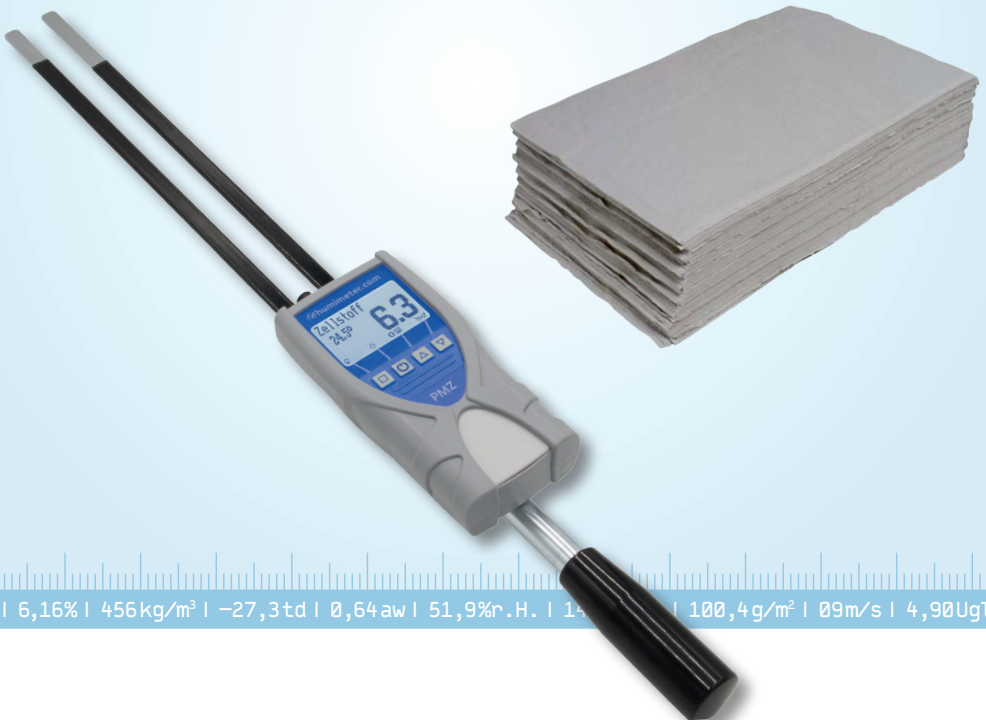


## Moisture meter

# User manual humimeter PMZ Pulp moisture meter

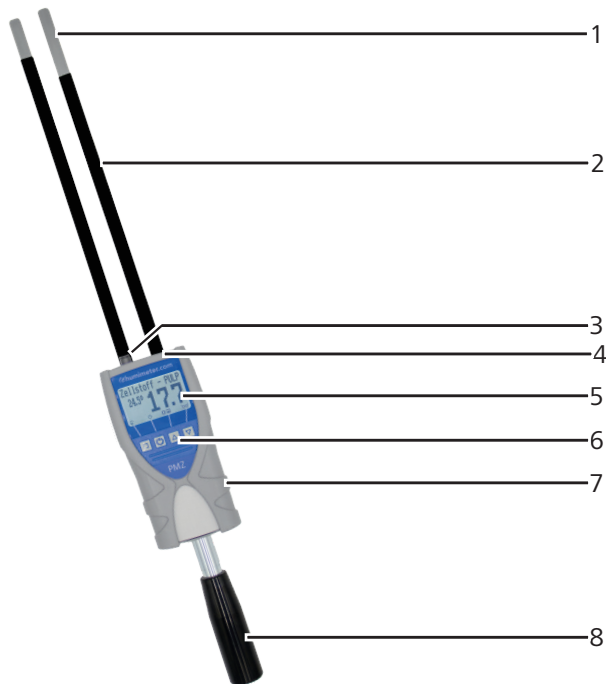
For absolute water content determination of  
pulp sheets on a pile



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

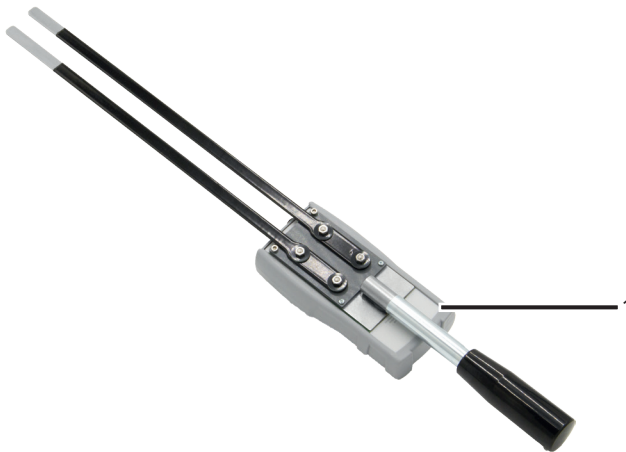
## An overview of your humimeter PMZ

### The main unit



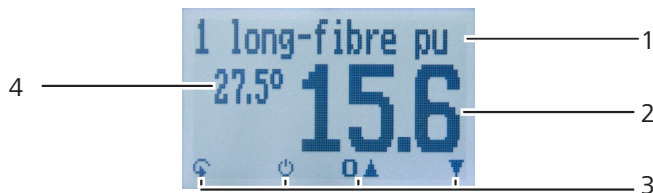
| No | Name                                  |
|----|---------------------------------------|
| 1  | Measuring electrodes (blank area)     |
| 2  | Measuring electrodes (insulated area) |
| 3  | Infrared temperature sensor           |
| 4  | USB interface (available optionally)  |
| 5  | Display                               |
| 6  | Keypad                                |
| 7  | Rubber protection cover               |
| 8  | Handlebar                             |

## Rear of the main unit



| No | Name                |
|----|---------------------|
| 1  | Battery compartment |

## Display



| NO | Name                                                      |
|----|-----------------------------------------------------------|
| 1  | Calibration curve                                         |
| 2  | Water content in % ("6.2 Definition of moisture content") |
| 3  | Display symbols                                           |
| 4  | Temperature display                                       |

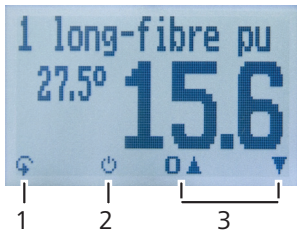
Display symbols

| Symbol                                                                            | Name             | Symbol                                                                            | Name                         |
|-----------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------------------|------------------------------|
|  | Enter            |  | No                           |
|  | Up               |  | Change input level           |
|  | Down             |  | OK                           |
|  | Back             |  | Change menu                  |
|  | Enter numbers    |  | Enter data                   |
|  | Enter letters    |  | View measurements            |
|  | Continue / right |  | Delete measurements          |
|  | Left             |  | On/off button, display light |
|  | Yes              |  | Save measured value          |

Menus

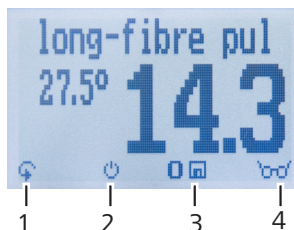
The device has three different menus: product selection, Data Log and main menu.

Product selection menu



| No | Name                                 |
|----|--------------------------------------|
| 1  | Change menu                          |
| 2  | Display illumination / device on/off |
| 3  | Changing the calibration curve       |

## 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:

- **Data storage:**  
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, Userlevel, BL On Time, Auto Off Time, Materialcalib., Online Send, Password, Reset
- **Status**

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# 1. Introduction

## 1.1 Information on this user manual

This user manual enables safe and efficient use of the PMZ humimeter. The user manual is an essential part of the device and must be kept close to the humimeter and be accessible to the user at any time.

Before starting any work, the user must carefully read and understand this manual. Basic requirement for safe work is to follow all safety and handling instructions specified in this user manual.

## 1.2 Limitation of liability

All of the information and instructions provided in this user 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 damages associated with the following, which also voids the warranty:

- Non-observance of this user 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 measurement and associated consequential damage.

## 1.3 Symbols used in this manual

All safety instructions in this user manual are identified by symbols.



### **ATTENTION**

Non-observance can lead to physical damage.



### **Information**

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



### **WARNING**

In case of non-observance, light or medium injuries can occur.

## 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

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

E-Mail: [info@humimeter.com](mailto:info@humimeter.com)  
Internet: [www.humimeter.com](http://www.humimeter.com)



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## 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

- Fast measuring device for water content determination of piled pulp.
- Only products which are defined in the following instructions may be measured (see "6. Calibration curves").

### 2.2 Improper use

- The device should not be used in ATEX areas.
- Do not perform a measuring on a running machine.
- It is not possible to measure pressed pulp blocks made of flocks.
- Single sheet measurements are not possible.
- The device is not waterproof, protect it from water and fine dust.

### 2.3 User qualifications

The device should only be handled by persons who are expected to carry out the work reliably. Persons whose reactions are influenced, by drugs, alcohol or medication, are not permitted to use the device.

Persons who use this device must have read and understood the user manual and follow its instructions.

## 2.4 General safety information

Follow the safety instructions below to avoid personal injury and material damage:

- Remove the batteries from the device if it is not to be used for a prolonged period.
- If you notice loose parts or damage on the device, remove the batteries and contact your distributor.

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

Not covered by warranty:

- Damages caused by non-observance of the user manual
- Damages caused by third-party intervention
- Products that have been used improperly or modified without authorization
- Products with missing or damaged warranty seals
- Damages caused by majeure, natural disasters, etc.
- Damages due to improper cleaning
- Damage due to leaking batteries

# 3. First steps

## 3.1 Unpacking the device

- Unpack the device
- Next, make sure that it is not damaged and that no parts are missing.

## 3.2 Checking the delivery content

Use the following list to check if the delivery is complete:

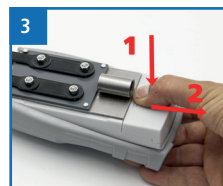
- humimeter PMZ
- 4 pieces AA alkaline batteries
- wooden case
- steel handlebar
- rubber protection
- user manual

Optional accessories:

- humimeter USB data interface module - USB stick with LogMemorizer software (data recording and analysing software) and USB cable
- Battery powered thermo printer (can only be used with humimeter USB data interface module) - described in a separate user manual
- Bluetooth module (can only be used with humimeter USB data interface module) - described in a separate user manual
- Test block - for checking the calibration on two different points

### 3.3 Inserting the batteries

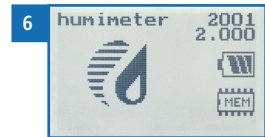
1. Remove the rubber protection from the device. Pull it off from the upper side of the housing. If you have an optional USB interface, pull out the protective cover of the USB socket first. (figure 1 and 2)
2. Take the device in one hand and press with your thumb on the marked area of the battery compartment. Now slide the battery cover downwards from the device (2) (figure 3).
3. Insert the batteries with negative and positive terminals matching those indicated on the battery compartment. Press the batteries down firmly, so that they lay flat on the bottom of the housing (figure 4).
  - » When all the batteries are inserted, the device turns on automatically.
4. Slide the battery cover back onto the housing until it clicks into place. Then put the rubber protection onto the housing - start with the side where the battery cover is. (figure 5).



## 4. Using the device - Basics

### 4.1 Turn on the device

- Press the  button for 3 seconds.
- » The display will then show the status indicator (figure 6).
- » The device turns on automatically after inserting batteries.

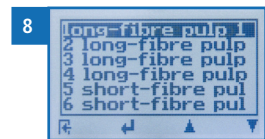
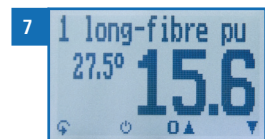


### 4.2 Selecting the calibration curve

**Requirement :** The device has to be in the product selection menu (figure 7).

For an overview of the different calibration curves and the criteria for selecting them, please refer to "6. Calibration curves".

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 calibration curve overview (figure 8).
3. Use the arrow keys to move from one calibration curve to the next
4. and keep any of them pressed to scroll through the types.
5. Confirm your selection by pressing .
- » The selected calibration curve is shown on the top of the display.



### 4.3 Perform a measurement

- The measurement is described in chapter "5. Measurement".

### 4.4 Turn off the device

**Requirement:** The device has to be in the product selection or Data Log menu. You cannot turn off the device in the menu level.

- Press the  button for 3 seconds.

## 5. Measurement

### 5.1 Measuring procedure setup

**Requirement:** The measuring instrument must have the same temperature as the product to be measured as precisely as possible. It is recommended to let the measuring device adjust to the temperature close to the product before measuring.

1. Turn on the device (see "4.1 Turn on the device").
2. Select the desired calibration curve (see "6. Calibration curves") by pressing the  or  button (see "6.1 Selecting the calibration curve").

### 5.2 Perform a measurement

#### 5.2.1 Measurement on stapled pulp sheets / bows

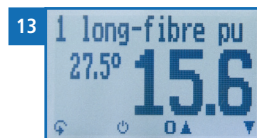
**Requirement:** The pulp height has to be at least 30 cm on the top and bottom side of the electrodes to avoid incorrect measurements. The device has approximately the same temperature as the measured material. The insertion position is designed to ensure that the contact pressure on the electrodes lies around  $250\text{kg/m}^2$  ( $2.45\text{kN/m}^2$ ).

1. Take the measuring unit by the handle with one hand and gently lift the pulp pile. Insert the measuring electrodes into the crack of the pile (see figure 9 and 10).
2. The electrodes have to be inserted as far as possible into the pile ( at least  $\frac{3}{4}$  of the electrode length) (see figure 11).
3. Make sure that the IR temperature sensor is exposed and can measure the temperature of the pulp surface. If the IR sensor does not face the pulp surface, a too high temperature, due to hot parts or the body surface as well as a too cold temperature, due to cold parts or clothing, can negatively affect the measurement result caused by incorrect temperature compensation (figure 12).



4. To ensure a correct measurement, the above mentioned pulp height must be maintained to ensure a minimum contact pressure on the electrodes.

- » The measured value is immediately visible on the instruments display (figure 13).
- » Now you can save the displayed measured value on the device (see "5.4 Saving individual readings" or "5.5 Saving several readings (measurement series) at the same time").



## ATTENTION

### Injury hazard

Injury hazard due to measuring electrodes.

- Keep the measuring electrodes away from your body during all activities.
- Keep the measuring electrodes away from other people's bodies during all activities.



## Information - Measuring accuracy

This rapid and non-destructive measuring procedure allows you to quickly 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 (measurement series) at the same time").



## Information - Incorrect readings

Make sure to select the correct calibration curve for the material you are measuring. This prevents taking incorrect readings (see "11. Faults").



## Information - IR-temperature sensor

Pay attention to the IR temperature sensor on the top of your humimeter PMZ. The temperature sensor is a precise optical measuring instrument. It should not be under strong pressure when the electrodes are inserted or be damaged by impacts. This will cause irreparable damage that falsifies the measurement result because of incorrect temperature compensation.



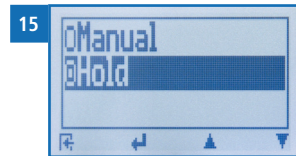
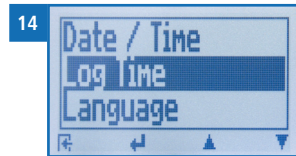
## 5.3 Hold function - Freezing the displayed values

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 (e.g. overhead).

### 5.3.1 Activating the hold function in the options menu

**Requirement:** The device has to be turned on and be in the product selection menu.

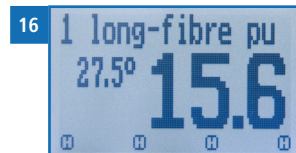
1. Press  twice or hold for 2 seconds.
2. Select **Options**. To do so, press  or  and confirm by pressing .
3. Select **Log Time** (figure 14). To do so, press  or  and confirm by pressing .
4. Navigate to **Hold** (figure 15). To do so, press  or  and confirm by pressing .
- » Setting has been saved.
5. Press  to leave the **Options** menu.
6. Press  to leave the main menu.



### 5.3.2 Using the hold function

**Requirement:** The device has to be turned on and be in the Data Log menu (see "Menus" on page 4).

- Press .
- » The current reading will be frozen. All of the four symbols will now be displayed as  (figure 16).
- To reactivate the frozen display simply press any button.



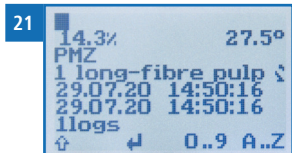
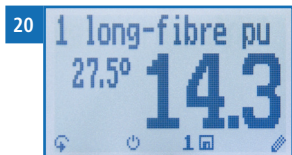
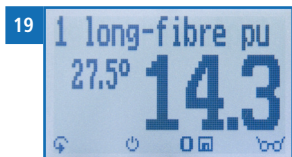
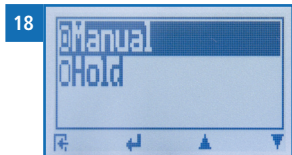
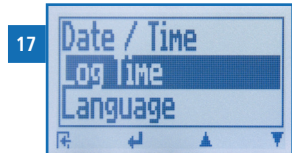
## 5.4 Saving individual readings

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

**Requirement:** The device has to be turned 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 17). To do so, press  or  and confirm by pressing .
4. Navigate to **Manual** (figure 18). To do so, press  or  and confirm by pressing .
5. Setting has been saved.
6. Press  to leave the **Options** menu.
7. Press  to leave the main menu.



### 5.4.2 Using the manual save function

**Requirement:** The device has to be in the Data Log menu (see "Product selection menu" on page 4). The device is set to DataLog Time - Manual.

1. Press .
  - » On the display appears the figure 20 - prior to the disk symbol is now the number one.
2. Press  to enter a name for the saved reading and to finish the measuring process.
  - » On the display appears figure 21.
3. If a previous entry has already been made, the displayed entry can be overwritten if required.

4. **Add 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 22).

5. **Add numbers:**

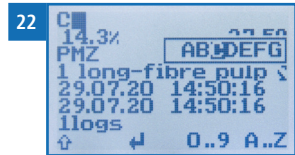
Press and hold **0..9** to quickly scroll to the required number and either press it for 3 seconds or press **↵** to confirm the selected number.

6. **Moving forward/backward:**

Press **⬆** to switch to another input level. Press **⬅** or **➡** move forward or backward.

7. Confirm your entry by pressing **↵**.

» The data you entered has been saved.



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

**Requirement:** The device has to be in the Data Log menu.

1. Take several readings from one stack or a roll (see "5. Measurement").

2. Press **📄** for each measurement

» On the display appears figure 23. This number shows the number of already saved readings.

3. Press **📝** to enter a name for the saved series of measurements and to finish the measuring process.

» On the display appears figure 24.

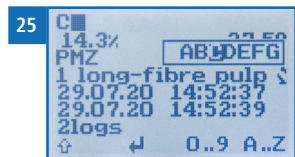
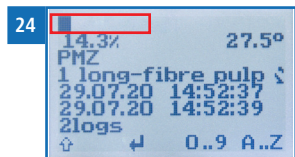
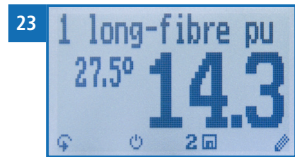
» If a previous entry has already been made, the displayed entry can be overwritten if required.

4. **Add 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 25).

5. **Add 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.

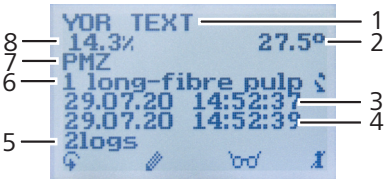


6. Moving forward/backward:

Press  to switch to another input level. Press  or  to move forward or backward.

7. 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..
- » On the display appears the following information:

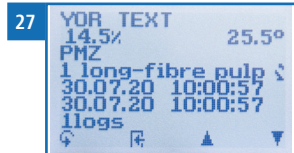


| No | Name                                        |
|----|---------------------------------------------|
| 1  | Name of the measurement series              |
| 2  | Temperature (average)                       |
| 3  | Date & start time of the measurement series |
| 4  | Date & end time of the measurement series   |
| 5  | Number of saved readings                    |
| 6  | Calibration curve                           |
| 7  | Device name                                 |
| 8  | Water content (average)                     |

## 5.6 View single measured value

**Requirement:** Minimum one measurement (e.g. **1 Log**) was saved. On the display appears .

1. Press .
2. Navigate to the required measurement series. To do so, press  or .
- » On the display appears figure 27.
- » Press  to leave this screen.

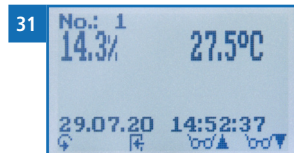
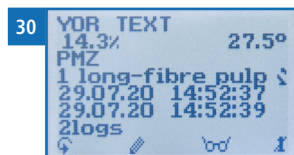
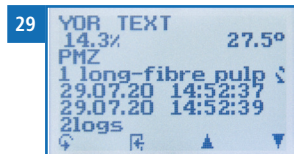
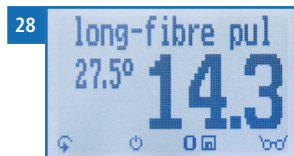


## 5.7 View single measured values of a measurement series

**Requirement:** Minimum one measurement (e.g. **2 Logs**) was saved.

On the display appears .

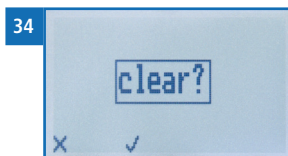
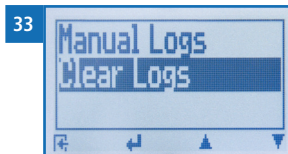
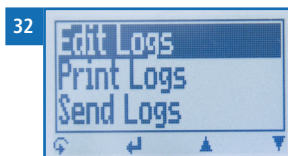
1. Press .
2. Navigate to the required measurement series. To do so, press  or .
- » On the display appears figure 29.
3. Press  to move to another entry level.
- » On the display appears figure 30.
4. Press again .
- » On the display appears figure 31.
5. Navigate to the required reading (**No.: 1, No.: 2**). To do so, press  or .
6. Press  to exit the screen.



## 5.8 Delete all measurements (Data storage)

**Requirement:** One or more measurements have been performed and stored.

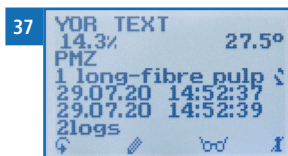
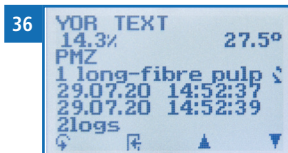
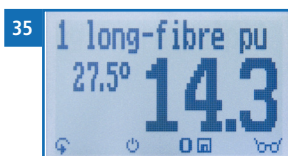
1. Press  twice or hold for 2 seconds.
2. Navigate to **Edit Logs** (figure 32). To do so, press  or  and confirm by pressing .
3. Navigate to **Clear Logs** (figure 33). To do so, press  or  and confirm by pressing .
  - » On the display appears the message **clear?** (figure 34).
4. Confirm .
  - » The data storage was deleted.
5. Press  to exit the Edit Logs menu.
6. Press  to exit the main menu.



## 5.9 Delete individual measurement series

**Requirement:** One measured value (**1 Log**) or a measurement series (f.e. **3 Logs**) has been saved. On the display appears .

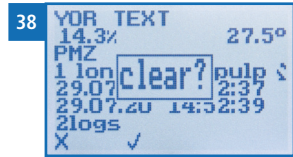
1. Press .
  - » On the display appears figure 36.
2. Navigate to the required measurement. To do so, press  or .
3. Press  to switch to another input level.
  - » On the display appears figure 37.
4. Press .



- » On the display appears the message "clear?" (figure 38).

5. Confirm with .

- » The measurement has been deleted.



## 5.10 Delete a single value from a measuring series

**Requirement:** A measurement series with at least 2 logs has been saved. On the display appears .

1. Press .

- » On the display appears figure 40.

2. Navigate to the required measurement. To do so, press  or .

3. Press  to switch to another input level.

- » On the display appears figure 41.

4. Press .

- » On the display appears figure 42.

5. Navigate to the required measurement. To do so, press  or .

6. Press  to switch to another input level..

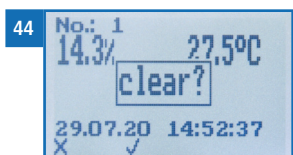
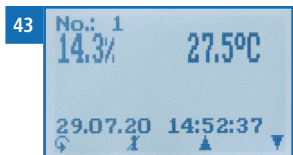
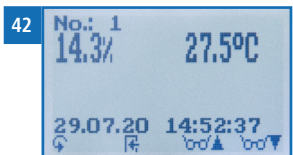
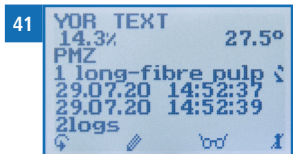
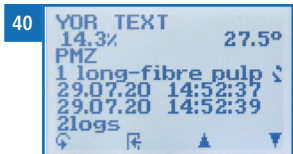
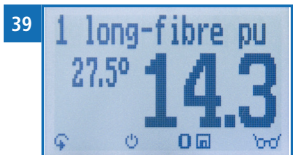
- » On the display appears figure 43.

7. Press  to delete the displayed value.

- » On the display appears the message "clear?" (figure 44).

8. Confirm with .

- » The measurement has been deleted.



## 6. Calibration curves

The following calibration curves are available

| Calibration curve    | Pulp type                                                                                                        | Measuring range |
|----------------------|------------------------------------------------------------------------------------------------------------------|-----------------|
| 1 long fiber pulp 1  | Long fiber pulp from sulfate and sulfite process                                                                 | 8%-40% WC       |
| 2 long fiber pulp 2  |                                                                                                                  | 7%-40% WC       |
| 3 long fiber pulp 3  | Pulp with a predominantly long fiber content                                                                     | 7%-40% WC       |
| 4 long fiber pulp 4  |                                                                                                                  | 6%-40% WC       |
| 5 short fiber pulp 1 | Short fiber pulp from sulfate and sulfite process                                                                | 8%-40% WC       |
| 6 short fiber pulp 2 |                                                                                                                  | 7%-40% WC       |
| 7 short fiber pulp 3 | Pulp with a predominantly short fiber content                                                                    | 7%-40% WC       |
| 8 short fiber pulp 4 |                                                                                                                  | 6%-40% WC       |
| 9 free 1             | Free calibration curves within the measuring range of the short fiber calibration curves for customers' products | 5%-30% WC       |
| 10 free 2            |                                                                                                                  | 5%-30% WC       |
| 11 free 3            | Free calibration curves within the measuring range of the long fiber calibration curves for customers' products  | 9%-45% WC       |
| 12 free 4            |                                                                                                                  | 9%-45% WC       |
| Digit                | Special products and for creating a calibration curve                                                            | 0,0-100         |
| Test block           | ! Only to check your humimeter PMZ with the optional test block !                                                |                 |

### 6.1 Selecting the calibration curve

As a result of the numerous pulp types and their composition and production processes, there is no standardised calibration curve classification. The fiber type is the main factor for the different calibration curves of the humimeter PMZ.

The product type overview provides suggestions for pulp types based on the fiber types used.

For mixed fiber pulp, choose a calibration curve which corresponds to the greater percentage of the fiber.



Example:

80% Hardwood (short fiber) & 20% Softwood (long fiber) use one of the types short fiber pulp 1-4

80% Softwood (long fiber) & 20% Hardwood (short fiber) use one of the types long fiber pulp 1-4

In order to achieve an exact measurement result, a one-time comparison measurement with your online moisture measurement or a reference method already used by you (e.g. EN/ISO 287) should be performed.

1. Measure your pulp with the calibration curves which provide realistic results and note down the different measurement results including temperature with the relevant calibration curve names.
2. Note the actual moisture content from your online moisture measurement or run a reference water content determination e.g. according to EN ISO 287.
3. Compare the recorded readings for the different calibration curves with the actual moisture content based on the reference measurement. From now on, you should always use the calibration curve which most closely matches the reference measurement.
  - » Note: The name of the calibration curve can be changed to a name of your choice (e.g. to your brand name and density). Please contact your dealer regarding this.

## 6.2 Definition of moisture content

The device displays the moisture content. This means that the moisture will be calculated based on the total 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 dried sample

%WG: Moisture content (according to standard EN ISO 287)

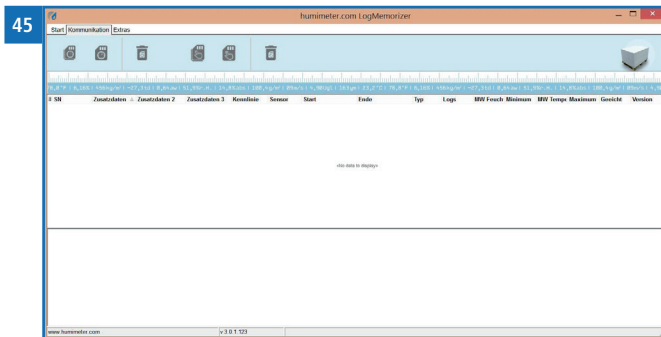
## 7. Using the LogMemorizer program

**To do so:** The device is provided with USB interface, and the USB stick with LogMemorizer software and USB cable are available. Otherwise, you can also install the software at [humimeter.com/software](http://humimeter.com/software) or by scanning the QR code.



### 7.1 Installing / opening the program

1. Insert the USB stick with the LogMemorizer program into the USB port on your computer or
  - » download the LogMemorizer software at [humimeter.com/software](http://humimeter.com/software) or use the QR code.
2. Open the **setup** application.
3. Follow the installation instructions.
4. Open LogMemorizer.
  - » The screen will now display the LogMemorizer's interface (figure 45).



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

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

## 7.2 Exporting measured values to a computer

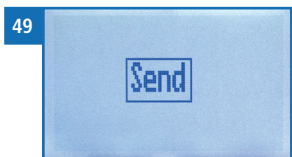
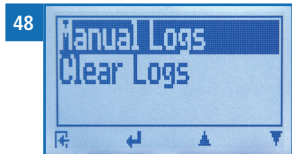
**To do so:** LogMemorizer must be installed. And you must have taken and saved one or several moisture readings.

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

### Exporting moisture readings from the humimeter PMZ

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

1. Insert the USB Mini B connector into the humimeter PMZ (figure 46).
2. Insert the USB connector into the computer.
3. Open LogMemorizer on your computer.
4. Switch on the humimeter PMZ.
5. Press  twice or hold for 2 seconds.
6. Select **Send Logs** (figure 47). To do so, press  or  and confirm by pressing .
7. Select **Manual Logs** (figure 48). To do so, press  or  and confirm by pressing .
  - » The display will then show the message **Send** (figure 49).
  - » All of the measuring values saved on the humimeter PMZ will now be sent to your computer.



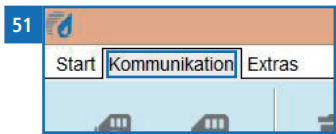
### Initiating the data export at your computer

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

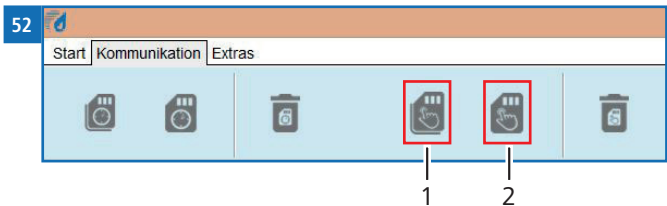
1. Insert the USB Mini B connector into the humimeter PMZ (figure 50).
2. Insert the USB connector into the computer.
3. Open LogMemorizer on your computer.



- 4. Switch on the humimeter PMZ.
- 5. Open the **Communication** tab in LogMemorizer (figure 51).



- 6. Select and click on one of the two buttons shown in figure 52.
  - » **Import all manual logs** (for importing all manually saved readings) **or**
  - » **Import most recent manual log** (for importing the most recent manually saved logs).



| No | Name                          |
|----|-------------------------------|
| 1  | Import all manual logs        |
| 2  | Import most recent manual log |

- 7. The measuring values saved on the humimeter PMZ will now be sent to your PC.

## 8. Device status check

1. Press  twice or hold for 2 seconds.
2. To do so, press  or  and confirm by pressing .
  - » The **humimeter** status symbol appears on the display .
  - » On the display appears 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.

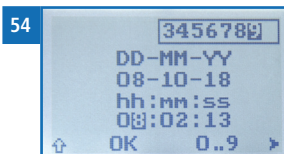
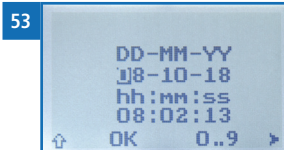
## 9. Adjust settings

### 9.1 Set Bluetooth

For Bluetooth, refer to a separate user manual.

### 9.2 Set date/time

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **Date/Time**. To do so, press  or  and confirm by pressing .
  - » On the display appears figure 53.
  - » The format for the date is **DD-MM-YY** (Day-Month-Year).
  - » The format for the time is **hh:mm:ss** (Hour:Minutes:Seconds).
4. **Add numbers:**  
Press and hold  to navigate quickly to the required number and stay on the number for 3 seconds (figure 54).
5. **Navigate forward:**  
To move forward between **DD-MM-YY** and **hh:mm:ss**, press .
6. **Navigate backward:**  
Press  to switch to another input level. To move backward between **DD-MM-YY** and **hh:mm:ss**, press .
7. Confirm the date/time by pressing .
  - » The setting has been saved.
8. Press  to exit the **Options** menu.
9. Press  to exit the main menu.



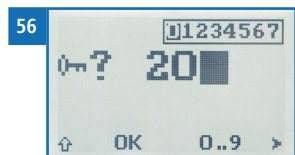
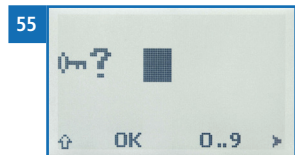
## 9.3 Language setting

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **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 setting has been saved.
5. Press  to exit the **Options** menu.
6. Press  to exit the main menu.

## 9.4 Unlock options

**Requirement:** Certain options are deactivated .

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **Unlock**. To do so, press  or  and confirm by pressing .
- » On the display appears figure 55.
- » The four-digit password is the serial number of the device when delivered.
4. **Add numbers:**  
Press and hold  to navigate quickly to the required number and stay on the number for 3 seconds or press  to accept the number (figure 56).
5. **Navigate backward:**  
Press  to switch to another input level.  
Navigate back with .
6. Confirm the four-digit password by pressing .
- » The setting has been saved.



- » The **°C/°F**, **BL On Time**, **Swith-off time**, **Materialcalibration**, **Password**, **Reset** options are now activated.

7. Press  to exit the **Options** menu.

8. Press  to exit the main menu.

## 9.5 Lock options

After switching the instrument off and on again, the options **°C/°F**, **BL On Time**, **Swith-off time**, **Materialcalibration**, **Password**, **Reset** are again deactivated.

## 9.6 Selecting °C/°F

**Requirement:** All options are activated (see "9.4 Unlock options").

1. Press  twice or hold for 2 seconds.
  2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
  3. Navigate to **°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 setting has been saved.
5. Press  to exit the **Options** menu.
  6. Press  to exit the main menu.



## 9.7 Setting the power save mode

### 9.7.1 Adjusting the display illumination

**Requirement:** All options are activated (see "9.4 Unlock options" "Unlock options").

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **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 setting has been saved.
5. Press  to exit the **Options** menu.
6. Press  to exit the main menu.

### 9.7.2 Automatic power-off setting of the device

**Requirement:** All options are activated (see "9.4 Unlock options").

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **Switch-off time**. To do so, press  or  and confirm by pressing .
4. Select the preferred time for the unit to stay on (3 minutes/5 minutes/10 minutes). To do so, press  or  and confirm by pressing .
- » The setting has been saved.
5. Press  to exit the **Options** menu.
6. Press  to exit the main menu.

## 9.8 Adjusting the type calibration

The adjustment of the type calibration is described in a separate user manual.

## 9.9 Change password

**Requirement:** All options are activated (see "9.4 Unlock options").

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **Password**. To do so, press  or  and confirm by pressing .
  - » On the display appears the current password.
4. Overwrite the current password. To do so, press and hold **0..9** to navigate quickly to the required number and stay on the number for 3 seconds or press  to accept the number.

### Navigate backward:

Press  to switch to another input level.

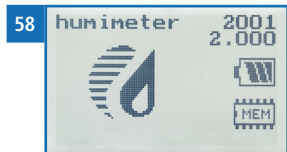
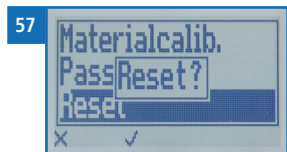
Navigate back with .

5. Confirm the new four-digit password by pressing **OK**.
  - » The setting has been saved.
6. Press  to exit the **Options** menu.
7. Press  to exit the main menu.

## 9.10 Resetting the device to factory settings

**Requirement:** All options are activated (see see "9.4 Unlock options").

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **Reset**. To do so, press  or  and confirm by pressing .
  - » On the display appears **Reset?** (figure 57).
4. Confirm with .
  - » The device will now be reset to its factory settings. All personal settings are deleted.
  - » The humimeter status symbol appears on the display (figure 58).
  - » The saved measured values are not lost through the reset.



## 10. Cleaning and maintenance

Regular cleaning and maintaining your device ensures that it remains in an excellent condition for as long as possible.

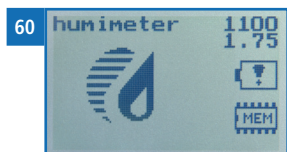
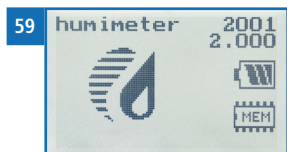
### 10.1 Replacing batteries

The device continuously monitors the battery charge status. The status screen displays the current battery charge level (figure 59).

If an exclamation mark appears in the battery icon, the batteries must be replaced immediately (figure 60).

Proceed as described in section "3.3 Inserting the batteries".

You as the end user are legally obliged to return all used batteries, disposal with household waste is prohibited (Battery Directive).

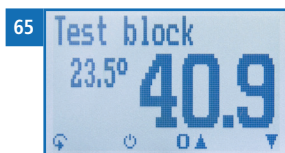
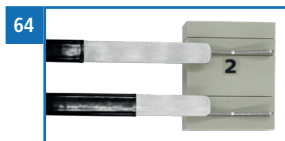
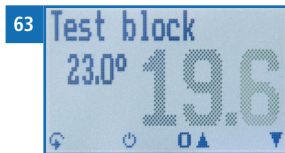
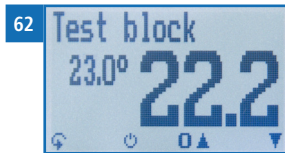
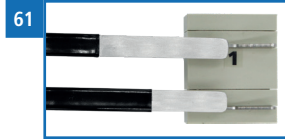


## 10.2 Calibration check

### 10.2.1 Calibration check of the lancet probe

**Requirement:** The test block article no. 12308 is required. The device and the test block have to reach a temperature between 23,0 °C and 23,5 °C. The device and the test block must be free of dust, dirt and grease.

1. Switch on the device and select the calibration curve "test block" using the arrow keys (see 6.1).
2. Hold side 1 of the test block as shown on figure 61 on the electrodes.
  - » The displayed water content has to be 22,0 % (+/- 0,4 %) (the moisture value will be displayed in black) (figure 62).
  - » If the displayed value lies outside this range (the moisture value is displayed in grey) (figure 63) please, contact your dealer or Schaller Messtechnik GmbH.
3. Hold side 2 of the test block as shown on figure 64 on the electrodes.
  - » The displayed water content has to be 41,0 % (+/- 1,0 %) (the moisture value will be displayed in black) (figure 65).
  - » If the displayed value lies outside this range (the moisture value is displayed in grey) please, contact your dealer or Schaller Messtechnik GmbH.



### 10.3 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.

### 10.4 Cleaning the device



#### **ATTENTION**

##### **Device damage caused by wet cleaning**

Water or cleaning products can damage the device if they get into the device.

- ▶ Only clean with dry materials.

#### Housing

- Clean the plastic housing with a dry cloth.

#### Measuring electrodes

- Should the measuring electrodes be dirty, they can be cleaned with alcohol.

#### Test block

- The test block can be cleaned with a moistened lint-free cloth.

## 11. Faults

If the following actions do not eliminate the faults or if other faults not listed here appear, please contact Schaller Messtechnik GmbH.

| Fault           | Cause                                                                                   | Remedy                                                                                                                                                                                         |
|-----------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measuring error | Material temperature outside the application range: Material below 0 °C or above +50 °C | The temperature of the material being measured has to be between 0 °C and +50 °C.                                                                                                              |
|                 | Temperature difference between material to be measured and measuring device             | Let the temperature of the measuring device adjust to that of the pulp (a maximum difference of 3 °C is permissible).                                                                          |
|                 | Wrong calibration curve                                                                 | Before starting a measurement, check if the correct curve (product) is set (see <a href="#">"6.1 Selecting the calibration curve"</a> ).                                                       |
|                 | Material is not thick enough                                                            | Ensure that the material has a minimum thickness of 30 cm on the top and bottom of the electrodes.                                                                                             |
|                 | Incorrect contact pressure                                                              | Increase or decrease the material weight on the electrodes by changing the insertion position in order to achieve a contact pressure of approx. 250kg/m <sup>2</sup> (2.45kN/m <sup>2</sup> ). |
|                 | Metals or similar conductive materials within the measuring field                       | Remove metals or similar conductive materials from the measuring field.                                                                                                                        |
|                 | Dirty electrodes                                                                        | Clean the sensor surface (see <a href="#">"10.4 Cleaning the device"</a> ).                                                                                                                    |

| Fault                                 | Cause                    | Remedy                                                                                                                                           |
|---------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Data transfer to Log-Memorizer failed | Interface not configured | The interface only has to be configured once. To do so, press the F1 key on your computer and read the Help file for your Log-Memorizer program. |

## 12. Storage and disposal

### 12.1 Storing the device

Store the device as follows:

- Do not store outdoors.
- Store dry and dust-free.
- Protect from sunlight.
- Avoid mechanical shocks and impacts.
- Always remove the batteries from the device if it is not used for more than two months.
- Storage temperature: -20 °C to +60 °C

### 12.2 Disposal of the device



Devices marked with this symbol are regulated by the European Directive 2012/19/EU of the European Parliament and the Council of 4 July 2012 relating to waste of electrical and electronic equipment. If the device is not used within the European Union, national disposal regulations in the country of use must be observed.

Electrical devices should not be disposed of with household waste.

Please recycle the device in an environmentally friendly way using suitable recycling systems.

## 13. Device information

### 13.1 EC declaration of conformity

#### KONFORMITÄTSERKLÄRUNG DECLARATION OF CONFORMITY

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Name/ Adresse des Herstellers: **Schaller Messtechnik GmbH**  
Name/ address of manufacturer: **Max-Schaller-Straße 99**  
**A – 8181 St. Ruprecht**

Produktbezeichnung: **humimeter**  
Product designation:

Typenbezeichnung: **PMZ**  
Type designation:

Produktbeschreibung: **Messgerät zur Bestimmung des Wassergehalts in Zellstoff**  
Product description **Measuring instrument for determining the water content in pulp**

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 gefährlicher 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  
1520 - Schaller-Strasse 99  
AT-8180 St. Ruprecht a.d. Raab  
www.humimeter.com | info@humimeter.com

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



## DECLARATION OF CONFORMITY

---

*Name/ address of manufacturer:* **Schaller Messtechnik GmbH  
Max-Schaller-Straße 99  
A – 8181 St. Ruprecht**

*Product designation:* **humimeter**

*Type designation:* **PMZ**

*Product description* **Measuring instrument for determining the water content in pulp**

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:

|                                                                 |                                                                                                                                           |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EN 61326–1:2013</b>                                          | Electrical equipment for measurement, control, and laboratory use – EMC requirements                                                      |
| <b>EN IEC 63000:2019-05</b><br>replaced<br><b>EN 50581:2012</b> | 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

  
 **Schaller**  
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www.humimater.com | info@humimater.com  
.....  
Bernhard Maunz  
Legal binding signature of the issuer

## 13.2 Technical data

|                            |                                                                                              |
|----------------------------|----------------------------------------------------------------------------------------------|
| Display resolution         | 0,1 % water content, 0,5 °C/°F temperature                                                   |
| Measuring range            | 6 % bis 40 % water content<br>(depending on material)                                        |
| Operating temperature      | 0 °C to +50 °C                                                                               |
| Storage temperature        | -20 °C to +60 °C                                                                             |
| Temperature compensation   | automatic                                                                                    |
| Data memory                | Up to 10,000 measuring values                                                                |
| Measuring depth            | 10 mm                                                                                        |
| Minimum material thickness | 60 cm                                                                                        |
| Fabrication process        | sulfate / sulfite process                                                                    |
| Treatment                  | bleached and unbleached                                                                      |
| Pulp density range         | 450 - 900 kg/m <sup>3</sup>                                                                  |
| Power supply               | 4 x 1,5 Volt AA Alkaline batteries                                                           |
| Power consumption          | 60 mA (with display illumination)                                                            |
| Menu languages             | German, English, French, Italian, Spanish, Portuguese, Czech, Polish, Russian, International |
| Display                    | 128 x 64 illuminated matrix display                                                          |
| Device dimensions          | 575 x 75 x 46 mm                                                                             |
| Wooden box dimensions      | 780 x 110 x 70 mm                                                                            |
| Device weight              | 685 g                                                                                        |
| Device + wooden box weight | 1700 g                                                                                       |
| Device IP rating           | IP 40                                                                                        |

## 14. Notes

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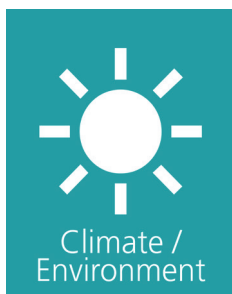
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Schaller Messtechnik develops, produces and sells professional moisture meters and turnkey solutions.

**Schaller Messtechnik GmbH**

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