



## SINGLE PHASE MULTI-FUNCTION ENERGY METER

Model No: SMART-SME 103D

- 100A Direct Load
- 2 Module 36mm Wide
- Measuring kWh, W, A, PF, Hz, dmd, etc.
- Bi-Directional Measurement
- 2 Pulse Outputs
- RS 485 Modbus or M-bus Communication
- 2 Tariffs Available



## INTRODUCTION

Smart Controller series is 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 mudbus RTU and M-bus EN13757-3 communication parameters are password protected in setup mode. User can check data and set up the meter via the buttons on the front panel.

## SPECIFICATION

Nominal Voltage(Un)	120V or 230V ac
Operational Voltage	80%~120% of Un
Instation 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
Internal 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
Degree of Pollution	E2
Protection Against Penetration of Dust and Water	2
Insulating Encased Meter of Protective Class	IP51 (indoor)
Attitude	II
Electrostatic Discharges	8kV contact / 15kV air gap
Electromagnetic HF Fields	IEC 61000-4-3
Electrical Fast Transients	4kV
Surge	4kV
Radiated and Conducted Emission	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
Data Bit	8
Stop Bit	1

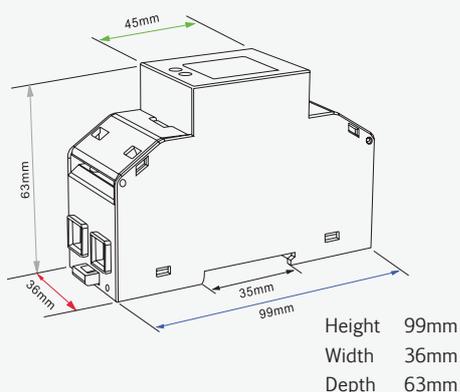
## M-BUS

Bus Type	M-bus
Protocol	EN13757-3
Baud Rate	300/600/1200/2400/4800/9600
Parity	NONE/EVEN/ODD
Stop Bit	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

## DIMENSIONS



## WIRING DIAGRAM

