

# SDM210-DR

Single-Phase Two Module DIN Rail Meters



User Manual V1.0

## 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 SDM210DR is single phase two wires energy meter with a white back-lighted LCD Screen for perfect reading. It can be used to measure single phase energy in residential and commercial applications.

The SDM210DR has been MID approved. It measures both active energy (kWh) and power (W). There is one button on the front panel which is used to scroll the info pages. And it also has a pulse output port which is passive type. The constant is 1000imp/kWh.

## Technical Data

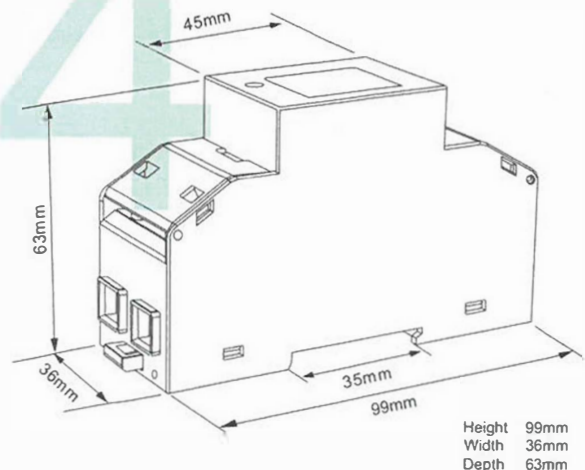
### Specifications

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/Iref)	10A
Maximum rated current (Imax)	100A
Minimum rated current (Imin)	0.5A
Operational current range	0.4% Ib~Imax
Over current withstand	30Imax for 0.01s
Operational frequency range	50Hz (MID) 50/60Hz (non-MID)
Internal power consumption	≤ 2W/10VA
Test output flash rate (PULSE LED)	1000imp/kWh
Test pulse output rate	1000imp/kWh
Max. reading	999999.9kWh

### Performance criteria

Operating humidity	≤ 90%, non-condensing
Storage humidity	≤ 95%, non-condensing
Operating temperature	-25°C - +55°C
Storage temperature	-40°C - +70°C
Active energy accuracy	Class B EN50470-1/3 Class 1 IEC62053-21
Ingress protection	IP51 (in door)
Insulating encased meter of protective class	II
Warm up time	5s
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2

## Dimensions



## Operation

### Display info

SDM210-DR 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.

### Initialization display

When SDM210-DR is powered on, it will initialize and do self-checking:



### Button

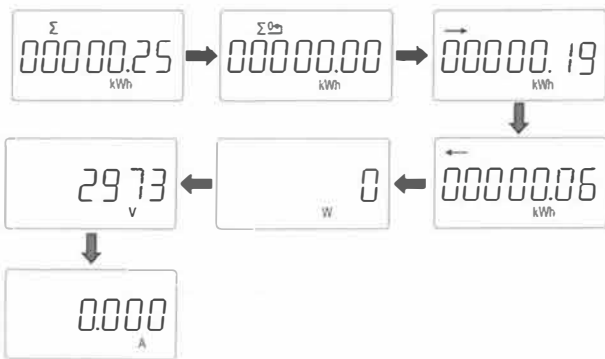
This is one button on the front panel of SDM210-DR:



This button is used to scroll the information pages.

### Scroll display

SDM210-DR Information Pages:



Total kWh → Resettable total kWh → Import kWh → Export kWh → Power  
→ Voltage → Current

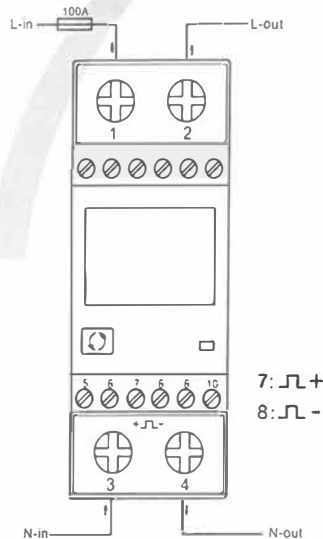
## Resettable Energy

SDM210-DR provides a function of resettable energy.



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



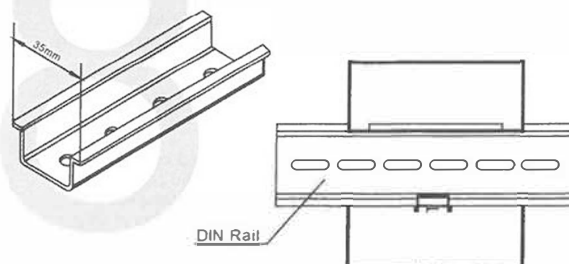
## Wiring



### Terminals Capacity and Screw Torque

Terminals		
Pulse	0.5~1.5mm <sup>2</sup>	0.4Nm
Load	4~25mm <sup>2</sup>	3Nm

## 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 SDM210-DR correspond to the production model described in the EU-type examination certificate and to the requirements of the Directive 2014/32/EU type. Examination Certificate NO.0120/SGS0609. Identification Number of the NB0598.



**smart process**  
control & instrumentation

Smart Process & Control LTD

Unit 11, Totman Close, Brook Road Industrial Estate, Rayleigh, Essex, SS6 7UZ

Telephone: 01268 773422 ~ Website: [www.smartprocess.co.uk](http://www.smartprocess.co.uk) ~ Email: [enquiry@smartprocess.co.uk](mailto:enquiry@smartprocess.co.uk)