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## Manual

### Material Thickness Meter PCE-CT 28



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## 1 Introduction

Thank you for purchasing a coating thickness meter from PCE Instruments.

The PCE-CT 28 coating thickness meter / gauge for cars is used to measure the thickness of paint and plastic coatings on ferrous or non-ferrous materials without damaging the coating surface. The coating thickness meter / gauge stands out by its high measurement range. The coating thickness meter/gauge can be used to detect damage on vehicles. This device is also essential for quality checks prior to shipping and of incoming goods, as well as during the production process. It is ergonomic with an integrated sensor and shows measurement results quickly and accurately. It is designed for non-magnetic coatings such as plastics, chrome, zinc, copper, etc. as well as insulations such as rubber, plastics, glass and paper on steel, iron, aluminium, brass and stainless steel. Thanks to its wide measurement range, the coating thickness meter is ideal for the naval and metal industries.

## 2 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. There is no warranty of damages or injuries caused by non-observance of the manual.

- The device may only be used in the approved temperature range.
- The case should only be opened by qualified personnel of PCE Instruments.
- The instrument should never be placed with the user interface facing an object (e. g. keyboard side on a table).
- You should not make any technical changes to the device.
- The appliance should only be cleaned with a damp cloth / use only pH-neutral cleaner

This user's handbook is published by PCE Instruments without any guarantee.

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.

### 3 Specification

#### 3.1 Technical specifications

Measuring range	0 ... 1250 $\mu\text{m}$
Resolution	0.1 $\mu\text{m}$ (between 0 and 99.9 $\mu\text{m}$ ) 1 $\mu\text{m}$ (>100 $\mu\text{m}$ )
Accuracy	$\pm 2\%$ or 2.5 $\mu\text{m}$ (higher value is valid)
Minimum surface measurable	6 x 6 mm
Minimum radius of curvature	convex: 5 mm concave: 60 mm
Minimum thickness of material	0.3 mm (for ferrous materials) 0.1 mm (for non-ferrous materials)
Display	4-digits LCD 10 mm character height
Power supply	2 x 1.5 V AAA batteries
Operating temperature	0 ... +50 $^{\circ}\text{C}$
Dimensions	126 x 65 x 27 mm
Weight	120 g (incl. batteries)

#### 3.2 Delivery contents

1 x coating thickness meter PCE-CT 28  
1 x carrying case  
2 x 1.5 V AAA batteries  
1 x set of calibration standards  
1 x instruction manual

## 4 System description

### 4.1 General description



1. Integrated sensor
2. Display
3. Zero / power button
4. Battery compartment

### 4.2 Change the batteries

To change the batteries, please follow these steps:

1. Turn off the device.
2. Remove the cover of the battery compartment on the back of the device.
3. Remove the old batteries and insert 2 new 1.5 V AAA batteries. Observe correct polarity.
4. Close the cover of the battery compartment.

## 5 Operation

### 5.1 Take a measurement

To take a measurement, follow these steps:

1. Turn on the device by pressing the power button. The display should now show "0" and the last used material ("Fe" / "NFe").
2. Place the sensor on the surface to be measured.
3. To start a new measurement, just lift the device from the surface, move it to the next measuring point and place it on the surface again.

*Note: You should calibrate the device on a regular basis to make sure the readings stay accurate. See chapter 5.2 "Calibration" for more details.*

#### 5.1.1 Change the measuring unit

You can change the measuring unit from mil to  $\mu\text{m}$  or from  $\mu\text{m}$  to mil. To do so, press and hold the power button for approx. 6 seconds, until the indication "UNIT" appears on the display. Now release the button. After that, the measuring unit changes automatically.

### 5.1.2 Change the measuring mode

There are two measuring modes available: single measurement and continuous measurement. To change the modes, press and hold the power button for approx. 8 seconds until the indication "SC" appears on the display. After that, release the power button. The measuring mode changes automatically.

You can identify the current measuring mode by looking at the indication on the display. The indication "S" means you are in single measurement mode. The indication "●" means you are in continuous measurement mode.

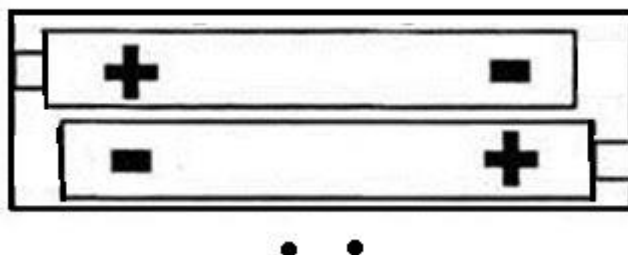
## 5.2 Calibration

Before you take a measurement, you should calibrate the device to make sure the readings are accurate. The calibrations for ferrous and non-ferrous materials should be done separately.

To calibrate the device, follow these steps:

1. Check the display to see which material settings are active. "Fe" means ferrous materials, "NFe" means non-ferrous materials.
2. Take the iron calibration plate if "Fe" is active or the aluminium calibration plate if "NFe" is active.
3. Place the sensor on the calibration plate and press the zero button. Now, the display should show "0".
4. Take a calibration foil which is in your measuring range, place it on the calibration plate and take a measurement.
5. Check if the displayed value matches with the properties of the calibration foil.

If the value does not match with the properties, you have to manually adjust the reading. To do so, remove the cover of the battery compartment and use a paper clip or something similar and the two calibration orifices (see the following picture) to increase/decrease the value.



## 6 Disposal

For the disposal of batteries, 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.

If you have any questions, please contact PCE Instruments.



## 7 Contact

If you have any questions about our range of products or measuring instruments please contact PCE Instruments.

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