

# SINGLE-PHASE ENERGY METER

## EASTRON SDM120

### Single-phase smart DIN-rail energy meter

Item code **M0001/M0003**

- › 45A direct connect or 100mV CT
- › One module 17.5mm wide
- › Measure kWh, W, V, A, PF, Hz
- › Bi-directional measurement for Import/Export
- › 2 Pulse outputs
- › RS485 Modbus communication



## FEATURES



### Direct connect or CT options

- › 45A direct connect option is ideal for capturing smaller loads
- › 100mV CT option enables accurate measurement of loads up to 600A

### Single module (17.5mm) wide

- › Narrow profile suits switchboards with very limited space

This series has been assessed and certified as meeting the requirements of EC Directive 2004/22/EC.

The EC Type Examination Certificate Number is 0120/SGS0141.

**M0001 - SDM120**  
45A direct connect

**M0003 - SDM120 CT**



## DESCRIPTION

The SDM120 is an advanced single-phase energy meter that solves a wide range of sub-metering and monitoring scenarios where switchboard space is at a premium. Bi-directional energy measurement for import and export enables solar PV energy metering.

With an extremely slim DIN-rail profile, direct connect and CT options, built-in configuration push button, LCD data display, the SDM 120 is the ideal sub-metering solution.

The meter measures a broad range of electrical parameters in single-phase residential and commercial environments.

The blue back-lighted LCD screen displays important measurements including active energy (kWh), reactive energy (kVarh), active power (W), reactive power (Var), apparent power (VA), voltage (V), current (A), power factor, demand and frequency.

# SPECIFICATIONS

Nominal voltage(Un)	> 120V or 230V ac	M0001	
Operational voltage	> 80%~120% of Un	Basic current (Ib)	> 5A
Insulation capabilities	> AC voltage withstand > 4KV for 1 minute > Impulse voltage withstand > 6KV-1.2μS	Maximum rated current (Imax)	> 45A
Operational frequency range	> 50 / 60Hz	Operational current range	> 0.4% Ib-Imax
Pulse output 1	> Configurable	M0003	
Pulse output 2	> 1000imp/kWh	Primary current	> 5~9999A
Display	> LCD with backlight	Secondary input	> 100mV
Max reading	> 999999 kWh	Over current withstand	> 20 Imax for 0.01s

# PERFORMANCE CRITERIA

Operating humidity	> ≤ 90%	Degree of pollution	> 2
Electromagnetic environment	> E2	Protection against penetration of dust and water	> IP51(indoor)
Operating temperature	> -25°C - +55°C	Insulating encased meter of protective class	> II
Storage temperature	> -40°C - +70°C	Altitude	> up to 2000m
Reference temperature	> 23°C± 2°C	Electrostatic discharges	> 8kV contact / 15kV air gap
International standard	> IEC 62053-21 / EN50470-1/3	Electromagnetic HF fields	> IEC 61000-4-3
Accuracy class	> Class1/Class B	Electrical fast transients	> 4kV
Installation category	> CAT II	Surge	> 4kV
Mechanical environment	> M1	Radiated & conducted emissions	> EN 55022
Storage humidity	> ≤ 95%		

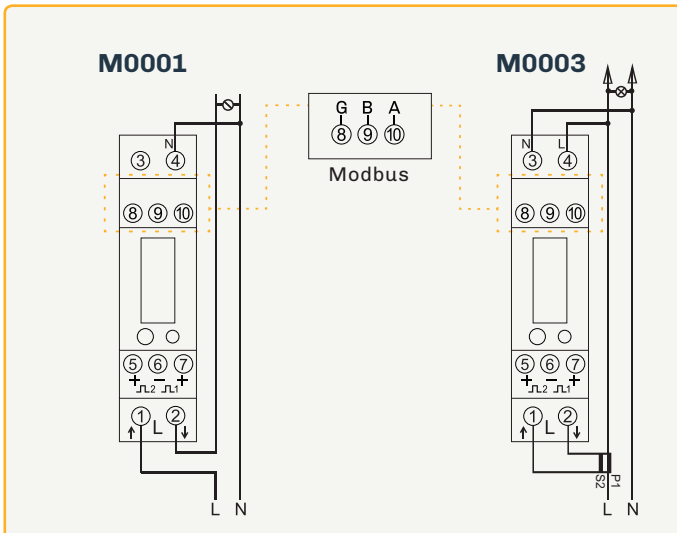
# ACCURACY

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

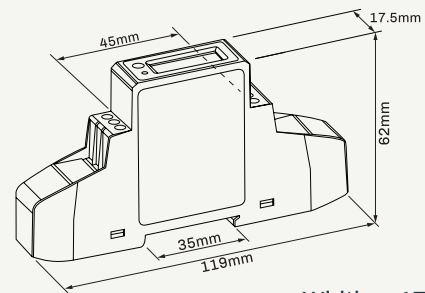
# MODBUS

Bus type	> RS485 (half-duplex, 2 wire)
Protocol	> Modbus RTU
Baud rate	> 1200/2400/4800/9600bps
Address range	> 1-247
Max. Bus loading	> 64pcs
Communication distance	> 1000m
Parity	> EVEN/ODD/NONE

# WIRING DIAGRAM



# DIMENSIONS



Width: 17.5mm  
Height: 62mm  
Depth: 119mm

M0001/M0003