

LUN10F

Technical data



- Singlephase 2 wire meter
- CE certified on 50470 standards
- Non-volatile memory
- 24 logs of index storage memory
- 24 units terminal cover intrusion registry and warning
- Main cover intrusion registry and warning
- 24 logs of phase failure registry
- Clips and screws MS-58
- Previous month data index display on LCD screen
- Instant current, voltage, power factor and frequency display on LCD screen
- Load Profile 15 minutes / 90 days (expandable to 365 days)

Date: 22.02.2022

File name: LUN10FTECHDATAEN- LUN Series LUN10F Technical Data EN

Revision history

Version	Date	Comments
a	22.02.2022	First release.

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General**Functions**

Measurement:

-Combined bi-directional measurement

-Single-phase/Two-wire

Communication:

-Bi-directional communication with optical port

Inputs and outputs:

-Optical port for local reading, configuration and para- meterisation

Control buttons:

-Scroll button for display

LCD display:

-8 digits for register value display

-Units of measure on display

-Multi-energy units of measure

Voltage and frequencyNominal voltage U_n

LUN10F 1 x 230/400 VAC

Extended operating voltage range

80% – 115% U_n Nominal frequency f_n 50 Hz ($\pm 2\%$)**IEC-specific data****Current**Base current I_b

5 A

Maximum current I_{max}

Metrological 100 A

Thermal 100 A

Short-circuit ≤ 10 ms30 x I_{max} **Measurement accuracy**

LUN10F

Active energy, to EN 50470-1/50470-3
(IEC 62052-11/62053-21) class 1**Measurement behaviour**

Starting current

According to IEC/EN 0.4% I_b Typical approximately 0.25% I_b **MID-specific data****Current**Reference current I_{ref}

5 A

Minimum current I_{min}

0.25 A

Maximum current I_{max}

100 A

Thermal current I_{th}

100 A

Measurement accuracy

LUN10F

According to EN 50470-1/50470-3 class B

Measurement behaviourStarting current I_{st} 0.4 % of I_{ref} (≤ 20 mA)

General data**Operating behaviour**

Voltage failure (power-down)

Voltage (for $U_n=230/400\text{ V}$) < 175 V

Function standby < 5 s

Detection of energy direction / phase voltage < 3 s

Voltage > 180 V

Power consumption

Total power consumption of the meter

Without communication:

Active power at U_n (typical) < 0.6 WApparent power at U_n (typical) < 2.0 VA

Temperature range

Operation (meter) -40 °C to $+70\text{ °C}$ Operation (LCD display) -25 °C to $+60\text{ °C}$ Storage -40 °C to $+85\text{ °C}$

Temperature coefficient

Range -40 °C to $+70\text{ °C}$ Average value (typical) $\pm 0.01\%$ per KAt $\cos\phi=1$ (from 0.1 Ib to Imax) $\pm 0.05\%$ per KAt $\cos\phi=0.5$ (from 0.2 Ib to Imax) $\pm 0.07\%$ per K

Extended environmental conditions according to IEC/EN 62052-31

Maximum operating altitude 2000 m

Climatic conditions -25 °C to $+55\text{ °C}$ Ingress protection according to IEC/EN 60529
IP54**Electromagnetic compatibility**

Electrostatic discharges according to IEC/EN 61000-4-2

Contact discharge 8 kV

Air discharge 15 kV

Electromagnetic RF fields according to IEC/EN 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 according to IEC/EN 61000-4-4

Current and voltage circuits under load

according to IEC 62053-21 4 kV

Surge test according to IEC/EN 61000-4-5

Current and voltage circuits 4 kV

Insulation strength

Insulation strength

4 kV at 50 Hz for 1 minute

Impulse voltage 1.2/50 μs

According to IEC 62052-11 (EN 50470-1) 4 kV

Electrical safety

Electrical safety according to IEC/EN 62052-31

Overvoltage category III

Utilisation category UC3

Protective class according to IEC/EN 62052-11
and IEC 62052-31

Insulation class II

Calendar clock

Normal operation

Accuracy (at $+23\text{ °C}$) $\pm 0.5\text{ s/day}$

(EN 62054-21 requirement for time switches: 0.5 s)

Reserve running

Accuracy (at $+23\text{ °C}$) < 1 s/day

(EN 62054-21 requirement for time switches: 1.0 s)

Back-up time (power reserve)

With battery 1 10 years

Battery type ER14250

With battery 2 10 years

Battery type CR2032

Display

Characteristics

Type LCD liquid crystal display

Digit size value field 6.68 mm

Number of digits value field 9

Digit size code field 4.5 mm

Number of digits code field 4

Inputs and outputsAccording to IEC/EN 62053-31 class B
(class A possible with resistor value change)

Configurable as pulse counter, alarm, remote Supply

Control Switch button or rate control

Optical pulse output	active energy
Type	red LED
Pulse length settable from	2 to 40 ms
Pulse constant	1000 imp/kWh
Material	Brass
Phase Terminal Diameter	Ø6.7 mm
Neutral Terminal Diameter	Ø6.5 mm

Terminal type 2 screws for phase terminal, 4 screws for neutral terminal (2 screws per way)

Screw Dimensions	M5 X 9
Screw Type	Phillips-Slotted Combi Fillister Head
Screw Head Dimension	Maximum Ø7 mm

Screw Material
Zn-plated steel, Tin-plated steel, nickel plated, brass, etc. Material can be varied

Ideal value of Screw Tightening Torque 1,5 Nm

Connection with the conductor
Conductor(shunt) is assembled to phase terminal with 2 screws
There is another screw (behalf of the neutral conductor) for neutral terminal connection

Phase conductor connection screws dimension, type, material
2pcs M4 x 6, Pan head Phillips-Slotted Combo
Material: Brass plated (draft), optional: Zn-plated steel, Tin-plated steel, nickel plated, etc. Material can be varied

Neutral conductor connection screws dimension, type, material
1 pc M4 x 8, Pan head Phillips-Slotted Combo
Material: Brass plated (draft), optional: Zn-plated steel, Tin-plated steel, nickel plated, etc. Material can be varied

RS 485 terminals:
Brass-coated Zamak, 2 screws

RS 485 terminal screws:
2 pcs M3x7, 2 pcs M3x5

Communication interfaces

Optical interface	
Type	serial, bi-directional interface
Protocol	according to IEC/EN 62056-21

Material

Base Cover
Flame retardant Polyamide 6 reinforced with 20% of glass fiber, Halogenated flame retardant grade, compliance with RoHs derivatives, with rating UL94 V0 and glow-wire at 960°C (Opaque, GREY G62)

Top Cover
POLYCARBONAT UL-94 V2 (Transparent)

Terminal Cover
POLYCARBONAT UL-94 V2 (Transparent)

Name Plate
Polystrol 486M (HIPS) UL94 HB (Opaque, laser applicable)

LCD Holder
POLYCARBONAT UL-94 V2 (Opaque)

Weight and dimensions

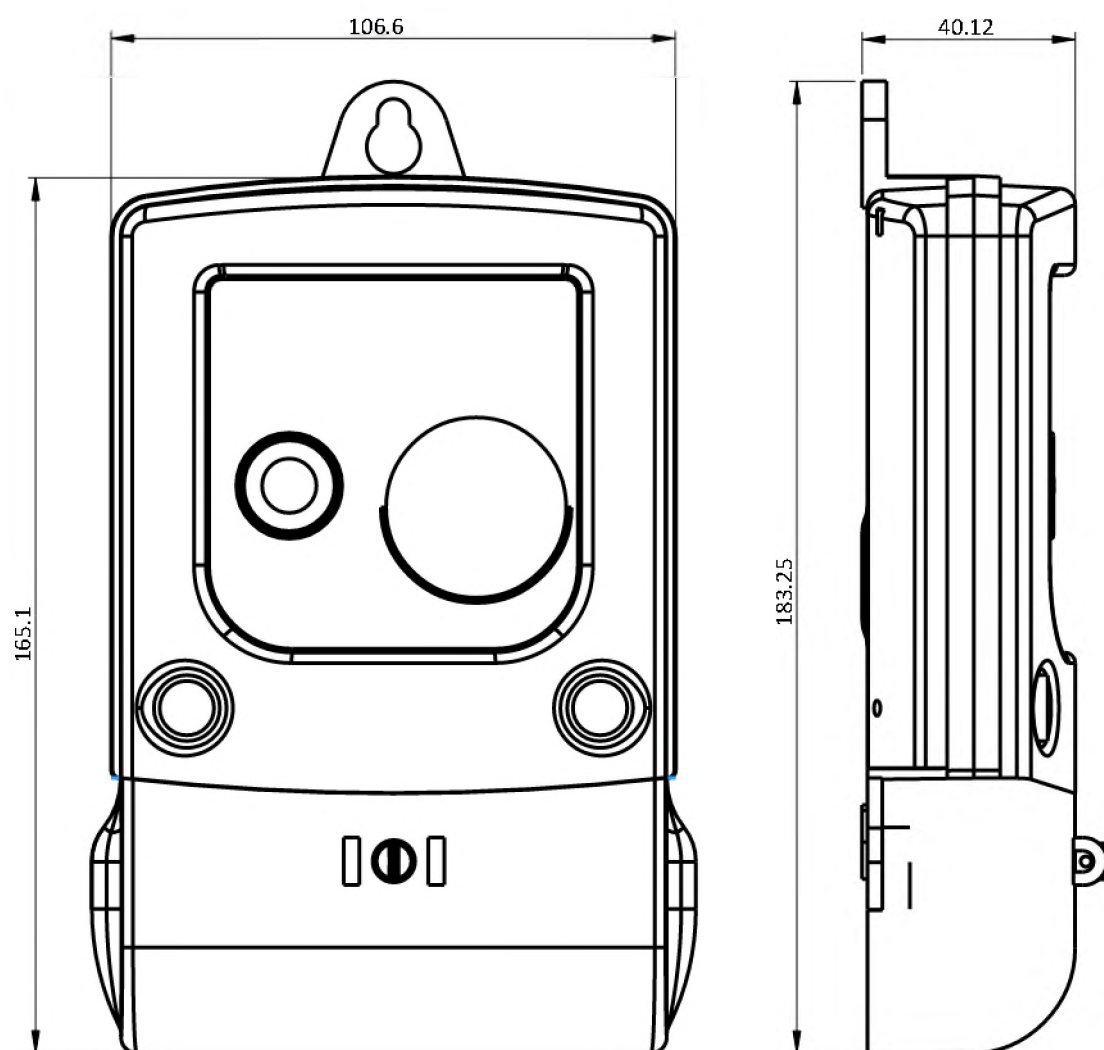
Weight
approximately 290 gr.
Width/height/depth
114/184/46 mm

Optional Features

RS 485	optional
Type	serial, bi-directional interface
Protocol	according to IEC/EN 62056-21

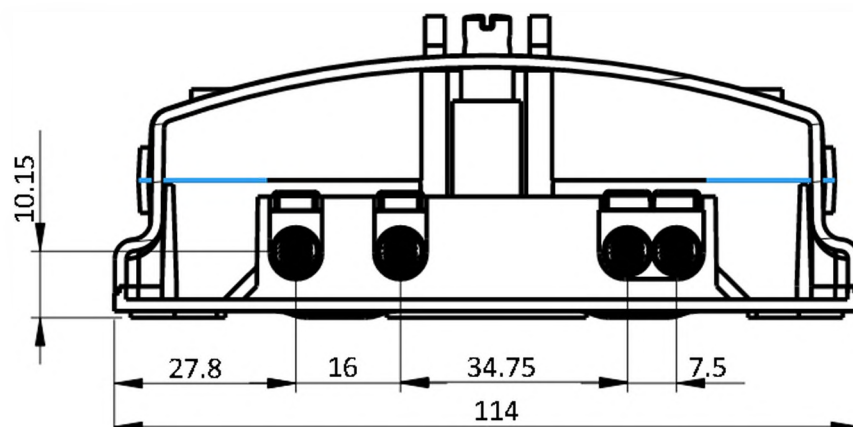
BS Connection Type

Dimensions (with terminal cover)

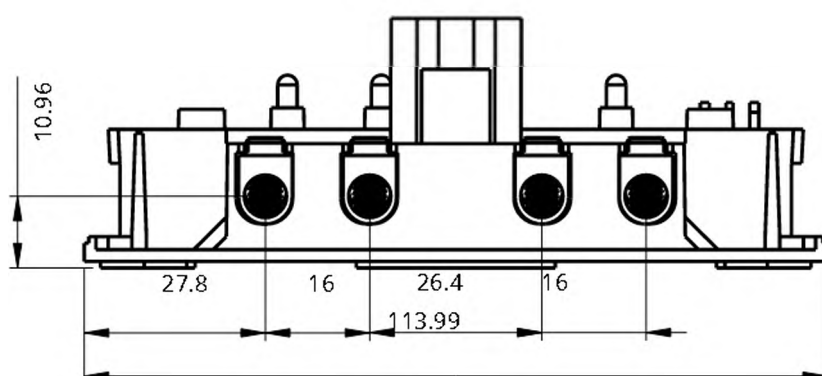


Dimensions of connection terminals

PPNN Version



PNNP Version





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