



EIB Delta-Meters Plus are PTB-approved, electronic energy meters with an integrated ABB i-bus® EIB / KNX communication interface.

The EIB communication interface enables remote reading of the meter data via the ABB i-bus® EIB for billing purposes, energy optimisation, visualisation or installation monitoring.

EIB Delta-Meters Plus are compact, reliable, immune to interference impulses and suitable for use in single-phase and polyphase voltage networks. As the meters have no mechanical moving parts, they can easily be snapped in any position onto DIN rails.

They can be universally employed for submetering applications in industrial installations, commercial buildings, offices, leisure complexes and private homes.

Technical Data

Accuracy class:	– Transformer rated meter:	Class 1 acc. to IEC 61036
	– Direct connected meter:	Class 1 or 2 acc. to IEC 61036
Operating voltage:	– Nominal voltage:	See ordering information
	– Permitted deviation:	– 20 % ... + 15 % of nominal value
Nominal current I_b (limit current I_{max}):	– Transformer rated meter:	1 (6) A
	– Direct connected meter:	5 (80) A
Starting current:	– Transformer rated meter:	< 2 mA
	– Direct connected meter:	< 20 mA
Power consumption:	– Voltage circuit:	< 3 VA, 2 W per phase
	– Current circuit:	
	– Transformer rated meter	< 0.08 VA per phase
Frequency:	– Direct connected meter	< 6 VA per phase
	– Nominal frequency:	50 Hz/60 Hz ± 5 %
Electromagnetic compatibility (EMC):	– Surge voltage:	6 kV, 1.2/50 µs (IEC 600-60)
	– Burst:	4 kV (IEC 61000-4-4)
	– Electromagnetic fields:	
	– Interference immunity, field	10 V/m, 80 MHz – 1 GHz (IEC 61000-4-3)
	– Interference immunity, mains-borne	150 kHz – 80 MHz (IEC 61000-4-6)
	– Emitted radiation	according to CISPR 22 class B
	– Electrostatic discharge:	15 kV (IEC 61000-4-2)
Overload capability:	– All meters:	unlimited $1.2 \times I_{max}$
	– Direct connected meter:	1 hour $1.5 \times I_{max}$ 2 sec $15 \times I_{max}$
	– Short circuit	10 kA peak
Circuit protection:	– Transformer rated meter:	0.5 sec $20 \times I_{max}$
	– Transformer rated meter:	max. 10 A
	– Direct connected meter:	B characteristic or gL/gG
Environmental conditions:	– Ambient temperature (operation):	– 40 °C ... + 55 °C
	– Storage temperature:	– 40 °C ... + 70 °C
	– Relative humidity:	< 75 % annual average, 95 % max. 30 days/year
Mechanical data:	– Housing material:	
	– Front window and housing	Polycarbonate
	– Terminal area	Glass-fibre-reinforced polycarbonate
	– Dimensions (H x W x D):	97 x 122.5 x 64.8 mm
	– Protection class:	II

	– Resistance to heat and fire:	Equivalent to IEC 60695-2-1
	– Protection against penetration of dust and water:	Equivalent to IEC 60529
	– Type of protection:	IP20
	– Wire range:	
	– Transformer rated meter	0.5 to 10 mm ²
	– Direct connected meter	1.0 to 25 mm ²
	– Tightening torque:	
	– Transformer rated meter	Max. 1 Nm
	– Direct connected meter	Max. 2 Nm
	– Weight:	0.4 kg
Display:	– LCD display:	7-digit, height of figures 7 mm
	– LED display; pulse length	40 ms
	– Direct connected meter	Red LED, 1000 Imp/kWh (kvarh)
	– Transformer rated meter	Red LED, 5000 Imp/kWh (kvarh)
EIB connection:	– Communication protocol:	ABB i-bus®, EIB (European Installation Bus) / KNX
	– Transmission medium:	Twisted twin-core cable, YCYM or J-Y(St)Y 2 x 2 x 0.8 mm
	– EMV:	Between meter and EIB terminals
	– Surge voltage	6 kV, 1,2/50 µs (IEC 255-4)
	– Burst	4 kV, 5/50 µs (IEC 801-4)
	– Operating and display elements:	
	– ABB i-bus®, EIB / KNX terminal	Bus connection terminal supplied
	– Red LED and push button	For entering the physical address
Pulse output:	– Terminals	For conductors with 0.2 to 2.5 mm ² (combination meter max. 0.5 mm ²)
	– Voltage	0 – 247 V AC/DC (any polarity)
	– Current	Max. 100 mA
	– Pulse length	100 ms
	– Pulse frequency	Adjustable
Standards/norms:	– Active energy meter, Class 1 and 2:	IEC 61036
	– Reactive energy meter, Class 2:	IEC 61268
	– ABB i-bus®, EIB / KNX:	EIB handbook release 3.0
	– PTB approval number:	20.15/04.28

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

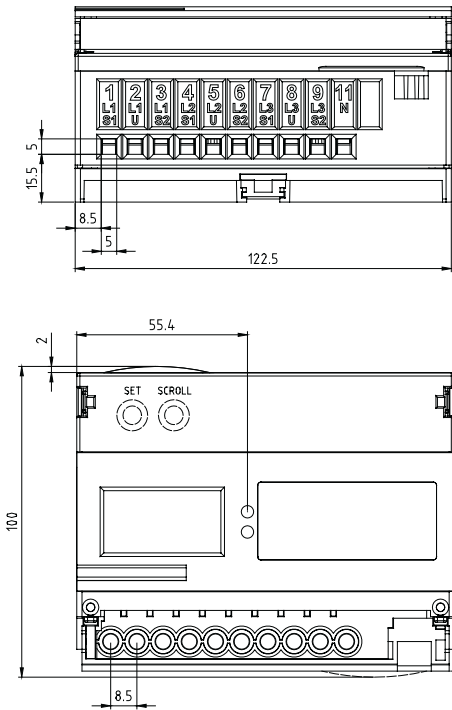
Dimension drawings

Dimensions in mm

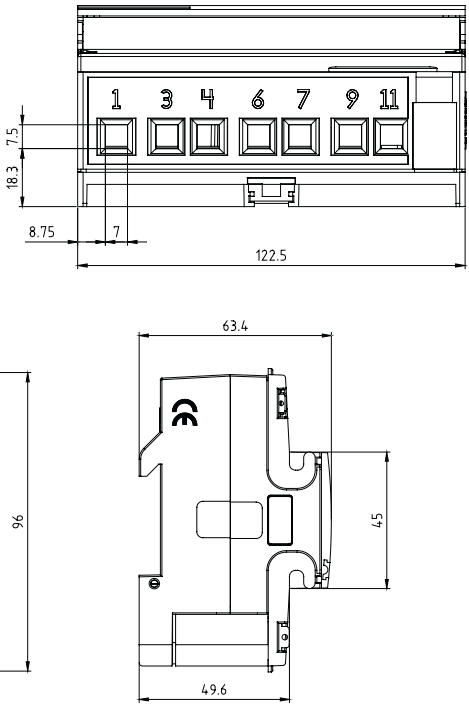
EIB Delta-Meter Plus

- Single-phase meter
- Polyphase meter
- Transformer rated meter
- Direct connected meter

Transformer rated meters

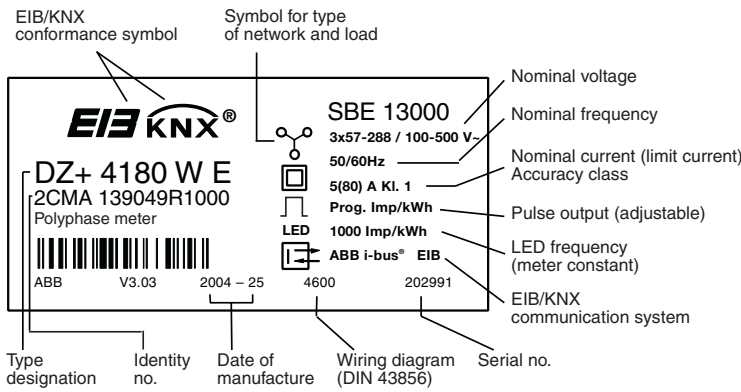


Direct connected meters

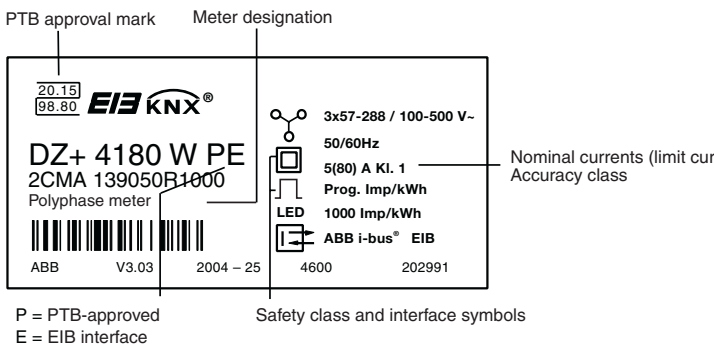


Labelling of the EIB Delta-Meter
(Example)

Standard meters



PTB-zugelassene Zähler zusätzlich



Circuit diagrams (with schematic numbers in accordance with DIN 43 856)

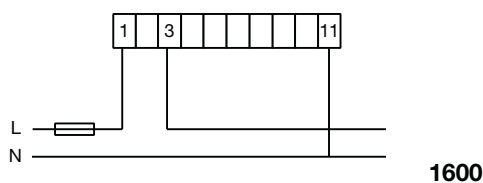
Direct connected meter

Transformer rated meter

Two-wire, polyphase voltage network

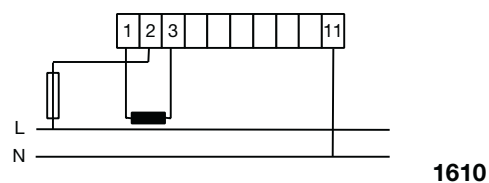
DZ+ 2280

Direct measurement up to 80 A



DZ+ 2105

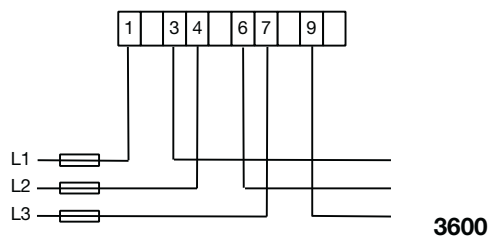
Measurement with current transformer



Three-wire, polyphase voltage network, any load

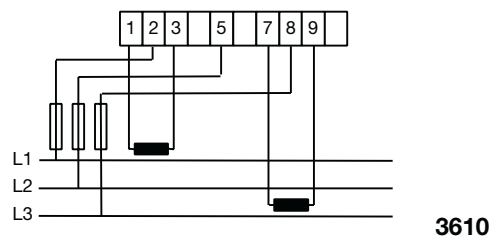
DZ+ 3280

Direct measurement up to 80 A



DZ+ 3105

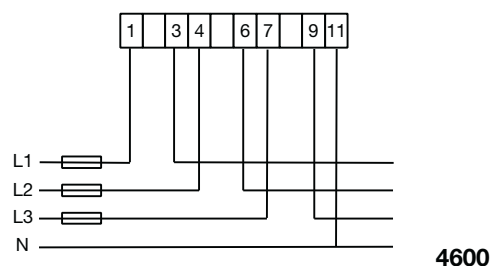
Measurement with current transformers



Four-wire, polyphase voltage network, any load

DZ+ 4180, DZ+ 4280

Direct measurement up to 80 A



DZ+ 4105

Measurement with current transformers

