

## ENERGY METER D650

**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="#">2425490000</a>
Type	ENERGY METER D650
GTIN (EAN)	4050118433326
Qty.	1 pc(s).

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## Technical data

## Dimensions and weights

Depth	82 mm	Depth (inches)	3.228 inch
Height	90 mm	Height (inches)	3.543 inch
Width	107.5 mm	Width (inches)	4.232 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		

## Measuring current input

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

## Measuring voltage input

Distortion factor THD-U in %	Yes	Four-wire system	Yes
Harmonics, per order / voltage	1..40.	Measurement range, voltage L-L, AC	480 V
Measurement range, voltage L-N, AC	277 V	Measuring accuracy for voltage	0.2 %
Quadrants	4	Three-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

## 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 s	Software	ecoExplorer go®
Integrated logic	Yes		

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Input frequency	<20 Hz	Protection degree	IP20
Rated current	1 / 5 A	Version	Power measurement/display for 1-, 3-phase mains
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
Voltage supply	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 6.0	EC002301	ETIM 7.0	EC002301
ETIM 8.0	EC002301	ETIM 9.0	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

## Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E469563

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### Downloads

Approval/Certificate/Document of Conformity	<a href="#">Application notes – Declaration of Conformity</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Software	<a href="#">Device description – MODBUS Adressenliste Win64 - ecoExplorer go</a>
User Documentation	<a href="#">Device description – Quick Guide German/English</a> <a href="#">Application notes – Manual Energy Meter D650 German/English</a> <a href="#">Application notes – Manual ECOEXPLORER GO English</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>

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**Drawings****Dimensioned drawing**