



testo 623

Ambient Condition Recorder

Instruction manual



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2 Safety and the environment

2.1. About this document

Use

- > Please read this documentation through carefully and familiarize yourself with the product before putting it to use. Pay particular attention to the safety instructions and warning advice in order to prevent injuries and damage to the products.
- > Keep this document to hand so that you can refer to it when necessary.
- > Hand this documentation on to any subsequent users of the product.

Symbols and writing standards

Representa- tion	Explanation
	Warning advice, risk level according to the signal word: Warning! Serious physical injury may occur. Caution! Slight physical injury or damage to the equipment may occur. > Implement the specified precautionary measures.
	Note: Basic or further information.
1. ...	Action: more steps, the sequence must be followed.
2. ...	
> ...	Action: a step or an optional step.
- ...	Result of an action.
Menu	Element of the instrument or instrument display.
[Set]	Control keys of the instrument.
... ...	Functions/paths within a menu.
" ... "	Example entries

2.2. Ensure safety

- > Do not store the product together with solvents. Do not use any desiccants.
- > Only use the device in closed, dry rooms and protect it from rain and moisture.
- > Only operate the product properly, for its intended purpose and within the parameters specified in the technical data. Do not use any force.

2.3. Protecting the environment

- > Dispose of faulty rechargeable batteries/spent batteries in accordance with the valid legal specifications.
- > At the end of its useful life, send the product to the separate collection for electric and electronic devices (observe local regulations) or return the product to Testo for disposal.

3 Specifications

3.1. Technical data

Characteristic	Values
Parameters	Temperature / Humidity
Units	°C/°F % RH, td, wb
Resolution	Temperature: 0.1 °C Humidity: 0.1 % RH
Measuring range	Temperature: -10 to +60 °C Humidity: 0 to 100 % RH (non-dewing)
Accuracy	Temperature: ± 0.4 K + 1 digit Humidity: ±2 %RH + 1 digit at 25 °C (10 to 90 %), ±3 % RH rest of range
Measuring rate	20 s
Operating temperature	-10 to +60 °C

Characteristic	Values
Storage temperature	-20 to +60 °C
Battery type	4 x AA
Battery life	at least 12 months
Housing material	ABS
Protection class	IP 30
Weight	approx. 240 g (without batteries)
Dimensions	185x105x36
(LxWxH in mm)	185x112x47 (mounting clip folded out)
Warranty	24 months, warranty conditions: see website www.testo.com/warranty
EC Directive	2004/108/EC

4 Product description

4.1. Overview



① Keypad

Key	Function
Max	Display max. value
Min	Display min. value
% °C/°F	Select histogram for temperature or humidity

Key	Function
	Select time interval
	Change settings / select bar
	Change settings / select bar
Set	Confirm settings
Esc	Cancel input
	Acknowledging an alarm

② Sensors



③ Attachment device

④ Battery compartment and instrument interface

⑤ Mounting clip and wall fixture (integrated into housing)

4.2. Basic properties

Power supply

The instrument is powered optionally by:

- 4 batteries / rechargeable batteries, type AA

Wall mounting

The distance between the upper and lower drill hole is 63 mm.

5 First steps

Removing the protective film

- > Remove the protective film from the display

Inserting batteries/rechargeable batteries

1. Open the battery compartment on the rear of the instrument.
2. Insert batteries/rechargeable batteries (observe the polarity!)
3. Close the battery compartment.

6 Using the product

6.1. Commissioning

The date and time must be set on commissioning.

1. Select the required function with **[Set]**.

i If no button is pressed > 30 sec, the testo 623 changes to Measuring Mode. To perform additional settings, press and hold **[Set]** for 2 sec.

- > The adjustable parameter flashes.

2. Set values with **[◀]** or **[▶]** and confirm entry with **[Set]** (for settings, see following table).

i To scroll rapidly forward and back in the respective menu, press and hold **[◀]** or **[▶]**.

Press **[Esc]** to cancel settings without saving them.

Hold **[Set]** down for 2 s to save previously set values and leave the menu.

- Instrument returns to the display.

Display	Function	Setting option
DD.MM.YYYY flashes or MM.DD.YYYY flashes	Set date format	DD.MM.YYYY = day, month, year MM.DD.YYYY = month, day, year
Year flashes	Set year	2009 - 2099
Month flashes	Set month	01 - 12
Day flashes	Set day	01 - 31
24H or 12H (AM/PM) flash	Set time format	24h/12h
Hour flashes	Set hour value	00 - 23 or 01 - 12
Minute flashes	Set minute value	00 - 59
Second flashes	Set second value	00 - 59
°C flashes	Set unit for temperature	°C/°F

i If the power supply is interrupted the settings are being saved for at least 3 min.

6.2. Setting the limits

Temperature

When changing the temperature unit from °C to °F, the set limit values are converted

Humidity

When changing the humidity unit (% , td, wb), the set limit values are not converted. The limit values must be reset via the Setup menu.

6.3. Performing settings

1. Press and hold **[Set]** for 2 s.
 - > Display flashes.
2. Select the required function with **[Set]**.
 - > The adjustable parameter flashes.
- 3 Set values with **[◀]** or **[▶]** and confirm entry with **[Set]** (for settings, see following table).



To scroll rapidly forward and back, press and hold **[◀]** or **[▶]**.

Press **[Esc]** to cancel settings without saving them.

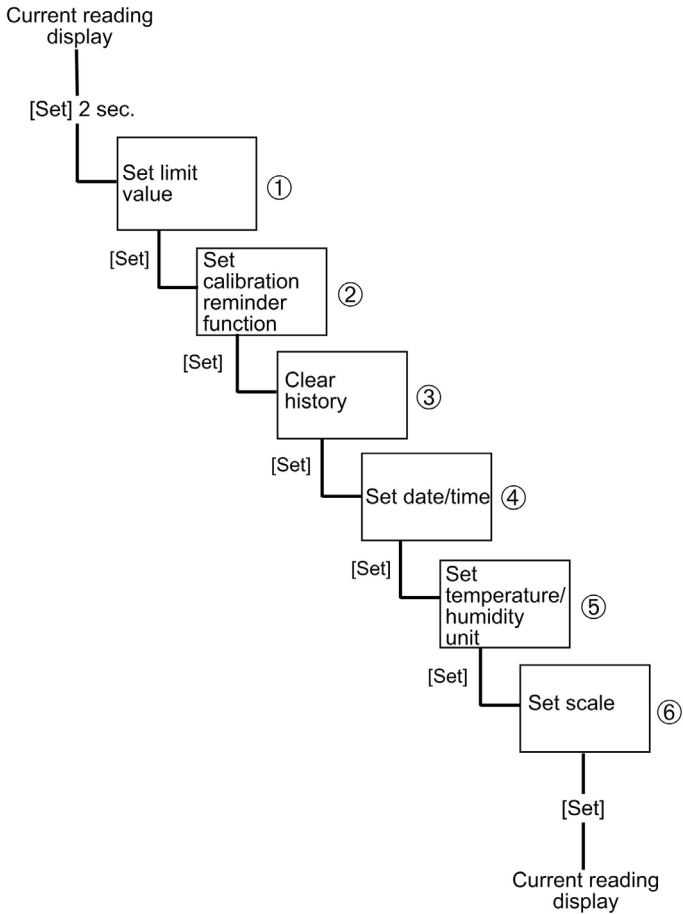
Hold **[Set]** down for 2 s to save previously set values and return to the current reading display.

If the entire Setup menu is run through, the settings made are automatically stored.

If no key is pressed within 30 s, the screen reverts to the current reading display automatically. No settings are saved.

-
- Instrument changes to the next display function

6.4. Flowchart



A detailed description of the points ①, ②, ③, ④, ⑤, ⑥ can be found on the following pages.

No.	Display	Function	Setting option/value
①	↑ and °C/°F light up, ON or OFF flashes	Activate or deactivate display for upper temperature limit alarm	Deactivate: OFF Activate: ON
	Only if ON is selected Upper limit value flashes	Set value for upper temperature limit alarm	-
	↓ and °C/°F light up, ON or OFF flashes	Activate or deactivate display for lower temperature limit alarm	Deactivate: OFF Activate: ON
	Only if ON is selected Lower limit value flashes	Set value for lower temperature limit alarm	-
	↑ and % light up, ON or OFF flashes	Activate or deactivate display for upper humidity limit alarm	Deactivate: OFF Activate: ON
	Only if ON is selected Upper limit value flashes	Set value for upper humidity limit alarm	-
	↓ and % light up, ON or OFF flashes	Activate or deactivate display for lower humidity limit alarm	Deactivate: OFF Activate: ON
	Only if ON is selected Lower limit value flashes	Set value for lower humidity limit alarm	-
②	Calibration! lights up, ON or OFF flashes	Activate or deactivate calibration reminder function	Deactivate: OFF Activate: ON

No.	Display	Function	Setting option/value
	Only if ON is selected Calibration! lights up, Year flashes	Set year	2009 - 2099
	Only if ON is selected Calibration! lights up, Month flashes	Set month	01 - 12
③	Reset Memory flashes	Deleting memory	Deactivate: OFF Activate: ON
④	Update date & time? lights up, No flashes	Set date and time No change	Select Yes Select No
	Only if Yes is selected DD.MM.YYYY flashes or MM.DD.YYYY flashes	Set date format	DD.MM.YYYY = day, month, year MM.DD.YYYY = month, day, year
	Only if Yes is selected Year flashes	Set year	2009 - 2099
	Only if Yes is selected Month flashes	Set month	01 - 12
	Only if Yes is selected Day flashes	Set day	01 - 31

No.	Display	Function	Setting option/value
	Only if Yes is selected 24H or 12H (AM/PM) flash	Set time format	24H/12H
	Only if Yes is selected Hour flashes	Set hour value	00 - 23 or 01 - 12
	Only if Yes is selected Minute flashes	Set minute value	00 - 59
	Only if Yes is selected Second flashes	Set second value	00 - 59
⑤	°C flashes	Set unit for temperature	°C/°F
	% flashes	Set unit for humidity	%, td, wb

No.	Display	Function	Setting option/value
⑥	Manual Scale or Auto Scale flashes	Choose between automatic and manual scaling	Manual Scale or Auto Scale
	Only if Manual Scale is selected: Manual Scale and upper limit value flash	Set value for upper limit	-
	Only if Manual Scale is selected: Manual Scale and lower limit value flash	Set value for lower limit	-



If the power supply is interrupted the settings are being saved for at least 3 min.

6.5. Measuring



With max./min., the time that it occurred and the corresponding value (°C/% RH) is shown.

Displaying max. values

To change the display between the current reading, max. temperature value and max. humidity value:

> Press **[Max]**.

If **Max.** flashes, the past max. values can be viewed with **[◀]** or **[▶]**.



If the max. temperature value is shown, press **[%RH]** to display the max. humidity value.



If the **[Max]** key is not pressed for > 5 min, the screen automatically reverts to the current display

Displaying min. values

To change the display between the current reading, min. temperature value and min. humidity value:

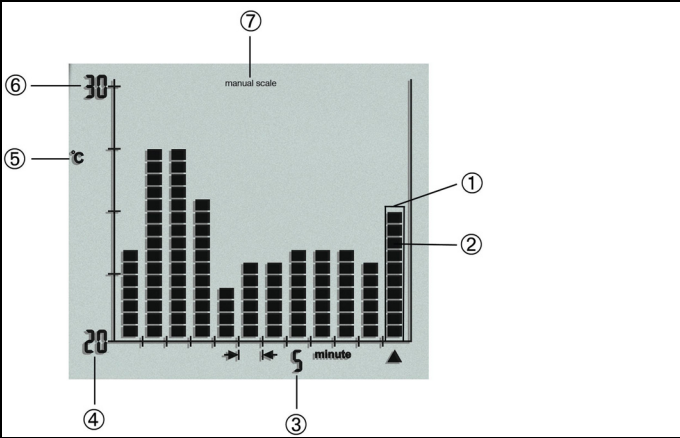
> Press **[Min]**.

If **Min.** flashes, the past min. values can be viewed with **[◀]** or **[▶]**.

i If the min. temperature value is shown, press **[% ℹ]** to display the min. humidity value.

i If the **[Min]** key is not pressed for > 5 min, the screen automatically reverts to the current display

Histogram



- ① Bar
- ② Bar segment
- ③ Time interval
- ④ Lower display value
- ⑤ Displayed unit (temperature or humidity)
- ⑥ Upper display value

⑦ Manual Scale:

Manually set upper and lower limit values that do not change.

Auto Scale:

The auto scale is calculated in such a way that all shown readings lie within the scale.



- Upon changing the scaling, the upper and lower display value and the **Auto Scale** symbol flash.
- The histogram shows 12 bars each of 20 segments.
 - The internal memory can save data for up to 90 days. When the maximum memory capacity is reached, the oldest measurement values are automatically overwritten. (First in / first out principle).
 - With Manual Scale:
The lowest bar element of a bar flashes:
The measured value is below the lower display value.
 - The uppermost bar element flashes:
The measured value is above the upper display limit.

Displaying the humidity/temperature profile

To change the profile between humidity and temperature:

> Press [% 

Setting the time axis of the histogram

To set the time axis:

> Press [

The time axis can be set to 5 different time intervals.

Time interval per bar	Histogram total time
5 min	1 h
10 min	2 h
1 h	12 h
2 h	24 h
24 h	12 days

Displaying the values of a bar

To display the mean reading:

- > Press [**◀**] or [**▶**]
- The selected bar or bar element flashes and the relevant readings, start time and start date are displayed.

To display the max. temperature value and max. humidity value:

- > Press [**Max**]

To display the min. temperature value and min. humidity value:

- > Press [**Min**].

Display history:

- > The history of the the last 90 days can be displayed with [**◀**] or [**▶**].

Acknowledging an alarm

Alarm was triggered:

- LED flashes
- The reading that was exceeded or undershot flashes

To clear an alarm:

- > Press [**Alarm**].
- Alarm is cleared



With the alarm activated and a change to the setup menu, the current alarm is acknowledged.

7 Maintaining the product

Changing batteries/rechargeable batteries

CAUTION

Incorrectly inserted batteries / rechargeable batteries can damage the instrument!

- > Observe the polarity when inserting the batteries / rechargeable batteries.

1. Open the battery compartment on the rear of the instrument.
2. Remove spent batteries / rechargeable batteries from the battery compartment and insert new batteries / rechargeable batteries (type AA)
 - Instrument turns on automatically.
3. Close the battery compartment.

i If the power supply is interrupted the settings are being saved for at least 3 min.

i If the instrument is not used over a longer period, the batteries/rechargeable batteries should be removed from the instrument to prevent damage to the instrument and the batteries/rechargeable batteries.

Cleaning the instrument

- > If the housing of the instrument is dirty, clean it with a damp cloth.

Do not use any aggressive cleaning agents or solvents! Weak household cleaning agents or soap suds can be used.

i Do not clean the instrument with compressed air, otherwise the sensor may be damaged.

8 Tips and assistance

8.1. Accessories and spare parts

Description	Article no.
Calibration and adjustment software incl. USB cable	0554 6230
DKD humidity calibration certificate, electronic hygrometer; calibration points 11.3 % RH and 75.3 % RH at 25 °C	0520 0206
ISO humidity calibration certificate, calibration points 11.3 % RH and 75.3 % RH at 25 °C	0520 0006

8.2. Questions and answers

Question	Possible causes
Instrument displays LO	Below -20 °C
Instrument displays HI	Above +70 °C
Instrument displays 	Battery life is approx. 1 month

