

- Single Phase 5A Current Transformer operated
- MID B+D Certified
- Accuracy Class 1 (Active Energy)
- Bi-directional Measurement for kW and kWh
- Configurable Pulsed output (Import/ Export / Nett kWh)
- Modbus (SDM120CTModbus) or Mbus (SDM120CTMbus)
- Multi Parameter measurement
- Free Configuration Software

The SDM120 Series is an advanced multifunction single phase energy monitoring solution with optional outputs such as Pulsed, RS485 RTU Modbus and Mbus. Equipped with scroll display button for ease of navigation through the various parameters. Housed for DIN rail mounting, IP51 protection and current transformer operated 1/5A. Selectable measurement modes using our free configurations software for kWh display, Total kWh (Import + Export), Import kWh and Net kWh (Export - Import) Certified in the UK according to EU Directive 2014/32/EU. MID Certificate number 0120 / SGS0141.



## Specification table

| 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             | 1/5A AC Input                 |
| Over current withstand      | 20 I <sub>max</sub> for 0.01s |
| 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                    |

| Performance criteria                             |                            |
|--------------------------------------------------|----------------------------|
| Operating humidity                               | ≤ 90%                      |
| Storage humidity                                 | ≤ 95%                      |
| Operating temperature                            | -25°C - +55°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               |

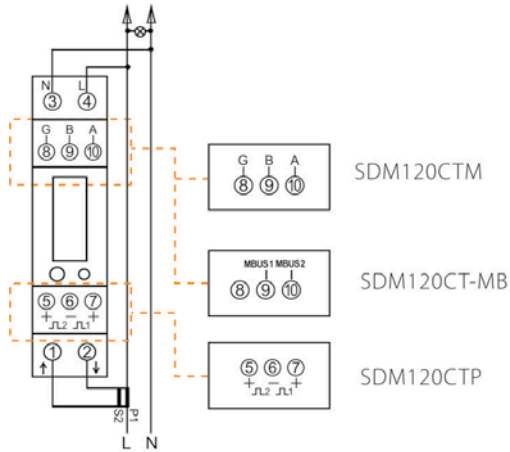
| Modbus                 |                        |
|------------------------|------------------------|
| Bus type               | RS485(semi-duplex)     |
| Protocol               | Modbus RTU             |
| Baud rate              | 1200/2400/4800/9600bps |
| Address range          | 1-247                  |
| 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         | 300/600/1200/2400/4800/9600 |
| Parity            | NONE/EVEN/ODD               |
| Stop bits         | 1 or 2                      |
| Primary Address   | 1 to 250                    |
| Secondary Address | 00 00 00 01 to 99 99 99 99  |

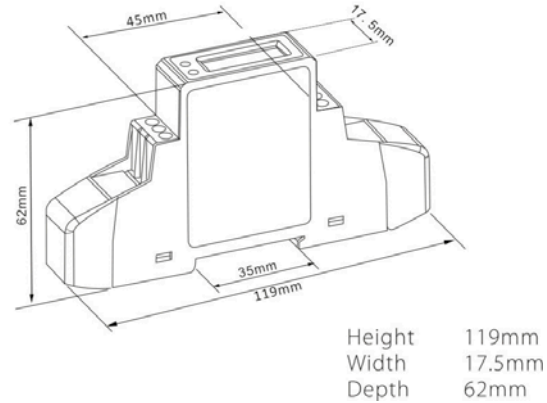
| Pulse output      |                             |
|-------------------|-----------------------------|
| Bus type          | M-bus                       |
| Protocol          | EN13757-3                   |
| Baud rate         | 300/600/1200/2400/4800/9600 |
| Parity            | NONE/EVEN/ODD               |
| Stop bits         | 1 or 2                      |
| Primary Address   | 1 to 250                    |
| Secondary Address | 00 00 00 01 to 99 99 99 99  |

## Datasheet

### Wiring Configuration



### Dimension Drawing



| Meter Type             | Description of Meter                                                                                                                                                                                                                                                                                                    |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SDM120CT-Modbus</b> | Single phase 2 wire, 120V or 230V AC, CT operated, 50/60Hz. Backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication. Measures active energy (kWh), reactive energy (kVarh), active power (W), reactive power (Var), apparent power (VA), voltage (V), current (A), power factor, demand and frequency etc. |

### Conformity References

**Electromagnetic Compatibility:** EN61326-1:2013 & EN61326-2-3:2013

**Low Voltage Directive:** EN61010-1-2010 & EN61010-2-30-2010

**MID DIRECTIVE:** 2014/32/EU