



Datasheet

- Three phase 100A Direct Fed
- MID B+D Certified
- Class B Accuracy
- Bi-Directional Measurement for Active Energy and Power
- Configurable pulsed output (Import/ Export and Nett kWh)
- Modbus and Mbus serial output options
- Multi Parameter measurement
- Dual Tariff
- 3 Module DIN rail mounted

The SDM54 measures and displays the characteristics of single phase two wires (1p2w) and three phase four wires(3p4w) supplies, including voltage, frequency, current, power, power factor, active and reactive energy, imported or exported. Energy is measured in terms of kWh and kVAh. Maximum demand on power and current can be measured over pre-set periods of up to 60 minutes. SDM54 supports max.100A direct loads per phase, with dual tariff management availability. The meter is designed for DIN-rail mounting, with IP51 front protection. The meter is optionally equipped with pulse outputs, RS485 Modbus port or M-bus port. Configuration can also be done via keypad, which is password protected.



Specification table

Electrical specifications	
Power:	self power supply (via measured voltage)
Consumption:	<1W, 8VA
Basic current:	10A
Max. current :	100A
Min. current:	0.5A
Starting current :	0.02A
Over-current:	30 x I _{max} for 0.01s
L-N voltage:	100 to 289V a.c. (not for 3p3w supplies)
L-L Voltage:	173 to 500V a.c. (3p supplies only)
Frequency:	50Hz (MID version) 50/60Hz (non-MID version)
Accuracy:	
active energy	Class 1 (IEC62053-21)/Class B(EN50470-3)
Reactive energy	Class 2 (IEC62053-23)
Voltage	0.5% of range maximum
Current	0.5% of nominal
Frequency	0.2% of mid-frequency
Power factor	1% of unity (0.01)
Active power (W)	±1% of range maximum Reactive power (VA) ±1% of range maximum
Apparent power (VA)	±1% of range maximum

Environmental specifications	
Operating temperature	-25°C to +55°C
Storage temperature	-30°C to +80°C
Relative humidity	0 to 90%, non-condensing @40°C
Altitude	Up to 2000m
Mechanical environment	M2
Electromagnetic environment	E2

Output specifications	
Three interfaces are available:	
Modbus RS485 port output	(SDM54-M, SDM54-2T, SDM54-DI)
M-Bus port output	(SDM54-MB, SDM54-MB-2T)
two Pulse outputs	

Modbus RS485 port output	
Baud rate:	2400, 4800, 9600(default), 19200, 38400
Parity:	none /odd/even
Stop bits:	1 or 2
RS485 address:	001 to 247
Response time:	<80mS
Transmission distance:	1000m

M-Bus port output	
Baud rate:	300, 600, 1200, 2400, 4800, 9600
Parity:	even/odd
Stop bits:	1 or 2
M-Bus primary address:	001 to 250
M-Bus Secondary address:	same as the serial number of the meter

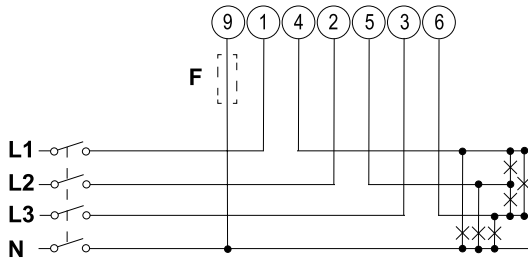
Pulse Output	
The unit provides two pulse outputs indicating real-time measured energy. Pulse output 1 is configurable; Pulse output 2 is fixed with constant 400imp/kWh. Both pulse outputs are passive type.	
Pulse output 1	is configurable. Default setting is exp-kWh; 100mS, constant 400imp/kWh
Pulse output 2	is non-configurable. It is fixed up with active kWh. The constant is 400imp/kWh.

Mechanics specifications	
DIN rail dimensions	54x100x67.5mm(WxHxD)
Mounting	DIN Rail 35mm
Ingress protection	IP51 front panel (indoor)
Material	Self-extinguishing UL94 V-0
Weight	265g

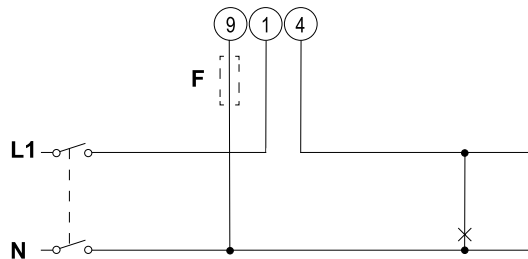
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Wiring Configuration

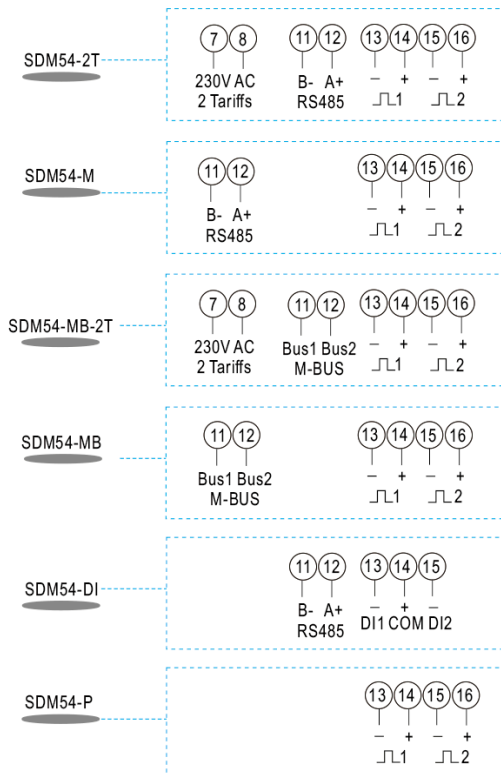
• Three Phase Four Wires:



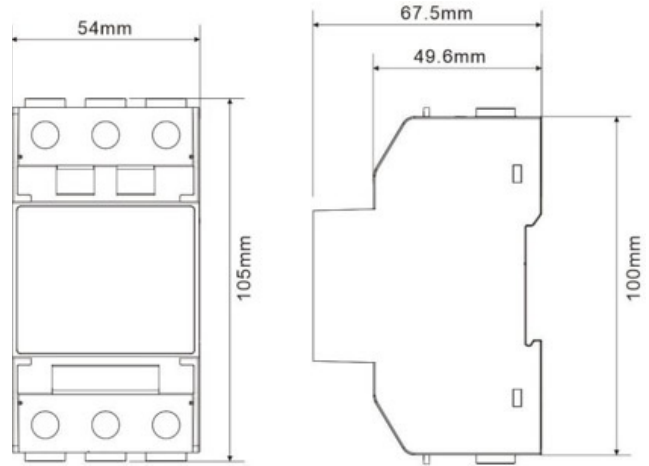
• Single Phase Two Wires:



• Other terminals



Dimension Drawing



Ordering options

The SDM54 Series are smart three phase energy meters, covering 3 models with following features and differences:

Model	Measurements	Outputs	Tariff Control
SDM54--2T	kWh, kVarh, W, Var, VA, PF, Hz, V,	2x Pulse outputs; RS485 Modbus	Double tariffs
SDM54-M	A, Max.dmd. Etc.	2x Pulse outputs; RS485 Modbus	Single tariff
SDM54-DI	kWh, kVarh, W, Var, VA, PF, Hz, V,	2x Digital inputs; RS485 Modbus	Single tariff
SDM54-MB-2T	A, Max.dmd. Etc.	2x Pulse outputs; M-Bus	Double tariffs
SDM54-MB	kWh, kVarh, W, Var, VA, PF, Hz, V,	2x Pulse outputs; M-Bus	Single tariff
SDM54-P	A, Max.dmd. Etc.	2x Pulse outputs	Single tariff

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