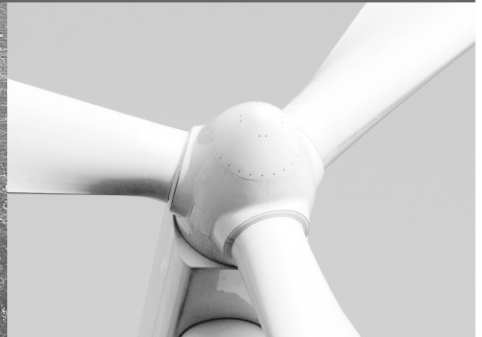




-power in control



DATA SHEET



Power factor meters, PFQ

- Self-contained meter
- Compact design (DIN sizes)
- Scale deflection 90° and 240°
- Accuracy: Class 1.5
- Linear to phase angle



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Available types

Size	Scale deflection 90°	Scale deflection 240°
96 x 96 mm	PFQ96-x	PFQ96-c
144 x 144 mm	PFQ144-x	PFQ144-c

The meter consists of a moving coil movement and an electronic transducer, housed in a standard case. The transducer measures the phase angle between an AC voltage and the corresponding AC current, converting the signal into a proportional DC current, which is fed to the moving coil instrument. The PFQ is CE-classified for residential, commercial and light industry plus industrial environment.

The measuring is principally single-phase (connection WC1), however, in a three-phase network without neutral the voltage is measured between two phases. In principle, the measurement cannot be made if either the voltage or the current is zero. The pointer will indicate the mechanical zero (always placed at scale start) when the voltage is disconnected. At current signals below 5% of I_n , the pointer can be adjusted to indicate a required value by means of a potentiometer (placed on the rear).

Note: At heavy non-linear loads (e.g. thyristor-controlled engines and rectifiers) the zero crossing of the current is delayed, and a power factor measurement is thus not possible. Measurement of VAR/watt is recommended in these cases ($VAR/watt = \tan\phi$).

Technical specifications

- Accuracy: Class 1.5, (-10...15...30...55°C) to IEC 51 and EN 60051
*) Accuracy only guaranteed at ordered configuration.
- Standard measuring ranges: 0.5 cap. ...1... 0.5 ind., 0.7 cap. ...1...0.3 ind., 0...1 cap., 0...1 ind.
- Measuring voltage ($V_{nom.}$): 57.7-63.5-100-110-127-220-230-240V AC $\pm 20\%$ (WC1 and WC3)
380-400-415-440V AC $\pm 20\%$ (WC3 only)
Max. 515 V derived from voltages with max. 300 V to earth (300 V – Cat. III/600 V Cat. II)
(Burden: Approx. 10 mA)
- Effective voltage range: 80...120% of V_{nom}
- Measuring current ($I_{nom.}$): -/1 A and -/5 A from external current transformer
- Effective current range: 5...200% of I_{nom}
- Frequency drift: 45...65 Hz: Max. $\pm 0.5\%$ (accuracy: class 1.5%)
300...500 Hz: Max. $\pm 0.5\%$ (accuracy: class 2.0%)
- Ambient temperature: -10...55°C (nominal), -25...60°C (operating), -25...70°C (storage)
- Temperature drift: Typically 0.1%. Max. 0.15% per 10°C
- Shock test: 15 g – 6 times – 3 directions, 50 g/6 ms, 22 g/20 ms
- Climate: Class HUE, to DIN 40040
- EMC: To EN 50081-1/2, EN 50082-1/2, SS4361503 (PL4) and IEC 255-22-1 (class 3)
- Test voltage: 2.2 kV – 50 Hz – 1 min. All circuits mutually and to earth
- Materials: All plastic parts are self-extinguishing, to UL94 (V0)
- Terminals: Max. 2.5 mm² (multi-stranded). Max. 4.0 mm² (single-stranded)
- Protection: Front: IP52 (IP54 on request). Terminals: IP20. To EN 60529, IEC 529

Connections

Dimensions

Type	A	B	C	D	Weight (kg)
PFQ96-x/-c	96 x 96	5	91.5	90	Approx. 0.400
PFQ144-x/-c	144 x 144	8	137.5	136	Approx. 0.700

Available variants

Item no.	Variant no.	Variant description
2961510930	01	PFQ96-x & 144-x WC1 or WC3 coupling
2961510930	01	PFQ96-x & 144-x WC1 or WC3 coupling

Order specifications

Variants:

Mandatory information						Additional options to the standard variant	
Item no.	Type	Variant no.	Connection	Measuring range	Measuring voltage	Option	Option

Example:

Mandatory information						Additional options to the standard variant	
Item no.	Type	Variant no.	Connection	Measuring range	Measuring voltage	Option	Option
2961510930-01	PFQ96-x	01	WC3	0.5...1...0.5 cos phi	380V AC	Glass w/red adjustable pointer	

Due to our continuous development we reserve the right to supply equipment which may vary from the described.



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