



# SDM120CT Modbus / Mbus / Pulse

SINGLE PHASE MULTI-FUNCTION ENERGY METER

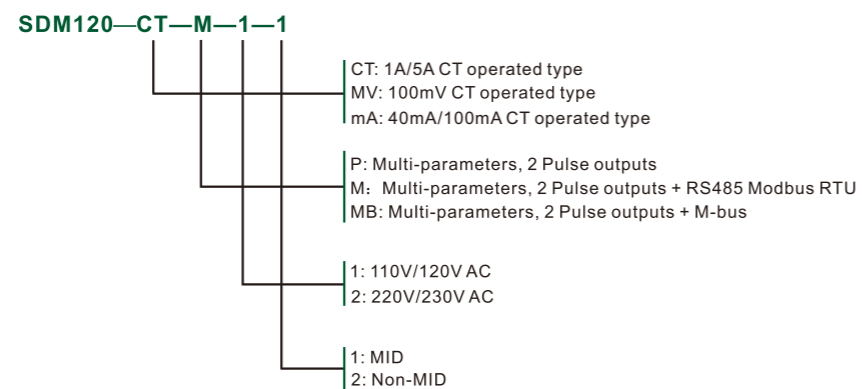
- CT operated
- 1 Module 17.5mm wide
- Multi-measurement: kWh, W, V, A, PF, Hz, dmd. etc.
- Bi-directional measurement
- 2 Pulse outputs
- RS485 Modbus or M-bus communication



## Introduction

SDM120 CT series is CT operated type single phase multi-function energy meter. The meter is compactly designed in one module din rail enclosure. LCD display is provided to show the energy and other important electric parameters measured. Moreover, the meter can provide pulse outputs proportional to the energy being measured and a RS485 output/ M-bus output port for remote monitoring. CT ratio can be set, which enables this meter to measure big current loads.

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/SGS0141.



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
Primary current	5~9999A
Secondary input	1A/5A, 100mA, 40mA
Over current withstand	20 I <sub>max</sub> for 0.5s
Operational frequency range	50 or 60Hz
Internal power consumption	≤ 2W/10VA
Pulse output 1	configurable
Pulse output 2	1000imp/kWh
Display	LCD with backlight
Max reading	999999 kWh/kVarh

Performance criteria	
Operating humidity	≤ 90%
Storage humidity	≤ 95%
Operating temperature	-25°C - +55°C or -40°C ~ +70°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
Altitude	up to 2000m
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

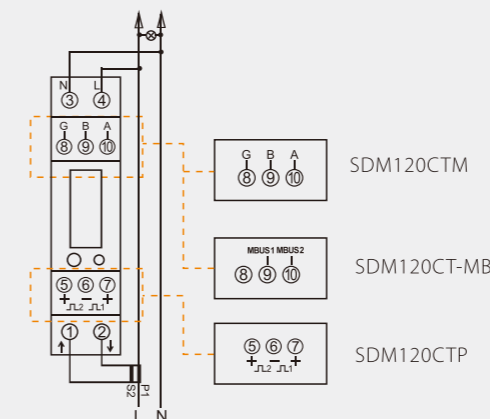
Accuracy	
Voltage, Current	0.5%
Frequency	0.2% of mid-frequency
Power factor	1% of unity (0.01)
Active power, Apparent power	±1% of range maximum
Reactive power	±1% of range maximum
Reactive energy (Varh)	Class 2
Active energy (Wh)	Class 1

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

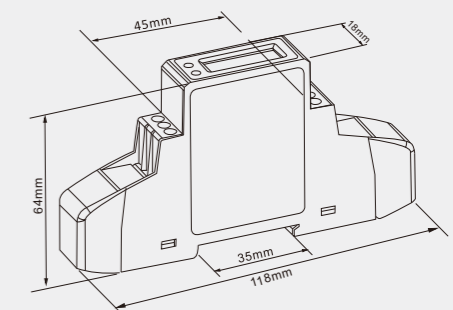
M-bus	
Bus type	M-bus
Protocol	EN13757-3
Baud rate	300/600/1200/2400/4800/9600bps
Parity	NONE/EVEN/ODD
Stop bits	1 or 2
Primary Address	1 to 250
Secondary Address	00000001 to 99999999

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 118mm  
Width 18mm  
Depth 64mm