



User Manual

PCE-PDFL 10 Climate Meter



User manuals in various languages (français, italiano, español, português, nederlands, türk, polski, русский, 中文) can be found by using our product search on: www.pce-instruments.com

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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.

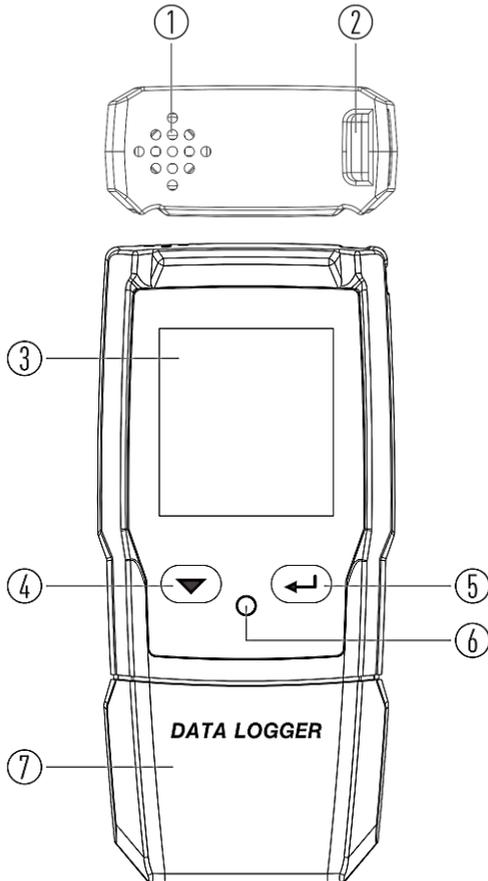
2 Specifications

Temperature	
Measurement range	-30 ... 60 °C / -22 ... 140 °F
Resolution	0.1 °C / °F
Accuracy	±1.0 °C / 1.8 °F at -30 ... 0 °C / -22 ... 32 °F ±0.5 °C / 0.9 °F at 0 ... 60 °C / 32 ... 140 °F
Relative humidity	
Measurement range	0 ... 100 % RH
Resolution	0.1 % RH
Accuracy	±5.0 % RH at 0 ... 20 % RH and 80 ... 100 % RH ±3.5 % RH at 20 ... 40 % RH. and 60 ... 80 % RH ±3.0 % RH at 40 ... 60 % RH
Absolute air pressure	
Measurement range	700 ... 1100 hpa 525.0 ... 825.0 mmHg 20.67 ... 32.48 inHg
Resolution	1 hpa 0.1 mmHg 0.01 inHg
Accuracy	±3 hpa ±2.5 mmHg ±0.1 inHg
Further specifications	
Memory capacity	13340 measuring points
Data export	.pdf, .csv
Storage rate	1 minute ... 24 hours
Interface	USB-A
Power supply (USB-A)	5 V DC, 0.1 A
Power supply (battery)	3 V button battery (CR2450)
Battery life	approx. 3 years
Display	1/4" LC display
Ambient conditions	-30 ... 60 °C / -22 ... 140 °F, <95 % RH, non-condensing
Dimensions	75 x 35 x 15 mm / 3 x 1.4 x 0.6 in
Weight	33 g / <1 lb

3 Delivery scope

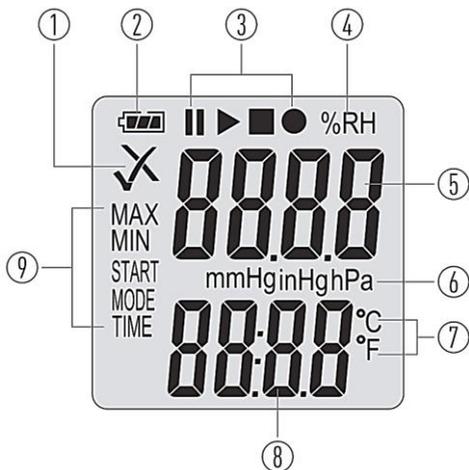
- 1 x PCE-PDFL 10 climate meter
- 1 x 3 V button battery (CR2450)
- 1 x software CD
- 1 x user manual

4 Device description



No.	Description
1	Sensors
2	Loop connection
3	Display
4	Arrow down key
5	Enter key
6	Unlock key for battery replacement
7	Interface protection cap

4.1 Display description



No.	Description
1	Alarm indicator
2	Battery status display
3	Recording status display
4	Unit for relative humidity
5	Measured value
6	Units for absolute air pressure
7	Units for temperature measurement
8	Measured value
9	Function indicator

4.1.1 Alarm indicator

Display	Meaning
✓	Measured values are within the set limit values. Green LED glows.
X	Measured values are outside the set limit values. Red LED glows.

4.1.2 Battery status display

Display	Meaning
	Battery is fully charged
	Battery is OK
	Battery is low
	Battery is flat and must be replaced immediately

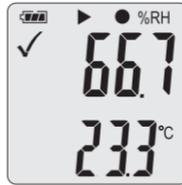
4.1.3 Recording indicators

Display	Meaning
	Meter is waiting for input to perform data recording
■	Data storage stopped
▶	Data recording started
●	Settings have been made



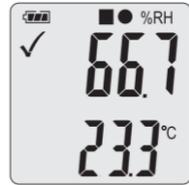
Condition 1

The device is in manual mode and is waiting for the start impulse



Condition 2

Data recording started



Condition 3

Data recording stopped

Storage rate in minutes	Possible recording time in days	Storage rate in minutes	Possible recording time in days
1	9.3	8	74.1
2	18.5	10	92.6
3	27.8	12	111.2
4	37.1	15	139.0
5	46.3	20	185.3
6	55.6	25	231.6
7	64.8	30	277.9

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

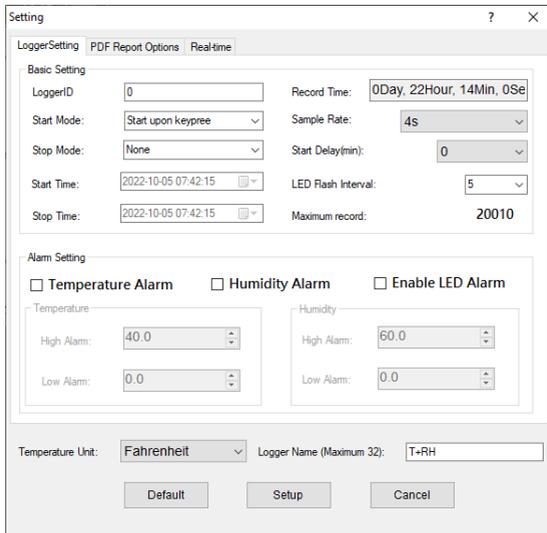
Symbol	Description
	Open measurement sequences saved via the software
	Save measurement sequences recorded via the software
	Read out sensors live
	Download data saved on the meter
	Settings for the meter and the software
	Open software manual
<div style="display: flex; border: 1px solid black; padding: 2px;"> Real-Time Download/Open </div>	Switch view between live data transfer and downloaded measurement data

4.2 Making the data logger settings

Go to the settings. In the "LoggerSetting" tab, you can make settings for the meter.

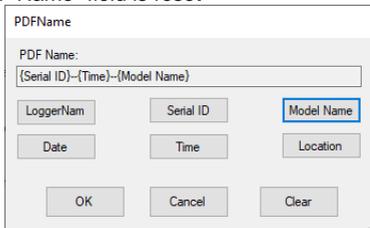
Setting	Description
LoggerID	A 4-digit ID number for the recording can be stored here.
Start Mode	<p>This is where you set when the measuring device is to start recording data.</p> <p>Immediately until memory full: Recording is started and stopped as soon as the memory is full.</p> <p>Start upon keypress: Recording is started as soon as the measurement is started manually. See also: 5 Start and end manual recording</p> <p>Start upon start time Recording is started as soon as the set time is reached.</p> <p>Start/Stop time Recording starts as soon as the set start time is reached and ends as soon as the set stop time is reached.</p> <p>Circular logging Recording starts immediately and does not end. The oldest data point is overwritten as soon as the memory is full.</p>

Stop Mode	<p>This is where you set when the measuring device should stop recording data. This setting depends on the start mode.</p> <p>None Data recording is never stopped.</p> <p>Stop button Data recording is stopped as soon as it is ended manually. See also: 5 Start and end manual recording</p> <p>After PDF create Measurement is stopped as soon as the measurement data is exported as a PDF.</p>
Start Time	The time when the recording is to start is set here.
Stop Time	The time when the recording is to stop is set here.
Record Time	This shows you how long the device can record data until the memory is full.
Sample rate	You can set the storage interval here.
Start Delay (min)	A switch-on delay in minutes for data recording can be set here.
LED Flash Interval	Use this function to set the intervals at which the LED is to light up to signal operation.
Maximum record	The number of measuring points that are recorded is displayed here.
Temperature Alarm	Activate the limit value alarm function for the temperature by ticking the box.
Humidity alarm	Activate the limit value alarm function for humidity by ticking the box.
Enable LED alarm	If this function is activated, the alarm LED will light up as soon as a limit value is exceeded.
Temperature / Humidity High Alarm Low alarm	Set the alarm limit values for the temperature and humidity. For "High Alarm", set the desired upper limit value. For "Low Alarm", set the desired lower limit value.
Temperature Unit	Set the temperature unit here.
Logger name (maximum 32):	The logger can be named here. A maximum of 32 characters can be used.
Default	Use this button to reset all settings.
Setup	This button is used to apply all settings made.
Cancel	Use this button to cancel the settings.

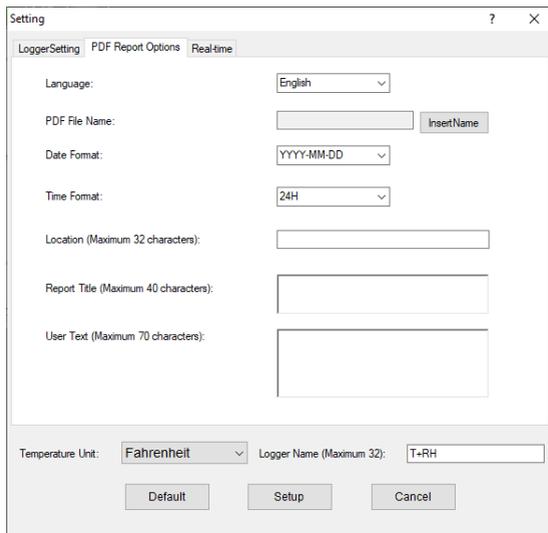


4.3 PDF report settings

Setting	Description
Language	The language of the PDF can be set here.
PDF File Name	<p>Here you can set how the PDF file name should be composed. To do this, click on "InsertName". Another window opens. The structure of the file name can be determined here.</p> <p>PDF Name: The structure of the file name is displayed here.</p> <p>LoggerNam: Name of the data logger</p> <p>Serial ID: Serial number</p> <p>Model Name: Logger ID</p> <p>Date: Date</p> <p>Time: Time</p> <p>Location: Name of the set location</p> <p>OK: Settings are applied</p> <p>Cancel: Window is closed and the settings are not applied</p> <p>Clear: "PDF Name" field is reset</p>
Date Format	Date format
Time Format	Time format



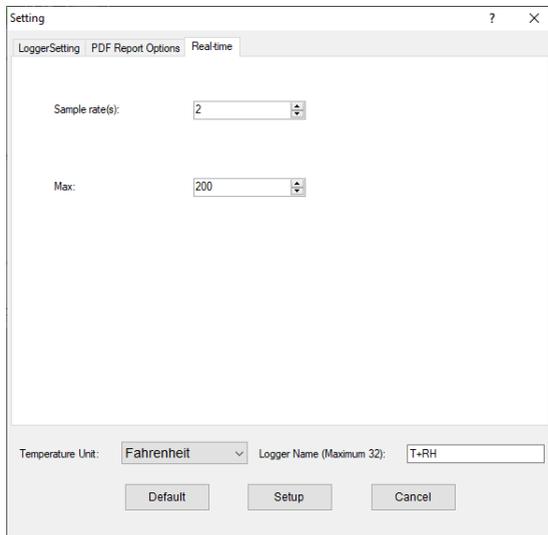
Location (Maximum 32 characters)	The location where the recording is made can be entered here. A maximum of 32 characters can be used.
Report Title (Maximum 40 characters)	The PDF can be given a title here. A maximum of 40 characters can be used.
User Text (Maximum 70 characters)	Additional text can be added here. A maximum of 70 characters can be used.
Temperature Unit	Set the temperature unit here.
Logger name (maximum 32):	The logger can be named here. A maximum of 32 characters can be used.
Default	Use this button to reset all settings.
Setup	This button is used to apply all settings made.
Cancel	Use this button to cancel the settings.



4.4 Live data settings

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

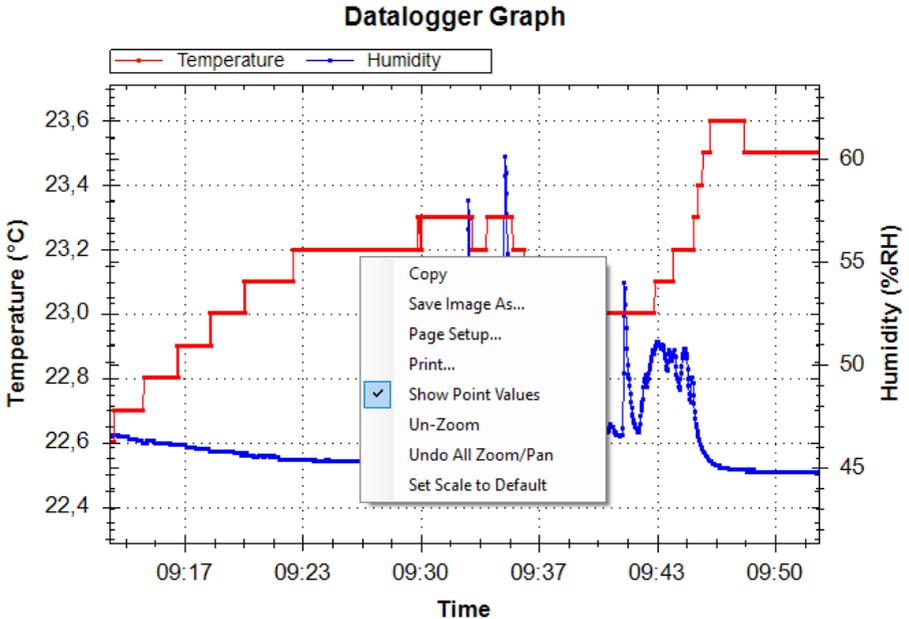
Function	Description
Sample rate (s)	This is where you set the transmission rate.
Max	Here you can enter the maximum number of values to be transferred.
Temperature Unit	Set the temperature unit here.
Logger name (Maximum 32)	The logger can be named here. A maximum of 32 characters can be used.
Default	Use this button to reset all settings.
Setup	This button is used to apply all settings made.
Cancel	Use this button to cancel the settings.



4.5 Diagram of the software

You can move the diagram with the mouse. To zoom into the diagram, hold down the "Ctrl" key. 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 further properties.

When using "Graph with markers", points can be displayed on the graph at the individual measuring points.

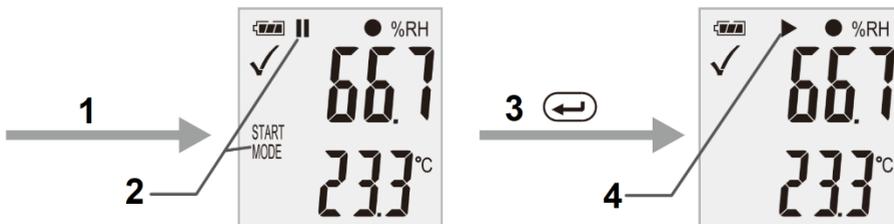


Function	Description
Copy	Graph is copied to the cache
Save Image As...	Graph can be saved in any format
Page Setup...	You can make default settings for printing here
Print...	You can print the graph directly here
Show Point Values	If the "Graph with markers" function is active, the measured values can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

5 Start and end manual recording

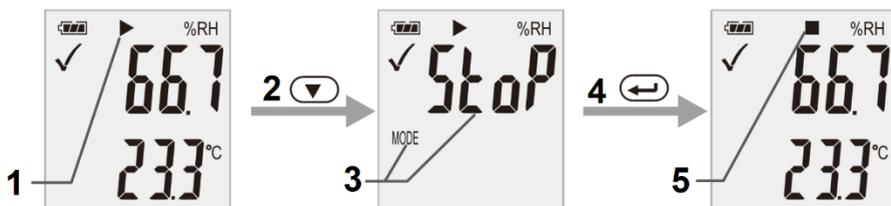
To use manual mode, proceed as follows:

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



To cancel the measurement, proceed as follows:

No.	Description
1	Here you will see that recording has started.
2	Now briefly press the  key once.
3	MODE" and "STOP" now appear on the display.
4	Now press and hold the  key.
5	Normal measurement has been resumed and the display shows  .



Important: The meter must be reconfigured after recording has ended. It is therefore not possible to resume recording.

6 Display remaining recording time

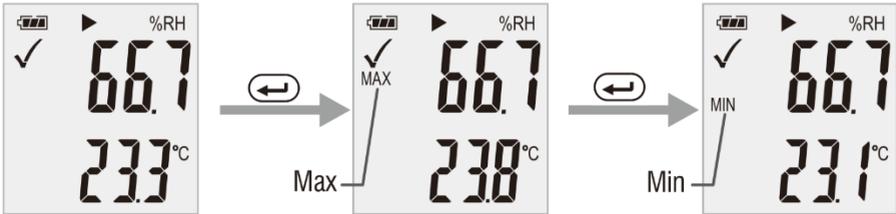
To view the remaining recording time, briefly press the  key once during recording. The remaining time is displayed under "TIME".



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

7 Lowest and highest measured value

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



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

8 Data output via CSV and PDF

To receive the recorded data directly as a CSV or PDF, simply connect the device to the computer. A mass data memory will then be displayed on the computer. From there, you will receive the PDF and CSV file directly.

Important: The files are only generated when the device is connected. Depending on the data volume, it may take approx. 2 minutes until the mass data memory with the PDF file is displayed.

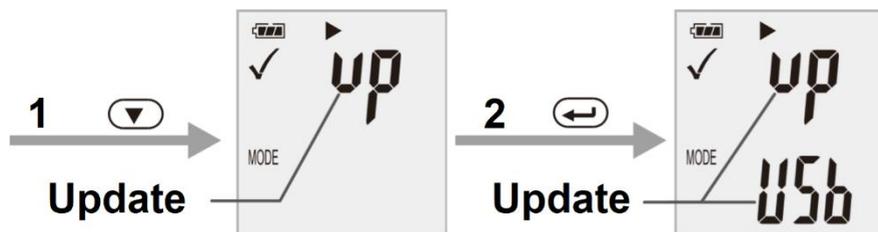
The name stored in the software is displayed under "Logger Name:". The configured alarm limit values are also saved in the PDF.

9 LED status display

LED	Action
Flashes in green	Data recording
Flashes in red	<ul style="list-style-type: none"> - Measured value outside the limit values during data recording - Manual mode started. Meter is waiting to be started by the user - Memory is full - Data recording was cancelled by pressing a key
Double flashing in green	<ul style="list-style-type: none"> - Settings have been successfully applied - Firmware was successfully adopted

10 Perform firmware upgrade

To perform a firmware upgrade, first insert the battery. Now press the  key repeatedly until "up" appears on the display. Now press and hold the  key for approx. 5 seconds until "USB" also appears on the display. Now connect the measuring device to the computer. A drive (mass data memory) will now appear on the computer. Save the new firmware there. The update will start automatically. After the transfer and installation, you can disconnect the meter from the computer. A red LED glows during the update. This process takes approx. 2 minutes. After the update, the measurement will resume normally.



11 Reset firmware

To reset the firmware, press and hold the down arrow key and connect the device to a PC. The reset takes approx. 2 minutes. The meter is then recognised as a mass data memory.

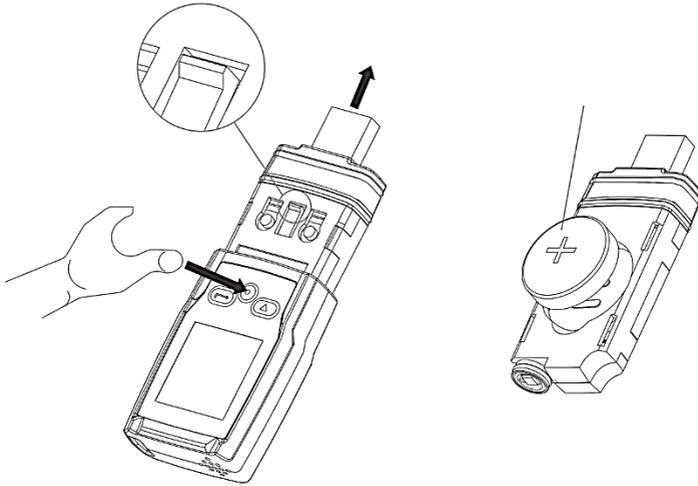
12 Delete data memory

To delete all measurement data, press and hold all keys and connect the device to the PC.

Note: If the meter generally does not respond, the measured values must be deleted or the firmware must be reinstalled.

13 Opening the battery compartment

To open the battery compartment, press down the latch and pull off the housing. A CR2450 button battery can then be inserted on the back of the electronics. Ensure that the polarity of the battery is correct when inserting it. Once the battery has been inserted, place the electronics back in the housing. Make sure that you insert the electronics the right way round.



Note on the battery:

The CR2450 button battery works best at room temperature. The battery life is reduced at very low temperatures. To increase the battery life, the highest possible storage rate should be selected during a measurement and the display should be switched off.

14 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.

15 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.



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