

# DIN Rail Mounted / Single Phase / (100A) SDM230-M Series

## Datasheet

- Single Phase 100A Direct Fed
- MID B+D Certified
- UL Registered
- Accuracy Class 0.5 (Active Energy)
- Bi-directional Measurement for kW and kWh
- Configurable Pulsed output (Import/ Export / Nett kWh)
- Modbus (SDM230) or Mb (SDM230Mbus)
- Multi Parameter measurement
- Multi-Tariff

The SDM230 series is an advanced multifunction single-phase energy monitoring solution with optional outputs such as Pulsed, RS485 RTU Modbus and Mbus. Equipped with configuration and display buttons for ease of navigation through the various parameters and settings. Housed for DIN rail mounting, IP51 protection and direct connection up to 100A. Selectable measurement modes using our free configurations software for kWh display, Total kWh (Import + Export), Import kWh and Net kWh (Export - Import) Certified in the UK according to EU Directive 2014/32/EU. MID Certificate number T12800



## Specification Table

Specification	
Nominal voltage(Un)	120V or 230V ac
Operational voltage	80%~120% of 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	30 Imax for 0.01s
Operational frequency range	50 or 60Hz
Internal power consumption	≤ 2W/10VA
Pulse output 1	1000imp/kWh
Pulse output 2	1000imp/kWh(only for SDM230DR/Bi)
Max reading	999999.9 kWh

Performance criteria	
Operating humidity	≤ 90%
Storage humidity	≤ 95%
Operating temperature	-40°C - +70°C
Storage temperature	-40°C - +70°C
Reference temperature	23°C± 2°C
International standard	IEC 62053-21 / EN50470-1/3
Accuracy class	Class1/Class B
Installation category	CAT II
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2
Protection against penetration of dust and water	IP51(indoor)
Insulating encased meter of protective class	II
Electrostatic discharges	8kV contact / 15kV air gap
Electromagnetic HF fields	IEC 61000-4-3
Electrical fast transients	4kV
Surge	4kV
Radiated & conducted emissions	EN 55022
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Accuracy	
Voltage,Current	0-5%
Frequency	0-2% of mid-frequency
Power factor	1% of unity (0.01)
Active power , Apparent power	±1% of range maximum
Reactive power	±1% of range maximum
Reactive energy(Varh)	Class 2
Active energy (Wh)	Class 1

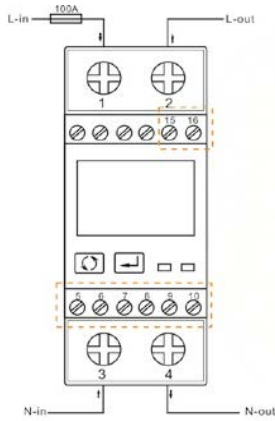
Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	1200/2400/4800/9600bps
Address range	1-247
Max. Bus loading	64pcs
Communication distance	1000M
Parity	EVEN/ODD/NONE

M-bus	
Bus type	M-bus
Protocol	EN13757-3
Baud rate	300/600/1200/2400/4800/9600
Parity	NONE/EVEN/ODD
Stop bits	1 or 2
Primary Address	1 to 250
Secondary Address	00 00 00 01 to 99 99 99 99

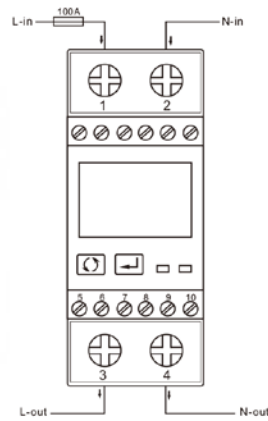
Pulse output	
Pulse outputs	2
Pulse output type	Passive
Pulse Output 1	Configurable
Pulse width	200/100(default)/60ms
Pulse output 2	1000imp/kWh

## Wiring Configuration

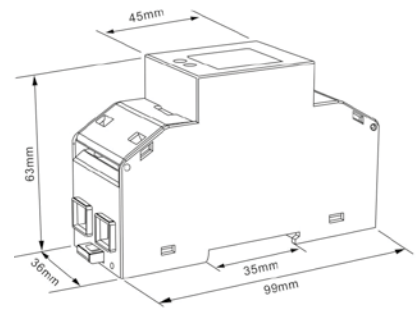
## Dimension Drawing



**V1 Configuration**  
(Live in and Live out located on the top / Neutral in and Neutral out located on the bottom )



**V2 Configuration**  
(Live and Neutral in located on the top / Live and Neutral out located on the bottom )



Height 99mm  
Width 36mm  
Depth 63mm

## Ordering Options

Meter Type	Description of Meter
<b>SDM230-M V1 (wiring configuration)</b>	Single phase 2 wire, 230V AC, 0.5-10(100)A , 50/60Hz. Backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.
<b>SDM230-MB-V1 (wiring configuration)</b> <b>SDM230-DI V2 (wiring configuration)</b>	Single phase 2 wire, 230V AC, 0.5-10(100)A , 50/60Hz. Backlighted LCD display, 2 Pulse outputs, M-bus EN13757-3 communication. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.
<b>SDM230-2T V1</b>	Single phase 2 wire, 230V AC, 0.5-10(100)A , 50/60Hz. Backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication, Multi-tariffs. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.
<b>SDM230-DI v2 wiring configuration</b>	Single phase 2 wire, 230V AC, 0.5-10(100)A , 50/60Hz. Backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication. Measures total kWh, Imp_kWh, Exp_kWh etc. Digital Inputs
<b>SDM230-Pulse V1</b>	Single phase 2 wire, 230V AC, 0.5-10(100)A , 50/60Hz Backlighted LCD display, 2 Pulse outputs Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.

## Conformity References

**Electromagnetic Compatibility:** EN61326-1:2013 & EN61326-2-3:2013

**Low Voltage Directive:** EN61010-1-2010 & EN61010-2-30-2010

**MID DIRECTIVE:** 2014/32/EU

Please contact our Sales team at [sales@eastroneurope.com](mailto:sales@eastroneurope.com) or reach out to our technical experts at [technical@eastroneurope.com](mailto:technical@eastroneurope.com) Alternatively, you can call us at (+44) 0203 758 3494.