

RESIDENTIAL

Landis+Gyr Domestic

ZMF100AC, ZMF100AB, ZFF100AC

TECHNICAL DATA



General

Voltage

Nominal voltage

ZMF100	3 x 230/400 V
ZFF100	3 x 230 V

Extended operating voltage range 80%–115% U_n

Frequency

Nominal frequency f_n 50 Hz

IEC-specific data

Current

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

Maximum current I_{max}

metrological selectable: 80 or 100 A
thermal 100 A

Short circuit ≤ 10 ms 10'000 A

Measurement Accuracy

ZMF/ZFF110, to IEC 62053-21 Class 1

ZMF/ZFF120, to IEC 62053-21 Class 2

Measurement Behaviour

Starting current

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

MID-specific data

Current (for Classes A and B)

Reference current I_{ref} 5 A; 10 A; 20 A

Minimum current I_{min} $\leq 0.05 \times I_{ref}$

Transitional current I_{tr} 0.5 A; 1 A; 2 A

Maximum current I_{max} 100 A

Measurement Accuracy

ZMF/ZFF110, to EN 50470-3 Class B

ZMF/ZFF120, to EN 50470-3 Class A

Measurement Behaviour

Starting current I_{st}

Class A: I_{st} $\leq 0.005 \times I_{ref}$
Class B: I_{st} $\leq 0.004 \times I_{ref}$

General

Operating Behaviour

Voltage failure (Power Down)

bridging time 0.2 s

Voltage restoration (Power Up)

function standby 3 phases < 5 s

detection of energy direction and phase voltage < 3 s

Power Consumption

Power consumption in voltage circuit per phase

active power at U_n (typical) 0.45 W

apparent power at U_n (typical) 2.4 VA

Power consumption in current circuit

apparent power at 5 A (typical) 0.01 VA

Environmental Influences

Temperature range

operation -40 °C to +70 °C

storage -40 °C to +85 °C

Temperature coefficient

range from -25 °C to +70 °C

average value (typical) ± 0.02 % per K

at $\cos\varphi=1$ (from 0.1 I_b to I_{max}) ± 0.05 % per K

at $\cos\varphi=0.5$ (from 0.2 I_b to I_{max}) ± 0.075 % per K

Impermeability to IEC 60529 IP 52

Electromagnetic compatibility

Electrostatic discharges according to IEC 61000-4-2

contact discharge 8 kV

Electromagnetic RF fields acc. to IEC 61000-4-3

80 MHz to 2 GHz 10 and 30 V/m

Radio interference suppression

according to IEC/CISPR 22 class B

Fast transient burst test acc. to IEC 61000-4-4

current and voltage circuits not under load 4 kV

current and voltage circuits under load according to IEC 62053-21 2 kV

auxiliary circuits > 40 V 1 kV

Fast transient surge test acc. to IEC 61000-4-5

current and voltage circuits 4 kV

auxiliary circuits > 40 V 1 kV

Insulation Strength

Insulation strength 4 kV at 50 Hz during 1 min.

Impulse voltage 1.2/50 μ s to IEC 62052-11

current and voltage circuits 8 kV

According to SP 12 kV

Protection class II acc. to IEC 62052-11



Display

Characteristics

type LCD liquid crystal display

digit size 8.4 mm

number of digits 7

Inputs and Outputs

Optical test output Active Energy

type infrared LED

combined with optical interface

(i.e. infrared-LED is integrated in optical interface)

pulse length approx. 2 ms

meter constant 1000 imp/kWh

Communication Interface

Optical interface

type serial, bi-directional interface

protocol according to IEC 62056-21

Wired interface

interface to AMR module to IEC 62056-21

(Data readout, rate control)

test output (physically combined with test diode)

Breaker add-on (option)

Contact data

maximum switching voltage 400 V AC

maximum switching current 100 A

short circuit ≤ 10 ms to EN62053-21 3000 A

maximum switching power 25 kVA

power consumption in current path at 5 A: 0.08 VA

Insulation strength 4 kV at 50 Hz during 1 min.

contact-contact; coil-contact

Impulse voltage 1.2/50 μ s to IEC 62052-11

contact-contact 12 kV

coil-contact 12 kV

open contact 2 kV

Mechanical life

at maximum power, PF=1 10.000 cycles

Weight and dimensions without breaker

Weight

without breaker approx. 1 kg

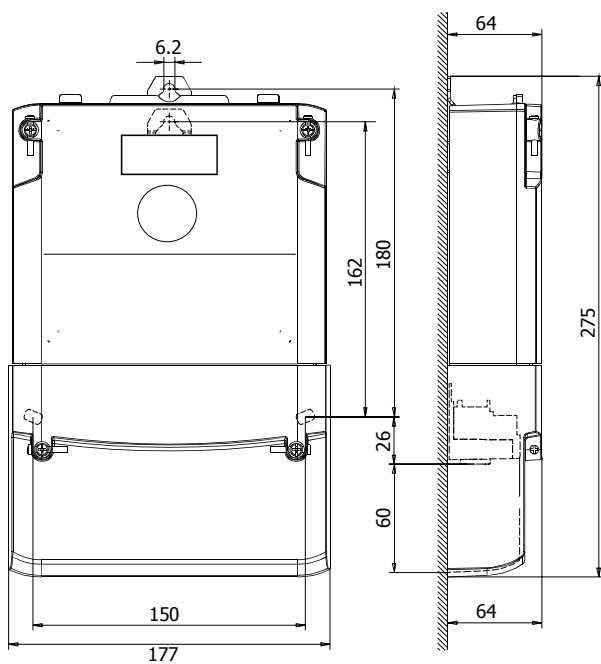
External dimensions comply with DIN 43857

width 177 mm
 height (with short terminal cover) 213 mm
 height (with standard terminal cover) 275 mm
 depth 64 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

Weight and dimensions with breaker

Weight

with breaker approx. 1.7 kg

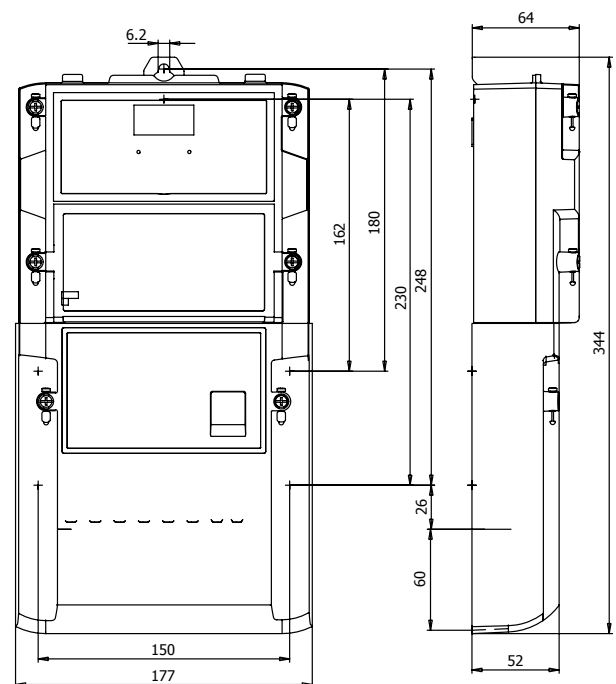
External dimensions comply with DIN 43857

width 177 mm
 height (with terminal cover for breaker) 344 mm
 depth 64 mm

Suspension triangle

height (suspension eyelet open) 248 mm
 height (suspension eyelet covered) 230 mm
 width 150 mm

Dimensions with breaker



Terminal cover

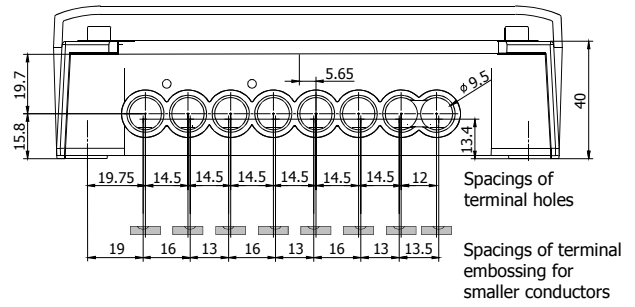
standard 60 mm free space

Connections

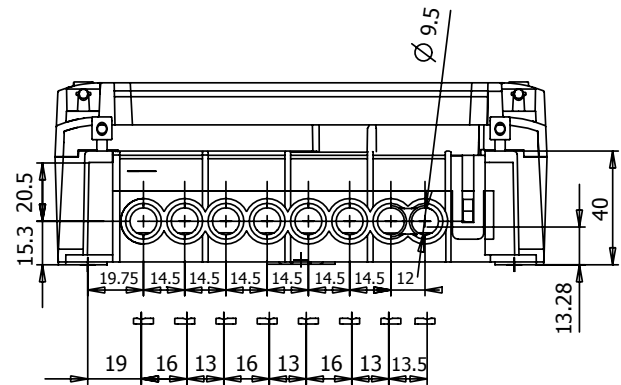
Phase connections

type	screw type terminals
diameter steel type	8.5 mm
diameter brass type	9.5 mm
minimal conductor cross section	4 mm ²
maximal conductor cross section cable	35 mm ²
maximal conductor cross section strand	25 mm ²
screw dimensions	M6 x 14
maximal screw head diameter	≤ 6.6 mm
cross-slot	type Z, size 2, to ISO-4757-1983
tightening torque	< 3 Nm

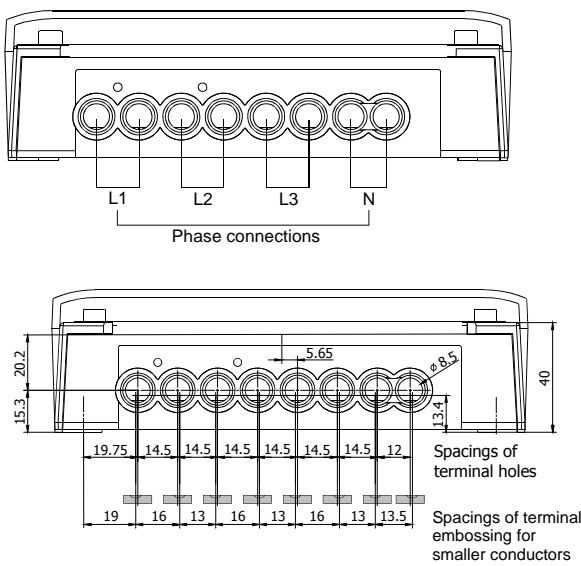
Layout and dimensions with diameter of 9.5 mm Ø



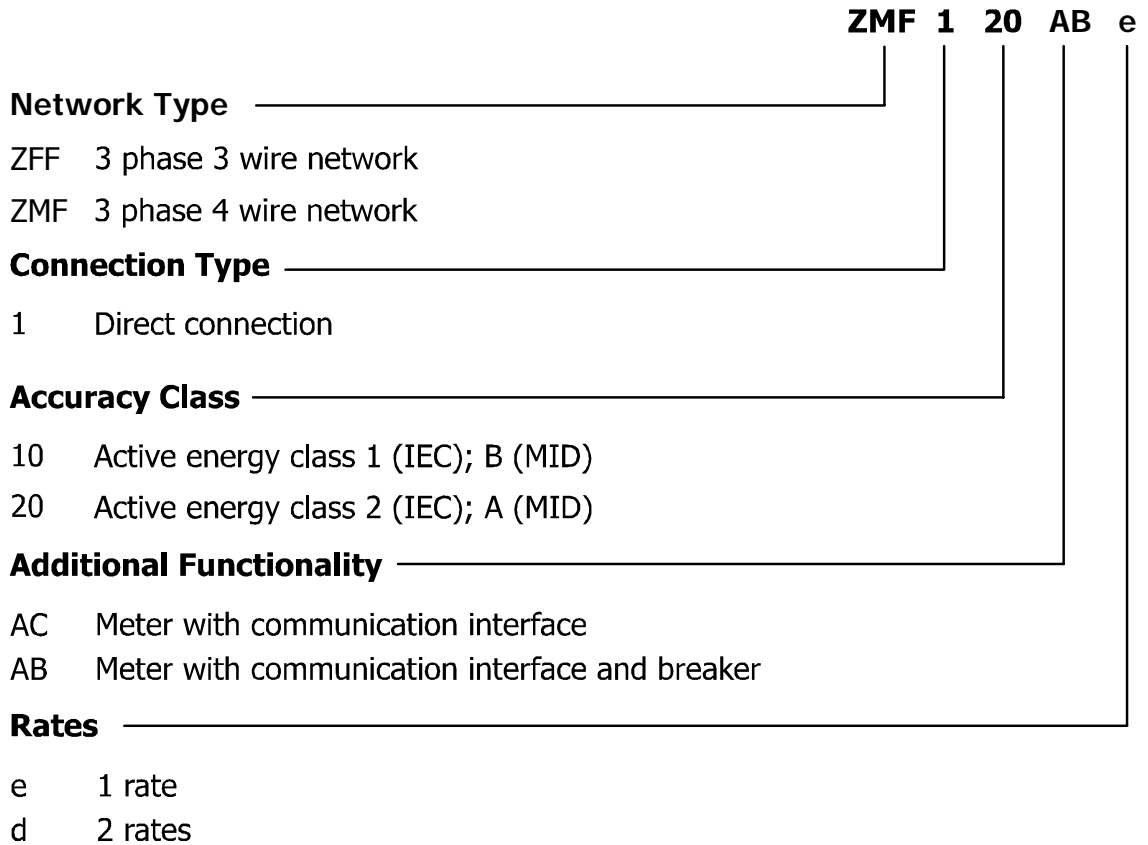
Layout and dimensions with breaker



Standard layout and dimensions



Type designation



Data subject to change without notice.

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