DIN Rail Mounted / Single Phase/ (100A) SDM220 Series

Datasheet

- **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**
- **Multi-tariffs available(RTC)**

SDM220 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 / 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.
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/SGS0172.

Specification Table

Specification	
Nominal voltage(Un)	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)	5A
Maximum rated current (Imax)	100A
Operational current range	0.4% Ib-Imax
Over current withstand	30 Imax for 0.01s
Operational frequency range	50Hz for MID；50/60Hz for non-MID
Internal power consumption	≤ 2W/10VA
Pulse output 1	Configurable
Pulse output 2	1000imp/kWh
Max reading	99999.99 kWh

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

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

Multi-tariff	
Time clock error	< 1s/day
Tariff	4
Time segments	10

Performance criteria	
Operating humidity	≤ 90%, no condensing
Storage humidity	≤ 95%, no condensing
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 III
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

Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	1200/2400/4800/9600/19200(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	300/600/1200/2400/4800/9600bps
Parity	EVEN/ODD/NONE
Stop bits	1 or 2
Primary address	1-250
Secondary address	00 00 0001 to 99 99 99 99

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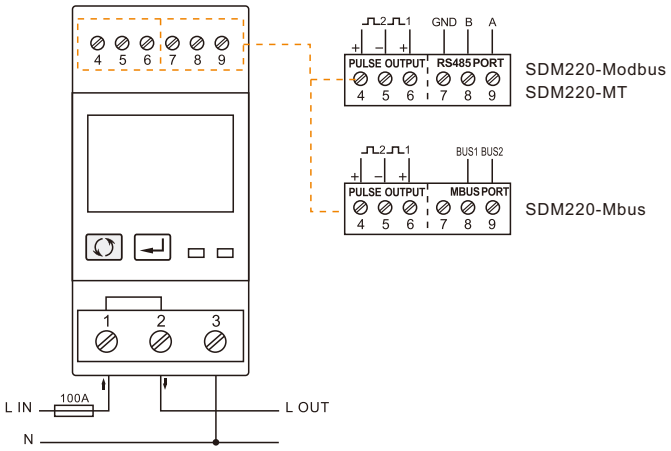
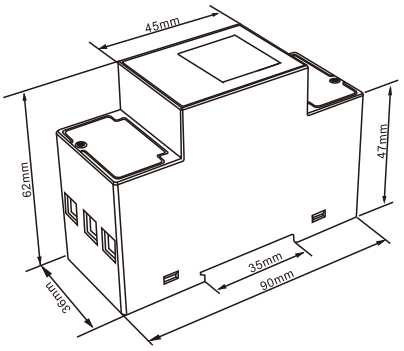
Wiring Configuration



Dimension Drawing



Height 90mm
Width 36mm
Depth 62mm

Ordering Options

Meter Type	Description of Meter
SDM220-Modbus	Single phase two wires, 230V AC, 0.25~5(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.
SDM220-Mbus	Single phase two wires, 230V AC, 0.25~5(100)A, 50/60Hz, Backlighted LCD display, 2 pulse outputs, Mbus communication. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.
SDM220-MT	Single phase two wires, 230V AC, 0.25~5(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.

Safety and EMC

Measurement category: IEC 61010-1 CAT III
Current input: Direct connect
Over-voltage category: CAT III
Dielectric withstand: IEC 61010-1 double insulated
Protective class: II
EMC: IEC 61326-1:2013 ; IEC 61326- 2-3:2013