RESIDENTIAL

Landis+Gyr Dialog

ZMD100AS, ZFD100AS
TECHNICAL DATA

General

Voltage

Rated voltage U_n ZMD100AS	
nominal value	3 x 230/400 V
permissible range	3 x 220/380 V to 3 x 240/415 V

Rated voltage U_n ZFD100AS	
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

Nominal frequency f_n	selectable: 50 or 60 Hz

IEC-specific data

Current

Base current I_b	selectable: 5, 10, 20 or 40 A

Maximum current I_{max}	
metrological	selectable: 60, 80 or 100 A
thermal	120 A

Short-circuit ≤ 10 ms	10'000 A

Measuring accuracy

ZMD/ZFD110, to IEC 62053-21	Class 1

ZMD/ZFD120, to IEC 62053-21	Class 2

Measurement Behaviour

Starting current	
according to IEC	0.5 % I_b
typical	ca. 0.3 % I_b

Max. measuring range	approx. 15 mA to 100 A

Typical starting power				
related to basic 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

Operation Behaviour

Voltage interruption	
blocking of inputs and outputs	immediate
standby operation	for 0.5 s
data storage	after 0.5 s
disconnection	after approx. 1.5 s

Voltage interruption	* operated with 3 phases
ready for service (depending on duration of failure)	after 1 to 3 s*
recognition of energy direction and phase voltage	after 1 to 2 s*

minimal voltage for start up	
with 2 or 3 phases	80% U_n
with 1 phase	90% U_n

Power consumption

Power consumption in voltage circuit	
active energy at U_n (typical)	0.4 W
apparent energy at U_n (typical)	1.5 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	

Line transients (burst)	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	to IEC 62052-11
impulse voltage	12 kV
rise time of pulse voltage	1.2 µs
decay time of pulse 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	8 mm
number of digits	up to 7

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

Optical Test Output	Infrared LED

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

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

Pulse length	approx. 2 ms

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

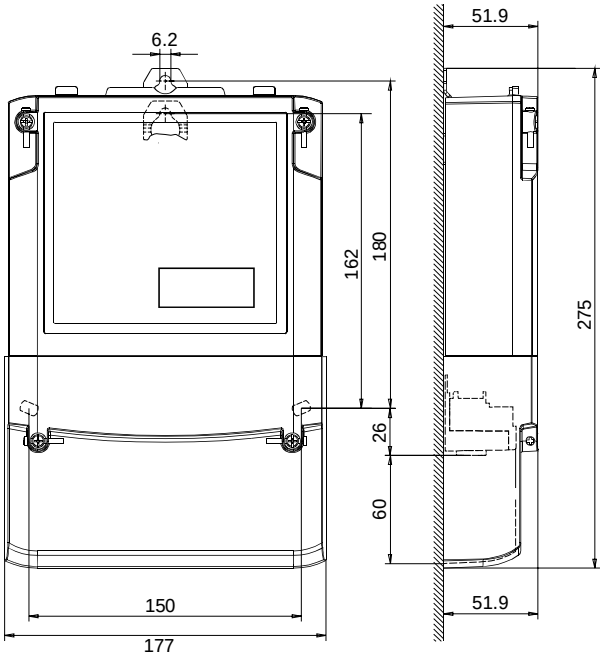
Weight and dimensions

Weight	approx. 0.9 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

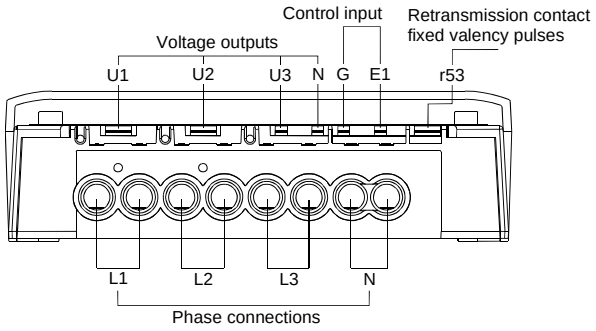
Connections

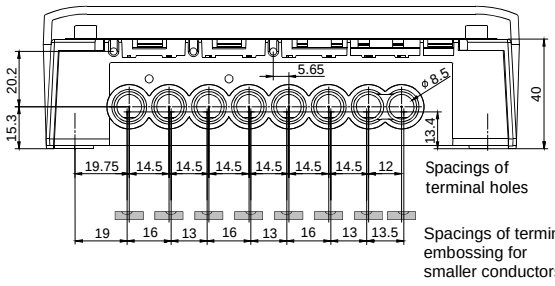
Phase connections	
type	screw type terminals
diameter normal	8.5 mm
diameter special	9.5 mm
minimum conductor cross-section	4 mm^2
maximum conductor cross-section cable	35 mm^2
maximum conductor cross-section strand	25 mm^2
screw dimensions	M6 x 14
head diameter	max. 6.6 mm
cross-slot	type Z, size 2, 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.

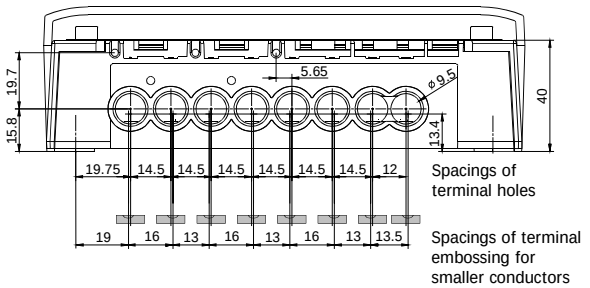
Other connections	
type	screwless spring-loaded terminals
maximum current of voltage outputs	1 A
maximum voltage of control inputs	275 V
maximum voltage r53 (observe polarity)	50 V DC

Standard layout and dimensions





Layout and dimensions with diameter of 9.5 mm ∅



Type designation

ZMD 120 AS d r53 s

Network type

ZFD Three-phase three-wire network (Aron connection)
ZMD Three-phase four-wire network

Connection type

110 Direct connection (IEC class 1; MID class B)
120 Direct connection (IEC class 2; MID class A)

Measurement variants

AS Simple active energy meter

Tariff functions

e with single-rate tariff
d with double-rate tariff

Pulse retransmission

r53 Transistor output, S0 according IEC 61393/DIN 43 864, pulse length t_i variable

Solar cell (option)

s with solar cell

Data subject to change without notice.

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