

ENERGY METER D650

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



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.	2425490000
Type	ENERGY METER D650
GTIN (EAN)	4050118433326
Qty.	1 items

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Technical data

Approvals

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ROHS Conform

UL File Number Search [UL Website](#)

Certificate no. (cULus) E469563

Dimensions and weights

Depth	82 mm	Depth (inches)	3.2283 inch
Height	90 mm	Height (inches)	3.5433 inch
Width	107.5 mm	Width (inches)	4.2323 inch
Net weight	350 g		

Temperatures

Storage temperature	-20 °C...70 °C	Operating temperature	-10 °C...55 °C
Humidity at operating temperature	5...95 % RH		

Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption
REACH SVHC	No SVHC above 0.1 wt%

Measuring current input

Housing main material	Plastic	Rated current	1 / 5 A
Current-measuring channels	4	Measuring accuracy for current	0.25 %
Residual current measuring	No	Harmonics, per order / current	1.-40.
Distortion factor THD-I in %	Yes	Max. current	5000 A

Measuring voltage input

Low voltage network	3 phase 3 wire (L1 + L2 + L3), 3 phase 4 wire (L1 + L2 + L3 + N)	Measuring accuracy for voltage	0.2 %
Three-wire system	Yes	Quadrants	4
Harmonics, per order / voltage	1.-40.	Distortion factor THD-U in %	Yes
Measurement range, voltage L-L, AC	480 V	Measurement range, voltage L-N, AC	277 V
Four-wire system	Yes		

Communication

Interface	RS232: 9.6 – 115.2 kbps, RS485: 9.6 – 921.6 kbps	Protocol	Modbus RTU
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Inputs/outputs

Number of digital inputs	2	Number of digital outputs	2
Number of pulse outputs	2	Temperature input	Yes

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Measurement data recording

Memory; minimum and maximum values	Yes	Memory size	4 MB
Number of memory values	156 k	Update interval register	200 ms
Min. memory recording interval	60.00 s	Software	ecoExplorer go®
Integrated logic	Yes		

Technical data

Version	Power measurement/ display for 1-, 3-phase mains	Input frequency	<20 Hz
Type of mounting	DIN rail	Protection degree	IP20
Rated current	1 / 5 A	Max. current	5000 A
Display monitoring (monitor)	LCD	Standards	DIN EN 61326-1, DIN EN 61000-4-2, DIN EN 61000-4-3, DIN EN 61000-4-4, DIN EN 61000-4-5, DIN EN 61000-4-6, DIN EN 61000-4-8, EN 61000-4-11, IEC 61010-1, IEC 61010-2-030, EN 55011
Measurement range, voltage L-N, AC	277 V	Measurement range, voltage L-L, AC	480 V
Surge voltage category	300 V CAT III	Supply voltage	95 - 240 V AC, 135 - 340 V DC
Supply voltage	230 V	Three-wire system	Yes
Four-wire system	Yes	Quadrants	4
Sampling frequency 50/60 Hz	20 kHz	Continuous measurements	Yes
Measurement result per second	5 ms	Effective value from the period (50/60 Hz)	10 / 12
Residual current measuring	No	Current-measuring channels	4
Measuring accuracy for voltage	0.2 %	Measuring accuracy for current	0.25 %
Measurement accuracy for active energy (kWh, .../5 A)	Class 0.5S	Operating-hours counter	Yes
Clock	Yes	Bimetal function	Yes

Voltage quality measurement

Harmonics, per order / voltage	1.-40.	Harmonics, per order / current	1.-40.
Distortion factor THD-U in %	Yes	Distortion factor THD-I in %	Yes
Unbalanced	Yes	Positive, negative and zero system	Yes
Brief interruptions	No	Sequence-of-events recorder function	No

Insulation coordination

Surge voltage category	300 V CAT III
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Classifications

ETIM 8.0	EC002301	ETIM 9.0	EC002301
ETIM 10.0	EC002301	ECLASS 14.0	27-14-23-30
ECLASS 15.0	27-14-23-30		

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Drawings

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Dimensioned drawing

