

EN

INSTRUCTIONS
THERMOHYGROMETER

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Information on the use of these instructions

Symbols



Warning

This signal word indicates a hazard with an average risk level which, if not avoided, can result in serious injury or death.



Warning of electrical voltage

This symbol indicates dangers to the life and health of persons due to electrical voltage.



Caution

This signal word indicates a hazard with a low risk level which, if not avoided, can result in minor or moderate injury.

Notice

This signal word indicates important information (e.g. material damage), but does not indicate hazards.



Info

Information marked with this symbol helps you to carry out your tasks quickly and safely.



Follow the manual

Information marked with this symbol indicates that the instructions must be observed.

You can download the current version of these instructions via the following link:



T220



<https://hub.trotec.com/?id=47703>

Safety

Read this manual carefully before starting or using the device. Always store the manual in the immediate vicinity of the device or its site of use!



Warning

Read all safety warnings and all instructions.

Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

- Do not use the device in potentially explosive rooms or areas and do not install it there.
- Do not use the device in an aggressive atmosphere.
- Do not immerse the device in water. Do not allow liquids to penetrate into the device.
- The device may only be used in dry surroundings and must not be used in the rain or at a relative humidity exceeding the operating conditions.
- Protect the device from permanent direct sunlight.
- Do not expose the device to strong vibrations.
- Do not open the device.
- Do not remove any safety signs, stickers or labels from the device. Keep all safety signs, stickers and labels in legible condition.
- Use batteries of type LR06 (AA).
- Never charge batteries that cannot be recharged.
- Different types of batteries and new and used batteries must not be used together.
- Insert the batteries into the battery compartment according to the correct polarity.
- Remove discharged batteries. Batteries contain materials hazardous to the environment. Dispose of the batteries according to the national regulations.
- Remove the batteries from the device if you will not be using the device for a longer period of time.
- Never short-circuit the terminals of batteries!

- Do not swallow batteries! If a battery is swallowed, it can cause severe internal burns within 2 hours! These burns can lead to death!
- If you think batteries might have been swallowed or otherwise entered the body, seek medical attention immediately!
- Keep new and used batteries and an open battery compartment away from children.
- Observe the storage and operating conditions (see Technical data).

Intended use

Only uses the device to measure the indoor air temperature and indoor humidity. Observe and comply with the technical data.

Any use other than the intended use is regarded as misuse.

Reasonably foreseeable misuse

Do not use the device in potentially explosive atmospheres, or for measurements in liquids.

Any unauthorised changes, modifications or alterations to the device are forbidden.

Personnel qualification

People who use this device must:

- have read and understood the instructions, especially the Safety chapter.

Residual risks



Warning of electrical voltage

There is a risk of a short-circuit due to liquids penetrating the housing!

Do not immerse the device and the accessories in water. Make sure that no water or other liquids can enter the housing.



Warning of electrical voltage

Work on the electrical components must only be carried out by an authorised specialist company!



Warning

There is a danger of suffocation for children due to packaging material! Keep packaging films and parts away from children. There is a risk of death due to suffocation.



Warning

The device is not a toy and does not belong in the hands of children.



Warning

Dangers can occur at the device when it is used by untrained people in an unprofessional or improper way! Observe the personnel qualifications!



Caution

Keep a sufficient distance from heat sources.

Notice

To prevent damages to the device, do not expose it to extreme temperatures, extreme humidity or moisture.

Notice

Do not use abrasive cleaners or solvents to clean the device.

Information about the device

Device description

The device enables a quick and precise determination of the air temperature and relative humidity indoors. Both measured values are indicated in real time on the colour display.

In addition to the relative humidity, further climate parameters such as the dew point or absolute moisture content in the air can be calculated with this device.

The temperature indication can be switched from °C to °F and back. A minimum, maximum and average function are available for direct analysis of the measured data. Besides, the currently measured value can be recorded via the hold function.

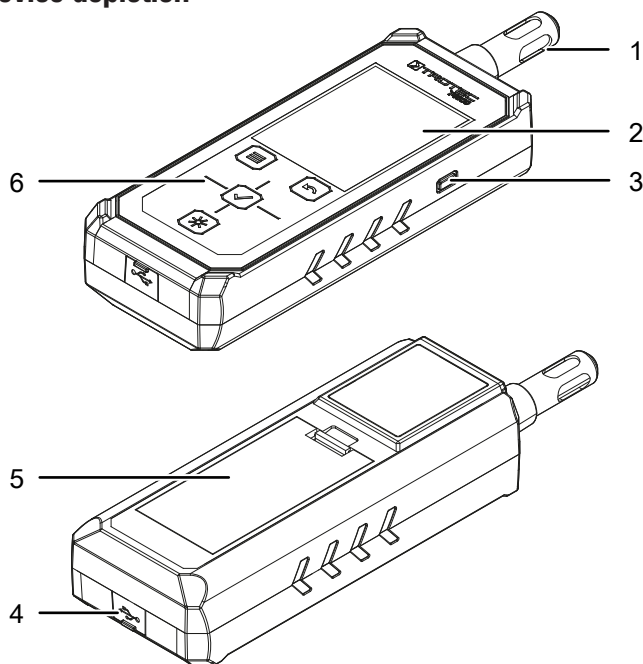
The sensor of this thermohygrometer located in the device's measuring head is protected from dust and dirt by means of a metal grid filter,

The device can be operated via a capacitive touchscreen control panel.

Using the Bluetooth function, you can connect the device to a mobile terminal device and read and analyse your measurement results with the optional MultiMeasure Mobile application.

When not in use, an automatic switch-off saves the battery.

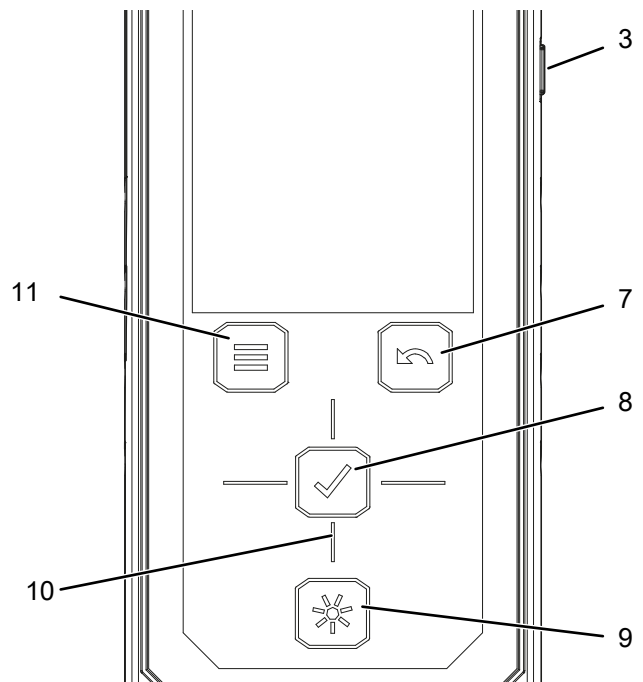
Device depiction



No.	Designation
1	Measuring sensor
2	Display
3	Power button
4	USB interface
5	Battery compartment with cover
6	Operating elements

Operating elements

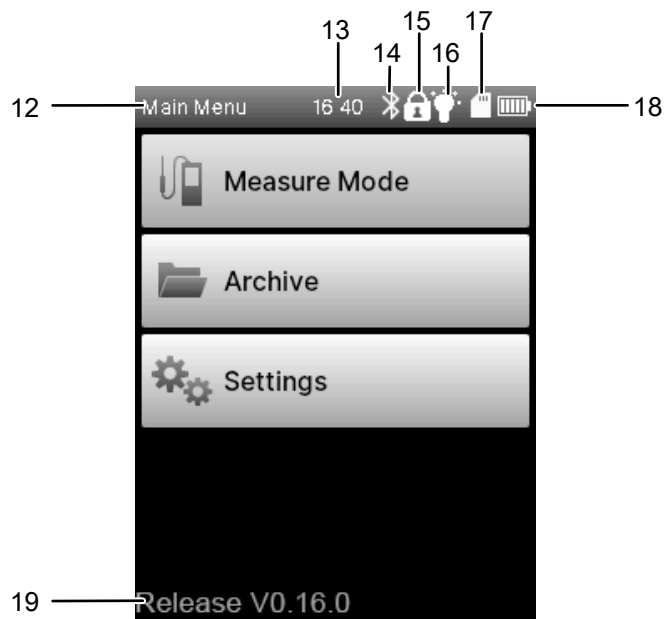
The device can be operated both using these operating elements and the touchscreen display.



No.	Operating element	Function
3	Power button	Switching on the device: press for approx. 2 s Activating or deactivating large print: press for approx. 1 s Activating or deactivation key lock: press for approx. 2 s Switching the device off: press for approx. 5 s
7	Back button	Opening the previous menu
8	Confirm button	Opening the submenu Confirming settings
9	Illumination button	Adjusting the display brightness: press briefly Taking a screenshot: press and hold
10	Cross control with Up, Down, Left, Right buttons	Navigating through menus Setting values
11	Main menu button	Opening the main menu

For safety reasons, some options can only be selected and configured by using the cross control and the *Confirm* button (8) (e.g. date and time in the *Settings* menu).

Display



No.	Indication	Meaning
12	<i>Title</i>	Name of the current screen or connected sensor type
13	<i>Time</i>	Current time
14	<i>Bluetooth</i>	Bluetooth enabled
15	<i>Padlock</i>	Key lock activated
16	<i>Lamp</i>	Additional display illumination activated
17	<i>Memory card</i>	microSD card inserted
18	<i>Battery</i>	Battery charge level
19	<i>Footer</i>	Software version number

Technical data

Parameter	Value
Model	T220
Temperature	
Sensor type	NTC
Measuring range	-20 °C to +50 °C or -4 °F to +122 °F
Accuracy	+/-0.2 °C (at -40 °C to 0 °C) +/-0.1 °C (at 0 °C to +60 °C) +/-0.2 °C (at +60 °C to +110 °C)
Resolution	0.01 °C/°F
Relative humidity	
Sensor type	Capacitive
Measuring range	0.0 to 100.0 % RH
Accuracy	± 2 % RH (at 0 to 90 % RH) ± 3 % RH (at 90 to 100 % RH)
Resolution	0.1 % RH
General technical data	
Display	LCD
Measuring frequency	2 x per second
Interface	USB-C
Operating conditions	-10 °C to +50 °C (with 0 to 100 % RH (non-condensing))
Storage conditions	-32 °C to +55 °C (with 0 to 100 % RH (non-condensing))
Power supply	4 x 1.5 V, AA batteries
Weight	approx. 270 g
Dimensions (length x width x height)	202 mm x 63 mm x 35 mm
Bluetooth	
Frequency	2.4 GHz
Max. transmission power	-24 dBm

Scope of delivery

- 1 x Device T220
- 1 x Factory test certificate
- 1 x MultiMeasure Mobile app for download, see Operation chapter
- 1 x Quick guide

Transport and storage

Notice

If you store or transport the device improperly, the device may be damaged.

Note the information regarding transport and storage of the device.

Transport

When transporting the device, ensure dry conditions and and protect the device from external influences e.g. by using a suitable bag.

Storage

When the device is not being used, observe the following storage conditions:

- dry and protected from frost and heat
- protected from dust and direct sunlight
- at the temperature specified in the technical data
- Batteries are removed from the device

Operation

Inserting a microSD card (optional)

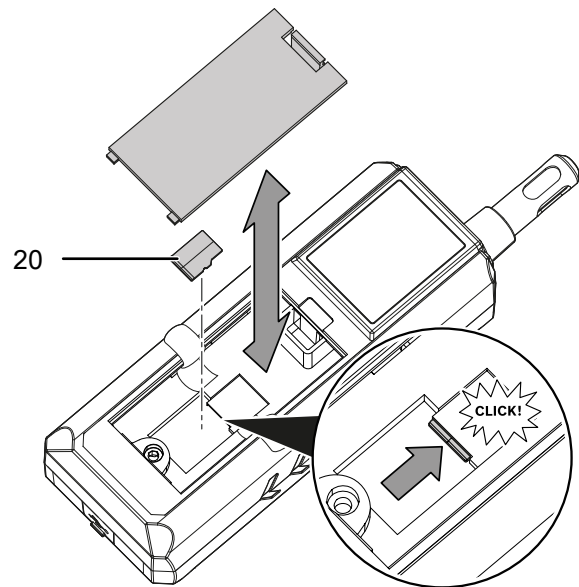
A microSD card can be inserted into the device to expand the internal measured value memory and transfer measured values to a computer. Please proceed as follows:



Caution

Make sure that the surface of the device is dry and the device is switched off.

1. Open the cover of the battery compartment (5).



2. Insert the microSD card (20) into the slot provided as shown.
⇒ You will hear a clicking sound and feel the microSD card click into place.
3. Refit the battery compartment cover or continue with inserting the batteries if required.

Inserting the batteries

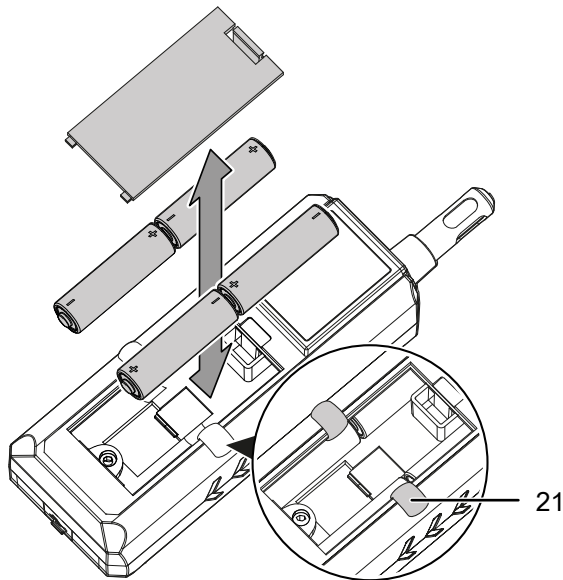
Insert the batteries into the device before first use.



Caution

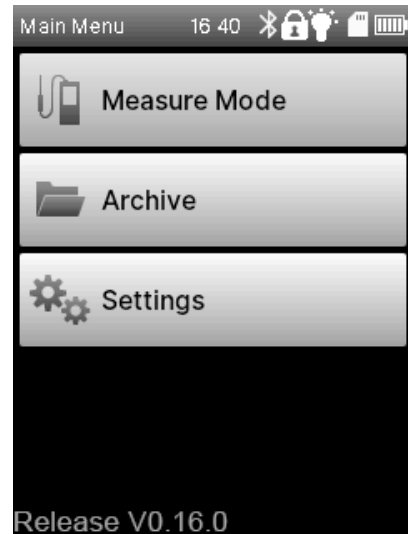
Make sure that the surface of the device is dry and the device is switched off.

1. Open the cover of the battery compartment (5).



Main menu

You can open the following submenus from the main menu:



Submenu	Function
<i>Measure Mode</i>	Carry out measurements
<i>Archive</i>	Open archived measured values
<i>Settings</i>	Make device settings

Key lock

1. Press the *Power* button (3) for approx. 1 second during operation.
 - ⇒ Key lock is activated.
 - ⇒ The *Padlock* indication (15) is shown on the display.
2. Press the *Power* button (3) for approx. 1 second again.
 - ⇒ Key lock is no longer activated.
 - ⇒ The *Padlock* indication (15) disappears.

Switching the device on

1. Press and hold the *Power* button (3) for approx. 2 seconds.
 - ⇒ An acoustic confirmation signal is emitted.
 - ⇒ After approx. 3 seconds, the colour display will be switched on. The device is ready to go as soon as the main menu is shown.

Notice

Note that moving from a cold area to a warm area can lead to condensation forming on the device's circuit board. This physical and unavoidable effect can falsify the measurement. In this case, the display shows either no measured values or they are incorrect. Wait a few minutes until the device has become adjusted to the changed conditions before carrying out a measurement.

Activating large print

The current measured values shown in the upper half of the display can also be displayed in large print.

1. Briefly press the **Power** button (3) in any measuring mode screen.



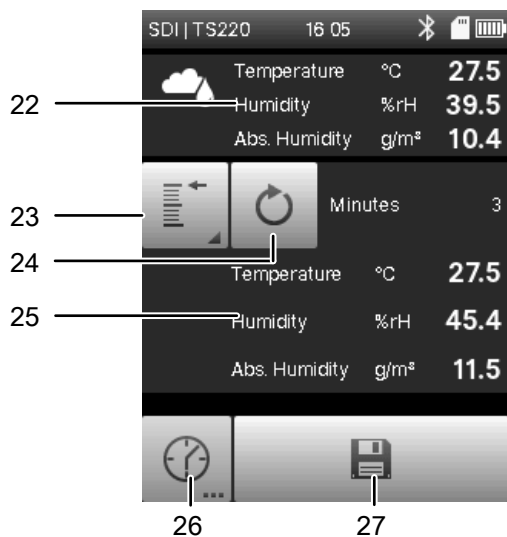
2. To exit the large print display, press the **Power** button (3) once again.



Info

When the key lock is enabled, large print cannot be activated or deactivated.

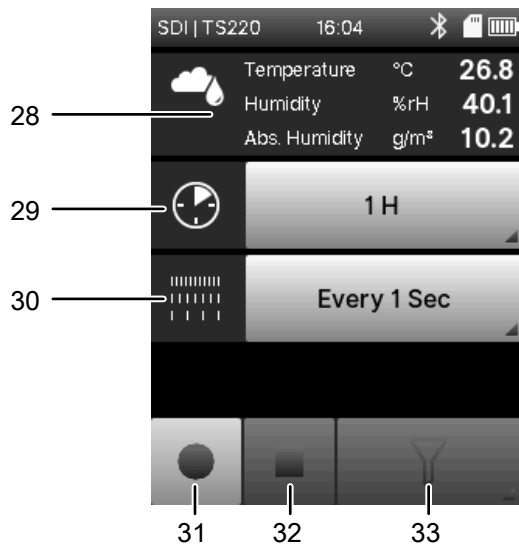
Measurement value display



Item	Designation	Function
22	<i>Measured humidity values</i>	Shows the following measured values: Temperature: Temperature value in °C Humidity: Humidity in %RH (relative humidity) Base value specified in the settings: - Humidity in g/m ² (absolute humidity) - Critical dew point in °C - Mixing ratio in g/kg (ratio of the mass of steam to the mass of dry gas)
23	<i>MAX/MIN</i>	Specifies how measured values are displayed in (25): Minimum: Always shows the smallest detected measured value from a measuring period. Maximum: Always shows the largest detected measured value from a measuring period. Average: Shows the average value of all measured values which have been detected so far from a measuring period. Hold: Pauses the current detected measured value and shows it continually (when this option is selected). Off: Switches off the indication in (25).
24	<i>Reset</i>	Resets the measured values displayed in (25) to zero.
25	<i>Humidity reference values</i>	Shows the measured values according to the selection in (23).
26	<i>Continuous measurement</i>	Opens the menu for setting a fixed recording duration for an automatic measurement (see section <i>Carry out a continuous measurement</i>).
27	<i>Save</i>	Saves the measured values in the archive.

Carrying out a continuous measurement

The recording function allows you to automatically record measured values at regular intervals over a desired period of time.

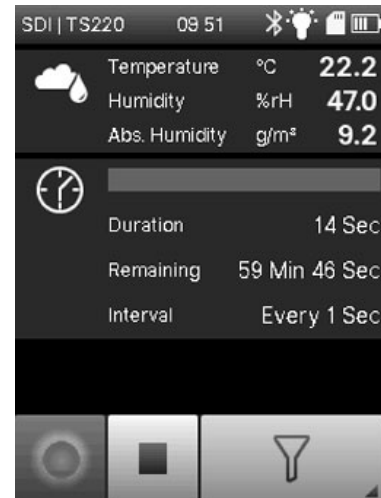


Item	Designation	Function
28	<i>Current measured values</i>	Indication of the current measured values
29	<i>Recording duration</i>	Opens a submenu with options for the duration of the recording.
30	<i>Recording interval</i>	Opens a submenu with options for the interval of the measured values to be saved.
31	<i>Start recording</i>	Starts recording.
32	<i>Stop recording</i>	Recording is stopped and the measured values are saved.
33	<i>Filter</i>	Opens a submenu for selecting the values to be displayed during recording.

Please proceed as follows to perform a continuous measurement:

1. Open the *Continuous measurement* submenu (26).
2. Open the *Recording duration* submenu (29) and select the desired recording period.
 - ⇒ The selected period is applied.
3. Open the *Recording interval* submenu (30) and select the desired time interval between the measured values to be saved.
 - ⇒ The selected interval is applied.
4. The selected interval is applied.
5. Press the *Start recording* button (31) to start recording.
 - ⇒ Recording begins.
 - ⇒ The recording symbol (31) is displayed in red.

- ⇒ The screen for ongoing recordings opens.
- ⇒ The elapsed and remaining time as well as the selected interval are displayed.

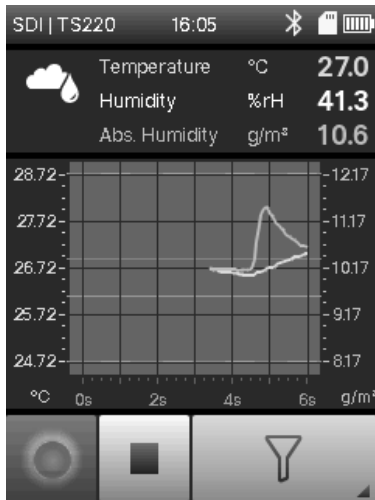


6. Open the *Filter* submenu (33) to change the view.
 - ⇒ A selection menu opens, allowing you to choose between time display and a graph showing the measured values. Up to two parameters can be selected simultaneously.

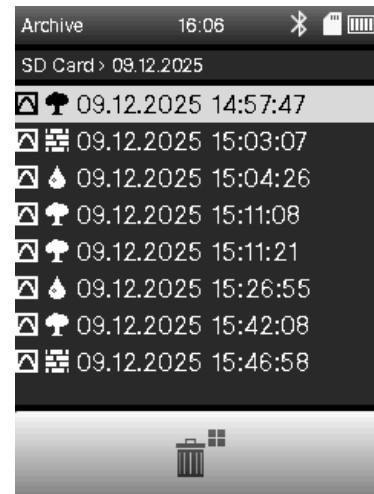


7. Select the desired display options.

- ⇒ When you select one or more measured values, the graph view opens, displaying the selected measured values as a function of time.



- ⇒ All recordings from the selected date are displayed in the form of a list.

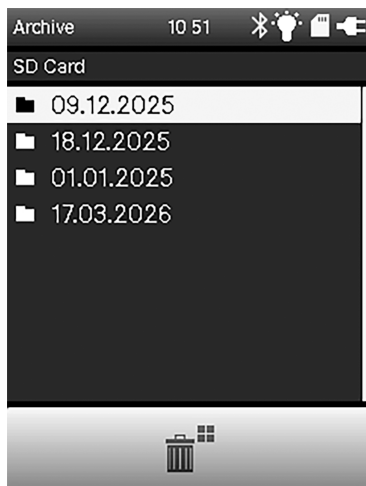


8. Tap the **Stop recording** button (32) in any of the views to end the recording.
- ⇒ Recording will stop before the set time has elapsed and the collected data will be saved to the SD card.

Opening measurement data from the archive

Individual measured values and the results of continuous measurements can be viewed and deleted in the archive. To do so, please proceed as follows:

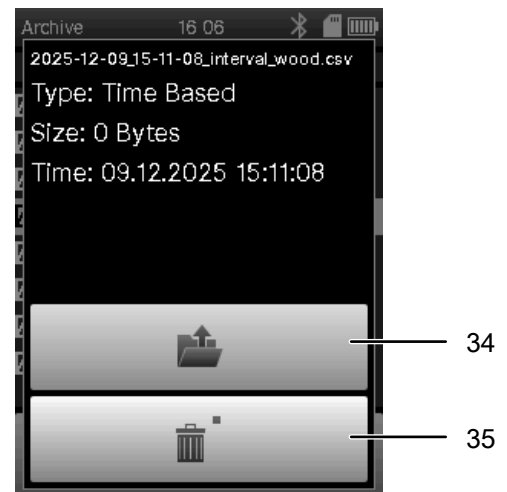
1. Open the **Archive** submenu.
- ⇒ A list of folders is displayed in which the measured data is sorted by date of collection.



- ⇒ The icons next to the saved measuring projects show each measuring mode. The meaning is as follows:

- humidity measurement
- individual spot measurement
- continuous measurement

3. Open the desired recording.
- ⇒ A selection menu for the desired recording is displayed.
- ⇒ You have the option to delete (35) or open (34) the file.



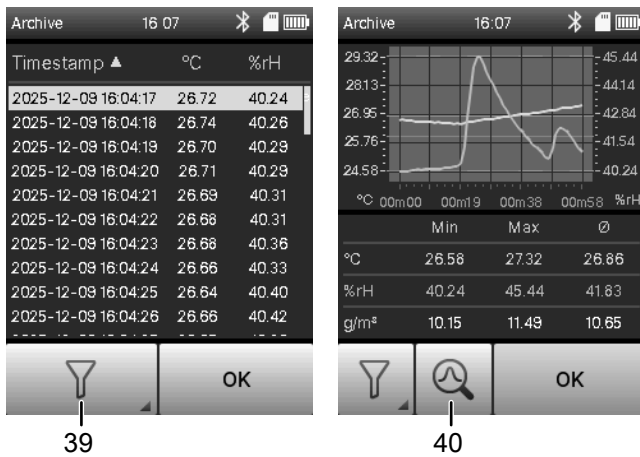
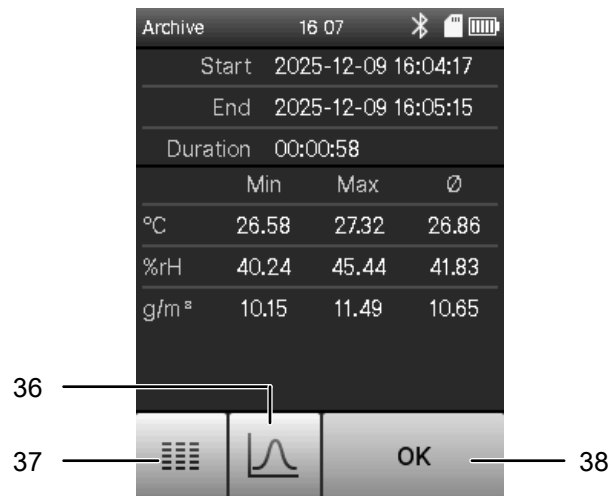
2. Open the folder with the desired date.

4. Open the file to view the details of the measured values.
- ⇒ The detailed view of the recording opens.

Notice

Several consecutive individual spot measurements are combined and saved using the date and time of the first individual spot measurement. They can also be displayed as a graph.

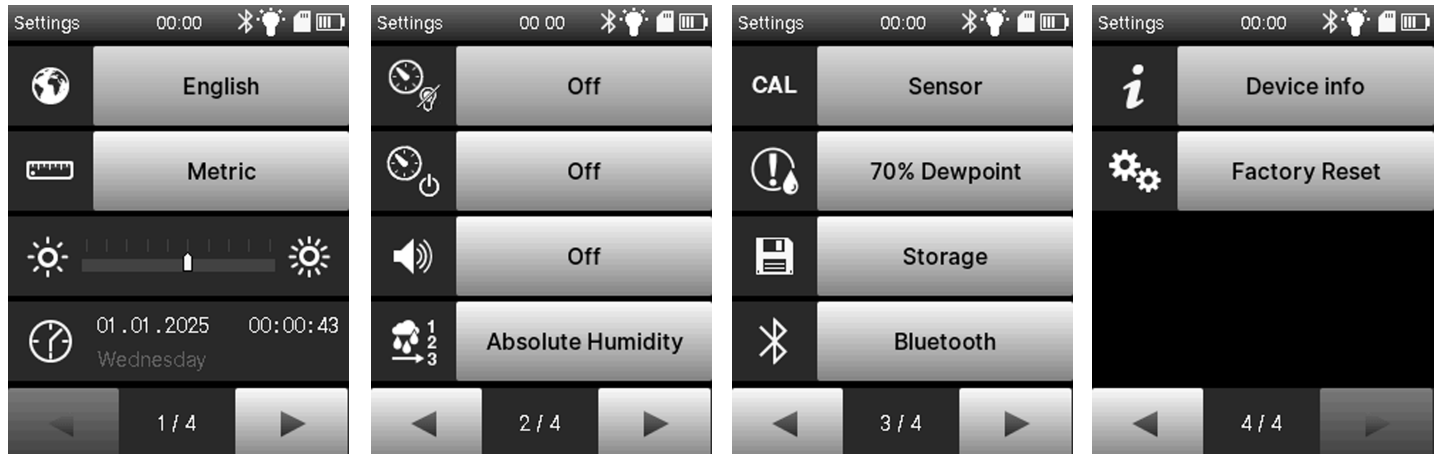
The detailed view for continuous and individual spot measurements offers the following options:



Item	Designation	Function
36	<i>Graph view</i>	Opens a graph showing the measured values over time.
37	<i>List view</i>	Opens a list of the individual measured values.
38	<i>OK</i>	Closes the detailed view of the archive entry.
39	<i>Filter</i>	Opens the menu for filtering the view by parameters.
40	<i>Magnifying glass</i>	Zooms in on the selected section of the graph.

Device settings

In the *Settings* submenu, you can configure the following device settings:



Icon	Submenu	Function	Icon	Submenu	Function
	<i>Language</i>	Setting the device language		<i>Calculated humidity parameters</i>	Selecting the base value to be displayed in measuring mode: Crit. dew point: Displays the value as dew point. Absolute Humidity: Displays the value as absolute humidity in g/m ³ . Mixing Ratio: Displays the value as mixing ratio (g/kg) of the mass of steam to the mass of the dry gas.
	<i>Units</i>	Switching between metric and imperial units		<i>CAL</i>	Sensor calibration/offset adjustment
	<i>Brightness</i>	Adjusting the display brightness		<i>Dew point temperature</i>	Submenu for the temperature indication of the critical dew point. You can choose from the following options: • 100 %: The temperature of the calculated dew point will be displayed (100 % relative humidity). • 80 %: The temperature at 80 % relative humidity will be displayed as critical dew point. • 75 %: The temperature at 75 % relative humidity will be displayed as critical dew point. • 70 %: The temperature at 70 % relative humidity will be displayed as critical dew point.
	<i>Date and time setting</i>	Setting the date and time		<i>Memory</i>	Changing the storage location to either internal memory or microSD card
	<i>Screen saver</i>	Setting the timer for the screen saver		<i>Bluetooth</i>	Switching Bluetooth on or off
	<i>Automatic switch-off</i>	Setting the timer for automatic switch-off of the device		<i>Device info</i>	Information about the device and software version
	<i>Sounds</i>	Setting the signal sounds		<i>Reset</i>	Restoring the factory settings



Info

The term "critical dew point" specifies the temperature that is already critical for mould formation with regard to an associated relative humidity of approx. 70 %, 75 % or 80 %. Within these ranges, mould formation is already possible.

Therefore, the critical dew point is often several °C higher than the actual dew point temperature with 100 % RH, where condensation actually occurs!

Knowing the critical dew point is particularly important when carrying out measurements e.g. behind picture frames, closets or wardrobes in environments with otherwise inconspicuous room climate values.

Setting the language

1. From the main menu, select the *Settings* submenu.
2. Open the *Language* submenu.
3. Select the desired language in the following screen.
 - ⇒ The selected screen language is activated immediately.

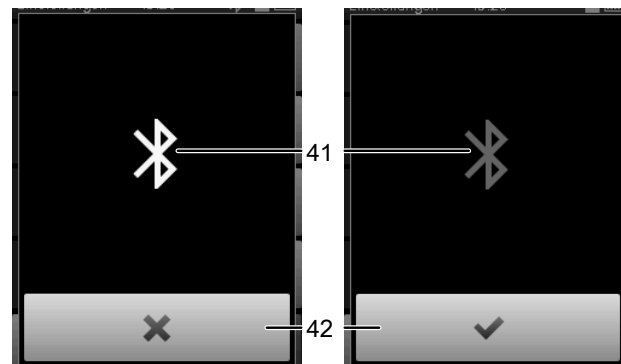


4. Press the *Main menu* button (11) to return to the main menu.

Switching on Bluetooth

To use the MultiMeasure Mobile app, Bluetooth must first be turned on. The Bluetooth function is activated when the *Bluetooth* indication (14) is visible on the display. Please proceed as follows to activate the Bluetooth connection:

1. Open the *Settings* submenu.
2. Scroll to page 3.
3. Open the *Bluetooth* submenu.
 - ⇒ The window for setting up the Bluetooth connection opens.



- ⇒ The Bluetooth icon (41) is white and the button (42) shows an "X" when Bluetooth is turned on.
- ⇒ The Bluetooth icon (41) is greyed out and the button (42) shows a tick when Bluetooth is turned off.

4. Tap the button (42) to switch to the other setting.

Calibrating the sensor

The sensor is calibrated via the *Sensor* submenu in the *Settings*. From this menu, a single-point calibration (zero offset) can be carried out. The sensor is already factory-calibrated and has a corresponding characteristic calibration curve. By specifying a calibration value (offset), a global shift of the calibration curve is performed for the single-point calibration, which has an effect on the entire measuring range.

The offset to be entered is the value by which the calibration curve will be shifted.

Example:

The displayed value is always 5 increments too high.

⇒ Change the offset value for this measurement channel by -5.

The offset value is set to 0.0 at the factory for most sensor types. Changing the offset value brings about an automatic reset of the measured values.

The offset value range depends on the respective sensor type and the unit to be measured. When entering values outside of the respective value range, a fault message stating the setting limits will be emitted. The shift will be saved and therefore also be considered for future measurements.

Performing firmware updates

Firmware updates can be carried out for the T220. To do so, please proceed as follows:

1. Establish a Bluetooth connection between the T220 and the terminal device on which the MultiMeasure Mobile app is installed.
2. Open the MultiMeasure Mobile app.
 - ⇒ A notification window will open, informing you that a firmware update is available.
 - ⇒ You have the option to run the update now or postpone it until later.
3. Select the option to perform the update.
 - ⇒ The new firmware version is being installed.



Info

The update can also be downloaded from the Trotec website and transferred using the microSD card. This process is faster than wireless transmission via Bluetooth. To do this, please visit the product website or contact the customer service.

MultiMeasure Mobile app



Install the Trotec MultiMeasure Mobile app on the terminal device you want to use in combination with the device.



Info

Some of the app's functions require access to your location and an active Internet connection.

The app is available for download in the Google Play Store as well as in Apple's app store and via the following link:



<https://hub.trotec.com/?id=43083>

Switching the device off

1. Press and hold the *Power* button (3) until the colour display turns off.
 - ⇒ The device is switched off.

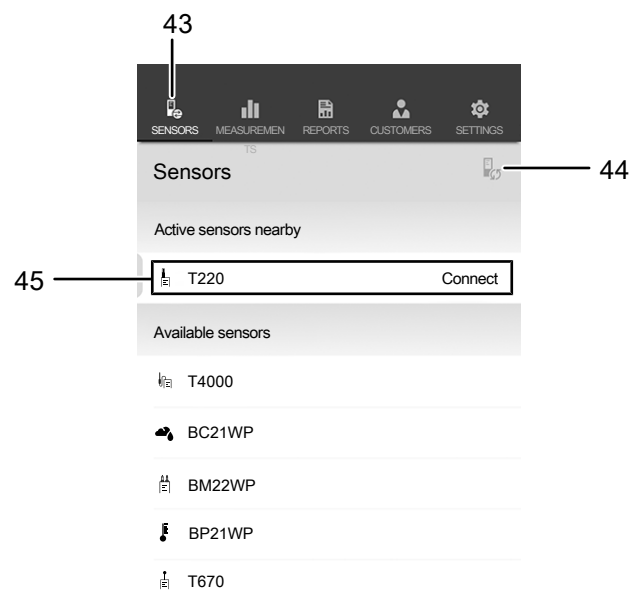
MultiMeasure Mobile app

The T220 can also be used with the MultiMeasure Mobile app. To do so, connect it to your terminal device via Bluetooth.

Connecting a measuring device

Proceed as follows to connect the measuring device to the terminal device:

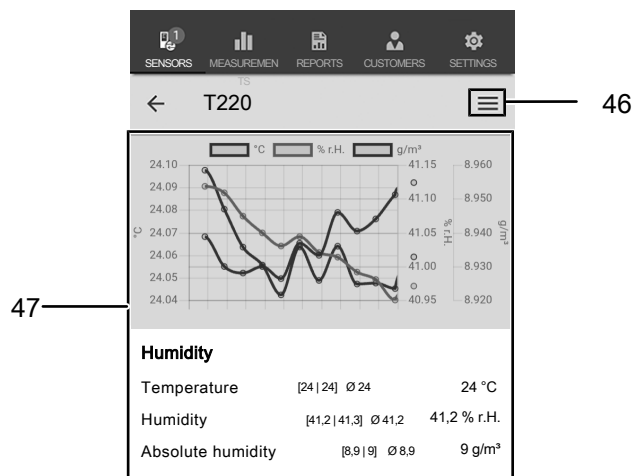
- ✓ The Trotec MultiMeasure Mobile app is installed on your terminal device.
 - ✓ The Bluetooth function on your terminal device is activated.
 - ✓ The T220 is switched on.
 - ✓ Bluetooth is enabled on the T220.
1. Start the Trotec MultiMeasure Mobile app on the terminal device.
 2. Press the *Sensors* button (43) on the terminal device.
 - ⇒ The sensors overview opens.
 3. Press the *Refresh* button (44).
 - ⇒ If scan mode was not active before, the colour of the *Refresh* button (44) will change from grey to black. The terminal device will now search for all available sensors.
 4. Press the *Connect* button (45) to connect the T220 to the terminal device.
 - ⇒ The measurement value display opens.



No.	Designation	Meaning
43	<i>Sensors</i> button	Opens the sensors overview.
44	<i>Refresh</i> button	Refreshes the list of sensors near the terminal device.
45	<i>Connect</i> button	Connects the displayed sensor to the terminal device.

Measurement value display

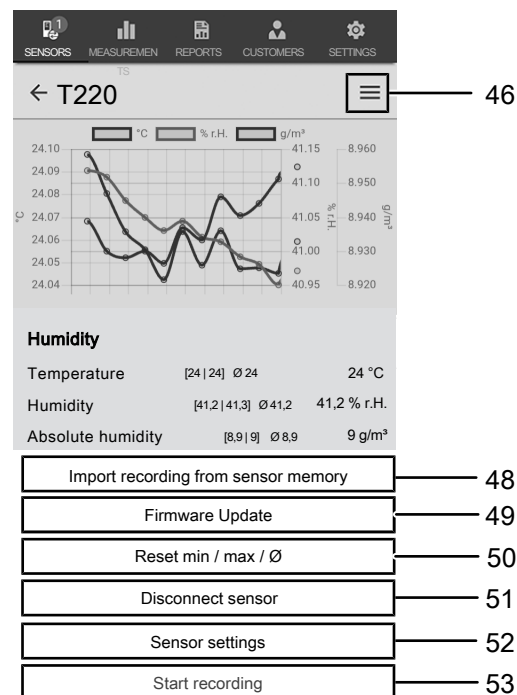
After selecting the sensor, the measurement value display opens.



No.	Designation	Meaning
46	<i>Menu button</i>	Opens the menu for making settings for the current measurement.
47	<i>Numeric value display</i>	Displays the measured values collected by the connected sensor as well as average, maximum and minimum values.

Measurement settings

The *Menu* button (46) opens options for adjusting the measurement settings.

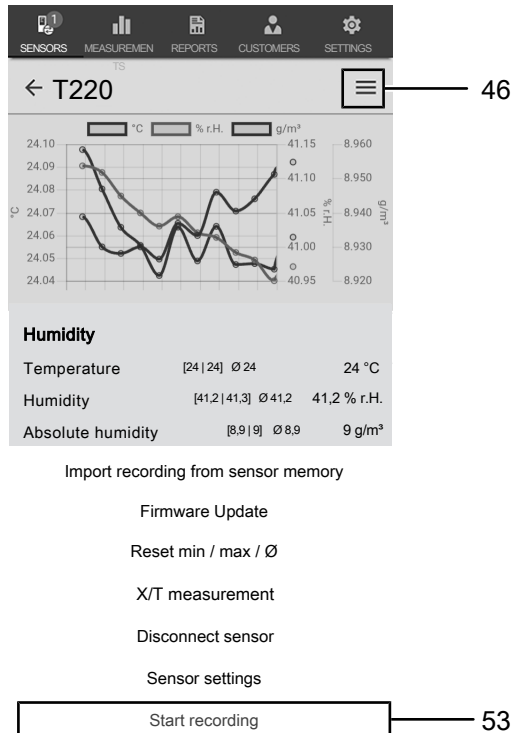


No.	Designation	Meaning
46	<i>Menu button</i>	Opens the menu for making settings for the current measurement.
48	<i>Import recording button</i>	Imports recordings from the device's memory.
49	<i>Firmware update button</i>	Performs a firmware update on the device.
50	<i>Reset min / max / Ø button</i>	Deletes the determined values in (47).
51	<i>Disconnect sensor button</i>	Disconnects the T220 from the terminal device.
52	<i>Sensor settings button</i>	Opens the settings menu for the connected device.
53	<i>Start recording button</i>	Starts a recording of the determined measured values for later evaluation.

Recording measured values

Proceed as follows to record measured values for later evaluation:

1. Press the *Menu* button (46).
⇒ The context menu opens.
2. Press the *Start recording* button (53).
⇒ Recording begins.
⇒ The *Menu* button (46) changes to the sensor icon and flashes while recording is in progress.

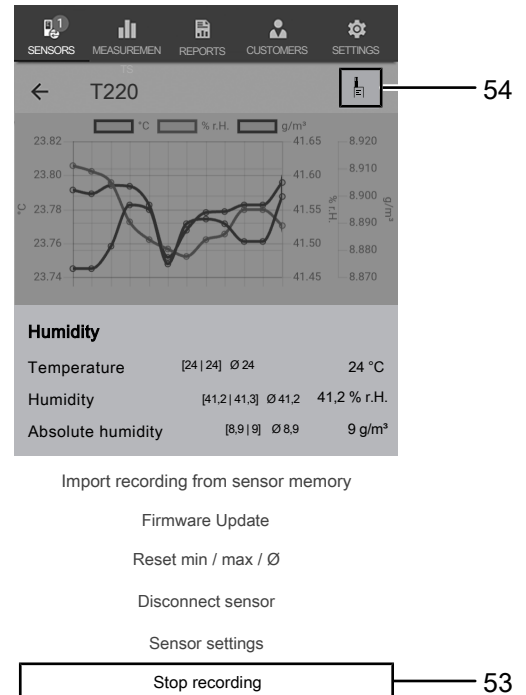


No.	Designation	Meaning
46	<i>Menu</i> button	Opens the menu for making settings for the current measurement.
53	<i>Start recording</i> button	Starts a recording of the determined measured values for later evaluation.

Stopping a recording

Proceed as follows to stop recording the measured values:

1. Press the *REC* button (54).
⇒ The context menu for sensors opens.
2. Press the *Stop recording* button (55).
⇒ The context menu for saving the recording opens.
3. You can optionally save, discard or resume the measurement.

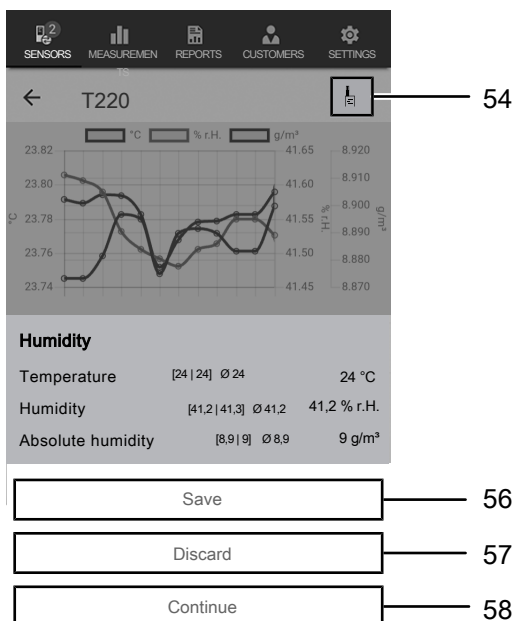


No.	Designation	Meaning
54	<i>REC</i> button	Opens the sensor settings menu.
55	<i>Stop recording</i> button	Stops the current recording of measured values and opens the submenu for saving recordings.

Saving a recording

Proceed as follows to save the recorded measured values:

1. Press the *Save* button (56) to save the recorded measured values on the terminal device.
⇒ The input mask for logging the recorded data opens.
2. Enter all the data relevant for an unambiguous assignment, then save the recording.
⇒ The recording will be saved on the terminal device.

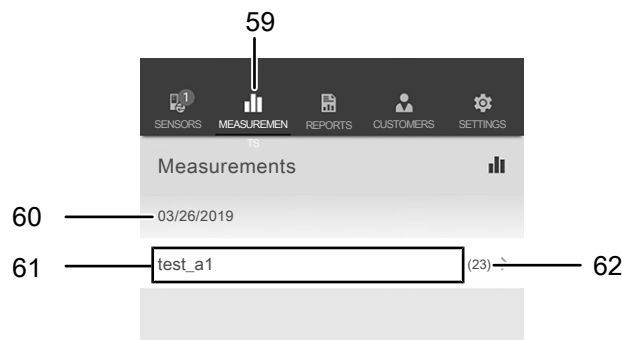


No.	Designation	Meaning
56	<i>Save</i> button	Stops the current recording of measured values and opens the input mask for logging recording data.
57	<i>Discard</i> button	Stops the current recording of measured values and discards the recorded measured values.
58	<i>Continue</i> button	Resumes the recording of the measured values without saving.

Analysing measurements

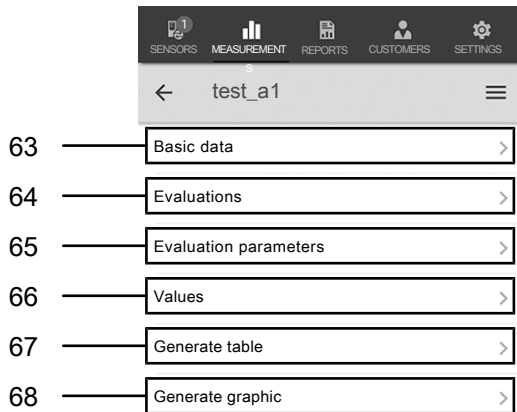
Proceed as follows to call up the saved measurements:

1. Press the *MEASUREMENTS* button (59).
⇒ An overview of already saved measurements will be displayed.
2. Press the *Display measurement* button (61) for the desired measurement to be indicated.
⇒ A context menu for the selected measurement opens.



No.	Designation	Meaning
59	<i>MEASUREMENTS</i> button	Opens the overview of saved measurements.
60	Indication of the <i>date of the measurement</i>	Indicates the date on which the measurement was recorded.
61	<i>Display measurement</i> button	Opens the context menu for the selected measurement.
62	Indication of the <i>number of measured values</i>	Indicates the number of individual measured values constituting the saved measurement.

The following functions can be called up in the context menu of the selected measurement:

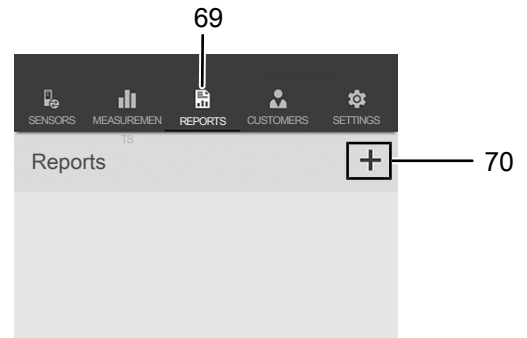


No.	Designation	Meaning
63	<i>Basic data</i> button	Opens an overview of the data saved for the measurement.
64	<i>Evaluations</i> button	Opens an overview of the evaluations generated for the measurement (graphics and tables).
65	<i>Evaluation parameters</i> button	Opens a menu to select and deselect individual evaluation parameters.
66	<i>Values</i> button	Opens a tabular overview of all the values logged for the measurement..
67	<i>Generate table</i> button	Creates a table containing the logged values of the measurement and saves it as a *.CSV file.
68	<i>Generate graphic</i> button	Creates a graphic representation of the logged values and saves it as a *.PNG file.

Generating a report

The reports generated in the MultiMeasure Mobile app are short reports providing a fast and simple documentation. Proceed as follows to generate a new report:

1. Press the *REPORTS* button (69).
⇒ The reports overview opens.
2. Press the *New report* button (70) to create a new report.
⇒ An input mask for entering all the relevant information opens.
3. Enter the information via the input mask and save the data.



No.	Designation	Meaning
69	<i>REPORTS</i> button	Opens the overview of saved reports.
70	<i>New report</i> button	Creates a new report and opens the input mask.



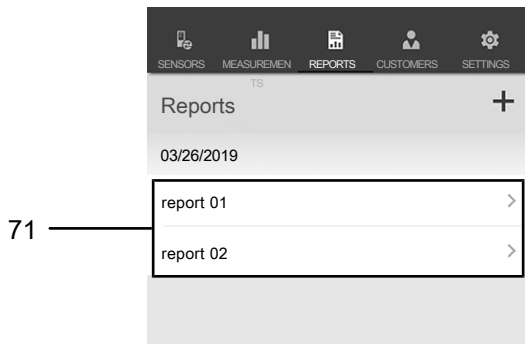
Info

The customer can acknowledge the report directly in the integrated signature field.

Calling up a report

Proceed as follows to call up a created report:

1. Press the *REPORTS* button (69).
⇒ The reports overview opens.
2. Press the corresponding button (71) to display the desired report.
⇒ An input mask opens in which you can view and edit all the information.

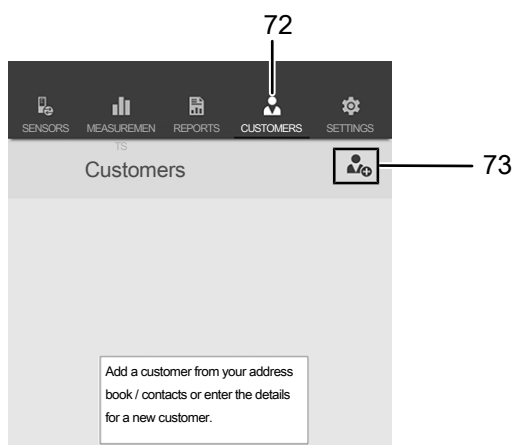


No.	Designation	Meaning
71	Display <i>REPORT</i> button	Opens the selected report.

Creating a new customer

Proceed as follows to create a new customer:

1. Press the *CUSTOMERS* button (72).
2. Press the *New customer* button (73).
⇒ An input mask for entering all the relevant information opens.
3. Enter the information via the input mask and save the data.
4. Alternatively, you can also import existing contacts from the phone book of the terminal device.

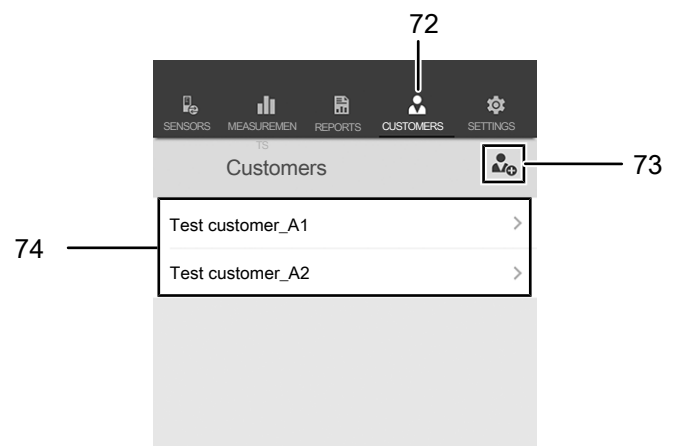


No.	Designation	Meaning
72	<i>CUSTOMERS</i> button	Opens the overview of saved customers.
73	<i>Add customer</i> button	Creates a new customer and opens the input mask.

Calling up customers

Proceed as follows to call up an already created customer:

1. Press the *Customers* button (72).
⇒ A list of the customers created so far opens.
2. Press the *Customer X* button (74).
⇒ An input mask opens in which you can view and edit all the information for the selected customer as well as directly start a new measurement.
⇒ The *New customer* button (73) changes. In this menu it can be used to delete the selected customer data record.

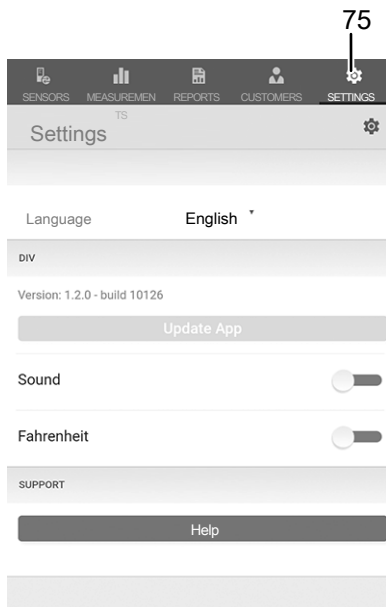


No.	Designation	Meaning
72	<i>CUSTOMERS</i> button	Opens the overview of saved customers.
73	<i>Add customer</i> button	Creates a new customer and opens the input mask. Allows deletion whilst the input mask is open.
74	<i>Customer X</i> button	Opens the input mask for reading and changing the information for a saved customer.

App settings

Proceed as follows to make settings in the Trotec MultiMeasure Mobile app:

1. Press the *SETTINGS* button (75).
⇒ The settings menu opens.
2. Adjust the settings as required.



No.	Designation	Meaning
75	<i>SETTINGS</i> button	Opens the overview for the app settings and information.

Disconnecting the measuring device

Proceed as follows to disconnect the T220 from the terminal device:

1. Press the *Sensors* button (43).
⇒ A list of connected and available sensors will be displayed.
2. Swipe left on the device you want to disconnect until the *Disconnect sensor* button appears.
3. Press the *Disconnect sensor* button.
⇒ The T220 is now disconnected from the terminal device and can be switched off.

Maintenance and repair

Battery change

Replace the batteries when the *Battery* indication (18) shows an empty battery and a warning signal is emitted, see section Inserting the batteries.

If the battery charge is completely depleted during operation, a warning message appears and a warning signal is emitted. In that case the device switches off after 5 seconds.

Cleaning

Clean the device with a soft, damp and lint-free cloth. Make sure that no moisture enters the housing. Do not use any sprays, solvents, alcohol-based cleaning agents or abrasive cleaners, but only clean water to moisten the cloth.

Repair

Do not modify the device or install any spare parts. For repairs or device testing, contact the manufacturer.

Errors and faults

The device has been checked for proper functioning several times during production. If malfunctions occur nonetheless, check the device according to the following list.

The device does not switch on:

- Check the charging status of the batteries. Change the batteries, if required.
- Check that the batteries are properly positioned. Check the polarity is correct.
- Never carry out an electrical check yourself; instead, contact the manufacturer's customer service service.

Display segments are only faintly visible or flicker:

- Check the charging status of the battery. Change the battery, if required (see chapter Inserting the battery).
- Make sure that the battery is properly positioned. Check the polarity is correct.

The device displays implausible measured values:

- Check the charging status of the battery. Change the battery, if required (see chapter Inserting the battery).
- Make sure that the battery is properly positioned. Check the polarity is correct.
- The sensor is defective or soiled. Clean the device as described in the Cleaning chapter.

The device runs but no measured values are shown:

- Check the room temperature and the relative humidity. Observe the device's permissible operating range according to the technical data.
- Check whether the device responds to touching the colour display. If it shows no reaction despite an enabled colour display and sufficient battery power, then the device firmware may have crashed. Restart the device. To do so, remove a battery and reinsert it.

Bluetooth connection is terminated or interrupted

- Check whether the *Bluetooth* indication is displayed. If so, switch the T220 off and back on. Establish a new connection to the terminal device.
- Check the charging status of the batteries. Change them if required, see section Inserting the batteries.
- Does the distance between the T220 and the terminal device exceed the radio range of the T220(see chapter *Technical data*) or are there any solid building parts (walls, pillars etc.) situated between the T220 and the terminal device? Shorten the distance between the two devices and ensure a direct line of sight.

The device cannot be connected to the terminal device although it is displayed there.

- Check the Bluetooth settings of your terminal device. A possible reason for this could be special, manufacturer-specific settings relating to an improved location accuracy. Enable these settings, then try to establish a connection to the device again.

Further information and assistance regarding the used sensor type will be provided in the MultiMeasure Mobile app via the menu item Settings => *Help*. Selecting the menu item *Help* opens a link to the app's help page. You can open a drop-down menu with numerous support entries from the *Table of contents*. Optionally, you can also scroll through the entire help page and thoroughly acquaint yourself with the individual help topics.

Your device still does not operate correctly after these checks?

Please contact the customer service.

Disposal

Always dispose of packing materials in an environmentally friendly manner and in accordance with the applicable local disposal regulations.



The icon with the crossed-out wheeled bin indicates that this device and any associated components (e.g. remote controls) must not be disposed of with household waste at the end of their life, in accordance with the Waste Electrical and Electronic Equipment Directive (2012/19/EU) and national laws.

You will find collection points for free return of waste electrical and electronic equipment in your vicinity. The addresses can be obtained from your municipality or local administration. You can also find out about other return options that apply for many EU countries on the website <https://hub.trotec.com/?id=45090>. Otherwise, please contact an official recycling centre for electronic and electrical equipment authorised for your country.

The separate collection of waste electrical and electronic equipment aims to enable the re-use, recycling and other forms of recovery of waste equipment as well as to prevent negative effects for the environment and human health caused by the disposal of hazardous substances potentially contained in the equipment.



This icon with the crossed-out wheeled bin indicates that batteries or accumulators must not be disposed of with household waste at the end of their life. If the device contains batteries or accumulators that contain mercury, cadmium or lead, the respective chemical symbol (Hg, Cd or Pb) is shown below the icon of the crossed-out wheeled bin. To prevent environmental pollution, do not carelessly leave batteries or electrical and electronic equipment containing batteries in public areas. In the European Union, batteries and accumulators must be returned to a designated collection point in accordance with REGULATION (EU) 2023/1542 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 July 2023 concerning batteries and waste batteries. Remove batteries/accumulators and dispose of them separately according to the relevant legal requirements.

Only for United Kingdom

According to Waste Electrical and Electronic Equipment Regulations 2013 (SI 2013/3113) (as amended) and the Waste Batteries and Accumulators Regulations 2009 (SI 2009/890) (as amended), devices that are no longer usable must be collected separately and disposed of in an environmentally friendly manner.

Declaration of conformity

We – Trotec GmbH – declare in sole responsibility that the product designated below was developed, constructed and produced in compliance with all relevant provisions of the EU Radio Equipment Directive in the version 2014/53/EU.

Product model / Product: T220

Product type: thermohygrometer

Year of manufacture as of: 2026

The product also complies with all relevant provisions of the following directives/regulations:

- 2011/65/EU
- 2014/30/EU

Other EU legal acts applied:

- 2012/19/EU

Applied harmonised standards:

- EN 300 328 V2.2.2
- EN 301 489-1 V2.2.3:2019-11
- EN 301 489-17 V3.3.1:2024-09
- EN 61010-1:2010 + A1:2019 + A1:2019/AC:2019

Applied national standards and technical specifications:

- EN 55032:2015 + AC:2016 + A11:2020 + A1:2020
- EN 61000-4-29:2000
- EN 61000-4-8:2010
- EN 61326-2-1:2013
- EN IEC 61000-4-11:2020
- EN IEC 61000-6-2:2019
- EN IEC 61000-6-4:2019

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