CHECKLINE®
MADE TO MEASURE

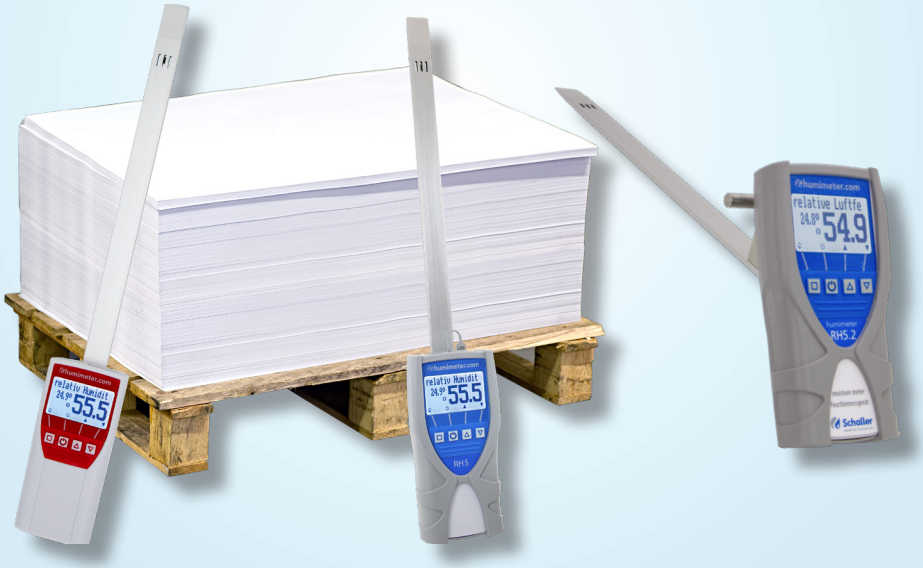
Moisture meter

Operating Manual

humimeter RH5, RH5.1 & RH5.2

Paper moisture meter with sword sensor

for measuring the relative air humidity of 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 3.7

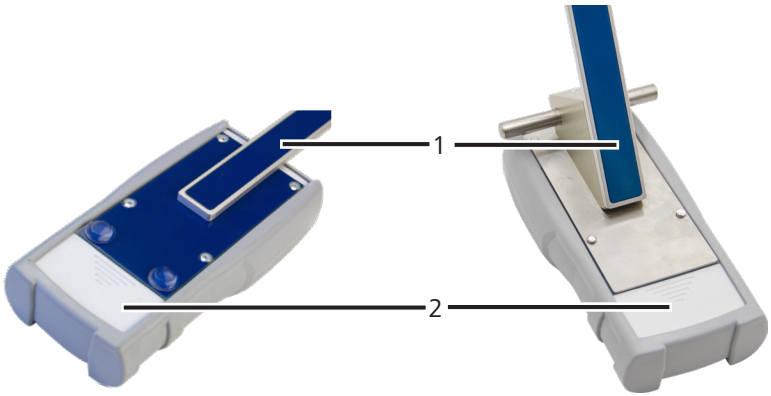
Always read this operating manual before using the humimeter device!

Your humimeter RH5, RH5.1 & RH5.2 at a glance

The main unit

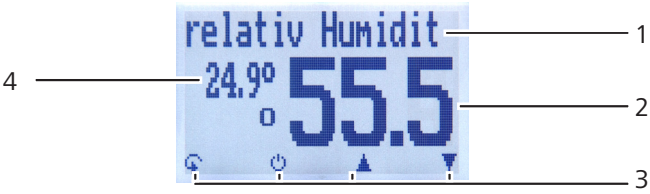
No.	Name
1	Air humidity and temperature sensor
2	Sword sensor
3	USB Port (optional for RH5 & RH5.2)
4	Rubber protection cover
5	Keypad
6	Display
7	Handle for removing the unit from the stack

Rear of the main unit



No.	Name
1	Sword sensor
2	Battery compartment

The display



No.	Name
1	Product type
2	Relativ air humidity in % (see "7.1 Definition of relative humidity and dew point")
3	Display symbols
4	Temperature display

The display symbols

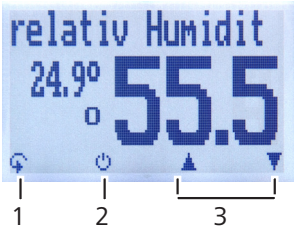
Symbol	Name
	Enter
	Up
	Down
	Back
0..9	Enter numbers
A..Z	Enter letters
	Continue / go right
	Left
	Yes
	Auto save

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

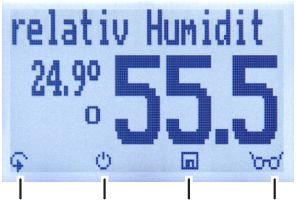
The device has three different menus: product selection, Data Log and main menu:

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, 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, Calibrate, Materialcalib., Online Send, Password, Reset
- **Status**

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1. Introduction

1.1 Information about this operating manual

This operating manual is designed to enable you to use the humimeter RH5, RH5.1 & RH5.2 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 RH5, RH5.1 & RH5.2. 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.

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

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

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

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Information

Your purchased measuring instrument can be calibrated, and the adjustment checked by using suitable test ampoules / calibration ampoules. For this purpose, use only the calibration solutions distributed by Schaller Messtechnik Gmbh. You can download a calibration certificate for your test ampoules / calibration ampoules with the batch number printed on the ampoul fromhttps://www.humimeter.com/certificates/.

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 relative air humidity of stacks of cardboard and paper and for determining the residual humidity of diverse materials
- Easy to use device for automatic climate monitoring of printing rooms or storage rooms

2.2 Improper use

- The device must not be used in ATEX.
- 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:

3.2.1 RH5's scope of supply

- humimeter RH5
- 4 pieces of AA Alkaline batteries
- Rubber protection cover
- Wooden case
- Operating manual

Optional accessories:

- Sword sensor holder - for protecting the sword sensor in heavy material stacks
- Tool for removing the sword sensor holder - from heavy material stacks
- Calibration equipment and calibration ampoules - for checking the calibration of the humimeter RHx series
- 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 - described in a separate operating manual

3.2.2 RH5.1's scope of supply

- humimeter RH5
- 4 pieces of AA Alkaline batteries
- Operating manual

Optional accessories:

- Rubber protection cover
- Sword sensor holder - for protecting the sword sensor in heavy material stacks
- Tool for removing the sword sensor holder - from heavy material stacks
- Calibration equipment and calibration ampoules - for checking the calibration of the humimeter RHx series

3.2.3 RH5.2's scope of supply

- humimeter RH5.2
- 4 pieces of AA Alkaline batteries
- Rubber protection cover
- Operating manual

Optional accessories:

- Sword sensor holder - for protecting the sword sensor in heavy material stacks
- Tool for removing the sword sensor holder - from heavy material stacks
- Calibration equipment and calibration ampoules - for checking the calibration of the humimeter RHx series
- 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 - 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 "9. Checking the device's status").

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

4.2 Selecting the product type

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

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 to the next Or

1. Press the ▽ or △ button for 2 seconds to open the product type overview. (figure 6).

   » All product types that are enabled for your device type are displayed in black and can be selected.

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.

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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 Taking a measurement on a stack

To do so: Let your humimeter device adjust to the surrounding temperature of the product being measured before the measurement (see "5.2 Adjustment behaviour of the sensor").

1. Take hold of the device with one hand and insert the sword sensor 10 cm into the stack (figure 7).

   » Make sure to push the sword sensor straight into the stack to prevent bending of the aluminium sword.

   » In case of heavy stacks, use the optionally available sword sensor holder and the tool for removing the sword sensor holder (figure 9).

2. Push the sword a few centimetres further into the stack at short intervals (approx. 10 seconds) (figure 10).

3. Let the device adjust to the material being measured for an adequate time period (see "5.2 Adjustment behaviour of the sensor").

4. Now take the measured values shown on the display of the device.

   » Once the reading has been taken, it can be saved on the device (see "6.2 Saving your readings manually" or "6.3 Auto save function (time-based)").

7

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ATTENTION

Damage to the aluminium sword

The aluminium sword can be bent by pushing it in or out at an angle.

► Push the aluminium sword straight into the material and pull it straight out of the material.

5.1.1 Taking a measurement of single pieces

To do so: Tight packaging material required. Let your humimeter device adjust to the surrounding temperature of the product being measured before the measurement (see "5.2 Adjustment behaviour of the sensor").

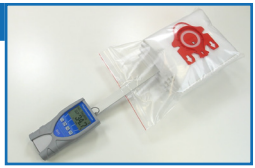
1. Put the material being measured into the packaging (figure 11).
2. Take hold of the device with one hand and insert the sword into the packaging so that it is completely enclosed by the material.
3. Seal the packaging to prevent air exchange with the environment (figure 12).
4. Let the device adjust to the material being measured for an adequate time period (see "5.2 Adjustment behaviour of the sensor") (figure 13).
5. Now take the measured values shown on the display of the device.

» Once the reading has been taken, it can be saved on the device (see "6.2 Saving your readings manually" or "6.3 Auto save function (time-based)")

11

12

13



Information - Measuring accuracy

This rapid and non-destructive measuring procedure allows you to take moisture readings at a number of different points. When saving the individual readings, the device will automatically calculate the readings' average (see "6.2.2 Saving several readings (a measurement series) at the same time").

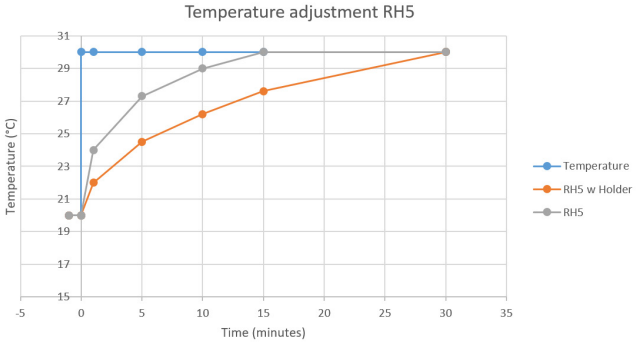
Information - Incorrect readings

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

5.2 Adjustment behaviour of the sensor

In humidity and temperature measurement, several parameters are responsible for the adjustment behaviour (time until the actual measured value is displayed). The parameter responsible for the highest measuring error is a temperature discrepancy between the sensor resp. the whole measuring instrument and the material being measured resp. the air.

Therefore, allow your humimeter RH5 to adjust until the displayed temperature corresponds to the actual temperature. The graph below shows how long it takes to adjust from 20 °C to 30 °C:



When using the sword sensor holder, pay attention to the temperature adjustment between the sword sensor holder and the sword.

To demonstrate the importance of temperature adjustment, the table below shows the measuring errors due to a temperature difference between the measuring instrument and the material being measured of only 1 °C / 1.8 °F, at different ambient temperatures.

	10 °C (50 °F)	20 °C (68 °F)	30 °C (86 °F)
10 % r.h.	+/- 0.7 %	+/- 0.6 %	+/- 0.6 %
50 % r.h.	+/- 3.5 %	+/- 3.2 %	+/- 3.0 %
90 % r.h.	+/- 6.3 %	+/- 5.7 %	+/- 5.4 %

At room temperature (20 °C / 68 °F) and an assumed paper moisture value of 50 % r.h. a temperature difference between the measuring sensor and the material being measured of 1 °C / 1.8 °F causes a measurement error of 3.2 % r.h. A temperature difference of 3 °C / 5.4 °F would cause a measurement error of more than 10 % relative humidity.

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 product selection menu.

1. Press twice or hold for 2 seconds.
2. Select **Options**. To do so, press or and confirm by pressing .
3. Select **Log Time** (figure 14). To do so, press or and confirm by pressing .
4. Select **Hold** (figure 15). 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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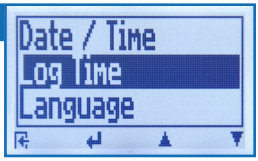


15

6.1.2 Using the Hold function

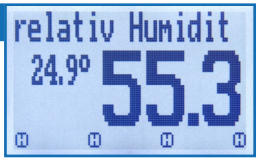
To do so: The device has to be switched on and be in the Data Log menu.

- Press .

» The current reading will be frozen. All of the four symbols will now be displayed as (figure 16).

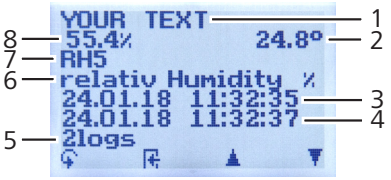
- To reactivate the frozen display, simply press any button.

16



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	Relative air humidity (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 save function) is the device's default setting.

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

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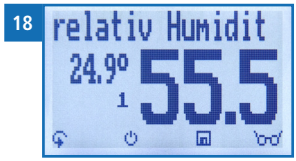
» The setting has been saved.

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

6. Press to leave the main menu.

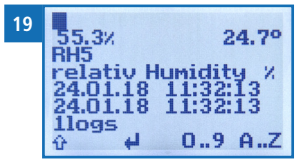
Using the manual save function

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



1. Press .

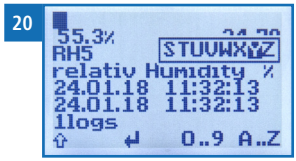
» The display will now appear as shown in figure 18 and the measured value will be preceded by the digit one.



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 19.

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



4. Inputting letters:
Press and hold A..Z to quickly scroll to the required letter and either press it for 3 seconds or press to confirm the selected letter (figure 20).

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.

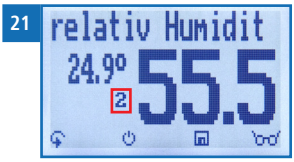
6. Moving forward/back:
Press to switch to another input level. Press or to move forward or back.

7. Confirm your entry by pressing .

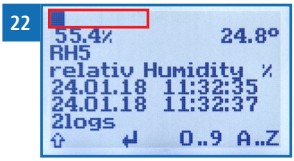
» The data you entered has been saved.

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

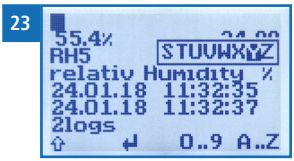
To do so: The device has to be in the Data Log menu (see "Data Log menu" page 5).



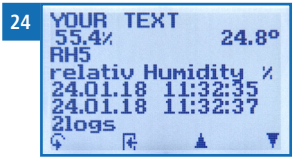
1. Take several readings (see "5. The measuring process").
2. To save a reading, press as soon as the reading has been taken.
   - » The display will now appear as shown in figure 21. The marked number shows the number of readings that have already been saved.



3. Press to enter a name for the saved reading and to finish the measuring process.
   - » The display will now appear as shown in figure 22.



4. The data you have inputted can be overwritten at any time.
5. 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 23).



6. 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.
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.

6.3 Auto save function (time-based)

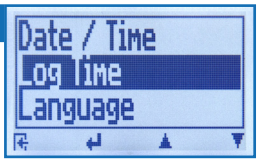
The device can be configured in such a way that it will automatically save a reading (log) at a selected time interval.

6.3.1 Activating the auto save function in the Options menu

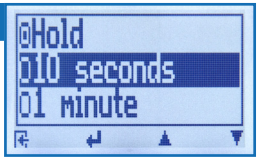
To do so: The device has to be switched on and be in the product selection menu.

1. Press twice or hold for 2 seconds.
2. Select **Options**. To do so, press or and confirm by pressing .
3. Select **Log Time** (figure 25). To do so, press or and confirm by pressing .
4. Navigate to the desired time interval (figure 26). 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.

25



26



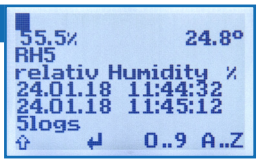
6.3.2 Auto save function: Saving measured values

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

1. Press .
   » The device will save a reading at the selected time interval. The number of data saves will increase by one every time a reading is saved. The display will now appear as shown in figure 27.
2. Press to finish the measuring process and to enter a name for the saved readings.
   » The display will now appear as shown in figure 28.
3. The data you have inputted can be overwritten at any time.

27

28



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. 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 29.

1. Press 👓.

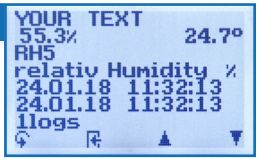
2. Select the required reading. To do so, press ▼ or ▲.

» The display will now appear as shown in figure 30

» Press ⎋ to leave this screen.

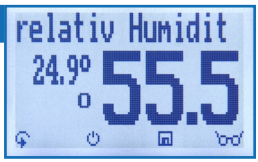
29

30

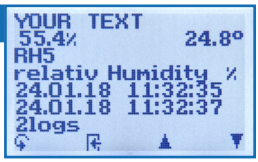


6.5 Viewing individual readings from a series of measurements

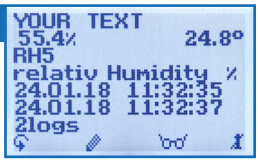
To do so: You must have saved a series of measurements (e.g. **2 logs**). The display will now appear as shown in figure 31.



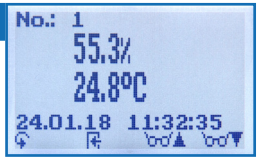
1. Press .
2. Navigate to the required measurement series. To do so, press or .
   » The display will now appear as shown in figure 32.



3. Press to switch to another input level.
   » The display will now appear as shown in figure 33.



4. Press again.
   » The display will now appear as shown in figure 34.

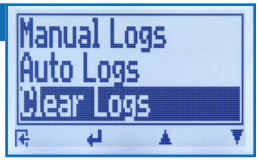


5. Navigate to the required reading (**No.: 1, No.: 2, No.: 3**). To do so, press .
6. Press to leave this screen.

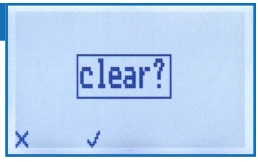
6.6 Deleting all measured values (data log)

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 35). To do so, press or and confirm by pressing .



3. Select **Clear Logs** (figure 36). To do so, press or and confirm by pressing .
   » The display will then show the message **clear?** (figure 37).



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.

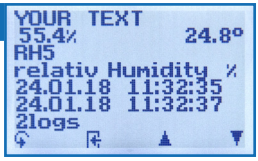
6.7 Deleting individual measurement series

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 38.

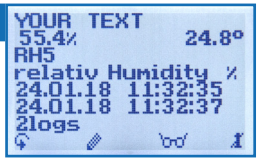
1. Press .
2. Select the required reading. To do so, press or .
   » The display will now appear as shown in figure 39.
3. Press to switch to another input level.
   » The display will now appear as shown in figure 40.
4. Press .
   » The display will then show the message **clear?** (figure 41).
5. Confirm by pressing .
   » The value has been deleted.

38

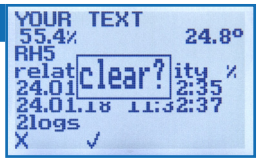
39



40



41

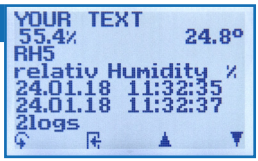


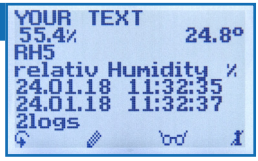
6.8 Deleting individual values from a single series of measurements

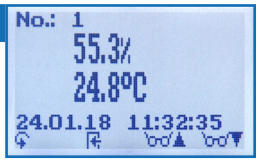
To do so: You must have saved a series of measurements comprising at least 2 logs. The display will now appear as shown in figure 42.

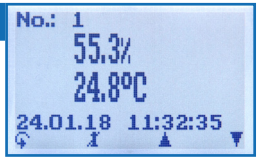
1. Press .
2. Select the required reading. To do so, press or .
   » The display will now appear as shown in figure 43.
3. Press to switch to another input level.
   » The display will now appear as shown in figure 44.
4. Press .
5. The display will now appear as shown in figure 45.
6. Select the required measured value. To do so, press or .
7. Press to switch to another input level.
   » The display will now appear as shown in figure 46.
8. Press to delete the value shown.
   » The display will then show the message **clear?** (figure 47).
9. Confirm by pressing .
   » The value has been deleted.
   » Deleted measuring values will be transferred to the LogMemorizer (see "8. Using the LogMemorizer program (RH5 & RH5.2)") and have to be deleted separately there.

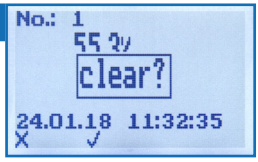
42

43


44


45


46


47


7. Product types

Product type	Unit	Measuring range
Relative humidity	% r.h.	0 to 100 %
Dew Point	°C °F	-55 °C to +60 °C -67 °F to 140 °F

7.1 Definition of relative humidity and dew point

Relative humidity

Indicates the relationship between the current water vapour pressure and the maximum possible, the so-called saturation vapour pressure.

The relative humidity shows the degree the air is saturated with water vapour. Examples:

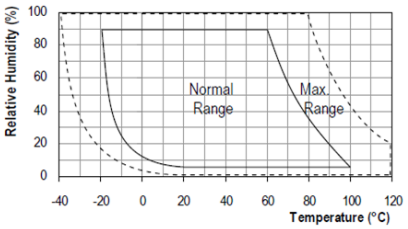
50% relative humidity: At the current temperature and pressure, the air is half saturated with water vapour. 100% relative humidity means that the air is totally saturated with water vapour. If the air has more than 100% humidity, the excessive humidity would condense or precipitate as mist.

Dew Point

The dew point is the temperature to which the air that is not completely saturated with water vapour must be cooled so that it is completely saturated. When a room with the current relative humidity cools down to the dew point temperature, the water vapour begins to condense.

7.2 Application range

Within the normal application range (normal range) the accuracy of the device is as indicated. A long-term application beyond the normal application range (max. range), particularly at an air humidity of more than 80%, can lead to higher measuring errors (+3 % after 60 hours). Back in the normal application range, the sensor will return to the indicated accuracy automatically.



8. Using the LogMemorizer program (RH5 & RH5.2)

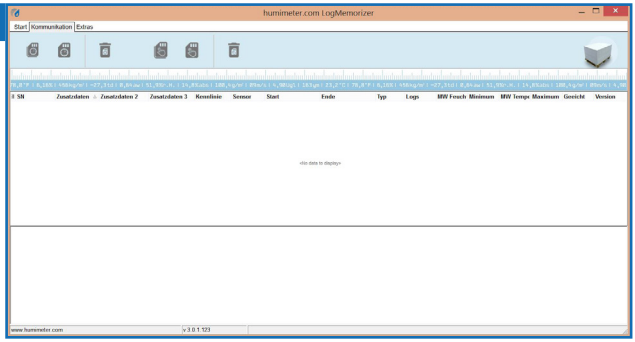
8.1 Installing/Opening the program

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 48).

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

48



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 RH5 or initiate the export at your computer.

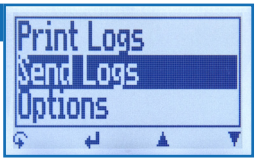
Exporting moisture readings from the humimeter RH5

Connect the humimeter RH5 to your computer using the supplied USB cable.

49

1. Insert the USB Mini B connector into the humimeter RH5 (figure 49).
2. Insert the USB connector into the computer.
3. Open LogMemorizer on your computer.
4. Switch on the humimeter RH5.
5. Press twice or hold for 2 seconds.

50

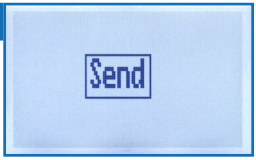


6. Select **Send Logs** (figure 50). To do so, press or and confirm by pressing .

51

7. Select **Manual Logs** or **Auto Logs** (figure 51). To do so, press or and confirm by pressing .

52



» The display will then show the message **Send** (figure 52).

» All of the measuring values saved on the humimeter RH5 will now be sent to your computer.

Initiating the data export at your computer

Connect the humimeter RH5 to your computer using the supplied USB cable.

53

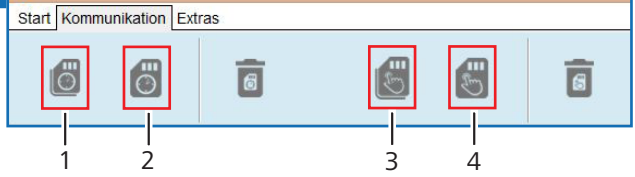
1. Insert the USB Mini B connector into the humimeter RH5 (figure 53).
2. Insert the USB connector into the computer.
3. Open LogMemorizer on your computer.
4. Switch on the humimeter RH5.
5. Open the **Communication** tab in LogMemorizer (figure 54).

54

6. Select and click on one of the buttons shown in **figure** 55:

» **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.

55

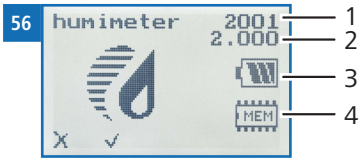


No.	Name
1	Import all auto save logs
2	Import most recent auto save series
3	Import all manual logs
4	Import most recent manual log

» The measuring values saved on the humimeter RH5 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 56):



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

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

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

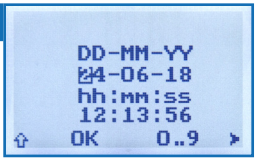
1. Press twice or hold for 2 seconds.
2. Select **Options**. To do so, press or and confirm by pressing .
3. Select **Date/Time**. To do so, press or and confirm by pressing .

» The display will now appear as shown in figure 57.

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

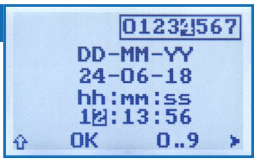
» The format for the time is **hh:m:ss** (hour:minutes:seconds).

57



4. Inputting numbers:
Press and hold 0..9 o 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 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 ESC to leave the **Options** menu.

9. Press ESC to leave the main menu.

10.3 Selecting a language

1. Press ESC 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 ESC to leave the **Options** menu.

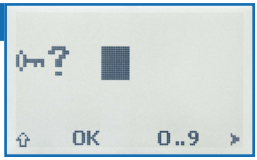
6. Press ESC to leave the main menu.

10.4 Activating options

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

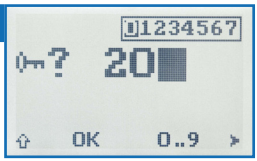
1. Press twice or hold for 2 seconds.
2. Select **Options**. To do so, press or and confirm by pressing .
3. Select **Unlock**. To do so, press or and confirm by pressing .
   - » The display will now appear as shown in figure 59.
   - » On delivery, the four-digit password is the device's serial number.

59



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 60).

60



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, 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 switched restarted, the **°C/°F, BL On Time, Auto OFF Time, 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 Activating options").

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

» The 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 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.

10.7.2 Configuring automatic switch-off

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

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

» The setting has been saved.

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

10.8 Calibrating the device

The calibration function 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 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.

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

6. Confirm the new four-digit password by pressing OK.

» The setting has been saved.

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

8. 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 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 .

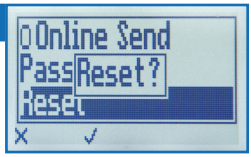
» The display will then show the message **Reset?** (figure 61).

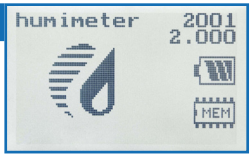
4. Confirm by pressing .

» 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 62).

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

61


62


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 Changing the batteries

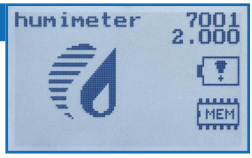
The device constantly monitors the charge level of the batteries. The current battery status is shown on the status screen.

If the battery´s charge is very low, the battery symbol will be shown with an exclamation mark. In that case, the batteries must be changed immediately (figure 63).

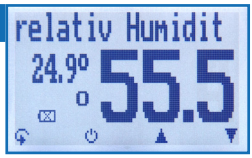
For changing the batteries, see section "3.3 Inserting batteries".

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).

63



64



11.2 Care instructions

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

11.3 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 and sword sensor

Clean the plastic housing and the sword sensor with a dry cloth.

Air humidity and temperature sensor

The air humidity and temperature sensor cannot be cleaned. In case of a polluted sensor please contact your dealer.

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 -10 °C or higher than +60 °C	The temperature of the material being measured has to be between -10 °C and +60 °C.
	Measurement error due to too short temperature adjustment time	Let the temperature adjust to the material being measured (see "5.2 Adjustment behaviour of the sensor").
	Wrong product type	Check whether you have selected the right product type (product) before taking a reading (see "7. Product types").
	Dripping water or sprayed water	Direct contact of the sensor with dripping or sprayed water will destroy it.
	Irreversible damage of the sensor due to aggressive gases	Please contact your dealer.
	Condensation caused by a change in temperature	Condensation on the sensor interferes with the calibration. Let the device adjust to the surrounding temperature.
	Polluted air humidity and temperature sensor	Please contact your dealer.
	Foreign particles on the sensor	Please contact your dealer.
Data transfer to LogMemorizer 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 LogMemorizer program.

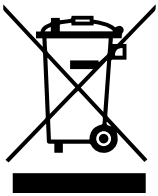
13. Storage and disposal

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.
- Remove the batteries if the device is not used for a period of 4 weeks or longer.
- 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:*	**RH1 ; RH2 ; RH2 AW ; RH5 ; RH5.1 ; RH5.2 ; RH6 ; RHL ; SW1**
Produktbeschreibung: *Product description*	**Messgerät zur Bestimmung der rel.Feuchte und abgeleiteter Messgrößen** ***Measuring instrument for determining relative humidity and derived measured variables***

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

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

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

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

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

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

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

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

St. Ruprecht a.d. Raab, 31.07.2022

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

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

UK CA DECLARATION OF CONFORMITY

Name/ address of manufacturer:	**Schaller Messtechnik GmbH** **Max-Schaller-Straße 99** **A – 8181 St. Ruprecht**
Product designation:	**humimeter**
Type designation:	**RH1 ; RH2 ; RH2 AW ; RH5 ; RH5.1 ; RH5.2 ; RH6 ; RHL ; SW1**
Product description	**Measuring instrument for determining relative humidity and derived measured variables**

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	0.1 % relative air humidity, 0.1 °C/ 0,3 °F dew point, 0.1 °C/ 0,3 °F temperature
Measuring range relative air humidity	0 % to 100 %
Calibration relative air humidity	10 % to 90 %
Measuring range dew point	-55 °C to +60 °C
Accuracy relative air humidity at 25°C	(RH5) +- 1,5%, (RH5.1) +- 2,0% (RH5.2) +- 1,5%
Accuracy temperature	+- 0,3°C (bei 25°C)/ +- 0,5°F (bei 77°C)
Operating temperature	-10 °C to +60 °C
Storage temperature	-20 °C to +60 °C
Temperature compensation	Automatic
Data memory	Up to 10,000 measuring values
Power supply	4 pcs. of 1.5 Volt AA Alkaline batteries
Current consumption	60 mA (incl. display illumination)
Menu languages	German, English, French, Italian, Spanish, Portuguese, Czech, Polish, Russian, International
Display	128 x 64 illuminated matrix display
Device dimensions	(RH5 & RH5.1) 441 x 74 x 33 mm (RH5.2) 429 x 136 x 80 mm
Case dimensions	(RH5) 506 x 116 x 50 mm
Device weight	(RH5 & RH5.1) 310 g (RH5.2) 475 g
Weight of device + case	910 g
Device IP rating	IP 40

15. Notes

Climate
Environment

Materials

Food

Buildings

Bioenergy

Paper/Board

CHECKLINE

ELECTROMATIC EQUIPMENT

175 Vincent Ave., Lynbrook, NY 11563

web: checkline.com • tel: 516-295-4300