

# Clamp meter / Power meter



Our range of devices include clamp-on ammeters for measuring current leaks, AC and DC power, voltage, power, resistance, phase, capacity or frequency.

Some clamp-on meters have an easy to read display and they allow for one handed operation. Thanks to the ability to measure without direct contact, it's no longer necessary to stop the machine or electrical installation, in order to measure.

As a result, these types of clamps are regarded as an essential tool in maintenance and inspection jobs. In addition to the clamp-on meters, PCE Instruments offer power meters that measure voltage and using this information calculate apparent power, reactive power and active power, as well as all other data related to the measuring of power.

Power meters are available to purchase with one, two, three or four clamp-on ammeters.

# Clamp meter / Power meter

## PCE-DC1

Clamp meter 200 A AC/DC & freq.

- LCD display 3 2/3 digits, with backlight
- Measures AC / DC current, AC voltage & frequency
- Hold function av. value/ zero reset for the DCA
- Test voltage without contact
- Automatic range selection/ Automatic off
- Measuring point illuminated & white LEDs



PCE

TOP seller

### Technical specifications

Magnit.	Range / res. / Accuracy
AC current	200 A / 100 mA / ±3.0 % +8 dgt
DC current	200 A / 100 mA / ±2.8 % +8 dgt
Frequency	40 ... 50 Hz / 0.01 Hz / ±1.2 % +5 dgt 51 ... 510 Hz / 0.1 Hz / ±1.2 % +3 dgt 0.51 ... 1 kHz / 0.001 kHz / ±1.2 % +3 dgt
AC voltage	100 ... 600 VAC 50 / 60 Hz (no contact)
Clamps Ø	Diameter of conduc. 18mm max.
Screen	LCD 3 2/3 digits, with backlight
Power	2 x 1.5 V batteries AAA
Dimensions	66 x 155 x 31 mm
Weight	155 g
Standard	EN61010-1; CAT II / 600V EN61010-2-032; CAT III / 300V

### Delivery content

Clamp meter, battery, transport bag, instructions

### Reference Item

K-PCE-DC1 Clamp meter mini 200 AAC/DC

### Optional accessories

K-CAL-PCE-DC-Serie Calibration certificate

## PCE-DC2

Clamp 200 A AC/DC (+ V AC/DC + Ω )

- LCD display 3 2/3 positions, with backlight
- Measures AC / DC current, voltage & resistance
- Hold function / zero reset for the DCA
- Test voltage without contact
- Automatic range selection/ Automatic off
- Aperture of the clamp: 18 mm



PCE

### Technical specifications

Magnit.	Range / res. / Accuracy
AC current True RMS	200 AAC / ± (2.5 % +8 dgt)
DC current	200 ADC / ± (2.0 % +5 dgt)
AC Resis. True RMS.	600 VAC / ± (1.5 % +8 dgt)
DC Resis..	600 VDC / ± (1.0 % +2 dgt)
Resist.	999.9 Ω / ± (1.5 % +8 dgt)
Meas. point	Illuminated with white LED
Clamps Ø	Diameter of conduc. 18mm max.
Screen	LCD 3 2/3 digits, with backlight
Power	2 x 1.5 V batteries AAA
Dimensions	65 x 164 x 32 mm
Weight	175 g
Standard	EN61010-1; CAT II / 600V EN61010-2-032; CAT III / 300V

### Delivery content

Clamp meter, test cables, batteries, instructions

### Reference Item

K-PCE-DC2 Clamp meter mini 200 A AC/DC

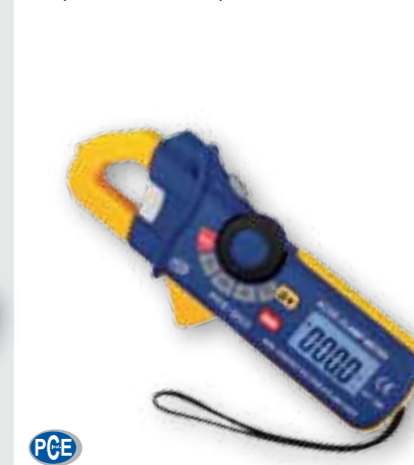
### Optional accessories

K-CAL-PCE-DC-Serie ISO Calibration cert.

## PCE-DC3

Clamp 2/80 A AC/DC current detector

- LCD display 3 2/3 digits, with backlight
- Measures AC / DC current up to 80 A
- Hold function / zero reset for the DCA
- Test voltage without contact
- Automatic range selection/ Automatic off
- Aperture of the clamp: 18 mm



PCE

### Technical specifications

Magnit.	Range / res. / Accuracy
AC current	2 A / 1 mA / ±2.8 % +10 dgt 80 A / 100 mA / ±3.0 % +8 dgt
DC current	2 A / 1 mA / ±3.0 % +10 dgt 80 A / 100 mA / ±3.0 % +8 dgt
AC voltage	100 ... 600 V 50/60 Hz (no contact)
Meas. point	Illuminated with white LED
Clamps Ø	Diameter of conduc. 18mm max.
Screen	LCD 3 2/3 digits, with backlight
Power	2 x 1.5 V batteries AAA
Dimensions	65 x 164 x 32 mm
Weight	175 g
Standard	EN61010-1; CAT II / 600V EN61010-2-032; CAT III / 300V

### Delivery content

Clamp meter, batteries, transport bag, instructions

### Reference Item

K-PCE-DC3 Clamp meter mini 80 AAC/DC

### Optional accessories

K-CAL-PCE-DC-Serie ISO Calibration cert.

## PCE-LCT 1

Clamp meter measures from 10  $\mu$ A

- Meas. current leakage & current up to 100 A (AC)
- Measures voltage up to 400 V / Continuity test
- Automatic off after 30 min.
- Measures resistance up to 400  $\Omega$
- Max./min. values are viewed on the display
- Input current 10 mA



PCE

### Technical specifications

Magn. meas.	ACA current
Measurement range	40 / 400 mA / 4 / 40 / 80 ... 100 A;
Resolution	10 / 100 $\mu$ A / 1 / 10 / 100 / 100 mA;
Accuracy	$\pm 2\%$ +3 dgt
AC Resis.	400 V / 0.1 V / $\pm 2\%$ +3 dgt
Resistance	40 ... 400 $\Omega$ / 0.1 $\Omega$ / $\pm 1.0\%$ +2 dgt
	Alarm : Meas. value < 38 $\Omega$
Input impedanc.	10 M $\Omega$
Inter. meas. val..	2 Hz (Num val), 20 Hz (Bar graph)
Clamp aperture	Max. diameter of the conductor 30 mm
Screen	LCD display 3 3/4 digits
Oper. conditions	-10 ... +50 $^{\circ}$ C, < 85% r.H.
Power	1 x 9 V Battery
Dimen. / Weight	62 x 210 x 36 mm (BxHxT) / 200 g

### Delivery content

Clamp meter, test cables, battery, transport bag, rubber protector & instructions manual

### Reference Item

K-PCE-LCT 1 Clamp meas. mini 100 AAC

### Optional accessories

K-CAL-MZ ISO Calibration certificate

## PCE-LCT 2

Clamp meter up to 80 A AC/DC (CAT III 600 V)

- Meas. current. up to 80 A / Meas. voltage up to 600 V
- Checking of diode, resistance & capacity
- Max. diameter of the conductor 23 mm
- Screen with 4,000 digits, & backlight
- Stores the peak values on the screen
- Analog output



PCE

### Technical specifications

Magnit.	Range / Res. / Accuracy
ACA	0 ... 4 A / 1 mA / $\pm 3\%$ +10 dgt
	0 ... 80 A / 100 mA / $\pm 3\%$ +8 dgt
DCA	0 ... 4 A / 1 mA / $\pm 2.8\%$ +10 dgt
	0 ... 80 A / 100 mA / $\pm 3\%$ +8 dgt
ACV	0 ... 400 mV / 0.1 mV / $\pm 1\%$ +30 dgt
	0 ... 4 V / 1 mV / $\pm 2\%$ +5 dgt
	0 ... 40 V / 10 mV / $\pm 2\%$ +5 dgt
	0 ... 400 V / 100 mV / $\pm 2\%$ +5 dgt
	0 ... 600 V / 1 V / $\pm 2\%$ +5 dgt
DCV	0 ... 400 mV / 0.1 mV / $\pm 1\%$ +15 dgt
	0 ... 4 V / 1 mV / $\pm 1\%$ +3 dgt
	0 ... 40 V / 10 mV / $\pm 1.5\%$ +3 dgt
	0 ... 400 V / 100 mV / $\pm 1.5\%$ +3 dgt
	0 ... 600 V / 1 V / $\pm 2\%$ +15 dgt
Resistance	0 ... 400 $\Omega$ / 0.1 $\Omega$ / $\pm 1\%$ +4 dgt
	0 ... 4 k $\Omega$ / 1 $\Omega$ / $\pm 1.5\%$ +2 dgt
	0 ... 40 k $\Omega$ / 10 $\Omega$ / $\pm 1.5\%$ +2 dgt
	0 ... 400 k $\Omega$ / 100 $\Omega$ / $\pm 1.5\%$ +2 dgt
	0 ... 4 M $\Omega$ / 1 k $\Omega$ / $\pm 2.5\%$ +3 dgt
	0 ... 40 M $\Omega$ / 10 k $\Omega$ / $\pm 3.5\%$ +5 dgt
Capacity	0 ... 40 nF / 10 pF / $\pm 5\%$ +30 dgt
	0 ... 400 nF / 100 pF / $\pm 3\%$ +5 dgt
	0 ... 4 $\mu$ F / 1 nF / $\pm 3.5\%$ +5 dgt



	0 ... 40 $\mu$ F / 10 nF / $\pm 3.5\%$ +5 dgt
	0 ... 100 $\mu$ F / 100 nF / $\pm 5\%$ +5 dgt
Frequency	0 ... 10 MHz / 0.001 Hz ... 0.01 MHz / $\pm 1.5\%$ +5 dgt
Regulation factor	0.5 ... 99% / 0.1% / $\pm 1.2\%$ +2 dgt
	Pulses: 100 $\mu$ s ... 100 ms
	Frequency: 5 Hz ... 150 kHz
	Sensitivity: 10 V RMS/min.
Impedance	Input 7,8 M $\Omega$ / Output 3 k $\Omega$
Analog outp.	10 mV / Ampere
Clamps $\emptyset$	max. 23 mm clamp diameter
Screen	4,000 dgt, LCD, with backlight
Oper. conditions	-10 ... +50 $^{\circ}$ C, < 90% r.H.
Power	2 x 1.5 V AAA batteries
Dimens./ Weight	50 x 200 x 35 mm / 200 g

### Delivery content

Clamp, test cables, batteries, bag, instructions

### Reference Item

K-PCE-LCT 2 Clamp meter 80 AAC/DC

### Optional accessories

K-CAL-MZ ISO Calibration certificate

## PCE-DC4

Digital clamp meter 1,000 A AC (IEC 1010-1 / 600 V CAT III)

- LCD 3 3/4 digit screen, 17 mm, max. indicator: 3.999 /  $\emptyset$  conductor: 31 mm max.
- Resistance, frequency, capacitance, duty cycle, and temperature measurements
- Automatic & manual range selection / Automatic off
- AC current up to 1,000 A / Voltage up to 600 V AC/DC
- Diode test / Continuity test



PCE

### Technical specifications

Magn. meas.	Measurement range	Resolution	Accuracy	Overload protec.
DCV	400 mV / 4 / 40 / 400 / 600 V	100 $\mu$ V	$\pm (0.8\% + 3 \text{ dgt})$	600 V DC / AC
ACV	400 mV / 4 / 40 / 400 / 600 V	100 $\mu$ V	$\pm (1.8\% + 5 \text{ dgt})$	600 V DC / AC
ACA	40 / 400 / 1,000 A	10 mA	$\pm (2.5\% + 5 \text{ dgt})$	1,000 A
Resist.	400 $\Omega$ / 4 / 40 / 400 k $\Omega$ / 4 / 40 M $\Omega$	100 m $\Omega$	$\pm (1.0\% + 4 \text{ dgt})$	250 V DC / AC
Capacity	40 / 400 nF / 4 / 40 / 100 $\mu$ F	10 pF	$\pm (3.0\% + 5 \text{ dgt})$	250 V DC / AC
Frequency	5/ 50/ 500 Hz/ 5/ 50/ 500 kHz/ 5/ 10 MHz	1 mHz	$\pm (1.2\% + 2 \text{ dgt})$	250 V DC / AC
Temperature	-50 ... +1,000 $^{\circ}$ C	0.1 $^{\circ}$ C	$\pm (3\% + 5 \text{ }^{\circ}\text{C})$	60 V DC / 24 V AC
Range selection	Automatic			
Diode test	Yes			
Warning tone	Yes			
Power	9 V battery			
Dimensions	Device: 80 x 229 x 49 mm (A x A x P); Conductor diameter: max. 31 mm			
Weight	303 g			

### Delivery content

Clamp meter, bag, test cables, type-K temperature probe, 9 V battery & instructions manual

### Reference Item

K-PCE-DC4 Digital clamp meter 1,000 AAC

### Optional accessories

K-CAL-PCE-DC-Series ISO Calibration certificate



TOP  
seller

## PCE-EI-3000

Clamp meter for current up to 3,000 A

- True RMS; current conductor  $\emptyset$  170 mm
- AC current up to 3,000 AAC
- LCD display 4 + 4 digits
- Automatic range selection
- Fast Peak function (30  $\mu$ s)



PCE

### Technical specifications

ACA Trms	
Ranges	300 / 1,000 / 3,000 A
Resolution	0.1 / 0.1 / 1 A
Accuracy	$\pm 1\%$ of meas. range
ACV Trms	
Range	4.0 ... 600 V
Resolution	0.1 V
Accuracy	$\pm 0.5\%$ $\pm 5$ dgt
Screen	LCD display 4 + 4 digits
Oper. conditions	-10 ... +85 $^{\circ}$ C
Power	2 x 1.5 V batteries AA
Dimensions	Device: 130 x 80 x 43 mm Conductor: $\emptyset$ 170 mm Bending diam.: max. 35 mm
Weight	430 g

### Delivery content

Clamp meter, 1.5 m measuring cable, 2 x batteries, instructions manual

### Reference Item

K-PCE-EI-3000 Clamp meter up to 3,000 A

### Optional accessories

K-CAL-PCE-EI ISO Calibration certificate

## PCE-UT232

### Power & energy meter (in real time)

- Indirect measuring (1 up to 3 phases) with integrated clamps
- Power measurement: Active / apparent / reagent power, power factor, phase angle, active energy
- Multimeters: Effective real value / voltage, effective real value / current, frequency
- Measures temperature / Memory for 99 readings which can be seen on screen
- Memory for min. & max. values & data-Hold / Internal calibration mode



PCE

## PCE-PCM 1

### Power meter with memory, USB & software

- Power measurement: Active (kW), apparent (kVA) & reagent (kVAR), power factor (cos φ), phase angle, active energy counter (kWh)
- Voltage (TRMS), current (TRMS) & frequency
- Memory for 99 readings shown on display
- Memory of measurement values min., max & Data-Hold



PCE

## PCE-GPA 62

### 3 phase power & energy meter

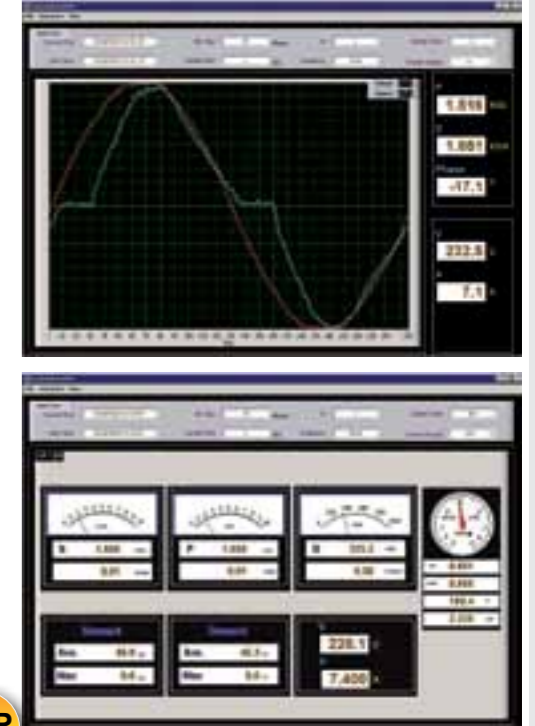
- Measures power factor and phase angle, frequency, energy, active, apparent & reagent power (single or three-phase in symmetrical networks)
- Max. conductor diameter: 55 mm or 65 x 24 mm contact rail
- Analyses harmonic waves (harmonics in voltage & current)
- Data memory (50,000 sets of data) / Graphic screen, 128 x 64 mm, with backlight
- Automatic range selection / USB Interface
- Protection, standard: CAT III 600 V, EN 61010-2-032



PCE



TOP  
seller



#### Technical specifications

Magnitud meas..	Measurement range / Accuracy
Voltage (AC / TRMS)	20 / 100 / 300 / 600 V; ±1.2 % +5 dgt
Current (AC / TRMS)	40 / 100 / 400 / 1,000 A; ±2.0 % +5 dgt
Active power meas.	0.01 kW ... 600 kW; ±3.0 % +5 dgt
Apparent power meas.	0.01 kVA ... 600 kVA; ±3.0 % +5 dgt
Reagents power meas.	0.01 kVAR ... 600 kVAR; ±4.0 % +5 dgt
Active energy	1 ... 9.999 kWh; ±3.0 % +2 dgt
Power factor	0.3 ... 1.00 inductive and capacitive; ±0,02 +2 dgt
Phase angle	0 ... 360°; ±1.0°
Frequency	20 ... 500 Hz
Temperature	-50 ... +1,300 °C
Memory	99 readings
Screen	9.999 with graphic bars, with backlight
Power	4 x 1.5 V batteries
Dimensions / Weight	303 x 112 x 39 mm / 600 g

#### Delivery content

Power meter, test cables, crocodile clips, USB cable, software, batteries, carrying case, instructions manual

Reference	Item
K-PCE-UT232	Power meter

#### Optional accessories

K-CAL-UT232	ISO Calibration certificate
-------------	-----------------------------

#### Technical specifications

Magnitud meas..	Measurement range; accuracy
Voltage (ACV / TRMS)	100 / 400 / 750 V; ±1.2 % +5 dgt
Current (ACA / TRMS)	40 / 100 / 400 / 1,000 A; ±2.0 % +5 dgt
Active power meas.	4 kW ... 750 kW; ±3.0 % +5 dgt
Apparent power meas.	4 kVA ... 750 kVA; ±3.0 % +5 dgt
Reagents power meas.	4 kVA ... 750 kVAR; ±3.0 % +5 dgt
Power factor	0.3 ... 1 inductive and capacitive; ±0,02 +2 dgt
Phase angle	0° ... 90°; ±2.0°
Active energy	1 ... 9.999 kWh; ±3.0 % +2 dgt
Frequency	50 ... 200 Hz; ±0.5 % +5 dgt
Memory / Storage	99 meas. readings / USB
Max. diameter	52 mm
Screen	LCD display
Power	9 V battery
Dimens. / Weight	105 x 47 x 294 mm / 495 g

#### Delivery content

Power meter, test cables, crocodile clips, meas. clips, USB cable, software, battery, transport bag, instructions manual

Reference	Item
K-PCE-PCM 1	Power meter

#### Optional accessories

K-CAL-UT232	ISO Calibration certificate
-------------	-----------------------------

#### Technical specifications

Magnitud meas.	Measurement range / Resolution / Accuracy
Voltage measurement	4 ... 600 V effective real value/ 0.1 V / ±0.5 % v. MW ±5 dgt
Voltage peaks	50 ... 60 Hz / ±5 % +50 dgt (> 10 V)
Current measurements	4 ... 1,500 A effective real value/ 0.01 A / ±1 % v. MW ±5 dgt
Current peaks	50 ... 60 Hz / ±5 % +50 dgt (> 20 V)
The data for apparent & reagent power are analogs of active power	
Active power P	10 W ... 9.999 kW at 5 ranges de medición / 0.1 W ... 1 kW por measuring range ±1 % v. MW +20 dgt (> 20 V & > 20 A) ±2 % v. MW +40 dgt (< 20 V & < 20 A)
Power factor PF	0,000 ... 1,000 0.001 / ±0.04 % (> 20 V & > 20 A) 0.001 / ±0.1 % (< 20 V & < 20 A)
Phase angle	-180 ... +180° / 0.1° / ±1° 0 ... +360° / 0.1° / ±1°
Frequency meas.	46 ... 65 Hz / 0.1 Hz / ±0.3 Hz
Active energy	0 ... 999.999 kWh / ±1 % v. MW +20 dgt
Apparent energy	0 ... 999.999 kWh / ±1 % v. MW +20 dgt
Reagents energy	0 ... 999.999 kWh / ±1 % v. MW +20 dgt
Harmonics in the voltage rel.	1 ... 20 th / 0.1 % / ±2 %
50 ... 60 Hz > 80 V AC	21 ... 50 th / 0.1 % / ±4 % v. MW ±2 %

Harmonics in the voltage abs.	1 ... 20 th / 0.1 V / ±2 % ±0.5 V
50 ... 60 Hz > 80 V AC	21 ... 50 th / 0.1 V / ±4 % v. MW ±0.5 V
Harmonics in the current rel.	1 ... 20 th / 0.1 % / ±2 %
50 ... 50 Hz > 20 A	21 ... 50 th / 0.1 % / ±4 % v. MW ±2 %
Harmonics in the current abs.	1 ... 20 th / 0.1 A / ±2 % v. MW ±0.4 A
50 ... 50 Hz > 20 A	21 ... 50 th / 0.1 A / ±4 % v. MW ±0.4 A
Total harmonic distortion (THD-F)	0.0 ... 20 % / 0.1 % / 2 %
50 ... 60 Hz > 80 V u. > 20 A	20.1 ... 1,000 % / 0.1 % / ±6 % v. MW ±1 %
Screen	Graphic screen, 128 x 64 LCD with backlight
Oper. conditions	-10 ... +50 °C / max. 85 % r.H.
Power	2 x AA 1.5 V batteries
Dimensions	271 x 112 x 46 mm
Weight	650 g incl. battery

#### Delivery content

Harmonic analyser, measuring pins with 2 m cable, batteries, USB cable, software, bag, instructions manual

Reference	Item
K-PCE-GPA 62	Power meter up to 3 phases

#### Optional accessories

K-CAL-PCE-GPA	ISO Calibration certificate
---------------	-----------------------------

## PCE-360

### 3 phase power & energy meter with data storage

- Standard CAT III / 1000 V; clamp: CAT III / 600V
- Harmonic wave analyser (through software connected to a computer)
- Real time view, recording and analysis systems from 1 & 3 phases
- Data storage for 20,000 sets of data (504 KB) 12,000 sets of data per measurement
- Voltage measurement / current (real effective)
- Measures power factor and phase angle
- Measures active, apparent & reagent power
- With current clamp to measure the neutral conductor



#### Technical specifications

<b>Voltage measurement</b>	<b>Phase angle</b>
Measurement range: 50 ... 600.0 V effective real value	Measurement range -90 ... +90°
Resolution: 0.1 V	Accuracy: ±3° / Resolution: 0.1°
Accuracy: ±1.5 % reading +10 dgt	<b>Frequency meas.</b>
<b>Current measurements</b>	Measurement range: 40 ... 100 Hz / Voltage U1
Measurement range: 3 ... 999.9 A effective real value	Accuracy: ±1 % reading +2 dgt
Resolution: 0.1 A	<b>Data memory</b>
Accuracy: ±1.5 % reading +15 dgt	max. 20,000 sets of data (504 KB)
<b>Active power P</b>	12,000 sets of data per meas.
Measurement range: 150 W ... 999.9 kW	<b>Freq. meas.</b>
Resolution: 0.1 kW	5 / 30 s / 1 / 2 min (adjustable)
Accuracy: ±1.5 % reading +20 dgt	<b>Interface</b>
<b>Apparent power S</b>	USB (optical isolation)
Measurement range: 150 VA ... 999.9 kVA / 0.1 KVA	<b>Screen</b>
Accuracy: ±1.5 % reading +20 dgt	Multifunctional screen
<b>Reagents power meas. Q</b>	<b>Power</b>
Measurement range: 150 Var ... 999.9 kVar / 0.1 KVar	8 x 1.5 V batteries or network cable 12 V / 300 mA
Accuracy: ±1.5 % reading +20 dgt	<b>Dimens. / Weight</b>
<b>Power (active, reagent &amp; apparent)</b>	235 x 117 x 54 mm / 730 g
Measurement range: 0,0 ... 119.3 MWh / MVAh / Mvarh	<b>Delivery content</b>
Accuracy: ±1.5 % reading +20 dgt	3 phase power meter, current clamps, batteries, crocodile clips, safety measuring cables, bag, network cable, USB cable, software (English), instructions
<b>Power factor PF</b>	<b>Reference</b> <b>Item</b>
Measurement range: 0,000 ... +1,000	K-PCE-360      3 phase power meter
Accuracy: ±0.06 dgt / Resolution: 0.001	<b>Optional accessories</b>
	K-CAL-PCE-360      ISO Calibration certificate



## PCE-PA 8000

### 3 phase power and energy analyser

- Power analyser with network of / 4 conductors, 3 phases / 3 conductors, 1 phase / 2 conductors 1 phase / 3 conductors
- True RMS for measuring current/ voltage; active, apparent & reagent power
- Phase angle & power factor / measures active, apparent & reagent energy
- Voltage measurement up to 600V(AC) / Current measurements up to 1,200A(AC)
- Measured values are recorded on the SD card / 1 s intervals / RS-232 Interface; USB



#### Technical specifications

<b>Magn. meas.</b>	<b>Measurement range</b>	<b>Resolution</b>	<b>Accuracy</b>
AC voltageV	10 ... 600 V	0.1 V	± (0.5 % +0.5 V)
Current ACA	20 A	0.001 A (< 10 A)	± (0.5 % +0.1 A)
		0.01 A (≥ 10 A)	
	200 A	0.01 A (< 100 A)	± (0.5 % +0.5 A)
		0.1 A (≥ 100 A)	
	1,200A	0.1 A (< 1,000 A)	± (0.5 A +5 A)
		1 A (≥ 1,000 A)	
<b>Active power</b>	0 ... 9.999 kW	0.001 kW	± (1 % +0.008 kW)
	10 ... 99.99 kW	0.01 kW	± (1 % +0,08 kW)
	100 ... 999.9 kW	0.1 kW	± (1 % +0.8 kW)
	1 ... 9.999 MW	0.001 MW	± (1 % +0.008 MW)
The data for apparent & reagent power are analogs of active power			
<b>Active energy</b>	0 ... 9.999 kWh	0.001 kWh	± (2 % + 0.008 kWh)
	10 ... 99.99 kWh	0.01 kWh	± (2 % + 0,08 kWh)
	100 ... 999.9 kWh	0.1 kWh	± (2 % + 0.8 kWh)
	1 ... 9.999 MWh	0.001 MWh	± (2 % + 0.008 MWh)
The data for apparent & reagent energy are analogs of active energy			
<b>Power factor</b>	0 ... 1	0.01	±0.04
<b>Phase angle</b>	-180° ... 180°	0.1°	±1°
<b>Frequency</b>	45 ... 65 Hz	0.1 Hz	±0.1 Hz
<b>Voltage meas. range</b> 10 ... 600 V AC; Automatic range selection			
<b>Current meas. range</b> 0.2 ... 1,200A AC; automatic / manual			
<b>Input resistance</b> 10 MΩ			

<b>Overload protec.</b>	720 V RMS
	1,300 A with current clamps
<b>Oper. frequency</b>	Clamp meter: 45 ... 65 Hz
<b>Screen</b>	3.7" LCD dot matrix display (320x240 pixels), with backlight
<b>Memory / Rate</b>	SD card / 2 ... 7,200 s
<b>Interface</b>	USB or RS-232, depending on the connection cable
<b>Oper. conditions</b>	0 ... +50 °C / < 80 % r.H.
<b>Power</b>	8 x 1.5 AA batteries, or 9 V adaptor
<b>Input current</b>	340 mA DC
<b>Ø Diameter</b>	Max. 50 mm
<b>Dimens. / Weight</b>	Device meas.: 225 x 125 x 64 mm / 948 g (incl. batteries)
	Clamp meter: 210 x 64 x 33 mm / 467 g (incl. cable)
	Clamp: 86 mm (außen)
<b>Delivery content</b>	
Power analyser, current clamps, test cables, crocodile clips, 2 GB SD card, 9V DC adaptor, batteries, transport bag, instructions manual	
<b>Reference</b>	<b>Item</b>
K-PCE-PA 8000	Power meter
<b>Optional accessories</b>	
K-CAL-PCE-PA 8000	ISO Calibration certificate
K-NET-LUT	9 V Adaptor / 1 A
K-SOFT-LUT-USB	USB data cable SOFT-LUT-USB incl. software

TOP seller

## PCE-PA 8300

3 phase network failure analyser with graphic display & harmonics, with large clamps Ø

- Measures harmonic wavelength up to 50
- Clamps can be connected with power clamps from numerous other suppliers
- Measures phase angle / Frequency / Power factor
- SD memory card with adjustable intervals
- Protection IEC1010CAT III 600V



PCE-PA C1	
Dimensions	210 x 64 x 33 mm, 4 m cable
Weight	490 g
PCE-PA C2	
Dimensions	600 x 14.5 mm Remote: 105 x 56.5 x 33 mm
Weight	467 g

TOP seller

### Technical specifications

<b>Voltage measurement (AC V)</b>	
Meas. range	10 V ... 600 V (Fase a neutro), 10 V ... 600 V (Fase a phase)
Resolution	0.1 V
Accuracy	±0.5 % +0.5 V
<b>Current measurements (AC A) Set 1</b>	
Meas. range	20 A / 200 A / 1,200A
Resolution	0.001 A (< 10 A), 0.01 A (≥ 10 A) / 0.01 A (< 100 A), 0.1 A (≥ 100 A) / 0.1 A (< 1,000 A), 1 A (≥ 1,000 A)
Accuracy	±0.5 % +0.1 A / ±0.5 % +0.5 A / ±0.5 A +5 A
<b>Current measurements (AC A) Set 2</b>	
Meas. range	30 A / 300 A / 3,000 A
Resolution	0.001 A (< 10 A), 0.01 A (≥ 10 A) / 0.01 A (< 100 A), 0.1 A (≥ 100 A) / 0.1 A (< 1,000 A), 1 A (≥ 1,000 A)
Accuracy	±0.5 % +0.1 A / ±0.5 % +0.5 A / ±0.5 A +5 A
<b>The data for act. energy are analogs of act. power</b>	
Meas. range	0 ... 9.999 KW / 10 ... 99.99 KW / 100 ... 999.9 KW / 1 ... 9.999 MW
Resolution	0.001 KW / 0.01 KW / 0.1 KW / 0.001 MW

Accuracy	±1 % +0.008 KW / ±1 % +0.008 KW / ±1 % +0.8 KW / ±1 % +0.008 MW
Power factor	0 ... 1 / 0.01 / ±0.04
Phase angle	-180 ... +180° / 0.1° / ±1°
Frequency	45 ... 65 Hz / 0.1 Hz / ±0.1 Hz
<b>The harmonics of the alt. voltage are the same as the harmonics of alt. current in 50 / 60 Hz</b>	
Meas. range	Order 1 ... 20 / 21 ... 30 / 31 ... 50
Resolution	0.1 V; 0.1 %
Accuracy	±2 % +0.5 V, ±2 % +10 dgt / ±2 % +0.5 V, ±2 % +20 dgt Not specified
<b>General</b>	
Resistance	Input: 10 MResist. (AC V)
Oper. freq.	Clamp meter: 40 Hz ... 1 kHz (45 Hz ... 65 Hz verified)
Overload protec.	AC V: 720 V RMS AC A: 1,300 A with clamp SD card
Memory	Register: 1 s / Memory: 2 ... 7,200 s
Interval	
Interface	USB / RS-232
Screen	LCD display 3.7", with backlight

Oper. conditions	0 ... +50 °C / < 80 % r.H.
Power	8 x 1.5 AA batteries / 9 V Adaptor
Current cons.	Device meas.: 300 mA DC Clamp meter: 34 mA DC max.50 mm
Ø diameter	
Dimensions	Device meas.: 225 x 125 x 64 mm
Weight	Device meas.: 948 g (incl. bat.)

<b>Delivery content</b>	
Network failure analyser, 3 x clamps (depending on set), crocodile clips, safety measuring cables, batteries, network adapt., bag, 2 GB SD card, instructions	

Reference	Item
K-PCE-PA 8300-1	Power analyser Set 1 Clamp meter bis 1,200A
K-PCE-PA 8300-2	Power analyser Set 2 flex. Clamps bis 3,000 A

<b>Optional accessories</b>	
K-CAL-PCE-PA 8000	ISO Calibration cert
K-PCE-PA C1	3 x Clamp meter
K-PCE-PA C2	3 x Flex. Clamp meter

## Easycount 1

A/C meter for voltage

- Flexible and easy to use everywhere
- Easy to read screen
- ABS stable casing
- Cable length connections 0.50 m / each side
- Available with different plug types



### Technical specifications

Voltage range	230 V AC
Current carrying capacity	16 A
Frequency	50 Hz
Consumption	< 0.5 W
Min. power	6 W
Screen	5 + 1 cyclometer register
Accuracy	Class I
Resolution	0.1 kWh
Connection cable	L= 0.5 m
Oper. conditions	-20 ... +50 °C
Protection	Meter IP 54
	Male/ female connect.: IP 44

<b>Delivery content</b>	
A/C meter for voltage Easycount (as per model) with 0.5 m cable, plug, male/ female connectors	

Reference	Item
K-Easycount-1-Schuko-U	Meter, Schuko
K-Easycount-1-CEE-U	Meter, CEE
K-Easycount-1-Schuko-G	Meter, Schuko, calibrated
K-Easycount-1-CEE-G	Meter, CEE, calibrated

## Easycount 3

3 phase, calibrated current meter

- With CEE16 A or 32 A connectors / adaptors (as per the model selected)
- Flexible application irrespective of surroundings
- Easy to read screen
- ABS stable casing
- Cable length is approx. 0.50 m / each side



### Technical specifications

Voltage range	3 x 230 V / 400 V
Current carrying cap.	16 A bzw. 32 A
Frequency	50 Hz
Consumption	< 0.5 W
Min. power	6 W
Screen	6 + 1 cyclometer register
Resolution	0.1 kWh
Connection cable	L= 0.5 m
Casing	Shock resistant
Oper. conditions	-20 ... +50 °C
Protection	Meter IP 54
	Male/ female connect.: IP 44

<b>Delivery content</b>	
AC Current meter Easycount (as per model) with 0.5 m cable, plug, male/ female connectors	

Reference	Item
K-Easycount-3-16-A	Current meter, CEE-plug 16 A, calibrated
K-Easycount-3-32-A	Current meter, CEE plug 32 A, calibrated

## PCE-MHU

An external service to assist you

- If you want us to demonstrate XXXXXXXX to you personally, please do not hesitate to contact us.
- We can meet you where it is necessary.
- You choose where and when suits you best.



Außen-dienst

### Free service

A personal demonstration at home will establish the options of ensuring effective distribution of your work. Our external team members are not just salespeople, they also provide an excellent service and are skilled advisors of all high quality measuring equipment. Expanding your workshop? Or maybe you are you building a new installation or expanding and modernising your existing facilities? Then this is the right time to turn to our external service. We are a competent team, capable in assisting in your needs. For a personal evaluation, do not hesitate to make an appointment with our technical advisors:

**E-Mail**  
info@pce-instruments.com





Insulation meters have many uses, such as performing VDE checks on fixed electrical installations or mobile devices. Good insulation between power lines and electrical installations is a strict requirement to ensure that people are protected from possible electric shock, but good insulation also acts as an effective form of preventing fires. Measuring insulation non-destructively with an insulation meter is the first important step to determine the status of existing or new electric installations. In the case of a negative result, steps must be taken to determine and identify the defective point, in order for damaged equipment and installations to be removed accordingly. Devices designed to protect from overload, which ensure the strict control of transient overloads, can be installed. The most common insulation errors are due to defective connections, for instance if N and PE have been mixed up or if the lines insulation are in older electrical installations. There may also be wiring located behind lamps or AP switches that are trapped. Our insulation meters can determine if electrical installations are installed correctly and according to safety regulations.

## PCE-IT181

### Insulation meter for telecommunications

- Specifically for telecommunications
- Meets security standards
- Auto discharge of measurement circuit
- Battery indicator
- 3 DC test voltages
- Short circuit protection / Analog scale

Insulation measurements should be taken in all kinds of new installations and conversions, and even when there have been modifications and repairs. Industrial installations are required to be checked periodically, at regular intervals. In the private sector, regular status checks should be performed periodically, as insulation values can drop over time and harmful factors such as climate, moisture, and damage can have a serious knock-on effect.



### Technical specifications

Insulation range	20 MΩ 50 MΩ 100 MΩ
Accuracy	±5 % +1 dgt /
Voltage control	50 V / 125 V / 250 V
Short circuit current	2 mA DC
ACV	600 V; ±2.5 %
Resist.	50 Ω; ±5 %
Audible warning	No
Screen	Analog scale
Power	8 x 1.5 Batteries V
Dimensions	165 x 170 x 92 mm
Weight	970 g



### Delivery content

Insulation meter, test cable, clips, 8 x batteries, instructions manual

Reference	Item	€
K-PCE-IT181	Insulation meter for telecommunications	95,00

### Optional accessories

K-CAL-PCE-IT-Series	ISO Calibration certificate	125,00
---------------------	-----------------------------	--------

## PCE-UT 512

### Insulation meter up to 100 GΩ

- Standard IEC10101, CAT III 1,000 V / Test voltage up to 2,500 V
- Memory for 18 meas. readings / USB Interface for transferring data
- Screen with backlight & bar graph
- Alarm when the predetermined measurement limit values are exceeded
- Data registration function when it is connected to a PC



### Technical specifications

Resis. control	Meas. range	Insulation resis.	Current control
500 V	0.5 MΩ ... 5.0 GΩ	DC 500 V +20 %	1 ... 1.2 mA / 500 kΩ
1,000 V	2 MΩ ... 10 GΩ	DC 1,000 V +20 %	1 ... 1.2 mA / 1 MΩ
1,500 V	5 MΩ ... 20 GΩ	DC 2,500 V +20 %	1 ... 1.2 mA / 1.5 MΩ
2,500 V	10 MΩ ... 100 GΩ	DC 2,500 V +20 %	1 ... 1.2 mA / 2.5 MΩ
Short circuit curr.	< 2.0 mA		
Accuracy	100 kΩ ... 100 MΩ: ± (3 % +5 dgt) / 100 MΩ ... 10 GΩ: ± (5 % +5 dgt) / 10 ... 100 GΩ: ± (10 % +5 dgt)		
Interface	USB		
Screen	LCD display & bar graph, 123 x 58 mm		
Power	8 x 1.5 V batteries (LR 14)		
Oper. conditions	0 ... +40 °C / < 80 % r.H.		
Dimens. / Weight	202 x 155 x 94 mm / 1,800 g		

### Delivery content

Insulation meter, test cables, crocodile clips, software, USB cable, battery, instructions manual

Reference	Item	€
K-PCE-UT 512	Insulation meter	194,00

### Optional accessories

K-CAL-PCE-UT 512	ISO Calibration certificate	115,00
------------------	-----------------------------	--------

## PCE-UT 532

2 in 1 - Multimeter & insulation meter up to 2 GΩ

- Standards IEC 1010, CAT III 1,000 V, CAT IV 600 V
- Automatic range selection / Measures capacity
- TRMS in current measurements / Integrated insulation meter
- Large LCD display (6.000 dig.) with backlight
- Internal memory / Hold function / Frequency meas.



### Technical specifications

Resis. control	250 V / 500 V / 1,000 V / 1,000 V
Meas. range	0.2 ... 99.9 MΩ / 100 ... 250 MΩ / 0.5 ... 99.9 MΩ / 100 ... 500 MΩ / 4 ... 99.9 MΩ / 100 ... 999 MΩ / 1 MΩ ... 2 GΩ
Resolution	0.1 MΩ / 1 MΩ / 0.1 MΩ / 1 MΩ / 0.1 MΩ / 1 MΩ / 10 MΩ
Accuracy	± (3 % +5 dgt) / ± (5 % +5 dgt) (in 1 MΩ ... 2 GΩ)
Alt. Voltage	Meas. range 6.000 / 60.00 / 600.0 / 1,000 V Resolution 1 / 10 / 100 mV / 1 V Accuracy ± (1.0 % +3 dgt) / ± (2.0 % +3 dgt) ± (2.0 % +3 dgt) / ± (2.0 % +6 dgt); in 1,000 V
Dir. Voltage	Meas. range 60.00 / 600.00 mV / 6.000 / 60.00 / 600.0 / 1,000 V Resolution 10 / 100 μV / 1 / 10 / 100 mV / 1 V Accuracy ± (0.09 % +6 dgt) / ± (0.09 % +6 dgt) ± (0.09 % +6 dgt) / ± (0.09 % +6 dgt); in 1,000 V
Alt. Current	Meas. range 60.00 / 600.0 mA Resolution 10 / 100 μA Accuracy ± (1.5 % +2 dgt) / ± (1.5 % +2 dgt)
Direct current	Meas. range 60.00 / 600.0 mA Resolution 10 / 100 μA Accuracy ± (1.0 % +2 dgt) / ± (1.0 % +2 dgt)
Resistance	Meas. range 600.0 Ω / 6.000 / 60.00 / 600.0 kΩ / 6.000 / 40.00 MΩ Resolution 0.1 / 1 / 10 / 100 Ω / 1 / 10 kΩ Accuracy ± (0.9 % +2 dgt) / ± (0.9 % +2 dgt) ± (1.5 % +3 dgt) / ± (0.9 % +2 dgt); in 40,00 MΩ

Capacity	Meas. range 10.00 / 100.0 / 1,000 nF / 10.00 / 100.0 μF Resolution 10 / 100 pF / 1 / 10 / 100 nF Accuracy ± (3.0 % +5 dgt) / ± (3.0 % +5 dgt)
Frequency	Meas. range 60.00 / 600.0 Hz / 6.000 / 60.00 / 600.0 kHz Resolution 0.01 / 0.1 / 1 / 10 / 100 Hz Accuracy ± (0.1 % +3 dgt) / ± (0.1 % +3 dgt)
Temperature	-40 ... +537 °C / 1 °C / ± (1.0 % +10 dgt)
Diode test	No-load voltage: approx. 3 V, resolution: 1 mV
Cont. test	No-load voltage: approx. 3 V, resolution: 0.1 Ω
Screen	LCD with backlight,
Power	6 x 1.5 V batteries
Oper. conditions	0 ... +40 °C / max. 75 % r.H. (under 31 °C)
Dimens. / Weight	97 x 202 x 46 mm / approx. 505 g (with battery)

**The accuracy indicated is dependent on the frequency. (50 ... 60 Hz / 60 Hz ... 1 kHz)**

### Delivery content

Multimeter & insul. meter, 1 set meas. clips, crocodile clips with cable, thermo-element adaptor, thermo-element, batteries, bag, instructions

Reference	Item	€
K-PCE-UT 532	Multimeter & insulation meter	99,00
Optional accessories		€
K-CAL-PCE-UT1	ISO Calibration certificate (with multimeter function)	92,00

## PCE-UT 513

Insulation meter up to 1,000 GΩ

- Voltage control up to 5,000 V maximum
- Measuring range goes up to 1,000 GΩ
- Can measure PI & DAR in addition
- USB Interface



### Technical specifications

Resis. control	Measurement range	Insul. resistance	Current control
500 V	0.5 MΩ ... 20 GΩ	DC 500 V +20 %	1 ... 1.2 mA / 500 kΩ
1,000 V	2 MΩ ... 40 GΩ	DC 1,000 V +20 %	1 ... 1.2 mA / 1 MΩ
1,500 V	5 MΩ ... 100 GΩ	DC 2,500 V +20 %	1 ... 1.2 mA / 2.5 MΩ
2,500 V	10 MΩ ... 1000 GΩ	DC 5,000 V +20 %	1 ... 1.2 mA / 5 MΩ
Shortcirc. current	< 2.0 mA		
Interface	USB		
Functions	Sleep mode, polarisation index, dielectric absorption, time (adjustable in 30 min.), alarm when range is exceeded		
Screen	LCD display & bar graph, 123 x 58 mm, with backlight		
Power	8 x 1.5 V batteries (LR 14) / Network: 230 V, 50/60 Hz, 75 mA		
Oper. conditions	-10 ... +40 °C / < 80 % r.H.		
Dimens./Weight	202 x 155 x 94 mm / approx. 2,000 g		

### Delivery content

Insulation & resistance meter, crocodile clip with 1 plug, crocodile clip with 2 plugs, data cable, batteries, carrying case, instructions manual

Reference	Item	€
K-PCE-UT 513	Insulation & resistance meter	195,00
Optional accessories		€
K-CAL-PCE-UT 512	ISO Calibration certificate	115,00

## PCE-IT413 / PCE-IT414

Insulation meter for high voltage up to 10,000 V

- Measurements according to VDE 0413 Part 1
- Test voltage up to 5,000 V (PCE-IT413) & up to 10,000 V (PCE-IT414)
- Very good price/quality ratio
- IEC-1010-1; CAT III; IEC-1010-1; EN 61010-1; EN 50081-1; EN 50082-1



### Technical specifications

Models	PCE-IT413	PCE-IT414
DC voltage control	500 / 1,000 / 2,500 / 5,000 V	1,000 / 2,500 / 5,000 / 10,000 V
Meas. range aisl.	30 GΩ / 500 V	60 GΩ / 1,000 V
	60 GΩ / 1,000 V	150 GΩ / 2,500 V
	150 GΩ / 2,500 V	300 GΩ / 5,000 V
	300 GΩ / 5,000 V	600 GΩ / 10,000 V
Accuracy	±3 %	
Potential output	1 W max.	
Insulation resistance	2,000 MΩ / 2,000 V	
Static tension	700 V AC for max. 1 minute	
AC warning circuit	For tension > 450 V AC	
Power	8 x 1.5 V batteries	
Dimens./Weight	250 x 110 x 190 mm / 1.5 kg	

### Delivery content

Insulation meter, colour coded silicon test cable, silicon protective cover for coaxial conductors, batteries, instructions

Reference	Item	€
K-PCE-IT413	Insulation meter (5,000 V)	385,00
K-PCE-IT414	Insulation meter (10,000 V)	459,00
Optional accessories		€
K-CAL-PCE-IT-Series	ISO Calibration certificate for PCE-IT413	125,00
K-SCS-IT 413	Replacement set de cables for insul. meas.	49,00

# Earth ground meters / Milliohmmeters



Earth ground meters are used primarily to verify operation of grounding installations. The only way there could be any security in a building, is if the electric installations installed have grounding components. Only then, can you find a path to ground for electrical currents in the case of a lightning strike or current overload.

As a result, not only people, but also machines have to be protected from overloads. An earth ground meter can be used to take measurements according to strict existing regulations, which can then verify the effectiveness of grounding installations.

A milliohmmeter is a measuring device for taking precise readings of minimum resistance values in coils, transformers, power lines, bus systems etc. Our milliohmmeters measure resistance with the highest degree of accuracy using a four-wire technique. The measured resistance value is indicated on the display.

# Earth ground meters / Milliohmmeters

## PCE-ERT 10

Earth resistance meter up to 2,000  $\Omega$

- 3 conductors measuring method
- Measures earth voltage up to 200 V
- Can be set to zero
- Measures alternating and direct voltage
- Standards IEC10101, CAT III 1,000 V



PCE

TOP  
seller

### Technical specifications

Earth/ground insul.	Range / Resolution / Accuracy 20 / 200 / 2,000 $\Omega$ ; 0.01 / 0.1 / 1 $\Omega$ ; $\pm$ (2 % +10 dgt) / $\pm$ (2 % +3 dgt) / $\pm$ (2 % +3 dgt)
Earth/ground volt.	200 V / 0.1 V / $\pm$ (3 % +3 dgt)
Direct voltage	1,000 V / 1 V / $\pm$ (0.8 % +3 dgt)
Alternating voltage	750 V (40 ... 400 Hz) / 1 V / $\pm$ (1.2 % +10 dgt)
Resistance	200 k $\Omega$ / 0.1 k $\Omega$ / $\pm$ (1 % +2 dgt)
Measuring quota	2.5 / seconds
Screen	LCD display, with backlight
Power	6 x 1.5 AA batteries
Oper. conditions	0 ... +40 °C / < 80 % r.H.
Dimensions	200 x 92 x 50 mm
Weight	700 g

### Delivery content

Earth resis. meter, set of test cables, picks, carrying case, batteries, instructions manual

Reference	Item	€
K-PCE-ERT 10	Earth resis. meter	94,00
Optional accessories		
K-CAL-ERD	ISO Calibration certificate	99,00

## PCE-ERT 20

Earth resis. meter h. 2 k $\Omega$  / VDE 0413

- LCD display 3½ digits (max 2000)
- Battery life indicator & range exceeding indic.
- Test frequency 820 Hz
- Security characteristics as per VDE 0413
- Waterproof casing
- Standard: EN 61010-1; CAT III 300 V



PCE

### Technical specifications

Lower meas. limit	0.01 $\Omega$
Earth/ground insul.	20 / 200 / 2000 $\Omega$ , $\pm$ 2 % +2 digits
Current meas.	2 mA <sub>eff</sub>
AC voltage	0 ... 200 V AC, 50/60 Hz, $\pm$ 3 % +2 digits
Resistance indication	Indicates whether the resistance of additional electrodes lay within the counting resistance range
Storage temp.	-5 ... +55 °C
Oper. conditions	0 ... +40 °C
Power	8 x 1.5 V batteries (UM3, AA)
Dimensions	250 x 190 x 120 mm
Weight	1.5 kg

### Delivery content

Digital earth resis. meter, test cables (15m red, 10m yellow, 5m green), picks, batteries, instructions

Reference	Item	€
K-PCE-ERT 20	Earth resis. meter	199,00
Optional accessories		
K-CAL-ERD	ISO Calibration certificate	99,00

## Pulsar Earth

Earth ground tester meters

- Earth resistance meter using 2 / 3 pole mode
- 4-pole earth resist.  $\rho$  testing
- Auto off function to save battery life
- Standard CEI EN 61010-1 CAT III 300V  
CEI EN 61557
- Pollution grade 2



PCE

### Technical specifications

Fall of Potential	2 / 3-Pole-method
Measurement range	0...2,000 $\Omega$
Resolution	0.01 $\Omega$
Accuracy	$\pm$ 3 % $\pm$ 3 dgt
Earth resistivity $\rho$	4 Pole method
Measurement range	0...200 k $\Omega$
Resolution	0.01 $\Omega$
Accuracy	$\pm$ 3 % $\pm$ 3 dgt
Screen	Graphic LCD, with backlight
Memory	Up to 256 readings
Functions	Auto Shut Off (15 min)
Power	6 V / Battery 1.8 Ah
Dimensions	Approx. 215 x 90 x 110 mm
Weight	1.7 kg
Protection	IP 40

### Delivery content

Earth resis. meter, 3 conductor cables with Schuko plug, charger, manufacturer's cert., instructions

Reference	Item	€
K-Pulsar Earth	Earth resis. meter	795,00
Optional accessories		
K-CAL-Pulsar	ISO Calibration cert	159,00



## Pulsar Test

### Versatile resistance meter

- Pitch control / Insulation resistance / Loop resistance P-P, P-N, P-PE
- Grounding resistance / Earth/ground specific insul.
- Measures current & trip time setting for safety disconnection from faulty powerlines
- Indicator for rotation field direction



#### Technical specifications

##### Continuity test in protective earth conductor

Measurement range 10 ... 100 Ω  
Resolution 0.01 Ω  
Accuracy ±3 % ±3 dgt

##### Insulation resistance (con 500 VDC)

Measurement range 0 ... 200 MΩ  
Resolution 0.01 MΩ  
Accuracy ±3 % ±3 dgt

##### Loop resistance (Current control: 10 A max.)

Measurement range 0 ... 200 Ω  
Resolution 0.01 Ω  
Accuracy ±5 % ±3 dgt

##### Voltage control 230 V, 50/60 Hz

##### Grounding resistance without RCD activation

Measurement range 0 ... 1,700 Ω  
Resolution 1 Ω  
Current control 15 mA  
Accuracy ±5 % ±1 dgt

##### Voltage control 230 V, 50/90 Hz

##### Grounding resistance using 2/3/4 pole method

Measurement range 0 ... 2,000 Ω  
Resolution 0.01 Ω  
Accuracy ±3 % ±5 dgt

##### Specific earth/ground insul. ρ (4 pole method)

Measurement range 0 ... 200 kΩ  
Resolution 0.01 Ω  
Accuracy ±3 % ±5 dgt

##### Screen

Graphic screen 128 x 64 pixels with backlight  
Memory 256 readings  
Interface USB

##### Power

Battery 6V, 1.8 Ah  
Functions Auto-Shut-Off (15 min)  
Dimens. / Weight approx. 215 x 90 x 110 mm / 1.7 kg

##### Protection

IP 40

##### Standard

CEI EN 61010-1 CAT III 300 V  
CEI EN 61557

##### Delivery content

Earth resis. meter, cable 3 conductors with Schuko plug, charger, manufacturer's cert., instructions

Reference	Item	€
K-Pulsar Test	Earth resis. meter	950,00

##### Optional accessories

Reference	Item	€
K-CAL-Pulsar	ISO Calibration certificate	159,00

## PCE-MO 1000

### Milliohmmeter up to 40 Ω

- 4 connectors for Kelvin measurements
- 4,000 digits, LCD digital 3 3/4 display, with backlight
- High accuracy with 0.1 mΩ, with 200 mA output curr.
- Battery life indicator
- Overload protection for entire meas. range



#### Technical specifications

Magn. meas.	Range	Accuracy
Low resistance	400 mΩ / 4 Ω / 40 Ω	± (1.0 % +5 dgt)

DCV	1,000 V	± (1.0 % +2 dgt)
ACV	1,000 V	± (1.2 % +5 dgt)
DCA	400 mA	± (1.0 % +2 dgt)
ACA	400 mA	± (1.2 % +5 dgt)
Resistance	40 MΩ	± (1.0 % +5 dgt)
Capacity	40 mF	± (3.0 % +10 dgt)

Functions Min. / max. function; Data-Hold, auto off; diode test; control steps

Dimensions 200 x 92 x 500 mm

Weight 582 g

Delivery content

Milliohmmeter, 2 x Kelvin security cables, batteries, test cables, holster, bag, instructions

Reference	Item	€
K-PCE-MO 1000	Milliohmmeter	79,00

##### Optional accessories

K-CAL-PCE-MO	ISO Calibration certificate	109,00
K-KV-05	Kelvin meas. cables	45,00

## PCE-MO 2001

### Mains-powered milliohmmeter

- Standard IEC-1010-1; CAT IV 20 V
- For meas. resistance in coils, generators, transformers, circuits, e.g. in parallel or adjoining commutation circuits, commutators and relays
- Pitch control in cyclic systems (Ringbus) to be used in industry and home.



#### Technical specifications

Measurement range / 0 ... 200 mΩ / 100 μΩ

Resolution 0 ... 2,000 mΩ / 1 mΩ

0 ... 20 Ω / 10 mΩ

0 ... 200 Ω / 100 mΩ

0 ... 2,000 Ω / 1 Ω

Accuracy ±0.75 % v. MW +4 dgt (< 20 Ω)

±0.75 % v. MW +2 dgt (> 20 Ω)

Test current 1 mA (2,000 Ω-Range) /

10 mA (200 / 20 Ω-Ranges)

Accuracy ±0.1 %

Meas. range approx. 0.4 s

Power 230 V AC, 50/60 Hz

Dimensions 250 x 180 x 200 mm

Weight 1,35 kg

##### Delivery content

Milliohmmeter, set of test cables (4 units), mains cable, instructions manual

Reference	Item	€
K-PCE-MO 2001	Milliohmmeter	245,00

##### Optional accessories

K-CAL-PCE-MO 2001	ISO Calibration cert.	109,00
-------------------	-----------------------	--------

## PCE-MO 2002

### High precision milliohmmeter

- Extremely precise measurement range
- Robust and waterproof case
- LED-Display & indic. when value limits exceeded
- System with four conductors with Kelvin connectors
- Standards IEC-1010-1; CAT IV 20 V



#### Technical specifications

Meas. range/ 0 ... 200 mΩ / 100 μΩ

Resolution 0 ... 2,000 mv / 1 mΩ

0 ... 20 Ω / 10 mΩ

0 ... 200 Ω / 100 mΩ

0 ... 2,000 Ω / 1 Ω

Accuracy ±0.5 % v. MW ±2 dgt (-15 ... +55 °C)

Test current 1 mA (2,000 Ω-Range)

10 mA (200 / 20 Ω-Range)

100 mA (2,000 mΩ/ 200 mΩ-Range)

Accuracy ±0.1 %

Output voltage max. (C1-C2) 20 V

Power 8 x 1.5 V batteries (AA)

Dimensions 250 x 190 x 110 mm

Weight 1.5 kg

##### Delivery content

Milliohmmeter, test cables with Kelvin connectors, mains cable, USB optic cable, software, instructions

Reference	Item	€
K-PCE-MO 2002	Milliohmmeter	335,00

##### Optional accessories

K-CAL-PCE-MO 2002	ISO Calibration cert	109,00
-------------------	----------------------	--------

## PCE-MO 3001

### Micro-ohmmeter

- Resolution up to 1 μΩ
- Large LCD display with control panel
- Can be powered by batteries, internal temperature monitoring
- System with four conductors
- Standard EN 61010-1



#### Technical specifications

Meas. range	Resolution	Accuracy
2,000 mΩ	1 μΩ	± (5 % +5 dgt)
20,000 mΩ	10 μΩ	± (4 % +4 dgt)
200,0 mΩ	100 μΩ	± (4 % +4 dgt)
2,000 mΩ	1 mΩ	± (3 % +4 dgt)
20,00 Ω	10 mΩ	± (2 % +4 dgt)
200,0 Ω	100 mΩ	± (2 % +4 dgt)
Test current	10 mA (200 Ω Range) / ±1.5 %	
	100 mA (20 / 2 Ω Range) / ±2.0 %	
	1 A (200 / 20 mΩ Range) / ±3.0 %	

Output voltage max. 10 V rms

Power Internal battery

Casing Polycarbonate/ ABS

Dimens. / Weight 330 x 260 x 160 mm / 3.8 kg

##### Delivery content

Micro-ohmmeter, set of test cables (4 units), network cable, instructions manual

Reference	Item	€
K-PCE-MO 3001	Micro-ohmmeter	690,00

##### Optional accessories

K-CAL-PCE-MO	ISO Calibration cert	109,00
--------------	----------------------	--------



Detectors are often employed when there is the need to locate live cables, pipes, circuits, short circuits or other live contacts. It can be extremely annoying, hazardous and often costly when gas pipes, water pipes, or electrical cables are accidentally drilled into.

Our detectors are highly reliable, regardless of whether they are used for private or business purposes. They can locate lines without voltage as well as low voltage lines in walls, floors or in the ground.

As a result, it is possible to drill walls, ceilings and floors quickly and safely, or execute excavations without the need for sketches or connection plans.

We also have a range of detectors and scanners available that are able to locate current lines, pieces of metal and wooden beams.

## PCE-STM 3

Detect. for wood, metal, copper & iron

- Locates wood/metal/voltage lines (depth 3 cm)
- Security drilling in the right place / Bubble and laser
- Permanent alarm (visual and acoustic)
- With protective felt
- Adjustment of the laser beam (45 °)



### Technical specifications

Location depth	max. 3 cm
Screen	Graphic LCD display
Linear laserbeam	Adjustable at pasos 45°
Meas. modes	Locates metal / wood in stone, concrete, pavement, plaster, concrete, ceramic; AC scanner: Locates live voltage lines, behind wood panels or coatings. It cannot detect voltage lines in prefabricated walls with iron beams
Alarm	Visual and acoustic
Screen	Large LCD screen
Power	9 V battery
Dimens. / Weight	180 x 67 x 38 mm / 180 g

### Delivery content

Multifunction wall detector, 9 V battery, instructions manual

Reference	Item	€
K-PCE-STM 3	Multifunction wall detector	29,00

## Multifinder Pro

Detector for wood, metal, copper,...

- LCD display with operation prompts
- Permanent voltage warning
- With protective felt
- Search depth 10 cm
- Detects beams / cavities, metal, conductors
- Drilling point safety



### Technical specifications

Location depth	max. 10 cm
Stud-Scan:	Up to 3 cm (wood, metal)
Metal-Scan:	From 5 up to 10 cm (copper, iron)
AC-Scan:	Up to 4 cm
Stud-Scan:	Detects hidden beams at non-metal constructions (concrete, wood, panels)
Metal-Scan:	Detects metal in stone & concrete walls and in every non-metallic material
AC-Scan:	Locates live voltage lines Conductor
Alarm	Visual and acoustic
Screen	Arrows on the LCD
Power / Weight	9 V battery / 250 g

### Delivery content

Detector Multifinder Pro, 9 V battery, instructions manual

Reference	Item	€
K-Multifinder Pro	Detector	52,90

## PCE-191 CB

Cable detect. for power lines & cables

- Follows cables in walls or cable ducting
- Detects cable interruptions in walls
- Live cables can be detected, it's not necessary to remove the fuse
- Acoustic alarm when interruptions are detected
- Easy to use / Compact design



### Technical specifications

Voltage range	220 ... 240 V AC
Frequency range	50 / 60 Hz
Line detection	By acoustic signal
Connection	Euroconnector
Alarm	Yes, acoustic
Sensitivity	Adjustable
Screen	---
Casing	ABS plastic
Power	Transm.: Using mains cable Receiver: 9 V battery
Dimensions	Device: approx. 175 x 60 x 45 mm Transm.: approx. 65 x 50 x 28 mm Cable length: 200 mm
Weight	300 g
Standard	IEC / EN 61010 - 1:01

### Delivery content

PCE-191 CB cable detector with signal transmitter/receiver, battery, bag, instructions manual

Reference	Item	€
K-PCE-191 CB	Cable detector	45,00

## PCE-180 CB

Cable detector for cable breaks

- Adjustable sensitivity / volume
- Ideal for controlling current, network and coaxial cables.
- RJ -11 connector and crocodile clips
- Includes 2 9 V batteries & bag



### Technical specifications

Voltage range	Con. should have no voltage
Connections	Crocodile clips & RJ11 connector
Line detection	Via acoustic signal
Sensitivity	Adjustable
Earphones	TRS Connector
Power	Receiver: 9 V battery Voice generator: 9 V battery
Dimensions	Receiver: 60 x 245 x 30 mm Voice generator: 60 x 65 x 30 mm
Weight	Receiver: 140 g Voice generator: 120 g

### Delivery content

Cable detector, signal generator and connecting cables, batteries, bag & instructions manual

Reference	Item	€
K-PCE-180 CB	Cable detector	89,00



## PCE-CL 10

Detector de short circuits & ground

- Overload standard: CAT III, 300 V
- Locates lines in ceilings, walls & floors
- Can locate breaks in cables, switches and fuses / Can detect short circuits
- Detection of ground connection in AC
- Can follow protective water piping and heating



### Technical specifications

Receiver Screen	LCD & bar graph
Automatic off	After 5 min.
Power	1 x 9 V battery
Dimensions	192 x 61 x 37 mm
Weight	180 g
Signal generator	max. 400 V AC / DC
Transmitting frequency	125 kHz
Screen	LCD
Oper. conditions	0 ... 40 °C / < 80 % r.H.
Power	1 x 9 V battery
Dimensions	130 x 69 x 32 mm
Weight	130 g

### Delivery content

Cable detector, signal generator, receiver, batteries, 2 meas. cables, crocodile clips, clips, instructions

Reference	Item	€
K-PCE-CL 10	Cable detector	185,00



## PCE-LT1

LAN multimeter to test networks

- Manual or automatic testing of individual connectors
- For testing cables, connections and cables inside walls
- Includes a remote unit & BNC adaptor
- Measures continuous/alt. voltage and continuous/alt. current



### Technical specifications

DCV	200 mV / 2 / 20 / 200 / 600 V; ±0.5 % +3 dgt; 0.1 mV
ACV	2 / 20 / 200 / 600 V; ±1.0 % +5 dgt; 1 mV
DCA	200 / 2,000 µA / 20 / 200 mA; ±1.5 % +3 dgt; 0.1 µA
ACA	200 / 2,000 µA / 20 / 200 mA; ±1.8 % +8 dgt; 0.1 µA
Resist.	200 Ω / 2 / 20 / 200 kΩ / 2 / 20 MΩ; ±0.8 % +5 dgt; 0.1 Ω
Power	1 x 9V battery
Dimens. / Weight	162 x 75 x 44 mm / 308 g

### Delivery content

LAV analyser, remote unit, meas. cables, RJ45 cable, BNC / RJ-45 cable, bag, batteries, instructions

Reference	Item	€
K-PCE-LT1	Tester LAN	37,00



## D-tect 150 SV

Detector / Wall scanner

- Identifies the properties of the material & its distance from other objects
- Detection of objects in damp concrete
- Radar sensor with ultrawideband technology for millimetre-accurate detection
- With large graphic display and backlight



### Technical specifications

Detects	Ferrous metals, non-ferrous metals, wooden studs, live cables, plastic pipes
Location depth	max. 150 mm
Accuracy	±5 mm
Distance	min. 4 cm del objeto
Deconnection	Automatic after 5 min.
Functions	Optic. signal, detect. in damp concrete
Oper. conditions	-10 ... +50 °C
Power	4 x 1.5 V LR6 (AA), Dur. up to 5 h
Dimens./ Weight	220 x 97 x 120 mm / ca. 0.7 kg
Protection	IP 54 (Dust / Water splashes)

### Delivery content

Cable detector, batteries, bag, instructions

Reference	Item	€
K-D-tect 150 SV Detector		719,00



## Easyloc

Detector for construction sites

- Detects cables / underground piping
- Digital screen with bar graphs & tracking indicator for fast locating of underground lines
- Passive detection mode using natural radio signals
- Active detection mode using inductive components
- Direct transmission onto cables using a transmitter clamp, direct electric supply or galvanized connector



### Technical specifications

Receiver	
Frequency range	15 ... 23 kHz
Range 1 Radio	50 Hz / 60 Hz
Range 2 Power	32.768 kHz
Range 3 Transmitt.	
Sensitivity	
Range 1 Radio	> 20 µA
Range 2 Power	> 7 mA
Range 3 Transmitt.	> 5 µA
Depth meas.	to lines                      to waves
Range	0.3 ... 5m                      0.3 ... 7m
Resolution	0.1 m                              0.1 m
Accuracy	(With signal without interference)
Range 1 Radio	±20 %
Range 2 Power	±20 %
Range3 Transmitt.	±5 % bis 2 m                      ±10 % bis 2 m
	±20 % bis 5 m                      ±20 % bis 7 m
Power	10 x Batt. 1.5 V AA (approx. 40 h)
Protection	IP 67 (Panel above batt. IP 56)
Dimens. / Weight	99 x 660 x 252 mm / 2.5 kg
Transmitt.	
Output power	0.1 W / 0.5 W
Frequency	32.768 kHz
Power	6 x Cell-D 1.5 V

Dimens. / Weight	260 x 255 x 140 mm / 1.7 kg
Protection	IP 56
Meas. standards	CAT II; CAT III 440V; CAT IV 300V
Sinusoidal vibration	
Peak acceleration	20 m/s <sup>2</sup>
Frequency	10 ... 150 Hz
Oper. conditions	In 30 °C max. 93 % r.H.; 4 kPa
Protec. class	III (DIN EN 61140)

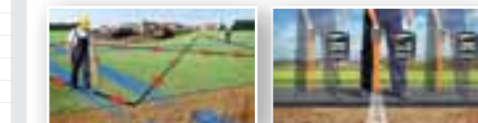
### Delivery content

Detect. (receiver & transmitt.), 2 cables (2 m), 2 croc. clips, ground rod, batteries, instructions

Reference	Item	€
K-Easyloc	Cable detector	1.966,00

### Optional accessories

Reference	Item	€
K-Easyloc-HAS	Connection cable	95,00
K-Easyloc-SZ	Transmitter clamp	321,00





An oscilloscope is an electronic measuring device, used to observe the change of an electrical signal over time, on a screen.

We provide an extensive range of oscilloscopes some which are suitable for wireless tasks, for measuring in the workshop and also in laboratories.

There are USB oscilloscopes, handheld oscilloscopes and table oscilloscopes. They are available with band widths of 8, 20, 25, 40, 60, 80, 100, 150 and 200 MHz. The USB oscilloscopes, digital oscilloscopes, real-time oscilloscopes or those with memory are equipped with one, two or four channels and have screens with either a monochrome or colour display.

If you need any further advice or have any questions on our oscilloscopes, please do not hesitate to contact our technicians and engineers at the following number: +44 (0) 2380 98703 0

## PCE-OC 2

### Oscilloscope-Hand-held multimeter

- Multimeters with auto. range selection/ Automatic off 5 ... 60 min.
- LCD display, 128 x 128 pixels, with backlight, white LEDs, 3 brightness levels
- USB Interface / Memory 100 readings / Powered with Li-Ion Battery or AC adaptor
- Internal memory for up to 100 meas. values
- Analog band width: 10 MHz
- Standard IEC1010 CAT III 1,000 V



### Technical specifications

<b>Multimeters</b>	DCV	400.0 mV / 4.000 / 40.00 / 400.0 / 1.000 V	
	ACV	400.0 mV / 4.000 / 40.00 / 400.0 / 750 V	
	DCA	40.00 / 400.0 mA / 4.000 / 20.00 A	
	ACA	40.00 / 400.0 mA / 4.000 / 20.00 A	
	Resistance	400.0 Ω / 4.000 / 40.00 / 400.0 kΩ / 4.000 / 40.00 MΩ	
	Capacity	51.20 / 512.0 / 5.120 / 51.20 / 100.0 μF	
	Frequency	5.12 Hz ... 5.12 MHz	
	Duty cycle	0.1 ... 99.9 % / Meas. range 2.5 times/s	
	<b>Oscilloscope</b>	Anal. band width	10 MHz
		RT Sample rate	50 MS/s
Resolution		8 Bits (vertical)	
No linearity		±1 Bit	
Range sensit.		50 mV / div ... 200 V / div (vertical)	
Accuracy	± (5 % +0.1 div.) vertical/ ± (0.01 % +0.1 div.) horizon.		
Range selection	0.20 μs / div ... 20 s / div (dep. on time)		

### Delivery content

Oscilloscope-multimeter, software incl. USB data cable, test cables kit, bag, AC adaptor/charger, batteries, instructions manual

Reference	Item	€
K-PCE-OC 2	Oscilloscope-multimeter	195,00
<b>Optional accessories</b>		
K-CAL-DMM	ISO Calibration certificate	92,00

## PCE-UT 81C

### Oscilloscope with 16 MHz bandwidth + built-in DMM

- Standard: CAT II / 1,000V, CAT II / 600 V / Sample range 80 MS/s
- Analog band width: 16 MHz / Multimeter with automatic range
- Auto-Set function for easy to use / Powered via mains adaptor or battery
- Graphic screen with backlight (160 x 160 pixels)
- Int. mem. up to 10 images / Measurements saved to computer when connected
- USB Interface for transferring data & DMM meas. values



### Technical specifications

Input	AC, DC / Protection 1,000 V (peak-peak)
Input impedance	10 MΩ
Accuracy	±5.0 % vertical / ±0.1 % horizontal
Read. vert./horizont.	20 mV/div ... 500 V/div; 100 ns ... 5 s/div
DC Voltage	400 mV / 40 / 400 / 1,000 V; ±0.8 % +8 dgt
AC voltage	4 / 40 / 400 / 750 V; ±1 % +15 dgt
DC current	400 / 4,000 μA / 40 / 400 mA / 4 / 10 A; ±1 % +8 dgt
AC current	400 / 4,000 μA / 40 / 400 mA / 4 / 10 A; ±1.5 % +8 dgt
Resistance	0.4 / 4 / 400 kΩ / 4 / 40 MΩ / ±1 % +5 dgt
Capacity	40 / 400 nF / 4 / 40 / 100 μF / ±3 % +8 dgt
Frequency	10 Hz ... 10 MHz / ±0.1 % +3 dgt
Analog band width	16 MHz
Freq. sample real time	80 MS/s
Power	4 x Batteries AA 1.5 V or mains adaptor
Dimens. / Weight	100 x 200 x 48 mm / 498 g

### Delivery content

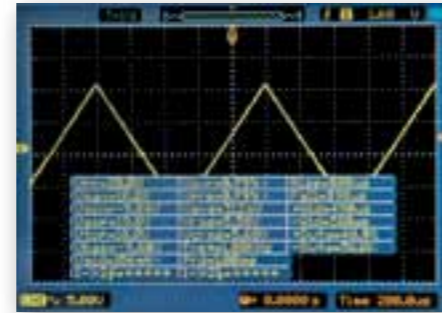
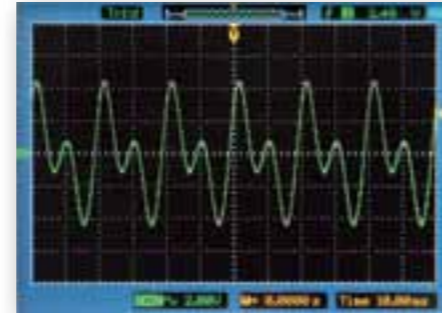
Oscilloscope, software, USB cable, test cables, bag, mains adapt., instructions

Reference	Item	€
K-PCE-UT 81C	Hand-held oscilloscope	245,00
<b>Optional accessories</b>		
K-CAL-PCE-UT1	ISO Calibration certificate (for multimeter)	92,00
K-CAL-PCE-UTO	ISO Calibration certificate (for oscilloscope)	230,00

## PCE-DSO8060

Oscilloscope up to 60 MHz with multimeter & function generator

- 60 MHz freq. range / 250 MSamples
- Maximum 300 V during oscilloscope operation
- High sensitivity / Many mathematic functions
- Large LCD display on the oscilloscope
- Integrated multimeter
- Function generator installed



TOP seller

### Technical specifications

<b>Oscilloscope</b>	
2 Channels	
Bandwidth	60 MHz
Input impedance	Resistance: 1 MΩ Capacitive: 15 pF
Input voltage	300 V (DC / AC peak)
Sampling rate	250 MSamples / s
Equiv. recording	50 GSamples / s
Auto. meas. function	For voltage & time
Math. functions.	Addition, subtraction, multiplication, division, FFT
<b>Multimeters</b>	
DC Voltage	
Measurement range	60 / 600 mV / 6 / 60 / 600 / 800 V
Resolution	10 / 100 μV / 1 / 10 / 100 mV / 1 V
Accuracy	±1 % ±1 dgt
AC voltage	
Measurement range	60 / 600 mV / 6 / 60 / 600 V
Resolution	10 / 100 μV / 1 / 10 / 100 mV
Accuracy	±1 % ±3 dgt
<b>DC-Current</b>	
Measurement range	60 / 600 mA / 6 / 10 A
Resolution	10 / 100 μA / 1 / 10 mA
Accuracy	±1.5 % ±1 dgt / ±1 % ±1 dgt / ±1.5 % ±3 dgt

<b>AC-Current</b>	
Measurement range	60 / 600 mA / 6 / 10 A
Resolution	10 / 100 μA / 1 / 10 mA
Accuracy	±1.5 % ±3 dgt / ±1 % ±1 dgt / ±1.5 % ±3 dgt
<b>Resistance</b>	
Measurement range	600 Ω / 6 / 60 kΩ / 6 / 60 MΩ
Resolution	0.1 / 1 / 10 / 100 Ω / 1 kΩ
Accuracy	±1 % ±3 dgt / ±1 % ±1 dgt / ±1.5 % ±3 dgt
<b>Capacity</b>	
Measurement range	40 / 400 nF / 4 / 40 / 400 μF
Resolution	10 / 100 pF / 1 / 10 / 100 nF
Accuracy	±1 % ±1 dgt
Diode test	0 ... 2 V
Cont. test	< 30 Ω
Resolution	max. 6.000 digits
Input voltage	max. 600 V AC, 800 V DC
Input current	max. 10 AAC, 10 A DC
Input impedance	10 MΩ
<b>Function generator</b>	
Frequency range	1 Hz (DC) ... 25 MHz
Frequency resolution	0.1 %
Output channels	One channel
Memory depth	4 KSamples

Vert. resolution	12 Bits
Stability	< 30 ppm
Amplitud	±3.5 V max.
Output impedance	50 Ω
Output current	50 mA Is = 100 mA
Screen	5,7" LC (240 x 230 px)
Interface	USB (Oscilloscope<->Mem. USB) Mini-USB (Oscilloscope <-> PC)
Power	Integrated Li-Ion battery or external mains adaptor
- Input:	100 ... 240 V AC; 50 / 60 Hz
- Output:	8.5 V / 1,500 mA
Dimens. / Weight	245 x 163 x 52 mm / 1,200g

**Delivery content**  
Oscilloscope, probe, laboratory test leads, softw., BNC cable, network lead, Li-Ion batt., instructions

Reference	Item	€
K-PCE-DSO8060	Oscilloscope	849,00
<b>Optional accessories</b>		
K-CAL-PCE-UTO	Calibration certificate	230,00

## PCE-SDS 10xx Series

2 channel oscilloscope with memory, max. bandwidth 50 MHz, 7" TFT & USB

- Standard CAT II, 400 V; up to 1 GS/s frequency exploration in real time; max. sensitivity: 10 ns
- Mathematical functions: summate, subtract, multiply, divide, FFT- analysis, interpolation: sin(x) / x
- Direct attachment for USB memory stick / RS-232 Interface
- Auto-measuring function/ Maximum sensitivity: 10 ns
- Up to 1 GS/s sampling rate in real time
- 7" widescreen TFT display
- Bandwidth 25 / 50 MHz
- Menu in 12 languages



### Technical specifications

<b>Inputs</b>	
Trigger linking	AC, DC, GND
Max. volt. input	400 Vss (DC + AC), CAT I, CAT II
Probe proportion	1X, 10X, 100X, 1,000X
<b>Vertical part</b>	
Accuracy	2 mV ... 10 V/div
Resolution	8 Bit
Channels	2
Band width anal.	25 MHz (PCE-SDS 1022DL) 50 MHz (PCE-SDS 1052DL)
Bandwidth limit.	--- (PCE-SDS 1022DL) 20 MHz ±40 % (PCE-SDS 1052DL)
<b>Horizontal part</b>	
Time base	1 ns ... 50 s (PCE-SDS 1022DL) 2.5 ns ... 50 s (PCE-SDS 1052DL)
Memory depth	32,000 points
Sample rate	1 GS/s (Meas. 1 channel) 500 MS/s (Meas. 2 channels)
<b>Trigger</b>	
Trigger signal	flank, pulse width, video, random setting of trigger position
Trigger source	CH1, CH2, EXT
Trigger form	Auto, Normal, Individual

### Hardware frequency counter

Resolution	6 Bytes
Frequency range	DC linking, 10 Hz ... Fmax
Types de señal	all trigger signals (except for pulse width and video)
<b>General data</b>	
Screen	TFT 7" colour
Resolution	480 x 234 pixels
Colour depth	64,000 colours
Oper. conditions	Operation: +10 ... +40 °C, max. 85 % r.H. for 24 h
Power	100 ... 240 V AC, 45 ... 440 Hz
Power dissipation	50 VA max.
Dimensions	305 x 133 x 154 mm
Weight	2.3 kg

Reference	Item	€
<b>Delivery content</b>		
2 channel oscilloscope with memory, probes, software, mains cable, instructions manual		
K-PCE-SDS1022DL	Oscilloscope, 25 MHz	239,00
K-PCE-SDS1052DL	Oscilloscope, 50 MHz	250,00



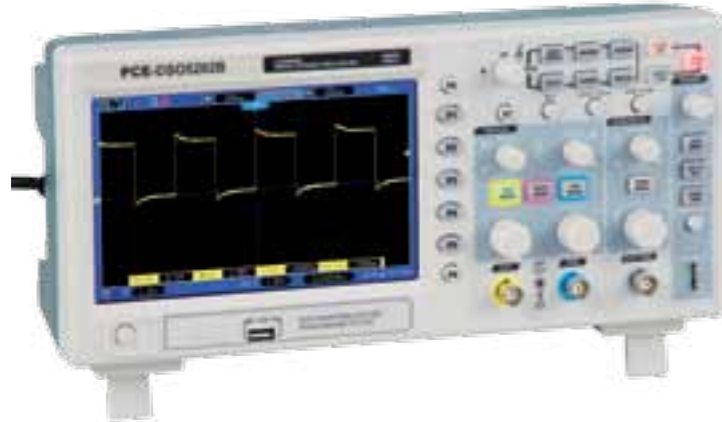
### Optional accessories

Reference	Item	€
K-CAL-PCE-UTO	ISO Calibration certificate	230,00
K-CA-C100	Transformer 0.1 ... 1,000 A	228,00
K-CA-C102	Transformer 0.1 ... 1,000 A	240,00
K-CA-C103	Transformer 0.1 ... 1,000 A	250,00
K-CA-C112	Transformer 1 mA ... 1,000 A	339,00
K-CA-C113	Transformer 1 mA ... 1,000 A	325,00
K-CA-C122	Transformer 1 ... 1,000 A	295,00
K-CA-C148	Transformer 1 ... 250 / 500 / 1,000 A	415,00
K-CA-C106	Transformer 0.1 ... 1,000 A	290,00
K-CA-C107	Transformer 0.1 ... 1,000 A	300,00
K-CA-C160	Transformer 0.1 ... 10 / 100 A	520,00
K-CA-C173	Transformer 1 mA ... 1 A	0.01 ... 10 A / 0.1 ... 100 A
K-CA-Y1N	Adaptor 4 ... 500 A	500,00
K-CA-Y2N	Adaptor 4 ... 500 A	159,00
K-CA-Y3N	Adaptor 4 ... 500 A	295,00
K-CA-Y4N	Adaptor 4 ... 500 A	341,00
K-CA-Y7N	Adaptor 4 ... 500 A, 5 ... 10 kHz	240,00
		350,00

## PCE-DSO5xxx Series

Oscilloscope with 200 MHz memory, large 7" display & 2 input channels

- Up to 200 MHz / 2 input channels / Adjustable trigger / Auto set function
- USB connection
- Large 7" display
- Many automatic measuring functions
- Single shot



## PCE-SDG10xx Series

Function generator with 2 outputs

- Up to 50 MHz / various modulation types
- 5 signal types / Arbitrary function
- Screen 3.5" LCD / Resolution 320 x 240 pixels
- 2 channels / USB Interface



### Technical specifications

Model	PCE-DSO5062	PCE-DSO5102B	PCE-DSO5202B
Bandwidth	60 MHz	100 MHz	200 MHz
Sample rate	1 GS/s	1 GS/s	1 GS/s

Inputs	
Input interconnection	AC, DC, GND
Input impedance	1 MΩ ±2 %    20 pF ±3 pF
Inputs max. V	300 Vss (DC + AC), CAT I, CAT II
Relación probes	1X, 10X, 100X, 1,000X

Vertical part	
Sensitivity	2 mV ... 5 V/div
Resolution	8 Bit
Channels	2
Lower frequency limit	≤ 10 Hz
Mathematical functions	Summate, subtract, multiply, divide, FFT- analysis, Interpolation: sin(x)/x

Horizontal part	
Memory depth	1 MSamples
Sampling rate	1 GSa/s

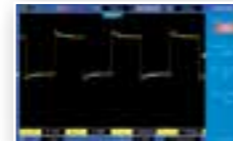
Trigger	
Trigger signal	Edge, pulse width, video, eligible setting or trigger position
Trigger source	CH1, CH2, EXT
Trigger form	Auto, Normal, Individual
Trigger coupling	AC, DC, LF rej, HF rej

General data for memory oscilloscope	
Screen	TFT 7" colour
Resolution	800 x 480 pixels
Colour depth	64,000 colours
Power de voltage	120 ... 240 V AC, 45 ... 66 Hz
Memory power	30 W
Dimensions	313 x 142 x 108 mm (L x B x H)
Weight	2.08 kg

Delivery content	
2 Channel oscilloscope with memory, probes, power cable, instructions	

Reference	Item	€
K-PCE-DSO5062B	Oscilloscope, 60 MHz	285,00
K-PCE-DSO5102B	Oscilloscope, 100 MHz	410,00
K-PCE-DSO5202B	Oscilloscope, 200 MHz	500,00

Optional accessories		€
K-CAL-PCE-UTO	ISO Calibration certificate	230,00



### Technical specifications

Model	Bandwidth
PCE-SDG1010	10 MHz
PCE-SDG1025	25 MHz
PCE-SDG1050	50 MHz

Signal types	Modulation
Sinus, recheck, ramp, impulse, dsyfunction, arb.func.	AM, DSB-AM, FM, PM, FSK, ASK, PWM, Sweep, Burst

Channels	Sample rate
2	125 MSamples / s
Arbitrary Wavelength	16 kpts
Frequency resolution	1 μHz
Vertical resolution	14 Bits
Frequency counter	100 mHz ... 200 MHz
Output channel 1	2 mVpp ... 10 Vpp
Output channel 2	2 mVpp ... 6 Vpp
Vertical accuracy	± (0,3 dB +1 mV) of the value adjusted in 100 kHz

Power	Oper. conditions
100 ... 240 V / 45 ... 65 Hz	0 ... +40 °C / < 90 % r.H.
Power for memory	30 W
Dimensions	229 x 105 x 281 mm
Weight	2,6 kg

### Delivery content

Function generator, electric cable, Cable USB, software, instructions manual,

Reference	Item	€
K-PCE-SDG1010	Function generator	310,00
K-PCE-SDG1025	Function generator	400,00
K-PCE-SDG1050	Function generator	560,00

Optional accessories		€
K-MKS-1	BNC/4 mm, 1 m cable	
	Banana connector	6,50
K-CAL	ISO Calibration certificate	





The PCE catalogue offers VDE testers according to VDE 0701 / 0702 and 0751 regulations. VDE testers are used for repeated safety checks on mobile devices.

At PCE Instruments, VDE testing devices verify (depending on the model), grounding conductor resistance, insulation resistance, the absence of voltage, and leakage current, for example, the patient leakage current in the field of the medicine. Such testing ensures that electrical devices can continue to be used safely.

Our VDE testers not only comply with the DIN guidelines, but also the standards ÖVE and BGV A3, etc. In order to document the measurement values, the VDE testers are equipped with a memory or integrated printer. Using the documentation software measurement, results can be transferred to a database.

## PKT-2775

VDE testing device as per 0701/ 0702

- Standards TÜV/GS; IEC-1010-1; VDE 0701/ 0702
- Fast PLL-controlled LCD-display
- Meas. cable calibrated in R-PE range
- Standard: TÜV/GS
- Includes software package
- Power 230 VAC / 50 Hz



### Technical specifications

Prot. line resistance	Range	R-PE 20 Ω
	Method	UO ~ 20 VAC, IK > 200 mA
	Limit value	0.10 / 0.30 / 1.00 Ω
Insulation resistance	Range	R-ISO 20 MΩ
	Method	UN > 500 VDC, IK < 5 mA
	Limit value	2.00 / 1.00 / 0.30 MΩ
Leakage current	Range	I-EA 20 mA
	Method	UO ~ 40 VAC, IK < 2 mA
	Limit value	0.25 / 0.50 / 3.50 mA
Zero voltage	Range	I-ABL 4 mA / Method: direct
	Limit value	0.25 mA
Touch current	Range	I-ABL 4 mA / Method: direct
	Limit value	0.50 mA
Protect. line current	Range	I-ABL 4 mA / Method: direct
	Limit value	3.50 mA

### Delivery content

VDE tester, set of tester cables with tip, cable, crocodile clips, instructions manual

Reference	Item	€
K-PKT-2775	VDE tester incl. software/cable	585,00
Optional accessories		
K-PKT-Z-1	Meas. adapt. with RCD curr. leak.	143,00
K-PKT-Z-5	2 m line with croc. clip/ Adaptor	77,00
K-CAL-VDE	ISO Calibration certificate	159,00

## PKT-2765

VDE tester as per 0701/ 0702/ 0751

- TÜV/GS; IEC-1010-1; VDE 0701/ 0702/ 0751
- Limit value indicator (3 red LEDs)
- Fast PLL-controlled LCD-display
- Meas. cable calibrated in R-PE range
- Standard: TÜV/GS; power 230 VAC / 50 Hz
- Includes software package



### Technical specifications

Prot. line Resistance	Range	R-PE 20 ... 1,999 mΩ
	Method	UO ~ 20 VAC, IK > 200 mA
	Limit value	100 / 300 / 1000 MΩ
Insulation resistance	Range	R-ISO 0 ... 19.99 MΩ
	Method	UN > 600 VDC, IK < 5 mA
	Limit value	2.00 / 1.00 / 0.30 MΩ
Leakage current	Range	I-EA 0 ... 19.99 mA
	Method	UO ~ 230 VAC, IK < 3.5 mA
	Limit value	0.50 / 1.00 / 3.50 mA
Arres.-current 1	Range	I-ABL 10 ... 1,999 mA
	Method	direct
	Limit value	0.50 / 100 / 500 mA
Arres.-current 2	Range	I-ABL 2 ... 19.99 mA
	Method	direct
	Limit value	2.50 / 3.50 / 5.00 mA

### Delivery content

VDE tester, set of tester cables with tip, cable with crocodile clips, instructions manual

Reference	Item	€
K-PKT-2765	VDE tester incl. software/cable	928,00
Optional accessories		
K-PKT-Z-1	Meas. adapt. with RCD curr. leak.	143,00
K-PKT-Z-5	2 m line with croc. clip/ Adaptor	77,00
K-CAL-VDE	ISO Calibration certificate	159,00

## Secutest Series

VDE tester 0701/702/ 0751, BGV A3

- EN61010-1/ VDE 0411-1; meas. protec. class II
- 8 preadjust. testing functions as per standards
- Automatic evaluation of completed tests
- Differences:  
Secutest Base: Grounding current tester 200 mA  
Secutest Base10: Cond. current tester 200 mA, 10 A  
Secutest XTRA: like Base10 + 8 ajust. languages



### Technical specifications

Prot. line Resis.	0 mΩ ... 30 Ω
Insulation resist.	1 kΩ ... 300 MΩ
Leakage current	0 μA ... 30 mA (with direct meas., alternative meas., differential current)
Interface	1x USB slave device for computer 2x USB master device for keypad, barcode reader, mem. USB & printer
Memory	approx. 50,000 sets of data
Screen	Multiple indic. 4.3" (9.7 x 5.5 cm) with backlight, 480 x 272 pixels
Oper. conditions	-5 ... +40 °C, max. 75 % r.H.
Power	100 ... 240 V AC, Freq. 50 ... 400 Hz
Dimensions	295 x 145 x 150 mm
Weight	approx. 2.5 kg

### Delivery content

VDE Tester (depending on the model), crocodile clips, probe, power cable, USB cable, calibration certificate, instructions

Reference	Item	€
K-M7050-V001	VDE tester Base	1.875,00
K-M7050-V002	VDE tester Base 10	2.075,00
K-M7050-V002	VDE tester XTRA	1.875,00
Optional accessories		
K-CAL-VDE-Secu	ISO Calibration certificate	220,00

## Safetytest 1L & 1N

VDE testing devices as per VDE 0701/0702 with with internal memory for 16.000 values & alphanumeric buttons

- **Safetytest 1L: Testing done using 2 sockets & commutator**
- **Safetytest 1N: Testing done using a socket and no commutator**
- Safety tests according to DIN VDE 0701-0702
- Active SKI / passive (with or without network connection)
- SKII, fixed connection, extension, individual measuring
- Device with fixed connection using a clamp ammeter



TOP seller

### Technical specifications

Leakage current					
Safetytest 1L	Range	I-EA 40 mA	Method	UO 230 VAC	
Safetytest 1N	Range	I-EA 20 mA	Method	UO 230 VAC	
Protection	Range	R-PE 4,000 Ω	Method	UO ~ 6 VAC, IK > 200 mA	
Insulation resistance	Range	R-ISO 20 MΩ	Method	UN 500 VDC, 1,000 VDC, IK < 1.5 mA	
Differential current	Range	I-Diff 40 mA	Method	Filter	
Operational current	Range	I-ABL 4 mA	Method	Direct	
	Voltage	0.0 ... 260.0 V			
	Current	0.00 ... 20.00 A			
	Power	From 0 ... 4,000 W acquisition up to the 15th harmonic			
Protection	Voltage N-PE >	30 V / Overload protection in differential current > 20 mA			
Clamps	Gearing transm.	2000 : 1			
	Differ. current	0.00 ... 40.00 mA			
	Current meas.	0.00 ... 40.00 A			
Automatic off	When there is a dangerous current leakage				
Interface	RS-232, USB				
Memory	16.000 measurement protocols for max. 32 clients				
Functions	Real time clock				
Screen	LED				
Barcode reader	Direct (optional)				
Power	230 VAC / 50 Hz				
Connection	16 A Schuko				
Operat. conditions	0 ... +40 °C				
Dimens. / Weight	300 x 195 x 100 mm / 500 g				

### Delivery content

VDE Tester, tester cable, software, instructions manual on CD

Reference	Item	€
K-Safetytest 1L	VDE Tester	880,00
K-Safetytest 1N	VDE Tester	1.490,00
Optional accessories		
K-CAL-Safetytest	ISO Calibration certificate	212,00
K-ST-CC	Clamp Tester 4 mm	15,00
K-ST-BR	Black probe 4 mm	47,00
K-ST-VLCEE32	Adapt. plugs CEE32	224,00
K-ST-VLCEE16	Adapt. plugs CEE16	216,00
K-ST-VLS	Adapt. plugs Schuko	144,00
K-ST-TCEE32	Adapt. diferen. current 32 A	118,00
K-ST-TCEE16	Adapt. diferen. current 6 A	113,00
K-ST-Soft-doc	Safetydoc (software)	345,00
K-ST-Soft-remote	Software	509,00
K-ST-BP	Barcode printer	325,00
K-ST-BCS	Barcode reader	325,00



Barcode reader

## Safetytest 3S

Tester as per BGV A3, for 3 phase & single phase test objects

- Complies with DIN VDE 0701-0702 as per BGV A3
- Real-time clock & memory for 8000 tests / comes with all necessary sockets / Test of devices with termination / Operator guidance for clear text instruction
- Automatic off where there is dangerous current failure of the test objects
- Network connection tester / Good/Bad evaluation / Device tester with termination using a clamp ammeter.



### Technical specifications

Electric supply	Rotary current with neutral line or alternating current, 400/230 V AC ±10 %
Switching capacity	Integrated contactor: 40 A
Accuracy	1 % of meas. range +5 % of meas. value
Test object connection	32 A - CEE 5 poles / 16 A - CEE 5 poles / 16 A - CEE 3 poles / Schuko / Earthed plug
Protec. conductor resis.	Range: 0,000 ... 4,000 Ω Meas. conditions: U0 = 6 VDC, IK 200 mA
Insulation resis. R-ISO	Range: 0.00 ... 20.00 MΩ Meas. conditions: UN: 500 V, 1000 V DC; IK 1 mA
Leakage current I-EA	Range: 0.00 ... 20.00 mA Meas. conditions: U0: 150 VAC
Differential current I-Diff	Range: 0.00 ... 20.00 mA Meas. conditions: Filter characteristic as per DIN VDE 0404 for correct evaluation of harmonic waves.
Operational current I-ABL	Range: 0,000 ... 4,000 mA
Voltage per phase	0.0 ... 260.0V
Current per phase	0.00 ... 40.00 A
Total power	0 ... 40,000 W / Capture up to 15th harmonic
Rotary field recognition	AC, right, error
Protection wire monit.	Voltage: N-PE > 30V
Integr. error curr. off.	Differential current > approx. 20 mA
Oper. conditions	0 ... +40 °C
Interface	RS-232



ST-Soft-remote

K-ST-BP

K-ST-BCS

K-ST-AK-SCHUKO

K-6733040

K-ST-AK-CEE32A

K-ST-BR

K-ST-AK-CEE16A

K-ST-CC

Inspection procedures	Regulation: DIN VDE 0701-0702: SKI active / passive (with or without network connection), SKII, termination, extension line, single measurement
Memory, clock	8,000 measuring protocols for max. 32 customers
Dimens. / Weight	380 x 300 x 220 mm / approx. 7 kg

### Delivery content

Tester Safetytest 3S, sensor measuring line, differential current clamp, instructions

Reference	Item	€
K-Safetytest 3S	VDE Tester as per BGV A3	2.605,00
Optional accessories		
K-ST-AK-SCHUKO	Connection cable CEE 32A - 16A Schuko	58,00
K-ST-AK-CEE16A	Connection cable for 16A sockets 5P CEE	67,00
K-ST-AK-CEE32A	Connection cable for 32A sockets 5P CEE	67,00
K-ST-CC	Inspection clamp, 4, mm, black	15,00
K-ST-BR	Brush sensor 4mm black for effective protect line meas.	47,00
K-6733040	Clamp meas. current leakage, 40 mm, up to 40 A	365,00
K-ST-BP	Barcode printer	325,00
K-ST-BCS	Barcode reader	325,00
K-ST-Soft-doc	Protocol software for testing	345,00
K-ST-Soft-remote	Software Safety- Remote via computer	509,00
K-CAL-Safetytest	ISO Calibration certificate	212,00





A FI Tester determines the current of the trigger and the trigger time of fuse protection switches. All home facilities have faulty current protection devices, known as fuses. The power supply is interrupted immediately to produce a current failure. FI Testers passes a leakage current and can determine when the protection switch triggers and the time lapse for that reaction to occur. These two parameters, the trigger current and the trigger time are the relevant security values for a fuse indicator switch. With a FI tester, voltage and frequency measurements can be made on-site. The management of the tester is very simple. The main task of a FI Tester is the verification of FI protection switches (standard, selective, type A and AC), and the measurement of current or current failure, with a current clamp convertor. FI Testers with a Schuko plug can demonstrate if all socket lines work, and that they are properly connected.

Alarm and memory functions are useful features when using the FI fuse protection tester. Please contact our support team if you have any questions on these devices.

## PCE-RCD 1

### Fuse Indicator FI/RCD

- Test current from 10 ... 650 mA (selectable)
- Alarm when exceeding the input voltage max., lack of grounding and ground potential above 50 V
- Measures the FI fuse switch trigger time
- Quick assessment with a coloured screen
- EN 61010-1 CAT III 600 V; EN 61557; EN 61236



### Technical specifications

RCD Types	Normal or selective RCDs
Supported networks	TT neutral & TN system
Voltage range	210 ... 240 V (neuter phase), 50/60 Hz
Current control	10 mA
Alarms	Input volt. too high, lack of ground. & ground potential > 50 V
Screen	LCD display 3 digits, backlight (blue / red)
Oper. conditions	-15 ... +45 °C
Power	4 x 1.5 V AA
Standard	EN 61010-1: CAT III 600 V
Dimensions	71 x 210 x 51 mm
Weight	340 g
Protec. class	IP 40

### Delivery content

Tester FI / RCD, bag, instructions manual

Reference	Item	€
K-PCE-RCD 1	Tester FI / RCD	83.00

## DT-6650

### Multifunctional installation analyser (CAT III 600 V)

- Insulation resistance tester up to 1,000 V test voltage
- Dual TFT LCD screen 3.5" dual (320 x 240 pixels)
- Loop impedance L-N, L-PE & N-PE
- Earthing resistance / Voltage measurement / Frequency meas.
- Adjustable control current; good/bad evaluation, FI tester
- Type of signal for test current: Sinus (AC), Puls (DC)
- SD card & Bluetooth
- Protec. class IP 65



### Technical specifications

<b>Insulation test</b>			
Clamp current	125 V / 250 V / 500 V / 1,000 V (0 ... 10 %)		
Measurement range	0.125 ... 4 / 4.001 ... 40 / 40.01 ... 400 / 400.1 ... 1,000 MΩ		
<b>Low imped. meas.</b>			
Meas. range / Resol.	0 ... 2,000 Ω / 0.001 / 0.01 / 0.1 / 1 Ω (in differing meas. ranges)		
Off load voltage	max. 5.8 V (Overload protec.: 250 Vrms)		
<b>Loop resistance</b>			
Current control	<b>L-PE</b>	<b>L-PE</b>	<b>L-N</b>
	4.0 A (Hi-Amp)	15 mA (test current)	4.0 A
Range / Accuracy	0.23 ... 999 Ω / ±4 % +4 dgt	0.23 ... 999 Ω / ±5 % +6 dgt	0.23 ... 99 Ω / ±4 % +4 dgt
<b>RCD Test</b>			
RCD (In)	10 / 30 / 100 / 300 / 650 mA / 1 A in multipliers x½; x1; x2; x5		
Tripping characteristic	G & S (Tripping point: 0° or 180°)		
<b>Earth resis. meter</b>			
Meas. range / Accuracy	0.00 ... 2,000 Ω / approx. 2 %		
Power	8 x Batteries AA 1.2 ... 1.5 V		

### Delivery content

Installation analys., carrying belt, crocodile clips, meas. cables, HV sensor tip, meas. adapters for ShuKo, charger with various replaceable plugs types C, A, G & I, car charger connection, batteries, hard case, instructions

Reference	Item	€
K-DT-6650	Installation Analyser	520.00
<b>Optional accessories</b>		€
K-CAL-DT-6650	Manufacturer's Calibration certificate	215.00



## PCE-123

### Simulate regulation signals

- Can calibrate almost any unit paramet. & meas. dev.
- Temperature: Sensors K, J, E, T (°C & °F)
- Output signal: 4 ... 20 mA / 0 ... 100 mV / 0 ... 1 V / 0 ... 12 V
- Frequency range: 1 ... 62,500 Hz



## PCE-789

### Multifunction calibrator / Simulator

- Simulates and measures current, voltage, frequency, temperature (type: K, J, E, T, R, S, N, L, U, B, C)
- Integrated function generator
- Graphic screen with backlight
- Data logging function / battery powered
- Own waveforms generator



Calibrators regenerate electrical signals. Using the MSR technique, they adjust and check measurement and control applications.

Calibrators have different magnitudes that should be attributed to normal measurement signals. These measurement signals or regulated magnitudes are denominated as the test signal, which our calibrators can provide.

They are defined as 0 to 20mA, 4 to 20mA, 0 to 10V and 0.2 to 1 bar. These magnitudes signify for example temperature, output or settings of a test valve (0 to 100% of valve opening). As these correlations are very important for an accurate test and the transmission of process signals, all measurement instruments and regulations should be calibrated previously with a calibrator. Existing regulations are checked at regular intervals and if necessary are re-calibrated with process calibrators.

Our high quality calibrators using the MSR technique, supply experts and quality control technicians, the standards required for measuring instruments.

### Technical specifications

Sensor type	Type K, J, E, T
Ranges	-200 ... 0 °C & 0 ... +1.370 °C; 4 ... 20 mA / 0 ... 20 mA / 0 ... 24 mA; 0 ... 100.00 mV / ... 10,000 V / ... 1,0000 V
Resolution	1 °C; 1 µA; 10 µV / 1 mV / 1,0000 V; 1 Hz / from 126 Hz 604 predet. frequencies
Accuracy	±0,025 % ±3 µA; ±0.05 % ±30 µV / ±3 mV / ±300 µV; ≤ 1,1 °C (as per sensor)
Screen	LCD display
Power	1 x 9 V o 6 x 1.5 V batt pack
Oper. condit.	0 ... +50 °C, < 85 % r.H.
Dimensions	88 x 168 x 26 mm
Weight	330 g

### Delivery content

Calibrator, carrying case, type-k adaptor, pack of batteries, cables with crocodile clips, instructions

Reference	Item	€
K-PCE-123	Process calibrator	325,00
Optional accessories		
K-CAL-PCE-123	ISO Calibration certificate	155,00

### Technical specifications

Simulate / Generate	
Current	(no charge voltage > 15 V) Range -4 ... 24 mA Resolution 1 µA Accuracy ±0,03 % +5 dgt
Voltage	(max. 1 mA) Range -3 ... 15 V Resolution 1 mV Accuracy ±0.1 % +5 dgt
Thermocouples	Range According to type Resolution 0.1 °C Accuracy According to type
Frequency	Range 0.3 ... 20,000 Hz Resolution 0.1 Hz Accuracy 0.002 ... 2 Hz

### Measurement

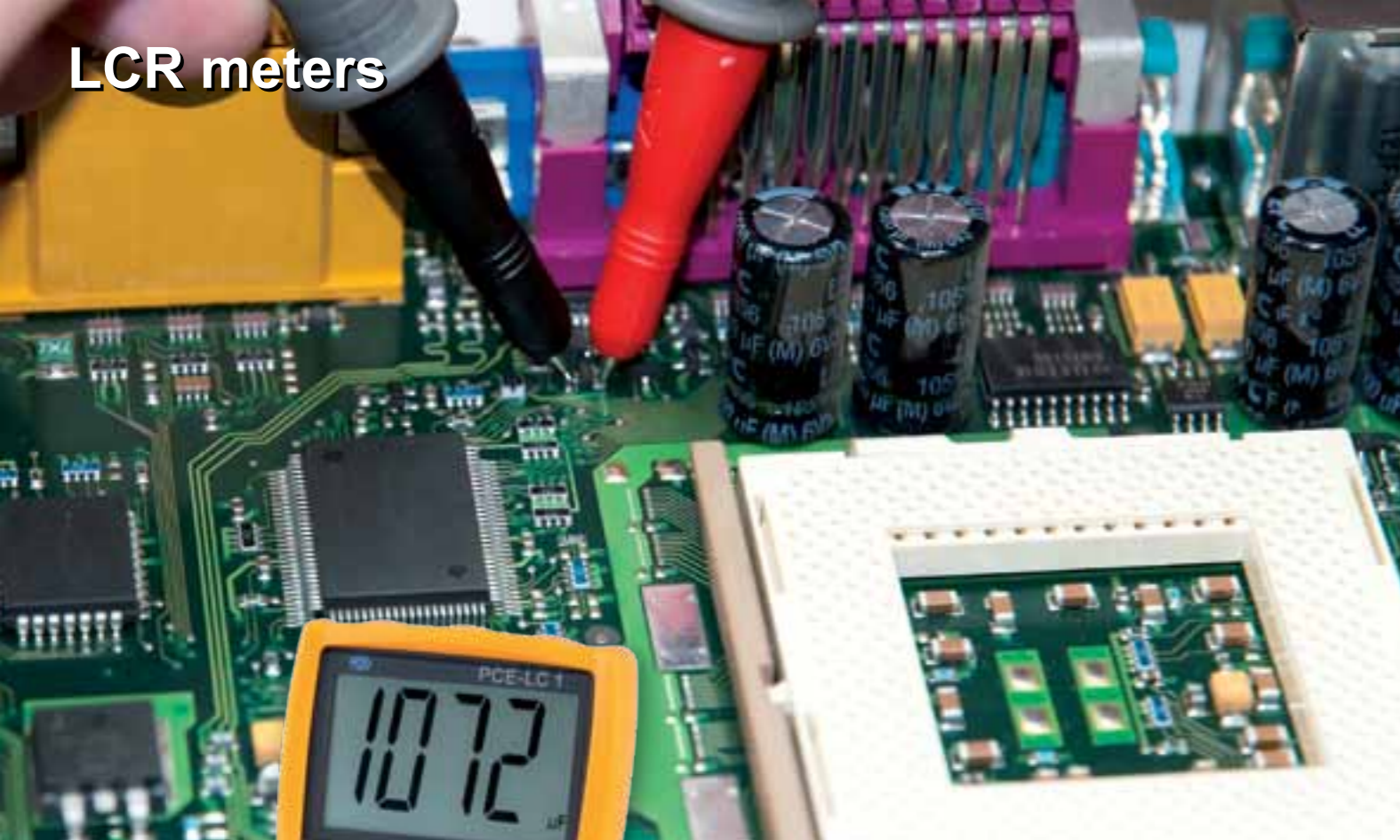
Current	Range -4 ... 24 mA Resolution 1 µA Accuracy ±0.1 % +5 dgt
Voltage	Range -3 ... 15 V

Resolution	1 µV
Accuracy	±0.1 % +5 dgt
Thermocouples	Range According to type Resolution 0.1 °C Accuracy According to type
<b>General</b>	
Power	Internal acumulator or mains adapter
Oper. conditions	In operation 0 ... +50 °C, 85 % r.H. In storage -20 ... +60 °C, 75 % r.H.
Dimensions	214 x 99 x 56 mm
Weight	650 g

### Delivery content

Multifunctional calibrator, type-k adaptor, 2 x test cable, 2 x crocodile clips, 2 x meas. sensors, software, USB cable, mains adaptor, carrying case, instructions

Reference	Item	€
K-PCE-789	Multifunctional calibrator	567,00
Delivery content		
K-CAL-PCE-789	ISO Calibration certificate	165,00



LCR meters are used to determine specific details of electrical magnitudes. With the LCR meters you will be able to obtain accurate inductance, capacitance and resistance values. LCR meters are the most suitable tool for fast, precise testing of alternative current resistance, phase angles or components, and our appliances comply with all the IEC1010-1 and CAT II safety requirements. Every LCR unit can also simultaneously be used as multimeter. The standard equipment has diverse components, however special additional components can be purchased depending on model, as such as four poles test clips, infrared software, testing heads, etc. LCR meters are mainly used in the manufacturing and production sectors, but they are also used for practical demonstrations and courses in universities. All our LCR meters offer a high degree of measurement accuracy, are calibrated and can be provided with ISO certificates.

## PCE-LCR 1

Measures induct., capacity, resist.

- Protec. class IP 67 / 11,000 counts
- Automatic range selection (in R & C)
- Automatic off / backlight
- L-, C-, R-, diode and continuity test
- Standard EN61010-1



TOP seller

### Technical specifications

Measurement range	
Resistance	110.00 Ω / 1.1000 / 11.000 / 110.00 kΩ / 1.1000 / 11.000 / 110.00 MΩ
Capacity	11.00 / 110.00 nF / 1.1000 / 11.000 / 110.00 μF / 1.1000 mF
Inductance	11.000 / 110.00 mH / 1.000 / 20.00 H
Functions	Min- / max- / REL function
Isolation	Class 2, Double isolation
CAT	36 V DC or 36 V AC
Screen	LCD (11,000 digits), with backlight
Sampling rate	4 times per second nominal
Oper. condit.	0 ... +50 °C / < 70 % r.H.
Power	9 V battery block
Dimensions	150 x 70 x 48 mm
Weight	255 g

### Delivery content

LCR Multimeter, 2 x meas. cables, battery, bag, instructions manual

Reference	Item	€
K-PCE-LCR 1	LCR Multimeter	55,00
Optional accessories		
K-CAL-LCR	ISO Calibration certificate	169,00

## PCE-LC 1

LC meter for induc. / condensers

- Sampling rate 0 ... 5 s / Automatic turn-off
- Female connector / Zero adjustment
- Large screen
- 4 mm banana connectors on LC meter
- Wide measuring range



PCE

### Technical specifications

Capacity	
Meas. range	2 nF / 20 nF / 200 nF / 2 μF / 20 μF / 2,000 μF
Resolution	1 pF / 10 pF / 100 pF / 1,000 pF / 0.01 μF / 1 μF
Accuracy	± (2.0 % +5) < 20 μF > ± (5.0 % +5)
Inductance	
Meas. range	2 mH / 20 mH / 200 mH / 2 H / 20 H
Resolution	1 μH / 10 μH / 100 μH / 1 mH / 10 mH
Accuracy	± (2.0 % +5) at 2 mH ... 2 H otherwise ± (5.0 % +5)
Screen	1,999 digits LCD display
Power	9 V battery block
Dimensions	185 x 93 x 35 mm
Weight	290 g

### Delivery content

LC meter, 2 x measuring cables, battery, instructions manual

Reference	Item	€
K-PCE-LC 1	LC meter	24,95
Optional accessories		
K-CAL-LCR	ISO Calibration certificate	169,00

## PCE-UT603

LCR meter with compact case

- Large LCD screen
- Wide measuring range
- Diode test / Continuity test / Transistor test
- Battery life indicator
- Optional ISO Calibration



PCE

### Technical specifications

Measurement range	
Inductance:	2 / 20 / 200 mH; 2 / 20 H
Capacity:	2 / 20 / 200 nF; 2 / 20 / 200 / 600 μF
Resistance:	200 Ω; 2 / 20 / 200 kΩ; 2 / 20 MΩ
Resolution	
Inductance:	1 / 10 / 100 μH; 1 / 10 mH
Capacity:	1 / 10 / 100 pF; 0.001 / 0.01 / 0.1 / 1 μF
Resistance:	0.1 / 1 / 10 / 100 Ω; 1 / 10 kΩ
Meas. range	0.5 s
Sampl. rate	Inductance; Capacid.: 100 Hz / 1 kHz
Cont. test	If 10 Ω is not reached
Diode test	Test: bien o defectuoso
Screen	LCD display 3 ½ digits
Power	1 x 9 V battery block
Dimens./Weight	172 x 83 x 38 mm / 310 g

### Delivery content

LCR meter, set of tester clips, plastic holster, battery, instructions manual

Reference	Item	€
K-PCE-UT603	LCR meter	39,00
Optional accessories		
K-CAL-LCR	ISO Calibration certificate	169,00



Endoscopes offer new perspectives to viewing the insides of machines and are the ideal tool for care and maintenance. Thanks to their flexible fibre optic cables and light weight enclosure, these extraordinary endoscopes are the ideal tool for preventative measures to be taken without the need to dismantle the machinery first. With the help of endoscopes, inspections in industrial sector can therefore be organized considerably faster, and more cost-efficiently. Endoscopes are used mainly by electricians, security personnel, specialists in the professional sector, and mechanics of all types. Endoscopes are exceptional tools in places such as schools or universities, especially in practical applications, for demonstrating the internal systems of a larger system or device. Originally, endoscopes were developed for medical diagnostics, today also are used in industry to make visual checks of difficult-to-access spaces. Our technicians and engineers will be pleased to be able to advise you on all our products.

## PCE-DE 25

Endoscope with 9.8 mm diameter

- Semi-flexible cable / 1,000 mm length
- Single-hand operation / Adjustable endoscope
- LCD monitor / TFT 2.4" with 320 x 240 pixels



PCE

TOP  
seller

### Technical specifications

Cable length	1,000 mm
Lens	Ø 9.8 mm
Cable	Ø 7 mm
Type of cable	Swan-neck, semi-flexible
Radius bend	min. 4.5 cm
Angle of vision	54°
Light exposure	Automatic
White balance	Automatic
Screen	LCD Monitor TFT 2.4" 320 x 240 pixels
Camera	CMOS Optic sensor
LED	4, white
Brightness	Adjustable using dial
Oper. conditions	0 ... +45 °C / < 95 % r.H.
Power	4 x 1.5 V batteries AA
Weight	562 g

### Delivery content

Endoscope, semi-flexible cables, instructions

Item	Item	€
K-PCE-DE 25	Endoscope	49,00

## PCE-DE 30

WiFi-Endoscope (Ø 8.5 mm / L = 1 m)

- Wi-Fi function to transfer the measured data to smartphones or tablets
- Can reach 20 m
- Swan-neck, semiflexible & waterproof
- The 4 LED lights make it possible to see in dark areas.



PCE

Wireless

### Technical specifications

Cable length	1 m
Diameter	8.5 mm
Radius bend	90 mm
Resolution	640 x 480 pixels
Object lens	f = 2.8; View angle.: 54 ... 60°
Angle of vision	25 fps (iPhone, iPad), 30 fps (Android, Windows)
Image sensor	Sensor VGA CMOS
Superf. sensor	1/9"
Vision distance	20 ... 150 mm
Operates with	iPhone, iPad, Android, Windows XP, Vista, 7, 8
Oper. conditions	-10 ... +50 °C
Power	3.7 V Li-on battery
Dimensions	230 x 195 x 100 mm
Weight	500 g

### Delivery content

Endoscope Wi-Fi, USB cable, manual tie, video cable, mains adaptor, instructions manual

Reference	Item	€
K-PCE-DE 30	Endoscope Wi-Fi, 1 m	98,40

## PCE-RVE 30

Rigid endoscope with 3.9 mm Ø

- Video endoscope with 2 LED's
- Nozzle diameter only 3.9 mm
- Rigid end with flexible 3 m long cable
- Casing protection IP 67
- Possible to save images & videos with sound
- Data stored on SD card (not included)



PCE

### Technical specifications

Cable length	3,000 mm (flexible)
Resol./Image sens.	320 x 240
Image rotation	Up to 360°
Screen	TFT 3.5" display
Resol. / Screen	640 x 480
Zoom	5x
Illumination	2 LED, regulable
Sharp range	30 ... 80 mm
Cable diam.	Ø 3.9 mm, Length 320 mm
Interface	USB 1.1 & AV out
Storage	SD card (not included)
Compression format	MPEG4
Image format	JPEG (320 x 240)
Video format	NTSC & PAL
Power	4 x AA Type (4 ... 6 h Cont. use)

### Delivery content

Rigid endoscope, USB cable, AV cable, batteries, instructions

Reference	Item	€
K-PCE-RVE 30	Endoscope	399,00