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Manual

Material Thickness Meter PCE-TG 50



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1 Introduction

Thank you for purchasing a thickness gauge from PCE Instruments.

The PCE-TG 50 is a thickness gauge which stands out because of its small dimensions, the low weight and its comfortable and easy use. You will be able to use it many years due to its robust casing by simply following this manual. Read the manual carefully and keep it for potential questions occurring in future.

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

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

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

If you have any questions please contact PCE Instruments.

3 Specification

Display	4 Digits
Measuring range	1,2 ... 200 mm
Resolution	0,1 mm
Accuracy	$\pm 0.5\% \pm 0.1\text{mm}$
Sound velocity	500 ... 9000 m/s
Power supply	4 x 1,5 V AAA batteries
Operation conditions	Temperature: 0 ... +50 °C Rel. Humidity: < 80 %
Rate of measurement	2 measurements per second
Dimensions	140 x 71 x 32 mm
Data output	RS232
Measurement units	mm / inch (selectable)
Weight	Approximately 160 g (incl. batteries)
Delivery content	1 x PCE- TG 50, 1x transportation box, 1 x ultrasonic sensor, 1 x manual

4 System description



5 Material selection

Push the power button on the device in order to switch it on. After doing so please push material selection button and the button will either show "cdxx" or "xxxx". "cd" stands for code and "xx" gives information on the material number which ranges from 1 to 11. "xxx" is the adjusted velocity speed of the material that is to be measured.

No.	Code	Material
1	cd01	Steel
2	cd02	Cast iron
3	cd03	Aluminum
4	cd04	Copper
5	cd05	Brass
6	cd06	Zinc
7	cd07	Quartz glass
8	cd08	PE
9	cd09	PVC
10	cd10	Grey cast iron
11	cd11	Ductile iron
12	xxxx	Velocity speed

Push the plus or minus button to choose a material code and apply the chosen code with the material selection button. The display will now show "0". When you choose a code without pushing the material selection button the device will display "0" after a few seconds, too. If you do not accept a certain code the settings will not be saved. When pushing the plus button when "cd11" is displayed you will get the adjustment of the velocity speed. When pushing the minus button when "cd01" is displayed you will also be able to adjust the velocity speed.

It is essential that you choose the material before the first measurement. Otherwise the measured data might be incorrect.

6 Calibration

Put some contact paste on the calibration standard and push the calibration button. The display will show "CAL" now. Now press the sensor on the calibration standard. If the sensor is applied correctly you will see "((•))" on the display. After that the display will show "CAL" and "5 mm". If the displayed value is stable press the calibration button again in order to accept the value and to return to the measuring mode. You now finished the calibration and the measured value is stored.

7 Measurement

Push the power button to switch on the device and choose your needed unit (mm / inch). Make sure that the sensor is correctly connected to the device. If that is the case, the device will show "((•))". Give a bit of contact paste on the upper side and press the sensor on the material you want to measure. The measured data will now appear on the display. It is shown as long as a new measurement is made or until the device is switched off.

7.1 Measurement with adjusted velocity speed

Push the VEL button and the device will show you the last chosen velocity speed. By pushing the plus and minus buttons you will be able to adjust these. By pressing the button once, the instrument will change the value by 10 m/s. If a button is pressed for more than four seconds the value will be changed by 100 m/s.

Put some contact paste on the material you want to measure and press the sensor on it. The measured data will be displayed.

In case you should not know what material is to be measured take a caliper, measure the thickness on one side and note the thickness. Also note the velocity speed that is adjusted. Now take the thickness gauge and change the velocity speed as long as the measured value is the same value that you wrote down. Now write down the velocity speed for that material. If you are willing to perform additional measurements you will have to change the velocity speed before those measurements.

8 Changing the batteries

If the voltage is too low, the thickness gauge will show a battery sign on the display. To change the battery open the battery lid, and replace the old batteries.

9 Contact

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

9.1 PCE Instruments UK

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