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Technical 3-Phase Power Meter PCE-PA 8300

PCE-PA 8300 3-Phase Power Meter

Three-phase power analyzer with 3 current clamps, LCD graphic display and SD card memory

The easy-to-use PCE-PA 8300 3-phase power meter is the ideal tool for performing power and harmonics analysis as well as for measuring network capacity. The PCE-PA 8300 is a three-phase power analyzer that features:

- Voltage measurement range of 10 ... 600 V AC
- Current measurement range of 20 ... 1,200 A AC (Set 1) or 30 ... 3,000 A AC (Set 2)
- Performance measurement range of 0 kW ... 9,999 MW (VA/VAR)
- SD card memory
- LCD graphic display
- Durable enclosure
- Compatibility with various manufacturers' power clamps
- Adjustable back-up interval, allowing for long-term data collection
- Auto-setting of measurement range (AC V)
- Power efficiency, delay angle and frequency measurement
- Apparent, effective and reactive power measurement
- Harmonic spectrum measurement up to the 50th order

The PCE-PA 8300 is available for purchase in two different configurations:

Set 1: Includes 3 current clamps for measurements up to 1,200 A AC

Set 2: Includes 3 flexible Rogowski coils for measurements up to 3,000 A AC (for an additional fee)

Please choose either Set 1 or Set 2 before adding the PCE-PA 8300 to your cart.

Electrical specifications

Voltage measurement (AC V)

Measurement range	Resolution	Accuracy
10 V ... 600 V (phase to neutral)	0.1 V	± (0.5 % + 0.5 V)
10 V ... 600 V (phase to phase)	0.1 V	± (0.5 % + 0.5 V)

Current measurement (AC A) Set 1

Measurement range	Resolution	Accuracy
20 A	0.001 A (< 10 A) 0.01 A (≥ 10 A)	± (0.5 % + 0.1 A)
200 A	0.01 A (< 100 A) 0.1 A (≥ 100 A)	± (0.5 % + 0.5 A)
1200 A	0.1 A (< 1000 A) 1 A (≥ 1000 A)	± (0.5 A + 5 A)

Current measurement (AC A) Set 2

Measurement range	Resolution	Accuracy
30 A	0.001 A (< 10 A) 0.01 A (≥ 10 A)	± (0.5 % + 0.1 A)
300 A	0.01 A (< 10 A) 0.1 A (≥ 10 A)	± (0.5 % + 0.5 A)
3000 A	0.1 A (< 1000 A) 1 A (≥ 1000 A)	± (0.5 A + 5 A)

Effective power

Measurement range	Resolution	Accuracy
0 KW ... 9.999 KW	0.001 KW	± (1 % + 0.008 KW)
10 KW ... 99.99 KW	0.01 KW	± (1 % + 0.08 KW)
100 KW ... 999.9 KW	0.1 KW	± (1 % + 0.8 KW)
1 MW ... 9.999 MW	0.001 MW	± (1 % + 0.008 MW)

Apparent Power

Measurement range	Resolution	Accuracy
0 KVA ... 9.999 KVA	0.001 KVA	± (1 % + 0.008 KVA)
10 KVA ... 99.99 KVA	0.01 KVA	± (1 % + 0.08 KVA)
100 KVA ... 999.9 KVA	0.1 KVA	± (1 % + 0.8 KVA)
1 MVA ... 9.999 MVA	0.001 MVA	± (1 % + 0.008 MVA)

Reactive Power

Measurement range	Resolution	Accuracy
0 KVAR ... 9.999 KVAR	0.001 KVAR	± (1 % + 0.008 KVAR)

10 KVAR ... 99.99 KVAR	0.01 KVAR	$\pm (1 \% + 0.08 \text{ KVAR})$
100 KVAR ... 999.9 KVAR	0.1 KVAR	$\pm (1 \% + 0.8 \text{ KVAR})$
1 MVAR ... 9.999 MVAR	0.001 MVAR	$\pm (1 \% + 0.008 \text{ MVAR})$

Active Energy

Measurement range	Resolution	Accuracy
0 KWH ... 9.999 KWH	0.001 KWh	$\pm (2 \% + 0.008 \text{ KWh})$
10.00 KWH ... 99.99 KWH	0.01 KWh	$\pm (2 \% + 0.08 \text{ KWh})$
100.0 KWH ... 999.9 KWH	0.01 KWh	$\pm (2 \% + 0.8 \text{ KWh})$
1 MWH ... 9.999 MWH	0.001 MMh	$\pm (2 \% + 0.008 \text{ MWh})$

Apparent Energy

Measurement range	Resolution	Accuracy
0 KVARH ... 9.999 KVARH	0.001 KVARh	$\pm (2 \% + 0.008\text{KVARh})$
10.00 KVARH ... 99.99 KVARH	0.01 KVARh	$\pm (2 \% + 0.08\text{KVARh})$
100.0 KVARH ... 999.9 KVARH	0.01 KVARh	$\pm (2 \% + 0.8\text{KVARh})$
1 MVARH ... 9.999 MVARH	0.001 MVARh	$\pm (2 \% + 0.008\text{MVARh})$

Power Factor

Measurement range	Resolution	Accuracy
0 ... 1	0.01	± 0.04

Delay Angle

Measurement range	Resolution	Accuracy
-180 ° ... +180 °	0.1 °	$\pm 1 °$

Frequency

Measurement range	Resolution	Accuracy
45 Hz ... 65 Hz	0.1 Hz	$\pm 0.1 \text{ Hz}$

Harmonic of AC Voltage at 50 / 60 Hz

Measurement range	Resolution	Accuracy
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1 ... 20th order	0.001 ... 1 A 0.1 %	$\pm (2 \% + 0.5 \text{ A})$ $\pm (2 \% + 10 \text{ Digit})$
21 ... 30th order	0.001 ... 1 A 0.1 %	$\pm (2 \% + 0.5 \text{ A})$ $\pm (2 \% + 10 \text{ Digit})$
21 ... 50th order	0.001 ... 1 A 0.1 %	not specified

General specifications

Display	3.7 " point-matrix LCD (320 * 240 pixel) with LED background lights	
Safety standards	IEC1010CAT III 600V	
Input resistance AC V	10 MOhm	
Operating frequency of current clamp	40 Hz ... 1 kHz	
Tested operating frequency of current clamp	45 Hz ... 65 Hz	
Overload protection	AC V AC A	720 V RMS 1300 A with current clamp
Data Storage	SD memory card	
Recording interval	1 second	
Data logging function	logging with real-time speed on SD memory card	
Filing interval	2 ... 7200 seconds	
Data output (only for live display on computer)	per USB or RS232, depending on connection cable	
Operating temperature	0 °C ... +50 °C	
Surrounding humidity	< 80 % RH 8 x 1.5 V AA batteries	
Voltage supply	9 V adapter	
Current drain	measurement device: 300 mA DC current clamp: 34 mA DC	
Maximum wire diameter	50 mm	
Weight	measurement device: 948 g (incl. battery) current clamp: 467 g (incl. cable)	
Dimensions	device: 225 x 125 x 64 mm current clamp: 210 x 64 x 33 mm clamp jaw: 86 mm (exterior)	

Delivery contents

- 1 x PCE-PA 8300 3-phase power meter
- 3 x current clamps (Set 1) or 3 x flexible Rogowski coils (Set 2)
- 4 x insulated alligator clips
- 4 x safety test lines
- 6 x 1.5 V AA batteries
- 1 x 9 V mains adapter
- 1 x SD memory card
- 1 x carrying case
- 1 x user manual