

SDM230MDB

SINGLE PHASE TWO MODULE

DIN METER WITH MODBUS

MID APPROVED



- Measures kWh, Kvarh, KW, Kvar, KVA, PF, Hz, dmd, V, A, etc.
- Bi-directional measurement IMP & EXP
- Two pulse outputs
- RS485 Modbus
- Din rail mounting 35mm
- 100A direct connection
- Better than Class 1 / B accuracy

Application

The energy-meters “with a blue back-lighted LCD screen for perfect reading” are used to measure single-phase like residential, Utility and Industrial application. The unit measures and displays various important electrical parameters, and provide a communication port for remote reading and monitoring. Bi-directional energy measurement makes the unit a good choice for solar PV energy metering.

PART 1 Specification

General Specifications

Voltage AC (Un)	230V
Voltage Range	176~276V AC
Base Current (Ib)	10A
Max. Current (Imax)	100A
Mini Current (Imin)	0.5A
Starting current	0.4% of Ib
Power consumption	<2W/10VA
Frequency	50/60Hz(±10%)
AC voltage withstand	4KV for 1 minute
Impulse voltage withstand	6KV-1.2uS waveform
Overcurrent withstand	30Imax for 0.01s
Pulse output rate	1000imp/kWh (default) 1000/100/10/1 imp/kWh/kVarh (configurable)
Display	LCD with blue backlit
Max. Reading	999999.9kWh

Accuracy

Voltage	0.5% of range maximum
Current	0.5% of nominal
Frequency	0.2% of mid-frequency
Power factor	1% of Unity
Active power	1% of range maximum
Reactive power	1% of range maximum
Apparent power	1% of range maximum
Active energy	Class 1 IEC62053-21 Class B EN50470-3
Reactive energy	1% of range maximum

Environment

Operating temperature	-25°C to +55°C
Storage and transportation temperature	-40°C to +70°C
Reference temperature	23°C ±2°C
Relative humidity	0 to 95%, non-condensing
Altitude	up to 2500m
Warm up time	10s
Installation category	CAT III
Mechanical Environment	M1
Electromagnetic environment	E2
Degree of pollution	2

Output

Pulse Output

The meter provides two pulse outputs. Both pulse outputs are passive type.

Pulse output 1 is configurable. The pulse output can be set to generate pulses to represent total / import/export kWh or kVarh.

The pulse constant can be set to generate 1 pulse per: 0.001(default) / 0.01 / 0.1/kWh/kVarh.

Pulse width: 200/100/60ms

Pulse output 2 is non-configurable. It is fixed up with import kWh. The constant is 1000imp/kWh.

RS485 output for Modbus RTU

The meter provides a RS485 port for remote communication. Modbus RTU is the protocol applied. For Modbus RTU, the following RS485 communication parameters can be configured from the Set-up menu.

Baud rate: 1200, 2400, 4800, 9600

Parity: NONE/EVEN/ODD

Stop bits: 1 or 2

Modbus Address: 1 to 247

Mechanics

Din rail dimensions	36x99x63 (WxHxD) DIN 43880
Mounting	DIN rail 35mm
Sealing	IP51 (indoor)
Material	self-extinguishing UL94V-0

LCD display

Item	Descriptions
1	7 digits used to display measured values or RTC
2	Total value
4	Import information, Export information
5	Max. Demand for Power or Current
6	Pulse output 1 and Pulse output 2
7	Measurement units
8	PF = power factor Hz = frequency
9	Bar display of Power
10	Communication indicator
11	Time information
12	Low battery warning
13	Lock symbol

