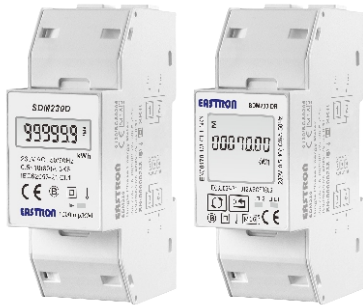


# SDM230A/D/DR/BI

Single Phase Two Wires Din Rail Energy Meter



## 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.



#### 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.

### Qualified personnel

Operation of the equipment (module, device) described in this manual may only be performed by qualified personnel. Qualified personnel in this manual means person who are authorized to commission, start up, ground and label devices, systems and circuits according to safety and Regulatory standards.

### Use for the intended purpose

The equipment (device, module) may only be used for the application specified in the catalogue and the user manual, and only be connected with devices and components recommended and approved by EASTRON.

### 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 insulating tools.
- Do not connect while circuit is live (hot).
- Place the meter only in dry surroundings.
- Do not mount the meter in an explosive area or expose the meter to dust, mildew and insects.
- 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 may get an electrical shock.
- Make sure the protection cover is placed after installation.
- Installation, maintenance and reparation should only be done by qualified personnel.
- Never break the seals and open the front cover as this might influence the functionality of the meter, and will void any warranty.
- Do not drop, or allow physical impact to the meter as there are high precision components inside that may break.

## Introduction

The SDM230\* series are single phase two wire energy meters "with a white back-lighted LCD screen for perfect reading". They are used to measure single phase energy in residential and commercial applications. The series contains 4 models: SDM230A, SDM230D, SDM230DR, SDM230Bi

SDM230A : 1P2W energy meter with analog register  
SDM230D : 1P2W energy meter with LCD display  
SDM230DR: 1P2W energy meter with resettable partial energy  
SDM230Bi : 1P2W energy meter with bi-directional measurement

SDM230DR and SDM230Bi have been MID approved. They measure both active energy (kWh) and power (W). There are two buttons on the front panel, one is used to scroll the info pages, another to reset partial energy information. All models has a pulse output, which is passive type. The constant is 1000imp/kWh.

## Technical Data

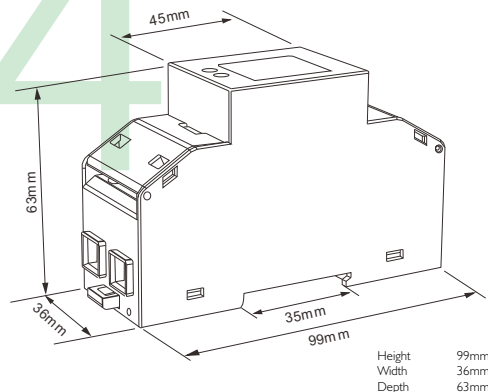
### Specifications

|                                    |   |
|------------------------------------|---|
| Nominal voltage(Un)                | 230V AC                                       |
| Operational voltage                | 80%~120% Un                                   |
| Insulation capabilities            |   |
| - AC voltage withstand             | 4KV for 1 minute                              |
| - Impulse voltage withstand        | 6KV-1.2μS                                     |
| Basic current (Ib)                 | 10A   |
| Maximum rated current (Imax)       | 100A  |
| Operational current range          | 0.4% Ib~Imax                                  |
| Over current withstand             | 30Imax for 0.01s                              |
| Operational frequency range        | 50Hz ± 10%                                    |
| Internal power consumption         | ≤ 2W/10VA/phase                               |
| Test output flash rate (PULSE LED) | 1000imp/kWh                                   |
| Test pulse output rate             | 1000imp/kWh                                   |
| Max. reading                       | 99999.9 (SDM230D)<br>999999.9 (SDM230A/DR/BI) |

### Performance criteria

|  |   |
|--|---|
| Operating humidity                               | ≤ 90%                                       |
| Storage humidity                                 | ≤ 95%                                       |
| Operating temperature                            | -25°C - +55°C                               |
| Storage temperature                              | -40°C - +70°C                               |
| Active energy accuracy                           | Class B EN50470-1/3<br>Class 1 IEC 62053-21 |
| Protection against penetration of dust and water | IP51  |
| Insulating encased meter of protective class     | II  |
| Warm up time                                     | 10S   |
| Mechanical environment                           | M1  |
| Electromagnetic environment                      | E2  |
| Degree of pollution                              | 2   |

## Dimensions



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## Operation

### ● Display info

**SDM230A**, equipped with a 6+1 register counter, measures and displays active energy (kWh).

**SDM230D**, equipped with a LCD display, measures and displays active energy (kWh). The initial reading starts from 0000.00 (4+2), once it is go up to 9999.99, the reading will change to 00000.0 (5+1). The max. reading is 99999.9kWh.

**SDM230DR with a white backlit LCD screen for perfect reading is used to** measure single phase energy (kWh) and power (W). The unit provides also a resettable partial energy.

**SDM230Bi**, Equipped with white backlit LCD, the unit measures and displays bi-direction active energy (kWh) and power (W). Resettable partial energy function is also available.

### ● Initialization display

When SDM230DR and SDM230Bi is powered on, it will initialize and do self-checking:



### ● Buttons

There are two buttons on the front panel of SDM230DR and SDM230Bi:



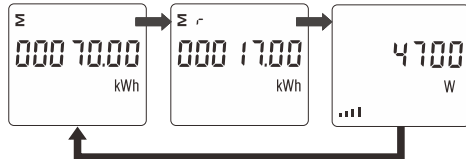
This button is used to scroll the information pages.



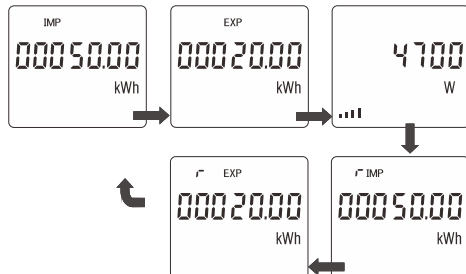
This button is used to reset the partial energy information.

### ● Scroll display

SDM230DR Information Pages:



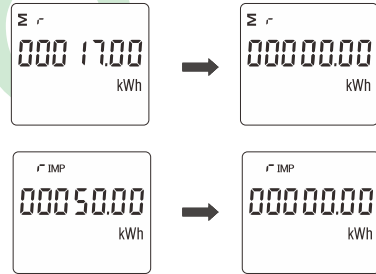
SDM230Bi Information Pages:



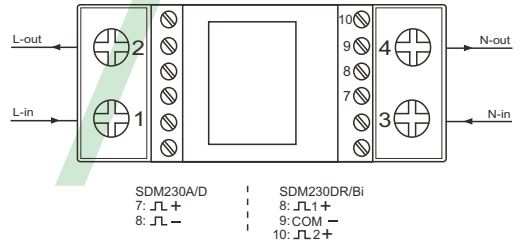
## Resettable Energy

Both SDM230DR and SDM230Bi provide a function of resettable energy.

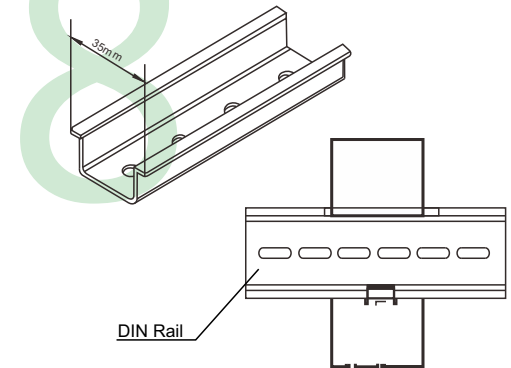
User can press the right button  for 3 seconds to reset the partial energy.



## Wiring Diagram



## Installation Diagram



## Conformity Declaration ( MID version meters only)

We Zhejiang Eastron Electronic Co., Ltd. Declare under our sole responsibility as manufacturer that the single phase active import/export (kWh) indoor electricity meter SDM230\* correspond to the production model described in the EC-type examination certificate and to the requirements of the Directive 2014/32/EU type Examination Certificate no.0120/SGS0206 Identification Number of the Nb0120

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