

# 50523091/51523091

## Single Phase Energy Meter with Socket & Plug Cable

- MID approval



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# User manual

(V1.01)



## 1.1 Safety instructions

### Information for Your Own Safety

This manual does not contain all of the safety measures for operation of the equipment (module, device), because special operating conditions, and local code requirements or regulations may necessitate further measures. However, it does contain information which must be read for your personal safety and to avoid material damages. This information is highlighted by a warning triangle and is represented as follows, depending on the degree of potential danger.

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#### Warning

This means that failure to observe the instruction can result in death, serious injury or considerable material damage.



#### Caution

This means hazard of electric shock and failure to take the necessary safety precautions will result in death, serious injury or considerable material damage.

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### Proper handling

The prerequisites for perfect, reliable operation of the product are proper transport, proper storage, installation and assembly, as well as proper operation and maintenance. When operating electrical equipment, certain parts of this equipment automatically carry dangerous voltages. Improper handling can therefore result in serious injuries or material damage.

- Use only isolated tools.
- Do not connect while circuit is live (hot).
- Make sure the used wires are suitable for the maximum current of this meter.
- Make sure the AC wires are connected correctly before activating the current/voltage to the meter.
- Do not touch the meter connecting clamps directly with your bare hands, with metal, blank wire or other material as you will have the chance of an electrical shock.
- Installation, maintenance and reparation should only be done by qualified personnel.
- Do not drop, or allow physical impact to the meter as there are high precision components inside that may break.

### Exclusion of liability

We have checked the contents of this publication and every effort has been made to ensure that the descriptions are as accurate as possible.

However, deviations from the description cannot be completely ruled out, so that no liability can be accepted for any errors contained in the information given. The data in this manual is checked regularly and the necessary corrections are included in subsequent editions.

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**Subject to technical modifications without notice.**

**1.2 Foreword**

Necore 50523091/51523091 series energy meters are produced according to EN 62053-21. In case there is a problem with the energy meter you should contact your dealer immediately. All energy meters are sealed with a special seal. Once this seal is broken there is no possibility to claim for warranty. Therefore, NEVER open an energy meter or break the seal of the energy meter.

**1.3 Performance criteria:**

|                        |  |
|------------------------|--|
| Operating temperature  | -25°C ~ +55°C                          |
| Storage temperature    | -30°C ~ +70°C                          |
| International standard | EN50470-3 / IEC62053-21                |
| Accuracy class         | B                                      |
| Water resistance       | IP54(Enclosure only)                   |
| Cable                  |  |
| - Type                 | H07RN-F                                |
| - No. of Conductor     | 3                                      |
| - Normalarea           | 16A 2.5mm <sup>2</sup>                 |
| - Length of both side  | It can be customized (default is 50cm) |
| Enclosure              | ABS                                    |
| Plug/linker            | Nickel on the surface/IP44             |

**1.4 Specifications:**

|                                    |                               |
|------------------------------------|-------------------------------|
| Nominal voltage (Un)               | 230V AC                       |
| Operational voltage                | 195-253V AC                   |
| Basic current(Ib)                  | 5A                            |
| Maximum rated current (Imax)       | 25A                           |
| Operational current range          | 0.4% Ib- Imax                 |
| Over current withstand             | 30Imax for 0.01s              |
| Operational frequency range        | 50/60Hz ±10%                  |
| Internal power consumption         | ≤2W / 10VA                    |
| LCD                                | 5 digits and 2 decimal digits |
| Test output flash rate (PULSE LED) | 1000 or 2000imp/kWh           |
| Consumption indicator (PULSE)      | Flashing at load running      |

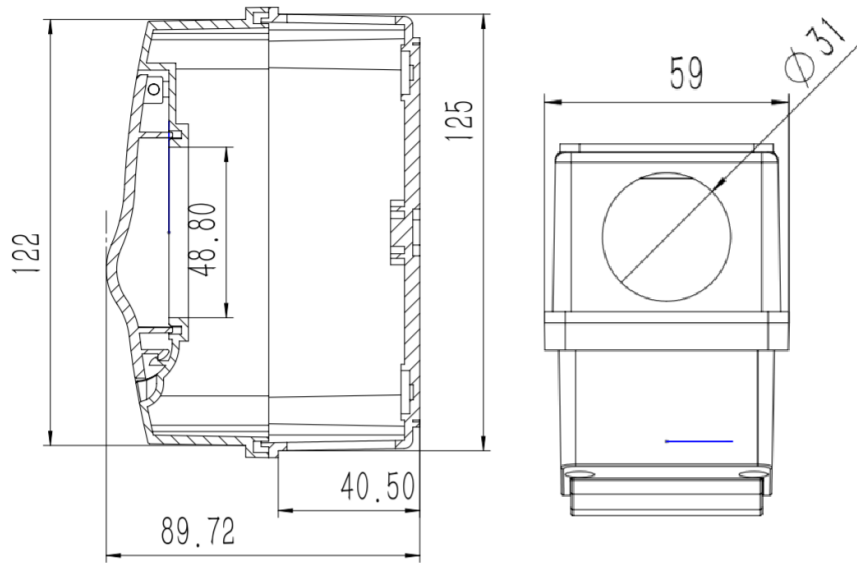
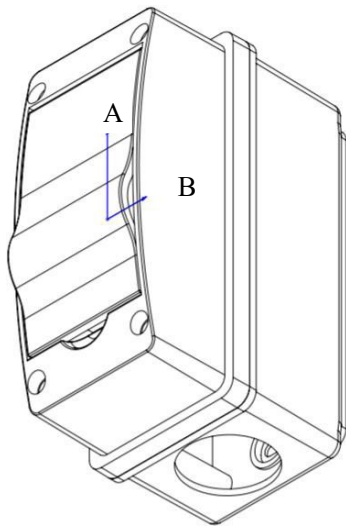
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**1.5 Basic errors:**

|              |             |       |
|--------------|-------------|-------|
| 0.05Ib       | Cosφ = 1    | ±1.5% |
| 0.1Ib        | Cosφ = 0.5L | ±1.5% |
|              | Cosφ = 0.8C | ±1.5% |
| 0.1Ib - Imax | Cosφ = 1    | ±1.0% |
| 0.2Ib - Imax | Cosφ = 0.5L | ±1.0% |
|              | Cosφ = 0.8C | ±1.0% |

**1.6 Description**

A Front Cover  
B Enclosure



**Material**

Front panel  
Enclosure

PC inflammable retarding  
ABS inflammable retarding

**1.7 Dimension**

|                    |        |
|--------------------|--------|
| Length             | 125mm  |
| Width              | 59mm   |
| Height             | 90mm   |
| Cable on both side | 50cm   |
| Weight             | 1.2 Kg |

## 1.8 Operating

### Consumption indication

On the 50523091/51523091 series' front panel, there is one LED for impulse.

### Reading the meter

The 50523091/51523091 energy meter with LCD display register show seven digits, 5+2 means 5 integer-bit and 2 decimal places can show maximum 99999.99kWh.

## 1.9 Troubleshooting



### CAUTION

- During reparation and maintenance, do not touch the meters connecting clamps directly with your bare hands, with metal, blank wire or other material as you will have the chance of an electricity shock and a possible chance for health damage.
- Turn off and lock out all power supplying the energy meter and the equipment to which it is installed before opening the protection cover to prevent the hazard of an electric shock.



### WARNING

- Maintenance or reparation should be performed by qualified personnel familiar with applicable codes and regulations.
  - Use insulated tools to maintain or repair the meter.
  - Make sure the protection cover is in place after maintenance or reparation.
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| <b>Problem</b>                                      | <b>Check</b>  | <b>Solution</b>  |
|---|---|--|
| No light for the consumption indicator (PULSE LED). | <p>Is the load running?</p> <p>Is the operating power too low?</p> <p>Maybe there is a fault in the inside circuit.</p> | <p>Only when load is running, this LED will flash.</p> <p>If the operating power is too low, the spacing interval of the flashes will take some more time this is why it seems like LED is not burning</p> <p>Please contact your technical supporter to replace this meter.</p> |
| The register can't run.                             | <p>Is the operating power too low?</p> <p>Maybe there is a fault in the inside circuit.</p>                             | <p>If the operating power is too low, the spacing interval of the pulses will take some more time this is why it seems like the meter won't count</p> <p>Please contact your technical supporter to replace this meter.</p>  |
| Pulse output rate wrong.                            | Maybe there is a fault in the inside circuit.   | Please contact your technical supporter to replace this meter.   |

### 1.11 Technical support

For questions about one of our products, please contact:

