

MAVOWATT[®] 4

Multi-function power meter

Active power measurement

The multi-function power meter MAVOWATT 4 is suited for power measurements on DC systems as well as for active power measurements on single-phase AC systems and on three-wire, three-phase systems of balanced load.

cos φ

The MAVOWATT 4 is also capable of power factor measurements with inductive and capacitive load.

Current and voltage measurement

The MAVOWATT 4 permits direct measurements of current and voltage on DC and single-phase AC systems.

Under consideration of a correction factor, it is also possible to determine interlinked voltages.

Phase sequence indication

The MAVOWATT 4 permits easy indication of the rotating field. There are marks on the scale for this purpose.

Wide power measuring range

The MAVOWATT 4 has four selectable current and voltages steps each.

Safe operation

The connection sockets are protected against accidental contact.



Measuring ranges

cos φ

Rotating field

Voltage and current

Measured quantity	Upper range limit				
	50 V	100 V	250 A	500 V	
DC/AC voltage					
DC/AC current		0,25 A	1 A	5 A	25 A

Active power

Nom. current I_N	Nominal voltage U_N	Upper range limit	
		DC and single-phase AC system	Three-wire, three-phase system, balanced load
0,25 A	50 V	12,5 W	25 W
	100 V	25 W	50 W
	250 V	62,5 W	125 W
	500 V	125 W	250 W
1 A	50 V	50 W	100 W
	100 V	100 W	200 W
	250 V	250 W	500 W
	500 V	500 W	1000 W
5 A	50 V	250 W	500 W
	100 V	500 W	1000 W
	250 V	1250 W	2500 W
	500 V	2500 W	5000 W
25 A	50 V	1250 W	2500 W
	100 V	2500 W	5000 W
	250 V	6250 W	12500 W
	500 V	12500 W	25000 W
Input resistance	Voltage path	1 MΩ	
	Current path	8 mΩ	

Applied rules and standards

IEC 1010-1 EN 61010-1 VDE 0411-1	Safety requirements for electrically operated measuring, control and laboratory equipment – General requirements
IEC 414/DIN VDE 0410	Safety requirements for indicating and recording instruments and their accessories
IEC 51/EN 60 051	Direct acting indicating electrical measuring instruments and their accessories
VDI/VDE 3540	Reliability of measuring and control equipment
EN 60 529/ DIN VDE 0470 part 1	Test equipment and test procedures – Degrees of protection provided by enclosures (IP Code)

Indication

Movement	Moving-coil movement
Scale length	96 mm

Accuracy

AC power	Class 1.5
DC and AC voltage, DC and AC current	Class 2.5
Reactive power, power factor	Class 5

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Reference conditions

Ambient temperature	+ 23 °C ± 2 K
Relative humidity	45 ... 55 %
Position of use	Horizontal
Frequency of the measured quantity	45 Hz ... 65 Hz
Waveform of the measured quantity	Sinusoidal
Amplitude of the measured quantity with power measurement	Voltage: 0.8 ... 1.2 U _N Current: 0 ... 1.2 I _N
Power factor	cos φ = 0 ... 0.866 ... 1
Battery voltage	6.6 ... 11 V (per battery)

Nominal ranges of use

Temperature	0 ... + 50 °C
Frequency	10 Hz ... 400 Hz
Voltage measurement:	10 Hz ... 200 Hz
Current measurement:	10 Hz ... 400 Hz

Influence quantities and variations

Influence quantity/ influence range	Measured quantity	Variations ± (... % of meas. val.)
Temperature	The given variations are per 10 K change in temperature	
0 ... 21 °C and 25 ... 50 °C	Power, all measuring ranges	1.5
	Current and voltage, all meas. ranges	2.5

Power supply

Batteries	2 each 9 V flat-cell batteries according to IEC 6 F 22, 6LF22 or 6LR61 (each one for voltage and current path)
Lifespan	200 hours
Battery test	By battery test section on scale

Overload capacity

Voltage	1.2 U _N , cont.
Current	1.2 I _N , cont. 25 A range: max. 5 minutes with pause of 5 minutes each

Electrical safety

Protection class	II acc. to IEC 1010-1/EN 61010-1/ VDE 0411-1
Overvoltage category	III
Nominal voltage	300 V
Pollution degree	2
Nominal insulation voltage	650 V acc. to IEC 414/VDE 0410
Test voltage	3,7 kV~ acc. to IEC 1010-1/EN 61010-1/ VDE 0411-1

Mechanical configuration

Protection type	Connectors: IP 20 Case: IP 50
Dimensions	110 mm x 181 mm x 62 mm
Weight	0,8 kg

Temperature range

Operational	0 ... 50 °C
Storage	- 25 °C ... + 65 °C

Scope of delivery

- 1 multi-function power meter
- 1 copy of operating instructions

Accessories

- Lead set KS28
- Ever-ready case F786

Order code

Designation	Type	Ident Number
Multi-function power meter	MAVOWATT 4	GTM 3033 000 R0001
Lead set	KS28	GTU 3620 065 P0001
Ever-ready case	F786	GTU 3172 068 P01