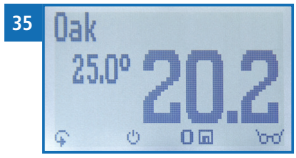
» The display will show the following information:



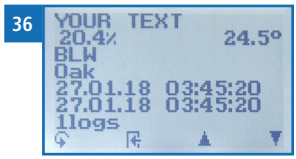
No.	Name
1	Name of the measurement series (editable)
2	Temperature (average)
3	Date & start time of the measurement series
4	Date & end time fo the measurement series
5	Number of saved readings
6	Product type
7	Device name
8	Moisture content (average)

5.6 Viewing individual readings

To do so: You must have saved a reading (e.g. **1 Log**).
The display will now appear as shown in figure 35.



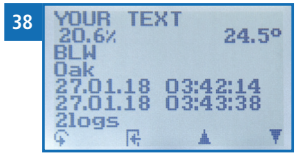
1. Press .
2. Select the required reading. To do so, press or .
   » The display will now appear as shown in figure 36.
   » Press to leave this screen.

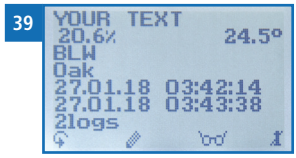


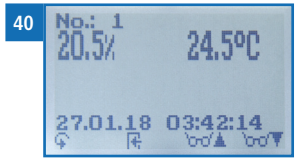
5.7 Viewing individual readings from a series of measurements

To do so: You must have saved a series of measurements (e.g. **2 logs**).
The display will now appear as shown in figure 37.

1. Press .
2. Select the required reading. To do so, press or .
   » The display will now appear as shown in figure 38.
3. Press to switch to another input level.
   » The display will now appear as shown in figure 39.
4. Press again.
   » The display will now appear as shown in figure 40.
5. Navigate to the required reading (**No.: 1, No.: 2, No.: 3**). To do so, press or .
6. Press to leave this screen.







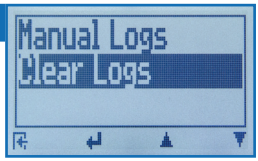
5.8 Deleting all measured values (data log)

To do so: You must have taken and saved one or several readings.

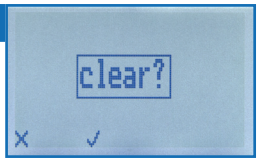
1. Press twice or hold for 2 seconds.
2. Select **Edit Logs** (figure 41). To do so, press or and confirm by pressing .
3. Select **Clear logs** (figure 42). To do so, press or and confirm by pressing .
   » The display will show the message **clear?** (figure 43).
4. Confirm by pressing .
   » The data log has been deleted.
5. Press to leave the **Edit Logs** menu.
6. Press to leave the main menu.

41

42



43

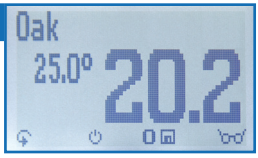


5.9 Deleting individual measurement series

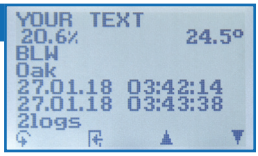
To do so: You must have saved a measured value (e.g. **1 log**) or a series of measurements (e.g. **3 logs**). The display will now appear as shown in figure 44.

1. Press .
   » The display will now appear as shown in figure 45.
2. Select the required reading. To do so, press or .
3. Press to switch to another input level.
   » The display will now appear as shown in figure 46.
4. Press .

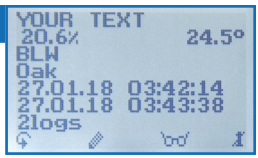
44



45



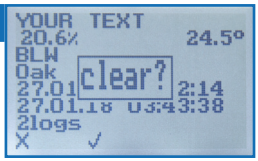
46



» The display will then show the message **clear?** (figure 47).

5. Confirm by pressing ✓.

» The value has been deleted.

47


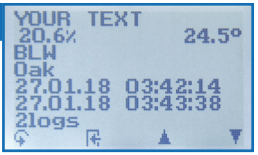
5.10 Deleting single values from a series of measurements

To do so: You must have saved a series of measurements comprising of at least 2 logs. The display will now appear as shown in figure 48.

48


1. Press 👓.

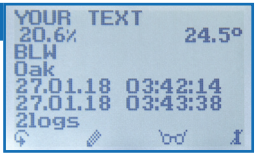
» The display will now appear as shown in figure 49.

49


2. Select the required reading. To do so, press ▼ or ▲.

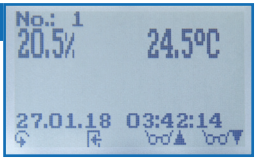
3. Press ↻ to switch to another input level.

» The display will now appear as shown in figure 50.

50


4. Press 👓.

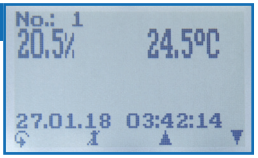
» The display will now appear as shown in figure 51.

51


5. Select the required measured value. To do so, press 👓▲ or 👓▼.

6. Press ↻ to switch to another input level.

» The display will now appear as shown in figure 52.

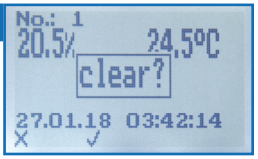
52


7. Press 🗑 to delete the value shown.

» The display will then show the message **clear?** (figure 53).

8. Confirm by pressing ✓.

» The value has been deleted.

53


6. Wood types

Wood type	Sub categories	Measuring range limit
Beech	Rubber, Eucalyptus	32 %
Oak	Mahogany, Wenge	32 %
Alder	Acacia, Alstonia, Birch, European chestnut, Horse chestnut, Cherry Tree, Walnut, Okan	35 %
Ash	Keruing	35 %
Spruce		40 %
Pine	Balsa, Yew Tree, Stone Pine	35 %
Larch	Maple, Douglas Fir, Hemlock, Poplar, Elm	32 %
Fir	Ceiba, Lime	37 %
Willow	Pear, Hickory, Olive wood, Ramin, Teak	37 %
Test block	! Only for testing the moisture meter !	

Explanations to wood types and sub categories:

The wood types listed in the "Wood type" column are displayed in the measurement window of the humimeter BLW. If you want to measure a type of wood that is not displayed on the device, search for it in the subgroups and set the corresponding wood type on the device, e.g. if you measure poplar, set the wood type larch on the device.

6.1 How moisture is defined

In the standard delivery state, the device measures and shows the material moisture content. The moisture content readings are calculated in relation to the material's overall mass:

$$\%WG = \frac{M_n - M_t}{M_n} \times 100$$

M_n: Mass of the sample with average moisture content

M_t: Mass of the sample with zero moisture content

%WG: Moisture content (in accordance with EN ISO 18134-2)

Example: 1 kg wood with 40 % moisture content
The total weight of 1 kg (corresponding to 100%) consists of 0.6 kg (60 %) wood and 0.4 kg (40 %) water.

6.2 Definition of wood moisture

The wood moisture defines the amount of water contained in the material in relation to the material´s dry weight.

Example: 0.6 kg wood with 0.4 kg water
The dry weight of 0.6 kg corresponds to 100 %. In relation to the dry weight, the 0.4 kg water result in a wood moisture of 66.7 %.

It is possible to set the device to the calculation of wood moisture at the factory. For that please contact support@schaller-gmbh.at.

7. Using the LogMemorizer program

To do so: The device is provided with USB interface, and the USB stick with LogMemorizer software and USB cable are available.

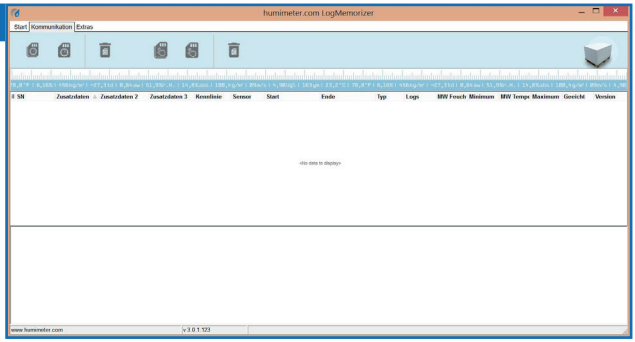
7.1 Installing/opening the program

1. Insert the USB stick with the LogMemorizer program into the USB port on your computer.
2. Open the **setup** application.
3. Follow the installation instructions.
4. Open LogMemorizer.

» The screen will now display the LogMemorizer's interface (figure 54).

» Before using LogMemorizer, please refer to the the separate LogMemorizer operating manual for the correct configuration of the USB COM Port.

54



For more information on LogMemorizer, please refer to the separate LogMemorizer operating manual supplied with the device.

7.2 Exporting measured values to a computer

To do so: The LogMemorizer program is installed. You must have taken and saved one or several moisture readings.

Options: You can export moisture readings from the humimeter BLW or initiate the export at your computer.

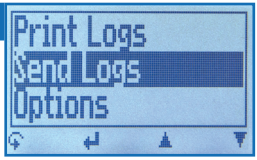
Exporting moisture readings from the humimeter BLW

Connect the humimeter BLW to your computer using the supplied USB cable:

55

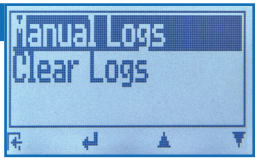
1. Insert the USB Mini B connector into the humi meter BLW (figure 55).
2. Insert the USB connector into the computer.
3. Open LogMemorizer on your computer.
4. Switch on the humimeter BLW.
5. Press  twice or hold for 2 seconds.

56



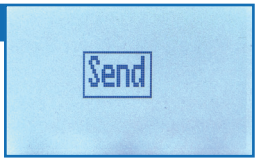
6. Select **Send Logs** (figure 56). To do so, press  or  and confirm by pressing  .

57



7. Select **Manual Logs** (figure 57). To do so, press  or  and confirm by pressing  .

58



» The display will then show the message **Send** (figure 58).

» All measuring values saved on the humimeter BLW will now be sent to your computer.

Initiating the data export at your computer

Connect the humimeter BLW to your computer using the supplied USB cable:

59

1. Insert the USB Mini B connector into the humime- ter BLW (figure 59).
2. Insert the USB connector into the computer.
3. Open LogMemorizer on your computer.
4. Switch on the humimeter BLW.
5. Open the **Communication** tab in LogMemorizer (figure 60).

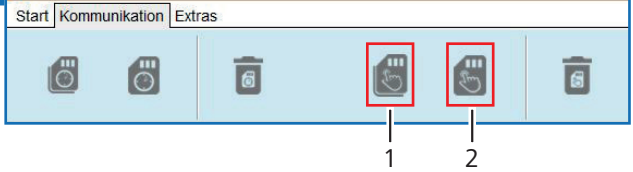
60

6. Select and click on one of the two buttons shown in figure 61.

» **Import all manual logs** (for importing all manually saved readings) or

» **Import most recent manual log** (for importing the most recent manually saved logs).

61



No.	Name
1	Import all manual logs
2	Import most recent manual log

» The measuring values saved on the humimeter BLW will now be sent to your computer.

8. Checking on the device's status

1. Press  twice or hold for 2 seconds.
2. Select **Status**. To do so, press  or  and confirm by pressing  .
   - » The display will then show the status indicator **humimeter**.
   - » The display will show the following information:

No.	Name
1	Serial number
2	Software version
3	Battery status
4	Memory status

3. Confirm by pressing  .
4. Press  to leave the main menu.

9. Configuring the device

9.1 Turning on Bluetooth

The information on Bluetooth is provided in a separate operating manual.

9.2 Adjusting the date/time

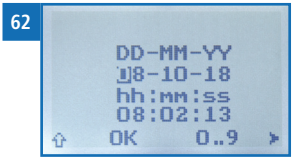
1. Press  twice or hold for 2 seconds.
2. Select **Options**. To do so, press  or  and confirm by pressing  .
3. Select **Date/Time**. To do so, press  or  and confirm by pressing  .

   » The display will now appear as shown in figure 62.

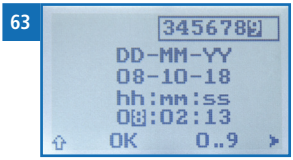
   » The format for the date is **DD-MM-YY** (Day-Month-Year).

   » The format for the time is **hh:mm:ss** (Hour:Minutes:Seconds).

   Inputting numbers:
   Press and hold  to quickly scroll to the required number and either press it for 3 seconds or press  to confirm the selected number (figure 63).



62



63

4. Moving forward:
   To move forward between **DD-MM-YY** and **hh:mm:ss**, press  .
5. Moving back:
   Press  to switch to another input level. To move backward between **DD-MM-YY** and **hh:mm:ss**, press  .
6. Confirm the date/time by pressing  .

   » The settings have been saved.

7. Press  to leave the **Options** menu.
8. Press  to leave the main menu.

9.3 Selecting a language

1. Press twice or hold for 2 seconds.
2. Select **Options**. To do so, press or and confirm by pressing .
3. Select **Language**. To do so, press or and confirm by pressing .
4. Navigate to the required language. To do so, press or and confirm by pressing .

» The settings have been saved.

5. Press to leave the **Options** menu.
6. Press to leave the main menu.

9.4 Activating options

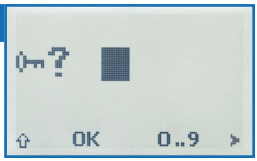
To do so: Some of the options must be deactivated.

1. Press twice or hold for 2 seconds.
2. Select **Options**. To do so, press or and confirm by pressing .
3. Select **Unlock**. To do so, press or and confirm by pressing .

» The display will now appear as shown in figure 64.

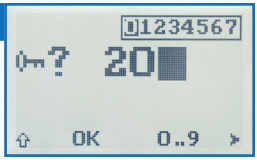
» On delivery, the four-digit password is the device's serial number.

64



Inputting numbers:
Press and hold 0..9 to quickly scroll to the required number and either press it for 3 seconds or press to confirm the selected number (figure 65).

65



4. Moving back:
   Press to switch to another input level.
   To move back, press .
5. Confirm the four-digit password by pressing OK.

» The settings have been saved.

» The **°C/°F**, **BL On Time**, **Auto Off Time**, **Materialcalib.**, **Password**, **Reset** options are now activated.

6. Press  to leave the **Options** menu.
7. Press  to leave the main menu.

9.5 Deactivating options

Once the device has been switched restarted, the **°C/°F**, **BL On Time**, **Auto Off Time**, **Materialcalib.**, **Password**, **Reset** options will be deactivated again.

9.6 Selecting °C/°F

To do so: All of the options must be activated (see "9.4 Activating options").

1. Press  twice or hold for 2 seconds.
2. Select **Options**. To do so, press  or  and confirm by pressing  .
3. Select **°C/°F**. To do so, press  or  and confirm by pressing  .
4. Navigate to the required temperature scale, i.e. Celsius (**°C**) or Fahrenheit (**°F**). To do so, press  or  and confirm by pressing  .

» The settings have been saved.

5. Press  to leave the **Options** menu.
6. Press  to leave the main menu.

9.7 Reducing the device's power consumption

9.7.1 Configuring the display illumination time

To do so: All of the options must be activated (see "9.4 Activating options").

1. Press  twice or hold for 2 seconds.
2. Select **Options**. To do so, press  or  and confirm by pressing  .
3. Select **BL On Time**. To do so, press  or  and confirm by pressing  .
4. Select the required display illumination period (30 seconds, 2 minutes, 5 minutes, 10 minutes). To do so, press  or  and confirm by pressing  .

   » The settings have been saved.
5. Press  to leave the **Options** menu.
6. Press  to leave the main menu.

9.7.2 Configuring automatic switch-off

To do so: All of the options must be activated (see "9.4 Activating options").

1. Press  twice or hold for 2 seconds.
2. Select **Options**. To do so, press  or  and confirm by pressing  .
3. Select **Auto Off Time**. To do so, press  or  and confirm by pressing  .
4. Select the period of time you want the device to stay switched on (3 minutes, 5 minutes, 10 minutes). To do so, press  or  and confirm by pressing  .

   » The settings have been saved.
5. Press  to leave the **Options** menu.
6. Press  to leave the main menu.

9.8 Configuring the material calibration function

The type calibration function is described in a separate operating manual.

9.9 Changing the password

To do so: All of the options must be activated (see "9.4 Activating options").

1. Press  twice or hold for 2 seconds.
2. Select **Options**. To do so, press  or  and confirm by pressing  .
3. Select **Password**. To do so, press  or  and confirm by pressing  .

   » The display will show the current password.

4. Overwrite the current password. To do so, press and hold  to quickly scroll to the required number and either press it for 3 seconds or press  to confirm the selected number.

   Moving back:
   Press  to switch to another input level.
   To move back, press  .

5. Confirm the new four-digit password by pressing  .

   » The settings have been saved.

6. Press  to leave the **Options** menu.
7. Press  to leave the main menu.

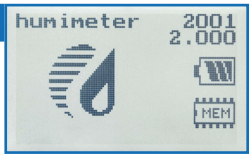
9.10 Resetting the device to its factory settings

To do so: All of the options must be activated (see "9.4 Activating options").

1. Press twice or hold for 2 seconds.
2. Select **Options**. To do so, press or and confirm by pressing .
3. Select **Reset**. To do so, press or and confirm by pressing .
   - » The display will then show the message **Reset?** (figure 66).
4. Confirm by pressing .
   - » The device will now be reset to its factory settings. All of your personal settings will be lost.
   - » The display will show the status indicator **humi meter** (figure 67).
   - » Resetting the device will not affect the saved measuring values.

66

67



10. Cleaning and maintenance

Regularly cleaning and maintaining the device will ensure that it will have a long service life and stay in good condition.

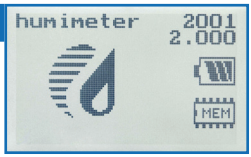
10.1 Changing the batteries

The device constantly monitors the charge level of the batteries. The current battery status is shown on the status screen.

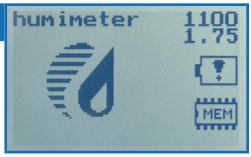
If the battery´s charge is very low, the battery symbol will be shown with an exclamation mark. In that case, the batteries must be changed immediately (figure 69).

For changing the batteries, see section "3.3 Inserting batteries" .

68



69



As the device's user, you are responsible by law for properly disposing of all used batteries, which must not be disposed of as domestic waste (Battery Directive).

10.2 Care instructions

- Do not leave the device out in the rain. The device is not waterproof.
- Do not expose the device to extreme temperatures.
- Protect the device from strong mechanical shocks and loads.

10.3 Cleaning the device

Plastic housing

- Clean the plastic housing with a dry cloth.

Measuring tips

- The measuring tips can be cleaned with a cloth and cleaning alcohol.

ATTENTION

Do not clean with fluids

Water or cleaning fluid getting inside the device can destroy the device.

► Only clean the plastic housing with dry materials.

11. Faults

If the measures listed below fail to remedy any faults or if the device has faults not listed here, please contact Schaller Messtechnik GmbH.

Fault	Cause	Remedy
Measuring error	The temperature of the material being measured is too low or high	The temperature of the material being measured has to be between 0 °C and +50 °C.
	Temperature discrepancy between device and material being measured	Let the temperature adjust to the material being measured (permitted difference of max. 3 °C).
	Wrong wood type	Check whether you have selected the right wood type (product) before taking a reading (see "6. Wood types").
	Moldy or rain wet material	The accuracy of the measurement decreases significantly.
	Frozen wood or bark beetle infested wood	The accuracy of the measurement decreases significantly.
	Measurement through the bark	The accuracy of the measurement decreases significantly, even if using insulated measuring tips.
Data transfer to Log Memorizer failed	Interface has not been configurated	The interface only has to be configurated once. To do so, press the F1 key on your computer and read the Help file of the Log Memorizer program.

12. Storage and disposal

12.1 Storing the device

The device must be stored as follows:

- Do not store outdoors.
- Store in a dry and dust-free place.
- Protect the device from sunlight.
- Avoid mechanical shocks/loads.
- Remove the batteries if the device isn´t used for a period of 4 weeks or longer.
- Storage temperature: -20 °C to +60 °C

12.2 Disposing of the device

Devices marked with this symbol are subject to Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE).
If the device is being operated outside the European Union, the national regulations on the disposal of such devices that apply in the country of use must be observed.

Electronic devices must not be disposed of as domestic waste.

The device must be disposed of appropriately using appropriate collection systems.

13. Device information

13.1 EC declaration of conformity

CE KONFORMITÄTSERKLÄRUNG
DECLARATION OF CONFORMITY

Name/ Adresse des Herstellers: *Name/ address of manufacturer:*	**Schaller Messtechnik GmbH** **Max-Schaller-Straße 99** **A – 8181 St. Ruprecht**
Produktbezeichnung: *Product designation:*	**humimeter**
Typenbezeichnung: *Type designation:*	**BL2 ; BLL ; BLH ; BLW ; FL1 ; FL2 ; FLH ; FLM ; FLS ; RM1; SLW ; WLW**
Produktbeschreibung: *Product description*	**Messgerät zur Bestimmung des Wassergehalts in Biomasse und diversen Schüttgütern** ***Measuring device for determining the water content in biomass and various bulk materials***

Das bezeichnete Produkt erfüllt die Bestimmungen der Richtlinien:
The designated product is in conformity with the European directives:

EMV - Richtlinie 2014/30/EC	***EMC Directive 2014/30/EU***
RoHS - Richtlinie 2011/65/EG	***RoHS-Directive 2011/65/EU***

Die Übereinstimmung des bezeichneten Produktes mit den Bestimmungen der Richtlinien wird durch die vollständige Einhaltung folgender Normen nachgewiesen:
Full compliance with the standards listed below proves the conformity of the designated product with the provisions of the above-mentioned EC Directives:

EN 61326–1:2013	Elektrische Mess-, Steuer-, Regel- und Laborgeräte - EMV-Anforderungen *Electrical equipment for measurement, control, and laboratory use – EMC requirements*
EN IEC 63000:2019-05 *ersetzt / replaced* **EN 50581:2012**	Technische Dokumentation zur Beurteilung von Elektro- und Elektronikgeräten hinsichtlich der Beschränkung gefährliche Stoffe. *Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.*

Für das angeführte Produkt ist eine vollständige Dokumentation mit Betriebsanleitung in Originalfassung vorhanden.

For the mentioned product a complete documentation with manual of instruction in original version is available.

Bei Änderungen, die nicht vom Hersteller spezifiziert sind, verliert diese Konformitätserklärung die Gültigkeit.

In case of any changes not agreed upon with the manufacturer, this declaration of conformity loses its validity.

St. Ruprecht a.d. Raab, 31.07.2022

Schaller Messtechnik / humimeter.com
Schaller Messtechnik GmbH
Max - Schaller - Straße - 99
AT - 8181 St. Ruprecht a. d. Raab
www.humimeter.com | info@humimeter.com

Bernhard Maunz
Rechtsverbindliche Unterschrift des Ausstellers
Legal binding signature of the issuer

UK CA

DECLARATION OF CONFORMITY

Name/ address of manufacturer:	**Schaller Messtechnik GmbH** **Max-Schaller-Straße 99** **A – 8181 St. Ruprecht**
Product designation:	**humimeter**
Type designation:	**BL2 ; BLL ; BLH ; BLW ; FL1 ; FL2 ; FLH ; FLM ; FLS ; RM1; SLW ; WLW**
Product description:	**Measuring device for determining the water content in bio mass and various bulk materials**

The designated product is in conformity with the following directives:

- **Electromagnetic Compatibility Regulations 2016 Great Britain**
- **RoHS-Directive 2011/65/EU Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment**

Full compliance with the standards listed below proves the conformity of the designated product with the provisions of the above-mentioned Directives:

EN 61326–1:2013	Electrical equipment for measurement, control, and laboratory use – EMC requirements
EN IEC 63000:2019-05 replaced **EN 50581:2012**	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

For the mentioned product, a complete documentation with manual of instruction in original version is available.

In case of any changes not agreed upon with the manufacturer, this declaration of conformity loses its validity.

St. Ruprecht a.d. Raab, 31.07.2022

Bernhard Maunz
Legal binding signature of the issuer

13.2 Technical data

Display resolution	0.1 % moisture content, 0.1 °C/°F temperature
Measuring range	8 % to 60 % moisture content
Operating temperature	0 °C to +50 °C
Temperature measuring range	-10 °C to +80 °C
Storage temperature	-20 °C to +60 °C
Temperature compensation	Automatic
Data memory	Up to 10,000 measuring values
Power supply	4 pcs. of 1.5 Volt AA Alkaline batteries
Current consumption	60 mA (incl. display illumination)
Menu languages	English, German, French, Italian, Spanish, Portuguese, Czech, Polish, Russian, International
Display	128 x 64 illuminated matrix display
Device dimensions	157 x 75 x 30 mm
Device weight	265 g
Ram electrode weight	1,500 g
Plastic case dimensions	450 x 360 x 110 mm
Weight of plastic case and device	3,015 g
Device IP rating	IP 40

14. Notes

Climate
Environment

Materials

Food

Building

Bioenergy

Paper / Board

Schaller Messtechnik develops, produces and sells professional moisture meters and turnkey solutions.

Schaller Messtechnik GmbH
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