

**TEST EQUIPMENT  
FOR MAINTENANCE  
AND SERVICE**



## **PCE Instruments**

Discover our new test instruments and their functions



# TESTING MEASURING INSTRUMENTS

## TEST INSTRUMENTS FROM GERMANY

### For industry, trade and research

The company PCE Instruments based in Meschede-Freienohl in the German Sauerland region was founded in 1999 by three engineers. With more than 140 employees and several branches around the world, the company focuses on the development, production and distribution of high-performance and innovative products from the fields of measuring instruments, control systems, weighing equipment and laboratory technology.

PCE Instruments' wide range of products and services offers high precision and flexibility in any application as well as outstanding quality and functionality. The different fields can be seen in the overview.

## MEASURING INSTRUMENTS

The field of measuring instruments covers a multitude of innovative portable products as well as products for fixed installation that measure electrical, mechanical, biological and chemical parameters.

## CONTROL SYSTEMS

The range of control systems covers the complete demand for sensors, displays, controllers and paperless recorders.

## WEIGHING EQUIPMENT

The field of weighing equipment comprises a wide standard range of high-quality scales and balances that can be calibrated and/or verified for trade.

## LABORATORY TECHNOLOGY

High-end analytical and laboratory devices have been developed for professional applications and in particular for use in laboratories.

## DEVELOPMENT

In order to develop modified test equipment in line with customers' specifications, proficient engineers and technicians cooperate closely with the customer.

## PRODUCTION

PCE Instruments manufactures industrial test instruments that help improving process analysis and optimisation.

## CALIBRATION

Our DIN EN ISO 9001:2015 certified calibration laboratory verifies the measuring accuracy of our products. They calibrate pressure, hardness, force, material thickness, sound volume, conductivity, redox, vibration acceleration and more.



## PCE Instruments

**Headquarters**  
PCE Deutschland GmbH  
Im Langel 26  
59872 Meschede  
Germany

Phone  
**+49 (0) 2903 976 99 8903**

Contact  
**info@pce-instruments.com**

**Subsidiary UK**  
PCE Instruments UK Ltd.  
Suite 1N-B, Trafford House  
Chester Rd, Manchester M32 0RS  
United Kingdom

Phone  
**+44 (0) 161 464902 0**

Contact  
**info@pce-instruments.co.uk**

# THERMAL INSPECTION THERMAL IMAGER

## PCE-TC 30N

Temperature range -20 ... 450°C / -4 ... 842°F / Resolution 160 x 120 pixels

The PCE-TC 30N thermal imaging camera for preventive maintenance is the ideal tool for preventative maintenance. This thermal imaging camera is a must-have for electricians, fitters, or general maintenance personnel for trouble shooting and fault prevention on electrical equipment, electromechanical equipment, production process machinery, heating, ventilation, and air conditioning systems, espe-

cially when working in harsh environments. The operator can use the PCE-TC 30N high-resolution thermal imaging camera for preventive maintenance, to detect evolving faults on machinery and equipment. The preventive maintenance and service is thus made easy.

### ISO cal option

- » IR resolution: 160 x 120 pixels
- » measuring range: -20 ... 450°C / -4 ... 842°F
- » thermal sensitivity: 70 mK
- » memory: 3 GB memory for more than 20,000 pictures
- » 5 different color palettes
- » hot and cold spot location
- » picture in picture function



## APPLICATION



## TECHNICAL SPECIFICATIONS

### Infrared sensor

Resolution	160 x 120 pixels
Wavelength	8 ... 14 µm
Thermal sensitivity	70 mK
Refresh rate	9 Hz
Field of view (FOV)	35 ° x 26 °
Focusing	Firm focus
Smallest distance	0.15 m / 5.9 in
Temperature range	-20 ... 450 °C / -4 ... 842 °F
Accuracy	±2 °C / 3.6 °F, ±2 % From 300 °C / 572 °C, ±5 %

### Calibration of the measurement Auto

Number of spots	1
Number of measuring ranges	1
Emissivity	Range: 0.01 ... 1.00
Color palettes	Rainbow, iron oxide red, cold color, black & white, white & black

### Other specifications

Picture in picture function	Adjustable 25 %, 50 %, 75 %, 100 %
Camera resolution	300,000 pixels
Screen	2.8" TFT
Screen resolution	320 x 240 pixels
Image memory	Built-in SD card with 3 Gb for more than 20,000 images
Image format	JPG
Power supply battery	Built-in 18650 battery, about 2800-mAh
Power supply power supply	Primary: 100 ... 240 V AC 50/60 Hz Secondary: 5 V / 2 ADC
Interface	Micro USB for charging and memory readout on a PC
Operating time	Between 2 ... 3 hours
Menu languages	English, Chinese, Italian, German
Automatic shutdown	After 5, 20 minutes or disabled
Ambient temperature	0 ... 45 °C / 32 ... 113 °F
Storage conditions	-20 ... 60 °C / -4 ... 140 °F
Humidity	≤ 85% RH (non-condensing)
Dimensions	96 x 72 x 226 mm / 3.8 x 4.1 x 8.9 in
Weight	389 g / < 1 lb



Subject to change without notice

# THERMAL INSPECTION THERMAL IMAGING CAMERA

## PCE-TC 32N

### With photo and video function / measuring range -20 ... +550 °C

The thermal imaging camera has a measuring range of -20 ... +550 °C. This means that the thermal imaging camera already covers a wide temperature range of measurement tasks. With an image frequency of 25 Hz, problems can be localised quickly with the thermal imaging camera. The picture-in-picture function allows the real image to be displayed simultaneously with the thermal image. The app enables

a clear display and operation of the thermal imaging camera. When connecting the thermal imaging camera to a PC, there are two different functions that can be selected in advance in the settings. With the "PC Connection" setting, the thermal imaging camera is recognised as a mass data storage device.

### ISO cal option

- » software for evaluating the recordings
- » measuring range -20 ... +550 °C
- » picture-in-picture function
- » eight different thermal image representations
- » video and photo recording
- » optionally with ISO calibration certificate



## APPLICATION



## TECHNICAL SPECIFICATIONS

### Measuring function

Measuring range	-20 ... 550 °C / -4 ... +1022 °F
Resolution	0,1 °C / 0,1 °F
Accuracy	±2 °C / 3,6 °F at an ambient temperature between 10 ... 35 °C and an object temperature of >0 °C

### Sensor characteristics

Field of view (FOV)	50° x 37°
Depth of field of view	from 0.5 m
pixel density (IFOD)	7,6 mrad
Thermal sensitivity	<0,06 °C bei +30 °C / 60 mK

### Frame rate

Image sensor	25 Hz
Spectral range	uncooled microbolometer
Infrared resolution	7,5 ... 14 µm
Measuring points	256 x 192 pixels
	Average point, automatic recognition of the hottest and coldest measuring point
Measurement correction	Reflection of temperature, adjustment of emission value
Image sensor	2 mega pixels
Field of view (FOV)	65°

### Video recording

Storage capacity	8 GB on micro SD card, 3.4 GB internal memory
Recording time	>30 minutes
Format Standard	MPEG-4, 240 x 320 pixels, 30 Hz
Recording mode	Infrared and/or real image recording

### Image recording

Storage format	.jpeg or .hir with measurement data.
Storage capacity	>6000 images

### Interface

Cable connection	USB-C with charging and for data transfer
Wireless	Wi-Fi 802.11

### Further specifications

Power supply	5 V DC, 1 A
Power supply (battery)	3,7 V DC, 2600 mAh, 9,62 W (18650)
Power off Automatic	5, 10, 15, 30 minutes or permanently switched on

Connection thread	1/4" photo tripod
Display	2.8" LC display
Display resolution	240 x 320 pixels
Colour palette	Iron, rainbow, black white, black white (inverted) brown, blue red, hot-cold, feather

Zoom	1 ... 16x digital zoom
Operating conditions	-15 ... +50 °C, 5 °F ... 122 °F
Storage conditions	-40 ... +70 °C, -40 ... +158 °F
Ambient humidity	10 ... 90 % r. F., non-condensing
Dimensions	224 x 77 x 96 mm
Weight	423 g



Subject to change without notice

# THERMAL INSPECTION DIGITAL THERMOMETER

## PCE-TC 33N

### Measuring range up to 300 °C / Thermal sensitivity 70 mK

The infrared thermometer PCE-TC 33N is the ideal tool for repair work and prevention measures. This thermal imager is a must-have for electricians, fire fighters, locksmiths, or general service personnel for trouble shooting and fault prevention on electrical equipment, electromechanical equipment, production process machinery, heating, ventilation, and air conditioning systems, especially when working

in harsh environments. In preventative maintenance, the high-resolution PCE-TC 33N thermal imager is ideal for maintaining or repairing machinery or other equipment. At the heart of the PCE-TC 33N high-resolution thermography camera is an uncooled microbolometer (uncooled focal plane array) with a resolution of 220 x 160 pixels.

### ISO cal option

- » IR resolution: 220 x 160 pixels
- » measuring range: -20 ... 300 °C / -4 ... 572 °F
- » thermal sensitivity: 70 mK
- » memory: 3 GB memory for more than 20,000 pictures
- » 5 different color palettes
- » hot and cold point location
- » picture in Picture function



## APPLICATION



## TECHNICAL SPECIFICATIONS

### Infrared sensor

Resolution	220 x 160 pixels
Wavelength	8 ... 14 µm
Thermal sensitivity	70 mK
Refresh rate	9 Hz
Field of view (FOV)	35 ° x 26 °
Focusing	Firm focus
Smallest distance	0.15 m / 5.9 in
Temperature range	-20 ... 300 °C / -4 ... 572 °F
Accuracy	±2 °C / 3.6 °F, ±2 %
Calibration of the measurement	Auto
Number of spots	1
Number of measuring ranges	1
Emissivity	Range: 0.01 ... 1.00
Color palettes	Rainbow, iron oxide red, cold color, black & white, white & black

### Other specifications

Picture in picture function	Adjustable 25 %, 50 %, 75 %, 100 %
Camera resolution	300,000 pixels
Screen	3.2" TFT
Screen resolution	320 x 240 pixels
Image memory	Built-in SD card with 3 Gb for more than 20,000 images
Image format	JPG
Power supply battery	Built-in 18650 battery, about 2800-mAh
Power supply power supply	Primary: 100 ... 240 V AC 50/60 Hz Secondary: 5 V / 2 ADC
Interface	Micro USB for charging and memory readout on a PC
Operating time	Between 2 ... 3 hours
Menu languages	English, Chinese, Italian, German
Automatic shutdown	After 5, 20 minutes or disabled
Ambient temperature	0 ... 45 °C / 32 ... 113 °F
Storage conditions	-20 ... 60 °C / -4 ... 140 °F
Humidity	≤85 % RH (non-condensing)
Dimensions	90 x 103 x 223 mm / 3.5 x 4.1 x 8.8 in
Weight	424 g / < 1 lb



Subject to change without notice

# THERMAL INSPECTION THERMAL IMAGER

## PCE-TC 34N

### With 3 GB memory / Measuring range -20 ... 300 °C

The thermal imager has a resolution of 320 x 240 pixels. With a measuring range of -20 ... 300 °C, the thermometer already covers a large temperature range. In order to carry out measurements on different surfaces, the emission value of the thermometer can be set between 0.01 ... 1.00. During the measurement, the coldest and the hottest temperature of the surface at which the thermometer

is pointed are displayed in addition to the spot temperature. For a better analysis of the temperature, the thermal image displayed on the thermal imager can be displayed in five different color palettes: rainbow, iron, cold colors, white-black (+inverted).

### ISO cal option

- » measuring range -20 ... 300 °C / -4 ... 572 °F
- » storage for about 20,000 images
- » picture in picture function
- » field of view 35° x 26°
- » USB-C interface for transmission
- » different color palettes
- » removable 18650 battery
- » automatic shutdown



## APPLICATION



## TECHNICAL SPECIFICATIONS

Measuring range	<b>-20 ... 300 °C / -4 ... 572 °F</b>
Resolution	<b>0.1 °C / 0.1 °F</b>
Accuracy	±2 % of measured value or ±2 °C / ±3.6 °F the larger value applies
Infrared and real image resolution	<b>320 x 240 pixels</b>
Picture in picture	5 steps
Field of View (FOV)	35° x 26°
Depth of field	>0.15 m / 0.49 ft
Emission range	0.01 ... 1.00
Refresh rate	9 Hz
Wavelength	8 ... 14 µm
Focus	fixed
Color palette	rainbow, iron, cold colors white-black (+inverted)
Display	3.5" TFT color display
Memory	3 GB for ca. 20,000 images
Image format	JPG
Interface	USB-C for charging and data transfer
Auto power off	off / 5 minutes / 20 minutes
Power supply (battery)	3.7 V, 2600 mAh, type 18650
Power supply (mains power adapter)	primary: 100 ... 240 VAC, 50 / 60 Hz secondary: 5 VDC, 2 A
Operating time with battery	min. 2 hours
Menu languages	English, German, Chinese, Italian
Storage conditions	-20 ... 60 °C / -4 ... 140 °F, <85 % RH non-condensing
Ambient conditions	0 ... 45 °C / 32 ... 113 °F, <85 % RH non-condensing
Tripod mount	1/4"
Dimensions	221 x 96 x 88 mm / 8.7 x 3.7 x 3.4"
Weight	372 g / 13 oz



Subject to change without notice

# THICKNESS MEASUREMENT COATING THICKNESS GAUGE

## PCE-CT 80 SERIES

### Paint layer thickness gauge for Fe and NFe

The paint layer thickness gauge PCE-CT 80 is a measuring device for the non-destructive measurement of coatings (lacquers, paints, plastics ...) on steel / iron and non-ferrous metals. Thanks to the externally connected sensor on the PCE-CT 80 paint coating thickness gauge, even difficult-to-reach measuring locations can be easily reached. The menu navigation of the paint thickness gauge allows easy adjust-

ment and setting to new parameters and makes this handy paint coating thickness gauge an indispensable tool for control measurements in production, workshop and quality assurance.

### ISO cal option

- » for many materials such as iron, steel, aluminium, copper, brass and stainless steel
- » measurements cannot be influenced by vibrations
- » practical V-groove on the measuring heads
- » internal data memory
- » warning for measurements exceeding the measuring range
- » wear-resistant, spring-mounted measuring head for precise measurement results
- » all PCE-CT 80 HP models feature a particularly high accuracy



## APPLICATION



## TECHNICAL SPECIFICATIONS

<b>Measurement range</b>	Fe: 0 ... 5000 µm / 0 ... 196.9 mils (depending on probe) NFe: 0 ... 3000 µm / 0 ... 118.1 mils (depending on probe)
<b>Accuracy</b>	
PCE-CT 80 Serie	±(2 % v. Mw. + 1 µm)
PCE-CT 80 HP Serie	±(1 % v. Mw. + 1 µm)
<b>Resolution</b>	0.1 µm (<100 µm) 1 µm (>100 µm)
<b>Measurable materials</b>	Non-magnetic layers on steel, iron, ... Non-electrically conductive layers on aluminium, copper, ...
<b>Min. radius of curvature convex</b>	5 mm
<b>Min. radius of curvature concave</b>	25 mm
<b>Min. measuring surface</b>	Ø 17 mm
<b>Min. layer thickness</b>	0.2 mm (on magnetic materials) 0.05 mm (on non-magnetic materials)
<b>Probe mode</b>	Autom. mode with material detection (Fe + NFe) Magnetic mode (Fe) Eddy current mode (NFe)
<b>Measurement modes</b>	Single measurement Continuous measurement
<b>Calibration</b>	Multipoint calibration (1 ... 4 points for each group) zero point calibration
<b>Units</b>	µm, mm, mils
<b>Data transfer</b>	USB 2.0
<b>Memory</b>	One volatile measuring group (DIR mode) Four measuring groups with autom. storage and max. 2000 readings (GEN mode)
<b>Statistical functions</b>	Number of measured values, mean, minimum, maximum, standard deviation
<b>Alarm</b>	Display when the adjustable upper and lower alarm limits are exceeded
<b>Operating time</b>	Auto Power Off mode (3 min)
<b>Power supply</b>	3 x 1.5 V AAA batteries
<b>Display</b>	128 x 128 px LCD
<b>Displayed information</b>	Battery status / flaw detection
<b>Operating conditions</b>	0 ... 50 °C / 32 ... 122 °F / 20 ... 90 % RH not condensing
<b>Storage conditions</b>	-10 ... 60 °C / 14 ... 140 °F / 20 ... 90 % RH not condensing
<b>Dimensions</b>	143 x 71 x 37 mm / 5.6 x 2.8 x 1.5 in (L x W x H)
<b>Weight</b>	with sensor and batteries: approx. 271 g / <1 lb

### Models:

PCE-CT 80-F5N3	Measurement range: Fe: 0 ... 5000 µm, NFe: 0 ... 3000 µm
PCE-CT 80-FN0D5	Measurement range: Fe: 0 ... 500 µm, NFe: 0 ... 500 µm
PCE-CT 80-FN1D5	Measurement range: Fe: 0 ... 1500 µm, NFe: 0 ... 1500 µm
PCE-CT 80-FN2	Measurement range: Fe: 0 ... 2000 µm, NFe: 0 ... 2000 µm
PCE-CT 80-FN2D5	Measurement range: Fe: 0 ... 2500 µm, NFe: 0 ... 2500 µm
PCE-CT 80-FN3	Measurement range: Fe: 0 ... 3000 µm, NFe: 0 ... 3000 µm

PCE-CT 80HP-F5N3	Measurement range: Fe: 0 ... 5000 µm, NFe: 0 ... 3000 µm
PCE-CT 80HP-FN0D5	Measurement range: Fe: 0 ... 500 µm, NFe: 0 ... 500 µm
PCE-CT 80HP-FN1D5	Measurement range: Fe: 0 ... 1500 µm, NFe: 0 ... 1500 µm
PCE-CT 80HP-FN2	Measurement range: Fe: 0 ... 2000 µm, NFe: 0 ... 2000 µm
PCE-CT 80HP-FN2D5	Measurement range: Fe: 0 ... 2500 µm, NFe: 0 ... 2500 µm
PCE-CT 80HP-FN3	Measurement range: Fe: 0 ... 3000 µm, NFe: 0 ... 3000 µm



Subject to change without notice

# THICKNESS MEASUREMENT COATING THICKNESS GAUGE

## PCE-CT 26FN

### For iron and non-ferrous substrates

The coating thickness gauge PCE-CT 26FN can measure non-destructive coatings (paints, plastics ...) on steel / iron and non-ferrous metals. The coating thickness gauge is ideally suited, for example, to detect accidental damage to the vehicle immediately. But also in the industrial sector, the PCE-CT 26FN coating thickness gauge is used for incoming and outgoing inspection in order to be able to offer consistently

consistent product qualities. The ergonomically shaped coating thickness gauge with integrated probe and very simple operation allows you to quickly determine measurement results with high accuracy.

### ISO cal option

- » immediately ready to measure
- » wear-resistant sensor
- » V-groove for measurement on pipes
- » one-handed operation
- » ISO calibration optional
- » incl. transport case



## APPLICATION



## TECHNICAL SPECIFICATIONS

Measuring range	0 ... 1250 $\mu\text{m}$ (0 ... 49.2 mils)
Resolution	1 $\mu\text{m}$ (0.039 mils)
Accuracy	$\pm(3\% + 2 \mu\text{m})$ or $\pm(3\% + 0.079 \text{ mils})$
Smallest measuring surface	5 x 5 mm / 0.2 in x 0.2 in
Smallest radius of curvature	Convex: 3 mm (0.1 in) / concave: 50 mm (2 in)
Smallest thickness of the base material	Fe: at least 0.5 mm / 0.02 in NFe: at least 0.3 mm / 0.01 in
Display	OLED display
Ambient temperature	0 ... 50 °C / 32 ... 120 °F
Power supply	2 x AAA battery 1.5 V
Dimension	100 x 52 x 29 mm / 4 x 2 x 1.1 in
Weight	About 68 g / <1 lb (without batteries)



Subject to change without notice

# ROUGHNESS MEASUREMENT

## ROUGHNESS TESTER

### PCE-RT 1200

#### For fast detection of Ra, Rz, Rq and Rt

The Profilometer - Roughness Tester PCE-RT 1200 is used to determine surface roughness. The profilometer is a handheld device for mobile use. Due to the power supply via a powerful battery, it can be used directly on site. The profilometer is used in the laboratory, in production and everywhere where the roughness of surfaces is to be determined. The measured values are displayed on the clear

and user-friendly OLED display directly on the measuring device. In addition, the profilometer has a storage option for up to 20 measured values, which can later be read out via the micro USB interface. For this purpose, the measurement software can be used, and a USB cable is included in the delivery.

#### ISO cal option

- » very compact
- » easy to handle
- » a large OLED display
- » 4 measurable parameters of roughness
- » the probe of the roughness meter consists of a high-quality diamond
- » the display of the roughness meter outputs the measured values in tabular form
- » the measured values can also be output by the roughness meter as a graph
- » a micro-USB interface for online data transmission to a PC



### APPLICATION



### TECHNICAL SPECIFICATIONS

Measurement parameters	Ra, Rz, Rq, Rt
Measuring ranges	Ra, Rq: 0.005 ... 16.00 µm / 0.197 ... 629.921 µin Rz, Rt: 0.002 ... 200.0 µm / 0.079 ... 7874.016 µin
Radius probe tip	5 µm / 196.850 µin
Material probe tip	Diamond, 90° angled
Max. recommended force for static measurement	4 mN (0.4 gf)
Radius longitudinal guide bar	45 mm / 1.77"
Standards	ANSI B46.1 / ASME B46.1 (DIN EN ISO 4287)
Maximum driving distance	15 mm / 0.59"
Measuring principle	Inductive
Cut-off wavelength	0.25 mm / 0.8 mm / 2.5 mm / 0.009" / 0.03" / 0.098"
Testing speed	0.135 mm/s at cut-off wavelength: 0.25 mm 0.5 mm/s at cut-off wavelength: 0.8 mm 1 mm/s at cut-off wavelength: 2.5 mm Reversing speed: 1 mm/s
Measuring accuracy	< ± 10%
Repeatability	< 6%
Display	OLED
Units	µm / µinch (switchable)
Interface	Micro-USB
Power supply	Rechargeable Li-ion battery
Dimensions L x W x H	150 x 60 x 43 mm / 5.9 x 2.36 x 1.69 in
Weight	370 g / < 1 lb

#### Optional Accessories

PCE-RT2000	Teststand
PCE-RT2000-RP200	
PCE-RT2000-RP131	Groove Sensor
PCE-RT2000-RP110	Curvature Sensor

#### Further Models:

PCE-RT 1200BT	with Bluetooth
PCE-RT 2000	Measurement parameters Ra, Rq, Rsm, Rsk, Rz, Rt, Rp, Rv, Rc
	Measuring ranges Ra, Rq, Rc: 0,005 µm ... 16 µm
PCE-RT 2000BT	with Bluetooth
PCE-RT 2200	21 Mess-Parameter: Ra, Rq, Rsm, Rsk, Rz, Rt, Rp, Rv, Rc, Rmax, Ry(JIS), Rz(JIS), RP(ASME), Rpm(ASME),



Subject to change without notice

# ROUGHNESS MEASUREMENT ROUGHNESS TESTER



## PCE-RT 2300

### Rapid detection of roughness Ra, Rz, Rq, Rt

The roughness tester PCE-RT 2300 is used to measure the roughness of surfaces. The PCE-RT 2300 roughness meter has a removable motorized sensor. This property makes it possible to determine the surface roughness with the roughness tester even on small or narrow profiles. The measured values are displayed on a large LCD display of the roughness meter. This display is also used by the roughness

tester. The roughness tester is powered by an internal battery with voltage. This battery can be powered by a conventional USB power adapter. The detachable motorized sensor is connected by a cable to the main unit of the roughness gauge. The diamond stylus is installed in the motorized sensor.

### ISO cal option

- » touchscreen interface and PC connection
- » measurement of all roughness profile values
- » battery and mains operation
- » different filters adjustable
- » diamond test head
- » removable motorized sensor
- » large measuring range: Rz: 0.02  $\mu\text{m}$  ... 320  $\mu\text{m}$ ; Ra, Rq: 0.005  $\mu\text{m}$  ... 32  $\mu\text{m}$



## APPLICATION



## TECHNICAL SPECIFICATIONS

Measuring range	Rz: 0.02 $\mu\text{m}$ ... 320 $\mu\text{m}$ ; Ra, Rq: 0.005 $\mu\text{m}$ ... 32 $\mu\text{m}$ , Rz = 320 $\mu\text{m}$ (-160 $\mu\text{m}$ -160 $\mu\text{m}$ ) / 12600 $\mu\text{in}$ (-6300 $\mu\text{in}$ -+6300 $\mu\text{in}$ )
Accuracy	$\pm 10\%$
Repeatability	$\pm 6\%$
Resolution	$\pm 20 \mu\text{m}$ : 0.01 $\mu\text{m}$ $\pm 40 \mu\text{m}$ : 0.02 $\mu\text{m}$ $\pm 80 \mu\text{m}$ : 0.04 $\mu\text{m}$
Measurement Parameters	Ra, Rz, Rq, Rt, Rc, Rp, Rv, R3z, R3y, Rz (JIS), Ry, Rs, Rsk, Rku, Rmax, Rsm, Rmr, R <sub>Pc</sub> , Rk, Rpk, Rvk, Mr1, Mr2
Measurement Standards	ISO4287, ANSI b46.1, DIN4768, JISb601 Primary profile (roughness + waviaviness) Roughness profile (roughness) Loading curves
Graphic	RC, PC-RC, Gaus, DP
Measuring filter	0.25 mm, 0.8 mm, 2.5 mm
Measuring section (Cut Off)	1 ... 5* measuring path Max. 17.5 mm (including pre- and post-run) Diamond probe tip 90° cone angle
Measuring length	5 $\mu\text{m}$
Sensor	<4 mN
Contact force sensor	0.25 mm: 0.135 mm / s 0.8 mm: 0.5 mm / s 2.5 mm: 1 mm / s
Feed rate	3.5" LCD screen
Display	3.7V Li-Ion Battery
Power supply	5V / 800-mA USB Power Adapter
Operating time	50 h
Operating conditions	-20 ... 40°C / -4 ... 104°F, max. 90% rh
Storage conditions	-40 ... 60°C / -40 ... 140°F, max. 90% rh
Dimensions	Main unit: 158 x 55 x 52 mm / 6.2 x 2.2 x 2 in Motor unit: 115 x 23 x 27 mm / 4.5 x 1 x 1.1 in
Weight	About 500 g / 1.1 lbs
<b>Optional accessoires</b>	
PCE-ER-55	Extending
PCE-RP-100	Spare Sensor
PCE-RP-110	Sensor for curves Surfaces
PCE-RP-120	for Holes
PCE-RP-131	Sensor for Grooves



Subject to change without notice

## GLOSS MEASUREMENT GLOSS METER

### PCE-GM 60PLUS

#### Measurement up to 200 gloss points / Measuring range 0 ... 200 GU

The gloss tester PCE-GM 60Plus is a measuring device for the determination of gloss on different materials. During the measurement, the gloss tester picks up the reflection of emitted light. The light is emitted directly by the gloss tester. Part of the light is then reflected off the surface to be measured and part of the light is absorbed by the surface. Thanks to the reflected light, the gloss tester then calcu-

lates the degree of gloss and displays it clearly on the TFT display. The gloss tester is used in areas where it is essential that individual products always have the same appearance and texture and properties. In this way, complaints and associated costs are avoided.

#### ISO cal option

- » 60° measuring geometry
- » 3.5" TFT touchscreen display
- » built-in rechargeable battery
- » quick 0.5 second measuring time
- » 0 ... 200 GU gloss measurement range
- » measuring accuracy  $\pm 1.5$  GU
- » self-calibration possible using included calibration plate
- » chromaticity fulfills CIE 1931 2° under a CIE illuminant C
- » light source: D65
- » wave length: 400-700 nm



### APPLICATION



### TECHNICAL SPECIFICATIONS

Measuring geometry	60°
Display	3.5" TFT touchscreen display
Standards	ISO 2813 GB/T 9754 ASTM D523 ASTM D2457
Measuring aperture	10 x 25 mm / 0.4 x 1.0 in
Measuring range	0 ... 200 GU
Readability	1 GU
Repeatability	$\pm 1$ GU
Reproducibility	$\pm 1$ GU
Chromaticity	Fulfills CIE 1931 2° under a CIE illuminant C
Measuring accuracy	$\pm 1.5 / \pm 1.5\%$
Measuring time	0.5 second
Dimensions	160 x 75 x 90 mm / 6.3 x 3 x 3.5 in
Weight	350 g / 0.78 lb
Menu languages	English, Chinese
Power supply	3200-mAh Li-ion rechargeable battery
Data interface	USB / RS-232
Operating temperature	0 ... 40°C / 32 ... 104°F
Storage temperature	-20 ... 50°C / -4 ... 122°F
Relative humidity	< 85% RH (non-condensing)



Subject to change without notice

# GLOSS MEASUREMENT GLOSS METER

## PCE-PGM 60

### Measuring geometry: 60° / memory with storage for up to 1000 measurement values

PCE-PGM 60 is a portable handheld gloss meter or gloss tester used to evaluate the shine on different material surfaces. The gloss tester includes a 3.5" TFT touchscreen display, internal memory and PC-compatible software for detailed analysis. Measurements of gloss units (GU) are commonly taken during the manufacturing of products held to high quality standards. Therefore, it can be said that the main

areas of usage of a gloss meter are incoming goods and quality control where the gloss meter is used as a test device to determine whether the condition of a product is flawless. The included PC-compatible software for the gloss meter supports the user in analyzing the measured data and to represent the data graphically.

### ISO cal option

- » measuring geometry: 60°
- » 3.5" TFT touchscreen display
- » internal memory with storage for up to 1000 measurement values
- » calibration plate included in the delivery contents
- » quick measuring time
- » includes PC-compatible software for detailed analysis



## APPLICATION



## TECHNICAL SPECIFICATIONS

Measurement geometry	60°
Display	3.5" TFT touchscreen display
Standards	ISO 2813 GB/T 9754 ASTM D 523 ASTM D 2457
Measuring surface	9x15 mm / .4 x .6 in
Measuring range	0 ... 300 GU
Readability	0.1 GU
Repeatability	Meas. range 0 ... 10 GU: ±0.1 GU Meas. range 10 ... 100 GU: ±0.2 GU Meas. range 100 ... 300 GU: ±0.2 GU (%)
Reproducibility	Meas. range 0 ... 10 GU: ±0.2 GU Meas. range 10 ... 100 GU: ±0.5 GU Meas. range 100 ... 300 GU: ±0.5 GU (%)
Chromaticity	Fulfils CIE 1931(2°) under a CIE C - light source
Measurement accuracy	±1.5 / ±1.5%
Measuring time	0.5 second
Dimensions	160 x 75 x 90 mm / 6.3 x 3 x 3.5 in
Weight	350 g / < 1 lb
Menu language	English, Chinese
Power supply	3200-mAh Li-ion rechargeable battery
Interface	USB / RS-232
Measuring storage	Baseline measurement: 1000
Software	Included
Operating temperature	0 ... 40°C / 32 ... 104°F
Storage temperature	-20 ... 50°C / -4 ... 122°F
Relative humidity	<85% rel. humidity (non-condensing)

### Further models

PCE-PGM 100	Measurement geometry:	20° / 60° / 85°
	Measuring surface:	20° : 10 x 10 mm / .4 x .4 in 60° : 9 x 15 mm / .4 x .6 in 85° : 5 x 36 mm / .2 x 1.4 in
	Measuring range:	20° : 0 ... 1000 GU 60° : 0 ... 1000 GU 85° : 0 ... 160 GU
	Measuring time:	0.1 second



Subject to change without notice

# GLOSS MEASUREMENT

## GLOSS METER

### PCE-SGM 60

#### Measurement up to 1000 gloss points / Measuring range 0 ... 1000 GU

This gloss meter with a small measuring area is used to quantify surfaces that must be measured. The gloss-measuring device operates on the reflection principle by sending light from a known light source onto the surface to be tested and calculates the gloss level of the surface according to the reflection of light particles. The gloss level in gloss units (GU) is then output to the display of the gloss

meter. The measurement geometry of the Gloss Meter PCE-SGM 60 is 60 degrees and is not adjustable. Evaluation software is included with the gloss meter which allows you to read out the measurement data to a computer and analyze and store your results.

#### ISO cal option

- » measurement geometry: 60°
- » measurement to 1000 gloss units
- » internal memory up to 5000 readings
- » small measurement area
- » fast measurement time
- » includes evaluation software
- » light source: D65
- » wave length: 400-700 nm



### APPLICATION



### TECHNICAL SPECIFICATIONS

Measurement Geometry	60°
Display	3.5 in TFT touch display
Standards	ISO 2813 GB/T 9754 ASTM D 523 ASTM D 2457
Measuring Area	1.5mm x 2 mm / 0.06in x 0.07 in
Measuring Range	0 ... 1000 GU
Readability	0.1 GU
Repeatability	Measuring range 0 ... 10 GU: ±0.1 GU Measuring range 10 ... 100 GU: ±0.2 GU Measuring range 100 ... 1000 GU: ±0.2 GU (%)
Reproducibility	Measuring range 0 ... 10 GU: ±0.2 GU Measuring range 10 ... 100 GU: ±0.5 GU Measuring range 100 ... 1000 GU: ±0.5 GU (%)
Chromaticity	Corresponds to CIE 1931 (2 °) under a CIE C - light source
Measurement Accuracy	±1.5 / ±1.5%
Measuring Time	0.5 seconds
Dimensions	160 x 75 x 90 mm / 6.3 x 3 x 3.5 in
Weight	350 g / < 1 lb
Menu Language	English, Chinese
Power Supply	3200-mAh Li-ion battery
Interface	USB / RS-232
Measurement Memory	Basic measurement: 1000 Statistical mode: 5000 Continuous measurement: 5000 included
Software	
Ambient Temperature	0 ... 40° C / 32 ... 104°F
Storage Temperature	-20 ... 50° C / -4 ... 122°F
Relative Humidity	< 85% rel. Humidity (non-condensing)



Subject to change without notice

# GLOSS MEASUREMENT

## GLOSS METER

### GLOSS METER PCE-GM 75 / PCE-GM 80

#### Data memory for 1,245 readings / Measuring range up to 1000 GU

The gloss meter has a measuring surface of  $\varnothing$  4.5 mm. Thanks to this small measuring surface, the gloss meter enables measurements on particularly small surfaces. With a maximum inaccuracy of 1%, the gloss meter is a high-precision measuring instrument for fast and easy measurements on surfaces. The one-button operation allows quick and easy operation of the surface inspection device. Another

special feature of the gloss meter is the data storage function. This gloss meter automatically stores up to 1,245 measurements. To read the data, the gloss meter must be connected to a computer. No additional drivers or software are required to read the data from the gloss meter.

#### ISO cal option

- » data memory for later evaluations
- » for measurements on small surfaces
- » measuring range up to 1000 GU
- » precise measurements thanks to high accuracy
- » micro USB interface for PC connection
- » PCE-GM 80 with removable probe



### APPLICATION



### TECHNICAL SPECIFICATIONS

Measuring range	0 ... 99.9 GU 100 ... 1000 GU
Resolution	0.1 GU 1 GU
Repeatability	< 0.45 GU 0.5%
Accuracy	< 1 GU 1%
Measurement geometry	60°
Measuring surface	$\varnothing$ 4.5 mm
Data storage	1,245 measured values
Interface	Micro USB
Power supply	2 x 1.5V AAA batteries
Environmental conditions	0 ... 40°C / 32 ... 313°F, < 85% rh non-condensing
Dimensions	115 x 65 x 25 mm / 4.5 x 2.6 x 1 in
Weight	100 g / < 1 lb
Standardize	GB9754-88, GB9966.5, ISO2813, JIG696-2002

PCE-GM 75



PCE-GM 80



Subject to change without notice

# COLOUR MEASUREMENT COLORIMETER

## PCE-XXM 30

### Fast and precise color measurements

The colorimeter is designed to carry out fast and precise color measurements of surfaces. The color ranges CIE-LAB, CIE-LCh, HunterLab, CIE-Luv, XYZ, RGB of the color can be determined with the colorimeter. An LED with a wavelength of 400 ... 700 nm is built into the colorimeter as a light source. The measuring opening of the colorimeter is  $\varnothing 8$  mm. Despite its compact design, the colorimeter has a repeatability of  $\Delta E^*$  from  $\leq 0.1$ . In addition to normal color measurement, the colorimeter can also determine color differences. For this purpose, a reference measurement is first carried out with the colorimeter on any reference. Then measurements can be carried out on test objects with the colorimeter.

bility of  $\Delta E^*$  from  $\leq 0.1$ . In addition to normal color measurement, the colorimeter can also determine color differences. For this purpose, a reference measurement is first carried out with the colorimeter on any reference. Then measurements can be carried out on test objects with the colorimeter.

### ISO cal option

- » USB-C interface for charging
- » battery life for approx. 10,000 measurements
- » pass / Fail function
- » measuring opening of  $\varnothing 8$  mm / 0.31"
- » bluetooth interface with free app
- » various adjustable light sources



## APPLICATION



## TECHNICAL SPECIFICATIONS

Measurement geometry and angle	D/8-SCI
Calibration	black and white
Color ranges	CIE-LAB, CIE-LCh, HunterLab, CIE-Luv, XYZ, Yxy RGB
Formulas for color inequality	$\Delta E^*_{ab}$ , $\Delta E^*_{cmc}$ , $\Delta E^*_{94}$ , $\Delta E^*_{00}$
WI	ASTM E313-00, ASTM E313-73, CIE/ISO, AATCC, Hunter, Taube Berger Stensby
YI	ASTM D1925, ASTM E313-00, ASTM E313-73
Blackness	My, dM
Color shade	ASTM E313-00
Color density	CMYK (A, T, E, M), Metamerism Index Milm, Munsell, opacity, dye strength, color strength
Type of light source	LED (full and visible wavelength range)
Light source	A, B, C D50, D55, D65, D75, F1 ... F12, CWF, U30, DLF, NBF, TL83, TL 84, U35
Measuring angle	2°, 10°
Repeatability	$\Delta E^*$ from $\leq 0.1$
Difference between two different color meters (IIA)	$\Delta E^*_{00} < 0.4$
Accuracy refers to the average measurement of 12 BCRA Series II references	
Measurement opening	$\varnothing 8$ mm / 0.31"
Wavelength interval	10 mm / 0.39"
Wavelength	400 ... 700 nm
Memory	10 measured values, redundant
Measurement time	<1 s
Display	LC display, 135 x 240 p, 1.14"
Interfaces	Bluetooth, USB-C
Power supply	5 V DC, 1 A
Battery life	ca. 10,000 measurements
Ambient conditions	5 ... 45 °C / 41 ... 113 °F, <90 RH, non-condensing
Dimensions	$\varnothing 35$ x 130 mm / $\varnothing 1.37$ x 5.11"
Weight	87 g / 3 oz



Subject to change without notice

# TEMPERATURE MEASUREMENT THERMOMETER

## PCE-894

### Temperature range of -50°C to 1850°C

The PCE-894 dual-laser infrared thermometer has a temperature range of -50°C to 1850°C / -58 ... 3362°F. The laser infrared thermometer has an optical resolution of 50:1 and enables a precise, non-contact temperature measurement of very small areas. This allows you to measure the pipe temperature with the double infrared thermometer, eg in heating, ventilation or air conditioning, without the

ambient temperatures of the adjacent surfaces influencing the exact measured values of the pipe. The double laser infrared thermometer is also used widely in the automotive industry. On engine test benches, the surface temperatures of the engines can be determined quickly and reliably during a test run.



### ISO cal option

- » temperature range from -50 ... 1850°C / -58 ... 3362°F
- » adjustable emissivity
- » short response time of 150 ms
- » big display
- » double laser for better sighting
- » max-Min function
- » backlight
- » bluetooth interface

## APPLICATION



## TECHNICAL SPECIFICATIONS

### Measurement function infrared

Measuring range	-50 ... 1850°C / -58 ... 3362°F
Resolution	< 1000°C: 0.1°C / 1832°F: 0.18°F > 1000°C: 1°C / 1832°F: 1.8°F
Accuracy	< 20°C: ± 3°C / 68°F: ± 5.4°F < 500°C / 932°F: ± 1% of rdg. < 1000°C / 1832°F: ± 1.5% of rdg. < 1850°C / 3362°F: ± 2% of rdg.

### Measuring function thermocouple

Measuring range	-50 ... 1370°C / -58 ... 2498°F
Resolution	< 1000°C: 0.1°C / 1832°F: 0.18°F > 1000°C: 1°C / 1832°F: 1.8°F
Accuracy	< 0°C: ± 2°C / 32°F ± 3.6°F < 1370°C: ± 0.5% of rdg. +1.5°C / 2498°F: ± 0.5% of rdg. + 2.7°F

Optical resolution	50:1
Emissivity	0.1 ... 1
Response time	150 ms
Spectral	8 ... 14 μm
Operating conditions	0 ... 50°C / 32 ... 122°F
Storage conditions	-10 ... 60°C / 14 ... 140°F
Power supply	9V block battery
Display	LC display
Dimensions	240 mm x 130 mm x 65 mm / 9.4 x 5.1 x 2.6
Weight	425 g / < 1 lb

### Optional accessoires

PCE-MS 25	Measuring Point Sticker
-----------	-------------------------



Subject to change without notice

# TEMPERATURE MEASUREMENT DIGITAL THERMOMETER

## PCE-895

### Cross laser thermometer for non-contact measurement tot 1600 °C

The Dual Laser Digital Thermometer PCE-895 is used for fast surface temperature measurement. The two laser points of the dual laser thermometer PCE-895 mark the exact measuring point and thus offer excellent assistance with the temperature measurement. Due to the cross laser function, the two laser spots indicate exactly how large the actual IR spot is. The emissivity of the dual laser thermometer

PCE-895 is adjustable in the range of 0.10 ... 1.0. Thus, the dual laser thermometer PCE-895 is suitable for almost all surfaces. The temperature measuring range extends from -35 ... 1600 °C / -31 ... 2912 °F. In addition to the IR function, a type K thermocouple can also be connected to the dual laser thermometer.

### ISO cal option

- » non-contact temperature measurement
- » 60 :1 optics
- » temperature measurement up to 1600 °C / 2912 °F
- » compact cross laser thermometer
- » double laser shows the spot diameter
- » adjustable emissivity
- » adjustable emissivity
- » alarm function



## APPLICATION



## TECHNICAL SPECIFICATIONS

### Infrared

Measuring range -35 ... 1600 °C / -31 ... 2912 °F  
 Measuring accuracy (at 23 ... 25 °C ambient -35 ... 0 °C / 0 °F:  $\pm 2 \text{ °C} / 3.6 \text{ °F} + 0.05 \cdot T_{obj}$   
 0 ... 1600 °C:  $\pm 2 \% \text{ of Rd}$  or  $\pm 2 \text{ °C} / 3.6 \text{ °F}$   
 Resolution 1 °C / 1.8 °F at 1000 ... 1600 °C / 1832 ... 2912 °F

### Thermocouple

Measuring range Type K: -64 ... 1400 °C / -83 ... 2552 °F  
 Measuring accuracy (at 23 ... 25 °C ambient temperature)  $\pm 1 \% \text{ of Rd}$  or  $\pm 1 \text{ °C} / 1.8 \text{ °F}$   
 Resolution 0.1 °C / 0.18 °F at -64 ... 999.9 °C / -83.2 ... 1831.8 °F

Emissivity Adjustable 0.10 ... 1.0  
 Spectral range 8 ... 14  $\mu\text{m}$   
 Response time 1 s  
 Optical resolution / measurement spot ratio 60 :1  
 Storage Internal: 24 memory points  
 External (micro-SD card): max. 8 GB supported

Interface USB  
 Display LCD illuminated  
 Power supply 2 x 1.5 V AA batteries  
 Operating time Typical: 14 h  
 Continuous: 10 h

Operating conditions 0 ... 50 °C / 32 ... 122 °F  
 Weight approx. 400 g / 14.1 oz  
 Dimensions 203 x 176 x 89 mm / 7.9 x 6.9 x 3.5 in



Subject to change without notice

# TEMPERATURE MEASUREMENT PYROMETER

## PCE-ILD 10

### Measuring range -50 ... 500 °C/ Contrast ring with five LEDs

The pyrometer has a measuring range of -50 ... +500 °C (-58 ... 932 °F) and an adjustable emission value between 0.10 ... 1.00. In addition to the current reading, the largest, smallest, average and differential reading can be displayed. This means that the infrared thermometer can be used for many measuring tasks to determine the surface temperature. The multi-point laser on the infrared thermometer is

used to align the measuring spot. The measuring spot ratio of the infrared thermometer is 12:1.

Any alarm limit values can be stored on the pyrometer for checking temperatures. When exceeding or falling below an alarm limit value, the infrared thermometer automatically triggers an acoustic and visual alarm.

### ISO cal option

- » measuring range -50 ... 500 °C / -58 ... 932 °F
- » fast measuring rate of 2 Hz
- » white and blue lighting ring
- » spot ratio: 12:1
- » multipoint laser



## APPLICATION



## TECHNICAL SPECIFICATIONS

Measuring range	-50 ... 500 °C / -58 ... 932 °F
Resolution	0.1 °C / 0.1 °F
Accuracy	±3 °C / ±5.4 °F at -50 ... 20 °C / -58 ... 68 °F ±2 % or ±2 °C / ±3.6 °F at 20 ... 500 °C / 68 ... 932 °F
Repeatability	±1 °C / 1.8 °F
Spot ratio	12:1
Emission rate	0.10 ... 1.00
Measuring rate	2 Hz
Spectral range	8 ... 14 μm
Measuring range exceeded	Display „ - - - -“
Laser output power	<1 mW
Wavelength	630 ... 670 nm
Laser class	2
Light ring	5 x white LED, 5 x blue LED
Power supply	2 x 1.5 V AA batteries
Operating conditions	0 ... 50 °C / 32 ... 122 °F, 10 ... 90 % RH, non-condensing
Storage conditions	-10 ... 60 °C / 14 ... 140 °F, 10 ... 90 % RH, non-condensing
Dimensions	180 x 100 x 55 mm / 7.0 x 3.9 x 2.1"
Weight	329 g / 11.6 oz with batteries



Subject to change without notice

# HARDNESS TESTING HARDNESS TESTER

## PCE-900

### Leeb hardness tester for metals / measurement of tensile strength

The Leeb hardness tester PCE-900 measures the hardness of nine different metals using the Leeb rebound method. This means that an impact body bounces on a metallic surface and the intensity of the rebound is used as an indicator of the material hardness. The hardness test instrument PCE-900 can show the metal hardness in 6 different hardness scales, including: Rockwell, Vickers, Leeb,

Brinell and Shore. A distinction is made between Rockwell B and C when measuring in the Rockwell scale. Via the data interface, the measured values can be transmitted live to the PC. The delivery scope is completed by an ISO calibration certificate.

### ISO cal option

- » hardness test by the rebound method
- » nine saved material characteristic curves
- » easy to use
- » data interface
- » six different hardness scales
- » incl. D-type impact device and test block
- » optional software available



## APPLICATION



## TECHNICAL SPECIFICATIONS

Measurement range	200 ... 900 HLD
Measuring accuracy	±10 HLD
Materials	9 different materials Leeb: HL Rockwell C: HRC Rockwell B: HRB Brinell: HB Vickers: HV Shore: HSD
Hardness scales	
Display	12.5 mm LCD with backlight
Included impact device	D-type
Memory	50 data records
Interface	RS-232
Power supply	4 x 1.5 V AAA batteries
Operating temperature:	-10 ... 50 °C
Environmental conditions	Storage temperature: -30 ... 60 °C relative humidity: <90 %
Dimensions	142 x 77 x 40 mm
Weight	Meter: ca. 130 g Impact device: 75 g
Cable length	approx. 1.2 m

### Optional accessories:

Surface adaptor for concave spherical surfaces	Order code	HK16.5-30	16.5 ... 30 mm
Surface adaptor for concave spherical surfaces	Order code	HK12.5-17	12.5 ... 17 mm
Surface adaptor for concave spherical surfaces	Order code	HK11-13	11 ... 13 mm
Surface adaptor convex	Order code	Z25-50	25 ... 50 mm (outside) Surface
adaptor convex	Order code	Z10-15	10 ... 15 mm (outside) Surface
adaptor concave	Order code	HZ16.5-30	16.5 ... 30 mm (inside) Surface
adaptor concave	Order code	HZ12.5-17	12.5 ... 17 mm (inside) Surface
adaptor concave	Order code	HZ11-13	11 ... 13 mm (inside)



HK16.5-30



Z25-50



HZ11-13



Subject to change without notice

# HARDNESS TESTING HARDNESS TESTER

## PCE-HT 225E

### For the determination of concrete hardness / Impact energy 2.207 J or N-m / 1.6278 ft-lb

PCE-HT 225E is a hardness tester or concrete test hammer, also called a concrete rebound hammer or Swiss hammer, used for non-destructive measurements of surface hardness and compression strength. Suitable for use with concrete, rock and building materials, this rebound hammer features a direct digital display, voice functionality, USB port data interface and memory for storing up 200 measurement

values. The manufacturer-calibrated concrete test hammer clearly shows the measured values directly on the attached LCD screen, making the results easy to read. The USB port allows for data transfer to a PC or printer. PC software for data processing is included in the delivery contents.

### ISO cal option

- » non-destructive
- » manufacturer calibrated
- » direct digital display
- » voice functionality
- » USB port data interface
- » memory for up to 200 values
- » includes software for data processing
- » adjustable backlight brightness and energy-saving automatic power off
- » Pump marking, measuring curve, carbonation depth and upper / lower permissible value limit settings



## APPLICATION



## TECHNICAL SPECIFICATIONS

Test range	10 ... 60 MPa or 100 ... 600 kg/cm <sup>2</sup> / 1450.38 ...
8702.26 psi	
Impact energy	2.207 J or N-m / 1.6278 ft-lb
Impact stroke	75 ± 0.3 mm / 2.95 ± 0.012 in
Spring rigidity	785 J or N-m / 578.99 ft-lb
Average rebound value (for calibration)	80 ± 2
Radius of spherical tip	25 ± 1 mm / 0.99 ± 0.04 in
Adhesion of the measurement tip	0.65 ... 0.15 N
Data interface	USB 2.0 port
Data storage or memory capacity	Up to 200 measurement values
Display	LCD, 176 x 220 mm / 6.9 x 8.7 in
Power supply	4 x AAA alkaline batteries
Weight	Approx. 1.1 kg / 2.4 lbs
Dimensions	Approx. 54 x 280 mm / 2.13 x 11.02 in

\*\*\* Note: Measurement values displayed and recorded in MPa only \*\*\*



Subject to change without notice

# HARDNESS TESTING MATERIAL TESTER

## PCE-HT 224E

### For measuring the quality of concrete surfaces / Test load 2.207 J

The Material Tester is a measuring tool for testing the strength of concrete. The Material Tester measures strength according to the Schmidt principle. According to this measurement method, the quality of concrete can be measured with the Material Tester. Thus, the Material Tester finds its essential application in the construction and in the construction sector. The Material Tester is also suitable

for testing hardness of rolled paper. The built-in mechanism on the hardness tester always ensures the same impact energy of 2.207 Nm. The Material Tester displays measurements Rebound Value and can display force in PSI, MPa, kgF/cm<sup>2</sup>, or N/mm<sup>2</sup>.

### ISO cal option

- » OLED for reading the measured values
- » USB interface for connection to a PC
- » measuring range 10 ... 100 N/mm<sup>2</sup>, 1500 ... 8500 lbs/in<sup>2</sup>
- » measurement of the hardness of concrete
- » data storage for later analysis
- » rechargeable battery for mobile use



## APPLICATION



## TECHNICAL SPECIFICATIONS

Measuring range	10 ... 100 N / 1500 ... 8500 PSI or lbs/in <sup>2</sup>
Accuracy	± 0.1 R
Display	OLED
Nominal kinetic energy	2.207 Nm, 0.225 kgm
Interface	micro USB
Storage	1,000 data units with 256 measurements each
Operating conditions	-40 ... 60°C / -40 ... 140°F
Power supply	3.7V Li-ion battery
Power supply (mains adapter)	Primary: 100 ... 240V AC, 50/60 Hz Secondary: 5V DC, 1 A
Dimensions	280 x 75 x 60 mm / 11 x 3 x 2.4 in
Weight	About 1.2 kg / 2.6 lbs

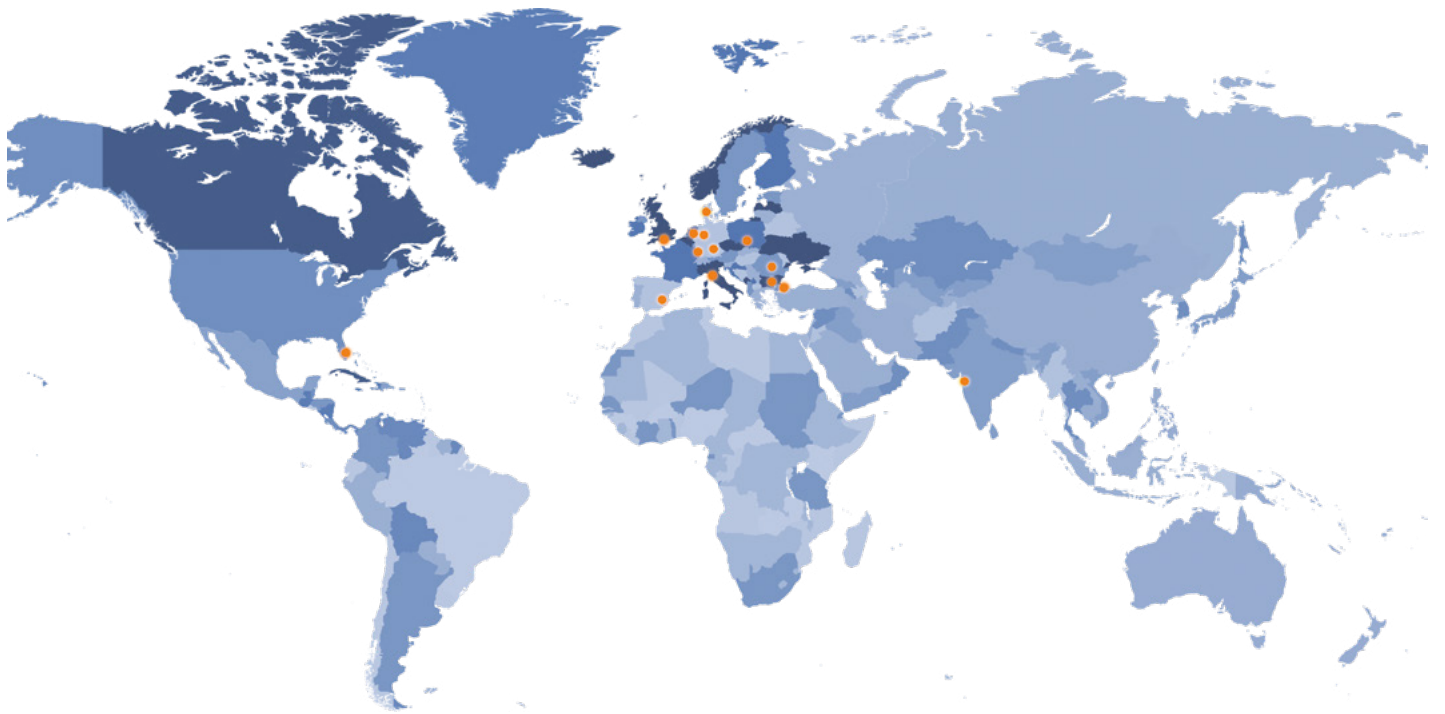


Subject to change without notice

# COMPANY LOCATIONS WORLDWIDE



## PCE HOLDING AG



## CONTACT

PCE Instruments UK Ltd.  
Suite 1N-B, Trafford House  
Chester Rd, Manchester M32 0RS  
United Kingdom

+49 (0)161 464902 0

[info@pce-instruments.co.uk](mailto:info@pce-instruments.co.uk)

[www.pce-instruments.com](http://www.pce-instruments.com)

Germany  
Germany  
Spain  
USA  
UK  
France  
Italy  
Turkey  
Netherlands  
Poland  
Denmark  
Bulgaria  
Romania  
India

PCE Deutschland GmbH  
DriveTest GmbH  
PCE Iberica S.L.  
PCE Americas Inc.  
PCE Instruments UK Ltd.  
PCE Instruments France EURL  
PCE Italia s.r.l.  
PCE Teknik Cihazlar Ltd. Şti.  
PCE Brookhuis B.V.  
PCE Instruments Polska Sp. z o. o.  
PCE Instruments Denmark ApS  
PCE Instruments Bulgaria EOOD  
PCE Instruments RO SRL  
PCE Instruments India Pvt. Ltd

[www.pce-instruments.com/deutsch](http://www.pce-instruments.com/deutsch)  
[www.drivetest.de/en](http://www.drivetest.de/en)  
[www.pce-instruments.com/espanol](http://www.pce-instruments.com/espanol)  
[www.pce-instruments.com/us](http://www.pce-instruments.com/us)  
[www.pce-instruments.com/english](http://www.pce-instruments.com/english)  
[www.pce-instruments.com/french](http://www.pce-instruments.com/french)  
[www.pce-instruments.com/italiano](http://www.pce-instruments.com/italiano)  
[www.pce-instruments.com/turkish](http://www.pce-instruments.com/turkish)  
[www.pce-instruments.com/dutch](http://www.pce-instruments.com/dutch)  
[www.pce-instruments.com/polish](http://www.pce-instruments.com/polish)  
[www.pce-instruments.com/dansh](http://www.pce-instruments.com/dansh)