



SK 00062 B00

The EIB Delta-Meter energy meters are PTB-approved, electronic, electricity meters with an integrated EIB communication interface, for the measurement of active and/or reactive energy. The meters are designed for 2-, 3- and 4-wire voltage networks with symmetrical or asymmetrical loading.

The interface allows remote read out of the meter data for billing, energy optimisation, visualisation and installation monitoring purposes.

According to the device selected and the corresponding application, the following functions can be realised:

- read out of the energy consumption, the instantaneous power (active and reactive) and fault information
- control of up to 4 Tariffs
- electrical measured variables, e.g., I, U, W, f, can be indicated on the LCD display
- automatic testing of the connection (installation self-test)

**Technical Data**

<b>Accuracy class</b>	Active energy meter	Class 1 or 2 according to IEC 1036
	Reactive energy meter	Class 2 according to IEC 1268
<b>Operating voltage</b>	Nominal voltage (-20% ... +15%)	see selection table
<b>Nominal current <math>I_b</math> (limit current <math>I_{max}</math>)</b>	Transformer rated meter (/1 A or /5 A)	1(6) A for Class 1, 2(6) A for Class 2
	Direct connected meter	5(65) A for Class 1 and 2
<b>Starting current</b>	Transformer rated meter (/1 A or /5 A)	< 2 mA for Class 1, < 4 mA for Class 2
	Direct connected meter	< 25 mA
<b>Power consumption</b>	Voltage circuit	< 2 VA, 1.5 W pro phase
	Current circuit	< 0.01 VA at $I_{bTransformer} = 2A$ & at $I_{bDirekt} = 5A$
<b>Frequency</b>	Nominal frequency (range)	50 Hz (45 Hz ... 65 Hz)
<b>Electromagnetic compatibility (EMC)</b>	Surge voltage	6 kV, 1.2/50 ms (IEC 255-4)
	Burst	4 kV, 5/50 ns (IEC 801-4)
	Interference immunity	10 V/m, 150 kHz - 1 GHz (IEC 1000-4-3)
<b>Overload capability</b>	Electrostatic discharge	15 kV (IEC 801-2)
	All meters	unlimited $1.2 \times I_{max}$
	Transformer rated meter	$0.5 \text{ s } 20 \times I_{max}$
<b>Circuit protection</b>	Direct connected meter	$1 \text{ hr } 1.5 \times I_{max}$
		$2 \text{ s } 15 \times I_{max}$
	- Short circuit	10 kA peak
<b>Environmental conditions</b>	Transformer rated meter	max. 6 A gl
	Direct connected meter	max. 65 A gl (63 A)
<b>Mechanical data</b>	Ambient temperature	- 5°C ... + 45°C
	Storage Temperature	- 40°C ... + 70°C
	Relative humidity	< 75% annual average, 95% max. 30 days/year
<b>Display</b>	Dimensions (H x B x T)	100 x 122.5 x 64.8 mm
	Protection class	II
	Cable cross-section – Transform. rated meter	max. 10 mm <sup>2</sup>
	– Direct connect. meter	max. 25 mm <sup>2</sup>
<b>Standards/Norms</b>	EIB connection	Bus connection terminal (included in delivery)
	Weight	0.6 kg
	LCD display	7-digit, figure height: 7 mm
<b>Prohibition</b>	LED indicator – Transformer rated meter	red LED, 5000 Imp/kWh (kvarh)
	– Direct connected meter	red LED, 1000 Imp/kWh (kvarh)
<b>Standards/Norms</b>	Meter	IEC 1036, IEC 1268
	PTB approval number	20.15 98.80
<b>Prohibition</b>	EIB certified	

Application programs	Number of communication objects	max. number of group addresses	max. number of associations
Active energy meter/1.1	8	8	8
Tariff meter/1.1	13	13	13
Combination meter/1.1	12	12	12

Selection table (P) = PTB approved version

Meter type	Transformer rated meter	Direct connected meter	Voltage
Active energy meter	DZ 2010 W (P)E	DZ 2000 W (P)E	1 x 230 V
	DZ 3110 W (P)E		3 x 110 V
	DZ 3410 W (P)E	DZ 3400 W (P)E	3 x 400 V
	DZ 3510 W E		3 x 500 V
	DZ 4010 W (P)E	DZ 4000 W (P)E	3 x 230 / 400 V
	DZ 4011 W (P)E	DZ 4001 W (P)E	3 x 230 / 400 V
Tariff meter	DZ 4010 WT(P)E	DZ 4000 WT(P)E	3 x 230 / 400 V
Combination meter (Active + reactive energy)	DZ 4010 K (P)E	DZ 4000 K (P)E	3 x 230 / 400 V

Connection diagrams (with circuit diagram numbers according to DIN 43 856)

Network	Direct connected meter Direct measurement up to 65 A	Transformer rated meter Measurement with current transformers
2-wire, single-phase network, 1 x 230 V	<p>DZ 2200</p> <p>1600</p>	<p>DZ 2210</p> <p>1610</p>
3-wire, poly-phase network, symmetric and asymmetric loading, 3 x 110 V, 3 x 400 V, 3 x 500 V	<p>DZ 3100, DZ 3400, DZ 3500</p> <p>3600</p>	<p>DZ 3110, DZ 3410, DZ 3510</p> <p>3610</p>
4-wire, poly-phase network, symmetric and asymmetric loading, 3 x 230 / 400 V	<p>DZ 4000/1</p> <p>4600</p>	<p>DZ 4010/1</p> <p>4610</p>

Note

Detailed information regarding the planning, montage, commissioning, EIB parameterisation and operation of the EIB Delta-Meter electricity

meters can be found in the technical Handbook „User Manual EIB Delta-Meter“.