Schaller
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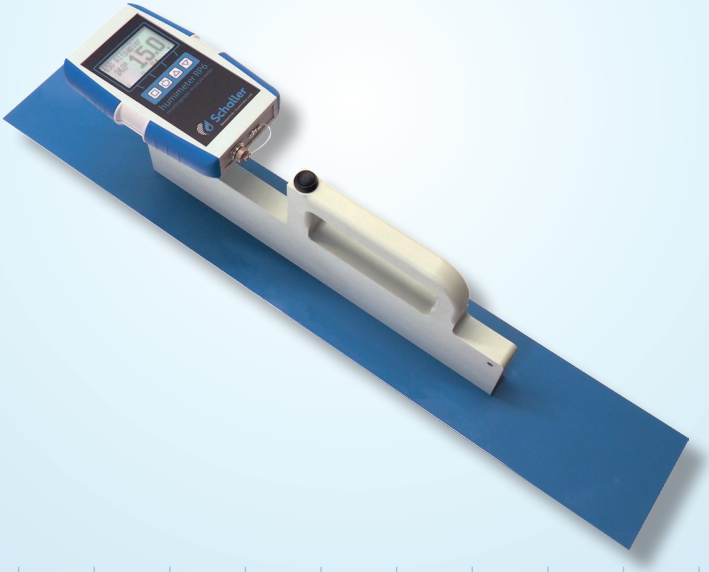
Moisture meter

Operating Manual

humimeter RP6

Paper moisture meter

for measuring the absolute moisture content of waste paper



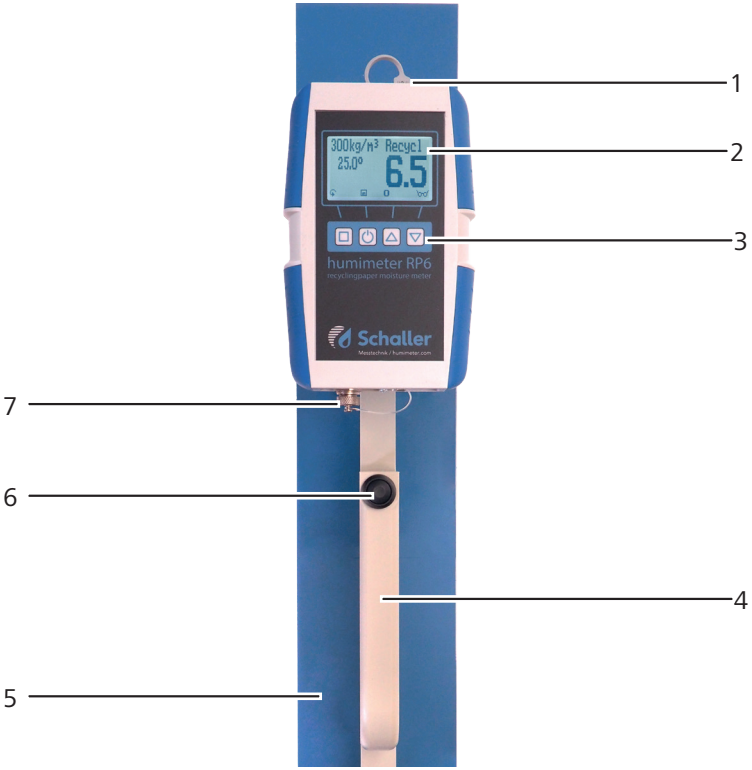
78,0 °F | 6,16% | 456 kg/m³ | −27,3 td | 0,64 aw | 51,9% r.H. | 14,8% abs | 100,4 g/m² | 09 m/s | 4,90 Ugl | 1

Version 2.7

Always read this operating manual before using the humimeter RP6!

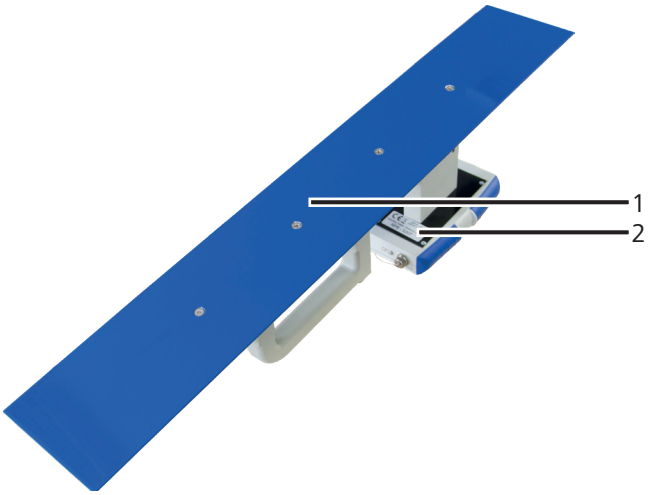
Your humimeter RP6 at a glance

The main unit



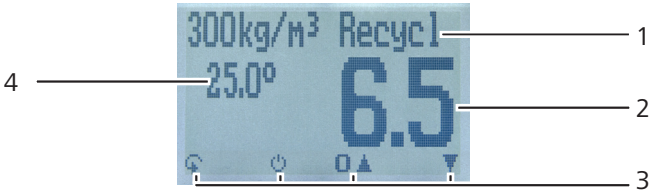
No.	Name
1	USB port (for charging the battery)
2	Display
3	Keypad
4	Handle
5	Measuring plate
6	Power/Save button
7	Connector for external sensor

Rear of the main unit



No.	Name
1	Measuring plate
2	Identification plate

The display



No.	Name
1	Product type
2	Moisture content in % (see 7.3 How moisture content is defined for definition)
3	Display symbols
4	Temperature display

The display symbols

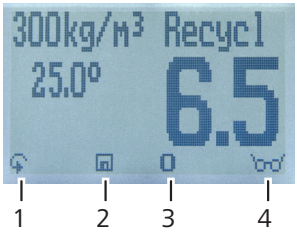
Symbol	Name
	Enter
	Up
	Down
	Back
0..9	Enter numbers
A..Z	Enter letters
	Continue / go right
	Left
	Yes
	Auto save

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

The menus

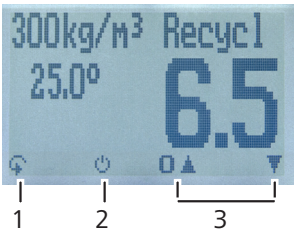
The device has three different menues: Data Log, product selection and main menu:

Data Log menu



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

Product selection menu



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

Main menu

The main menu comprises the following menu items:

- **Edit Logs:**
  Manual Logs, Auto Logs, Clear Logs
- **Print Logs:**
  Last Log, All Logs, Clear Logs
- **Send Logs:**
  Manual Logs, Auto Logs, Clear Logs
- **Options:**
  Bluetooth, Date/Time, Log Time, Language, Unlock, °C/°F, BL On Time, Auto Off Time, Adjust, Calibrate, Materialcalib., Online Send, 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 RP6 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 RP6. 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.

CAUTION

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

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 waste paper
- The device must only be used for taking measurements on the products defined in the following sections of this manual (see 7. Product types).

2.2 Improper use

- The device must not be used in ATEX.

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:

- Please contact your dealer if any parts of the device have become loose or damaged.

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 RP6
- USB mini-B cable
- USB stick with software
- Plastic case
- Operating manual

Optional accessories:

- Battery operated portable thermal printer (described in a separate operating manual)
- Bluetooth module (described in a separate operating manual)
- LF_TB 120 moisture and temperature sensor
- Conductance insertion probe
- Wooden case with test plate
- Test block for insertion probe

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 (see 9. Checking the device's status) for about 3 seconds.

4.2 Selecting the product type

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

For an overview of the different product types and the criteria for selecting them, please refer to 7. Product types

Press the ▽ or △ button to move from one product type to the next Or

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

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

1

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 2 seconds.

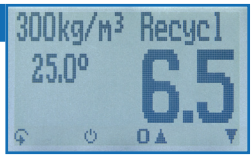
5. The measuring process

5.1 Preparing a measurement

To do so: The device has to have nearly the same temperature as the product to measure. It is recommended to let your humimeter device adjust to the surrounding temperature of the paper before the measurement.

1. Switch the device on (see 4.1 Switching the device on).
2. Select the desired product type (see 7. Product types) by pressing the or button (see 4.2 Selecting the product type).

2



3

5.2 Taking a measurement

5.2.1 Taking a measurement on a paper bale

To do so: The bale has to have a minimum thickness of 50 cm. The correct product type must have been selected.

1. Take hold of the device with one hand and press it against the bale with a pressure of approx. 4 kg (figure 4).

2. When doing so, the whole measuring plate must be resting firmly and evenly on the bale (figure 5).

   » Wire or other conductive materials in the measuring range of the device will have a negative effect on the accuracy of the measurement (figure 6).

3. The device will now instantly display the moisture content and material temperature on the display.

4. For an average moisture content reading, simply take multiple measurements around the bale.

   » Once the reading has been taken, it can be saved on the device (see 6. Saving your readings).

4

5

6

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

i Information - Incorrect readings

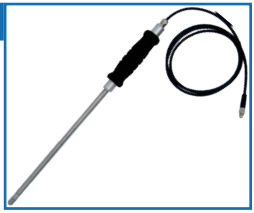
Always make sure to select the correct product type for the material you are measuring. This prevents taking incorrect readings (see 12. Faults).

5.2.2 (Optional) measurement with plug-in sensor

To do so: Only possible with optionally available sensor article no.12004 (figure 7). The device has to have nearly the same temperature (+/- 3 °C) than the product being measured .

1. Connect the sensor to the socket.
   » The humimeter RP6 automatically recognizes the sensor and activates the corresponding air humidity calibration curves.
2. Insert the sensor into the material being measured and let it adjust to the surrounding temperature for approx. 15 minutes (figure 8).
3. Switch on the device and select the desired product type (see 7. Product types).
4. The device will now instantly display the moisture content and material temperature on the display.
   » Once the reading has been taken, it can be saved on the device (see 6. Saving your readings).

7



8

5.2.3 (Optional) measurement with insertion probe

To do so: Only possible with optionally available probe article no. 13837 (figure 9).

1. Connect the sensor to the socket.
   » The humimeter RP6 automatically recognizes the sensor and activates the corresponding calibration curves.
2. Insert the sensor into the material being measured (figure 10).
3. The device will now instantly display the moisture content and material temperature on the display.
   » Once the reading has been taken, it can be saved on the device (see 6. Saving your readings).
4. For an average moisture content reading, simply take multiple measurements in different spots.

9

10

6. Saving your readings

6.1 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).

6.1.1 Activating the hold function in the options menu

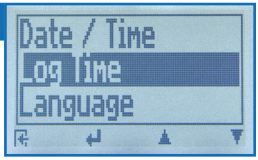
To do so: The device has to be switched on and be in the Data Log menu.

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 11). To do so, press or and confirm by pressing .
4. Select **Hold** (figure 12). 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.

11



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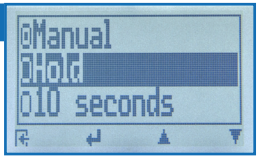


6.1.2 Using the hold function

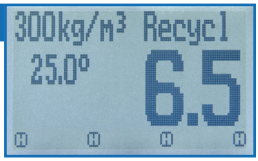
To do so: The device has to be switched on and be in the Data Log menu.

- Press .

» The current reading will be frozen. All of the four symbols will now be displayed as (figure 13).

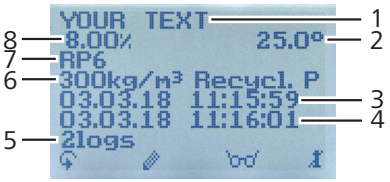
- To reactivate the frozen display, simply press any button.

13



6.2 Saving your readings manually

All of the readings can be saved, edited and viewed on the device. The figure below shows the overview screen of a single saved series of measurements.



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)

6.2.1 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 saving function) is the device's default setting.

Activating the manual saving 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**. To do so, press or and confirm by pressing .
4. Select **Manual** (figure 14). To do so, press or and confirm by pressing .

14

» The setting has been saved.

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

6. Press  to leave the main menu.

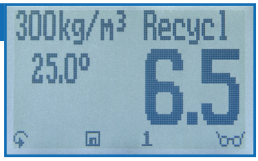
Using the manual saving option

To do so: The device has to be in the Data Log menu (see "Data Log menu" page 4).

1. Press  .

» The display will now appear as shown in figure 15 and the disc symbol will be preceded by the digit one.

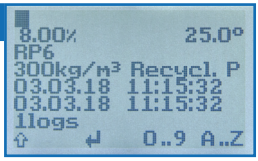
15



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 16.

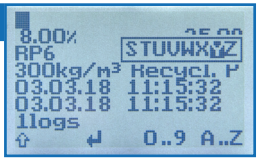
16



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

4. Inputting letters:
Press and hold  to quickly scroll to the required letter and either press it for 3 seconds or press  to confirm the selected letter (figure 17).

17



5. 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.

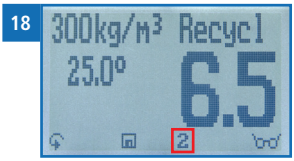
6. Moving forward/back:
Press  to switch to another input level. Press  or  to move forward or back.

7. Confirm your entry by pressing  .

» The data you entered has been saved.

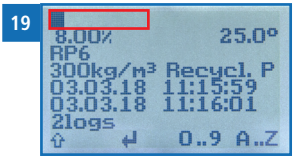
6.2.2 Saving several readings (a measurement series) at the same time

To do so: The device has to be in the Data Log menu (see "Data Log menu" page 4).



18

1. Take several readings (see 5. The measuring process).
2. To save a reading, press [icon] as soon as the reading has been taken.
   - » The display will now appear as shown in figure 18. The marked number shows the number of readings that have already been saved.
3. Press [icon] 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 19.
4. The data you have inputted can be overwritten at any time.
5. Inputting letters:
   Press and hold A..Z to quickly scroll to the required letter and either press it for 3 seconds or press [icon] to confirm the selected letter (figure 20).



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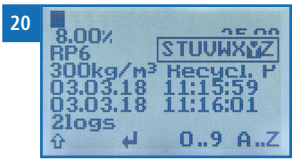

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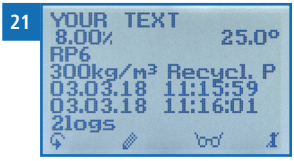

21

6. Inputting numbers:
   Press and hold 0..9 to quickly scroll to the required number and either press it for 3 seconds or press [icon] to confirm the selected number.
7. Moving forward/back:
   Press [icon] to switch to another input level. Press [icon] or [icon] to move forward or back.
8. Press [icon] to leave the number or letter row.
9. Confirm your entry by pressing [icon].
   - » The data you entered has been saved.

6.3 Auto save function (time-based)

The device can be configured in such a way that it will automatically save a reading (log) at a selected time interval. This function is particularly useful when taking readings of the humidity in loose paper or measuring the room climate .

6.3.1 Activating the auto 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 **Auto save time** (figure 22). To do so, press or and confirm by pressing .
4. Select the desired time interval (e.g. 10 seconds) (figure 23). 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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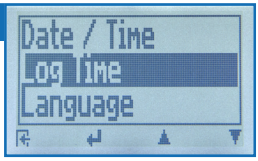

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6.3.2 Auto save function: Saving measured values

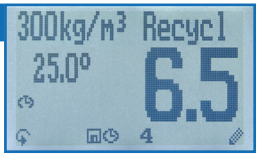
To do so: The device has to be in the Data Log menu (see "Data Log menu" page 4).

1. Press .

   » The display will now appear as shown in figure 24 and the number of data saves shown in front of the disc symbol will increase by one every 10 seconds, i.e. the device will save a reading every 10 seconds.
2. Press to to finish the measuring process and to enter a name for the saved readings.

   » The display will now appear as shown in figure 25.

24



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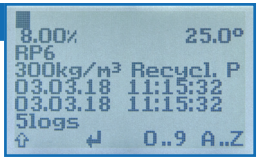


3. The data you have inputted can be overwritten at any time.

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

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. Press ↵ to leave the number or letter row.

8. Confirm your entry by pressing ↵.

» The data you entered has been saved.

6.4 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 26.

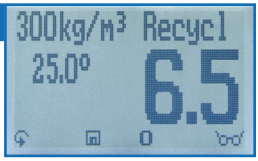
1. Press 👓.

2. Select the required reading. To do so, press ⇩ or ⇧.

» The display will now appear as shown in figure 27

» Press ⎋ to leave this screen.

26



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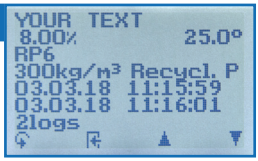

6.5 Viewing individual readings from a series of measurements

To do so: You must have saved a series of measurements (e.g. **3 logs**).
The display will now appear as shown in figure 28.

1. Press .
2. Navigate to the required measurement series. To do so, press or .
   » The display will now appear as shown in figure 29.
3. Press to switch to another input level.
   » The display will now appear as shown in figure 30.
4. Press again.
   » The display will now appear as shown in figure 31.
5. Navigate to the required reading (**No.: 1, No.: 2, No.: 3**). To do so, press .
6. Press to leave this screen.

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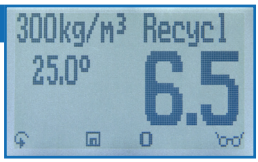
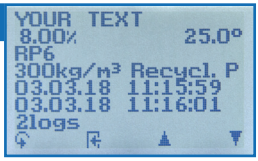
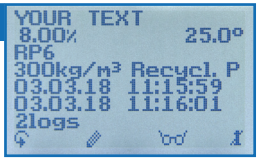
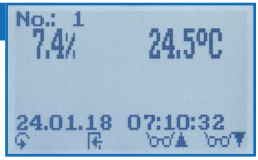


29


30


31


6.6 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 32). To do so, press  or  and confirm by pressing  .
3. Select **Clear Logs** (figure 33). To do so, press  or  and confirm by pressing  .

   » The display will then show the message **clear?** (figure 34).

4. Confirm by pressing  .

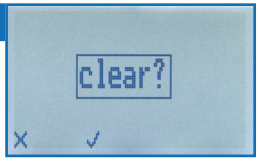
   » The data log has been deleted.

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

32

33

34



6.7 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 35.

1. Press  .
2. Select the required reading. To do so, press  or  .

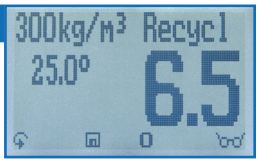
   » The display will now appear as shown in figure 36.

3. Press  to switch to another input level.

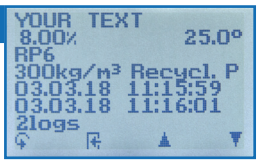
   » The display will now appear as shown in figure 37.

4. Press  .

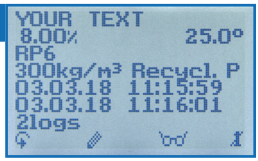
35



36



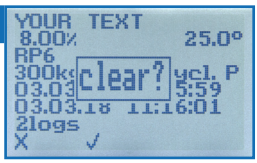
37



» The display will then show the message **clear?** (figure 38).

5. Confirm by pressing ✓.

» The value has been deleted.

38


6.8 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 39.

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

» The display will now appear as shown in figure 40.

3. Press ↻ to switch to another input level.

» The display will now appear as shown in figure 41.

4. Press 👓.
5. The display will now appear as shown in figure 42.
6. Select the required measured value. To do so, press ▼ or ▲.
7. Press ↻ to switch to another input level.

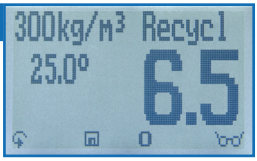
» The display will now appear as shown in figure 43.

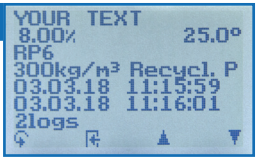
8. Press I to delete the value shown.

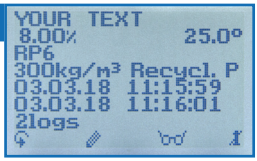
» The display will then show the message “clear?” (figure 44).

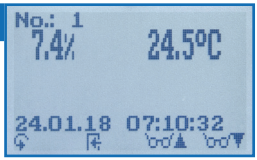
9. Confirm by pressing ✓.

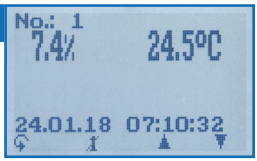
» The value has been deleted.

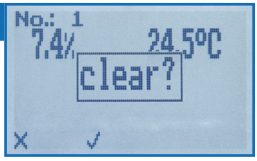
39


40


41


42


43


44


7. Product types

Product type	Paper type	Density [kg/m³]	Switch setting
250kg/m³ Recycl. Paper	Corrugated board, used corrugated board, bales with low pressing density	250 kg/m³	S0
300kg/m³ Recycl. Paper	Corrugated paper, white multi-layer cardboard	300 kg/m³	S1
350kg/m³ Recycl. Paper	Grey cardboard, mixed cardboard without corrugated paper	350 kg/m³	S2
400kg/m³ Recycl. Paper	Light newsprint	400 kg/m³	S3
450kg/m³ Recycl. Paper	Newsprint, paper and cardboard packaging	450 kg/m³	S4
500kg/m³ Recycl. Paper	Mixed wastepaper, assorted coloured documents, offset paper	500 kg/m³	S5
550kg/m³ Recycl. Paper	Coated paper	550 kg/m³	S6
600kg/m³ Recycl. Paper	Multiprint, white documents wood-free	600 kg/m³	S7
650kg/m³ Recycl. Paper	White shavings, printer shavings, bales with high bale density	650 kg/m³	S8
Empty	For special sorts (calibration by Schaller Messtechnik GmbH)		
Test Plate	! Only for testing the moisture meter !		

Product types written in a grey font cannot be selected and used with the sensor currently in use.

7.1 Selecting the product type

Due to the addition of various substances during paper production and due to different paper densities and compressed densities, there are no default product type categories. For the humimeter RP6 the paper 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].

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. Determine the density of the paper bale according to the following formula:

   » Volume (m^3) = Length (m) * Width(m) * Height(m)

   » Density (kg/m^3) = Weight (kg) / Volume (m^3)

2. Take a number of moisture readings using the product type corresponding to the determined density and record the measuring values with corresponding product type.

3. Next, perform a reference moisture content analysis in accordance with EN ISO 287 (drying chamber or kiln-drying) .

   » Take samples from different positions of the bale,

   » from an area at least as large as the sensor plate, and up to a depth of 50cm.

4. 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. the name of the paper). For more information on doing so, please contact your dealer.

7.2 Product types for optionally available sensors:

7.2.1 Plug-in sensor (article no.12004)

Product type
Relative air humidity
Absolute moisture waste paper
Absolute air humidity
Relative air humidity empty
Absolute moisture empty

The calibration curve "Absolute moisture waste paper" has been developed from a mixture of different paper types and is determined for a quick orientation.

The fine adjustment to special applications or particular paper types has to be effected by the customer resp. can be effected by Schaller Messtechnik GmbH for a fee.

7.2.2 Insertion probe (article no.13837)

Product type	
Print media mixed	Empty 1
Corrugated board	Empty 2
Kraft paper	Test block
Kraft corrugated board	

The calibration curve "Print media mixed" was determined from various types of print media containing a maximum of 5 % coloured newspapers or supplements and serves for rough orientation.

The calibration curve "Corrugated board" was determined from various types of unused packaging, sheets and shavings made of corrugated board with kraft or testliner blankets and serves for rough orientation.

The calibration curve "Kraft paper" was determined from unused, natural-coloured chips and other kraft papers and boards and serves for rough orientation.

The calibration curve "Kraft corrugated board" was determined from various types of unused packaging, sheets and chips of corrugated board consisting exclusively of kraft liners and serves for rough orientation.

The fine adjustment to special applications or particular paper types has to be effected by the customer resp. can be effected by Schaller Messtechnik GmbH for a fee.

The calibration curve "Test block" is determined for calibration checks. For that, the optionally available test block article no. 12308 is required.

7.3 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)

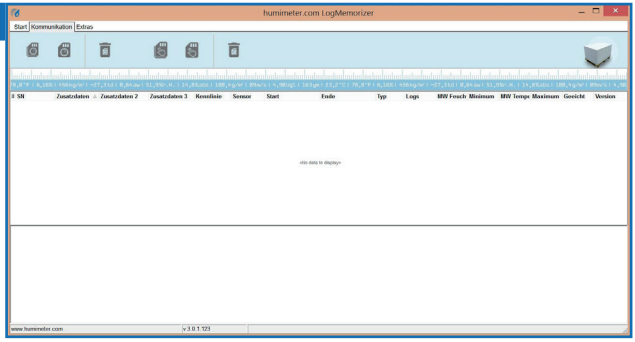
8. Using the LogMemorizer program

8.1 Installing/Opening the program

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

» The screen will now display the LogMemorizer's interface (figure 45).

45



» Before using LogMemorizer, please refer to the the separate LogMemorizer operation 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.

8.2 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 RP6 or initiate the export at your computer.

Exporting moisture readings from the humimeter RP6

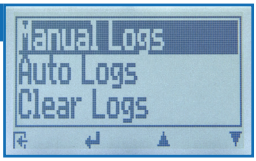
Connect the humimeter RP6 to your computer using the supplied USB cable:

46

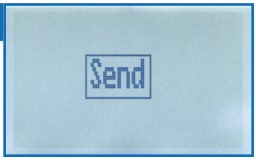
1. Insert the USB Mini B connector into the humimeter RP6 (figure 46).
2. Insert the USB connector into the computer.
3. Open LogMemorizer on your computer.
4. Switch on the humimeter RP6.
5. Press twice or hold for 2 seconds.
6. Select **Send Logs** (figure 47). To do so, press or and confirm by pressing .
7. Select **Manual Logs** or **Auto Logs** (figure 48). To do so, press or and confirm by pressing .

47

48



49



» The display will then show the message **Send** (figure 49).

» All of the measuring values saved on the humimeter RP6 will now be sent to your computer.

Initiating the data export at your computer

Connect the humimeter RP6 to your computer using the supplied USB cable:

50

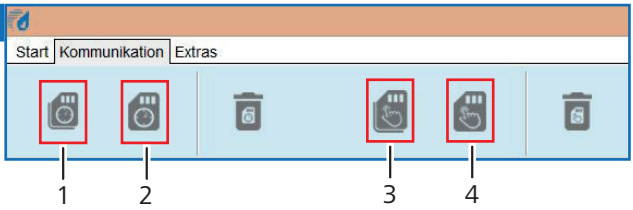
1. Insert the USB Mini B connector into the humimeter RP6 (figure 50).
2. Insert the USB connector into the computer.
3. Open LogMemorizer on your computer.
4. Switch on the humimeter RP6.
5. Open the **Communication** tab in LogMemorizer (figure 51).

51

6. Select and click on one of the buttons shown in **figure** 77:

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

77



No.	Name
1	Import all auto save logs
2	Import most recent auto save series
3	Import all manual logs
4	Import most recent manual log

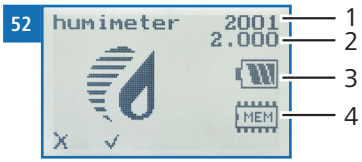
» The measuring values saved on the humimeter RP6 will now be sent to your computer.

9. 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 (figure 52):



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

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

10. Configuring the device

10.1 Turning on Bluetooth

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

10.2 Adjusting the date/time

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

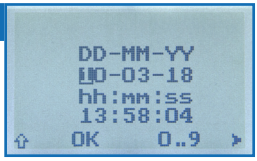
3. Select **Date/Time**. To do so, press ▼ or ▲ and confirm by pressing ↵.

» The display will now appear as shown in figure 53.

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

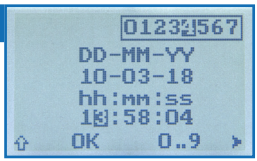
» The format for the time is **hh:m:ss** (hour:minutes:seconds).

53



4. Inputting numbers:
Press and hold 0..9 to quickly scroll to the required number and either press it for 3 seconds or press ↵ to confirm the selected number (figure 54).

54



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 OK.

» The settings have been saved.

8. Press ⇦ to leave the **Options** menu.

9. Press ⟲ to leave the main menu.

10.3 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.

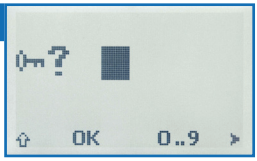
6. Press ⟲ to leave the main menu.

10.4 Activation options

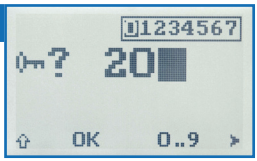
To do so: Some of the options must be deactivated.

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 55.
   - » On delivery, the four-digit password is the device's serial number.
4. Inputting numbers:
   Press and hold 0..9 to quickly scroll to the required number and either press it for 3 seconds or press to confirm the selected number (figure 56).

55



56



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**, **Adjust, Calibrate, Materialcalib., Online Send, Password, Reset** options are now activated.
7. Press to leave the **Options** menu.
8. Press to leave the main menu.

10.5 Deactivating options

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

10.6 Selecting °C/°F

To do so: All of the options must be activated (see 10.4 Activation options).

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

   » The setting has been saved.
5. Press  to leave the **Options** menu.
6. Press  to leave the main menu.

10.7 Reducing the device's power consumption

10.7.1 Configuring the display illumination time

To do so: All of the options must be activated (see 10.4 Activation 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.

10.7.2 Configuring automatic switch-off

To do so: All of the options must be activated (see 10.4 Activation options).

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

   » The setting has been saved.

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

10.8 Calibrating the humidity sensor

The calibration of the humidity sensor is described in a separate operating manual.

10.9 Configuring the material calibration function

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

10.10 Changing the password

To do so: All of the options must be activated (see 10.4 Activation 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 OK.

» The setting has been saved.

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

7. Press to leave the main menu.

10.11 Resetting the device to its factory settings

To do so: All of the options must be activated (see 10.4 Activation 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 57).

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 58).

» Resetting the device will not affect the saved measuring values.

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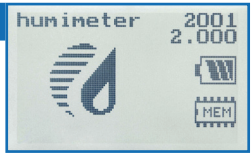
58


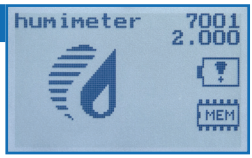
11. Cleaning and maintenance

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

11.1 Charging the integrated battery

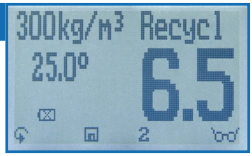
The device constantly monitors the charge level of the integrated battery. The current battery status is shown on the status screen. If the battery's charge is very low, the battery symbol will be shown with an exclamation mark. In that case, the battery must be charged immediately (figure 59).

59



This warning symbol will also be shown on the measuring screen (figure 60).

60



1. To charge the battery, insert the supplied USB cable into the USB mini-B port on the humimeter RP6.

2. Next, connect the cable to a computer or USB adaptor/charging cable connected to the mains (e.g. from a mobile phone) (figure 61).

61

» The battery will now start charging.
» The LED will be blue while the battery is charging.
» The LED will switch off as soon as the battery is fully charged.
» Charging the battery can take up to 6 hours.

CAUTION

Fire hazard

There is a risk of fire if the battery is charged incorrectly.

► The battery must only be charged using original accessories and in accordance with the specifications detailed in this operating manual. The environmental temperature has to be between 0 °C and +45 °C.

The use of damaged cables or chargers or charging the battery in damp environments can result in electric shock, fire and injury. Make sure the temperature is between 0 °C and +45 °C when charging the battery as other temperatures can destroy the battery. Make sure the mains and USB cable are properly connected.

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).

11.2 Resetting the hardware/device

The device will go into battery protection mode if the battery's charge is very low to prevent it from being completely drained. Once that happens, the device can only be restarted once the battery has been recharged and the hardware has been reset.

The hardware/device can also be reset if the device has stopped operating for some reason. To do so:

11.2.1 Reset for units with serial number: 5497 and higher

1. Fully charge the battery (until the LED goes out).

» Bend the end of a paper clip and carefully insert it into the small hole between the LED and the USB socket. Carefully press the button located behind the hole.

» The unit will restart immediately after you press the button.

62

11.2.2 Reset for devices with serial number 5000 to 5496

1. Fully charge the battery (until the LED goes out).
2. Remove the four blue plastic grips (figure 63).

» To do so, pull the grips away from the device.

3. Now take the two halves of the measuring instrument apart (figure 64).
4. On the back of the circuit board a small reset button is situated (figure 65).
5. Press this button to reset.

» Do not use excessive force to press the reset button, which is very easy to operate.

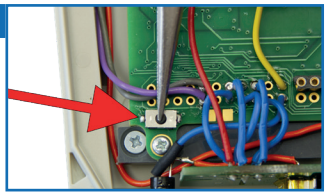
» The device will restart as soon as the reset button has been pressed.

6. Put the two halves together again (figure 66).

63

64

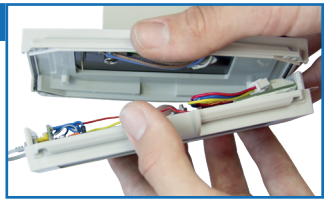
65



» Do not use excessive force to put the halves together.

» If it is not possible to put the halves together easily, flush them again and try again.

7. Mount the four blue pastic grips.

66


11.3 Checking the calibration

67


The device's calibration should be checked every four weeks.

To do so: There must be a minimum of 1 metre of empty space behind the measuring plate.

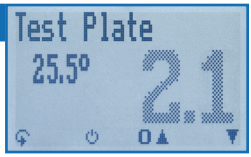
- Switch on the device and use the arrow keys to select "Test Plate" under product type (see 4.2 Selecting the product type).
- Lift the device up into the air with one hand (figure 67).

» When doing so, there must be a minimum of 1 metre of empty space behind the measuring plate.

» The moisture content reading shown must be between + 1.5 and - 0.5 (figure 68).

» If the moisture value is outside this range (figure 69), the moisture meter has to be calibrated (see 11.5 Calibrating the moisture meter).

68


69


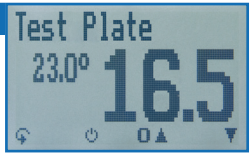
11.4 Checking the calibration with the optional test plate

To do so: Only possible with optionally available wooden case with test plate. The device and the test plate must have a temperature of between 20.0 °C and 26.0 °C.

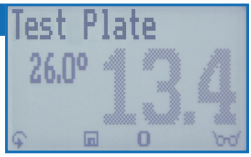
1. Place the wooden case on top of a wooden table. (The case must not be placed on top or above metal.)

2. Switch on the device and use the arrow keys to select "Test Plate" under product type (see 4.2 Selecting the product type).

70


71


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 70).

72


» The moisture content reading shown must be between 16.0 and 17.0 (the moisture reading will be displayed in black, figure 71).

» If the moisture value is outside this range (the moisture reading will be displayed in grey, figure 72), the moisture meter has to be calibrated (see 11.5 Calibrating the moisture meter).

11.5 Calibrating the moisture meter

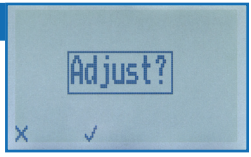
To do so: All of the options must be activated (see 10.4 Activation options).

1. Press twice or hold for 2 seconds.

2. Select **Options**. To do so, press or and confirm by pressing .

73


3. Select **Reinitialize** (figure 73). To do so, press or and confirm by pressing .

74


» The display will then show the message **Adjust?** (figure 74).

4. Lift the device up into the air with one hand (figure 75).

75

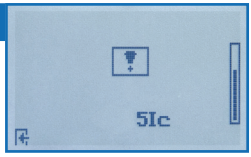

» When doing so, there must be a minimum of 1 metre of empty space behind the measuring plate.

5. Confirm by pressing .

» The display will now appear as shown in figure 76.

» 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 73.

76


6. Press and then to return to the Data Log menu.

11.6 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.

11.7 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.

Plastic housing

- Clean the plastic housing with a dry cloth.

Measuring plate

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

12. 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.
	Wrong product type	Check whether you have selected the right product type (product) before taking a reading. See 7.1 Selecting the product type).
	Material thickness is too low	There has to be a minimum thickness of 50 cm of material below the sensor.
	No flat bearing surface	For taking a measurement, choose a relatively flat bearing surface. The measuring value is falsified if the measuring plate doesn´t lie completely on the measuring surface.
	Uneven pressure	Press the device evenly onto the bale.
	Incorrect contact pressure	Make sure to press the device against the bale with a pressure of approx. 4 kg.

Fault	Cause	Remedy
	Metal or similar conductive materials in the device's measuring range as well as measuring over wire.	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).
	USB cable connected during taking a measurement	If the USB cable is connected during taking a measurement, the measuring value may be falsified by more than 10%.
Incorrect calibration (the exclamation mark on the display does not go away)	There is an object/material behind the measuring plate (during calibration)	Hold the device up into the air - make sure your fingers do not touch the measuring plate.
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.
The device doesn't switch on	Battery empty	Charge the battery (see 11.1 Charging the integrated battery).
	Battery deeply discharged	Charge the battery and then reset the device (perform a hardware reset) (see 11.2 Resetting the hardware/device).
The device doesn't respond to any operating commands	Software has crashed	Reset the device (perform a hardware reset) (see 11.2 Resetting the hardware/device).

13. Storage and disposal

13.1 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
- Storage temperature: -20 °C to +60 °C

13.2 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.

14. Device information

14.1 CE 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:*	**RP4 ; RP5 ; RP6**
Produktbeschreibung: *Product description*	**Messgerät zur Bestimmung des Wassergehalts in Altpapier** ***Measuring instrument for determining the water content in waste paper***

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

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

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

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

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

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

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

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

St. Ruprecht a.d. Raab, 31.07.2022

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

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

UK CA DECLARATION OF CONFORMITY

Name/ address of manufacturer:	**Schaller Messtechnik GmbH** **Max-Schaller-Straße 99** **A – 8181 St. Ruprecht**
Product designation:	**humimeter**
Type designation:	**RP4 ; RP5 ; RP6**
Product description:	**Measuring instrument for determining the water content in waste paper**

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

14.2 Technical data

Display resolution	0.5 % moisture content, 0.5 °C/°F temperature
Measuring range	1 % to 50 % moisture content
Operating temperature	0 °C to + 50 °C
Temperature range	-10 °C to +50 °C
Storage temperature	-20 °C to +60 °C
Temperature compensation	Automatic
Data memory	Up to 10,000 measuring values
Measuring depth	500 mm
Minimum material thickness	500 mm
Paper density range	300 kg/m³ to 650 kg/m³
Power supply	LI-Ion 1,800 mAh battery (60 to 100 operating hours)
Battery charging time	Up to 6 hours
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	620 x 100 x 147 mm
Case dimensions	590 x 390 x 160 mm
Device weight	1,000 g
Weight of device + case	4,700 g
Device IP rating	IP 64

15. Notes

Climate
Environment

Materials

Food

Buildings

Bioenergy

Paper / Board

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

Schaller Messtechnik GmbH

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