English



User Manual

PCE-HT 72 PDF Data Logger

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1 Safety notes

Please read this manual carefully and completely before you use the device for the first time. The device may only be used by qualified personnel and repaired by PCE Instruments personnel. Damage or injuries caused by non-observance of the manual are excluded from our liability and not covered by our warranty.

- The device must only be used as described in this instruction manual. If used otherwise, this can cause dangerous situations for the user and damage to the meter.
- The instrument may only be used if the environmental conditions (temperature, relative humidity, …) are within the ranges stated in the technical specifications. Do not expose the device to extreme temperatures, direct sunlight, extreme humidity or moisture.
- Do not expose the device to shocks or strong vibrations.
- The case should only be opened by qualified PCE Instruments personnel.
- Never use the instrument when your hands are wet.
- You must not make any technical changes to the device.
- The appliance should only be cleaned with a damp cloth. Use only pH-neutral cleaner, no abrasives or solvents.
- The device must only be used with accessories from PCE Instruments or equivalent.
- Before each use, inspect the case for visible damage. If any damage is visible, do not use the device.
- Do not use the instrument in explosive atmospheres.
- The measurement range as stated in the specifications must not be exceeded under any circumstances.
- Non-observance of the safety notes can cause damage to the device and injuries to the user.

We do not assume liability for printing errors or any other mistakes in this manual.

We expressly point to our general guarantee terms which can be found in our general terms of business.

If you have any questions please contact PCE Instruments. The contact details can be found at the end of this manual.

2 Specifications

Measurement function	Measurement range	Resolution	Accuracy
Temperature	-30 … 60 °C	0.1 °C	<0 °C: ±1 °C <60 °C: ±0.5 °C
Air humidity	0 ... 100 % RH	0.1 % RH	0 ... 20 % RH: 5 % 20 ... 40 % RH: 3.5 % 40 ... 60 % RH: 3 % 60 ... 80 % RH: 3.5 % 80 ... 100 % RH: 5 %

Further specifications	
Memory	20010 measured values
Measuring rate / storage interval	adjustable 2 s, 5 s, 10 s ... 24h
Start-stop	adjustable, immediately or when key is pressed
Status display	via symbol on the display
Display	LC display
Power supply	CR2032 battery
Interface	USB
Dimensions	75 x 35 x 15 mm
Weight	approx. 35 g

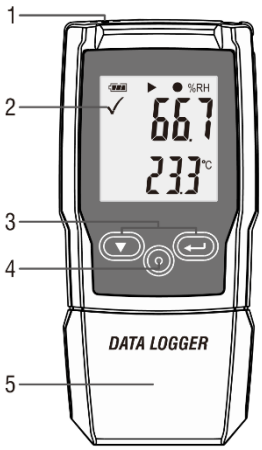
3 Scope of delivery

1 x PCE-HT 72
1 x wrist strap
1 x CR2032 battery
1 x user manual

The software can be downloaded here:
https://www.pce-instruments.com/english/download-win_4.htm

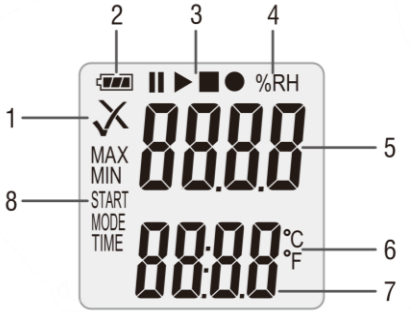
4 Device description

No.	Description
1	Sensor
2	Display when the limit value is reached, additionally indicated with red and green LED
3	Keys for operation
4	Mechanical switch to open the housing
5	USB port to connect to a computer



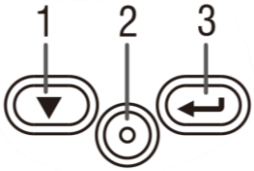
5 Display description

No.	Description
1	Alarm limit value indicator ✓ Measured value is within the set limits ✗ Measured value is outside the set limits
2	Battery status indicator
3	Recording indicator ⏸ Measuring device in standby mode ■ Recording stopped ▶ Recording started ● Appears after setting
4	Humidity unit
5	Humidity measured value
6	Temperature unit
7	Temperature display
8	Function display



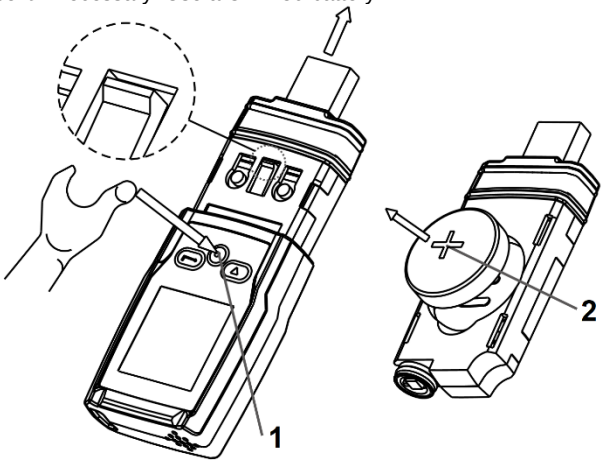
6 Key Assignment

No.	Description
1	Down key
2	Mechanical key for opening the housing
3	Enter key



7 Insert / change battery

To insert or change the battery, the housing must first be opened. To do this, first press the mechanical key "1". Then you can remove the housing. You can now insert the battery on the back or replace it if necessary. Use a CR2450 battery.

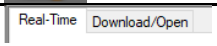


The battery status indicator allows you to check the current power of the inserted battery.



8 Software

To make settings, first install the software for the measuring device. Then connect the meter to the computer.

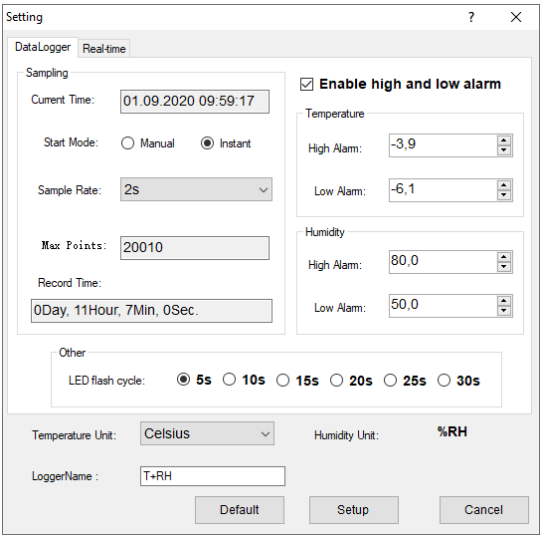
Symbol	Description
	Open measurement sequences saved via the software
	Save measurement sequences recorded via the software
	Read out sensors live
	Download data stored in the meter
	Settings for the measuring device and the software
	Open software instructions
	Change view between live data transmission and downloaded measurement data

8.1 Carry out settings of the data logger

To make settings now, go to Settings. Under the tab "Datalogger", you can make settings for the measuring device.

Setting	Description
Current Time	The current time of the computer which is used for data recording is displayed here.
Start Mode	Here you can set when the meter is to start recording data. When "Manual" is selected, you can start recording by pressing a key. When “Instant" is selected, recording starts immediately after the settings have been overwritten.
Sample Rate	Here you can set the saving interval.
Max Point	The maximum possible data records that the measuring device can save are displayed here.
Record Time	This shows you for how long the meter can record data until the memory is full.
Enable high and low alarm	Activate the limit value alarm function by ticking the box.
Temperature / Humidity High Alarm Low Alarm	Set the alarm limits for temperature and humidity. "Temperature" stands for the temperature measurement "Humidity" stands for relative humidity With "High Alarm", you set the desired upper limit value. With "Low Alarm", you set the desired lower limit value.
Other LED flash cycle	Via this function, you set the intervals at which the LED should light up to indicate operation.
Temperature Unit	Here you set the temperature unit.
LoggerName:	Here you can give the data logger a name.
Humidity Unit:	The current ambient humidity unit is displayed here. This unit cannot be changed.

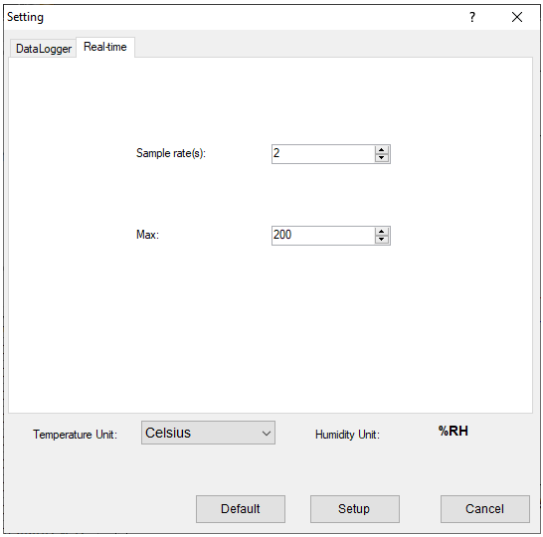
Default	You can reset all settings with this key.
Setup	Click on this button to save all settings you have made.
Cancel	You can cancel the settings with this button.



8.2 Live data settings

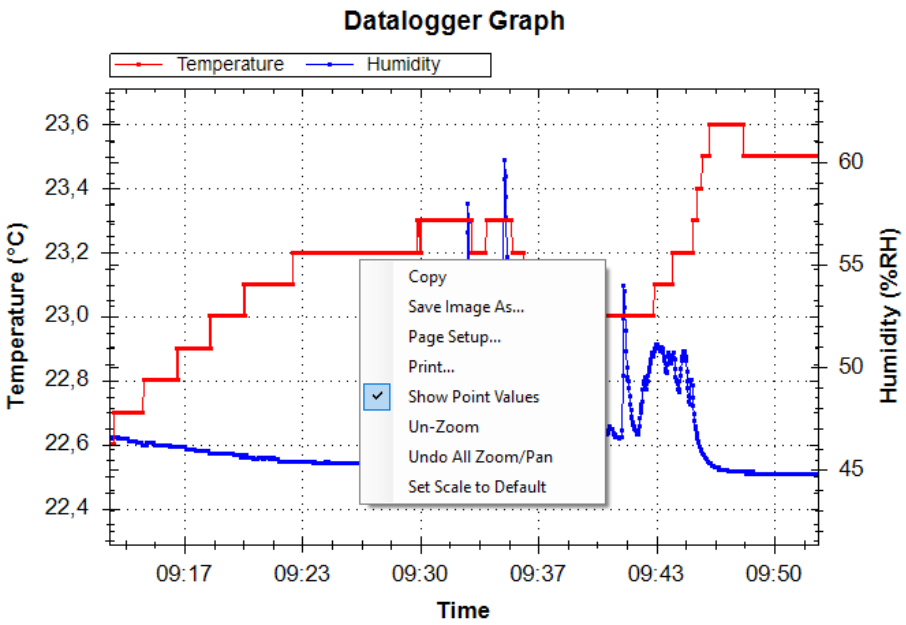
To make settings for live data transmission, go to the "REAL Time" tab in the settings.

Function	Description
Sample rate (s)	Here you set the transmission rate.
Max	Here you can enter the maximum number of values to be transmitted.
Temperature Unit	Here you can set the temperature unit.
Humidity Unit	The current unit for the ambient humidity is displayed here. This unit cannot be changed.
Default	You can reset all settings with this button.
Setup	Click on this button to save all settings you have made.
Cancel	You can cancel the settings with this button.



8.3 Diagram of the software

You can move the diagram with the mouse. To zoom into the diagram, keep the "CTRL" key pressed. You can now zoom into the diagram using the scroll wheel on your mouse. If you click on the diagram with the right mouse button, you will see more properties.
Via "Graph with markers", points for the individual data records can be displayed on the graph.

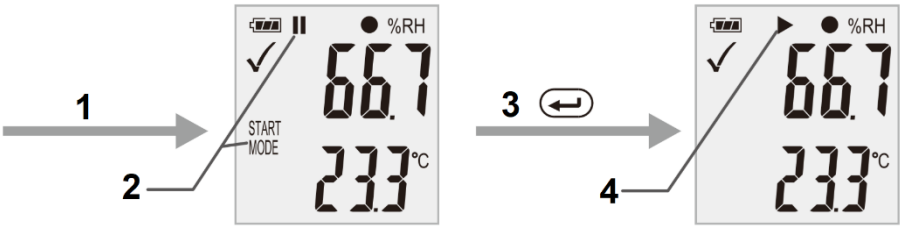


Function	Description
Copy	Graph is copied to the buffer
Save Image As...	Graph can be saved in any format
Page Setup...	Here you can make settings for printing
Print...	Here you can print the graph directly
Show Point Values	If the function "Graph with markers" is active, the measured values can be displayed via "Show Point Values" as soon as the mouse pointer is on this point.
Un-Zoom	The zoom goes one step back
Undo All Zoom/Pan	The entire zoom is reset
Set Scale to Default	Scaling is reset

9 Start and stop manual recording

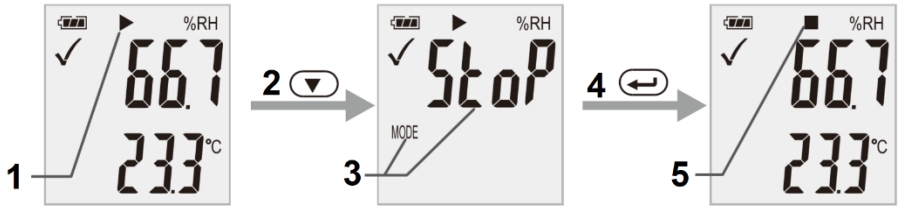
To use the manual mode, perform the following procedure:

No.	Description
1	First set the meter using the software.
2	After the upload, the display shows "Start Mode" and ⏸.
3	Now press the ↵ key for two seconds to start recording.
4	This indicates that recording has been started.



To cancel the measurement now, proceed as follows:

No.	Description
1	Here you are informed that the recording has started.
2	Now briefly press the ▼ key.
3	The display now shows "MODE" and "STOP".
4	Now press and hold the ↵ key.
5	Normal measurement was resumed and the display shows ■.



Important: When recording is finished, the measuring device must be reconfigured. It is therefore not possible to resume recording.

10 Display remaining recording time

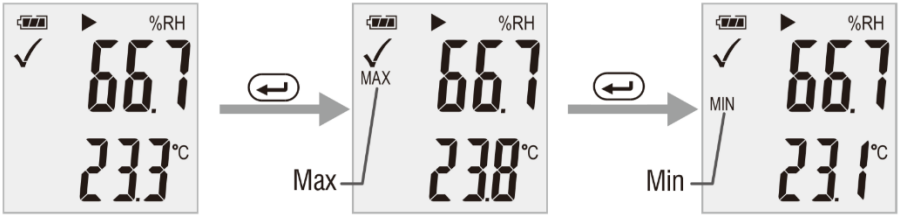
To view the remaining recording time, briefly press the ▼ key during recording. The remaining time is displayed under "TIME".



Important: This display does not take the battery into account.

11 Lowest and highest measured value

To display the lowest and highest measured values, press the ↵ key briefly during the measurement.



To display the measured values again, press the ↵ key again or wait for 1 minute.

12 Data output via PDF

To receive the recorded data directly as a PDF, all you need to do is connect the measuring device to the computer. A mass data memory is then displayed on the computer. From there you can get the PDF file directly.
Important: The PDF is only generated when the measuring device is connected. Depending on the data volume, it may take about 30 minutes until the mass data memory with the PDF file is displayed.

Under "Logger Name:", the name saved in the software is displayed. The configured alarm limit values are also saved to the PDF.

General Information

PCE Instruments

Device Information

Logger name:	T+RH	Serial ID:	HT-72_0200417014

Data Logger Setting

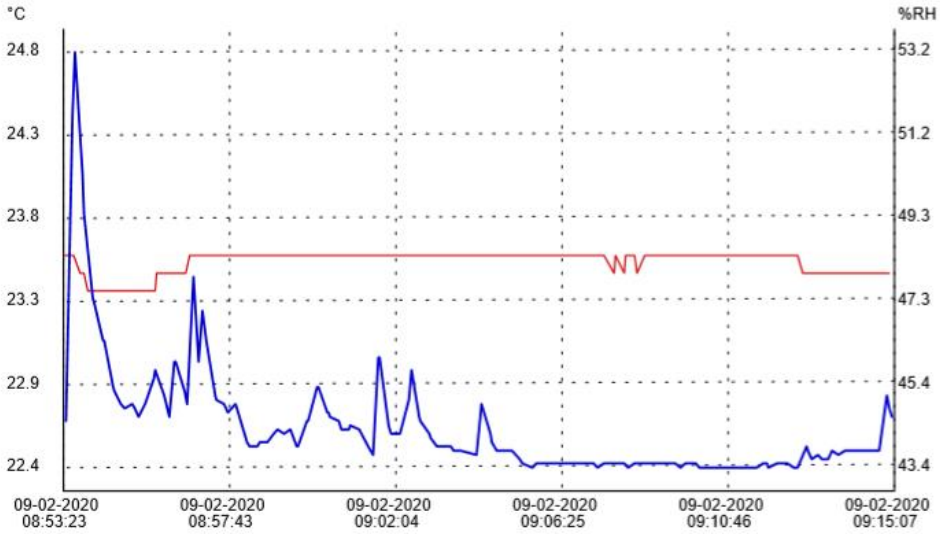
Record Start Condition:	Immediately until memory full	Start Time:	09-02-2020 08:53:23
Sampling Rate:	2Sec	Stop Time:	09-02-2020 09:15:07
Data Count:	653	Recorded Time:	21Min,44Sec

Alarm Status

Alarm:	Enable			
Temperature:	☑ Low Alarm	-6.1°C	☒ High Alarm	-3.9°C
Relative Humidity:	☒ Low Alarm	50.0%RH	☑ High Alarm	80.0%RH

Graph

		Minimum	Maximum
Temperature:		23.4°C	23.6°C
Relative Humidity:		43.4%RH	53.2%RH



Signature

PCE-HT-72.pdf

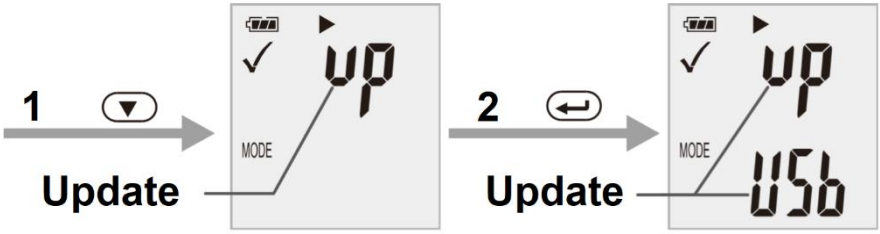
Version:V1.0.0.190606

13 LED status display

LED	Action
Flashing green	Data recording
Flashing red	- Measured value outside the limits during data recording - Manual mode started. Meter is waiting for the start by the user - Memory is full - Data recording was cancelled by pressing a key
Double flashing in green	- Settings were successfully applied - Firmware was successfully applied

14 Perform firmware upgrade

To perform a firmware upgrade, first install the battery. Now briefly press the ▼ key. The display shows "up". Now press and hold the ↵ key for approx. 5 seconds until "USB" additionally appears on the display. Now connect the test instrument to the computer. A folder (mass data memory) now appears on the computer. Insert the new firmware there. The update starts automatically. After the transfer and installation, you can disconnect the measuring device from the computer. A red LED glows during the update. This process takes about 2 minutes. After the update, the measurement will resume normally.



15 Delete all saved data

To delete all data on the meter, hold down the keys ▼↵ and connect the data logger to the computer at the same time. The data will now be deleted. If no connection has been established within 5 minutes, you must reset the meter.

15.1 Factory settings

To reset the meter to the factory settings, press and hold the keys ▼↵ while the power is off. Now switch on the meter by inserting the batteries or connecting the meter to the PC. The green LED lights up during the reset. This process can take up to 2 minutes.

16 Contact

If you have any questions, suggestions or technical problems, please do not hesitate to contact us. You will find the relevant contact information at the end of this user manual.

17 Disposal

For the disposal of batteries in the EU, the 2006/66/EC directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose.

In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.

For countries outside the EU, batteries and devices should be disposed of in accordance with your local waste regulations.

If you have any questions, please contact PCE Instruments.

www.pce-instruments.com

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