RESIDENTIAL

Landis+Gyr Dialog

ZMD100AP, ZFD100AP
TECHNICAL DATA

General

Voltage

Rated voltage U_n ZMD100AP	
nominal value	3 x 230/400 V
permissible range	3 x 220/380 V to 3 x 240/415 V
Nominal voltage U_n ZFD100AP	
nominal value	3 x 230 V
permissible range	3 x 220 V to 3 x 240 V
Extended operating voltage range	80%–115% U_n

Frequency

Rated frequency f_n	selectable: 50 or 60 Hz

IEC-specific data

Current

Base current I_b	selectable: 5, 10, 20 or 40 A
Maximal current I_{max}	
metrological	selectable: 60, 80 or 100 A
thermal	120 A
Starting current	
according to IEC	0.5 % I_b
typical	approx. 0.3 % I_b
Max. measuring range	approx. 15 mA to 100 A
Short-circuit ≤ 10 ms	10'000 A

Measuring accuracy

Accuracy class to IEC 62053-21	Class 1 and 2

Measurement behaviour

Typical starting power				
related to base current I_b	5	10	20	40 A
M-circuit	3.5	7	15	30 W
F-circuit	6	12	25	50 W

MID-specific data

Current (for Classes A and B)

Reference current I_{ref}	5 A; 10 A; 20 A
Minimum current I_{min}	≤ 0.05 x I_{ref}
Transitional current I_{tr}	0.5 A; 1 A; 2 A
Maximum current I_{max}	100 A

Measurement Accuracy

ZMD/ZFD110, to EN 50470-3	Class B
ZMD/ZFD120, to EN 50470-3	Class A

Measurement Behaviour

Starting current I_{st}	
Class A: I_{st}	≤ 0.005 x I_{ref}
Class B: I_{st}	≤ 0.004 x I_{ref}

General

Operating behaviour

Voltage interruption	
blocking of inputs and outputs	immediate
standby operation	for 1 s
data storage	after 1 s
disconnection	after approx. 2.5 s

Restoration of voltage (power up) * operated with 3 phases	
function standby (depending on duration of failure)	after 1 to 5 s*
detection of energy direction and phase voltage	after 1 to 3 s*

Power consumption

Power consumption in voltage circuit	
active energy at U_n (typical)	0.5 W
apparent energy at U_n (typical)	2.5 VA

Power consumption in current circuit	
apparent energy at 10 A (typical)	0.03 VA

Environmental Influences

Temperature range	
operation and storage	–40 °C to +70 °C

Temperature coefficient	
range	–20 °C to +55 °C
typical mean value	± 0.0 % per K
with cosφ=1 (from 0.1 I_b to I_{max})	± 0.02 % per K
with cosφ=0.5(from 0.2 I_b to I_{max})	± 0.03 % per K

Impermeability to IEC 60529	IP 52

Electromagnetic Compatibility

Electrostatic discharges	to IEC 61000-4-2
contact discharges	8 kV

Electromagn. high frequency fields	to IEC 61000-4-3
80 MHz to 2 GHz	at least 10 V/m

Radio interference suppression to IEC/CISPR 22 Cl.B

Fast transient Burst Test	to IEC 61000-4-4
for current and voltage circuits	2 kV
for auxiliary circuits > 40 V	1 kV

Insulation Strength

Insulation strength	4 kV at 50 Hz for 1 min.

Impulse voltage strength	IEC 62052-11
impulse voltage	8 kV
rise time of impulse voltage	1.2 µs
decay time of impulse voltage	50 µs
source resistance of generator	50 Ω

Protection Class II to IEC 62052-11	⧈

Display

Characteristics	
type	LCD liquid crystal display
digit size	7 mm
number of digits	up to 8

Inputs and Outputs

Tariff control	
control voltage U_t	220 to 240 V
permissible range	0.8 to 1.15 U_t
current input	< 2 mA ohmic at 230 V

Test output	Infrared LED

Meter constant R	
selectable	500, 1000, 5000 or 10000 imp/kWh

Pulse frequency	
(dependent on meter constant R, measured value)	
at U_n and 10 A	approx. 1, 2, 10 or 20 Hz

Pulse output r53	(no measurement of load curve)
type	S0 interface
standard	IEC 61393/DIN 43864
values selectable:	1, 2, 3.33, 5 or 6.66 Wh/imp
resp. pulse constant:	1000, 500, 300, 200 or 150 imp/kWh

Communication Interfaces

Optical interface	
type	serial, bi-directional interface
standard	IEC 62056-21 and dlms (IEC 62056-42/46/53/61/62)

Application
data readout according to IEC 62056-21 (all data)
data readout acc. to DLMS (single data values)
transmission of formatted commands
communication with extensions

CS interface	to IEC 61107 / DIN 66258
type	serial, bi-directional current interface
rated voltage	24 V DC
max. voltage	30 V DC

Transmitter current	
condition "On"	min. 11, typ. 20, max. 30 mA
condition "Off"	max. 2.5 mA

Receiver current	
condition "On"	min. 9, typ. 20, max. 30 mA
condition "Off"	max. 3 mA
max. baud	4800 Baud
max. conductor length depending on environment and connecting cable	
Insulation resistance to meter	4 kV

Operating conditions	
supply voltage (nominal value)	24 V DC
maximum supply voltage	50 V DC
current	10 to 20 mA DC
pulse length	selectable: 20, 40 or 80 ms
maximum line length	1000 m

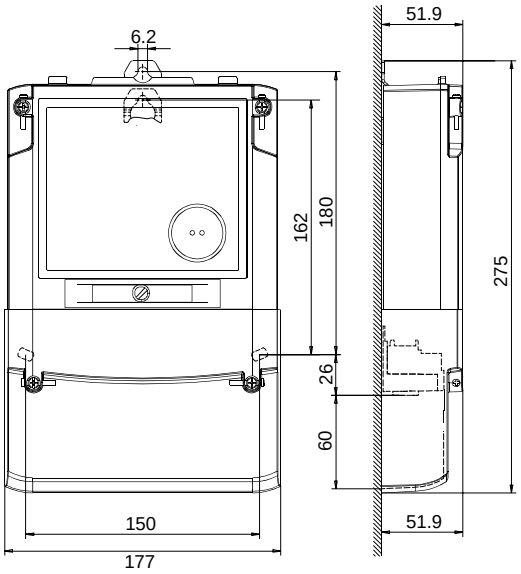
Weight and dimensions

Weight	approx. 1.0 kg

External dimensions	comply with DIN 43857
width	177 mm
height (with short terminal cover)	213 mm
height (with standard terminal cover)	275 mm
depth	52 mm

Suspension triangle	
height (suspension eyelet open)	180 mm
height (suspension eyelet covered)	162 mm
width	150 mm

Dimensions



Terminal cover	
short	no free space
standard	60 mm free space
to DIN (black)	60 mm free space

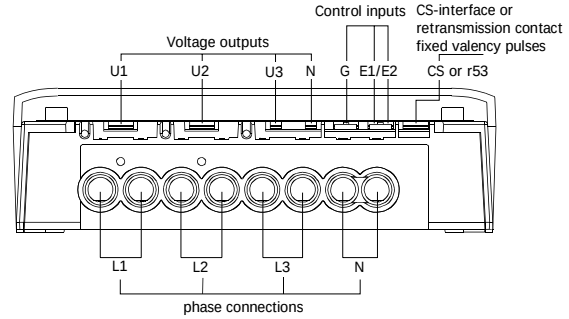
Connections

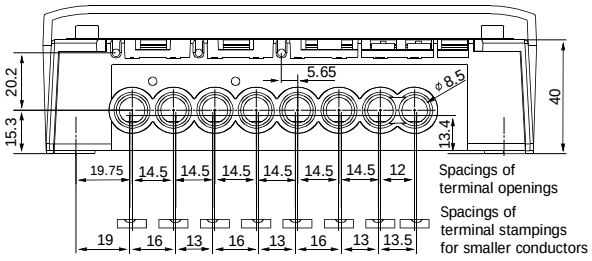
Phase connections	
type	screw type terminals
diameter normal (up to 80 A)	8.5 mm
diameter special (up to 100 A)	9.5 mm
minimum conductor cross-section	4 mm^2
maximum conductor cross-section cable	35 mm^2
maximum conductor cross-section strand	25 mm^2
screw dimensions	M6 x 14
head diameter	max. 6.6 mm
cross-slot	type Z, size 2, to ISO-4757-1983
slot	0.8 +0.2/+0.06 mm
tightening torque	max. 3 Nm

Adaptation to plug adapters for Geyer terminals, ODU contacts, Amphenol Tuchel plugs is ensured.

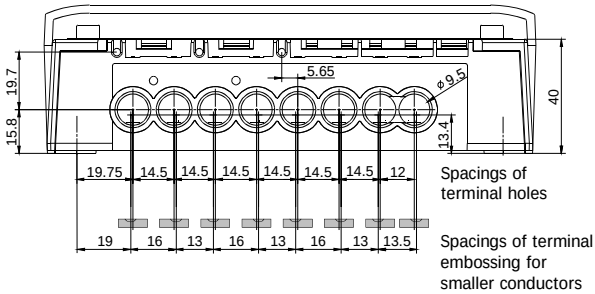
Other connections	
type	screwless spring-loaded termin
maximum current of voltage outputs	1 A
maximum voltage of control inputs	275 V
maximum voltage r53 (observe polarity)	50 V DC

Normal terminal layout and dimensions

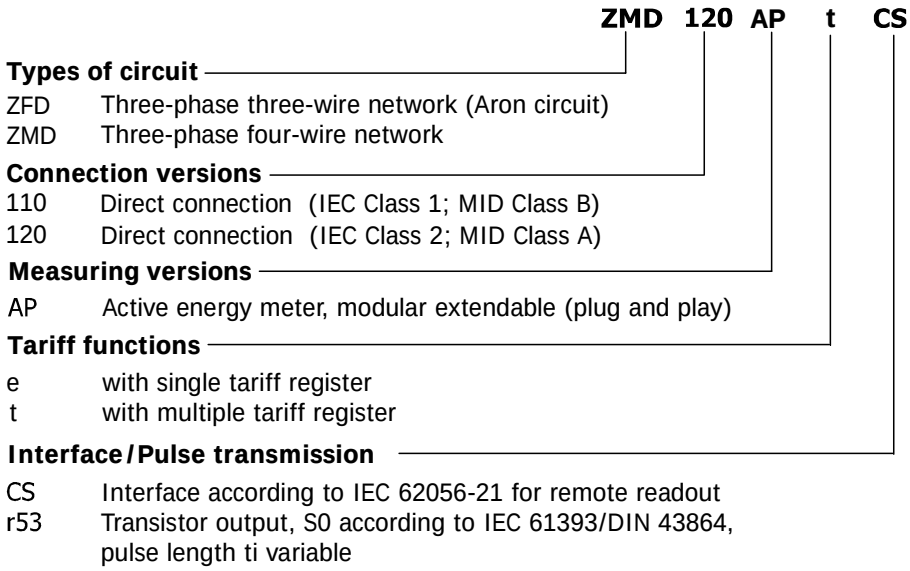




Dimensions with terminal opening diameter 9.5 mm



Type designation



Data subject to change without notice.

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