Schaller
Messtechnik / humimeter.com

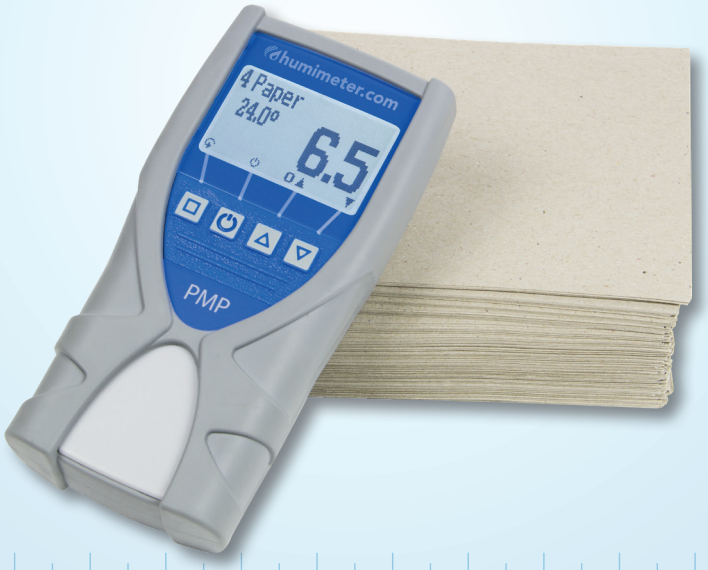
Moisture meter

Operating Manual

humimeter PMP

Paper moisture meter

for measuring the absolute moisture content of paper



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 1.5

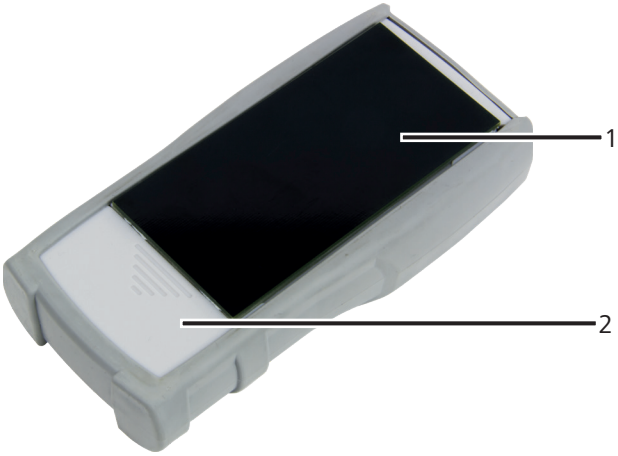
Always read this operating manual before using the humimeter PMP!

Your humimeter PMP at a glance

The main unit

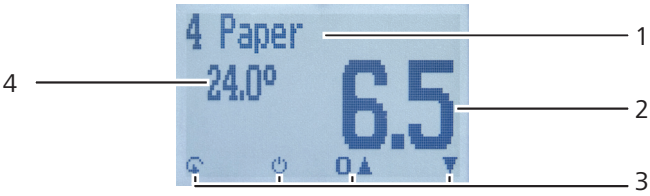
No	Name
1	USB Port (optional)
2	Display
3	Keypad
4	Rubber protection cover

Rear of the main unit



No	Name
1	Sensor surface
2	Battery compartment

The display



No	Name
1	Product type
2	Moisture Content in % (see 6.2 How moisture content is defined)
3	Display symbols
4	Temperature display

The display symbols

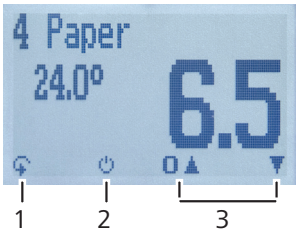
Symbol	Name
	Enter
	Up
	Down
	Back
	Enter numbers
	Enter letters
	Continue / go right
	Left
	Yes

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

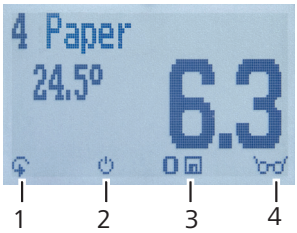
The device has three different menus: product selection, Data Log and main menu.

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, Reinitialize, 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 PMP 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 PMP. 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.

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

Telefon: +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 stacks and rolls of cardboard.
- Easy to use device for quickly measuring the moisture content of stacks and rolls of paper.
- The device must only be used for taking measurements on the products defined in the following sections of this manual (see 6. Product types).

2.2 Improper use

- The device must not be used in ATEX.
- The device is not suitable for measuring the moisture content on rotating rolls.
- The device is not suitable for measuring the moisture content of corrugated board.
- The device is not suitable for measuring the moisture content of individual sheets.
- The device is not waterproof and must be protected from water and fine dust.

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.
- 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

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 PMP
- 4 pieces of AA Alkaline batteries
- Wooden case with test plate
- Rubber protection cover

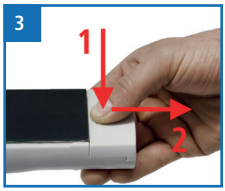
- humimeter USB data interface module - USB flash drive with software and USB-cable or download using humimeter.com/software
- Operating manual

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.

3.3 Inserting batteries

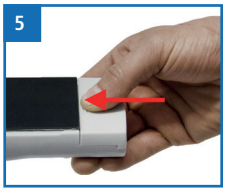
1. Remove the rubber protection cover. To do so, hold the rubber protection cover at the upper side and pull it over. If your device is provided with an optional USB port, remove the protection cap of the USB socket before (figure 1 and 2).



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

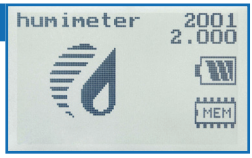
4.1 Switching the device on

- 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.

6



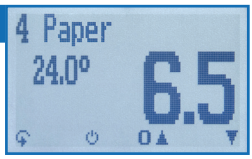
4.2 Selecting the product type

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. Product 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 .

7



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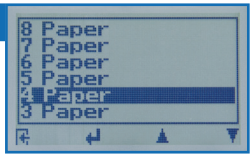

» The product type you selected will now be shown at the top of the display.

4.3 Taking a measurement

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

4.4 Switching the device off

To do so: The device has to be in the product selection or Data Log 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 of the paper before the measurement.

1. Switch on the device (see 4.1 Switching the device on).
2. Select the desired product type (see 6. Product types) by pressing the or . button (see 4.2 Selecting the product type).

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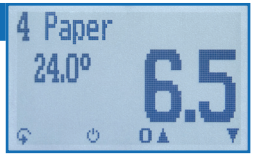

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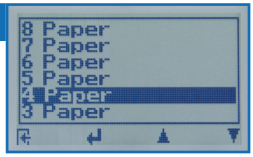


5.2 Taking a measurement

5.2.1 Taking a measurement on a paper or cardboard stack

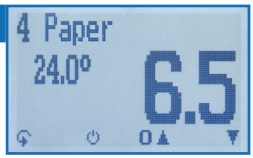
To do so: The stack has to have a minimum height of 25 mm and the device has to have nearly the same temperature than the paper.

- Take hold of the device with one hand and press it onto the top of the stack with a pressure of approx. 4 kg.
- When doing so, the sensor surface (black area at the bottom of the device) must be firmly resting on the paper or cardboard.

» The device will now instantly display the moisture content on the display.

11

12



» 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).

5.2.2 Taking a measurement on a paper or cardboard roll

To do so: The radius of the roll has to be high enough to ensure that the sensor surface of the device is firmly resting on the paper. The device has to have nearly the same temperature than the paper.

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15

- Take hold of the device with one hand and press it onto the paper roll with a pressure of approx. 4 kg (figure 14).
- When doing so, the sensor surface (black area at the bottom of the device) must be firmly resting on the paper. The device has to be applied at the long side of the roll (figure 13.). Measurements taken at the front of a roll are not reliable.

» The device will now instantly display the moisture content on the display.

» 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).

i 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 (a measurement series) at the same time).

i 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 (e.g. overhead).

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 16). To do so, press or and confirm by pressing .
4. Select **Hold** (figure 17). 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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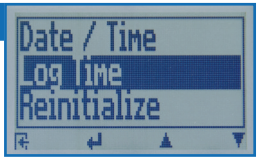

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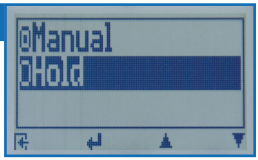
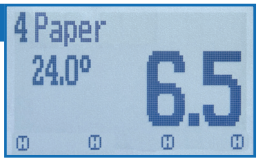


5.3.2 Using the hold function

To do so: The device has to be switched on and be in the Data Log menu (see "The menus" Page 4).

- Press .
  » The current reading will be frozen. All of the four symbols will now be displayed as (figure 18).
- To reactivate the frozen display simply press any button.

18



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 19). To do so, press or and confirm by pressing .
4. Select **Manual** (figure 20). 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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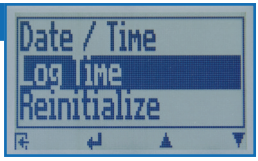

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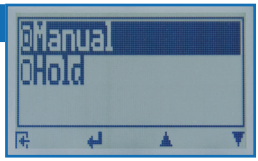
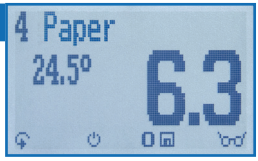


5.4.2 Using the manual save function

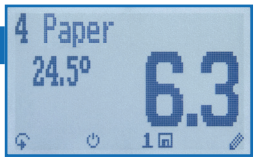
To do so: The device has to be in the Data Log menu (see "Data Log menu" Page 5). The device is set to Data Log Time - Manual.

1. Press .
   - » The display will now appear as in figure 22 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 23.
3. The data you have inputted can be overwritten at any time (only if data has already been entered).

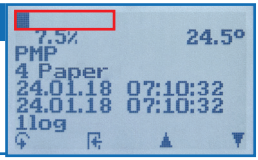
21



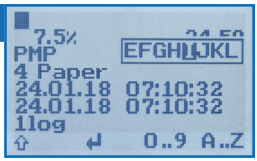
22



23



4. Inputting letters:
Press and holt A..Z to quickly scroll to the required letter and either press it for 3 seconds or press ↵ to confirm the selected letter (figure 24).



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 ↵.

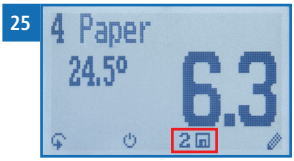
» The data you entered has been saved.

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.

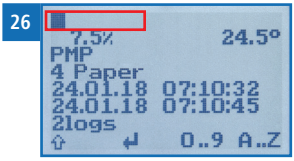
1. Take several readings on a stack or a roll (see 5. The measuring process).

2. To save a reading, press 🖫 as soon as the reading has been taken.



» The display will now appear as shown in figure 25. This number shows the number of readings that have already been saved.

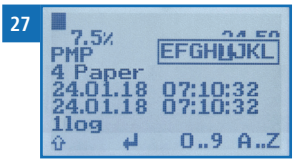
3. Press ✎ to enter a name for the saved series of measurements and to finish the measuring process.



» The display will now appear as shown in figure 26.

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

5. Inputting letters:
Press A..Z and holt to quickly scroll to the required letter and either press it for 3 seconds or press ↵ to confirm the seleced letter (figure 27).



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

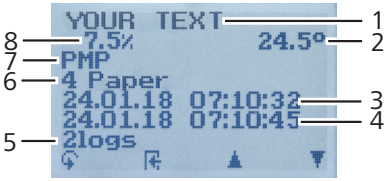
7. Moving forward/back:
   Press ↕ to switch to another input level. Press → or ← to move forward or back.

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:

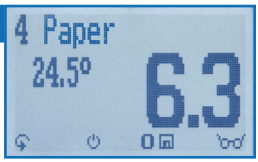


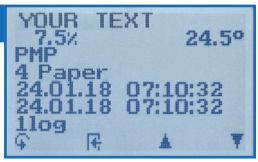
No	Name
1	Name of the measurement series (editable)
2	Temperature (average)
3	Date & start time of the measurement series
4	Date & end time of the measurement series
5	Number of saved readings
6	Product type
7	Device name
8	Moisture content (average)

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 28.

1. Press  .
2. Select the required reading. To do so, press  or  .
   » The display will now appear as shown in figure 29.
   » Press  to leave this screen.

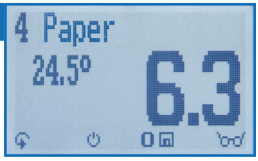
28


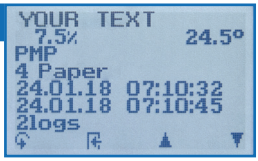
29


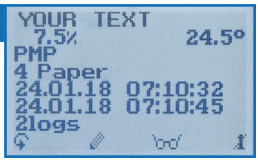
5.7 Viewing individual readings from a series of measurements

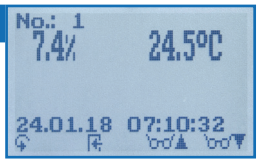
To do so: You must have saved a series of measurements (e.g. **2 logs**)
The display will now appear as shown in figure 30.

1. Press  .
2. Navigate to the required measurement series. To do so, press  or  .
   » The display will now appear as shown in figure 31.
3. Press  to switch to another input level.
   » The display will now appear as shown in figure 32.
4. Press  again.
   » The display will now appear as shown in figure 33.
5. Navigate to the required reading (**No.: 1, No.: 2, No.: 3**). To do so, press  or  .
6. Press  to leave this screen.

30


31


32


33


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 34). To do so, press or and confirm by pressing .
3. Select **Clear Logs** (figure 35). To do so, press or and cofirm by pressing .

» The display will show the message **clear?**

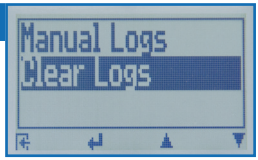
4. Confirm by pressing .

» The data log has been deleted.

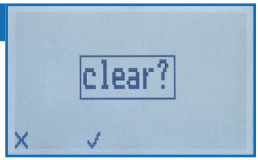
5. Press to leave the **Edit Logs** menu.
6. Press to leave the main menu.

34

35



36



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 37.

1. Press .

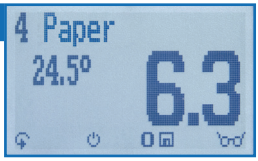
» The display will now appear as shown in figure 38.

2. Select the required reading. To do so, press or .
3. Press to switch to another input level.

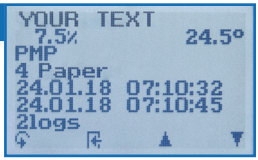
» The display will now appear as shown in figure 39.

4. Press .

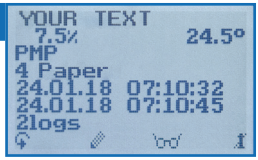
37



38



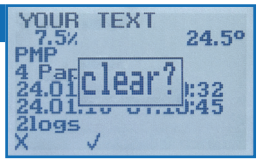
39



» The display will then show the meassage **clear?** (figure 40)..

5. Confirm by pressing ✓.

» The value has been deleted.

40


5.10 Deleting individual values from a single series of measurements

To do so: You must have saved a series of measurements comprising at least 2 logs. The display will now appear as shown in figure 41.

1. Press 📖.

» The display will now appear as shown in figure 42.

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 43.

4. Press 📖.

» The display will now appear as shown in figure 44.

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

6. Press ↺ to switch to another input level.

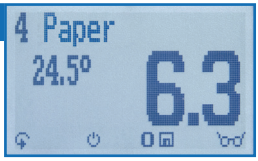
» The display will now appear as shown in figure 45.

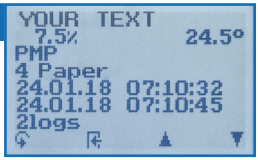
7. Press 🗑 to delete the value shown.

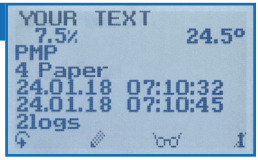
» The display will then show the message “clear?” (figure 46).

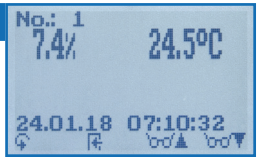
8. Confirm by presssing ✓.

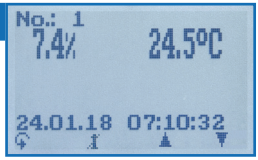
» The value has been deleted.

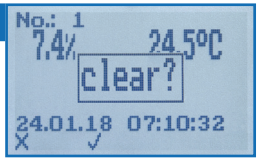
41


42


43


44


45


46


6. Product types

Product type	Paper type	Density [kg/m³]
Reference	! Only used for testing the moisture meter!	
20 Paper	Brochure paper	1,300 kg/m³
19 Paper	Brochure offset paper	1,200 kg/m³
18 Paper	Brochure offset paper	1,150 kg/m³
17 Paper	Brochure offset paper	1,100 kg/m³
16 Paper	Brochure offset paper	1,050 kg/m³
15 Paper	Brochure offset paper	1,000 kg/m³
14 Paper	Brochure offset paper	950 kg/m³
13 Paper	Copying paper	900 kg/m³
12 Paper	Copying paper	850 kg/m³
11 Paper	Copying paper	800 kg/m³
10 Paper	Copying paper, liner	750 kg/m³
9 Paper	Kraft liner, test liner	700 kg/m³
8 Paper	Corrugating medium, liner	650 kg/m³
7 Paper	Newsprint	600 kg/m³
6 Paper	Low density cardboard	550 kg/m³
5 Paper	Low density cardboard	500 kg/m³
4 Paper	Tissue, filter paper	450 kg/m³
3 Paper	Tissue, filter paper	400 kg/m³
2 Paper	Tissue- filter paper	350 kg/m³
1 Paper	Tissue, filter paper	300 kg/m³

6.1 Selecting the product type

Due to the wide range of different types of papers in use, there are no default product type categories. The humimeter PMP's readings are based on a paper stack or roll densities, which is why density is the decisive factor for the different product types.

The product type overview contains suggestions for different paper types and their associated densities [kg/m³].

$$\text{Density}\left[\frac{\text{kg}}{\text{m}^3}\right] = \frac{\text{Grammage}\left[\frac{\text{g}}{\text{m}^2}\right]}{\text{Thickness paper sheet [mm]}}$$

$$\text{Density}\left[\frac{\text{kg}}{\text{m}^3}\right] = \frac{\text{Weight paper roll [kg]}}{\text{Volume paper roll [m}^3\text{]}}$$

$$\text{Density}\left[\frac{\text{kg}}{\text{m}^3}\right] = \frac{\text{Weight paper pile [kg]}}{\text{Volume paper pile [m}^3\text{]}}$$

If you wish to obtain very precise moisture content readings, please take a one-off comparative measurement with your online moisture content analyser or the standardised oven-drying method (ISO 287). To do so, proceed as follows:

1. Gauge your paper (roll or stack) density in relation to values for the different product types shown above and take a number of moisture readings using the product type most likely to deliver realistic values.

2. Next, record the actual moisture content reading obtained through your online moisture analysis or perform a reference moisture content analysis in accordance with EN ISO 287.

3. Compare the readings recorded for the different product types with those of the actual moisture content established using the reference measurement. From now on, always use the product type that most closely matches the reference measurement.

» Note: You can change the product type name to a name of your choice (e.g. to the name of the paper). For more information on doing so, please contact your dealer.

6.2 How moisture content is defined

The device measures and shows a material's moisture content. The moisture content readings it displays 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 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 or by scanning the QR code.

7.1 Installing / opening the program

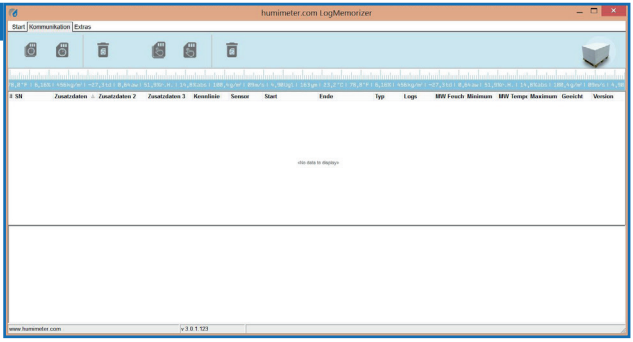
1. Insert the USB stick with the LogMemorizer program into the USB port on your computer or

» download the LogMemorizer software at humimeter.com/software 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 47).

47



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

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: 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 PM5 or initiate the export at your computer.

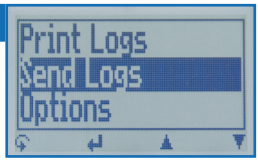
Exporting moisture readings from the humimeter PMP

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

48

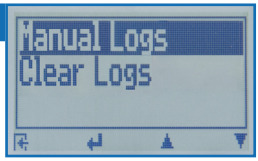
1. Insert the USB Mini B connector into the humimeter PMP (figure 48).
2. Insert the USB connector into the computer.
3. Open LogMemorizer on your computer.
4. Switch on the humimeter PMP.
5. Press  twice or hold for 2 seconds.

49



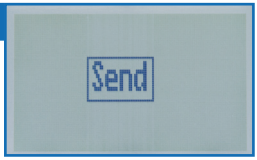
6. Select **Send Logs** (figure 49). To do so, press  or  and confirm by pressing  .

50



7. Select **Manual Logs** (figure 50). To do so, press  or  and confirm by pressing  .

51



» The display will then show the message **Send** (figure 51).

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

Initiating the data export at your computer

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

52

1. Insert the USB Mini B connector into the humimeter PMP (figure 52).
2. Insert the USB connector into the computer.
3. Open LogMemorizer on your computer.

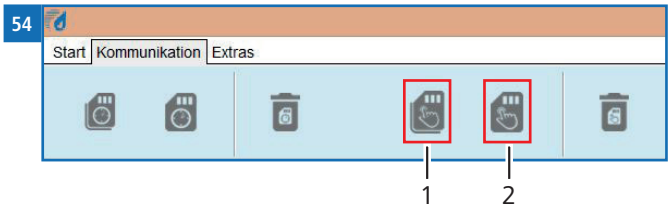
4. Switch on the humimeter PMP.

5. Open the **Communication** tab in LogMemorizer (figure 53).

6. Select and click on one of the two buttons shown in figure 54.

» **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

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

8. Checking 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 presssing  .
4. Press  to leave the main menu.

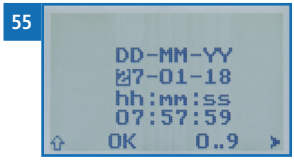
9. Configuring the device

9.1 Turning on Bluetooth

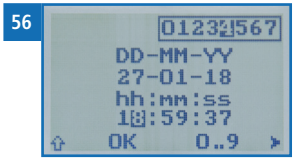
The information on Bluetooth is provided in a separate operating manual.

9.2 Adjust the date/time

1. Press  twice or hold for 2 seconds.
2. Select **Options**. To do so, press  or  and cofirm by pressing  .
3. Select **Date/Time**. To do so, press  or  and confirm by pressing  .
   - » The display will now appear as shown in figure 55.
   - » 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. 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 56).



5. Moving forward:
   To move forward between **DD-MM-YY** and **hh:mm:ss**, press  .
6. Moving back:
   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 settings have been saved.
8. Press  to leave the **Options** menu.
9. 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 setting has been saved.

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

9.4 Activating options

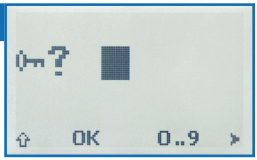
To do so: Some of the options must be deactivated.

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 57.

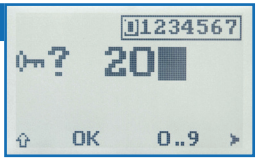
» On delivery, the four-digit password is the device's serial number.

57



4. Inputting numbers:
   Press and hold 0..9 go quickly scroll to the required number and either press it for 3 seconds or press to confirm the selected number (figure 58).

58



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

» The setting has been saved.

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

7. Press  to leave the **Options** menu.
8. 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., Online Send, 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, pressr  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 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 setting has 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, 5minutes, 10 minutes). 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.

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 setting has been saved.

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

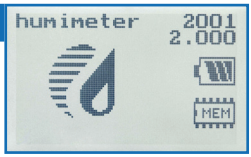
9.10 Resetting the device to its factory settings

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 59).
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 **humimeter** (figure 60).
   - » Resetting the device will not affect the saved measuring values.

59

60



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.

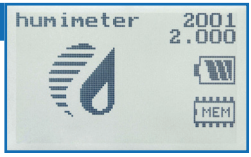
10.1 Changing batteries

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

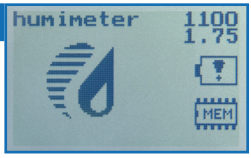
If the battery´s charge is very low, the battery symbol will be shown with an exclamation mark. In that case, ther batteries must be changed immediately (figure 62).

For changing the batteries, see section "3.3 Inserting batteries" Page 13.

61



62



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 Checking the calibration

The device's calibration should be checked every four weeks. When doing so, use the test plate supplied with the device.

To do so: The device and test plate must have a temperature of between 20 °C and 26 °C. Place the case on top of a wooden table. (The case must not be placed on top of or above metal.)

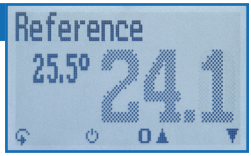
63

1. Switch on the device.
2. Use the arrow keys to select "Reference" under product type (see 6.1 Selecting the product type) (figure 63).

64

3. Take hold of the device with one hand and press it onto the top of the grey test plate with a pressure of approx. 4 kg (figure 64).

65



» The moisture content reading shown must be between 24.8 and 25.8. (The moisture reading will be displayed in black.)

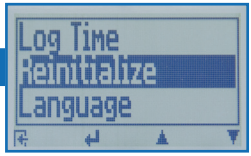
» If the moisture value is outside this range, in which case it will be displayed in grey (figure 65), the moisture meter has to be calibrated (see 10.3 Calibrating the moisture meter).

10.3 Calibrating the moisture meter

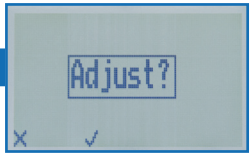
To do so: The device must have a temperature of between 20 °C and 26 °C.

1. Switch on the device.
2. Press twice or hold for 2 seconds.
3. Select **Options**. To do so, press or and confirm by pressing .
4. Select **Reinitialize** (figure 66). To do so, press or and confirm by pressing .
   - » The display will then show the message **Adjust?** (figure 67).
5. Lift the device up into the air with one hand. When doing so, there must be a minimum of 0.5 metres of empty space behind the sensor surface (black plate at the bottom of the device (figure 68).
6. Confirm by pressing .
   - » The display will now appear as shown in figure 69.
   - » The bar will run upwards. The device must be held up in the air throughout this entire process,
   - » which only takes a couple of seconds to complete. When completed, the display will look as shown in figure 66.
7. Press and then to return to the product selection level.
8. Then check the calibration (see 10.2 Checking the calibration).

66

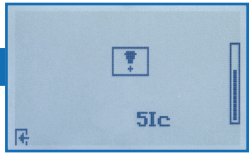


67



68

69



9. 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

Do not clean with fluids
Water or cleaning fluid getting inside the device can destroy the device.

► Only clean with dry materials.

Sensor surface

- Clean the sensor surface with a cloth.

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. I.e. the material's temperature is lower than 0°C or higher than +50 °C.	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 product type	Check whether you have selected the right product type (product) before taking a reading. See 6.1 Selecting the product type.
	Material stack is not high enough	The stack of paper or cardboard being measured has to be at least 25 mm high.
	Reading taken in the wrong place, e.g. at the front of a roll	All readings must be taken on the long side of the roll
	Incorrect contact pressure	Press the device against the paper or cardboard with a pressure of approx. 4 kg.
	Metal or similar conductive materials in the device's measuring range	Remove all metal or other conductive materials from the device's measuring range (the device is not suitable for measuring moisture in metal-coated paper).

Fault	Cause	Remedy
Incorrect calibration (the exclamation mark on the display does not go away)	There is an object/material behind the sensor plate (during calibration)	Hold the device up into the air - make sure your fingers do not touch the sensor plate
	Polluted sensor surface	Clean the sensor surface (see 10.4 Cleaning the device).
Data transfer to Log-Memorizer failed	Interface has not been 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

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 2 months 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:*	**PMP**
Produktbeschreibung: *Product description*	**Messgerät zur Bestimmung des Wassergehalts in Papier und Karton** ***Measuring instrument for determining the water content in paper and board***

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

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:	**PMP**
Product description:	**Measuring instrument for determining the water content in paper and board**

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	1% to 15% moisture content
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	20 mm
Minimum material thickness	25 mm
Paper density range	300 kg/m³ to 1,300 kg/m³
Power supply	4 pcs. of 1.5 Volt AA Alkaline batteries
Current consumption	60 mA (incl. display illumination)
Menu languages	German, English, French, Italian, Spanish, Portuguese, Czech, Polish, Russian, International
Display	128 x 64 illuminated matrix display
Device dimensions	147 x 75 x 30 mm
Device weight	265 g
Dimensions of device + case	192 x 130 x 52 mm
Weight of device + case	660 g
Device IP rating	IP 40

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

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