Eastron Europe Limited
1 Ensign House, Admirals Way
London
E14 9XQ
Telephone: 0203 758 3494
www.eastroneurope.com

Data Sheet

2018 v1.0

SDM120-MBus
DIN Rail Multifunction Power Meter

- Single Phase System Supplies
- 45A Direct Connected
- MBus Communications
- Dual Pulsed Outputs
- Multifunction (kWh, V, A, PF etc)
- Digital Backlit Display

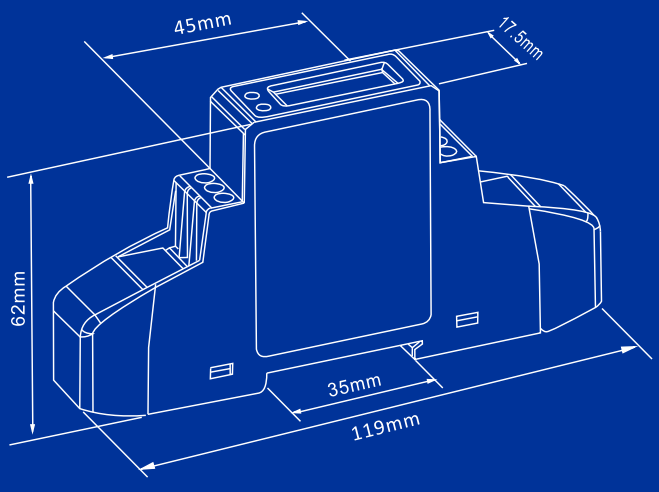
SDM120-Mbus
Single Phase kWh Meter

The SDM120 family of meters have been produced to offer a low-cost solution to metering low Amp circuits. The SDM120 range work directly connected to a maximum load 45A AC circuit.

This particular version of the SDM120 has Dual Pulsed Outputs as well as Built In MBus comms. The X45M measures a vast range of parameters, including Voltage, Current, Power Factor & Active Energy.

All SDM120 meters are housed in a 1 Module DIN rail-mounted housing. They also come complete with sealable terminal covers to stop any tampering with the connections.

Dimensions



Measured Parameters

The SDM120M monitors and displays the following parameters of a single phase two wire (1p2w) system:

- Voltage (V)
- Current (A)
- Active Power (kW)
- Reactive Power (kVAr)
- Apparent Power (kVA)
- Power Factor (PF)
- Frequency (Hz)
- Import Active Energy (kWh)
- Export Active Energy (kWh)
- Total Active Energy (kWh)
- Import Reactive Energy (kVArh)
- Export Reactive Energy (kVArh)
- Total Reactive Energy (kVArh)

Voltage and Current

- Phase to Neutral Voltage - 176 to 276V AC
- Phase Current - Imin-Ib(Imax) 0.25-5(45)A AC

Power factor and Frequency and Max. Demand

- Frequency in Hz
- Instantaneous power:
- Power 0 to 3600 MW
- Reactive power 0 to 3600 MVAr
- Volt-amps 0 to 3600 MVA
- Maximum demanded power since last Demand reset Power factor

Energy Measurements

Imported/Exported active energy	0 to 99999.99 kWh
Imported/Exported reactive energy	0 to 99999.99 kVArh
Total active energy	0 to 99999.99 kWh
Total reactive energy	0 to 99999.99 kVArh

Measured Inputs

Nominal Voltage Input	(Ph+N) 176 to 276V
Max Continuous Voltage	120% of nominal
Nominal Input Current	5(45)A
Max Continuous Current	120% of nominal
Frequency	50Hz (±10%)

Accuracy

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 (VAr)	±1% of range maximum
Apparent power (VA)	±1% of range maximum
Active energy (Wh)	Class 1 IEC 62053-21
Reactive energy (VARh)	±1% of range maximum

Pulse Output

The meter provides two pulsed outputs, both pulsed outputs are passive type. The first pulsed output is configurable. The pulsed output can be set to read total / import / export/ kWh / kVarh. The pulse constant can be set to generate 1 pulse per: 0.001(default) /0.01/0.1/1kWh/kVarh. The second pulsed output is non-configurable. It is fixed to read total kWh.

Rate can be set to generate 1 pulse per:
0.001 = 1 Wh/VArh (default)
0.01 = 10 Wh/VArh
0.1 = 100 Wh/VArh
1 = 1 kWh/kVArh

Pulse width 200/100/60 ms.

M-Bus

The meter provides a M-bus port for remote communication. M-bus protocol is applied.

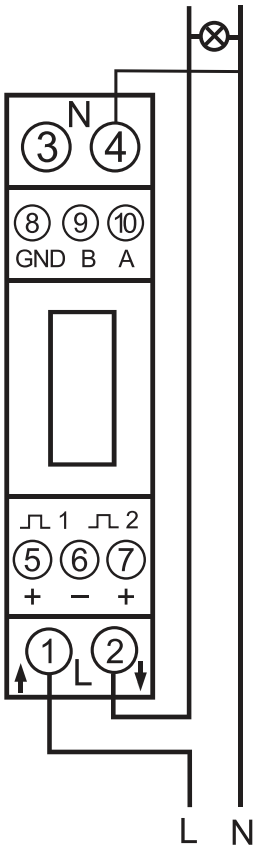
Baud rate 300, 2400, 4800, 9600.

Reference Conditions of Influence Quantities

Influence Quantities are variables that affect measurement errors to a minor degree. Accuracy is verified under nominal value (within the specified tolerance) of these conditions.

Ambient temperature	23°C ±1°C
Input waveform	50 or 60Hz ±2%
Input waveform	Sinusoidal (distortion factor < 0·005)
Auxiliary supply voltage	Nominal ±1%
Auxiliary supply frequency	Nominal ±1%
Auxiliary supply waveform (if AC)	Sinusoidal (distortion factor < 0·05)
Magnetic field of external origin	Terrestrial flux

Wiring Diagram



Environment

Operating temperature	-25°C to +55°C*
Storage temperature	-40°C to +70°C*
Relative humidity	0 to 95%, non-condensing
Altitude	Up to 3000m
Warm up time	1 minute
Vibration	10Hz to 50Hz, IEC 60068-2-6, 2g
Shock	30g in 3 planes

*Maximum operating and storage temperatures are in the context of typical daily and seasonal variation.

Mechanics

DIN rail dimensions	36mm x 90mm (WxH) per DIN 43880
Mounting	DIN rail (DIN 43880)
Sealing	IP51 indoor
Material	Self-extinguishing UL 94 V-0

Specifications are subject to change without notice.