

MAVOWATT 4

Multifunction Power Meter

3-348-801-03
5/9.11

The MAVOWATT 4 electronic multiple power meter allows for direct measurement of DC power as well as RMS power measurement for single-phase alternating current and balanced load three-wire, three-phase current.

- Determination of reactive power
- Measurement of phase-to-phase voltage(s)
- Phase sequence indicator
- $\cos \varphi$ measurement, power factor for inductive and capacitive load
- Ideal instrument for manufacturing, service and installation



Application

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.

Current and voltage measurement

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

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

Wide power measuring range

MAVOWATT 4 has four selectable current and voltages steps each.

Applicable Regulations and Standards

IEC 61010-1:2001/ EN 61010-1:2001/ VDE 0411-1:2002	Safety requirements for electrical equipment for measurement, control and laboratory use
EN 60529:2000 VDE 0470 Part 1	Test instruments and test procedures – Protection provided by enclosures (IP code)
DIN EN 61326-2-1 VDE 0843 Part 20-2-1	Electrical equipment for measurement and laboratory use - EMC requirements - Part 2-1: Test configurations and performance criteria for sensitive test and measurement equipment

Measuring Ranges

$\cos \varphi$, Rotating Field

Voltage and Current

Measured Quantity	Upper Range Limit				
DC/AC Voltage	50 V	100 V	250 V	500 V	
DC/AC Current		0.25 A	1 A	5 A	25 A

Active Power

Nominal 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 Current Path	1 M Ω 8 m Ω

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Display

Measurement mechanism	Moving-coil element
Scale length	96 mm

Accuracy

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

Reference Conditions

Ambient temperature	+ 23 °C ± 2 K
Relative humidity	40 ... 60 %
Position of use	horizontal
Frequency of the measured quantity	45 Hz ... 65 Hz
Waveshape of the measured quantity	sinusoidal
Amplitude of the measured quantity for 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 for voltage measurement: 10 Hz ... 200 Hz for current measurement: 10 Hz ... 400 Hz

Influence Quantities and Influence Effects

Influence Quantity/ Influence Range	Measured Quantity	Influence Effects ± (... % of meas.val.)
Temperature	The indicated influence effects apply per 10 K temperature change	
0 ... 21 °C und 25 ... 50 °C	Power, all measuring ranges	1,5
	Current and voltage, all measuring ranges	2,5

Ambient Conditions

Operating temperatures	0 ... 50 °C
Storage temperatures	- 25 °C ... + 65 °C

Power Supply

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

Overload Capacity

Voltage	1.2 U _N permanent
Current	1.2 I _N permanent Range 25 A: max. 5 minutes with 5-minute break each

Electrical Safety

Protection class	II per IEC/EN 61010-1:2001/VDE 0411-1:2002
Measuring category	III
Nominal voltage	300 V
Pollution degree	2
Test voltage	3.7 kV~ per IEC/EN 61010-1:2001/ VDE 0411-1:2002
Fuse	F25A 500V/1.5kA

Mechanical Design

Protection type	Connector sockets: IP 20, housing: IP 50
Dimensions	110 mm x 181 mm x 62 mm
Weight	0.8 kg

Standard Equipment

- 1 Power meter
- 1 Operating instructions

Order Information

Description	Type	Article number
Multifunction power meter	MAVOWATT 4	GTM3033000R0001

For additional information concerning accessories
see our *Measuring Instruments and Testers Catalogue*.

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GMC-I Messtechnik GmbH
Südwestpark 15
90449 Nürnberg • Germany

Phone +49 911 8602-111
Fax +49 911 8602-777
E-Mail info@gossenmetrawatt.com
www.gossenmetrawatt.com