



**SKU: MTN-94611/SDM230 Modbus / Mbus / 2T / Std / Pulse**  
**SINGLE PHASE MULTI-FUNCTION ENERGY METER**

- 100A direct load
- 2 Module 36mm wide
- Multi-measurement:kWh,kVarh,W,Var,VA,PF,HZ,dmd,V,A,etc.
- Bi-directional measurement
- 2 Pulse outputs
- RS485 Modbus or M-bus communication
- 2 Tariffs available(dual power source)



**Introduction**

SDM230 series is an advanced digital single phase multi-function energy meter, which measures up to 100A direct load. The unit measures active energy, reactive energy, current, voltage, power, power factor, frequency, demand, etc. Bi-directional measurement makes this unit an ideal choice for Solar PV measurement. A remote communication port is provided, RS485 Modbus RTU or M-bus EN13757-3 and communication parameters are password protected in setup mode. Users can check data and set up the meter via the buttons on the front panel. SDM230-2T can measure energy from two different power supplies.

This Series has been assessed and certified as meeting the requirements of EU Directive 2014/32/EU. The EU Type Examination Certificate Number is 0120/SGS0206.



SDM230 —A—1—1—B

- DR: kWh + kW, Resettable Energy, Pulse output
- BI: Import/export/total kWh and Power, resettable Energy,Pulse output
- P: Multi-parameters, 2 Pulse outputs
- M: Multi-parameters, 2 pulse outputs, RS 485 Modbus RTU
- 2T:Multi-parameters, 2 pulse outputs, RS 485 Modbus RTU, 2 Tariffs
- 1:110/120V
- 2:220/230V
- 1: MID
- 2: Non-MID
- B:Class 1
- C: Class 0.5s

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	Configurable
Pulse output 2	1000imp/kWh
Max reading	999999.9 kWh/kVarh

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 / IEC620532-22 / EN50470-1/3
Accuracy class	Class1/Class0.5S/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

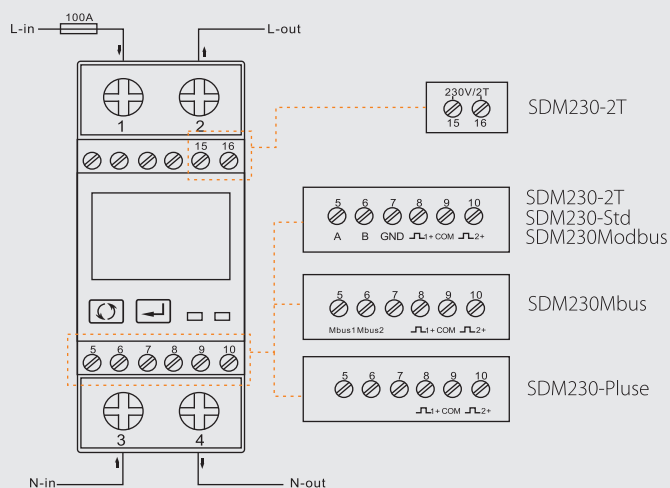
Accuracy	
Voltage, Current	0.5%
Frequency	0.2% of mid-frequency
Power factor	1% of unity (0.01)
Active power, Apparent power	±1% of range maximum
Reactive power	±1% of range maximum
Reactive energy(Varh)	Class 2
Active energy (Wh)	Class 1/Class0.5s

Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	1200/2400/4800/9600bps/19200(optional)bps
Address range	1-247
Max. Bus loading	64pcs
Communication distance	1000M
Parity	EVEN/ODD/NONE
Data bit	8
Stop bit	1

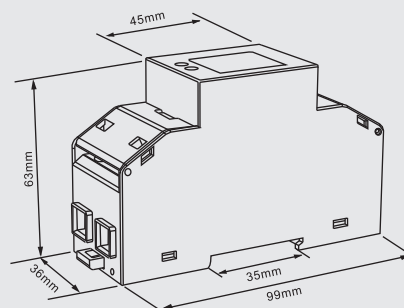
M-bus	
Bus type	M-bus
Protocol	EN13757-3
Baud rate	600/1200/2400/4800/9600/19200(optional)bps
Parity	NONE/EVEN/ODD
Stop bits	1 or 2
Primary Address	1 to 250
Secondary Address	00 00 00 01 to 99 99 99 99

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 diagram**



**Dimensions**



Height 99mm  
Width 36mm  
Depth 63mm