

**POWER MONITOR 51A****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)**Energy meters - ValueLine**

Advanced functionality of energy data capture

The scope of performance of the ValueLine energy meters goes beyond the core functions of energy measurement.

They are also suitable for determining, storing and visualising further energy quality parameters.

The free "ecoExplorer go" software is available for most types of the product group,

on the one hand for device configuration / commissioning / visualisation of the measured values and on the other hand for analysing the power quality.

**General ordering data**

Version	Power measurement/display for 1-, 3-phase mains
Order No.	<a href="#">1470260000</a>
Type	POWER MONITOR 51A
GTIN (EAN)	4050118276756
Qty.	1 ST
Delivery status	This article will no longer be available in the future.
Available until	2026-12-30T00:00:00+01:00
Alternative product	<a href="#">ENERGY METER 520-230</a>

## POWER MONITOR 51A

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## Technical data

## Approvals

Approvals



ROHS Conform

## Dimensions and weights

Depth	68 mm	Depth (inches)	2.6772 inch
Height	96 mm	Height (inches)	3.7795 inch
Width	96 mm	Width (inches)	3.7795 inch
Net weight	386 g		

## Temperatures

Storage temperature	-25 °C...70 °C	Operating temperature	-25 °C...55 °C
Humidity	35 % to 85 % relative humidity level		

## Environmental Product Compliance

RoHS Compliance Status	Compliant
REACH SVHC	Lead 7439-92-1

## Measuring current input

Rated current	1 / 5 A	Current-measuring channels	4
Measuring accuracy for current	0.5 %	Residual current measuring	No

## Measuring voltage input

Measuring accuracy for voltage	0.5 %	Three-wire system	Yes
Measurement range, voltage L-L, AC	0...500 V	Measurement range, voltage L-N, AC	0...250 V (1P3W), 0...289 V (3P4W)
Four-wire system	Yes		

## Communication

Interface	RS485: Autobaud, 9,6 – 115.2 kbps (pluggable screw terminals), USB	Protocol	Modbus RTU
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## Inputs/outputs

Number of digital inputs	2	Number of digital outputs	2
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## Measurement data recording

Memory; minimum and maximum values	No	Software	Power Monitor Manager
Integrated logic	No		

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Display value	Apparent power, Effective power, Reactive power, Power factor, Voltage, Current, Frequency, Temperature, Voltage unbalance, Current unbalance, THD-I, THD-U, Voltage harmonic, Current harmonic	Version	Power measurement/display for 1-, 3-phase mains
Protection degree	Front panel: IP5 1, Enclosure: IP20	Pollution severity	2
Rated current	1 / 5 A	Standards	IEC 61010-1
Measurement range, voltage L-N, AC	0...250 V (1P3W), 0...289 V (3P4W)	Measurement range, voltage L-L, AC	0...500 V
Surge voltage category	II	Voltage supply	85...264 VAC, 100...300 V DC
Supply voltage	230 V	Three-wire system	Yes
Four-wire system	Yes	Sampling frequency 50/60 Hz	1024 kHz
Measurement result per second	100000 ms	Residual current measuring	No
Current-measuring channels	4	Measuring accuracy for voltage	0.5 %
Measuring accuracy for current	0.5 %	Measurement accuracy for active energy (kWh, .../5 A)	1% for the calculated values
Operating-hours counter	No	Clock	Yes

## Voltage quality measurement

Unbalanced	Yes	Positive, negative and zero system	Yes
Brief interruptions	Yes	Sequence-of-events recorder function	No

## Insulation coordination

Surge voltage category	II	Pollution severity	2
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## Classifications

ETIM 6.0	EC002301	ETIM 7.0	EC002301
ETIM 8.0	EC002301	ETIM 9.0	EC002301
ETIM 10.0	EC002301	ECLASS 9.0	27-14-23-30
ECLASS 9.1	27-21-03-01	ECLASS 10.0	27-14-23-30
ECLASS 11.0	27-14-23-30	ECLASS 12.0	27-14-23-30
ECLASS 13.0	27-14-23-30	ECLASS 14.0	27-14-23-30
ECLASS 15.0	27-14-23-30		

## Tender specification sheets

Long specification	Electrical parameters have to be measured and visualised to optimise your machines' and systems' energy requirements. Only this allows analysis and, subsequently, the achievement of savings and the establishment of an energy management system. An easy-to-install solution is now available from Weidmüller. When implementing an energy management system	Short specification	Measuring device with memory function for optimising energy requirements
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**POWER MONITOR 51A****Weidmüller Interface GmbH & Co. KG**Klingenbergstraße 26  
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according to ISO 50001,  
the Power Monitor 51A  
is one of the modules  
necessary to meet the  
requirements of recording,  
displaying and analysing  
power flows.

Technical data:

Input data: measurement  
variable: active, reactive,  
apparent power

Recording of frequencies  
up to 99.99 Hz and

temperatures up to 100°C

Measurement variable:

AC sine (50/60 Hz)

designation

Input: voltage

measurement inputs V1,  
V2, V3

Input voltage range: 0 V

AC ... 500 V AC (phase/  
phase)

Input voltage range: 0 V

AC ... 300 V AC (phase/  
neutral conductor)

Accuracy: 0.5% input

current range: via external  
converters, input current:

8,000 A (primary), input

current: 5 A (secondary) ,

Response threshold of  
rated measurement range  
value: 1 mA

Power-measurement

range: 0 kW ... 9999999.9  
kW

Power-measurement

range: 0 kvar ...

9999999.9 kvar

Power-measurement

range: 0 kVA ...

9999999.9 kVA

Up to 31 harmonics.

Accuracy: 1%

Interface: RS-485

Type of connection: screw  
terminals

General data: width: 96

mm, height: 96 mm

Display: LCD with backlit  
display

Supply voltage range: 85 V

AC ... 264 V AC

Rated power

consumption: 6 VA,

protection degree: IP51

(front), IP20 (rear):

Type of mains network: 3-

phase (3- or 4-conductor),

2-phase (2-conductor) and

1-phase (1-conductor) also

able to measure current in

the neutral conductor

Colour: black; conformity:

CE marking

Rated insulation voltage:

300 V AC (EN 61010-1)

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Overvoltage category:  
II, ambient temperature  
(operational): -25°C ...  
55°C, ambient temperature  
(storage/transport):  
-25°C ... 70°C  
Max. perm. humidity  
(operation): 85%, height  
ASL <2000 m  
Connection data: flexible  
conductor cross-section  
min.: 0.5 mm<sup>2</sup>, flexible  
conductor cross-section  
max.: 2.5 mm<sup>2</sup>, rigid  
conductor cross-section  
min.: 0.2 mm<sup>2</sup>, rigid  
conductor cross-section  
max.: 4 mm<sup>2</sup>, type of  
connection: screw  
connection  
Ordering details: product:  
Weidmüller Interface, type:  
Power Monitor, item no.:  
1470260000

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**Drawings**

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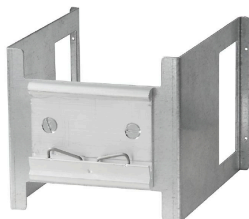
Measurements Items

Item	Unit	Data display range
Instantaneous power	Active kW	-99999 to 99999
	Reactive kvar	
	Apparent kVA	
Integral power (import)	Active kWh	0.000 to 9999999.9
	Reactive kvarh	
	Apparent kVAh	
Integral power for each time zone (4-zone) (import)	Active kWh	0.000 to 9999999.9
	Reactive kvarh	
	Apparent kVAh	
Integral power for each time zone (4-zone) (export)	Active kWh	0.000 to 9999999.9
	Reactive kvarh	
Current	A	0.000 to 99999
Voltage	V	0.000 to 99999
Power factor		-1.000 to 1.000
Frequency	Hz	0.00 to 99.99
Pulse count value		0.000 to 9999999.9
Pulse conversion value		0.000 to 9999999.9
Temperature	°C	-100.0 to 100.0
Calendar		January 1, 2000 00:00:00 - December 31, 2099 23:59:59

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**Accessories****Accessories****General ordering data**

Type	POWER MONITOR BRACKET	Version	
Order No.	<a href="#">2091060000</a>		
GTIN (EAN)	4050118421903		
Qty.	1 ST		