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

Datasheet

- **Single Phase 100A Direct Fed**
- **MID B+D Certified**
- **Accuracy Class 1 (Active Energy)**
- **Bi-directional Measurement for kW and kWh (SDM230BI)**
- **Fixed Pulsed output (1000imp/kWh)**
- **Active Energy and Power Measurement**
- **Low cost**



The SDM230DR/BI is an entry level single-phase energy monitoring solution with a fixed pulsed output. This product will only measure and display total active energy (kWh) and Power (Watts) with Optional partial reset energy (SDM230DR) Or the (SDM230BI) Bi-directional version which will read Import/Export and Total Active Energy (kWh).Housed for DIN rail mounting, IP51 protection and direct connection up to 100A. Certified in the UK according to EU Directive 2014/32/EU. MID Certificate number 0120 / SGS0206.

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	-25°C - +55°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
Radiated & conducted emissions	EN 55022

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

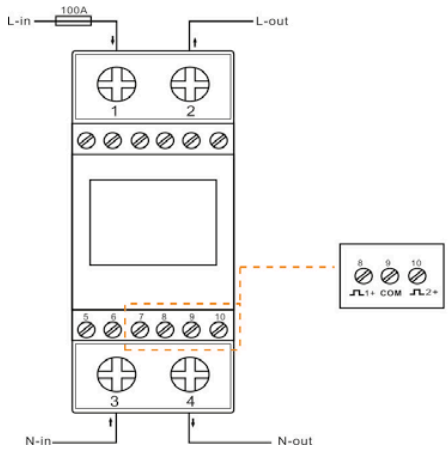
Pulse output	
Pulse outputs	2
Pulse output type	Passive
Pulse Output 1	Configurable
Pulse width	200/100(default)/60ms
Pulse output 2	1000imp/kWh

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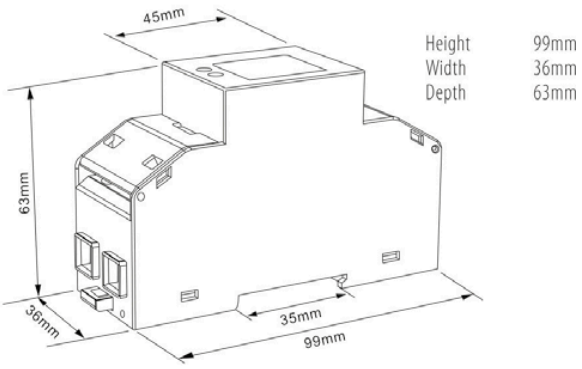
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Wiring Configuration



Dimension Drawing



Ordering options

Meter Type	Description of Meter
SDM230-DR	Single Phase 2 wire, 230V AC, 0.5~10(100)A , 50/60Hz Backlighted LCD display, 2 Pulse outputs, measures total active energy
SDM230-BI	Single Phase 2 wire, 230V AC, 0.5~10(100)A , 50/60Hz Backlighted LCD display, 2 Pulse outputs, Bi-directional measurement IMP & EXP Energy and Power

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