



Film capacitors – Power Factor Correction

Key components – Power Analyzer

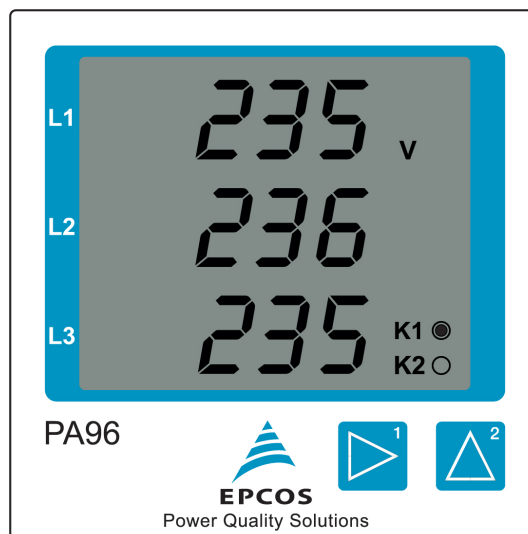
Series/Type: PA96 / PA96L
Ordering code: B44066U9601J255/J275
Date: January 2008
Version: 1

Characteristics

- Universal measuring device
- Compact digital meter, 96 × 96 mm, only 48 mm deep

Features

- Indication of V, A, A-neutral, kW, kVA, kvar, cos φ, Hz, kWh, kvarh
- Operating hours counter
- Automatic display rotation
- Individual selection of displays
- Bimetal function
- Memory for lowest, average and peak values
- B44066U9601J275: with 2 digital outputs for pulses (e.g. kWh remote information) or threshold supervision


Technical Data

Weight	250 g
Calorific value	2.2 MJ (610 Wh)
Ambient conditions	
Overvoltage class	CAT III
Pollution degree	2
Ambient temperature	-10 °C ... +55 °C
Storage temperature	-20 °C ... +70 °C
Humidity	15% up to 95% without dew
<u>Protection class</u>	
Front	IP50 to IEC529
Front with seal (option)	IP65 to IEC529
Back side	IP20 to IEC529
Protection class	II = without protective wire
Mounting position	any
Operating altitude	0 ... 2,000 m above NN
Resistance against interference (industrial areas)	DIN EN 61326:2002-03, table A.1
Interference radiation (residential areas)	DIN EN 61326:2002-03, table 4, class B
Safety guidelines	EN 61010-1 2001; IEC 61010-1 2001

Measurement	
Measurement and supply voltage	see type plate
Measuring inputs	
Scanning frequency	1 measurement/sec.
Rated pulse voltage	4 kV
Signal frequency	45 ... 1,000 Hz
Current measurement	
Power consumption	~0.2 VA
Rated current at .../5 A (.../1 A)	5 A (1 A)
Min. energizing current	20 mA
Current limit at .../1 A	1.2 A (sinus shape)
Current limit at .../5 A	6 A (sinus shape)
Overload	150 A for 2 seconds
Voltage measurement	
Power consumption	
196 ... 275 V (see type plate)	max. 13.4 VA / Phase
98 ... 140 V (see type plate)	max. 7.4 VA / Phase
49 ... 76 V (see type plate)	max. 2.6 VA / Phase
Fuse	2 ... 6 A (medium time-lag type)
Fundamental frequency	45 ... 65 Hz
Outputs	
Type	NPN transistor
Switching frequency	max. 10 Hz (50 ms pulse width)
Operating current	max. 50 mA (not short-circuit-proof)
Permissible rest current	< 1 mA
Operating voltage	5 ... 24 V DC, max. 30 V DC
Connectable cables	
One wire, multiple-wire, fine wire	0.08 ... 2.5 mm ²
Pin contacts	1.5 mm ²
Only one wire may be connected at one clamp!	

Indicating range and accuracy

Quantity	Indicating range	Measuring range ¹⁾	Accuracy ⁵⁾
Supply voltage:		...J255: 196 ... 255 V AC ...J275: 196 ... 275 V AC	
Voltage L–N	0 ... 34 kV	...J255: 50 ... 255 V AC ...J275: 50 ... 275 V AC	±1.0% rng
Voltage L–L	0 ... 60 kV	...J255: 86 ... 442 V AC ...J275: 87 ... 476 V AC	±2.0% rng
Current	0.00 ... 9.99 kA	0.02 ... 5.00 A	±1.0% rng
Current in N	0.00 ... 9.99 kA	0.06 ... 15.00 A	±3.0% rng
Real power consumption, sum	0.00 W ... 99.9 MW	3.2 W ... 1.375 kW	±1.5% rng
Real power, supply, sum	–0.00 W ... –99.9 MW	–3.2 W ... –1.375 kW	±1.5% rng
Apparent power, sum	0.00 VA ... 99.9 MVA	3.2 VA ... 1.375 kVA	±1.5% rng
Reactive power (Q ₀), sum	0.00 var ... 99.9 Mvar	3.2 var ... 1.375 kvar	±1.5% rng
cos φ	0.00i ... 1.00 ... 0.00k		²⁾
Frequency (voltage)	45.0 ... 65.0 Hz		±1.5% rdg
Reactive energy, inductive			
v < 10 ⁴⁾	0 ... 9,999,999.99 kvarh		class 2 ³⁾
v < 100 ⁴⁾	0 ... 99,999,999.9 kvarh		class 2 ³⁾
v ≥ 100 ⁴⁾	0 ... 999,999,999 kvarh		class 2 ³⁾
Real energy, consumption			
v < 10 ⁴⁾	0 ... 9,999,999.99 kWh		class 2 ³⁾
v < 100 ⁴⁾	0 ... 99,999,999.9 kWh		class 2 ³⁾
v ≥ 100 ⁴⁾	0 ... 999,999,999 kWh		class 2 ³⁾
Energized hours counter	0 ... 999,999,999h		±2 minutes/day

¹⁾ Measuring range with scale factor = 1, (Current transformer = 5/5 A, 1/1 A)

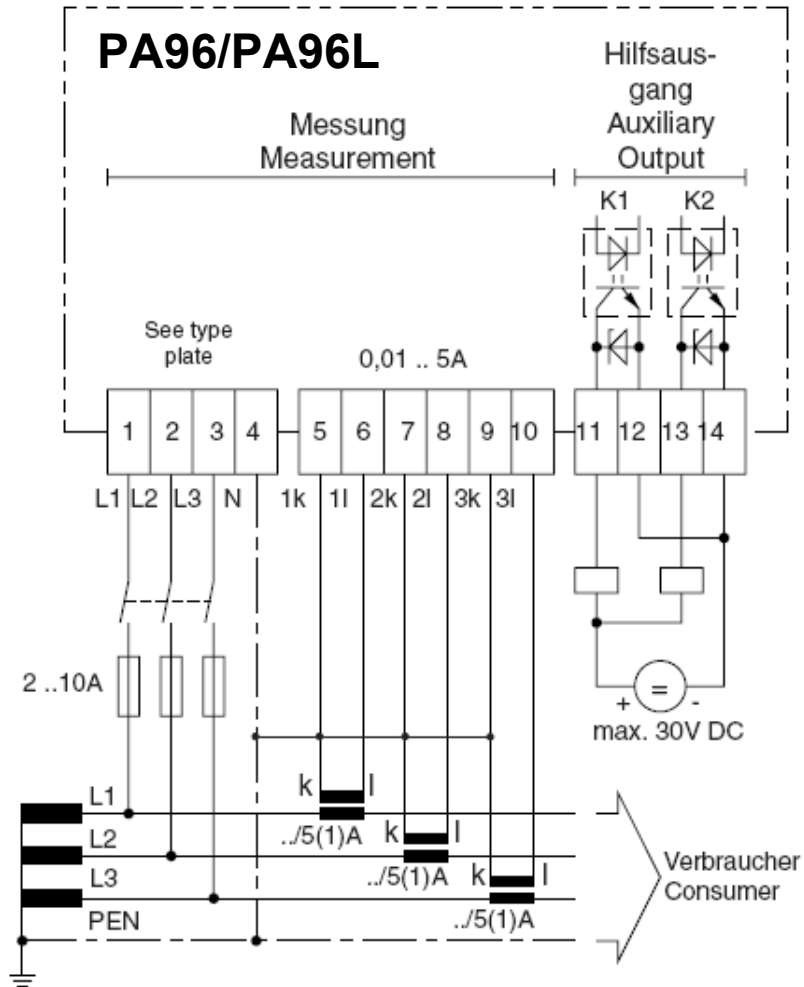
²⁾ If the measured apparent power is in the range of 1% ... 100% of the measuring range, the cos φ is displayed with an accuracy of ±3%.

³⁾ Accuracy class to DIN EN61036:2001-01, VDE0418 part 7, IEC61036:1996 + A1:2000

⁴⁾ v = v_i * v_u, v_i = current transformer ratio. Example: 200/5 A → v_i = 40
v_u = voltage transformer ratio. Example: 1,000/100 V → v_u = 10

⁵⁾ In the range of –10 °C ... 18 °C and 28 °C ... 55 °C an additional inaccuracy of ±0.5% omv per K must be taken into account.

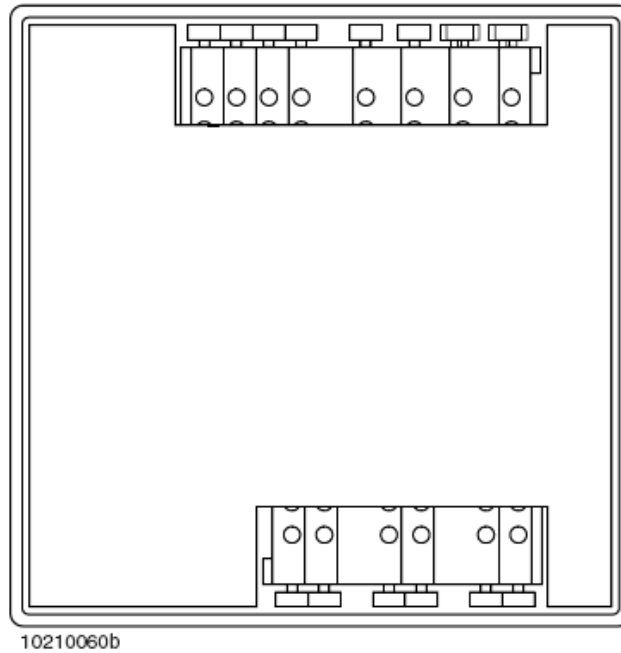
Connection Diagram



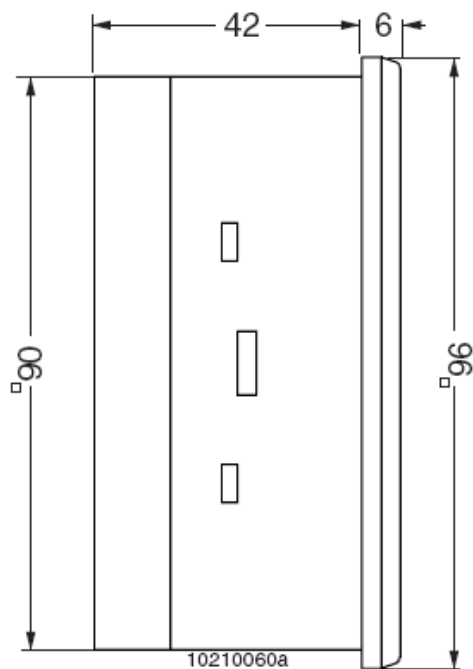
Digital outputs are available only with B44066U9601J275.

Back side

Cut out: $92^{+0,8} \times 92^{+0,8}$ mm



Side view



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