MEASUREMENT

Discover our test instruments and their functions

VIBRATION TESTER

PCE-VT 3900

PCE INSTRUMENTS

TEST INSTRUMENTS FROM GERMANY

Maintenance and Service

PCE Deutschland GmbH, based in Meschede-Freienohl in the Sauerland region of Germany, was founded in 1999 by three engineers. With more than 140 employees and locations worldwide, PCE Instruments specialises in the development, manufacture and sale of high-performance, innovative products in the fields of measurement technology, control technology, weighing technology and laboratory technology.

PCE Deutschland GmbH is **DIN EN ISO 9001** and **DIN EN ISO 14001** certified and manufactures test equipment that is customised to meet specific customer requirements. PCE Instruments supplies to customers in the government, industrial and academic sectors, among others.

PCE Instruments' comprehensive range of products and services offers you high precision and flexibility in all applications, as well as outstanding quality and functionality. Take a look at the categories 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.

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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.

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Max	50000	N
Min	-50000	N
Avg	0.004	N

FORCE GAUGE

MENU

OK

PCE-DFG X Series

PCE-VT 3700 / PCE-VT 3700S

Handy entry-level device for vibration monitoring of machines and systems

The vibration meter is ideal for maintenance workers to quickly check vibrating parts, machines and systems. This vibration meter shows the vibration acceleration, vibration velocity and vibration displacement directly on the display. You can use the device to quickly and reliably detect machine imbalances which can lead to, for example, bearing damage. The vibration meter is equipped with a mode that allows a measurement according to ISO 10816-3 to be carried out. The vibration meter analyzes the measured values and automatically shows a good / bad evaluation on the display. The vibration meter is supplied with a sensor on a spiral cable, magnet adapter, service bag and batteries. The ISO factory certificate completes the scope of delivery.

ISO cal option

» automatic ISO 10816-3 evaluation
» easy to handle
» for mobile vibration measurement
» coloured graphic display
» peak-hold function

PCE-VT 3700

PCE-VT 3700S

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	Acceleration
	0.0 ... 399.9 m/s²
Resolution	0.1 m/s²
Accuracy @ 160 Hz	±2 %
Frequency range	10 Hz ... 1 kHz
	10 Hz ... 10 kHz
Measuring range	Velocity
	0.00 ... 399.9 mm/s
Resolution	0.1 mm/s
Accuracy @ 160 Hz	±2 %
Frequency range	10 Hz ... 1 kHz
Measuring range	Displacement
	0.000 ... 3.9 mm
Resolution	1 µm
Accuracy @ 160 Hz	±2 %
Frequency range	10 Hz ... 200 Hz
Measurement parameters	RMS, Peak, Peak-Peak
	Crest factor
Units	switchable metric / imperial
Display	3.5" LC display
Menu languages	English, German, French
	Spanish, Italian, Dutch
	Portuguese, Turkish, Polish
	Russian, Chinese, Japanese
Power supply	3 x 1.5 V AA batteries
Operating and storage conditions	-20 ... +65 ºC / -4 ... 149 ºF; 10 ... 95 % r.H.
Dimensions	150 x 80 x 38 mm / 5.9 x 3.1 x 1.5"
Weight	170 g / 6 oz
Sensor PCE-VT 3700	Sensor with spiral cable
	PCE-VT 3xxx SENSOR
	Magnet adapter PCE-VT VMH
Sensor PCE-VT 3700S	Sensor with spiral cable
	PCE-VT 3xxx SENSOR
	Magnet adapter PCE-VT VMH
	Needle sensor PCE-VT NP
	Handgrip PCE-VT 3xxx HANDLE

Optional accessories:

PCE-VT NP	Needle sensor for vibration meter
PCE-VT VMH	Magnet adapter
PCE-VT 3700 CASE	Case with rigid foam insert
CAL-PCE-VT 3700	ISO-calibration for vibration meter
PCE-VT 3xxx SENSOR	Replacement sensor

Further models:

PCE-VT 3750	incl. sensor, magnetic adapter, headset
PCE-VT 3750S	incl. needle sensor with handgrip, headset
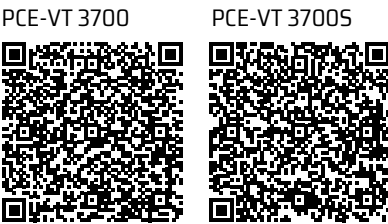
Technical data vibration sensor

Resonance frequency	30 kHz
Transverse sensitivity	≤5 %
Destruction limit	5000 g (peak)
Operating and storage temperature	-20 ... +80 ºC / -4 ... 176 ºF; max. 95 % r.H.
Housing material	Stainless steel
Mounting thread	M5
Dimensions	16 x 36 mm / 0.6 x 1.4"
Weight (without cable)	35 g / 1.2 oz

PCE-VT 3700   PCE-VT 3700S

Subject to change without notice

PCE-VT 3800 / PCE-VT 3800S

Vibration analyzer with external sensor / data logger function

The vibration analyzer is the ideal companion for checking vibrating parts, machines and plant. With the external vibration sensor of the vibration meter, the vibration displacement up to 3.9 mm, the vibration velocity up to 399.9 mm/s and the vibration acceleration up to 399.9 m/s² can be determined. RMS, peak, peak-to-peak and crest factor are available as measurement parameters on the vibration meter. Another function of the vibration measuring device is the automatic evaluation according to ISO 10816-3. Accordingly, the vibration meter can determine the current vibration state of a machine via a good/bad evaluation. This means that the vibration meter is used, for example, for repair and maintenance work on machines.

ISO cal option

» data logger function

» automatic ISO 10816-3 evaluation

» measuring range up to 399.9 m/s² / 15744 in/s²

» hand-held device for mobile vibration measurement

» rechargeable battery

» 2.48" LC display

PCE-VT 3800

PCE-VT 3800S

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	**Acceleration**	
	0.0 … 399.9 m/s² / 0.0 - 15744 in/s²	
Resolution	0.1 m/s² / 3.94 in/s²	
Accuracy @ 160 Hz	±2 %	
Frequency range	10 Hz … 10 kHz	
	1 kHz … 10 kHz	
Measuring range	**Velocity**	
	0.00 … 399.9 mm/s / 0.00 - 15.74 in/s	
Resolution	0.1 mm/s / 0.0039 in/s	
Accuracy @ 160 Hz	±2 %	
Frequency range	10 Hz … 1 kHz	
Measuring range	**Displacement**	
	0.000 … 3.9 mm / 0.000 - 0.154 in	
Resolution	1 µm / 39.4 µin	
Accuracy @ 160 Hz	±2 %	
Frequency range	10 Hz … 200 Hz	
Measurement parameters	RMS, Peak, Peak-Peak	
	Crest factor	
Manual memory	99 folders with 50 measured values each	
Data logger	Various start/stop triggers	
	Measurement interval between 1 s … 12 h	
	50 memory locations with 43.200 measured values each	
Units	can be switched to metric / imperial	
Display	2.8" LC display	
Menu languages	English, German, French	
	Spanish, Italian, Dutch	
	Portuguese, Turkish, Polish	
	Russian, Chinese, Japanese	
Power supply	internal: LiPo battery (3.7 V, 2.500 mAh)	
	external: USB 5 VDC, 500 mA	
Operating time	approx. 15 … 20 h	
	(depending on display brightness)	
Operating and storage conditions	temperature: -20 … +65 °C / -4 … 149 °F	
	humidity: 10% RH … 95% RH, non-condensing	
Protection Class	IP52	
Dimensions	165 x 85 x 32 mm / 6.5 x 3.3 x 1.3"	
Weight	239 g / 8.4 oz	

Technical Data Vibration Sensor

Resonance frequency	24 kHz
Transverse sensitivity	≤5 %
Destruction limit	5000 g (peak)
Operating and storage temperature	-55 °C … +150 °C / -67 °F … 302 °F

Housing material	stainless steel
Mounting thread	¼ - 28"
Dimensions	Ø 17 x 46 mm / 0.67 x 1.8"
Weight (without cable)	52 g / 1.8 oz
Sensor PCE-VT 3800	Sensor with spiral cable
	PCE-VT 3xxx SENSOR
	Magnet adapter PCE-VT VMH
Sensor PCE-VT 3800S	Sensor with spiral cable
	PCE-VT 3xxx SENSOR
	Needle sensor PCE-VT NP
	Handle PCE-VT 3xxx HANDLE

Optional accessories:

PCE-VT NP	Needle sensor
PCE-VT VMH	Magnet adapter
CAL-PCE-VT 3xxx	ISO Calibration Certificate
PCE-VT 3xxx SENSOR	Replacement vibration sensor

Further models:

PCE-VT 3850	incl. sensor, magnetic adapter, headset
PCE-VT 3850S	incl. needle sensor with handgrip, headset

PCE-VT 3800   PCE-VT 3800S

Subject to change without notice

PCE-VT 3900 / PCE-VT 3900S

Vibration analyzer with internal memory / route measurement

The vibration analyzer is an ideal measuring device for fast and precise checking of vibrating parts, machines and systems.

This vibration meter uses the external vibration sensor to determine the vibration displacement (measuring range 0.000 ... 3.9 mm), the vibration velocity (mea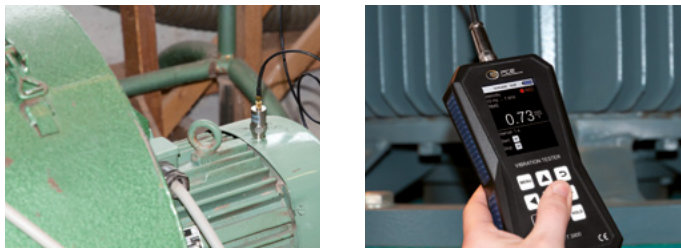suring range 0.00 ... 399.9 mm/s) and the vibration acceleration (measuring range 0.0 ... 399.9 m/s²). Various measurement parameters are available for the vibration meter, such as RMS, peak, peak-peak and crest factor. The vibration meter is equipped with a mode that allows a measurement to be automatically evaluated according to the limit values of ISO 10816-3.

ISO cal option

» for mobile vibration measurement

» measuring range up to 399.9 m/s² / 15744 in/s²

» FFT analysis

» route measurement

» manual measured value memory

» automatic ISO 10816-3 evaluation

» internal memory

» 2.48" LC display

PCE-VT 3900

PCE-VT 3900S

VIBRATION TESTER

PCE-VT 3900

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	**Acceleration**	
	0.0 ... 399.9 m/s² / 0.0 - 15744 in/s²	
Resolution	0.1 m/s² / 3.94 in/s²	
Accuracy @ 160 Hz	±2 %	
Frequency range	10 Hz ... 10 kHz	
	1 kHz ... 10 kHz	
Measuring range	**Velocity**	
	0.00 ... 399.9 mm/s / 0.00 - 15.74 in/s	
Resolution	0.1 mm/s / 0.0039 in/s	
Accuracy @ 160 Hz	±2 %	
Frequency range	10 Hz ... 1 kHz	
Measuring range	**Rotational Speed**	
	600 ... 50000 RPM	
FFT acceleration	10 Hz ... 8 kHz	
FFT velocity	10 Hz... 1 kHz	
Accuracy @ 160 Hz	±2 %	
Number of FFT lines	2048	
Route measurement	100 routes each with 100 machines each with 100 measuring points with 1000 measured values each	
Measuring range	**Displacement**	
	0.000 ... 3.9 mm / 0.000 - 0.154 in	
Resolution	1 µm / 39.4 µin	
Accuracy @ 160 Hz	±2 %	
Frequency range	10 Hz ... 200 Hz	
Measurement parameters	RMS, Peak, Peak-Peak Crest factor	
Manual memory	99 folders with 50 measured values each	
Data logger	Various start/stop triggers Measurement interval between 1 s ... 12 h 50 memory locations with 43.200 measured values each	
Units	can be switched to metric / imperial	
Display	2.48" LC display	
Menu languages	English, German, French,Spanish, Italian, Dutch, Portuguese, Turkish, Polish, Russian, Chinese, Japanese	
Power supply	internal: LiPo battery (3.7 V, 2500 mAh) external: USB 5 VDC, 500 mA	
Operating time	ca. 15 ... 20 h (depending on display brightness)	
Operating / storage conditions	temperature: -20 ... +65 ℃ / -4 ... 149 °F humidity: 10% RH ... 95% RH, non-condensing	
Dimensions	165 x 85 x 32 mm / 6.5 x 3.3 x 1.3"	
Weight	239 g / 8.4 oz	

Sensor PCE-VT 3900	Sensor with spiral cable PCE-VT 3xxx SENSOR Magnet adapter PCE-VT VMH
Sensor PCE-VT 3900S	Sensor with spiral cable PCE-VT 3xxx SENSOR Needle sensor PCE-VT NP Handle PCE-VT 3xxx HANDLE

Technical Data Vibration Sensor

Resonance frequency	24 kHz
Transverse sensitivity	≤ 5 %
Destruction limit	5000 g (peak)
Operating and storage temperature	-55 ℃ ... +150 ℃ / -67 °F ... 302 °F
Housing material	stainless steel
Mounting thread	¼ - 28"
Dimensions	Ø 17 x 46 mm / 0.67 x 1.8"
Weight (without cable)	52 g / 1.8 oz

Optional accessories:

PCE-VT NP	Needle sensor
PCE-VT VMH	Magnet adapter
CAL-PCE-VT 3xxx	ISO Calibration Certificate
PCE-VT 3xxx SENSOR	replacement vibration sensor

Further models:

PCE-VT 3950	incl. sensor, magnetic adapter,headset
PCE-VT 3950S	incl. needle sensor with handgrip, headset

PCE-VT 3900   PCE-VT 3900S

Subject to change without notice

PCE-VT 1100 SERIES

Measurement of acceleration, vibration velocity and displacement

The vibration analyzer is used as a hand-held measuring device for the individual assessment of vibrations on machines and systems. With the help of this vibration analyzer, the actual state can easily be determined on site. Thus, corresponding changes can be made directly on site after the measurement. Thereafter, the new condition can be assessed. Thus, the vibration analyzer serves as a measuring device for a relative measurement on different machines.The vibration analyzer serves essentially as precautionary or preventive maintenance of production machines. Very often, the vibration analyzer is used to assess the state of smaller electric motors.

ISO cal option

» measures speed, distance, acceleration

» keeps the value after every measurement

» easy to handle, powered by batteries

» wide frequency range

» automatic shut-down after 20 seconds of inactivity to protect battery life

» low battery indicator

| PCE-VT 1100

| PCE-VT 1100S

APPLICATION

TECHNICAL SPECIFICATIONS

Parameter	Measuring Range	Frequency Range
Acceleration	0.01 … 199.9 m/s² peak	10 Hz … 1 kHz
Vibration speed	0.01 … 199.9 mm/s rms	10 Hz … 1 kHz
Displacement	0.001 … 1.999 mm p-p	10 … 500 Hz

Measurement accuracy	Acceleration: ≤3 %
	Vibration speed: ±5 %, ±2 Digits
	Displacement: +10/-20 % (10…20 Hz); ±5 % (20…1000 HZ)

General specifications

Display	LCD, Response time approx. 1 second
Power supply	2 x 6 V CR2032 button cell
Battery life	about 5 hours (in continuous operation)
Environmental conditions	0 … +40 °C / 32 … 104 °F, 0 … 84 % r.H.
Dimensions	155 x 24 x 18.7 mm / 6.1 x 0.9 x 0.7"
Weight	ca. 40 g / 1.4 oz (incl. batteries)

Optional accessories::

Standard probe	length 10mm	Order no.:	PCE-VT-NF-10
Vibration Sensor	length 45 mm	Order no.:	PCE-VT-NF-45
1 point calibration at:	159.2 Hz; 10 mm/s; 14.1 m/s²; 0.028 mm	Order no.:	CAL-V-I

Model:

PCE-VT 1100	Vibration meter with sensor length 10 mm
PCE-VT 1100S	Vibration meter with sensor length 45 mm
PCE-VT 1100M	Vibration meter with magnetic adaptor plate

| PCE-VT 1100M

PCE-VM 20

Vibration meter for vibration measurement on machines

Rotating components in machines generally cause machine vibrations which can go over to the entire machine via mechanically coupled components. This creates a mixture of vibration with different frequencies. This machine vibration can have different effects some of which may be desired (e. g., in conveyors or vibrating sieves) – however, in most cases they are undesirable and cause poor manufacturing qualities and increased wear of the machine. Increased wear and tear due to machine vibrations leads to reduced running times, higher failure rates and higher maintenance expenditure, i. e. to avoidable costs as a whole.

ISO cal option

» real-time FFT analysis
» robust housing
» many vibration parameters
» integrated rechargeable LiPo battery
» direct evaluation of machine vibration in compliance with DIN ISO 10816

TECHNICAL SPECIFICATIONS

Vibration acceleration	0 ... 200 m/s², RMS and Peak-Peak
Vibration velocity	0 ... 200 mm/s, RMS
Vibration displacement	0 ... 2000 μm, Peak-Peak
Accuracy vibration	±5 %
Operating modes	vibration, temperature, revolutions
Representable measured variables	Frequency Vibration acceleration
	vibration velocity
	vibration
	FFT spectrum
Units	metric, imperial
	mm/s², mm/s, μm RPM und Hz
Interface	USB 2.0
Memory	4 GB micro SD card
Battery life	up to 8 h continuous operation
Battery type	lithium polymer
Display	128 x 160 pixel colour LCD
Environmental conditions	-10 ... +55 °C
	≤80 % RH non-condensing
Dimensions	132 x 70 x 33 mm / 5.2 x 2.8 x 1.3 in (L x W x D)
Weight	approx. 150 g

Handset: must not be exposed to strong vibration, magnetic fields, corrosive media or dust

Technical data of the vibration sensor

Sensitivity	100 mV/g
Frequency response (± 3 dB)	0.5 ... 15000 Hz
Frequency response (± 10 %)	2.0 ... 10000 Hz
Dynamic range	±50 g, peak
Power supply (IEPE)	18 ... 30 V DC
Constant current source	2 ... 10 mA
Spectral noise at 10 Hz	14 μg / √Hz
Spectral noise at 100 Hz	2.3 μg / √Hz
Spectral noise at 1000 Hz	2 μg / √Hz
Output impedance	<100 Ω
Bias voltage	10 ... 14 V DC
Housing insulation	>100 MΩ
Environmental conditions	-50 ... 121 °C / -58 ... 249.8 °F
Maximum impact protection	5000 g, peak
Resonant frequency	23,000 Hz
Housing material	316L stainless steel
Connection	2-pin MIL-C-5015
Protection class	IP 68
Weight	90 g / < 1 lb

APPLICATION

PCE-VM 22

Vibration analyzer with 4 GB data memory / Measuring range 0 ... 200 mm/s²

The vibration analyzer has a measuring range of 0 ... 200 m/s² for acceleration. In addition to acceleration, the vibration meter can also measure speed, displacement, frequency and an ISO 18016-3 measurement. During the vibration measurement, an FFT view is simultaneously displayed on the vibration meter. By pressing a button, it is possible to switch from the FFT analysis to the actual wave view of the vibration. This makes it possible to analyse and evaluate a vibration even better with the vibration meter. The magnetic holder of the vibration sensor of the vibration meter is designed in such a way that it can be attached to curvatures with a minimum radius of 20 mm / 0.78".

ISO cal option

» measuring range 0 ... 200 m/s²

» infrared temperature measurement

» 4 GB data storage

» 8 hours of battery life

» optionally with ISO calibration certificate

» FFT analysis and wave view of the vibration

APPLICATION

TECHNICAL SPECIFICATIONS

Frequency

Measuring range	**1 ... 10,000 Hz**
Resolution	0.1 Hz
Accuracy	±5 %

Acceleration

Measuring range	**0 ... 200 m/s²**
Resolution	0.01 m/s²
Accuracy	±5 %

Speed

Measuring range	**0 ... 200 mm/s**
Resolution	0.01 mm/s
Accuracy	±5 %

Displacement

Measuring range	**0 ... 2000 µm**
Resolution	0.01 µm
Accuracy	±5 %

Infrared temperature measurement

Measuring range	**-70 ... 380 °C / -94 ... 716 °F**
Resolution	0.1 °C / °F
Accuracy	±0.5% at (0...+60°C), (32 ... 140 °F)±1 % at (-40 ... 0, 60 ... 120 °C), (-40 ... 32, 140 ... 248 °F) ±2 % at (-70 ... -40, 120 ... 180 °C), (-94 ... -40, 248 ... 356 °F) ±4 % at (180 ... +380 °C), (356 ... 716 °F)
Emissivity	1 fixed

Tachometer

Measuring range	**10 ... 200,000 RPM**
Resolution	0.1 RPM
Accuracy	±0.1 % and ±1 RPM
Units	RPM, Hz

Further specifications for the handheld device

FFT spectrum resolution	400, 800, 1600 lines
Dynamic range	106 dB
A/D converter resolution	24 bit
Storage space	4 GB
Display	128 x 160 pixels
Interfaces	Micro USB interface
Power supply battery	3.7 V, 1000 mAh battery
Battery life	ca. 8 hours
Power supply for power pack	5 V DC, 1 A
Operating conditions	0 ... 50 °C / 32 ... 122 °F, <85% RH, non-condensing
Storage conditions	-20 ... 60 °C / -4 ... 140 °F, <85% RH, non-condensing
Dimensions	132 x 70 x 33 mm / 5.2 x 2.7 x 1.3"
Weight	150 g / 5.3 oz

Vibration sensor specifications

Sensitivity	100 mV/g
Cable length	approx. 1.5 m / 4.9 ft
Connection	2 pin MIL-DTL-5015
Case material	316L stainless steel
Dimensions	Ø 25 x 53 mm / Ø 0.98 x 2.08"
Weight	86 g / 3.0 oz

Magnetic holder specifications

Diameter	30 mm / 1.18"
Magnetic force	20 kg / 44 lbs
Connection thread	1/4"-28 UNF female
Smallest radius	20 mm / 0.78"

Infrared and RPM sensor specifications

Cable length	ca. 1.2 m / 3.9 ft
Dimensions	Ø 16 x 83 mm / Ø 0.63 x 3.26"
Weight	75 g / 2.6 oz

Subject to change without notice

PCE-WVS 50

Diagnostics of rolling bearings by crest factor / 3 parameters of vibration

A distinctive feature of the accelerometer is the ability to work in the following modes: Classic vibrometer - means using the device as an indicator of the overall vibration level, measuring peak values, displacement or diagnosing rolling bearings using the crest factor. As a result, the accelerometer displays the current and the average value. The duration of the averaging of the vibration values can be individually adjusted on request.

This mode is useful for daily monitoring of equipment: pumps, gearboxes, electric drives and turbochargers, including individual units of rotating equipment and the entire unit as a whole, providing a general understanding of the vibrational state of industrial equipment at the enterprise.

ISO cal option

» vibration velocity, vibration acceleration and vibration displacemen

» with magnetic holder

» display OLED

» high measurement accuracy

» standard USB Type-C charging port

» built-in rechargeable battery

» USB Type-C charging port

» Bluetooth 5.2 connectivity (option)

TECHNICAL SPECIFICATIONS

Vibration velocity	0.01 ... 200 mm/s
Vibration acceleration	0.1 ... 200 m/s²
Vibration displacement	2 ... 2000 µm
Frequency range	10 ... 1000 Hz
Accuracy	±5 %
Protection class IP	Sensor IP 54
Power supply	Li-pole battery, 3.7 V; 370 mAh
Battery life	of the sensor depending on the intensity of the work 4 - 8 h
Interface	USB, type C, Bluetooth LE 5.2
Operating time	approx. 8 h
Charging time	1.5 h
Environmental conditions	-10 ... +55 °C, <85 % r.h.
Overall dimensions (with magnetic attachment)	30 x 28 x 90 mm
Display	OLED 0.91"
Weight	70 g

APPLICATION

TRUST IN EVERY MEASUREMENT.

Subject to change without notice

PCE-VDL 24I

3-axis acceleration up to 1600 Hz

The acceleration sensor of this 3-axis data logger has a sampling rate of 1600 Hz. The sensor mesures the current acceleration (3 axes), for instance in case of a shock or vibration. The measurements are made in pre-set (selectable) time intervals. The data measured with the internal 3-axis acceleration sensor are saved to a 32 GB memory card. This makes the data logger perfectly suitable to determine the acceleration for the purposes of fault diagnostics / stress test of components, machine monitoring, shock measurements and preventive maintenance in general.

ISO cal option

» 3-axis acceleration up to 1600 Hz

» 32 GB SD memory card

» compact design: 86.8 x 44.1 x 22.2 mm

» country of origin Germany

TECHNICAL SPECIFICATIONS

Parameter 3-axis acceleration

Measurement range	±16 g
Accuracy	±0.24 g
Sampling rate	1600 Hz ... 1 Hz

General technical data of the 3-axis acceleration sensor

Memory capacity	2.5 readings per measurement, 3.2 billion readings with included 32 GB microSD memory card
Keys	start / stop of a measurement; data logger on / off
LED	Log: operating status
	Alarm: alarm indicator
	Charge: charging status
	USB: status of PC connection
Power supply	integrated rechargeable Li-Ion battery 3.7 V / 500 mAh
	The meter is charged via the USB interface.
Integrated sensors	3-axis acceleration
Interface	USB
PC software	setup and evaluation software included
	10 32 bit / 64 bit) to record and evaluate data
Operating conditions	temperature -20 ... +65 °C
Storage conditions	temperature +5 ... +45 °C
	(ideal storage conditions for battery)
	10 ... 95 % RH, non-condensing
Standards	complies with EU regulation RoHS/WEEE
Weight	approx. 60 g
Dimensions (L x W x H)	87 x 44 x 23 mm

Optional accessories:

Mounting plate	Order code	PCE-VDL MNT

APPLICATION

PCE-S 42

Machine stethoscope to listen to bearings and motors / 32 sound levels

The automotive-testing mechanics stethoscope PCE-S 42 is designed for listening to individual machine parts, which enables you to carry out maintenance and repair work using the machine stethoscope. The use of a machine stethoscope thus makes it easier to listen to sound phenomena in bearings and motors. This makes it possible to amplify noises that imply that the machine is slightly damaged, which can cause severe impairments and damage to the machine if not observed. The machine stethoscope comes with headphones the shape of which is adapted to the human head and thus are perfectly suitable to be used in noisy environments. The big, padded earpieces have a noise-suppressing effect and at the same time offer wearing comfort.

ISO cal option

» two different measuring tips

» non-stationary measuring device

» 32 volume levels

» headphones adapted to the human head

» for preventive maintenance and servicing

» noise-suppressing headphones

TECHNICAL SPECIFICATIONS

Frequency range	30 Hz ... 15 KHz
Operating temperature	-10 ... +40 ºC
Output volume	digitally adjustable (32 levels)
Headphones	32 Ω
Power supply	4 x AAA battery
Battery life	30 h
Dimensions	220 x 35 x 35 mm
Length sensors	70 / 280 mm

APPLICATION

PCE-2900

For metallic materials / Measuring range 170 ... 960 HLD

The hardness tester PCE-2900 has been developed for hardness measurements on metallic materials. The hardness tester measures the material hardness in Vickers, Brinell, Rockwell, Leeb and Shore. The hardness tester PCE-2900 measures the hardness according to the Leeb rebound principle. An impactor bounces on the workpiece via a firing pin and the metal hardness is measured via the rebound.

The PCE-2900 hardness meter is equipped with a backlit colour display. Likewise, the buttons on the PCE-2900 are illuminated. Thus, the display can be read well even in low light conditions. The impact device is connected to the hardness tester via a cable.

ISO cal option

» USB and WiFi for data transmission

» large, bright touch-screen LCD display

» large measuring range

» measurement possible in every position

» hardness scales (HRC, HRB, HV, HB, HS)

» for all metallic materials

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	170 ... 960 HLD
Reproducibility	±6 HLD
Impactor	Type D
Measuring direction	360 °
Adjustable scales	Leeb, Brinell, Rockwell A, Rockwell B, Rockwell C, Vickers, Shore
Surface quality Ra of the workpiece	2 µm
Minimum weight of the workpiece	direct measurement: 5 kg / 11 lbs
	tied measurement: 2 ... 5 kg / 4.4 ... 11 lbs
	with coupling gel: 0.05 ... 2 kg / 0.1 ... 4.4 lbs
Minimum thickness of the workpiece	direct measurement: >5mm / >0.19 in
	with coupling gel: 0.8 ... 5 mm / 0.03 ... 0.19 in
Display	Colour LCD
Internal measured value memory	600 records in 6 files
Interface	USB, WiFi
Power supply	2 x 1.5 V AA batteries
Operating time	approx. 50 hours
Operating conditions	10 ... 50 °C / 50 ... 122 °F max. 90 % r.H.
Storage conditions	-30 ... 60 °C / -22 ... 140 °F max. 90 % r.H.
Dimensions	160 x 80 x 35 mm / 6.3 x 3.1 x 1.3 in
Weight	350 g / < 1 lb

Optional accessories:

Adaptor spherical inside HK11-13	Order no.:	HK11-13
Adaptor spherical inside HK12.5-17	Order no.:	HK12.5-17
Adaptor spherical inside HK16.5-30	Order no.:	HK16.5-30
Adaptor spherical inside HZ11-13	Order no.:	HZ11-13
Adaptor concave inside HZ12.5-17	Order no.:	HZ12.5-17
Adaptor concave inside HZ16.5-30	Order no.:	HZ16.5-30
Adaptor convex outside Z10-15	Order no.:	Z10-15
Adaptor convex outside Z25-50	Order no.:	Z25-50
Adaptor convex outside 14,5...30mm	Order no.:	Z14.5-30
Adapter set for hardness testers with Impact D impactor	Order no.:	PCE-HAK
Impact Sensor C	Order no.:	PCE-2000N Probe C
Impact Sensor D	Order no.:	PCE-2000N Probe D

PCE-BTM 2000A

### To measure the tension of V-belts or drive belts

The PCE-BTM 2000 is a measuring instrument to determine the tension of V-belts or drive belts. Belt tension can only be measured when the belt is not in operation. A small impulse with the help of a beater is enough to make the belt vibrate. With a measuring probe and a sensor beam, the generated vibration frequency is determined. The belt tension is calculated on the basis of the measuring data of the natural frequency as well as the belt mass and the length of the free belt span. It is not necessary to enter the belt mass and the belt length. The maximum service life of V-belts or drive belts can only be achieved with ideal tension.

ISO cal option

» measures vibration frequency of the belt

» intuitive operation

» calculation of belt tension (trum force)

» displays belt tension in N

» 6 menu languages

» memory for 750 readings

» sensor with gooseneck

» belt length and belt mass can be entered

APPLICATION
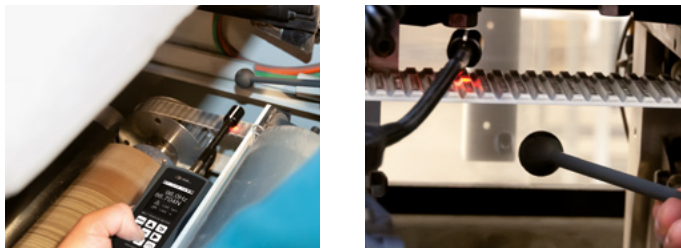
TECHNICAL SPECIFICATIONS

Measurement range	10 ... 900 Hz
Accuracy	±(1 % of Rd + 4 digits)
Repeatability	±1 Hz
Resolution	<100 Hz: 0.1 Hz
	>100 Hz: 1 Hz
Sensor length	**16 cm / 6,2 in**
Belt length	max. 9.999 m
Belt mass	max. 9.999 kg/m
Memory	750 readings
	15 folders, 50 measuring points/folder
Menu languages	English, German, Spanish, French, Italian, Dutch
Power supply	3 x 1.5 V AA battery
Operating conditions	0 ... 50 °C; max. 95 % RH
Storage conditions	-20 ... 65 °C; max. 95 % RH
Dimensions	150 x 80 x 38 mm
Weight	approx. 200 g incl. batteries

Further Model:
PCE-BTM 2000L   **Sensor length   25 cm / 9,8 in**

PCE-BTM 2000 SHS

PCE-MH

TRUST IN EVERY MEASUREMENT.
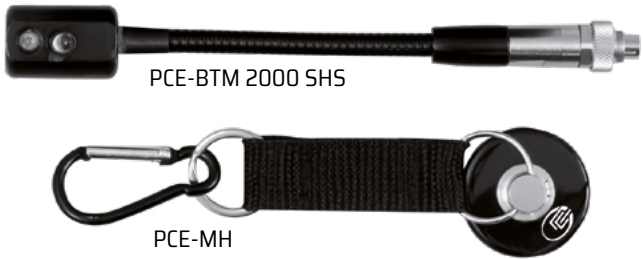
PCE-LES 103

LED tachometer with a range of 60 ... 300.000 flashes

The LED stroboscope PCE-LES 103 combines LED technology with intelligent and compact electronics for precise control of the flash frequency. The mobile handheld stroboscope is particularly suitable for non-contact measurement and visualisation of movements on machines and systems. The frequency of the PCE-LES 103 can be continuously adjusted between 1 and 5000 Hz (60 - 300,000 flashes per minute). The high-power LEDs used ensure a particularly long service life of the light sources. The stroboscope achieves an illuminance of 6160 lux at 1000 Hz and a distance of 30 cm. A long operating time is achieved by the large Li-ion battery.

ISO cal option

» brightness: 3 High Power LEDs

» UV models available

» flash frequency up to 300.000 FPM

» 6160 lux at 30 cm / 1000 Hz

» adjustable flash duration and phase shift

» phase shift: -360° to +360°

» automatic shutdown

APPLICATION

TECHNICAL SPECIFICATIONS

Display Type	TFT Color Display	
Display Size	2.8 inches	
Operating Time	4.5 hours	
Additional Information	at flash frequency 100 Hz, 1%, display brightness 70%	
Adjustable Auto Shutdown	2 ... 10 min.	
Auto Shutdown Deactivatable	Yes	
Brightness	11730 lux @ 20cm @ 1000Hz 1 % 6160 lux @ 30cm @ 1000Hz 1 % 2650 lux @ 50cm @ 1000Hz 1 %	
Light Color	6500 K	
Phase Shift	-360 ... 360 °	
Pulse Width	0.01 ... 1% of pulse duration Resolution: 0.01% 0.01 ° ... 3.60 ° of 360 ° Resolution: 0.01 °	
Menu Language	German, English, Spanish, French, Italian, Dutch, Turkish, Polish, Russian, Chinese	
Protection Class (Device)	IP52	
Power Supply	5V DC, 2A	
Weight	284 g	
Dimensions (L x W x H)	165 x 90 x 35 mm / 6,4 x 3,5 x 1,3 in	
Operating Conditions	-20 ... 60 °C, 35 ... 85% r.H	
Storage Conditions	-20 ... 60 °C, 35 ... 85% r.H	
Instruction Manual Languages	German, English	

Frequency

Measurement Range	+60 FPM ... +9999.99 FPM
Resolution	0.01 FPM
Accuracy	0.003 % of the setting or ± 1 LSD

Frequency

Measurement Range	+10000 FPM ... +300000 FPM
Resolution	0.1 FPM
Accuracy	0.003 % of the setting or ± 1 LSD

Frequency

Measurement Range	+1 Hz ... +5000 Hz
Resolution	0.01 Hz
Accuracy	0.003 % of the setting or ± 1 LSD

Batteries and Accumulators

Type	Lithium-Ion Battery
Lithium Info	Lithium in the product (built-in or included)
Capacity	2200 mAh
Voltage	7.4 V
System	Secondary: Rechargeable Battery / Accumulator Number

Further Models:

PCE-LES 103UV-365	3 high power UVA LEDs UVA light 365 ... 370 nm
PCE-LES 103UV-385	3 high power UVA LEDs UVA light 380 ... 390 nm

With external trigger input and output

PCE-LES 303
PCE-LES 303UV-365
PCE-LES 303UV-385

PCE-LES 108

with 8 High Power LEDs / 9150 lux @ 30cm @ 1000Hz 1%

Analysing the movement of rotating machines is quick and easy with our stroboscope. The stroboscope is equipped with 8 high-power LEDs, which together generate a light intensity of 17670 lux at 20 cm / 1000 Hz. The stroboscope allows you to precisely set the flash frequency in both FPM and Hz. The stroboscope is pocket-sized and is also mains-independent thanks to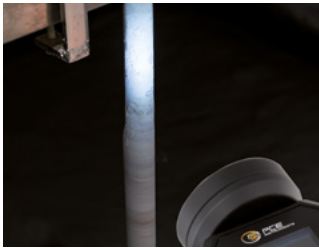 the rechargeable battery. The stroboscope is operated intuitively using the 10 buttons, allowing quick adjustments to be made. The phase shift allows the observation point to be moved variably. The pulse width can be used to set the duration and therefore also the intensity of the flash frequency.

ISO cal option

» powerful 8 High Power LEDs

» flash frequency adjustable in FPM and Hz

» 9150 lux at 30 cm / 1000 Hz

» digital pulse width modulation

» phase shift - 360 ° ... + 360 °

» quick adjustment using x2 and ÷2 button

» intuitive control buttons and clear display

» pocket size

» route measurement

» slow motion mode

APPLICATION

TECHNICAL SPECIFICATIONS

Frequency

Measuring range	60 ... 9999.99 FPM
Resolution	0.01 FPM
Accuracy	±0.003 % of the setting or ±1 LSD

Frequency

Measuring range	10000 ... 300000 FPM
Resolution	0.1 FPM
Accuracy	±0.003 % of the setting or ±1 LSD

Frequency

Measuring range	1 ... 5000 Hz
Resolution	0.01 Hz
Accuracy	±0.003 % of the setting or ±1 LSD

General technical data

Display Type	LC colour display
Display size	2.8 inch
Storage medium	Internal memory
Operating time	4.5 h
Operating time	Additional information at flash frequency 100 Hz, 1 %, display brightness 70 %
Automatic switch-off from ... to	2 ... 10 min.
Automatic switch-off can be deactivated	Yes
Light intensity	17670 lux @ 20 cm @ 1000 Hz 1%
	9150 lux @ 30 cm @ 1000 Hz 1%
	4100 lux @ 50 cm @ 1000 Hz 1%
Light colour	6200 K
Phase shift	-360 ... 360 °
Pulse width	0.01 ... 1 % of pulse duration
Resolution:	0.01 %
	0.01 ° ... 3.60 ° of 360 °
Resolution:	0.01 °
Trigger	input: Permissible input: NPN signal, 24 V DC, sensor supply: 24 V / 100 mA for external sensors
Output:	Open-drain output, up to 24 V, 50 mA
Route measurement	Up to 15 routes, 10 machines per route, 5 points per machine
Menu language	Turkish, English (US), Polish, Spanish, German, Chinese, Russian, French, Italian, Dutch
Protection class (device)	IP52
Power supply	5 V DC, 2 A
Plug type	Device Euro plug
Rechargeable battery/battery	1 x 7.4 V internal, lithium-ion battery
Capacity	2200 mAh
Operating conditions	-20 ... 60 ºC , 35 ... 85 % r. H.
Storage conditions	-20 ... 60 ºC , 35 ... 85 % r. H.
Dimensions (L x W x H)	165 x 90 x 35 mm
Weight	284 g

Further Models::

PCE-LES 108UV-365	8 UVA HochleistungsLEDs UVA-Licht 365 ... 370 nm
PCE-LES 108UV-385	8 UVA Hochleistungs LEDs UVA-Licht 380 ... 390 nm

With external trigger input and output

PCE-LES 308
PCE-LES 308UV-365
PCE-LES 308UV-385

Subject to change without notice

PCE-LMD 5

Units: lux, footcandle / Micro-USB interface

The lux meter has a large measuring range of 0 ... 400 lux. The illuminance is measured using an external silicon photodiode with a spectral filter. This means that the lux meter can be positioned appropriately for every measuring task. The measured values can be displayed by the lux meter in lux and in footcandles. In addition to the normal measured value display on the lux meter, the measured value is also displayed on a scale.

The lux meter has additional functions so that an analysis of the illuminance can be carried out. With the additional functions of the lux meter, the largest and smallest measured value can be output using the "MIN" and "MAX" buttons.

ISO cal option

» rechargeable battery
» micro USB interface
» measuring range 0 ... 400 kLux
» lux and footcandle units
» LCD display with backlight

TECHNICAL SPECIFICATIONS

Measuring range	1000 ... 400,000 Lux
	0.0 ... 999.9 Lux
Resolution	1 Lux
	0.1 Lux
Measuring range (footcandle)	1000 ... 400,000 fc
	100 ... 999 fc
	0.00 ... 99.00 fc
Resolution	1 fc
	1 fc
	0.01 fc
Accuracy	±5 % of measured value ±10 digits with standard light A
	±10 % of measured value ±10 digits
Repeatability	±2 %
Sampling rate	4 Hz
Sampling rate peak hold	10 µs
Sensor	silicon photodiode with spectral filter
Battery status display	battery symbol appears,
	when the battery voltage is too low.
Interface	Micro-USB (only for charging)
Power supply battery	3.7 V Li-Ion battery
Power supply USB	5 V DC, 1 A
Operating conditions	-10 ... 50 °C / 14 ... 122 °F / <80 % RH,
	non-condensing
Storage conditions	-20 ... 50 °C / -4 ... 122 ° / <80 % RH,
	non-condensing
Dimensions	meter: 162 x 88 x 32 mm / 6.4 x 3.5 x 1.3"
	sensor: 102 x 60 x 25 mm / 4 x 2.4 x 1"
Weight	approx. 320 g / 11.3 oz

Further model:

PCE-LMD 10   with data storage   32,000 measurement sets

APPLICATION

PCE-LMD 200

Lux Meter class A according to DIN 5032-7 / data logger with 8 GB measured value memory

The lux meter is a precise measuring instrument that meets the highest demands for light measurements. In accordance with DIN 5032-7, it fulfils the requirements of precision class A, which enables accurate and reliable detection of light intensities. With an impressive measuring range of 0.000 lux to 500,000 lux, the lux meter is extremely versatile.

Whether for lighting control at the workplace, in exhibitions or outdoors - the lux meter covers a wide range of applications. Accuracy class A not only ensures precise measurements, but also high reproducibility of the results. This is particularly important in applications where accurate light measurements are crucial.

ISO cal option

» precision according to DIN 5032-7

» large measuring range: 0.000 lx ... 500 klux

» accuracy class: A

» external sensor

» 8 GB measured value memory

» battery operation

APPLICATION

TECHNICAL SPECIFICATIONS

Lux	
Measurement range	0 ... 500 000 lx (500 klx)
Resolution	0,001 lx @ 0 ... 50 lx
	0,1 lx @ 50 ... 5 klx
	0,01 klx @ 5 ... 500 klx
Accuracy	Total error ≤ 2.0% (CIE, DIN 5032-7)
	Class A @ 10 ... 40 ºC

General technical data	
Units	lx, klx
Display type	LCD
Display refresh rate	1 x per second
Storage medium	Micro-SD card
Memory interval of	1 s
Memory interval up to	60 s
Memory capacity	8 GB
Interface	Micro-USB
Standard(s)	DIN 5032-7, ISO/CIE 19476, EN 12464-1, EN 12464-2, EN 12665
Operating time	23 h
Measurement rate	1 Hz
Classification	A (CIE, DIN 5032-7)
Menu language	English, Polish
Protection class (appliance)	IP20
Power supply	5V DC / max. 2,1A
Weight	172 g
Device weight with delivery	1.67 kg
Equipment weight with scope of delivery and outer packaging	1,71 kg
Dimensions (L x W x H)	118 x 74 x 21 mm
Other dimensions	Probe dimensions: Ø 44 x 25 mm
	Extension rod: approx. 1 m
Operating conditions	-20 ... 50 ºC , 90 % r.H.
storage conditions	-20 ... 50 ºC , 90 % RH
Languages of the instructions	English

Further Model:

PCE-LMD 200-LD-KIT
incl.lumninance accessory

PCE-UV 40A

Simultaneous measurement of UVA and light

The light measuring device / lux meter is a highly developed instrument that is characterized by its versatility and precision. With its dual measurement channels, the light measuring device / lux meter enables the simultaneous measurement of UV-A radiation and visible light.
The external sensor allows the light measuring device / lux meter to be positioned flexibly to carry out precise measurements in different locations. This function is helpful, for example, when measuring UV lights for material testing according to the standards "EN ISO 9934-1 Non-destructive testing with magnetic powder" and "EN ISO 3059 Non-destructive testing, penetrant testing and magnetic particle testing

ISO cal option

» two-channel measuring device UV-A and visible light
» external sensor
» simultaneous measurement
» two UV-A measuring ranges up to 100 W/m²
» control of UV lights for material testing
» automatic measuring range changeover 0 lx ... 10 klx
» accurate measurement of illuminance regardless of lamp type
» measured value memory

APPLICATION

TECHNICAL SPECIFICATIONS

Light
Measuring range	0 lx ... 10 klx
Resolution	0.1 lx
Accuracy	f1 ≤ 3 %

UV
Measuring range	0 W/m² ... +100 W/m²
Resolution	0.01W/m²
Accuracy	According to EN ISO 3059 V(λ) CIE
	Δλ1/10 320 – 395nm
	Δλ1/2 337 – 385nm
	λmax 365nm
	Sλ=313nm < 5%
	Sλ=405nm < 0.5%

General technical data
Display type	LCD with lighting
Storage medium	Internal memory
Storage capacity	20 records
interface	Mini USB
Norm(s)	ISO/CIE 19476, EN ISO 3059, EN ISO 9934
Measuring rate	1Hz
Menu language	English, Polish
Protection class (device)	IP20
Weight	148g / 0.3 lbs
Device weight with scope of delivery	1198g / 2.6 lbs
Device weight including scope of delivery and outer packaging	1377g / 3 lbs
Dimensions (L x W x H)	118 x 72 x 20 mm / 4.6 x 2.8 x 0.8 in
Other dimensions	Probe Ø 44 x 25.5 mm
	Cable length probe 1.5 m / 4.9 ft
	Extension rod 460 mm / 18.1 in
Operating conditions	-10 ... 50 °C / 14 ... 122 °F, 0 ... 90 % RH
Storage conditions	-10 ... 50 °C / 14 ... 122 °F, 0 ... 80 % RH
Languages of the instructions	English

VIS 513.7 1x
UVA 0.01 W/m²

PHOTO METER
PCE-UV 40A

ESC ▲ MENU

CE

PCE-RS 40

Working length of 175 or 432 mm (6.9 or 17 in) / Diameter only 4 mm

Rigid borescope for visual inspection in small and narrow holes and cavities. With a diameter of 4 mm and a length of 175 or 432 mm / 6.9 or 17 in ,this rigid borescope is very versatile. The integrated LED lamp allows for a very good illumination of cavities to be inspected. For image transmission, this rigid borescope uses a lens system with a field of view of 45°. The rigid borescope is robust and designed for industrial environments. This rigid borescope provides very high resolution images with high sharpness. A mirror attachment is available as an option on this rigid borescope. The rigid borescope is very well suited for inspections of small objects.

ISO cal option

» diameter only 4 mm / 0.16 in
» LED bulbs
» working length 175 or 432 mm / 6.9 or 17 in
» extremely robust
» high resolution
» battery operation

TECHNICAL SPECIFICATIONS

Effective length	175 or 432 mm / 6.9 or 17 in depending on model
Diameter	4 mm / 0.16 in
Field of view	45 °
Lighting	LED
Power supply	3.7 V Li-Ion battery (rechargeable)

Optional accessories:

Mirror for Rigid Borescope	Order no.:	ES-45-RS40-175
Mirror for Rigid Borescope	Order no.:	ES-45-RS40-432

Further model:

PCE-RS 27	Effective length	175 mm
	Diameter	2,7 mm

Optional accessories:

Mirror ES-45-RS 27 for endoscope	Order no.:	ES-45-RS 27

APPLICATION

PCE-VE 200 SERIES

Videoborescope for NDT machine diagnostics / Ø 4.5 mm or Ø 3.7 mm

The video borescope PCE-VE 200 is a nondestructive inspection camera.Thus, the video borescope is an ideal tool for diagnosing hard-to-reach areas.
For example, the areas of mechanical engineering, plumbing and heating, andthe entire construction / building industry are among the main application fieldsof the video borescope. Also, the video borescope is suitable for the use in the automotive industry. The fact that it has a one-meter camera tube makes it possible to use the video borescope in away that in many cases no disassembly of machines or motors is necessary. There are bright LEDs on thecamera head that can be controlled and adjusted by the user via the device.

ISO cal option

» 4.5, 3.7 and 10 mm cable diameter

» 3.5 " display

» brightness adjustable on the camera head

» 2600 mAh battery

» SD card slot for micro SD card

APPLICATION

TECHNICAL SPECIFICATIONS

Display	3.5" LCD
Resolution	video function AVI (640 x 480)
Resolution	image function JPEG (1600 x 1200)
Image rotation	180 º rotation and mirror function
Freeze-function	yes
Zoom	up to 4 x
Memory	Micro SD card
Menu languages	German, English, Spanish, French, Russian, Japanese, simplified Chinese, traditional Chinese
Interfaces	Micro USB 2.0, TV output, Micro SD card slot
TV output	PAL
Power supply	Li-Ion battery
Battery capacity	2600 mAh
Operating conditions	-10 ... +40 ºC, RH <75 %

Cable specifications (only for PCE-VE 200 and PCE-VE 200-S)

Cable diameter	depends on the model 4.5 mm / 0.177 in (PCE-VE 200), 3.7 mm / 0.14 in (PCE-VE 200-S)
Image sensor	1/8" CMOS chip
Resolution camera	640 x 480 pixels
Illumination of the cam.	6 white LEDs (intensity can be adjusted)
Field of view or angle	90 º
Field of view depth	15 mm / 0.59 in... 100 mm / 3.93 in
Camera tube length	1 m
Push-cable	semi-flexible (semi-rigid spiral)

Operating temperature:

Main unit / probe	in the air:	-10 ... +50 ºC / +14 ... +122 ºF
	in water:	+5 ... +50 ºC / +41... +122 ºF
Relative humidity	probe and device	15 ... 90 %
Fluid resistance	probe / device	machine / light oil, saline solution 5 %
Intrusion protection	probe	water, oil, dust, protection IP67
	Main unit	rain in windy weather (battery compartment must be closed) not under
	water	

Model	Cable diameter	Cable length
PCE-VE 200	4,5 mm	1 m
PCE-VE 200-S	3,7 mm	1 m
PCE-VE 200-S3	3,7 mm	3 m

Optional accessories:

PCE-VE 200-SCSV3	Camera cable with front and side, camera 9 mm, length: 3 m
PCE-VE 200-SCSV1	Camera cable with front and side, camera 9 mm, length: 1 m
PCE-VE 200-SCSV2	Camera cable with front and side, camera 6 mm, length: 1 m
PCE-VE 200-SCS3	Camera cable 3.7 mm, length: 3 m
PCE-VE 200-SCS1	Camera cable 3.7 mm, length: 1 m
PCE-VE 200-SC	Spare camera cable 4,5 mm, length: 1 m

Subject to change without notice

PCE-VE 270HR

Battery-operated inspection camera with 2.8 mm diameter

The inspection camera gives you new, visual insights into the interior of motors and systems. The inspection camera is the ideal tool for maintenance and repair in workshops or industrial companies. Optical analysis with an inspection camera has never been so easy. Guide the flexible cable through a hole or a cavity near the point to be inspected and look at everything on the display a the inspection camera. Thanks to the flexible guidance, the low weight and the excellent optics, you can use this inspection camera to identify weak spots and problem areas very easily and early and thus take preventive measures without having to carry out complex disassembly first.

ISO cal option

» 2 m / 6.56 ft cable length

» 2.8 mm / 0.11 in cable diameter

» storage function on micro SD card

» LED light

» 0 ° viewing angle

» miniature probe cable with 90° viewing angle option

TECHNICAL SPECIFICATIONS

Cable length	2 m / 6.56 ft
Cable type	Flexible
Cable diameter	2.8 mm / 0.11 in
Protection class	IP 67
Field of view depth	5 ... 50 mm / 0.2 ... 1.98 in
Field of view	120 °
Perspective	0 °
Lighting	4 LEDs
Exposure	Automatically
Anti-reflection coating	Automatically
Image sensor	1/18" CMOS
Camera resolution / image sensor	400 x 400 px
Display	5" TFT screen
Interface	Micro USB, HDMI
Memory option	Image and video
Memory	Micro SD memory card (incl.)
Picture format	JPEG (400 x 400 Px)
Video format	MP4 (400 x 400 Px)
Video output	HDMI
Menu languages	German, English, Chinese, Spanish, Korean, Portuguese, French, Russian, Japanese,
Operating and storage temperature	-10 ... 50 °C / 14 ... 122 °F
Power supply	3.7 V Li-ion battery, 5200-mAh
Battery life	Min. 6 h
Dimensions	200 x 130 x 58 mm / 7.9 x 5.1 x 2.3 inch
Weight	595 g / 1.3 lb

Optional accessories:

PCE-VE 270HR-PROBE	Spare endoscope cable
PCE-VE 270HR-2,1-PROBE	Endoscope cable extremely thin
PCE-VE 270HR-SV-PROBE	Endoscope cable with lateral camera Korean

APPLICATION

Subject to change without notice

PCE-VE 500N

WiFi inspection camera for Android and iOS / camera head Ø 4.5 mm

The WiFi inspection camera can be connected to a tablet or smartphone using the Android or iOS app. The WiFi borescope impresses with its simple handling and its robust construction. With the flexible, metal braided borescope cable, examinations under adverse operating conditions are possible with the WiFi borescope. The cable and head diameter is only 4.5 mm. The camera head of the WiFi borescope can be swiveled by 180°. This enables use in narrow cavities and visibility in almost all directions. 5 LEDs ensure that the areas and cavities to be examined are very well illuminated by the WiFi borescope. The brightness of the lighting can be adjusted in stages via the app. Images and videos can be saved in the WiFi borescope app.

ISO cal option

» image transmission via WiFi

» for iOS and Android

» memory for pictures and videos via app

» movable camera head Ø 4.5 mm

» cable length 1 m (flexible)

» 5 LEDs with adjustable light intensity

TECHNICAL SPECIFICATIONS

Cable length	1000 mm / 3 ft 3"
Cable type	flexible, metal braided camera head swivels 180 °
Cable diameter	4.5 mm
Protection class	IP 67
Field of view depth	10 ... 100 mm
Field of view	90 °
Perspective	0 °
Lighting	5 LEDs dimmable via app
Exposure	automatic
Anti-reflection	automatic
Camera resolution / image sensor	1024 x 768 Px
Interface	USB-C charging socket 5 V / 1 A WIFI IEEE 802,11 b/g/n 2.4 GHz
Memory option	image and video
Memory	via iOS or Android device
Image format	JPEG (1024 x 768 Px)
Video format	MP4 (1024 x 768 Px)
Menu navigation	graphically in App
Operating and storage temperature	-10 ... +60 °C / 14 ... 140 °F (borescope cable) 0 ... 40 °C / 32 ... 104 °F (hand piece)
Power supply	3.7 V Li-Ion battery, 2600 mAh
Operating time	min. 4 h
Recharge time	2 h
Dimensions	207.5 x 35 x 50 mm / 8.1 x 1.3 x 1.9"
Weight	248 g / 8.7 oz

APPLICATION

PCE-VE 800N4

4-way camera head / data storage / diameter 2.8 mm

The inspection camera has a 1.5 m / 4.9 ft long borescope cable. With a diameter of only 2.8 mm, cavities with the smallest access can be viewed with the help of this inspection camera. The camera head of the inspection camera can move freely in 4 directions. Especially in the maintenance of engines, turbines, etc., the high-resolution display of the inspection camera offers a good view of cavities and hard-to-reach places. The moveable camera has a resolution of 400 x 400 pixels. The field of view is 80°, which means that with a relatively short distance to the object to be inspected, very large images can still be taken with the inspection camera. All recordings of the inspection camera can be saved as an image or video.

ISO cal option

» 2.8 mm camera head

» 1.5 m / 4.9 ft borescope cable

» 4-way camera

» 5 " monitor

» image and video memory

» IP 58 camera cable

» 400 x 400 pixel image resolution

» 5 ... 50 mm focus distance
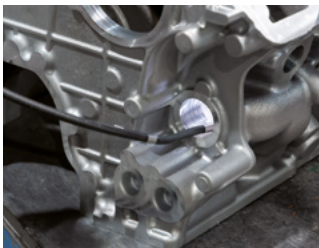
TECHNICAL SPECIFICATIONS

Cable / head diameter	2.8 mm
Direction of movement camera head	4-way
Length of camera head	8 mm
Bending radius	7 mm
Camera head material	Titanium alloy
Camera lens material	Glass
Perspective	80 °
Line of sight	0 °
Focus area	5 ... 50 mm
Image sensor	1/18" color
Trigger	160000 pixels
Refresh rate	30 Hz
Borescope cable length	1.5 m / 4.9 ft
Borescope cable material	Tungsten
Degree of protection borescope cable	IP 58
Operating conditions	Main unit: 0 ... 45 °C / 32 ... 113 °F, 15 ... 90 % RH
	Cable: 0 ... 60 °C / 32 ... 140 °F
Display	LCD 5" 16 : 9 display
Interface	Micro USB
Video output	HDMI
Memory	SDHC memory card up to 64 GB
Power supply	Li-Ion battery 3550 mAh
	5 V power supply
Dimensions	33.5 x 14.5 x 8 cm
Weight	Approx. 700 g / 1.5 lbs

Further models:

PCE-VE 400N4	ø 4 mm
PCE-VE 900N4	ø 2 mm

APPLICATION

PCE-VE 400N4   PCE-VE 800N4   PCE-VE 900N4

Subject to change without notice

PCE-VE 1000

A Versatile 2-way Inspection Instrument

The endoscope PCE-VE 1000 is a versatile inspection instrument. Various endoscope cables with different properties can be connected to the endoscope.
A particular advantage of the endoscope is the large display, which due to its dimensions and resolution offers the user the best possible overview of the surface to be inspected. The endoscope allows the recording of pictures and videos, whereby the videos are additionally stored with an audio recording.
The clear resolution is also good when via button pressing the images are stored on the SD card, inserted in the endoscope. When the SD card is read out on the computer, the recorded pictures and videos are clearly displayed.

ISO cal option

» various endoscope cables are selectable and are optionally available

» storage of images and videos

» 8 GB memory card incl.

» LED lighting

» large 7 " LC display

APPLICATION

TECHNICAL SPECIFICATIONS

Screen	7"
LCD	800 x 480 pixels
Photo resolution / format	640 x 480 pixels / JPEG
Video resolution / format	640 x 480 pixels / MPEG(with sound)
Drop test	1 m / 3.3 ft fall
Power supply	Li - on battery
Interface	USB
Memory	Accommodates SD cards up to 32 GB
AV output	NTSC / PAL
Audio input	Built - in microphone
Brightness setting	Adjustable, 10 levels
Run time per battery charge	5 hours
Charging time battery	3 hours
Charging temperature	10 ... 40 °C / 50 ... 104 °F
Operating temperature	0 ... 60 °C / 32 ... 140 °F
Storage temperature	0 ... 60 °C / 32 ... 140 °F
Protection class	IP 57
Dimensions	240 x 154 x 47 mm / 9.4 x 6 x 1.8 in
Weight	1.3 kg / 2.9 lbs

Optional accessories:

Two-Way Articulating Camera Cable	PCE-VE-2W3-HR
Four-Way Articulating Camera Cable	PCE-VE-4W3-HR
Four-Way Articulating Camera Cable	PCE-VE-4W1-HR
Two-in-One Semi-Flexible Camera Cable	PCE-VE-2in1-N
Semi-rigid borescope cable HighRes	PCE-VE-N-SC1-HR
Semi-Flexible Camera Cable	PCE-VE-N-SC2
Semi-Flexible Camera Cable	PCE-VE-N-SC1
Semi-Flexible Camera Cable	PCE-VE-N-SC30
Flexible Camera Cable	PCE-VE-N-SC10
Flexible Borescope Cable	PCE-VE-N-SC2F
Camera probe	PCE-IVE 300-PROBE
Waterproof Camera Cable	PCE-VE 380N-SC30
Semi-Flexible Camera Cables	PCE-VE-N-SCS
Magnetic Hook Attachment	MAG-H-VE-N
Guide Ball	GB-25-PCE-VE-N
Guide Ball	GB-15-PCE-VE-N
Cable Holder	HT-55-PCE-VE
Centering brush	PCE-VE-CB
Surveying Software	SOFT-M-VE-N

PCE-VE-2W3-HR

PCE-VE-N-SC2F

PCE-IVE 300-PROBE

PCE-VE-N-SC1-HR

TRUST IN EVERY MEASUREMENT.

PCE-VE 1500 SERIES

4-way camera head with electric motors / diameter Ø 2.2 ... 6 mm

The 4-way system makes it possible to move the camera head from the endoscope camera in a 190° bending radius. The viewing angle is 120°. Control is via a joystick that drives the electric motors on the endoscope camera. Thanks to the particularly narrow camera head with a diameter between 2.2 ... 6 mm, the endoscope camera can be used for endoscopy in, for example, engines, fire-

arms, boreholes and other narrow openings. This means that the endoscope camera can be used to quickly and easily inspect weld seams, wear and damage in order to make quick diagnoses. The touch screen of the industrial endoscope has a size of 7".

ISO cal option

» 4-way camera head with electric motors

» 7" touch screen for easy operation

» exchangeable battery with status display

» recording storage on SD card

» motor with endoscope cable can be changed quickly

» HDMI connection for image transmission

» brightness adjustable in 5 steps

» 120° viewing angle and 190° bending radius

APPLICATION

TECHNICAL SPECIFICATIONS

Camera direction	90 °
Resolution	160.000 Pixel
Focusing range	5 ... 50 mm

Further specifications

Camera head material	titanium alloy
Material camera hose	braided tungsten
Material camera lens	glass
Field of view	120 °
Illuminance	50.000 lux
Bending direction	360 ° (4-way camera head)
Bending angle	190 °
Display	7" LCD touch screen
Display resolution	1920 x 1200 pixels
Image format	JPG
Video format	MP4
Image resolution	1280 x 720 pixels
Video resolution	1280 x 720 pixels
Digital magnification	8 x
Memory (internal)	16 GB
Memory (external)	expandable up to 128 GB for approx. 285,000 images or 1500 minutes of video recording
Interface	mini HDMI, USB-A, USB-C (for data transfer only), audio interface, WiFi
Power consumption (endoscope)	10 W
Operating time	>3 hours
Akku	7,4 V (4 x 18650), 6400 mAh, removable
Akku (charging)	12 VDC, 3 A
Power supply	primary: 100 ... 240 VAC 50/60 Hz, 1,5 A secondary: USB-C (PD) maximum 65 W 5 VDC, 3 A 9 VDC, 3 A 12 VDC, 3 A 15 VDC, 3 A 20 VDC, 3,25 A PPS1: 3.6 ... 11 VDC, 3 A PPS2: 3.6 ... 20 VDC, 3 A
Operating conditions (handset)	5 ... 50 °C, <92 % r. h., non-condensing
Operating conditions (endoscope cable)	5 ... 80 °C, <92 % r. h., non-condensing
Storage conditions	5 ... 63 °C, <92 % r. h., non-condensing
Dimensions	366 x 194 x 137 mm
Weight	hand-held unit: 1017 g endoscope cable with electric motor: approx. 600 g battery 550 g

Model	Diameter	Cable length
PCE-VE 1500-60200	6 mm	2 m
PCE-VE 1500-60500	6 mm	5 m
PCE-VE 1500-38200	3,8 mm	2 m
PCE-VE 1500-28200	2,8 mm	2 m
PCE-VE 1500-22190	2,2 mm	1 m
PCE-VE 1500-38209	3,8 mm	2 m

Subject to change without notice

PCE-670

Mini handheld thermometer with large measuring range -33 ... 500 ºC (-27.4 ... 932 ºF)

Simple, handy handheld thermometer for non-contact measurement of surface temperature. The handheld thermometer has a display of the current temperature during the measurement. Within one second you get the surface temperature - the non-contact measuring method even from hot, dangerous or difficult to reach objects. The applications are virtually unlimited. Thus, this handheld thermometer can be used in the control of heating and air conditioning systems, under-floor heating, for detecting hot spots on electrical systems, etc. The emission value of this handheld thermometer is set to 0.95 and thus covers 90 % of all temperature measurement tasks.

ISO cal option

» IR temperature measuring range of -33 ... 500 ºC / -27.4 ... 932 ºF

» measured value display optionally in ºC or ºF

» automatic shutdown

» display of the current and maximum temperature

» last measurement is retained for 2 seconds

» measurement spot ratio 9 : 1

» easy to handle

» incl. battery and manual

TECHNICAL SPECIFICATIONS

Temperature measurement range	-33 ... 500 ºC / -27.4 ... 932 ºF
Resolution	-9.9 ... 199.9 ºC / 14.2 ... 391.8 ºF : 0.1 ºC / 0.18 ºF
	<10 ºC / 50 ºF : 1 ºC / 1.8 ºF
	>200 ºC / 392 ºF : 1 ºC / 1.8 ºF
Accuracy	±2 % of Rd or ±2 ºC / 3.6 ºF the greater value applies
Optical resolution	9 : 1
Emissivity	0.95 (fixed)
Laser	Circle laser
	Class 2 <1mW
Operating time	About 30 h
Operating conditions	0 ... 30 ºC / 32 ... 86 ºF, max. 90 % rh
Storage conditions	-10 ... 40 ºC / 14 ... 104 ºF, max. 65 % rh
Power supply	1.5 V AA battery
Display	LC display
Dimensions	150 x 25 x 27 mm / 5.9 x 1 x 1.1 in
Weight	About 74 g / <1 lb

Optional accessories:

PCE-MS 25	Measuring Point Sticker

APPLICATION

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 temperature)	-35 ... 0 °C / 0 °F: ±2 °C / 3.6 °F + 0.05*TObj
	0 ... 1600 °C: ±2 % of Rd or ±2 °C / 3.6 °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)	±1 % of Rd or ±1 °C / 1.8 °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 µm
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

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

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

APPLICATION

Subject to change without notice

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

TRUST IN EVERY MEASUREMENT.

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

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

APPLICATION

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

TECHNICAL SPECIFICATIONS

Measuring range	-20 ... 300 °C / -4 ... 572 °F
Resolution	0.1 °C / 0.1 °F
Accuracy	±2 % of measured value or ±2 °C / ±3.6 °F the larger value applies
Infrared and real image resolution	320 x 240 pixels
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 ε
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

APPLICATION

Subject to change without notice

PCE-LDC 8

Leak detector for compressed air lines / operating frequency 40 kHz

The Gas Leak Detector is used to locate leaks on compressed air lines. Furthermore, the Gas Leak Detector can also be used on coolant lines or gas lines for leak detection. The Gas Leak Detector is equipped with an ultrasonic sensor that can precisely detect leaks in air lines. The ultrasound sensor from the Gas Leak Detector works at a frequency of 40 kHz. This means that the Gas Leak Detector is calibrated to the medium frequency that leaks on pressure lines emit. This is in the range between 20 ... 80 kHz. A high-pass filter in the leak detector ensures that all noises are filtered at a frequency <40 kHz in order to perform a better leak detection. An integrated amplifier element in the leak detector ensures that the high-frequency tones.

ISO cal option

» working frequency of 40 kHz

» easy to use

» up to 6 h battery operation

» Leak detection via headphones and LCD display

» robust and ergonomic

» can be used over long distances

TECHNICAL SPECIFICATIONS

Measuring principle	Ultrasonic
Measuring medium	Air, coolant, non-explosive gases
Operating frequency	40 kHz ± 2 kHz
Connections	3.5 mm jack plug for sensor
	3.5 mm jack plug for headphones and charger
Display	LC display
Power supply	NiMH battery
Operating time	approx. 6 h without laser pointer
	approx. 4 h with laser pointer
Charging time	about 1.5 h
Operating temperature	Normal operation: 0 ... 40 ° C
	Charging mode: 10 ... 40 ° C
Laser	2nd grade; <1mW; 650 nm
Dimensions	7.54 x 3.44 x 2.09 in; 191.5 x 87.5 x 53 mm
Weight	approx. 250 g

Measurement options pressure vs. Diameter / range

print	diameter	Range
0.5 bar	0.1 mm	6.6 ft, 2 m
	0.2 mm	6.6 ft, 2 m
	0.5 mm	32.8 ft, 10 m

print	diameter	Range
5 bar	0.1 mm	26.2 ft, 8 m
	0.2 mm	45.9 ft, 14 m
	0.5 mm	59.1 ft, 18 m

APPLICATION

PCE-LDC 15

Leakage detection via sound/noise measurement / operating frequency 40 kHz

The leak detector is used in various areas of industry. For example, the leak detector is used on compressed air, gas, steam and vacuum systems, as well as on refrigeration systems and door seals. The working frequency of the leak detector is 40 kHz (± 2 kHz). The sound-proof headphones on the leak detector ensure that it can also be used in extremely noisy environments. The leak detector is used wherever gases can escape from leaks in piping systems. The noises caused by the outflow are often in the ultrasonic range and are therefore imperceptible to the human ear.

ISO cal option

» working frequency 40 kHz (± 2 kHz)

» operating time >10 hours

» various attachments

» transport case for safe transport

» easy to use thanks to the touchscreen

» soundproof headphones

TECHNICAL SPECIFICATIONS

Working frequency	40 kHz (± 2 kHz)
Laser	wavelength 630 ... 660 nm, output power <1mW (laser class 2)
Color display	3.5" touch panel TFT
Connections	3.5 mm jack plug for headphones, power supply socket for connecting an external charger USB port for software updates
Power supply	internal 7.4 V lithium-ion battery
Charging time	max. 4 hours
Operating time	>10 h (continuous operation)
Degree of protection	IP20
Operating conditions	-5 ... +50 °C / 23 ... 122 °F, <95 % RH, non-condensing
Storage conditions	-20 ... 60 °C / -4 ... 140 °F, <95 % RH, non-condensing
Altitude	4000 m above sea level
Permitted Pollution degree	2
Dimensions	263 x 96 x 280 mm / 10.3 x 3.7 x 11" (with preamplifier and horn)
Weight	0.55 kg / 1.2 lb with preamplifier and horn, complete set in case approx. 3.0 kg / 6.6 lb

APPLICATION

PCE-GA 10

Gas leak detector for flammable gases / Optical, acoustic and haptic alarm

The gas leak detector PCE-GA 10 is used to check for leaks in gas pipes and connections. This gas leak detector is suitable for many flammable gases. The gas leak detector has 5 LEDs that inform the gas intensity. In addition to the visual information, the gas leak detector has an audible and haptic alarm. This means that, depending on the level, the gas leak detector emits an alarm tone and vibrates at the same time. The leak detector is therefore ideal for detecting sporadic gases. The gas leak detector is therefore of great help to employees who want to inspect plants during a plant tour or inspect engines, supply lines or gas lines. The gas leak detector is supplied with a rechargeable battery.

ISO cal option

» LED display

» for flammable gases

» 500 mm sensor

» optical, acoustic and haptic alarm

» fast response time

» rechargeable battery

APPLICATION

TECHNICAL SPECIFICATIONS

Testable gases	Acetaldehyde
	Ammonia
	Benzene
	Ethan
	Ethanol
	Ethylene
	Formaldehyde
	Hexane
	ISO-butane
	Methane
	Propane
	P-xylene
	Hydrogen sulfide
	Toluene
	Hydrogen

And compounds in which these gases occur

Measuring range (methane)	0 ... 10000 ppm
Sensitivity (methane)	<50 ppm
Display stages	High: 100 / 400 / 700 /1000 ppm
	Low: 1000 / 4000 / 7000 / 10000 ppm
Response time	<2 s
Heating time	approx. 50 s
Alarm types	Optical, acoustic, haptic
Power supply	3.7 V Li-ion battery
Lifetime sensor	On average, 5 years
Sensor length	500 mm
Dimensions	211 x 70 x 45 mm / 8.3 x 2.7 x 1.7 in
Weight	approx. 400 g / <1 lb

Optional accessories:

Replacement sensor	Order no.:	ESS-PCE-GA 12
Replacement sensor	Order no.:	ESS-PCE-GA 10

Subject to change without notice

PCE-GA 12

Gas flammable gas detector / Measured value display up to 10000 ppm

The gas detector PCE-GA 12 is a very easy-to-use measuring device. This gas detector detects combustible gases and emits a vibrating alarm as well as an audible alarm once a combustible gas has been detected by the gas detector. Thanks to the semi-rigid hose on the gas detection device, the sensor can be aligned in almost any position to reach even inaccessible places.

This makes the gas detection device an ideal measuring device for employees who want to detect sporadically escaping gases (testing of plants during a tour of the plant, checking engines and supply lines, testing gas supply lines). A manual setting of the gas detector is not necessary as the gas detector automatically calibrates.

ISO cal option

» audible alarm with 85 dB

» rechargeable battery for mobile use

» automatic calibration

» measuring range up to 10000 ppm

» for the detection of combustible gases

» durability of the sensor about 5 years

» vibrating alarm when detecting gases

» sensor changeable

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	at low concentration 0 ... 1000 ppm
(only for methane)	at high concentration 0 ... 10000 ppm
Acoustic alarm	Volume: 85 dB
Sensitivity	<10 ppm (with methane)
Measuring interval	<2 seconds
Display	Measurement of combustible gases on the LC display, bar graphs
Calibration	automatically
Warming up	40 seconds
Battery	Polymer Li-ion battery 18500 3.7 V
Power adapter	Primary side: 100 ... 240 V, 50/60 Hz, 0.2 A Secondary side: 5 V, 1 A
Automatic shutdown	turns off if the battery capacity is too low by itself or after 10 minutes if not used.
Sensor durability	about 5 years (sensor is interchangeable)
Probe	semi-rigid 400 mm / 16"
Weight	about 430 g / <1 lb

Subject to change without notice

TRUST IN EVERY MEASUREMENT.

PCE-COM 20

With wide measuring range of up to 112 % IACS or 65 MS/m

The conductivity tester for measuring the electrical conductivity of non-ferrous metals such as aluminium or copper belongs to the group of NDT devices. The conductivity tester is used in non-destructive material testing. By means of the eddy current measuring principle which has proven for this application, the electrical conductivity of metallic materials can be determined quickly and precisely. With its operating frequency of 60 kHz, the conductivity tester has a wide measuring range of 0.51 ... 112 % IACS and reaches an accuracy of +/-0.5 % at 20 °C, with a resolution of up to 0.01 % IACS.

ISO cal option

» user-friendly hand-held meter

» memory for up to 500 groups of measurements

» durable internal rechargeable battery

» lift-off and temperature compensation

» adjustable backlight

» for mobile use

» automatic calibration

» operating frequency of 60 kHz

» incl. 3 calibration plates (titanium 1.03 % IACS, bronze 8.11 % IACS and copper 100 % IACS)

APPLICATION

TECHNICAL SPECIFICATIONS

Operating frequency	60 kHz, sine wave
Conductivity measuring range	0.51 % IACS ... 112 % IACS
	0.3 MS/m ... 65 MS/m
	resistance 0.015388 ... 3.33333 Ω•mm²/m
Conductivity resolution	0.01 % IACS (at <51 % IACS)
	0.1 % IACS (at 51 % IACS ... 112 % IACS)
Conductivity accuracy	±0.5 % at +20 °C / 68 °F
	±1 % at 0 ... +40 °C / 32 ... 104 °F
Lift-off effect	probe compensation 0.5 mm
Temperature measuring range	0 ... +50 °C / 32 ... 122 °F
Temperature accuracy	±0.5 °C
Automatic compensation	Automatic adjustment of conductivity result to the value at 20 °C / 68 °F
Operating conditions	0 ... 50 °C / 32 ... 122 °F, 0 ... 95 % RH
Display	LCD with backlight
Menu languages	English, German, Chinese (simplified)
Power supply	internal rechargeable battery
Probe	Ø 14 mm / ≈ 0.55 in
Memory	up to 500 groups of measurement values
Data interface	USB
Dimensions	220 x 95 x 35 mm / 8.66 x 3.74 x 1.38 in
Weight	415 g / 1 lb (with probe)

Optional accessories:

Calibration standard titanium	1.02 % IACS	Order code PCE-COM 20-CP1
Calibration standard brass	21.02 % IACS	Order code PCE-COM 20-CP9
Calibration standard magnesium	11.88 % IACS	Order code PCE-COM 20-CP11
Calibration standard magnesium	31.88 % IACS	Order code PCE-COM 20-CP3
Calibration standard copper	87.24 % IACS	Order code PCE-COM 20-CP10
Calibration standard copper	60.69 % IACS	Order code PCE-COM 20-CP8
Calibration standard copper	101.03 % IACS	Order code PCE-COM 20-CP13
Calibration standard bronze	8.47 % IACS	Order code PCE-COM 20-CP12
Calibration standard bronze	10.55 % IACS	Order code PCE-COM 20-CP5
Calibration standard bronze	15.24 % IACS	Order code PCE-COM 20-CP2
Calibration standard aluminium	15.29 % IACS	Order code PCE-COM 20-CP7
Calibration standard aluminium	32.07 % IACS	Order code PCE-COM 20-CP6
Calibration standard aluminium	57.41 % IACS	Order code PCE-COM 20-CP4
Calibration standard aluminium	41.21 % IACS	Order code PCE-COM 20-CP14

Subject to change without notice

PCE-MFM 2400 SERIES

Tesla and Gauss measurement for static magnetic fields

With a measuring range up to 2,400 mT, the electromagnetic field meter covers a wide range of measuring tasks. The electromagnetic field meter has an accuracy of 1 % which makes it a very precise meter. The electromagnetic field meter can be used, for instance, to test relays and permanent magnets for existing magnetic fields. It is therefore often used in production processes or in quality control.
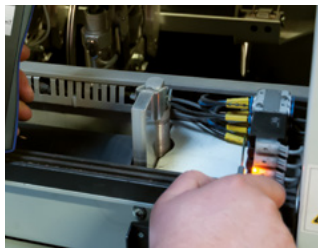
With the backlight of the electromagnetic field meter, the measured values are always easy to read even under poor lighting conditions.

ISO cal option

» very precise measurement technology

» measuring range up to 24,000 G and 2,400 mT

» transversal and axial sensor

» measures static magnetic fields

» automatic shutdown

TECHNICAL SPECIFICATIONS

Measuring range	0... 200 mT
	200... 2,400 mT
	0 ... 2,000 G
	2,000 ... 24,000 G
Accuracy	±1 % of Rd
Resolution	0.01 mT
	0.1 g
Measuring direction	Transversal
Magnetic field	Static (DC)
Unit	mT, G
Power supply	1 x 9 V block battery
Automatic shutdown	Automatic shutdown after 5 minutes in idle status
Modes	Hold mode, measurement mode
Display	Backlight, digital 4-digit display
Operating temperature	32 ... 122 °F, / 0 ... 50 °C
Storage temperature	-4 ... 122 °F / 20 ... 50 °C
Dimensions	185 x 97 x 40 mm / 7.28 x 3.82 x 1.57 in
Weight	0.68 lb, 310 g

Further Models:

PCE-MFM 2400

Sensor	Hall sensor transversal, cable length approx. 3.28 ft., 1 m

PCE-MFM 2400+

Sensor	Axial Hall sensor, cable length approx. 6.56 ft., 2 m
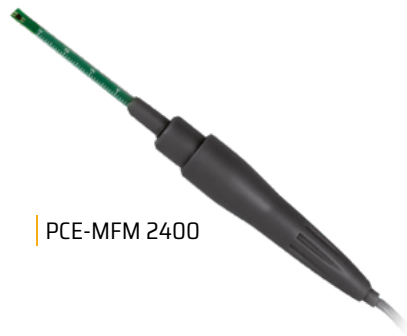
PCE-MFM 2400

PCE-MFM 2400+

APPLICATION

Subject to change without notice

PCE-TDS 200 SERIES

Flow velocity / volume flow and volume / heat quantity

The flow meter has a measuring range of ±32 m/s. With an accuracy of ±1.5 % f.s. for a pipe diameter of DN ≥50, ±3.5 % f.s. for a pipe diameter of DN <50 and a reproducibility of ±0.5 % f.s., the flow meter is a particularly precise measuring device. The installation aid graphically displays the signal quality from the flow meter. In addition, it is graphically displayed whether the sensors of the flow meter are positioned at the correct distance from each other. To carry out flow measurement with the flow meter, the flow velocity, the volume flow and the volume are displayed after entering the pipe and medium specifications.

ISO cal option

» measuring range: ±32 m/s

» reproducibility of ±0.5 % of the measured value

» various ultrasonic probes available

» heat quantity measurement (only PCE-TDS 200+ series)

» data memory for 10 million measuring points (32 GB)

» individually adjustable alarm limits

» USB-C interface for data transfer

» optional: software and calibration certificate ISO or DAkkS

APPLICATION

TECHNICAL SPECIFICATIONS

Flow measurement			Temperature (only PCE-TDS 200+)		
Measuring range	±32 m/s		Measuring range	type B	600 ... 1800 ºC
Resolution	0.001 m/s			type E	-100 ... 900 ºC
Accuracy DN ≥ 50 mm	±1.5 % of Rd for velocities >0.3 m/s			type J	-100 ... 1150 ºC
Accuracy DN < 50 mm	±3.5 % of Rd for velocities >0.3 m/s			type K	-100 ... 1370 ºC
Repeatability	±0.5 % of Rd			type N	-100 ... 1150 ºC
Temperature resistance	-30 ... +160 ºC			type R	0 ... 1700 ºC
Measuring method	N / V / W / Z			type S	0 ... 1500 ºC
				type T	-100 ... +400 ºC
Medium	Petrol		Resolution	0,1 ºC	
	Diesel		Accuracy	type B	±(0,5 % + 3 ºC)
	Ethanol			type E	±(0,4 % + 1 ºC)
	Sea water			type J	±(0,4 % + 1 ºC)
	Methanol			type K	±(0,4 % + 1 ºC)
	Oil			type N	±(0,4 % + 1 ºC)
	Petroleum			type R	±(0,5 % + 3 ºC)
	Crude oil			type S	±(0,5 % + 3 ºC)
	Water			type T	±(0,4 % + 1 ºC)
	User defined (manual input of sound velocity from the medium)				
	Suitable for all liquids with an impurity of less than 5 %.				
Pipe material	Copper CU				
	Steel FE				
	Stainless steel VA				
	Aluminium AL				
	Brass ME				
	Cast iron CI				
	Iron FE				
	Nickel NI				
	Titanium TI				
	Zinc ZI				
	Acrylic AC				
	Polyethylene PE				
	Polypropylene PP				
	Polyvinyl chloride PVC				
	Nylon NY				
	User defined (manual input of the sound velocity of the pipe material)				
Inner pipe lining	No lining				
	Epoxy resin				
	Rubber				
	Mortar				
	Polystyrene PS				
	Polyethylene PE				
	Polytetrafluoroethylene PTFE				
	Polyurethane PU				
	Polypropylene PP				
	User defined (man. Input of the longitudin Sound velocity of the inner lining of the pipe)				

Subject to change without notice

TECHNICAL SPECIFICATIONS

Further specifications

Measuring parameters PCE-TDS 200	flow velocity / volume flow / volume
Measuring parameters PCE-TDS 200+	flow velocity / volume flow / volume Temperature / Heat output / Heat quantity
Unit | linear dimension	mm / in
Unit | Flow velocity	m/s / ft/s
Unit | Flow rate	m³ / l / gal / igl / mgl / cf / bal / ib / ob
Unit | Volume	m³ / l / gal / igl / mgl / cf / bal / ib / ob
Unit | Temperature	ºC / ºF
Unit | Heat quantity	K / kJ / MJ / Wh / kWh / MWh / Btu / kBtu / MBtu
Unit | Heat output	W / kW / MW / J/h / kJ/h / MJ/h / Btu/h / kBtu/h / MBtu/h
Unit | Cost display	€ / £ / $ / TL / Zł / ¥
Date / Time	second / minute / hour / day
Display	LCD of 2.8
Units	metric / Imperial
Memory	10 million values (32 GB)
Menu languages	German / Chinese / Danish / English / Turkish / French / Italian / English / Turkish / French / Italian / Italian / Japanese / Dutch / Polish / Portuguese / Russian / Polish / Portuguese / Russian / Spanish
Operating and Storage conditions	-20 ... +65 ºC 10 ... 95 % H.r. non-condensing
Interface	USB | For online measurement, reading out of the internal memory and for recharging the battery
Protection class	IP52
Power supply	LiPo battery / 3.7 V / 2500 mAh
Charger	USB / 5 V DC / 500 mA
Operating time	approx. 10 h
Dimensions	165 x 85 x 32 mm
Weight	255 g

Sensor Order.-no.	Nominal diameter in DN *	Dimensions Sensor	Temperature Measuring range	Rail
PCE-TDS 200 L SENSOR	DN 300 ... 6000	70 x 40 x 37 mm	-30 ... 160 ºC	no
PCE-TDS 200 M SENSOR	DN 50 ... 700	70 x 40 x 37 mm	-30 ... 160 ºC	no
PCE-TDS 200 MR SENSOR	DN 50 ... 700	280 x 60 x 40 mm	-30 ... 160 ºC	yes
PCE-TDS 200 S SENSOR	DN 15 ... 100	45 x 30 x 30 mm	-30 ... 160 ºC	no
PCE-TDS 200 SR SENSOR	DN 15 ... 100	198 x 45 x 25 mm	-30 ... 160 ºC	yes

*The nominal diameter is the inside diameter of a pipe.
Note : If you order the sensor later, we need the PCE-TDS 200 device to adapt the sensor to the device.

TECHNICAL SPECIFICATIONS

Model PCE-TDS 200	Sensors are included in the scope of delivery Standard version
PCE-TDS 200 L	PCE-TDS 200 L SENSOR for DN 300 ... 6000
PCE-TDS 200 M	PCE-TDS 200 M SENSOR for DN 50 ... 700
PCE-TDS 200 ML	PCE-TDS 200 M SENSOR for DN 50 ... 700 PCE-TDS 200 L SENSOR for DN 300 ... 6000
PCE-TDS 200 MR	PCE-TDS 200 MR SENSOR for DN 50 ... 700
PCE-TDS 200 S	PCE-TDS 200 S SENSOR for DN 15 ... 100
PCE-TDS 200 SL	PCE-TDS 200 S SENSOR for DN 15 ... 100 PCE-TDS 200 L SENSOR for DN 300 ... 6000
PCE-TDS 200 SM	PCE-TDS 200 S SENSOR for DN 15 ... 100 PCE-TDS 200 M SENSOR for DN 50 ... 700
PCE-TDS 200 SML	PCE-TDS 200 S SENSOR for DN 15 ... 100 PCE-TDS 200 M SENSOR for DN 50 ... 700 PCE-TDS 200 L SENSOR for DN 300 ... 6000
PCE-TDS 200 SR	PCE-TDS 200 SR SENSOR for DN 15 ... 100

Model PCE-TDS 200+	Sensors included in the scope of delivery Version with temperature sensors
PCE-TDS 200+ L	PCE-TDS 200 L SENSOR for DN 300 ... 6000
PCE-TDS 200+ M	PCE-TDS 200 M SENSOR for DN 50 ... 700
PCE-TDS 200+ ML	PCE-TDS 200 M SENSOR for DN 50 ... 700 PCE-TDS 200 L SENSOR for DN 300 ... 6000
PCE-TDS 200+ MR	PCE-TDS 200 MR SENSOR for DN 50 ... 700
PCE-TDS 200+ S	PCE-TDS 200 S SENSOR for DN 15 ... 100
PCE-TDS 200+ SL	PCE-TDS 200 S SENSOR for DN 15 ... 100 PCE-TDS 200 L SENSOR for DN 300 ... 6000
PCE-TDS 200+ SM	PCE-TDS 200 S SENSOR for DN 15 ... 100 PCE-TDS 200 M SENSOR for DN 50 ... 700
PCE-TDS 200+ SML	PCE-TDS 200 S SENSOR for DN 15 ... 100 PCE-TDS 200 M SENSOR for DN 50 ... 700 PCE-TDS 200 L SENSOR for DN 300 ... 6000
PCE-TDS 200+ SR	PCE-TDS 200 SR SENSOR for DN 15 ... 100

Accessories

CAL-PCE-TDS-ISO	ISO Calibration Certificate
CAL-PCE-TDS-DAkkS	DAkkS Calibration Certificate
CAL-T2	Calibration certificate for 2-channel thermometer
Additional sensors	see table above
PCE-TDS 200 case	spare transport case
PCE-TDS 200 SW	software
TF-RA330	Temperature Contact Sensor Typ T, 1 m
TF-RA330-3	Temperature Contact Sensor Typ T, 3 m
TF-RA330-5	Temperature Contact Sensor Typ, 5 m
TT-GEL	Ultrasonic Contact Gel, 100 ml
K-Gel	High Temperature Coupling Gel, 100 ml

Delivery Scope

1 x Ultrasonic flow meter PCE-TDS 200
1 x Flow sensors (depending on model)
2 x Temperature sensor TF-RA330 (only PCE-TDS 200+)
2 x Connection cable 5 m
2 x detachable cable ties
1 x power supply unit
1 x USB-C cable
1 x ultrasonic contact gel
1 x PCE measuring tape
1 x plastic case
1 x instruction manual

Subject to change without notice

PCE-HWA 30

Hot wire anemometer/ Telescopic arm with swiveling head / Measuring range 0.3 ... 30.0 m/s

The air flow meter measures the flow velocity according to the hot wire principle. This guarantees a particularly compact design. The measuring range of the hot wire anemometer is between 0.3 ... 30.0 m/s / 0.98 ... 98.4 ft/s. In addition to the flow velocity, the hot wire anemometer can measure the volume flow and the ambient temperature. For each measurement, a Beaufort scale is displayed next to the measured value. The current wind strength can be read from this scale. With the integrated data memory, up to 960 measured values can be recorded with the air flow meter. The data can be read directly on the hot wire anemometer.

ISO cal option

» hot wire anemometer with data storage

» software for reading out the measured values

» swiveling telescopic arm

» measuring range 0.3 ... 30.0 m/s / 0.98 ... 98.4 ft/s

» data memory for 960 measured values

» beaufort scale

APPLICATION

TECHNICAL SPECIFICATIONS

Wind speed	m/s
Measuring range	0.3 ... 30.0 m/s
Resolution	0.01 m/s
Accuracy	±3 % ±0.1 m/s of measured value

Wind speed	ft/min
Measuring range	60 ... 5904 ft/min
Resolution	0.01, 0.1, 1 ft/min
Accuracy	±3 % ±20 ft/min of measured value

Wind speed	knots
Measuring range	0.6 ... 58.3 knots
Resolution	0.01 knots
Accuracy	±3 % ±0.2 knots of measured value

Wind speed	km/h
Measuring range	1.0 ... 108.0 km/h
Resolution	0.01 km/h
Accuracy	±3 % ±0.4 km/h of measured value

Wind speed	mph
Measuring range	0.7 ... 67 mph
Resolution	0.01 mph
Accuracy	±3 % ±0.2 mph of measured value

Volume flow	CMM (m³/min)
Measuring range	0 ... 999900 m³/min
Resolution	0.001 ... 100 m³/min
Adjustable area	0.001 ... 999 m²

Volume flow	CFM (FT³/min)
Measuring range	0 ... 999900 ft³/min
Resolution	0.001 ... 100 m³/min
Adjustable area	0.001 ... 999 m³

Temperature measurement	°C
Measuring range	0 ... 45 °C
Resolution	0.1 °C
Accuracy	±1.0 °C

Temperature measurement	°F
Measuring range	32 ... 113 °F
Resolution	0.18 °F
Accuracy	±1.8 °F

Further specifications	
Probe length	270 ... 990 mm / 10.63 ... 38.98"
Probe diameter	Ø 0.8 ... 1.2 mm / 0.031 x 0.047"
Interface	Micro USB
Data memory	960 measured values
Power supply	3.7 V, 1000 mAh battery
	5 V DC, 1 A Micro USB interface
Power consumption	15 ... 35 mA without
	background lighting
	70 ... 100 mA with
	background lighting
Battery discharged display	<3.4 V
Operating conditions	0 ... 50 °C / 32 ... 122 °F,
	40 ... 80 % RH, non-condensing
Storage conditions	-20 ... 60 °C / -4 ... 140 °F,
	< 80 % RH, non-condensing
Dimensions	70 x 194 x 35 mm / 2.7 x 7.6 x 1.3"
Weight	400 g / 14 oz

Subject to change without notice

TRUST IN EVERY MEASUREMENT.

PCE-AM 45

Air velocity meter with Beaufort scale / Measuring range 0.3 ... 45.0 m/s

The multifunction air velocity meter determines the wind speed via an impeller with a diameter of 65 mm / 2.5". The anemometer can reliably determine the speed in a measuring range of 0.3 ... 45.0 m/s / 0.9 ... 147 ft/s. In addition to the speed measurement with the anemometer, a volume flow measurement can also be carried out. In addition to the normal measured value display on the anemometer, a

Beaufort scale is stored. The wind strength level is displayed directly on the Beaufort scale on the anemometer. Depending on the orientation of the impeller, the multifunction air velocity meter can also be used to determine the wind direction. This is made possible by the anemometer's built-in gyroscope.

ISO cal option

» battery operation for mobile use

» telescopic probe with a length of 270 ... 540 mm / 10.63 ... 21.26"

» impeller opening of 65 mm / 2.5"

» velocity and volume flow measurement

» measuring range 0.3 ... 45.0 m/s / 0.9 ... 147 ft/s

» backlit LC display

APPLICATION

TECHNICAL SPECIFICATIONS

Wind speed	m/s
Measuring range	0.3 ... 45.0 m/s
Resolution	0.01 m/s
Accuracy	±3 % ±0.1 m/s of measured value

Wind speed	ft/min
Measuring range	60 ... 8800 ft/min
Resolution	0.01, 0.1, 1 ft/min
Accuracy	±3 % ±20 ft/min of measured value

Wind speed	knots
Measuring range	0.6 ... 88.0 knots
Resolution	0.01 knots
Accuracy	±3 % ±0.2 knots of measured value

Wind speed	km/h
Measuring range	1.0 ... 140.0 km/h
Resolution	0.01 km/h
Accuracy	±3 % ±0.4 km/h of measured value

Wind speed	mph
Measuring range	0.7 ... 100 mph
Resolution	0.01 mph
Accuracy	±3 % ±0.2 mph of measured value

Wind direction	
Measuring range	0 ... 360 °
Resolution	1 °
Accuracy	- - -

Volume flow	CMM (m³/min)
Measuring range	0 ... 999900 m³/min
Resolution	0.001 ... 100 m³/min
Adjustable area	0.001 ... 999 m²

CFM (FT³/min)	
Measuring range	0 ... 999900 ft³/min
Resolution	0.001 ... 100 m³/min
Adjustable area	0.001 ... 999 m³

Temperature measurement	°C
Measuring range	0 ... 45 °C
Resolution	0.1 °C
Accuracy	±1.0 °C

°F	
Measuring range	32 ... 113 °F
Resolution	0.18 °F
Accuracy	±1.8 °F

Moisture measurement	
Measuring range	10 ... 90 % RH
Resolution	0.1 % RH
Accuracy	±5 % RH

Further specifications	
Probe length	270 ... 540 mm / 10.63 ... 21.26"
Probe opening	Ø 65 mm / 2.5"
Interface	Micro USB
Data memory	960 measured values
Power supply	4 x 1.5 V AAA batteries
Power consumption	15 ... 20 mA without background lighting 20 ... 25 mA with background lighting 0 ... 8 µA standby
Battery discharged display	<4.5 V
Operating conditions	0 ... 50 °C / 32 ... 122 °F, 40 ... 80 % RH, non-condensing
Storage conditions	-20 ... 60 °C / -4 ... 140 °F, <80 % RH, non-condensing
Dimensions	70 x 194 x 35 mm / 2.7 x 7.6 x 1.3"
Weight	400 g / 14.1 oz

PCE-CTI 10

Measuring range 0 ... 1500 V AC/DC / with Bluetooth 4.0 interface

The clamp meter is the ideal measuring device for measuring voltages up to 1500 V AC/DC and currents up to 1000 A AC/DC. The current measurement with the clamp meter is inductive. To do this, the supply line is placed in the clamp meter. This has the particular advantage that the current can be measured during operation. This means that the clamp meter is used, for example, for maintenance work on a photovoltaic system. Photovoltaic systems consist of many different solar cells that are connected in series with one another. Here, the current clamps can be used to measure the individual currents of individual rows in order to limit possible errors.

ISO cal option

» measuring range 0 ... 1500 V AC/DC

» data logging for up to 100,000 measured values

» inrush current measurement

» additionally with LowZ voltage measurement

» 2.36" TFT display

» with voltage and temperature measurement

» optionally with calibration certificate

APPLICATION

TECHNICAL SPECIFICATIONS

Storage space	16 groups with a total storage space of 100,000 measured values	Resolution	0.1 V
		Accuracy	50 ... 60 Hz: ±(1.2 % of
Clamp diameter horizontal	38 mm / 1.49"		measured value + 5 digits)
Clamp diameter vertical	63 mm / 2.48"		61 ... 1 kHz: ±(2.5 % of
Clamp opening	45 mm / 1.77"		measured value + 5 digits)
Protection class	IP65	Measuring range	0 ... 1500 V
Interface	Bluetooth 4.0	Resolution	1 V
Pollution degree	2	Accuracy	50 ... 60 Hz: ±(1.2 % of
Insulation categories	CAT IV 600 V, CAT III 1000 V, CAT II 1500 V		measured value + 5 digits)
			61 ... 1 kHz: ±(2.5 % of
Maximum working height	2000 m / 6562 ft		measured value + 5 digits)
Power supply battery	7.4 V, 1200 mAh Li-ion battery		
Power supply charger	Primary: 100 ... 240 V AC, 50 ... 60 Hz	**AC voltage with low input impedance (LowZ)**	
	Secondary: 12 V DC, 2 A	Measuring range	0.000 ... 6.000 V
Plug connection charger	Europa, USA, England, China	Resolution	0.001 V
Battery status display	available	Accuracy	±(3.0 % of measured value + 40 digits)
Automatic switch-off	switched off, 15, 30 or 60 minutes	Measuring range	0.00 ... 60.00 V
Display	2.36" TFT	Resolution	0.01 V
Display frequency	3 Hz	Accuracy	±(3.0 % of measured value + 40 digits)
Reference conditions	18 ... 28 °C, 64 ... 82 °F; <80 % RH, non-condensing	Measuring range	0.0 ... 300.0 V
		Resolution	0.1 V
Dimensions	275 x 100 x 45 mm / 10.8 x 3.9 x 1.7"	Accuracy	±(3.0 % of measured value + 40 digits)
Weight	481 g / 16.9 oz		

DC voltage		**DC and AC voltage (50 ...1 kHz)**	
Measuring range	±600.0 mV	Measuring range	0.000 ... 6.000 V
Resolution	0.1 mV	Resolution	0.001 V
Accuracy	±(0.8 % of measured value + 8 digits)	Accuracy	±(2.5 % of measured value + 40 digits)
Measuring range	±6.000 V	Measuring range	0.00 ... 60.00 V
Resolution	0.001 V	Resolution	0.01 V
Accuracy	±(0.5 % of measured value + 5 digits)	Accuracy	±(2.5 % of measured value + 40 digits)
Measuring range	±60.00 V	Measuring range	0.0 ... 600.0 V
Resolution	0.01 V	Resolution	0.1 V
Accuracy	±(0.5 % of measured value + 5 digits)	Accuracy	±(2.5 % of measured value + 40 digits)
Measuring range	±600.0 V		
Resolution	0.1 V		
Accuracy	±(0.8 % of measured value + 5 digits)		
Measuring range	±1500 V	More specifications online:	
Resolution	1 V		
Accuracy	±(0.8 % of measured value + 5 digits)		

AC voltage	
Measuring range	0.000 ... 6.000 V
Resolution	0.001 V
Accuracy	50 ... 60 Hz: ±(1.2 % of measured value + 5 digits)
	61 ... 1 kHz: ±(2.5 % of measured value + 5 digits)
Measuring range	0.00 ... 60.00 V
Resolution	0.01 V
Accuracy	50 ... 60 Hz: ±(1.2 % of measured value + 5 digits)
	61 ... 1 kHz: ±(2.5 % of measured value + 5 digits)
Measuring range	0.0 ... 600.0 V

PCE-DC 25

Current measurement 0 ... 1000 A AC/DC / Electrical tester with Bluetooth interface

The electrical tester has a measuring range of 0... 1000 A AC/DC. The current is measured inductively using the clamp on the measuring device. Live supply lines with a diameter of up to 32 mm (1.2") can be connected to the clamp meter. With the optional Rogowski coil, the measuring range of the clamp meter can be extended to up to 3000 A AC. The clamp meter has sub-functions for current measurement. The

inrush current can be measured with the clamp meter. This is a particularly important function, as motors such as those installed in ventilation systems or hall lighting require a particularly high current when switched on. The electrical tester can be connected to an Android or iOS device via the Bluetooth interface.

ISO cal option

» measuring range 0 ... 1000 A AC/DC
» bluetooth interface
» inrush current measurement
» not Connected Voltage function
» LC colour display
» optionally with ISO certificate

APPLICATION

TECHNICAL SPECIFICATIONS

Storage space	16 groups with a total storage space of 100,000 measured values
Clamp diameter horizontal	38 mm / 1.49"
Clamp diameter vertical	63 mm / 2.48"
Clamp opening	45 mm / 1.77"
Protection class	IP65
Interface	Bluetooth 4.0
Pollution degree	2
Insulation categories	CAT IV 600 V, CAT III 1000 V, CAT II 1500 V
Maximum working height	2000 m / 6562 ft
Power supply battery	7.4 V, 1200 mAh Li-ion battery
Power supply charger	Primary: 100 ... 240 V AC, 50 ... 60 Hz Secondary: 12 V DC, 2 A
Plug connection charger	Europa, USA, England, China
Battery status display	available
Automatic switch-off	switched off, 15, 30 or 60 minutes
Display	2.36" TFT
Display frequency	3 Hz
Reference conditions	18 ... 28 °C, 64 ... 82 °F; <80 % RH, non-condensing
Dimensions	275 x 100 x 45 mm / 10.8 x 3.9 x 1.7"
Weight	481 g / 16.9 oz

DC voltage
Measuring range	±600.0 mV
Resolution	0.1 mV
Accuracy	±(0.8 % of measured value + 8 digits)
Measuring range	±6.000 V
Resolution	0.001 V
Accuracy	±(0.5 % of measured value + 5 digits)
Measuring range	±60.00 V
Resolution	0.01 V
Accuracy	±(0.5 % of measured value + 5 digits)
Measuring range	± 600.0 V
Resolution	0.1 V
Accuracy	±(0.8 % of measured value + 5 digits)
Measuring range	±1500 V
Resolution	1 V
Accuracy	±(0.8 % of measured value + 5 digits)

AC voltage
Measuring range	0.000 ... 6.000 V
Resolution	0.001 V
Accuracy	50 ... 60 Hz: ±(1.2 % of measured value + 5 digits) 61 ... 1 kHz: ±(2.5 % of measured value + 5 digits)
Measuring range	0.00 ... 60.00 V
Resolution	0.01 V
Accuracy	50 ... 60 Hz: ±(1.2 % of measured value + 5 digits) 61 ... 1 kHz: ±(2.5 % of measured value + 5 digits)
Measuring range	0.0 ... 600.0 V

Resolution	0.1 V
Accuracy	50 ... 60 Hz: ±(1.2 % of measured value + 5 digits) 61 ... 1 kHz: ±(2.5 % of measured value + 5 digits)
Measuring range	0 ... 1500 V
Resolution	1 V
Accuracy	50 ... 60 Hz: ±(1.2 % of measured value + 5 digits) 61 ... 1 kHz: ±(2.5 % of measured value + 5 digits)

AC voltage with low input impedance (LowZ)
Measuring range	0.000 ... 6.000 V
Resolution	0.001 V
Accuracy	±(3.0 % of measured value + 40 digits)
Measuring range	0.00 ... 60.00 V
Resolution	0.01 V
Accuracy	±(3.0 % of measured value + 40 digits)
Measuring range	0.0 ... 300.0 V
Resolution	0.1 V
Accuracy	±(3.0 % of measured value + 40 digits)

DC and AC voltage (50 ... 1 kHz)
Measuring range	0.000 ... 6.000 V
Resolution	0.001 V
Accuracy	±(2.5 % of measured value + 40 digits)
Measuring range	0.00 ... 60.00 V
Resolution	0.01 V
Accuracy	±(2.5 % of measured value + 40 digits)
Measuring range	0.0 ... 600.0 V
Resolution	0.1 V
Accuracy	±(2.5 % of measured value + 40 digits)

More specifications online:

Subject to change without notice

PCE-TG 75A

Material thickness measurement up to 225 mm

The thickness meter can measure material thicknesses up to 225 mm / 8.85". So that the material thickness of a wide variety of homogeneous materials can be measured, it is possible to store the corresponding speed of sound in the thickness meter. For materials such as steel, aluminum, zinc, silver and gold, the appropriate sound speeds are already stored in the device library. This means that the thickness meter can be used universally. With the limit value function in the thickness meter, individual maximum and minimum values can be stored. If the measured value of the test piece is outside the limits, the thickness meter signals this visually.

ISO cal option

» measured value memory

» calibration reference on the housing

» automatic shutdown

» material thickness measurement up to 225 mm / 8.85"

» battery status indicator

» optionally with ISO calibration certificate

TECHNICAL SPECIFICATIONS

Measuring range	1.00 ... 225.0 mm / 0.04 ... 8.85"
Resolution	0.01 mm at ≤99.99 mm
	0.1 mm at ≥100.0 mm
Accuracy	±0.5 % of measured value + 0.05 mm
Storage space	500 measured values
Probe frequency	5 MHz
Standard sensor	sensor PCE-TG 5M10d

Further specifications

Adjustable speed of sound	1000 ... 9999 m/s
Smallest pipe diameter	Ø 20 x 3 mm (steel)
Material library	15 memory locations
Calibration reference	4 mm
Display	2.4 inch TFT LCD color display with brightness adjustment
Power supply	3 x 1.5 V AA batteries
Automatic switch-off	switched off, 2, 5, 10, 30 minutes
Ambient conditions	0 ... 40 °C / 32 ... 104 °F, <90 % RH, non-condensing
Dimensions	168 x 87 x 35 mm / 6.4 x 3.2 x 1.5"
Weight	230 g / 8.1 oz

Optional accessories:

Standard probe for the PCE-TG 75/150	Order no.: PCE-TG 5M10d

APPLICATION

PCE-TG 150A

Material thickness meter up to 300 mm

The thickness meter can measure material thicknesses up to 300 mm / 11.81". So that the material thickness of a wide variety of homogeneous materials can be measured, it is possible to store the corresponding speed of sound in the thickness meter. For materials such as steel, aluminum, zinc, silver and gold, the appropriate sound speeds are already stored in the device library. This means that the thickness meter can be used universally. With the limit value function in the thickness meter, individual maximum and minimum values can be stored. If the measured value of the test piece is outside the limits, the thickness meter signals this visually.

ISO cal option

» measured value memory

» calibration reference on the housing

» automatic shutdown

» material thickness measurement up to 300 mm / 11.81"

» battery status indicator

» data logger

» optionally high temperature sensor

» optionally with ISO calibration certificate

TECHNICAL SPECIFICATIONS

Measuring range	1.00 ... 300.0 mm / 0.04 ... 11.81"
Resolution	0.01 mm at ≤99.99 mm
	0.1 mm at ≥100.0 mm
Accuracy	±0.5 % of measured value +0.05 mm
Storage space	1500 measured values
Probe frequency	5 MHz / 2.5 MHz
Standard sensor	sensor PCE-TG 5M10d

Further specifications

Adjustable speed of sound	1000 ... 9999 m/s
Smallest pipe diameter	Ø 20 x 3 mm (steel)
Material library	15 memory locations
Calibration reference	4 mm
Display	2.4 inch TFT LCD color display with brightness adjustment
Power supply	3 x 1.5 V AA batteries
Automatic switch-off	switched off, 2, 5, 10, 30 minutes
Ambient conditions	0 ... 40 ºC / 32 ... 104 ºF, <90 % RH, non-condensing
Dimensions	168 x 87 x 35 mm / 6.4 x 3.2 x 1.5"
Weight	230 g / 8,11 oz

Further Model:

PCE-TG 150A HT	Probe frequency 5 MHz
PCE-TG 150 F2.5	Probe frequency 2.5 MHz

Optional accessories:

2.5 Mhz sensor	Order no.: PCE-TG 2.5M
High temperature sensor	Order no.: PCE-TG HT
Miniature sensor	Order no.: PCE-TG 5M6d
Standard probe for the PCE-TG 75A/150A	Order no.: PCE-TG 5M10d

APPLICATION

PCE-TG 300 SERIES WITH BLUETOOTH

With a wide measuring range of up to 600 mm

The PCE-TG 300 is a wall thickness gauge with special probes for various applications. In general, the wall thicknesses of all homogeneous materials can be measured with the PCE-TG 300. For damping or scattering materials such as plastic or cast iron, a special probe is available. An angled 90 ° probe also enables measurements at hard-to-reach measuring positions. The speed of sound can be set freely and thus adapted to a wide variety of materials. The measured values are displayed directly on the easy-to-read TFT colour display.

ISO cal option

» wide measuring range
» various probes available
» battery operation
» fault and cavity detection
» internal measurement data memory
» printing via Bluetooth

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	PE: pulse-echo mode 0.65 ... 600 mm (steel)
Accuracy	±0.04 mm H [mm] (< 10 mm); ±0.4 % H [mm] (> 10 mm) H refers to the material thickness of the workpiece
Resolution	0.1 mm / 0.01 mm / 0.001 mm (adjustable)
Measurable materials	Metals Plastics Ceramics Epoxy resin Glass and all homogeneous materials
Working modes	Pulse echo mode (fault and cavity detection) Echo-Echo mode (hiding layer thicknesses, e.g. lacquers)
Calibration	Sound velocity calibration Zero point calibration Two-point calibration
View mode	Normal mode, scan mode, difference mode
Units	mm / inch
Data transfer	Printing via Bluetooth / USB 2.0
Memory	Non-volatile memory with 100 data groups with 100 data sets each
Operating time	Continuous operation 100 h Automatic stand-by mode (adjustable) Automatic power off mode (adjustable)
Power supply	4 x AA battery 1.5 V
Display	320 x 240 pixel TFT LCD colour display with brightness adjustment
Operating conditions	0 ... 50 ℃ / 32 ... 122 °F, ≤80 % RH non condensing
Storage conditions	-20 ... 70 ℃ / -4 ... 158 °F, ≤80 % RH non-condensing
Dimensions	185 x 97 x 40 mm / 7.3 x 3.8 x 1.6 in
Weight	375 g / < 1 lb

Models

PCE-TG 300-P5EE

Frequency	5 MHz
Diameter	10 mm
Measurement range	P-E: 2 ... 600 mm, E-E: 2,5 ... 100 mm Minimum pipe
diameter	20 x 3 mm
Description	normal measurement and E-E test

PCE-TG 300-N02 (not suitable for curved materials)

Frequency / Ø	2.5 MHz / 14 mm
Measurement range	3 ... 40 mm (steel) 3 ... 300 mm (steel)
Description	For damping / scattering materials (plastics, cast iron)

PCE-TG 300-N05

Frequency / Ø	5 MHz / 10 mm
Measurement range	1 ... 600 mm (steel)
Minimum pipe diameter	20 x 3 mm
Description	normal measurement

PCE-TG-300-N05/90
N05 / 90 °

Frequency / Ø	5 MHz / 10 mm
Measurement range	1 ... 600 mm (steel)
Minimum pipe diameter	20 x 3 mm
Description	normal measurement

PCE-TG 300-N07

Frequency / Ø	7 MHz / 6 mm
Measurement range	0.65 ... 200 mm (steel)
Minimum pipe diameter	15 x 2 mm
Description	for thin-walled or strongly curved pipes

PCE-TG 300-HT5

Frequency / Ø	5 MHz / 12 mm
Measurement range	1 ... 600 mm (steel)
Minimum pipe diameter	30 mm
Description	for high temperatures (max. 300 ℃)

Subject to change without notice

PCE-CT 65

For measuring the colour thickness on ferrous and non-ferrous metals

PCE-CT 65 is a coating thickness gauge that uses magnetic induction (ferrous) or eddy current (non-ferrous) to take non-destructive measurements of coating and dry film thickness (DFT) on metal substrates such as steel and aluminum. This thickness gauge is ideal for painted and powder-coated surface testing, automotive paint inspection, coated material testing, and manufacturing quality control applications. The easy-to-use downloadable PC-compatible software included with this thickness gauge allows for detailed analysis of measurement results via computer. Measurement values are shown in a table and different working modes can be selected for data filtering.

ISO cal option

- » for ferrous and non-ferrous metals
- » immediately ready to measure
- » large measuring range
- » measured value memory for up to 1500 measurements
- » two measuring modes
- » comfortable one-hand operation
- » comes with storage case
- » calibration plates for accuracy testing

APPLICATION

TECHNICAL SPECIFICATIONS

Ferrous metals

Principle	Magnetic induction
Measuring range	0 ... 1350 µm / 0 ... 53.1 mils
Accuracy	0 ... 1000 µm: (±2.5 % ±2 µm)
	1000 µm ... 1350 µm: ±3.5 %
	0 ... 39.3 mils: (±2 % ±0.08 mils)
	39.3 mils ... 53.1 mils: ±3.5 %
Resolution	0 ... 100 µm: 0.1 µm
	100 µm ... 1000 µm: 1 µm
	in 1000 mm ... 1350 µm: 0.01 mm
	0 ... 10 mils: 0.01 mils
	10 mils ... 53.1 mils: 0 ... 1 mils
Smallest surface	Ø 7 mm / Ø 0.3 in
Min. curvature radius	1.5 mm / 0.05 in
Min. substrate thickness	0.5 mm / 0.02 in

Non-ferrous metals

Principle	Eddy current
Measuring range	0 ... 1350 µm / 0 ... 53.1 mils
Accuracy	0 ... 1000 µm: ±(2.5 % ±2 µm)
	1000 µm ... 1350 µm: ±3.5 %
	0 ... 39.3 mils: ±(2 % ±0.08 mils)
	39.3 mils ... 53.1 mils: ±3.5 %
Resolution	0 ... 100 µm: 0.1 .mu.m
	100 µm ... 1000 µm: 1 µm
	in 1000 mm ... 1350 µm: 0.01 mm
	0 ... 10 mils: 0.01 mils
	10 mils ... 53.1 mils: 0 ... 1 mils
Smallest surface	Ø 5 mm / Ø 0.2 in
Min. curvature radius	3 mm / 0.1 in
Min. substrate thickness	0.3 mm / 0.01 in
Units	µm, mils
Functions	Alarm function, display lighting, automatic shutdown, calibration, memory function
Memory option	30 storage groups with a capacity of 50 measurements each = 1500 measurements total
Interface	USB
Environmental conditions	0 ... 40 °C / 32 °F ... 104 °F, 20 % ... 90 % rh
Power supply	2 x 1.5 V AAA batteries

Subject to change without notice

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

TECHNICAL SPECIFICATIONS

Measuring range	0 ... 1250 μm (0 ... 49.2 mils)
Resolution	1 μm (0.039 mils)
Accuracy	±(3 % + 2 μm) or ± (3 % + 0.079 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)

APPLICATION

TRUST IN EVERY MEASUREMENT.

PCE-CT 29

Measuring range of 0 ... 2000 μm / Micro-USB / visual and acoustic alarm

The material tester has a measuring range of 0 ... 2000 μm. The material tester can measure the coating thickness on ferrous (Fe) and non-ferrous (NFe) metals.

For a better analysis of the measurements, the coating thickness gauge has a measuring function based on the SSPC standards. With this function, the corrosion protection of a coating can be checked

with the material tester. The group function stores the measured values directly. A memory of 50 groups with 50 measurements each is available. In each group, statistics are created for all measured values from the material tester. All measurement data and statistics can be recalled after a measurement run.

ISO cal option

» measuring range 0 ... 2000 μm

» with SSPC measuring function

» individually adjustable limit value alarms

» data memory with up to 2500 measured values

» temperature and humidity measuring function

» optionally with ISO calibration certificate

APPLICATION

TECHNICAL SPECIFICATIONS

Measurement on ferrous metal (Fe)

Measuring range	0 ... 2000 μm
Resolution	0.1 μm @ 0.0 ... 99.9 μm
	1 μm @ 100 ... 2000 μm
Accuracy	±(2 % ±2 μm of Rd.)
Repeatability	±(1 % ±1 μm of Rd.)
Smallest radius of curvature	1.5 mm
Smallest measuring area	Ø 7 mm
Smallest layer thickness	0.5 mm

Measurement on non-ferrous metal (NFe)

Measuring range	0 ... 2000 μm
Resolution	0.1 μm @ 0.0 ... 99.9 μm
	1 μm @ 100 ... 2000 μm
Accuracy	±(2 % ±2 μm of Rd.)
Repeatability	±(1 % ±1 μm of Rd.)
Smallest radius of curvature	3 mm
Smallest measuring area	Ø 5 mm
Smallest layer thickness	0.3 mm

Temperature

Measuring range	0 ... 50 °C / 32 ... 122 °F
Resolution	0.1 °C / °F
Accuracy	±1.2 °C / ±2.2°F

Humidity

Measuring range	0 ... 100 % r. h.
Resolution	0.1 % r. h.
Accuracy	±3.2 % r. h. @ 20.0 ... 70.0 % r. h.
	±4.0 % r. h. @ 0.0 ... 19.9 % r. h.
	±4.0 % r. h. @ 70.1 ... 100.0 % r. h.

Further specifications

Display	2.4 " LC display
Automatic display orientation	0, 90, 180 and 270 °, can be switched off (only measuring window)
Statistic functions	average, highest, lowest and SDEV measured value
Measuring modes	direct, groups, SSPC
Units	μm, mm, mils, inch
Power supply	2 x 1.5 V AA batteries
Interface	Micro-USB (for data transfer only)
Alarm	signal tone and / or LED signal light in case of Exceeding of the adjustable upper and lower alarm limit
Switch-off	Off, 30 seconds, 1 minute, 5 minutes
Menu languages	English, German, French, Spanish, Italian, Portuguese, Chinese, Japanese
Operating conditions	0 ... 50 °C, 20 ... 90 % r.h.,

	non-condensing
Storage conditions	-10 ... +60 °C, 20 ... 90 % r.h.,
	non-condensing
Dimensions	35 x 64 x 137 mm
Weight	175 g

TRUST IN EVERY MEASUREMENT.

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 measure-ments 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

» wear-resistant, spring-mounted measuring head for precise measurement results

» practical V-groove on the measuring heads

» internal data memory

» warning for measurements exceeding the measuring range

» all PCE-CT 80 HP models feature a particularly high accuracy

APPLICATION

TECHNICAL SPECIFICATIONS

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

PCE-PFG 500

With internal S load cell

The PCE-PFG dynamometer is a handy, digital measuring device for measuring tensile and compressive forces. The force measuring device offers a sampling rate of 500 Hz and various measurement options such as real-time measurement (RT), maximum value measurement (PEAK), configurable average value acquisition (Average) and automatic measurement storage of up to 100 measurements. The measurement data and a statistical evaluation of the data stored in the force measuring device (MIN / MAX / average) are shown on the graphic display and can be transferred to a PC via the USB interface. In addition, the force measuring device offers a limit value function MIN / MAX, which can switch a multi-colored LED and switching contacts.

ISO cal option

» 4 measurement modes (real-time measurement / maximum value / average measurement / automatic memory measurement)

» internal memory for up to 100 measured values

» statistics evaluation (MIN / MAX / average)

» rotatable display

» alarm function with multi-colored LED (yellow / green / red) and switching contact output 2.85 V.

» USB B interface

» battery life up to 36 hours

APPLICATION
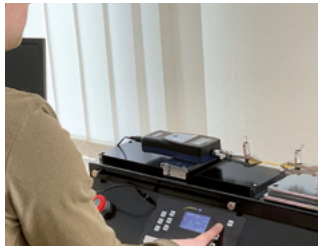
TECHNICAL SPECIFICATIONS

Measuring range	0 ... 500 N
Resolution	0.1 N
Accuracy	±0.3 % of the measuring range
Measurement units	N, kgF, lbF
Display	1.8" graphic display
Alarm modes	Below, Inside, Outside
Sampling rate	500 Hz
Memory	100 measurements
Power supply	lithium battery 3.7 V / 1500 mAh
Battery life	up to 36 hours
Power supply / USB charging adapter	5 V / 1 A
Outputs	interface: USB B
	Switching output / alarm modes: MD6 with 2.85 V if active
Protection class	IP 54
Operating and storage conditions	5 ... 45 ℃
	35 ... 65 % r.H. not condensing
Force application	M6 x 10 mm thread
Dimensions	189 x 707 x 34 mm
Weight	450 g

Optional accessories

Hand grip	order code	KG-LTS-20
Mounting adapter for test stand	order code	FG-ADP
Adapters for Pressure Tests	order code	PCE-SJJ01
Adapter Ring for Tensile Tests	order code	PCE-SJJ02
Clamping Device for Test Stand	order code	PCE-SJJ03
Adapter Stamp Round for Pressure Tests	order code	PCE-SJJ04
Clamp Jaw	order code	PCE-SJJ05
Adapter Clamps for Tensile Tests	order code	PCE-SJJ06
Clamping Device for Tensile Tests	order code	PCE-SJJ07
Clamping Tool for Tensile Tests	order code	PCE-SJJ08
Fork Holder for Tensile and Compression Tests	order code	PCE-SJJ09
Adapter Clamp For Tensile Tests	order code	PCE-SJJ010
Clamp Jaw for Teststand	order code	PCE-SJJ011
Tensioning Device for Tensile Tests	order code	PCE-SJJ012
Clamp Jaw for Test stand	order code	PCE-SJJ013
Clamping Device for Test Stand	order code	PCE-SJJ015
Universal Clamping Device	order code	PCE-SJJ017
Clamping Device for Testing Bristles	order code	PCE-SJJ020
Clamping Device for Test Stand	order code	PCE-SJJ024
Clamping Device for Testing Bristles	order code	PCE-SJJ029
Holder for Button and Rivet Testing	order code	PCE-SJJ032
Pliers for Trigger Tests	order code	PCE-SJJ035
Adapter Plate for Force Test Stand	order code	ADP-UNI
Force Test Stand	order code	PCE-FTS50
Force gauge test stand	order code	LTS-20

Further models :

PCE-PFG 10	Measuring range	0 ... 10 N
PCE-PFG 20	Measuring range	0 ... 20 N
PCE-PFG 50	Measuring range	0 ... 50 N
PCE-PFG 100	Measuring range	0 ... 100 N
PCE-PFG 200	Measuring range	0 ... 200 N

Subject to change without notice

PCE-DFG 2000 SERIES

Measurement range up to 200 kN / sampling rate 2000 Hz

The force gauge PCE-DFG 2000S and the PCE-DFG 2000E is supplied with an external measuring cell. Depending on the model, the force gauge can measure up to 200 kN. Various eyes or hooks with M10 or M12 thread can be adapted into the measuring cells. However, own devices with this thread can be mounted to the measuring cell. The measured data can be stored and exported. Operation is simple and the evaluation can be used for various analyses, for example in Excel tables. The PCE-DFG 2000I force gauge has an internal load cell and is supplied with five different load cells.

ISO cal option

» data analysis

» internal memory for 200 data sets

» up to 200 kN

» incl. software

» 2000 Hz

» graphic display

PCE-DFG 2000S

PCE-DFG 2000E

TECHNICAL SPECIFICATIONS

Sampling rate	High speed version 2000Hz
Measurement range	0 ... 20.000 kg / 0 ... 200 kN
Non-linearity	>0,01 %
Display	-99999~999999
Signal input	-15~15 mV
Temperature drift	<20 ppm
Built in battery	3200mAh battery
Battery life	approx. 10 h
Real-time monitoring	automatically capture peak and valley values and analyze sensor status
Memory	up to 200 records
Connection / Interface	USB-C connector
Alarm	signal tone exceeding of the adjustable upper and lower

PCE-DFG 2000I

APPLICATION

PCE-HFG SERIES

For the measurement of compression forces in mechanical systems

The hydraulic force transducer PCE HFG series is used for the absorption of static pressure forces and is made of stainless steel. The force transducer can measure forces over a long period of time due to its independence from power sources. With the integrated drag indicator the respective PEAK value is stored for later read out. The force transducer uses the measuring principle of hydraulic transmission of forces. The forces applied to the plunger are transmitted to the dial gauge via the medium and are displayed on the Newton scale [N]. Due to the 27 mm ring opening, it is also possible to use the force transducer axially and to determine axial shaft forces, for example.

ISO cal option

» measurement of static pressure forces
» for stationary maintenance measurements and adjustment work
» independent of power sources
» analogue meter scale
» compact for small installation spaces
» pressure force display in kilonewtons [kN]
» stainless steel
» integrated drag indicators

TECHNICAL SPECIFICATIONS

Models of the PCE-HFG series:

Measured value: Force [N]

Measuring range
PCE-HFG 1K	0... 1000 N
PCE-HFG 2.5K	0... 2500 N
PCE-HFG 10K	0... 10000 N
PCE-HFG 25K	0... 25000 N

Models with 1 m long hydraulic hose
PCE-HFG 1K E100	0 ... .1000 N
PCE-HFG 2.5K E100	0 ... 2500 N
PCE-HFG 10K E100	0 ... 10000 N
PCE-HFG 25K E100	0 ... 25000 N

Resolution:
PCE-HFG 1K	20 N
PCE-HFG 2.5K	100 N
PCE-HFG 10K	200 N
PCE-HFG 25K	1000 N

Accuracy:	±(1.6 % pressure gauge +0.25 % reading error) from measuring range
Temperature range:	0... 50 ºC
Weight:	1.6 kg
Mounting holes:	2 x M6
Inner diameter of the ring:	Ø 27 mm
Display dimensions:	Ø 55 mm

APPLICATION

Subject to change without notice

DriveTest
A COMPANY OF PCE INSTRUMENTS

FM300-SY-25-750

Closing force measurement system for elevator doors

The closing force measuring device is an electronic measuring device for elevator doors and protective devices on machines. Typical use is both the final acceptance of new systems and regular inspection. Its uncompromising design combines precision with practical robustness and ensures accurate measured values even after years of use in harsh environments.

In the case of cyclical measurements on objects with several elevators, a quick and easy implementation is of great importance. For this purpose, software was developed that drastically reduces the measurement process and the effort required for documentation.

ISO calibrated

» precise measurements

» robust design

» easy handling - operation with a single control button or remotely controlled via Microsoft® DLL - interface or National Instruments® LabView library

» complete scope of delivery - including high-quality transport case and software

» professional, comprehensive PC software – PinchPilot

» comprehensive user support - calibration service, standard change service ensures the

» support of relevant standards - EN 81-1, EN 81-2, EN 81-20:2014, EN 81-50:2015, EN 14120

» application of the latest version of the standard

» software support - integration into existing software structures possible

» extensive systems can be measured in one run measured value acquisition module saves up to

» 100 measurements

APPLICATION

TECHNICAL SPECIFICATIONS

FM300-SY-25-750

Measuring range	0 ... 750 N
Accuracy	+/– 3 N or 3 % of reading
Stiffness	25 N/mm
Gap width	145–510 mm / 5.7-20"
Diameter	58 mm / 2.2"
Measuring principle	DMS transducer
Dimensions	290 x 140 x 60 mm / 11.4 x 5.5 x 2.3"
Weight	1.7 kg / 3.7 lb
Stiffness	25 N/mm

Display device SEB2
- Display device SEB2 data logger unit with LCD display and LED status indicators, control button, serial interface
- Optional PC-controlled measurement
- 9 V battery supply
- Real time clock
- Memory for 100 measurements
- Sensor and PC interface
- Peak display
- Rating display i. O./n. i. O.

PC evaluation software PinchPilot
- Multilingual (DE, EN, IT, FR, ES)
- Graphic representation of the force curve
- Calculation of the standard-relevant characteristic values
- Evaluation according to different guidelines possible
- Custom policy adjustable
- Log printout
- Data export (Excel, CSV, PDF)
- Optional measuring point identification

- System requirements software PinchPilot (see tab Software/App)

Other model:
FM300BT-SY-25-750 **Bluetooth**

Subject to change without notice

FM100-SY-500-2000

Closing force measuring system for doors and gates

The closing force measuring device is an electronic measuring device for power-operated doors and gates. Typical use is both the final inspection of new installations and regular rechecks. The closing force measuring system combines the well-known robust design for years of use in harsh environments and sustained precision. For cyclical measurements on plants with multiple doors and gates, quick and easy execution is of great importance. Drive Test has developed software for this purpose that drastically reduces the measurement procedure and the effort required for documentation. TÜV Nord has tested and certified the FM 100 closing force measuring device.

ISO calibrated

» instantaneous evaluation - according to selected guidelines and standards

» separate measured value acquisition module

» process reliability

» wide temperature operating range

» language selection - available in DE/ EN/ ES/ FR/IT/ CN

» user guidance and evaluation according to EN 12453:2017, EN 60335-2, DIN V 18650, ASR A1.7, DHF TS 011:2016 etc.

» housing made of high-strength material for long service life in heavy-duty use

» sensor with 2.5 m connection cable

» PC connection cable (USB)

» USB data stick with PC evaluation software PinchPilot and documentation

APPLICATION

TECHNICAL SPECIFICATIONS

FM100-SY-500-2000

Measurement Range:	0 ... 2.000 N
Accuracy	+/– 3 N or 3 %
Resolution	1 N
Stiffness:	500 N/mm
Gap width:	50 mm
Diameter:	80 mm
Measuring principle	DMS transducer
Memory	80 measurements
Acquisition frequency/rate	500 Hz / 2 ms
Power supply SEB2	9 V block battery, e.g. 6LR61
Battery voltage monitoring	Yes
Environmental conditions	
Operating temperature range	-10 to +40 °C
Storage temperature range	-40 to +50 °C
Humidity	max. 90 % rel. F, non-condensing
Dimensions	210 x 80 x 50 mm
Weight:	2.1 kg

Optional accessories:

Extension set	FM100-SP-30-50
Extended carrying case	FM 100-AC
Load bar	FM100-SP-600
	FM100-SP-1000
	FM100-SP-1700
	FM100-SP-2900
Barrier Fixture Set for Barriers	FM100-FX Barrier

PC-Analysis-Software PinchPilot
- Multilingual (DE, EN, IT, FR, ES)
- Graphical display of force vs. time
- Calculation of relevant parameters
- Assessment with respect to different standards
- Support for user defined standards
- Printed reports
- Data export (Excel, CSV, PDF)

Other model:
FM100BT-SY-500-2000   Bluetooth

System requirements Software PinchPilot a. App Display unit SEB2.2-AC
- Data logger unit with LCD display and
- LED status displays, operating button, serial interface
- optional PC-controlled measurement
- 9 V battery supply
- Real-time clock
- Memory for 100 measurements
- Sensor and PC interface
- Peak value display and effective force display
- Evaluation display i. O./n. i. O.

Download App from Google Play Store
- Force Meter – User-friendly app with automatic updates of guidelines and standards updates
- Time-saving – immediate feedback on the measurement result incl. simple report generation
- Paperless office – reduces paper and the associated costs and protects the environment
- Individually usable – integration of the customer's signature possible

Subject to change without notice

ORIGINAL BIA CLASS 1-SY-10-310

Closing force measurement system for bus and train doors and sliding steps

The original BIA class 1 closing force measuring device is an electronic closing force measuring device for rail vehicle and bus doors. The elaborate design combines precision with practical robustness and ensures accurate measured values even after years of use in harsh environments.For cyclic measurements on vehicles with multiple doors, a quick and easy implementation is of great importance. For this purpose, software was developed that drastically reduces the measurement process and the effort required for documentation. With just a few operating steps, the measurements for a complete vehicle can be taken over, printed out in tabular form and saved in a database.

ISO calibrated

» applicable standards – EN 14752:2005, VDV 111, 2001/85/EG

» operation with a single button or remotely via Microsoft® DLL interface or National instruments® LabView library

» complete scope of delivery -including high-quality transport case and software

» professional, comprehensive PC software – PinchPilot

» comprehensive user support

» calibration service, standard change service

» support for the management of large fleets

APPLICATION

TECHNICAL SPECIFICATIONS

BIA1-SY-10-310

Measuring range	25 … 310 N
Accuracy	+/– 3 N or 3% of reading
Resolution	1 N
Stiffness	10 N/mm
Gap width	115 mm / 4.5"
Diameter	100 mm / 3.9"
Measuring principle	DMS transducer
Acquisition frequency / rate	250 Hz / 4 ms
Power supply	battery 9 V block, e.g. 6LR61
Battery voltage monitoring	yes
Operating temperature range	-10 to +40 ºC / 14 to 104 ºF
Storage temperature range	-40 to +50 ºC / -40 to 122 ºF
Humidity	max. 90% rel. h, non-condensing.
Dimensions	260 x 130 x 115 mm / 10.2 x 5.1 x 4.5"
Weight	2.1 kg / 4.6 lb

Optional accessories:

Test specimen	Prüfkörpersatz 1-3
	Prüfkörper 1
	Prüfkörper 2
	Prüfkörper 3
	Prüfkörper 4
	Prüfkörper 5
Test block for manual pre-test	Prüfkörper 143407

PC evaluation software PinchPilot
- Multilingual (DE, EN, IT, FR, ES)
- Graphic representation of the force curve
- Calculation of the standard-relevant characteristic values
- Evaluation according to different guidelines possible
- Custom policy adjustable
- Log printout
- Data export (Excel, CSV, PDF)
- Optional measuring point identification

Other model:
BIA1BT-SY-10-310   **Bluetooth**

Force Meter App downloadable from Google Play Store
- Force Meter – easy-to-use app with automatic guidelines and standards updates
- Time saving - immediate feedback on the measurement result including simpler report generation
- Paperless office - reduces paper and the associated costs and protects the environment
- Can be used individually - integration of the customer's signature possible

System requirements software PinchPilot (see tab Software/App)
Display device SEB2.2-AC
- Data logger unit with LCD display and LED status indicators, control button, serial interface
- Optional PC-controlled measurement
- 9 V battery supply
- Real time clock
- Memory for 100 measurements
- Sensor and PC interface
- Peak value display and effective power display
- Rating display i. O./n. i. O.

Subject to change without notice

DriveTest
A COMPANY OF PCE INSTRUMENTS

ORIGINAL BIA CLASS 2-SE-10-300

Closing force measurement system for bus and train doors

The original BIA class 2 is a mechanical closing force measuring device for bus doors. The elaborate design combines precision with practical robustness and ensures accurate measured values even after years of use in harsh environments.

Precise measurements are guaranteed by a six-fold ball bearing guide. The housing of the original BIA2 is made of high-strength POM for a long service life in tough conditions. The BIA2 clamping force measuring system is equipped with a mechanical drag indicator which displays the peak value of the force after measurement

ISO calibrated

» precise measurements

» robust design

» easy to use

» complete scope of delivery - including high-quality transport case

» extensive user support

» calibration service

TECHNICAL SPECIFICATIONS

BIA2-SE-10-300

Measuring range	50 ... 300 N
Accuracy	+/- 10 N or 5% of reading
Stiffness	10 N/mm or 25 N/mm selectable!
Gap width	115 mm / 4.52"
Diameter	100 mm / 3.93"
Measuring principle	slave pointer
Dimensions	260 x 130 x 115 mm / 10.2 x 5.1 x 4.5"
Weight	2.1 kg / 4.6 lb

Other model:
BIA2-SE-25-750	Stiffness: 25 N/mm, Measuring range: 25... 750 N

APPLICATION

Subject to change without notice

TRUST IN EVERY MEASUREMENT.

FM200 SERIES

Closing force measuring system for sliding roofs, window lifters, tailgates

The closing force transducer is an electronic closing force measuring device for power-operated windows, sliding roofs and tailgates in the automotive sector. Typical areas of application are testing and production in the automotive industry. It is also increasingly used by technical inspection institutions. Its uncompromising design combines precision with practical robustness and ensures accurate measured values even after years of use in harsh environments. For measurement set-ups in testing and manufacturing, quick and easy execution is of great importance. For this purpose, Drive Test has developed software that drastically reduces the measurement procedure and the effort required for documentation.

ISO calibrated

» support of relevant standards - 2000/4 EC, US Standard FMVSS 118

» precise measurements - through frictionless guidance and platform load cell

» easy to use - single button operation or remote operation via Microsoft® DLL

» interface or National Instruments ® LabVIEW library

» complete scope of delivery - including high-quality carrying case and software

» professional, comprehensive PC software - PinchPilot

» extensive user support - calibration service, standards revision service ensures the

» application of the latest standard version

» flexible customisation - made possible by a variety of available force inputs:

» customised adaptations also available from DriveTest

APPLICATION

TECHNICAL SPECIFICATIONS

FM200

Accuracy	+/- 3 N oder 3 % of measured value
Gap width	Minimum 4 mm
Area	50 x 50 mm
Measuring principle	DMS-transducer
Dimensions	240 x 85 x 60 mm
Weight	1,3 kg

Models:

FM200-SU-SY-10-200	stiffness	10 N/mm	measuring range	0 ... 200 N
FM200-SU-SE-20-300	stiffness	20 N/mm	measuring range	0 ... 300 N
FM200-SU-SE-65-300	stiffness	65 N/mm	measuring range	0 ... 300 N

PC-Analysis-Software PinchPilot
- Multilingual (DE, EN, IT, FR, ES)
- Graphical display of force vs. time
- Calculation of relevant parameters
- Assessment with respect to different standards
- Support for user defined standards
- Printed reports
- Data export (Excel, CSV, PDF)

Download App from Google Play Store
- Force Meter – User-friendly app with automatic updates of guidelines and standards updates
- Time-saving – immediate feedback on the measurement result incl. simple report generation
- Paperless office – reduces paper and the associated costs and protects the environment
- Individually usable – integration of the customer's signature possible

System requirements Software PinchPilot a. App
Display unit SEB2.2-AC
- Data logger unit with LCD display and
- LED status displays, operating button, serial interface
- optional PC-controlled measurement
- 9 V battery supply
- Real-time clock
- Memory for 100 measurements
- Sensor and PC interface
- Peak value display and effective force display
- Evaluation display i. O./n. i. O.

DriveTest
A COMPANY OF PCE INSTRUMENTS

FM205-WI-SY-10-150

Closing force measuring system for window lifters

The FM 205 is an electronic force measuring system for powered window lifters. Typical use includes R+D and production testing in the automotive industry. The FM 205 is characterized by its ease of use for repetitive measurements. According to the requirements of different standards a large variety of spring stiffnesses is available. It is also increasingly used by technical safety agencies. Combining

rugged construction with precision, the advanced mechanical design delivers exact measurements, even after years of service in an industrial environment. Fast and easy performance of repetitive measurements is an important aspect of standard test scenarios.
Drive Test has responded to this requirement by developing software which streamlines the measurement process.

ISO calibrated

» support of relevant standards - 2000/4 EC, US Standard FMVSS 118

» precise measurements - uses frictionless guides and a single point (platform) load cell

» robust construction – manufactured from durable aluminium for long service life in industrial environment

» easy to use - single button operation or remote operation via Microsoft® DLL interface or National Instruments ® LabVIEW library

» professional software - PinchPilot offers complete functionality

» different spring stiffnesses available – 2, 5, 10, 20, 65 N/mm

» Complete delivery – all components packed in high-quality transportation case

APPLICATION

TECHNICAL SPECIFICATIONS

FM205/20

Application of force	on one side
Measuring range	0 ... 200 N
Accuracy	+/- 3 N (0–100 N) or
	+/- 3 % (>100 N)
Spring stiffness	20 N/mm
Gap width	Fmax. 5 mm / 0.19"
Area	5 x 80 mm / 0.19 x 3.1"
Force sensor	strain gauge bridge
Cable length	1.5 m / 4.9 ft
Dimensions	175 x 75 x 57 mm / 6.8 x 2.9 x 2.2"
Weight	ca. 400 g / 14 oz

Display device SEB2.2
- Display device SEB2.2 data logger unit with LCD display and LED status indicators, Control button, USB interface
- Optional PC-controlled measurement
- Lithium polymer battery
- Real time clock
- Memory for 100 measurements
- Sensor and PC interface
- Peak value display and effective power display
- Rating display i. O./n. i. O.

Spacers
- Complete set for all opening widths according to EN 14752:2015
- Automatic detection of the spacers used
- Automatic limit value adjustment according to opening width
- Easy to use, quick assembly without tools
- Robust design, low weight, POM
- Together with BIA 600 sensor, SEB2 in a carrying case

PC evaluation software PinchPilot
- Multilingual (DE, EN, IT, FR, ES)
- Graphic representation of the force curve
- Calculation of the standard-relevant characteristic values
- Evaluation according to different guidelines possible
- Custom policy adjustable
- Log printout
- Data export (Excel, CSV, PDF)
- Optional measuring point identification

Other model:
FM205-WI-SE-02-050
FM205-WI-SE-05-100
FM205-WI-SE-20-200
FM205-WI-SE-65-260

Subject to change without notice

TRUST IN EVERY MEASUREMENT.

BIA600-SY-10-700

For railway doors and sliding steps

Drive Test's BIA 600 is an electronic pinch force measuring system for power driven train and tramway doors. Combining rugged construction with precision, the advanced mechanical design delivers exact measurements, even after years of usage in an industrial environment. Fast and easy performance of repetitive measurements is an important aspect of standard test scenarios. Drive Test has responded to this requirement by developing software which streamlines the measurement process and drastically reduces documentation effort. Measurements made on a complete vehicle can be entered, printed as a table, and stored in a database with a minimum of user entries.

ISO calibrated

» applicable standards
DIN EN 14752:2015, DIN EN 14752:2005 (optional)

» professional software
PinchPilot offers complete functionality

» spacers for all apertures
required by EN 14752:2015

» automatic limit setting
according to detected spacers

» complete delivery all components
packed in high-quality transportation case

» management support for large
vehicle pools integration in existing
software infrastructure available

APPLICATION

TECHNICAL SPECIFICATIONS

BIA600-SY-10-700

Force entry	both-sided
Measuring range	0–700 N
Accuracy	+/– 3 N (0–100 N)/ +/– 3 % (>100 N)
Stiffness	10 N/mm
Gap width	90 mm
Area	100 x 100 mm
Force sensor	Strain Gauge Bridge
Dimensions	320 x 250 x 110 mm
Weight	3,0 kg

Optional accessories:

Test specimen	Prüfkörpersatz 1-3
	Prüfkörper 1
	Prüfkörper 2
	Prüfkörper 3
	Prüfkörper 4
	Prüfkörper 5
Test block for manual pre-test	Prüfkörper 143407

Spacer set
- Complete set for all opening widths according to EN 14752:2015
- Automatic recognition of the spacers used
- Automatic limit value adjustment according to opening width
- Easy to use, quick assembly without tools
- Robust design, low weight, POM
- Together with BIA 600 sensor, SEB2 in a transport case

PC evaluation software PinchPilot
- Multilingual (DE, EN, IT, FR, ES)
- Graphic representation of the force curve
- Calculation of the standard-relevant characteristic values
- Evaluation according to different guidelines possible
- Custom policy adjustable
- Log printout
- Data export (Excel, CSV, PDF)
- Optional measuring point identification

Other model:
BIA600BT-SY-10-700   **Bluetooth**

Force Meter App downloadable from Google Play Store
- Force Meter – easy-to-use app with automatic guidelines and standards
  updates
- Time saving - immediate feedback on the measurement result including simpler
  report generation
- Paperless office - reduces paper and the associated costs and protects the
  environment
- Can be used individually - integration of the customer's signature possible

System requirements software PinchPilot

Display device SEB2.2-AC
- Data logger unit with LCD display and LED status
  indicators, control button, serial interface
- Optional PC-controlled measurement
- 9 V battery supply
- Real time clock
- Memory for 100 measurements
- Sensor and PC interface
- Peak value display and effective power display
- Rating display i. O./n. i. O.

Subject to change without notice

PCE-VDL 16I

For the parameters temperature, relative humidity, air pressure, light and vibration

The mechanical engineering data logger PCE-VDL 16I from PCE Instruments measures and records the relevant parameters temperature, relative humidity, air pressure, light as well as 3-axis acceleration by means of a vibration sensor. This makes the data logger the ideal tool for monitoring machine vibration and at the same time measuring and recording important environmental conditions of the equipment.

Depending on the sampling rate, the data logger can record for several days. The recorded readings are saved to the internal 32 GB SD card and can be transferred to other media for evaluation where required.

ISO cal option

» 3-axis acceleration up to 800 Hz

» measures temperature, humidity, air pressure and light

» 32 GB SD memory card

» compact design: 86.8 x 44.1 x 22.2 mm

» country of origin Germany

APPLICATION

TECHNICAL SPECIFICATIONS

Parameter

Temperature measuring range	-20 ... +65 ℃
Accuracy	±0.2 ℃
Sampling rate	1 s ... 1800 s
Relative humidity measuring range	0 ... 100 % RH
Accuracy	±1.8 % RH
Sampling rate	1 s ... 1800 s
Air pressure measuring range	10 ... 2000 mbar
Accuracy	±2 mbar
	(within range 750 ... 1100 mbar) otherwise ±4 m bar
Sampling rate	1 s ... 1800 s
Light measuring range	0.045 ... 188,000 lux
Sampling rate	1 s 1800 s
3-axis acceleration measuring range ±16 g	
Accuracy	±0.24 g
Sampling rate	800 Hz 1 Hz

General technical data of the mini data logger PCE-VDL 16I

Memory capacity	2.5 readings per measurement, 3.2 billion readings with included 32 GB memory card
Keys	start / stop of a measurement; data logger on / off
LED	Log: operating status
	Alarm: alarm indicator
	Charge: charging status
	USB: status of PC connection
Power supply	integrated rechargeable Li-Ion battery 3.7 V / 500 mAh
	The meter is charged via the USB interface.
Integrated sensors	3-axis acceleration
Interface	USB
PC software	free setup and evaluation software (Windows XP / Vista / 7 / 8 / 10 32 bit / 64 bit) to record and evaluate data
Operating conditions	temperature -20 ... +65 ℃
Storage conditions	temperature +5 ... +45 ℃ (ideal storage conditions for battery)
	10 ... 95 % RH, non-condensing
Standards	complies with EU regulation RoHS/WEEE
Weight	approx. 60 g
Dimensions (L x W x H)	87 x 44 x 23 mm

Optional accessories:

Mounting plate	Order code	PCE-VDL MNT

Subject to change without notice

PCE-DPM 3

Dew point meter for compressed air pipes

The dew point meter is a mobile testing device for monitoring the quality of compressed air on stationary and mobile compressed air generators. This dew point meter measures the temperature, the relative humidity, H_2O and calculates the current dew point up to an ambient pressure of 20 bar. Thanks to the sintered cap, the moisture meter in the pressure lines is protected from dirt, moisture and high flow speeds. This increases the service life of the dew point meter's sensors. The data memory of the moisture meter enables the course of the measurement parameters to be recorded in a pressure line. The data recorded by the moisture meter is permanently stored in the internal memory.

ISO cal option

» data storage with CSV data export

» dew point, H_2O, temperature, humidity measurement

» for inline measurement of pressure pipes

» battery operation for mobile use

» with G1 / 2 "connection thread

» sensors protected with sintered filters

APPLICATION

TECHNICAL SPECIFICATIONS

Measurement	Temperature
Measuring range	-10 ... 60 °C / 14 ... 140 °F
Resolution	0.01 °C / 0.018 °F
Accuracy at 20°C / 68°F	-10 ... 50 °C / 14 ... 122 °F: ± 0.3 °C / 0.5 °F

Measurement	Relative humidity
Measuring range	0 ... 100 %
Resolution	0.01 %
Accuracy at 20°C / 68°F	<5 %: ±(0.025 % + 17.5 % of mv)
	>5 %: ±(1 % + 5 % of mv)
	>15 %: ±(2 % + 3 % of mv)

Measurement	Dew point*
Measuring range	-50 ... 30 °C / -58 ... 86 °F
Resolution	0.01 °C / 0.018 °F
Accuracy	-40 ... 20 °C / -40 ... 68 °F: ±2 °C / 3.6 °F
	-50 ... -40 °C / -58 ... -40 °F: ±2.5 °C / 4.5 °F

*The accuracy of the dew point relates to an ambient temperature of 16 ... 25 °C / 61 ... 77 °F

Measurement	H_2O
Measuring range	40 ... 20,000 ppm
Resolution	1 ppm
Accuracy at 20°C / 68°F	±(7.3 ppm + 8.3 %)
Environmental conditions	-10 ... 60 °C / 14 ... 140 °F
	0 ... 20 bar (absolute)
Response time at: 0.2 m / s, 1 bar, 20°C / 68°F, 63% RH [90%]	0 ... 40 °C / 32 ... 104 °F: 20 s [120 s]
	-40 ... 0 °C / -40 ... 32 °F: 10 s [20 s]
Data storage	For approx. 50,000 measuring points
Adjustable storage rates	10 seconds
	1, 5, 10, 20, minutes
Adjustable recording time	1, 5, 12, 24, 48 hours
File format	CSV
Cable length	approx. 1.5 m / 4.9 ft
Thread	G1 / 2"
Thread length	1.2 cm
Probe length	5.2 cm
Probe width	1.2 cm
Display	2.3" LCD
Power supply	Battery 3.7 V DC, 3000-mAh
Power supply power pack	Primary: 100 ... 240 V AC, 0.25 A
	Secondary: 5 V DC, 1 A
Interface 7 mains connection	Micro USB
Weight	Approx. 610 g / 1.3 lbs

Subject to change without notice

PCE-DPM 10

Mobile dew point meter for compressed air pipes (-100 ... +50 °C Td)

The dew point meter PCE-DPM 10 is a hand-held instrument for measuring dew point, pressure and humidity in compressed air systems. The unique sensor system, which combines a QCM and a Polymer sensor in a single unit, enables the user to measure the dew point in a range from -100 °C Td up to +20 °C Td. The integrated pressure sensor allows the measured value into any humidity value needed , for example ppm (v) or atmospheric dew point.

The PCE-DPM 10 dew point meter offers a unique algorithm for predicting final dew point values.

ISO cal option

» measures dew point, temperature and pressure

» -100 ... +20 °C Td with pressure sensor

» measurement according to ISO 8573-1

» PDF report function

» integrated pressure sensor

» touch screen for easy operation

APPLICATION

TECHNICAL SPECIFICATIONS

Dew point

Measuring range	-100 ... +20 °C Td
Accuracy	±1 °C Td (0 ... 20 °C Td)
	±2 °C Td (-70 ... 0 / +20 ... +50 °C Td)
	±3 °C Td (-100 ... -70 °C Td)
Selectable units	%rH, °C Td, g/m³, mg/m³, g/m³ atm. , mg/m³ atm. , ppmv, g/kg, °C Td atm.
Reproducibility	0.5 °C
Sensor	QCM + Polymer

Pressure

Accuracy	0.5 % FS
Measuring range	0 ... 1.5 MPa (g)
Sensor	Piezo resistance sensor

Temperature

Accuracy	±0.3 °C
Measuring range	-30 ... +50 °C
Sensor	PT 100

Display	3.5" colour LCD touch screen
Memory	Integrated mass memory, up to 30 million recorded data sets (4 channels each)
Power supply	USB charger: 5 V, 3 A, connection: USB-C
Operating time	8 h
Data interface	USB
Housing	PC + ABS
Metal parts	aluminium
Protection	class IP30
Dimensions	206 x 98 x 62 mm
Weight	2.7 kg Complete set in transport case

Operating conditions

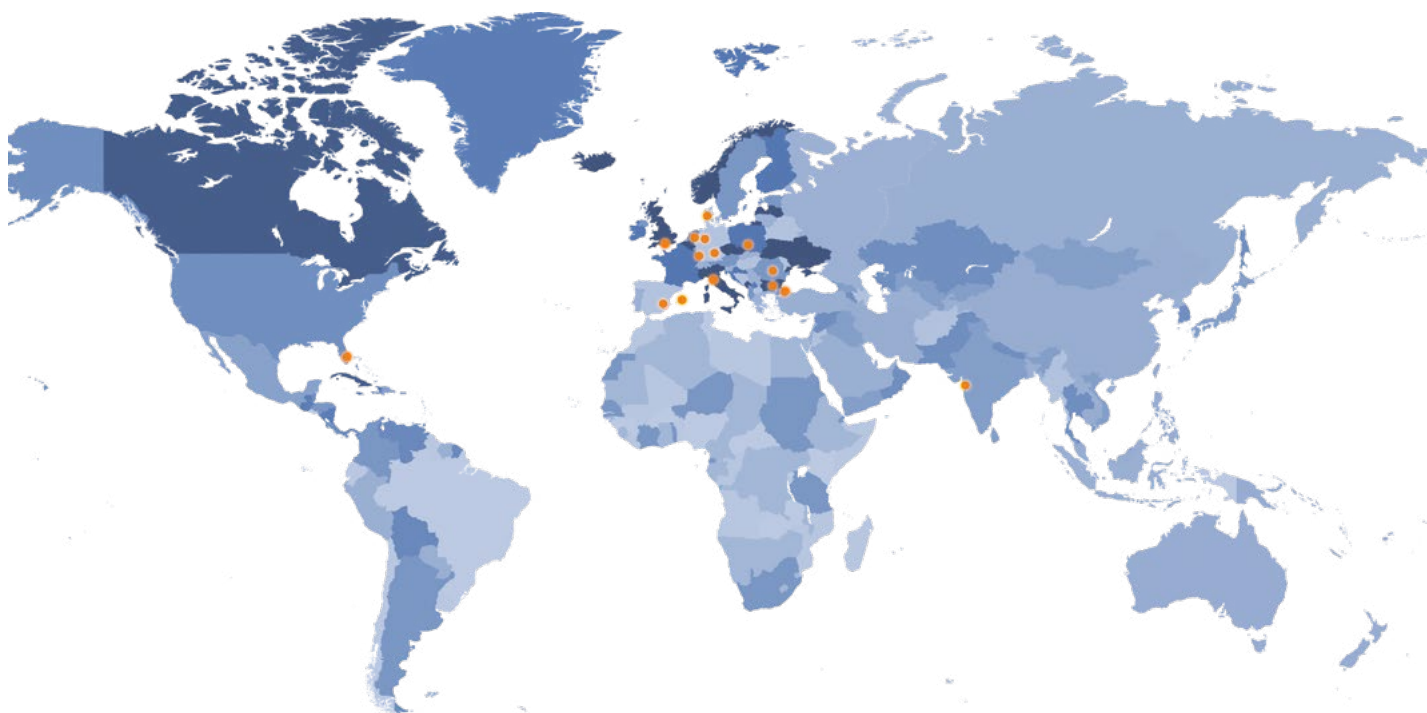|	
Medium	Air, N_2, O_2, Argon, CO_2
Medium temperature	-30 ... +50 °C
Medium humidity	0 ... 90 %, no condensation
Operating pressures	-0.1 ... 1.6 MPa (g)*
Ambient temperature	0 ... +40 °C
Ambient humidity	0 ... 80 % rH
Storage temperature	-20 ... +50 °C
Transport temperature	-30 ... 70 °C

Subject to change without notice

PCE Instruments SE

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Denmark	PCE Instruments Denmark ApS	www.pce-instruments.com/dansk
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Bulgaria	PCE Instruments Bulgaria EOOD	
Romania	PCE Instruments RO SRL	