



# EASTRON

ISO9001:2015 & MID Approved  
National High-Tech Enterprise



## EASTRON

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**2017** PRODUCT CATALOG

# PROFESSIONAL MANUFACTURER OF METERS

## Eastron Electronic Instruments Co., Ltd.

ISO9001:2015 MID

Eastron Electronic Instruments Co., Ltd is one of the leading high-tech companies of electrical measurement instruments in China. We always specialize in R&D, production and sales of smart meters and solutions. With advanced technologies of intelligent meter, we have developed lots of series products with excellent performance.

Quality is highly valued, Eastron strictly follow ISO9001:2008 in operation, management. Eastron has obtained the MID (Measuring Instruments Directive) D from SGS for its production site. Eastron products had passed the European MID B, CE, ROHS 2.0 authentication and complied with relevant IEC, EN, and G/B standard. With high quality products and reliable services, Eastron has gained a good reputation among clients and partners in more than 50 countries.

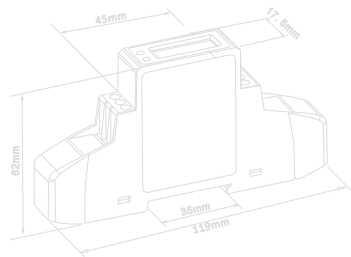
As one of the most reliable suppliers of meters in China for high quality, competitive price and excellent after-sales services, Eastron provides not only the existing products and services, we can also design and provide the products and services requested by customer. We are so proud of being favored by customers for our meters and solutions, especially for din rail energy meters, Panel power meters, Current transformers, relay and timers, Management Systems etc.

To meet the challenges of ever changing industry development, product design and manufacturing processes are constantly being improved, which makes Eastron keep its competitive edge in the market.

### Our Mission

"Create Value to and Grow Up with Our Partners". We strive to help our customer gain commercial advantage by consistently providing competitively-priced, high-quality products together with the best possible technical support. Moreover, we pride ourselves on focusing not only our customer's short-terms requirements but also on the long-terms needs of the marketplace. This drives us to give the best customer service in the industry and ensure completing customer satisfaction.

We warmly welcome YOU contacting with us.



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## What's MID.

The Measuring Instruments Directive (2014/32/EC) is a directive by the European Union, which seeks to harmonise many aspects of legal metrology across all member states of the EU. Its most prominent tenet is that all kinds of meters which receive a MID approval may be used in all countries across the EU.

## Which measuring instruments MID covers.

The MID covers these measuring instruments:

- > gas meters
- > meters for liquids other than water
- > meters for liquids other than water - ancillary equipment
- > material measures of length
- > continuous totalising weighing machines
- > electrical energy meters
- > Taximeters
- > measuring systems for liquids other than water Directive
- > automatic checkweighing and weight grading machines
- > hot-water meters Partial repeal
- > cold-water meters, as concerns clean water meters

## MID becomes the ONLY accepted European Legislation for 2016!

### Conditions of application

In the European Union, the use of MID-certificated meters on "Private" electrical networks has been mandatory in the context of active energy billing based on consumption reading by index differences. Typical examples include; camping sites ,holiday rentals, students accommodation, office building, shopping centers, marinas, exhibition halls, electric vehicle recharging station, etc.

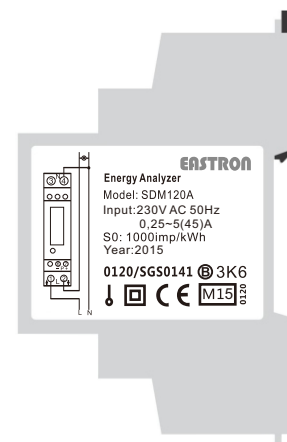
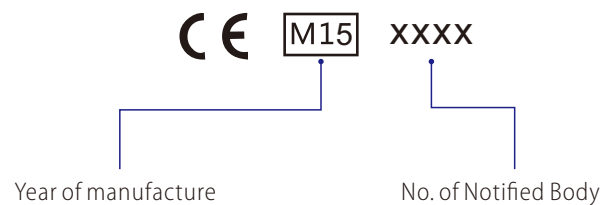
As the MID is applicable to all European Union Member States, certification of ammeter by a Notified Body(NB) means that no other testing by a national legal metrological service is required. So a MID certificated Eastron meter can be used as an active energy billing meter in all European Union countries.

The Directive also imposes product certification according to the EN50470-1/-3 standards, as well as design certification (Module B) and manufacturing process certification(Module D) by a Notified Body. In order to ensure product traceability and guarantee its metrological value, thus to protect consumers.

## What do measuring instruments that comply with the MID bear?

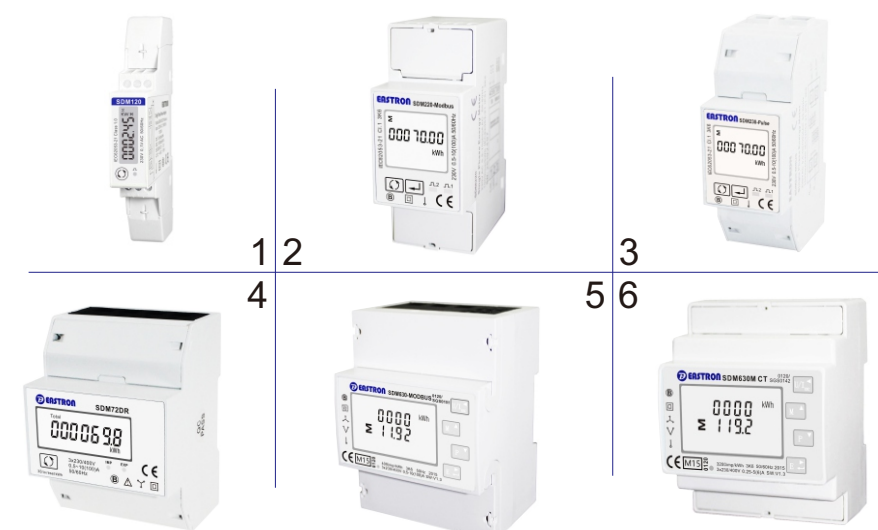
The measuring instruments that comply with the MID bear the marks:

- > the CE mark
- > a capital letter "M" and the last two digits of the year of its affixing, surrounded by a rectangle
- > the identification number of the notified body involved in conformity assessment



## Which products of us are MID approved by SGS.

Till present, Eastron has the MID approved models cover these items:



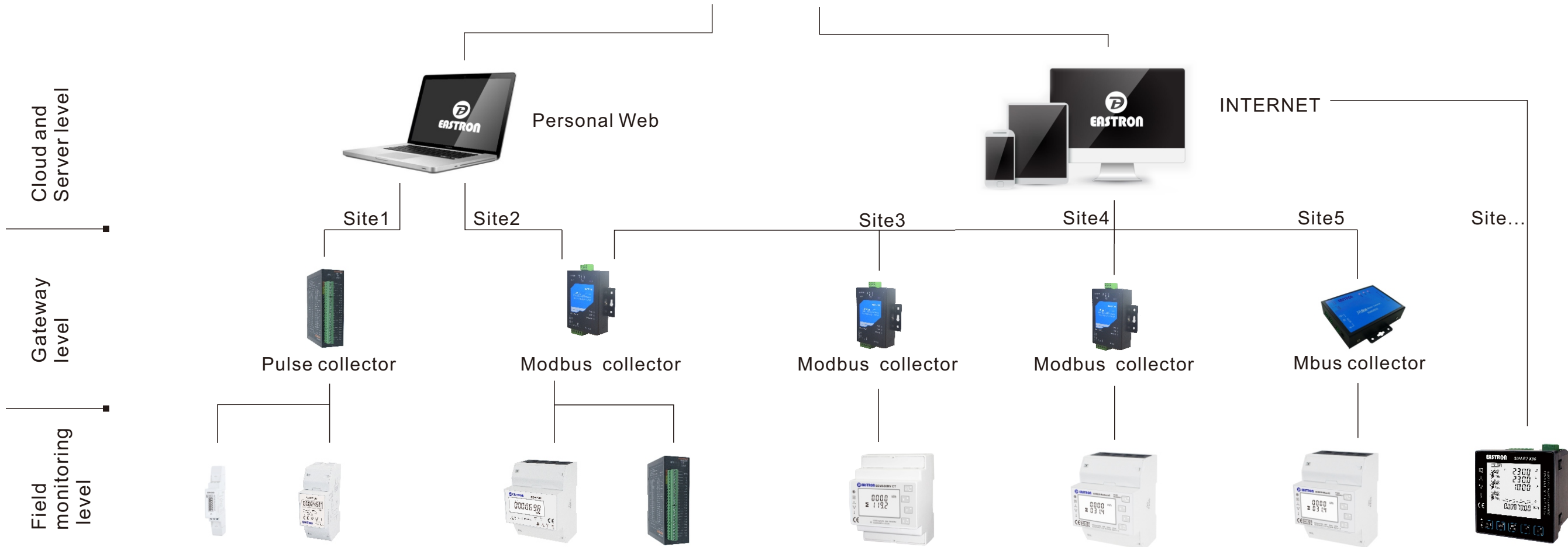
- |                       |         |
|-----------------------|---------|
| 1. SDM120 Series      | SGS0141 |
| 2. SDM220 Series      | SGS0172 |
| 3. SDM230 Series      | SGS0206 |
| 4. SDM72 Series       | SGS0213 |
| 5. SDM630 100A series | SGS0151 |
| 6. SDM630MCT series   | SGS0142 |

## Regulatory Context.

The Measuring Instruments Directive was published on 30 April 2004 in the Official Journal of the EU, but not applied until after 30 Oct 2006 and there will be a 10-year transition period. National implementations of the new legislation are currently in the works.



# Eastron Energy Management System



## > Description

In many residential and commercial buildings, the need to control and measure the energy consumption of single users is becoming more important for an accurate cost allocation. The accurate measurement of energy consumption is the first step in the collection and analysis of the information required for effective energy management. Information about the quality of the power used can improve on-site efficiency and facilitate troubleshooting in the case of any problem to the electrical installation.



Eastron Energy Monitoring and Management system (EEM system) provides all important electrical information so that operators can check power consumption records, identify consumption trends and take corrective action. By analyzing the energy consumption profile, operators can also aggregate loads and negotiate more favorable tariffs with utility companies. Alarm thresholds can be set to warn if preset limits are reached, so that corrective action can be taken. Real-time power consumption monitoring allows energy managers to anticipate overloads and avoid circuit breaks.

## > TCP Gateway

--This unit can accept 32/16 pulse signals and then transmit the measured data by RS485 port to PC. It can be used to count pulse of kwh, kVarh, or other pulse signals.

- |   |   |  |
|---|---|--|
| <br><b>EST485-P32/16</b><br>--Pulse Collector  | <br><b>ESP-2</b><br>--Modbus RTU to Modbus TCP converter   | <br><b>ESP-5</b><br>--M-bus to TCP converter  |
| <ul style="list-style-type: none"> <li>○ 16/32 Pulse inputs</li> <li>○ RS485 Modbus RTU output</li> <li>○ DIN Rail mounted</li> <li>○ 24VDC/220VAC power supply IP20</li> <li>○ Max. count: 4294967296</li> </ul> | <ul style="list-style-type: none"> <li>○ Modbus RTU to Modbus TCP converter</li> <li>○ 9~24V DC power supply</li> <li>○ RJ45 Ethernet port 10/100M</li> <li>○ Serial port: RS485/232</li> <li>○ Max. 4 serial port</li> <li>○ 1200~115200bps</li> <li>○ Max. 32 spot on one Bus line</li> </ul> | <ul style="list-style-type: none"> <li>○ 12VDC power supply</li> <li>○ RJ45 Ethernet port 10/100M</li> <li>○ M-bus load: 100mA / 200mA / 300mA</li> <li>○ 300~9600bps</li> </ul> |

**SDM120 Series** > Single Phase



| Model           | Specifications                   | Description                               | Size     |
|-----------------|----------------------------------|---|----------|
| SDM120A         | 230V,0.25~5(45)A,50/60Hz         | Energy(kWh), Pulse output                 | 1 Module |
| SDM120D/DB      | 230V / 110V ,0.25~5(45)A,50/60Hz | Energy(kWh), Pulse output                 | 1 Module |
| SDM120Modbus    | 230V / 110V ,0.25~5(45)A,50/60Hz | Multifunction, RS485 Modbus,Pulse outputs | 1 Module |
| SDM120CT-Modbus | 230V / 110V ,100mV CT, 50/60Hz   | Multifunction, RS485 Modbus,Pulse outputs | 1 Module |
| SDM120Mbus      | 230V,0.25~5(45)A,50/60Hz         | Multifunction, Mbus,Pulse outputs         | 1 Module |
| SDM120CT-Mbus   | 230V / 110V ,100mV CT, 50/60Hz   | Multifunction, Mbus,Pulse outputs         | 1 Module |

**SDM220 Series** > Single Phase



| Model          | Specifications                 | Description   | Size      |
|----------------|--------------------------------|---|-----------|
| SDM220Modbus   | 230V/110V,0.25~5(100)A,50/60Hz | Multifunction, RS485 Modbus, Pulse outputs            | 2 Modules |
| SDM220Mbus     | 230V,0.25~5(100)A,50/60Hz      | Multifunction, Mbus,Pulse outputs                     | 2 Modules |
| SDM220MT       | 230V,0.25~5(100)A,50/60Hz      | 4 tariffs, Multifunction, RS485 Modbus, Pulse outputs | 2 Modules |
| SDM220Pulse    | 230V/110V,0.25~5(100)A,50/60Hz | Multifunction, Pulse outputs                          | 2 Modules |
| SDM220Standard | 230V,0.25~5(100)A,50/60Hz      | Import /Export kWh, RS485 Modbus, Pulse outputs       | 2 Modules |

**SDM230 Series** > Single Phase



| Model          | Specifications                  | Description  | Size      |
|----------------|---------------------------------|--|-----------|
| SDM230A        | 230V,0.5~10(100)A,50/60Hz       | Energy(kWh), Pulse output                                | 2 Modules |
| SDM230D        | 230V/110V,0.5~10(100)A,50/60Hz  | Energy(kWh), Pulse output                                | 2 Modules |
| SDM230DR       | 230V/110V,0.5~10(100)A,50/60Hz  | Energy(kWh) and Power(KW),Energy Resetable, Pulse output | 2 Modules |
| SDM230Bi       | 230V/110V,0.5~10(100)A, 50/60Hz | import /Export kWh,KW,Energy Resetable,Pulse outputs     | 2 Modules |
| SDM230Modbus   | 230V/110V,0.5~10(100)A,50/60Hz  | Multifunction, RS485 Modbus,Pulse outputs                | 2 Modules |
| SDM230Mbus     | 230V,0.5~10(100)A,50/60Hz       | Multifunction, Mbus,Pulse outputs                        | 2 Modules |
| SDM230Pulse    | 230V,0.5~10(100)A,50/60Hz       | Multifunction, Pulse outputs                             | 2 Modules |
| SDM230Standard | 230V,0.5~10(100)A,50/60Hz       | Import / Export kWh, RS485 Modbus,Pulse outputs          | 2 Modules |
| SDM230-2T      | 230V,0.5~10(100), 50/60Hz       | 2 taliff, Multifunction, RS485 Modbus,Pulse output       | 2 Modules |

**SDM320 Series** > Single Phase



| Model   | Specifications                | Description                               | Size      |
|---------|-------------------------------|---|-----------|
| SDM320D | 230V,0.5~10(100)A,50/60Hz     | Energy(kWh), Pulse output                 | 4 Modules |
| SDM320E | 110/220V,0.5~10(100)A,50/60Hz | Energy(kWh), Pulse output                 | 4 Modules |
| SDM320M | 230V,0.5~10(100)A,50/60Hz     | Multifunction, RS485 Modbus,Pulse outputs | 4 Modules |

**SDM72 Series** > Three Phase



| Model   | Specifications   | Description   | Size      |
|---------|--|---|-----------|
| SDM72D  | 3X230(400)V,0.5~10(100)A, 50/60Hz<br>3X127(230)V,0.5~10(100)A, 50/60Hz | Energy(kWh), Pulse output                                 | 4 Modules |
| SDM72DR | 3X230(400)V,0.5~10(100)A,50/60Hz                                       | Energy(kWh) and Power(KW),Energy Resetable, Pulse output  | 4 Modules |
| SDM72BI | 3X230(400)V,0.5~10(100)A,50/60Hz                                       | import / Export kWh,Power, Energy Resetable,Pulse outputs | 4 Modules |

**SDM72 CT Series** > Three Phase



| Model      | Specifications                | Description   | Size      |
|------------|-------------------------------|---|-----------|
| SDM72CT-D  | 3X230/400V,0.25~5(6)A,50/60Hz | Energy(kWh), Pulse output                                 | 4 Modules |
| SDM72CT-DR | 3X230/400V,0.25~5(6)A,50/60Hz | Energy(kWh) and Power(KW),Energy Resetable, Pulse output  | 4 Modules |
| SDM72CT-BI | 3X230/400V,0.25~5(6)A,50/60Hz | import / Export kWh,Power, Energy Resetable,Pulse outputs | 4 Modules |

**SDM630 100A Series** > Three Phase



| Model          | Specifications                  | Description   | Size      |
|----------------|---------------------------------|---|-----------|
| SDM630Modbus   | 3X230/400V,0.5~10(100)A,50/60Hz | Multifunction, RS485 Modbus,Pulse outputs             | 4 Modules |
| SDM630Mbus     | 3X230/400V,0.5~10(100)A,50/60Hz | Multifunction, Mbus,Pulse outputs                     | 4 Modules |
| SDM630MT       | 3X230/400V,0.5~10(100)A,50/60Hz | 4 tariffs, Multifunction, RS485 Modbus ,Pulse outputs | 4 Modules |
| SDM630Pulse    | 3X230/400V,0.5~10(100)A,50/60Hz | Multifunction, Pulse outputs                          | 4 Modules |
| SDM630Standard | 3X230/400V,0.5~10(100)A,50/60Hz | Import /Export kWh, RS485 Modbus,Pulse outputs        | 4 Modules |

**SDM630 MCT Series** > Three Phase



| Model          | Specifications                        | Description  | Size      |
|----------------|---------------------------------------|--|-----------|
| SDM630MCT      | 3X230/400V,1A or 5A,50/60Hz           | Multifunction, RS485 Modbus, Pulse outputs                   | 4 Modules |
| SDM630MCT-Mbus | 3X230/400V,1A or 5A,50/60Hz           | Multifunction, Mbus, Pulse outputs                           | 4 Modules |
| SDM630MCT-2T   | 3X230/400V,1A or 5A,50/60Hz           | 2 Tariff, Multifunction , Mbus, Pulse outputs                | 4 Modules |
| SDM630MV CT    | 3X230/400V, 333mV CT,50/60Hz          | Multifunction, RS485 Modbus, Pulse outputs                   | 4 Modules |
| SDM630MCT-RJ   | 3X230(400)V,100mA or 333mV CT,50/60Hz | Plug-in Solution Multifunction, RS485 Modbus , Pulse outputs | 4 Modules |
| SDM630MCT-2L   | 3X230(400)V,100mA or 333mV CT,50/60Hz | Dual load, Multifunction, RS485 Modbus                       | 4 Modules |

**SDM630 2C Series** > Three Phase



| Model        | Specifications                | Description   | Size      |
|--------------|-------------------------------|---|-----------|
| SDM630 CT-2C | 3X230(400)V,1A or 5A,50/60Hz  | Dual load Multifunction, RS485 Modbus,Pulse outputs | 6 Modules |
| SDM630MV-2C  | 3X230(400)V,333mV CT, 50/60Hz | Dual load Multifunction, RS485 Modbus,Pulse outputs | 6 Modules |

**SDM530 Series** > Three Phase



| Model           | Specifications   | Description  | Size      |
|-----------------|--|--|-----------|
| SDM530D         | 3X230(400)V,0.5~10(100)A,50/60Hz<br>3X127(230)V,0.5~10(100)A,50/60Hz | Energy(kWh), Pulse output                              | 7 Modules |
| SDM530D-2T      | 3X230(400)V,0.5~10(100)A,50/60Hz                                     | 2 tariffs,Energy(kWh), Pulse output                    | 7 Modules |
| SDM530Modbus    | 3X230(400)V,0.5~10(100)A,50/60Hz                                     | Multifunction, RS485 Modbus, Pulse outputs             | 7 Modules |
| SDM530Mbus      | 3X230(400)V,0.5~10(100)A,50/60Hz                                     | Multifunction, Mbus, Pulse outputs                     | 7 Modules |
| SDM530MT        | 3X230(400)V,0.5~10(100)A,50/60Hz                                     | 4 tariffs, Multifunction, RS485 Modbus , Pulse outputs | 7 Modules |
| SDM530CT-Modbus | 3X230(400)V,5A,50/60Hz   | Multifunction, RS485 Modbus, Pulse outputs             | 7 Modules |
| SDM530CT-Mbus   | 3X230(400)V,5A,50/60Hz   | Multifunction, Mbus, Pulse outputs                     | 7 Modules |
| SDM530CT-MT     | 3X230(400)V,5A,50/60Hz   | 4 tariffs ,Multifunction, RS485 Modbus, Pulse outputs  | 7 Modules |



SMART X96 Series

> Three Phase



| Model       | Power Supply                      | Measurement   | Size  |
|-------------|-----------------------------------|---|-------|
| Smart X96-1 | 3x230(400)V AC, 100mA CT, 50/60Hz | Multifunction, 2~63rd IHD, Rs485 Modbus, Pulse output | 96x96 |
| Smart X96-5 | 3x230(400)V AC, 5A CT, 50/60Hz    | Multifunction, 2~63rd IHD, Rs485 Modbus, Pulse output | 96x96 |

SMART X835 Series

> Three Phase



| Model         | Power Supply                   | Measurement   | Size  |
|---------------|--------------------------------|---|-------|
| SMART X835S   | 3x230(400)V AC, 5A CT, 50/60Hz | Multifunction, Rs485 Modbus, Pulse output, DI & DO              | 72x72 |
| Smart X835B   | 3x230(400)V AC, 5A CT, 50/60Hz | Multifunction, 2~63rd IHD, Rs485 Modbus, Pulse output           | 96x96 |
| Smart X835-A0 | 3x230(400)V AC, 5A CT, 50/60Hz | Multifunction, 2~63rd IHD, Rs485 Modbus, Analog Output          | 96x96 |
| Smart X835 MT | 3x230(400)V AC, 5A CT, 50/60Hz | 4 Tariff, Multifunction, 2~63rd IHD, Rs485 Modbus, Pulse output | 96x96 |

SMART Connect X835 Series

> Three Phase



| Model                 | Power Supply                      | Measurement  | Size  |
|-----------------------|-----------------------------------|--|-------|
| Smart Connect X835 CT | 3x230(400)V AC, 5A CT, 50/60Hz    | Multifunction, RS485 Modbus, Pulse outputs, 31st THD | 96x96 |
| Smart Connect X835 MV | 3x230(400)V AC, 333mV CT, 50/60Hz | Multifunction, RS485 Modbus, Pulse outputs, 31st THD | 96x96 |

SMART X72 Series

> Three Phase



| Model        | Power Supply                      | Measurement  | Size  |
|--------------|-----------------------------------|--|-------|
| Smart X72 CT | 3x230(400)V AC, 5A CT, 50/60Hz    | Multifunction, RS485 Modbus, Pulse outputs, 31st THD | 72x72 |
| Smart X72 MV | 3x230(400)V AC, 333mV CT, 50/60Hz | Multifunction, RS485 Modbus, Pulse outputs, 31st THD | 72x72 |

SMART X302 Series

Three Phase >



| Model        | Power Supply           | Measurement           | Size         |
|--------------|------------------------|-----------------------|--------------|
| SMART X302A  | 85-265V AC/DC, 50/60Hz | Current (A) 0~9999A   | 72x72, 96x96 |
| SMART X302V  | 85-265V AC/DC, 50/60Hz | Voltage (V) 0-500V AC | 72x72, 96x96 |
| SMART X302Hz | 85-265V AC/DC, 50/60Hz | Frequency (Hz) 0~65Hz | 72x72, 96x96 |
| SMART X302W  | 85-265V AC/DC, 50/60Hz | Power (W) 0~9999W     | 72x72, 96x96 |

SMART X203 Series

Single Phase >



| Model        | Power Supply           | Measurement           | Size         |
|--------------|------------------------|-----------------------|--------------|
| SMART X203A  | 85-265V AC/DC, 50/60Hz | Current (A) 0~9999A   | 72x72, 96x96 |
| SMART X203V  | 85-265V AC/DC, 50/60Hz | Voltage (V) 0-500V AC | 72x72, 96x96 |
| SMART X203Hz | 85-265V AC/DC, 50/60Hz | Frequency (Hz) 0~65Hz | 72x72, 96x96 |
| SMART X203W  | 85-265V AC/DC, 50/60Hz | Power (W) 0~9999W     | 72x72, 96x96 |

ESCT-RJ Series

> 3-in-1



| Model      | Primary Current | Secondary Output      | Accuracy |
|------------|-----------------|-----------------------|----------|
| ESCT-RJ335 | 60~250A         | 333mV / 100mV / 100mA | 0.5 / 1  |
| ESCT-RJ345 | 250~630A        | 333mV / 100mV / 100mA | 0.25 / 1 |

ESCT-SC Series

> 3-in-1



| Model      | Primary Current          | Secondary Current | Accuracy |
|------------|--------------------------|-------------------|----------|
| ESCT-SC325 | 60,100,125,150,200A      | 5A / 1A           | 0.5 / 1  |
| ESCT-SC335 | 60,100,125,200,250A      | 5A / 1A           | 0.5 / 1  |
| ESCT-SC345 | 250,300,400,500,600,630A | 5A / 1A           | 0.5 / 1  |

ESCT-C Series

> 3-in-1



| Model     | Primary Current          | Secondary Current | Accuracy |
|-----------|--------------------------|-------------------|----------|
| ESCT-C325 | 60,100,125,150,200A      | 5A / 1A           | 0.5 / 1  |
| ESCT-C335 | 60,100,125,200,250A      | 5A / 1A           | 0.5 / 1  |
| ESCT-C345 | 250,300,400,500,600,630A | 5A / 1A           | 0.5 / 1  |

ESCT-B Series

> Split Core



| Model     | Primary Current                      | Secondary Current | Accuracy |
|-----------|--------------------------------------|-------------------|----------|
| ESCT-B23  | 100,200,250,300,400A                 | 5A / 1A           | 0.5 / 1  |
| ESCT-B58  | 250,300,400,500,600,750,800,1000A    | 5A / 1A           | 0.5 / 1  |
| ESCT-B88  | 200,300,400,500,600,750,800,1000A    | 5A / 1A           | 0.5 / 1  |
| ESCT-B812 | 500,600,750,800,1000,1200,1250,1500A | 5A / 1A           | 0.5 / 1  |
| ESCT-B816 | 1000,1500,2000,3000,4000,5000A       | 5A / 1A           | 0.5 / 1  |

ESCT-T Series

> Split Core



| Model    | Primary Current              | Secondary Current | Accuracy |
|----------|------------------------------|-------------------|----------|
| ESCT-T24 | 100,150,200,250,300A         | 5A / 1A           | 0.5 / 1  |
| ESCT-T36 | 100,150,200,300,400,500,600A | 5A / 1A           | 0.5 / 1  |

ESCT-TU Series

> Split Core



| Model     | Primary Current      | Secondary Current     | Accuracy |
|-----------|----------------------|-----------------------|----------|
| ESCT-TU10 | 5,10,20,50,75 A      | 333mV / 100mV / 100mA | 0.5 / 1  |
| ESCT-TU16 | 5,10,50,100,150 A    | 333mV / 100mV / 100mA | 0.5 / 1  |
| ESCT-TU24 | 10,50,100,250,300A   | 333mV / 100mV / 100mA | 0.5 / 1  |
| ESCT-TU36 | 20,100,250,400,600 A | 333mV / 100mV / 100mA | 0.5 / 1  |

**ESCT-U Series** > Split Core



| Model     | Primary Current                   | Secondary Current | Accuracy |
|-----------|-----------------------------------|-------------------|----------|
| ESCT-U75  | 5,10,50,75,100,125,150,200 A      | 333mV             | 0.5 / 1  |
| ESCT-U125 | 50,100,125,200,250,400,600,630A   | 333mV             | 0.5 / 1  |
| ESCT-U200 | 100,250,400,630,800,1000,2000A    | 333mV             | 0.5 / 1  |
| ESCT-U250 | 200,250,400,630,1500,2500,3000A   | 333mV             | 0.5 / 1  |
| ESCT-U300 | 400,800,1000,1500,2500,3000,5000A | 333mV             | 0.5 / 1  |

**ESCT-RC Series** > Rogowski Coil



| Model      | Primary Current | Secondary Output | Accuracy |
|------------|-----------------|------------------|----------|
| ESCT-RC60  | 100A            | 333mV / 100mV    | 0.5 / 1  |
| ESCT-RC76  | 200A            | 333mV / 100mV    | 0.5 / 1  |
| ESCT-RC90  | 400A            | 333mV / 100mV    | 0.5 / 1  |
| ESCT-RC100 | 800A            | 333mV / 100mV    | 0.5 / 1  |
| ESCT-RC150 | 1000A           | 333mV / 100mV    | 0.5 / 1  |
| ESCT-RC160 | 1200A           | 333mV / 100mV    | 0.5 / 1  |
| ESCT-RC190 | 3000A           | 333mV / 100mV    | 0.5 / 1  |
| ESCT-RC200 | 5000A           | 333mV / 100mV    | 0.5 / 1  |
| ESCT-RC300 | 6000A           | 333mV / 100mV    | 0.5 / 1  |

**ESCT-ABO Series** > Solid Core



| Model      | Primary Current                       | Secondary Output | Accuracy   |
|------------|---------------------------------------|------------------|------------|
| ESCT-AB030 | 50,60,75,80,100,150,200,250,300A      | 5A               | 0.55 / 0.5 |
| ESCT-AB040 | 75,80,100,150,200,250,300,400,500A    | 5A               | 0.55 / 0.5 |
| ESCT-AB060 | 200,250,300,400,500,600,750,800,1000A | 5A               | 0.55 / 0.5 |

**ESCT-DM Series** > Solid Core



| Model        | Primary Current                       | Secondary Output | Accuracy |
|--------------|---------------------------------------|------------------|----------|
| ESCT-DM20/30 | 50,60,75,80,100,125,150,200,250,300 A | 5A               | 1        |
| ESCT-DM35    | 50,60,75,80,100,125,150,200,250,300 A | 5A               | 1        |

**ESRD TMS Series** > Digital multifunction time relay



| Model     | Specifications        | Description   | Size     |
|-----------|-----------------------|---|----------|
| ESRD-TMS1 | AC/DC 24-240V,50/60Hz | 1C/O+1NO contacts, 0s-99h59min59sec, Backlit, LCD display   | 2 Module |
| ESRD-TMS2 | AC/DC 24-240V,50/60Hz | 1C/O+1NO contacts, 0-9999s, 0-9999min, Backlit, LCD display | 2 Module |

**ESRD TPA Series** > Single channel astronomical time switch



| Model     | Specifications     | Description  | Size     |
|-----------|--------------------|--|----------|
| ESRD-TPA1 | AC220-240V,50/60Hz | Single Channel,40 programs, LCD display, Holiday mode, Automatic | 2 Module |

**ESRD TPW Series** > Digital weekly time switch



| Model     | Specifications        | Description  | Size     |
|-----------|-----------------------|--|----------|
| ESRD-TPW1 | AC220-240V,50/60Hz    | Single Channel,40 programs, LCD display, Holiday mode, Automatic   | 2 Module |
| ESRD-TPW2 | AC/DC 24-264V,50/60Hz | Double Channel,100 programs, Backlit, LCD, Holiday mode, Automatic | 2 Module |

**ESRD ST1 Series** > Twilight switch



| Model    | Specifications    | Description                                      | Size     |
|----------|-------------------|--|----------|
| ESRD-ST1 | 230V,50/60Hz, 1NO | Fixed switching on and off delay, LED indication | 2 Module |

**ESRSTM Series** > Multifunction time relay



| Model     | Specifications                           | Description                                       | Size     |
|-----------|--|---|----------|
| ESRS-TM11 | AC 220V,50/60Hz                          | 10 operating modes,10 time ranges, LED indication | 1 Module |
| ESRS-TM12 | A1-A2:AC220V; A3-A2 ; AC / DC24V,50/60Hz | 10 operating modes,10 time ranges, LED indication | 1 Module |
| ESRS-TM14 | AC/DC 12-240V,50/60Hz                    | 10 operating modes,10 time ranges, LED indication | 1 Module |
| ESRS-TM23 | AC/DC 24-240V,50/60Hz                    | 10 operating modes,10 time ranges, LED indication | 1 Module |

**ESRSTSL Series** > Staircase light timer



| Model    | Specifications | Description                                    | Size     |
|----------|----------------|--|----------|
| ESRS-TSL | 230V,50/60Hz   | 3 operation modes, 3 wire or 4 wire connection | 1 Module |



## SDM120 Modbus / Mbus

SINGLE PHASE MULTI-FUNCTION ENERGY METER

- 45A direct load
- One module 17.5mm wide
- Measuring kWh, W, V, A, PF, Hz, dmd. etc.
- Bi-directional measurement
- 2 Pulse outputs
- Rs485 Modbus or M-bus communication



### Introduction

SDM120 Modbus/Mbus are advanced single phase energy monitoring solution with built-in configuration push button and LCD data displaying, particularly indicated for energy and other parameters metering and for cost allocation. Housing for DIN-rail mounting, IP51 protection degree, direct connection up to max 45A. Moreover the meter can provide with a pulse output proportional to the active energy being measured and a RS485 output/ M-bus output port for remote monitoring. It is an ideal choice as a sub-meter for AMR system or SCADA system.

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.

| 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          |
| Basic current (Ib)           | 5A                 |
| Maximum rated current (Imax) | 45A                |
| Operational current range    | 0.4% Ib-Imax       |
| Over current withstand       | 30 Imax for 0.01s  |
| Operational frequency range  | 50 / 60Hz          |
| Internal power consumption   | ≤ 2W/10VA          |
| Pulse output                 | 1000imp/kWh        |
| Display                      | LCD with backlight |
| Max reading                  | 99999.9 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                         |
| Aititude   | 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      |                       |
|-------------------|-----------------------|
| Pulse outputs     | 2                     |
| Pulse output type | Passive               |
| Pulse Output 1    | Configurable          |
| Pulse width       | 200/100(default)/60ms |
| Pulse output 2    | 1000imp/kWh           |



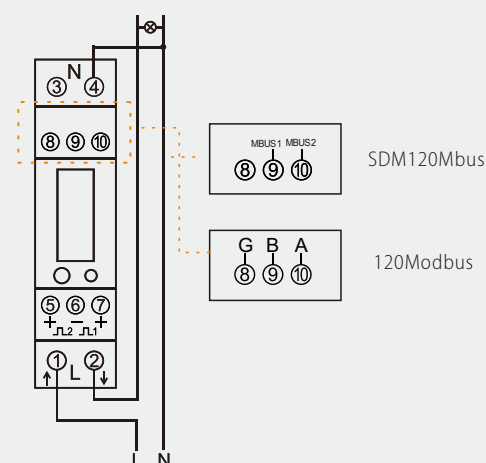
### SDM120Modbus

Single phase 2 wire, 120V or 230V AC, 0.25~5(45)A, 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.

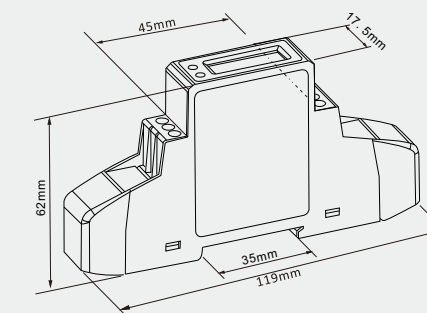
### SDM120Mbus

Single phase 2 wire, 120V or 230V AC, 0.25~5(45)A, 50/60Hz, backlighted LCD display, 2 Pulse outputs, M-bus EN13757-3 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.

### Wiring diagram



### Dimensions



Height 119mm  
Width 17.5mm  
Depth 62mm





## SDM120CT Modbus / Mbus

SINGLE PHASE MULTI-FUNCTION ENERGY METER

- CT operated
- One module 17.5mm wide
- Measuring 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 showing the energy and other important electric parameters measured. Moreover the meter can provide with 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 load.

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/SG50141.



#### SDM120CT-Modbus

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.

#### SDM120CT-Mbus

Single phase 2 wire, 120V or 230V AC, CT operated, 50/60Hz. Backlighted LCD display, 2 Pulse outputs, M-bus EN13757-3 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.

| 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             | 100mV or 100mA                |
| 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                    |

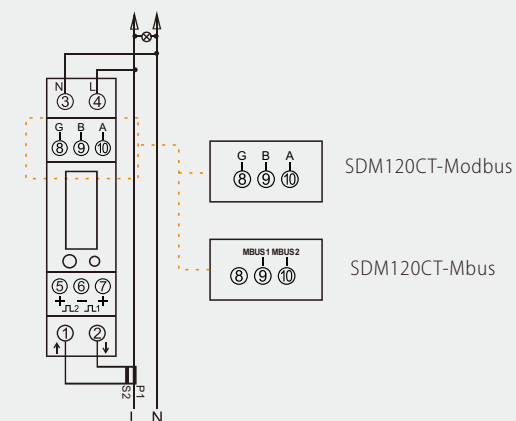
| Performance criteria                             |                            |
|--|----------------------------|
| Operating humidity                               | ≤ 90%                      |
| Storage humidity                                 | ≤ 95%                      |
| Operating temperature                            | -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                         |
| Aititude   | 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               |

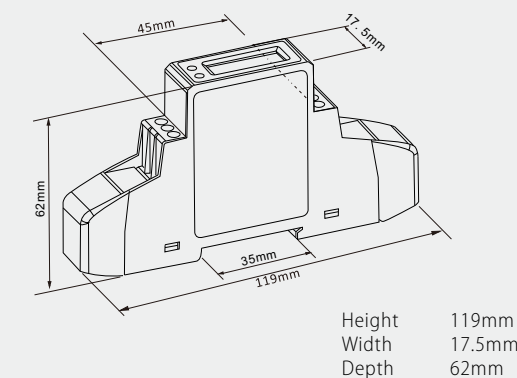
| Modbus                 |                        |
|------------------------|------------------------|
| Bus type               | RS485(semi-duplex)     |
| Protocol               | Modbus RTU             |
| Baud rate              | 1200/2400/4800/9600bps |
| Address range          | 1-247                  |
| 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  |

### Wiring diagram



### Dimensions





## SDM220 Modbus / Mbus / MT / Std / Pulse

SINGLE PHASE MULTI-FUNCTION ENERGY METER

- 100A direct load
- 2 module 36mm wide
- Multi-measurement:kWh,kVarh,W,Var,VA,PF,HZ,dmd,V,A,etc.
- Bi-directional measurement
- 2 Pulse outputs
- RS485 Modbus or M-bus communication
- Multi-tariffs



### Introduction

SDM220 series is an advanced digital single phase multi-function energy meter, which measures up to 100A direct load. The unit measures active energy, reactive energy, current, voltage, power, power factor, frequency, demand, etc. Bi-directional measurement makes this unit an ideal choice for Solar PV measurement. A remote communication port is provided, RS485 Modbus RTU or M-bus EN13757-3 and Communication parameters are password protected in setup mode. User can check data and set up the meter via the buttons on the front panel.

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/SGS0172.

| Specification                |                   |
|------------------------------|-------------------|
| Nominal voltage(Un)          | 230V ac           |
| Operational voltage          | 80%~120% of Un    |
| Insulation capabilities      |                   |
| - AC voltage withstand       | 4KV for 1 minute  |
| - Impulse voltage withstand  | 6KV-1.2μS         |
| Basic current (Ib)           | 5A                |
| Maximum rated current (Imax) | 100A              |
| Operational current range    | 0.4% Ib-Imax      |
| Over current withstand       | 30 Imax for 0.01s |
| Operational frequency range  | 50 or 60Hz        |
| Internal power consumption   | ≤ 2W/10VA         |
| Pulse output 1               | configurable      |
| Pulse output 2               | 1000imp/kWh       |
| Max reading                  | 99999.9 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                         |

| Multi-tariff        |          |
|---------------------|----------|
| time clock accuracy | < 1s/day |
| Tariff              | 4        |
| Time segments       | 10       |

| 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      |                       |
|-------------------|-----------------------|
| Pulse outputs     | 2                     |
| Pulse output type | Passive               |
| Pulse Output 1    | Configurable          |
| Pulse width       | 200/100(default)/60ms |
| Pulse output 2    | 1000imp/kWh           |



### SDM220Mbus

Single phase 2 wire, 230V AC, 0.25~5(100)A , 50/60Hz.Backlighted LCD display, 2 Pulse outputs, M-bus, Measures total kWh,Imp\_kWh, Exp\_kWh etc.

### SDM220MT

Single phase 2 wire, 230V AC, 0.25~5(100)A , 50/60Hz.Backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication, Multi-tariffs Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

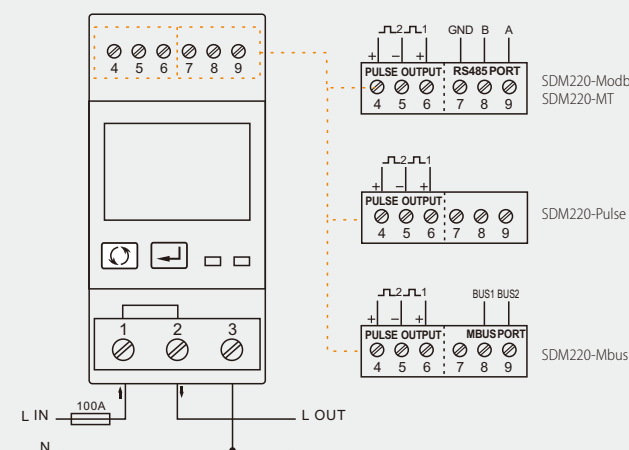
### SDM220Std

Single phase 2 wire, 230V AC, 0.25~5(100)A , 50/60Hz.Backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication Measures total kWh,Imp\_kWh, Exp\_kWh etc.

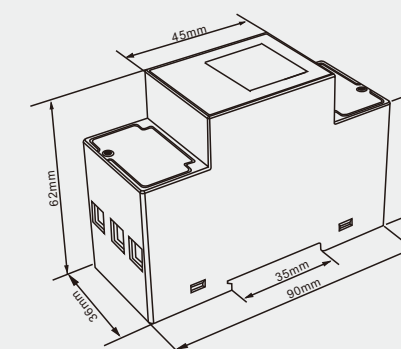
### SDM220Pulse

Single phase 2 wire, 230V AC, 0.25~5(100)A , 50/60Hz.Backlighted LCD display, 2 Pulse outputs Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

### Wiring diagram



### Dimensions



Height 90mm  
Width 36mm  
Depth 62mm



## SDM 230 Modbus / Mbus / 2T / Std / Pulse

SINGLE PHASE MULTI-FUNCTION ENERGY METER

- 100A direct load
- 2 module 36mm wide
- Multi-measurement: kWh, kVarh, W, Var, VA, PF, Hz, dmd, V, A, etc.
- Bi-directional measurement
- 2 Pulse outputs
- RS485 Modbus or M-bus communication
- 2 Tariffs available



### Introduction

SDM230 series is an advanced digital single phase multi-function energy meter, which measures up to 100A direct load. The unit measures active energy, reactive energy, current, voltage, power, power factor, frequency, demand, etc. Bi-directional measurement makes this unit an ideal choice for Solar PV measurement. A remote communication port is provided, RS485 Modbus RTU or M-bus EN13757-3 and Communication parameters are password protected in setup mode. User can check data and set up the meter via the buttons on the front panel. SDM230-2T can measure energy from two different power supplies.

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/SGS0206.

| 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                         |
| Basic current (Ib)           | 5A                                |
| Maximum rated current (Imax) | 100A                              |
| Operational current range    | 0.4% Ib-Imax                      |
| Over current withstand       | 30 Imax for 0.01s                 |
| Operational frequency range  | 50 or 60Hz                        |
| Internal power consumption   | ≤ 2W/10VA                         |
| Pulse output 1               | 1000imp/kWh                       |
| Pulse output 2               | 1000imp/kWh(only for SDM230DR/Bi) |
| Max reading                  | 99999.9 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                         |
| 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      |                       |
|-------------------|-----------------------|
| Pulse outputs     | 2                     |
| Pulse output type | Passive               |
| Pulse Output 1    | Configurable          |
| Pulse width       | 200/100(default)/60ms |
| Pulse output 2    | 1000imp/kWh           |



### SDM230Modbus

Single phase 2 wire, 230V AC, 0.5~10(100)A, 50/60Hz. Backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

### SDM230Mbus

Single phase 2 wire, 230V AC, 0.5~10(100)A, 50/60Hz. Backlighted LCD display, 2 Pulse outputs, M-bus EN13757-3 communication. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

### SDM230-2T

Single phase 2 wire, 230V AC, 0.5~10(100)A, 50/60Hz. Backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication, Multi-tariffs. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

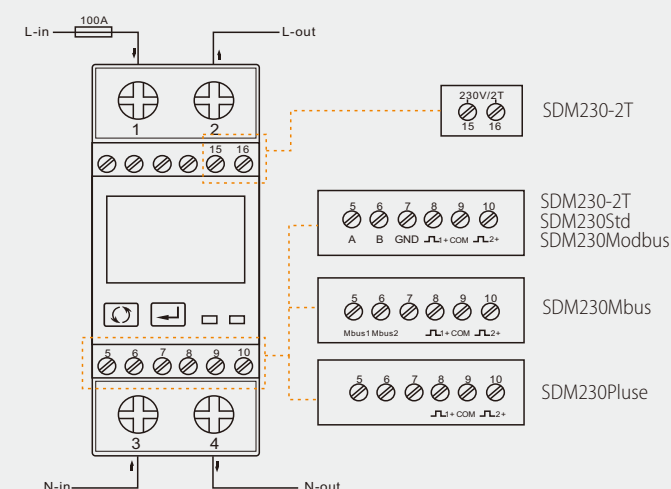
### SDM230Std

Single phase 2 wire, 230V AC, 0.5~10(100)A, 50/60Hz. Backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication. Measures total kWh, Imp\_kWh, Exp\_kWh etc.

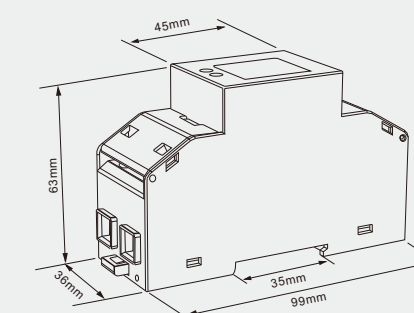
### SDM230Pulse

Single phase 2 wire, 230V AC, 0.5~10(100)A, 50/60Hz. Backlighted LCD display, 2 Pulse outputs. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

### Wiring diagram



### Dimensions



Height 99mm  
Width 36mm  
Depth 63mm





## SDM530 Modbus / Mbus / MT

THREE PHASE 4 WIRE MULTI-FUNCTION ENERGY METER

- 100A direct load
- 7 module wide
- Multi-measurement:kWh,kVarh,W,Var,VA,PF,HZ,dmd,V,A,etc.
- Bi-directional measurement
- 2 Pulse outputs
- RS485 Modbus or M-bus communication
- Multi-tariffs

### Introduction

The SDM530 100A series measure and display the characteristics of three phase four wires(3p4w) supplies, including voltage, frequency, current, power, active and reactive energy, imported or exported. Energy is measured in terms of kWh, kVarh. Maximum demand current can be measured over preset periods of up to 60 minutes. In order to measure energy, the unit requires voltage and current inputs in addition to the supply required to power the product.

SDM530 100A series support max.100A direct connection, save the cost and avoid the trouble to connect external CTs, giving the unit a cost-effective and easy operation. Built-in interfaces provides pulse and RS485 Modbus RTU outputs/ Mbus Port. All the configuration are password protected.



### SDM530Modbus

Three phase 4 wire, 3x230(400)V, 0.5~10(100)A, 50/60Hz, backlighted LCD display, 2 pulse outputs, RS485 Modbus RTU. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

### SDM530Mbus

Three phase 4 wire, 3x230(400)V, 0.5~10(100)A, 50/60Hz, backlighted LCD display, 2 pulse outputs, M-Bus EN13757-3 Communication. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

### SDM530MT

Three phase 4 wire, 3x230(400)V, 0.5~10(100)A, 50/60Hz, backlighted LCD display, 2 pulse outputs, RS485 Modbus RTU, RTC and Multi-tariffs. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

| Specification               |                               |
|-----------------------------|-------------------------------|
| Nominal voltage(Un)         | 3x230/400V ac                 |
| Operational voltage         | 80%~120% of Un                |
| Insulation capabilities     |                               |
| - AC voltage withstand      | 4KV for 1 minute              |
| - Impulse voltage withstand | 6KV-1.2μS                     |
| Basic current (Ib)          | 10A                           |
| Operational current range   | 0.4% Ib-I <sub>max</sub>      |
| Over current withstand      | 30 I <sub>max</sub> for 0.01s |
| Operational frequency range | 50 or 60Hz                    |
| Power consumption per phase | ≤ 2W/10VA                     |
| Display                     | LCD                           |
| Max reading                 | 999999.99 kWh/kVarh           |

| 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 III                    |
| 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                         |
| Electrostatic discharges                         | 8kV contact / 15kV air gap |
| Electromagnetic HF fields                        | IEC 61000-4-3              |
| Electrical fast transients                       | 4kV                        |

| Multi-tariff        |          |
|---------------------|----------|
| time clock accuracy | < 1s/day |
| Tariff              | 4        |
| Time segments       | 10       |

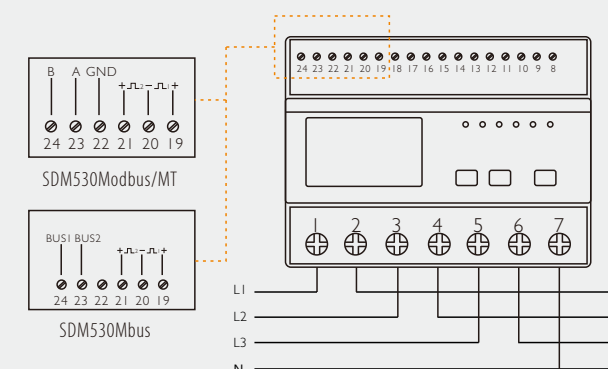
| Accuracy                      |                       |
|-------------------------------|-----------------------|
| Voltage,Current               | 0.5%                  |
| Frequency                     | 0.2% of mid-frequency |
| Power factor                  | 1% of unity (0.01)    |
| Active power , 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                      |

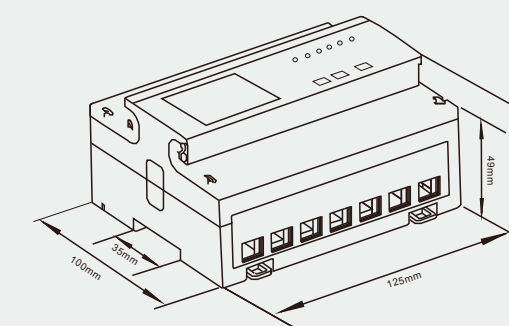
| M-bus             |                             |
|-------------------|-----------------------------|
| Bus type          | M-bus                       |
| Protocol          | EN13757-3                   |
| Baud rate         | 300/600/1200/2400/4800/9600 |
| Parity            | NONE/EVEN/ODD     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

| Pulse Output      |                       |
|-------------------|-----------------------|
| Pulse outputs     | 2                     |
| Pulse output type | Passive               |
| Pulse Output 1    | Configurable          |
| Pulse width       | 200/100(default)/60ms |
| Pulse output 2    | 400imp/kWh            |

### Wiring diagram



### Dimensions



Height 100mm  
Width 125mm  
Depth 65mm



## SDM530CT Modbus / Mbus / MT

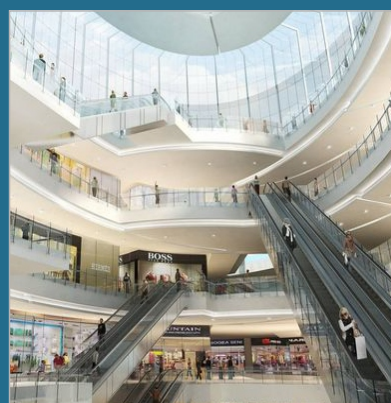
### THREE PHASE 4 WIRE MULTI-FUNCTION ENERGY METER

- 5A CT operated
- 7 module wide
- Multi-measurement:kWh,kVarh,W,Var,VA,PF,HZ,dmd,V,A,etc.
- Bi-directional measurement
- 2 Pulse outputs
- RS485 Modbus or M-bus communication
- Multi-tariffs

## Introduction

The SDM530 CT series measure and display the characteristics of three phase four wires(3p4w) supplies, including voltage, frequency, current, power, active and reactive energy, imported or exported. Energy is measured in terms of kWh, kVarh. Maximum demand current can be measured over preset periods of up to 60 minutes. In order to measure energy, the unit requires voltage and current inputs in addition to the supply required to power the product.

SDM530CT series can be configured to work with a wide range of CTs, giving the unit a wide range of operation. Built-in interfaces provides pulse and RS485 Modbus or Mbus. Configuration is password protected.



### SDM530CT-Modbus

Three phase 4 wire, 3x230(400)V, 0.25~5(6)A, 50/60Hz, backlit LCD display, 2 pulse outputs, RS485 Modbus RTU. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

### SDM530CT-Mbus

Three phase 4 wire, 3x230(400)V, 0.25~5(6)A, 50/60Hz, backlit LCD display, 2 pulse outputs, M-Bus EN13757-3 Communication. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

### SDM530CT-MT

Three phase 4 wire, 3x230(400)V, 0.25~5(6)A, 50/60Hz, backlit LCD display, 2 pulse outputs, RS485 Modbus RTU, Multi-tariffs. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

| Specification               |                               |
|-----------------------------|-------------------------------|
| Nominal voltage(Un)         | 3x230/400V ac                 |
| Operational voltage         | 80%~120% of Un                |
| Insulation capabilities     |                               |
| - AC voltage withstand      | 4KV for 1 minute              |
| - Impulse voltage withstand | 6KV-1.2μs                     |
| Basic current (Ib)          | 5A                            |
| Operational current range   | 0.4% Ib-I <sub>max</sub>      |
| Over current withstand      | 20 I <sub>max</sub> for 0.01s |
| Operational frequency range | 50 or 60Hz                    |
| Power consumption per phase | ≤ 2W/10VA                     |
| Display                     | LCD                           |
| Max reading                 | 999999.99 kWh/kVarh           |

| 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 III                    |
| 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                         |
| Electrostatic discharges                         | 8kV contact / 15kV air gap |
| Electromagnetic HF fields                        | IEC 61000-4-3              |
| Electrical fast transients                       | 4kV                        |

| Multi-tariff        |          |
|---------------------|----------|
| time clock accuracy | < 1s/day |
| Tariff              | 4        |
| Time segments       | 10       |

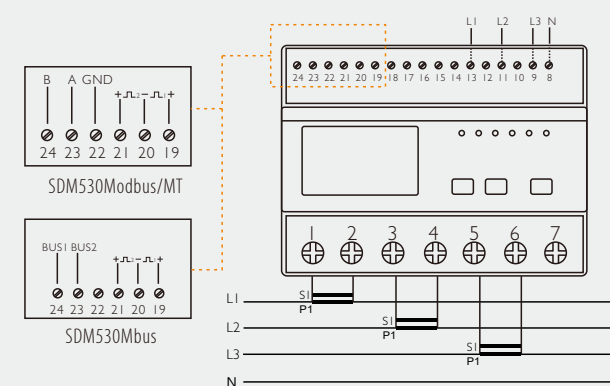
| Accuracy                      |                       |
|-------------------------------|-----------------------|
| Voltage,Current               | 0.5%                  |
| Frequency                     | 0.2% of mid-frequency |
| Power factor                  | 1% of unity (0.01)    |
| Active power , 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                      |

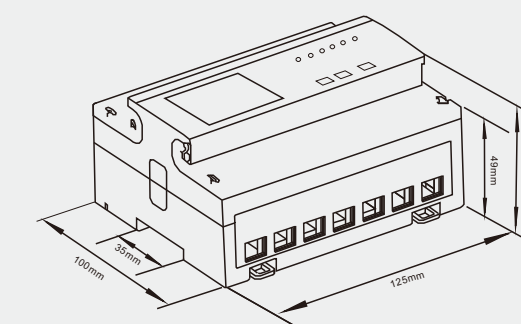
| M-bus             |                             |
|-------------------|-----------------------------|
| Bus type          | M-bus                       |
| Protocol          | EN13757-3                   |
| Baud rate         | 300/600/1200/2400/4800/9600 |
| Parity            | NONE/EVEN/ODD     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

| Pulse Output      |                       |
|-------------------|-----------------------|
| 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 100mm  
Width 125mm  
Depth 65mm



## SDM630 Modbus / Mbus / MT / Std / Pulse

### THREE PHASE MULTI-FUNCTION POWER ANALYZER

- 100A direct load
- Work with 3P4W / 3P3W / 1P2W
- 4 module wide
- Measures kWh, kVarh, W, Var, VA, PF, Hz, dmd, V, A, THD, etc.
- Bi-directional measurement
- 2 Pulse outputs
- RS485 Modbus or M-bus communication
- Multi-tariffs available



## Introduction

The SDM630 100A series is a three phase multifunction DIN rail meter. It can measure and display the characteristic of 1p2w, 3p3w and 3p4w supplies, including voltage, current, power, active and reactive energy imported or exported. Energy is measured in terms of kWh, kVarh. Max demand current can be measured over preset periods of up to 60 minutes. The SDM630 100A series has wonderful industrial design, big size LCD and touch buttons. All electronic parameters can be set with the button and the configuration is password protected. It can directly connect to 100A max. saving the cost to install external CT. Built-in interfaces provides pulse and RS485 Modbus RTU outputs.

SDM630 Series have been assessed and certified as meeting the requirements of EC Directive 2004/22/EC. The instrument traceable number is 0120/SG50151

| Specification               |                               |
|-----------------------------|-------------------------------|
| Nominal voltage(Un)         | 3x230/400V ac                 |
| Operational voltage         | 80%~120% of Un                |
| Insulation capabilities     |                               |
| - AC voltage withstand      | 4KV for 1 minute              |
| - Impulse voltage withstand | 6KV-1.2μs                     |
| Basic current (Ib)          | 10A                           |
| Operational current range   | 0.4% Ib-Imax                  |
| Over current withstand      | 30 I <sub>max</sub> for 0.01s |
| Operational frequency range | 50 or 60Hz                    |
| Power consumption per phase | ≤ 2W/10VA                     |
| Display                     | LCD                           |
| Max reading                 | 999999.99 kWh/kVarh           |

| 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 III                    |
| 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                         |
| Electrostatic discharges                         | 8kV contact / 15kV air gap |
| Electromagnetic HF fields                        | IEC 61000-4-3              |
| Electrical fast transients                       | 4kV                        |

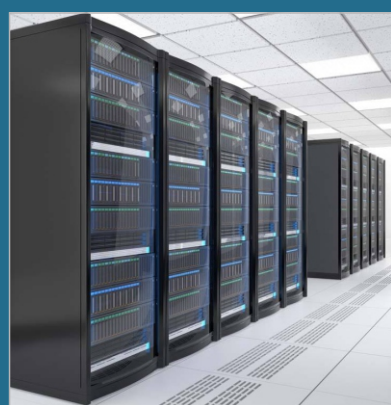
| Multi-tariff        |          |
|---------------------|----------|
| time clock accuracy | < 1s/day |
| Tariff              | 4        |
| Time segments       | 10       |

| 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              | 2400/4800/9600/19200/38400bps |
| 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      |                       |
|-------------------|-----------------------|
| Pulse outputs     | 2                     |
| Pulse output type | Passive               |
| Pulse Output 1    | Configurable          |
| Pulse width       | 200/100(default)/60ms |
| Pulse output 2    | 400imp/kWh            |



**SDM630Modbus** 3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 0.5~10(100)A, 50/60Hz, backlighted LCD display, 2 pulse outputs, RS485 Modbus RTU. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

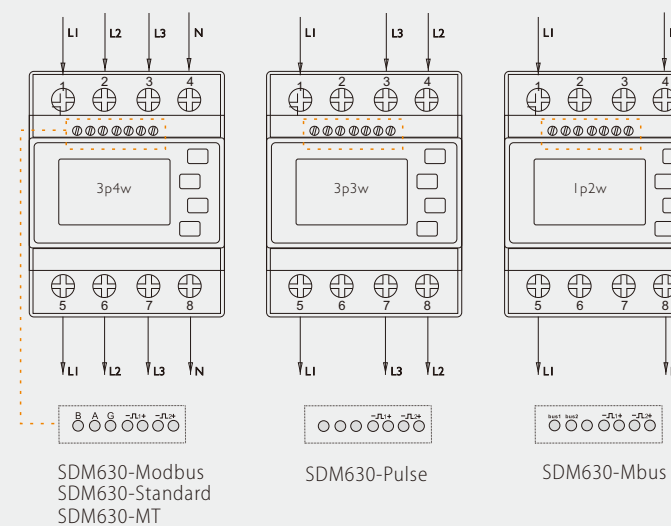
**SDM630M-Bus** 3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 0.5~10(100)A, 50/60Hz, backlighted LCD display, 2 pulse outputs, M-Bus EN13757-3 communication. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

**SDM630MT** 3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 0.5~10(100)A, 50/60Hz, backlighted LCD display, 2 pulse outputs, RS485 Modbus RTU, multi-tariffs. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

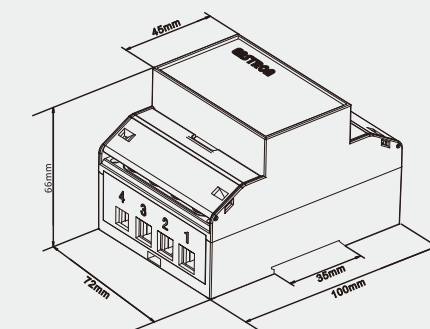
**SDM630Std** 3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 0.5~10(100)A, 50/60Hz, backlighted LCD display, 2 pulse outputs, RS485 Modbus RTU. Measures kWh, kVarh, Imp\_kWh, Exp\_kWh etc.

**SDM630Pulse** 3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 0.5~10(100)A, 50/60Hz, backlighted LCD display, 2 pulse outputs. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

## Wiring diagram



## Dimensions



Height 100mm  
Width 72mm  
Depth 66mm





## SDM630MCT Modbus/Mbus/2T/MV

THREE PHASE MULTI-FUNCTION POWER ANALYZER

- CT & PT operated
- Work with 3P4W / 3P3W / 1P2W
- 4 module wide
- Measures kWh, kVarh, W, Var, VA, PF, Hz, dmd, V, A, THD, etc.
- Bi-directional measurement
- 2 Pulse outputs
- RS485 Modbus or M-bus communication
- 2 Tariffs available



## Introduction

The SDM630M CT Series is a three phase multifunction DIN rail meter. It can measure and display the characteristic of 1p2w, 3p3w and 3p4w supplies, including voltage, current, power, active and reactive energy imported or exported. Energy is measured in terms of kWh, kVarh. Max demand current can be measured over preset periods of up to 60 minutes. In order to measure energy, the unit requires voltage and current inputs in addition to the supply required to the power the meter. The required current inputs are obtained via current transformers. This meter can be configurable to work with a wide range of CTs, giving the unit a wide range of operation. Build-in interface provides pulse and RS485 Modbus RTU outputs. And the configuration is password protected.

SDM630M CT Series have been assessed and certified as meeting the requirements of EC Directive 2014/32/EU. The instrument traceable number is 0120/SG50142



### SDM630MCT

3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 1A or 5A CT input, 50/60Hz, backlit LCD display, 2 pulse outputs, RS485 Modbus RTU. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

### SDM630MCT-Mbus

3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 1A or 5A CT input, 50/60Hz, backlit LCD display, 2 pulse outputs, M-Bus EN13757-3. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

### SDM630MCT-2T

3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 1A or 5A CT input, 50/60Hz, backlit LCD display, 2 pulse outputs, RS485 Modbus RTU, 2 Tariffs. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

### SDM630MCT-MV

3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 333mV CT input, 50/60Hz, backlit LCD display, 2 pulse outputs, RS485 Modbus RTU. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp\_kWh, Exp\_kWh etc.

| Specification               |                               |
|-----------------------------|-------------------------------|
| Nominal voltage(Un)         | 3x230/400V ac                 |
| Operational voltage         | 60%~120% of Un                |
| Insulation capabilities     |                               |
| - AC voltage withstand      | 4KV for 1 minute              |
| - Impulse voltage withstand | 6KV-1.2μs                     |
| Rated current (Ib)          | 5A CT or 333mV CT input       |
| Operational current range   | 0.4% Ib-Imax                  |
| Over current withstand      | 20 I <sub>max</sub> for 0.01s |
| Operational frequency range | 50 or 60Hz                    |
| Power consumption per phase | ≤ 2W/10VA                     |
| Pulse output 1              | Configurable                  |
| Pulse output 2              | 3200 imp/kWh                  |
| Display                     | LCD                           |
| Max reading                 | 9999999.9 kWh/kVarh           |

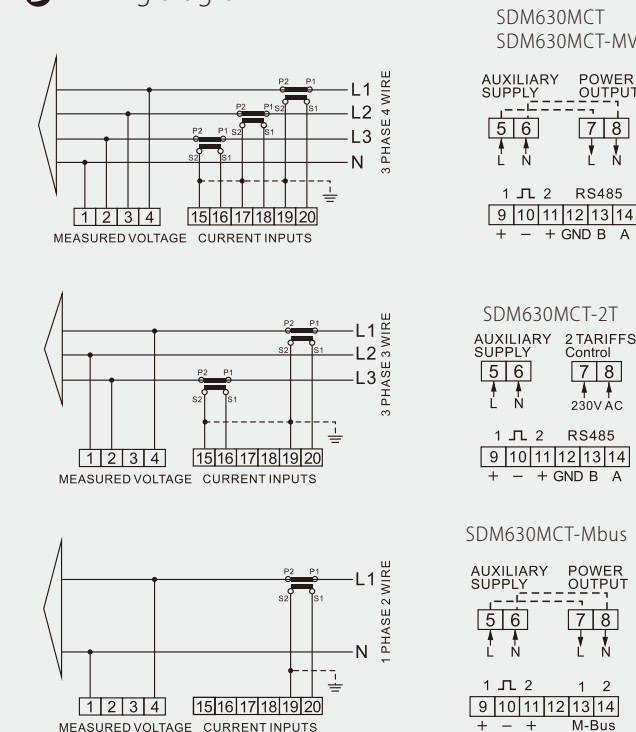
| Performance criteria                             |                            |
|--|----------------------------|
| Operating humidity                               | ≤ 90%                      |
| Storage humidity                                 | ≤ 95%                      |
| Operating temperature                            | -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                                   | Class 1/Class B            |
| Installation category                            | CAT III                    |
| 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                         |
| Electrostatic discharges                         | 8kV contact / 15kV air gap |
| 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               |

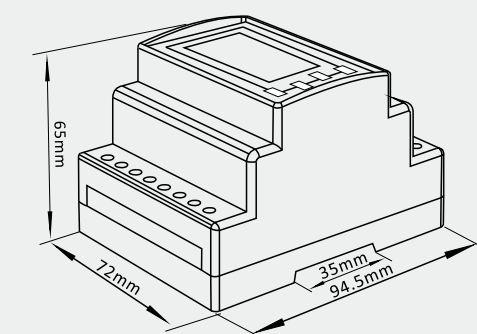
| Modbus                 |                               |
|------------------------|-------------------------------|
| Bus type               | RS485(semi-duplex)            |
| Protocol               | Modbus RTU                    |
| Baud rate              | 2400/4800/9600/19200/38400bps |
| Address 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  |

## Wiring diagram



## Dimensions



Height 94.5mm  
Width 72mm  
Depth 65mm



## SDM630MCT-RJ

THREE PHASE FOUR WIRE ENERGY METER

- CT operated
- Plug-in connection
- Rj12 100mA/333mV current input
- Multi-parameter measured
- THD of voltage and current
- Rs485 Modbus RTU and Pulse outputs

## Introduction

The SDM630MCT-RJ is a three phase 4 wire multi-function energy meter. It measures and displays the characteristic of 3p4w network, including voltage, current, power, active and reactive energy imported and exported, THD, power demand, frequency, power factor etc. The meter use plug-in terminals for both voltage input and current input. With 3-in-1 Current Transformer (ESCT-RJ), the meter provides an easy, quick and error-free connection solution. Equipped with RS485 communication port and 2 pulse outputs, the meter is an ideal product for sub-metering in low voltage application.

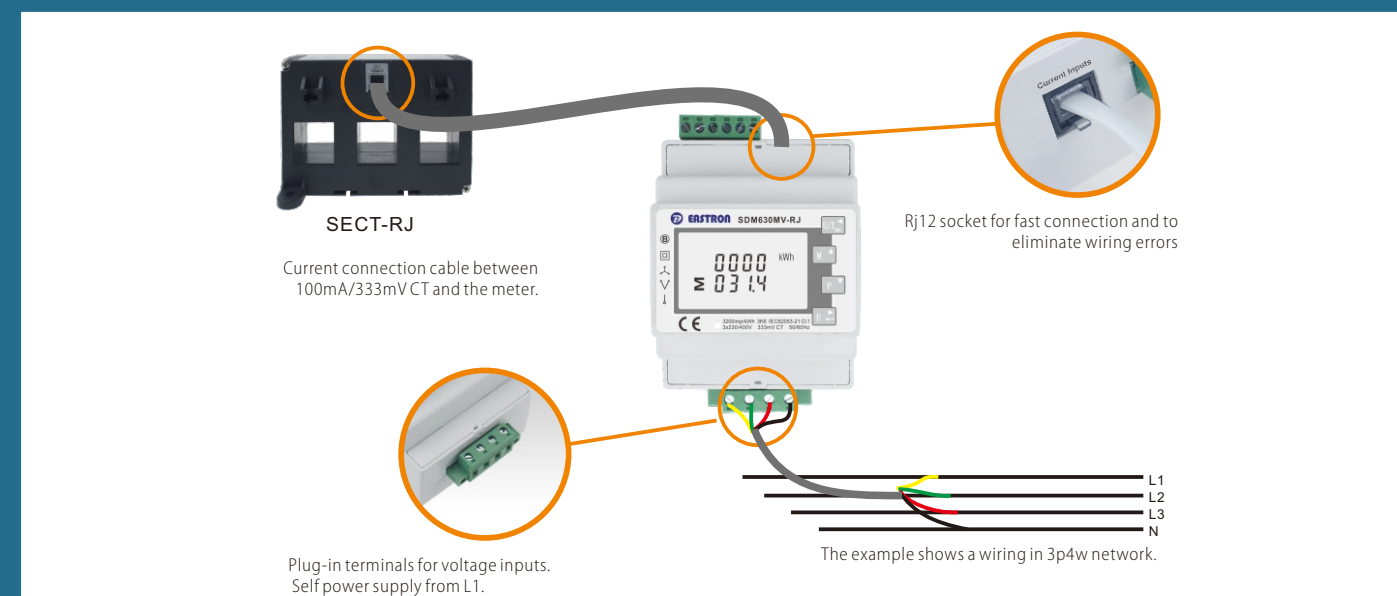
| Specification               |                               |
|-----------------------------|-------------------------------|
| Nominal voltage(Un)         | 3x230/400V ac                 |
| Operational voltage         | 60%~120% of Un                |
| Insulation capabilities     |                               |
| - AC voltage withstand      | 4KV for 1 minute              |
| - Impulse voltage withstand | 6KV-1.2μs                     |
| Rated current (Ib)          | 100mA or 333mV CT input       |
| Operational current range   | 0.4% Ib-I <sub>max</sub>      |
| Over current withstand      | 20 I <sub>max</sub> for 0.01s |
| Operational frequency range | 50 or 60Hz                    |
| Power consumption per phase | ≤ 2W/10VA                     |
| Pulse output 1              | Configurable                  |
| Pulse output 2              | 3200 imp/kWh                  |
| Display                     | LCD                           |
| Max reading                 | 9999999.9 kWh/kVarh           |

| 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 III                    |
| 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                         |
| Electrostatic discharges                         | 8kV contact / 15kV air gap |
| Radiated & conducted emissions                   | EN 55022                   |

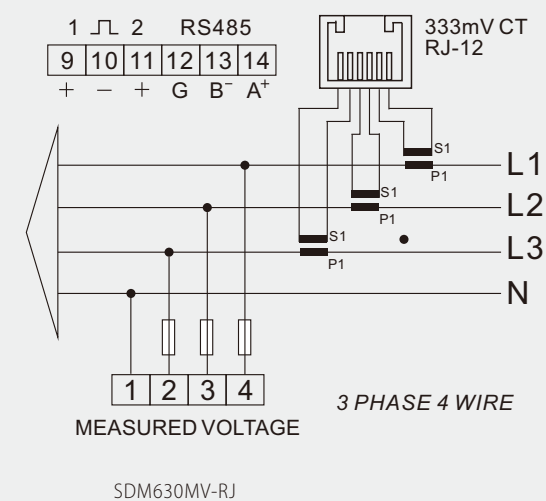
| Accuracy                      |                       |
|-------------------------------|-----------------------|
| Voltage,Current               | 0.5%                  |
| Frequency                     | 0.2% of mid-frequency |
| Power factor                  | 1% of unity (0.01)    |
| Active power , 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              | 2400/4800/9600/19200/38400bps |
| Address range          | 1-247                         |
| Max. Bus loading       | 64pcs                         |
| Communication distance | 1000M                         |
| Parity                 | EVEN/ODD/NONE                 |
| Data bit               | 8                             |
| Stop bit               | 1                             |

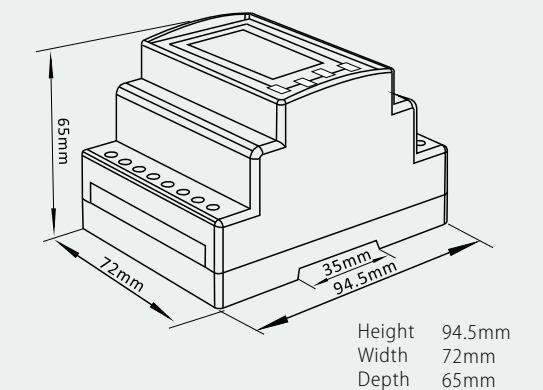
| M-bus (Optional)  |                             |
|-------------------|-----------------------------|
| Bus type          | M-bus                       |
| Protocol          | EN13757-3                   |
| Baud rate         | 300/600/1200/2400/4800/9600 |
| Parity            | NONE/EVEN/ODD     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



## Wiring diagram



## Dimensions





## SDM630-2C

### DUAL LOAD MULTI-FUNCTION ENERGY METER

- 2 meters in 1
- Easy and error free connection
- 5A / 333mV CT input
- Multi-parameter measured
- Rs485 Modbus RTU
- 2 Pulse outputs

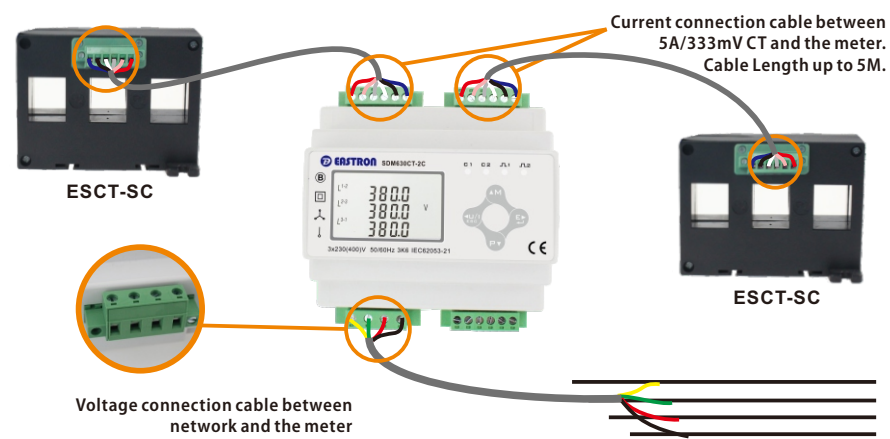
## Introduction

The SDM630-2C is a dual load three phase 4 wire multi-function energy meter for measuring energy consumption in split load applications such as Power and lighting loads. The meter measures 2 three phase circuits separately and display the parameters including voltage, current, power, power factor, frequency, demand, active energy, reactive energy etc.

The meter connect with 3-in-1 CT via wiring looms for plug-in connection. It is a cost-effective and space saving solution for all new power and lighting, or dual load, distribution and panel boards. ESCT-SC series current transformer provides a range of CT with primary current up to 630A.

## DUAL LOAD SOLUTION

Three phase 3-in-1 Current Transformer with plug-in terminal and wiring looms for quick and error-free installation.



| Specification                   |                                       |
|---------------------------------|---------------------------------------|
| Nominal voltage(Un)             | 3x230/400V ac                         |
| Operational voltage             | 80%~120% of Un                        |
| Insulation capabilities         |                                       |
| - AC voltage withstand          | 4KV for 1 minute                      |
| - Impulse voltage withstand     | 6KV-1.2μS                             |
| Rated current (I <sub>r</sub> ) | 5A or 333mV CT input                  |
| Operational current range       | 0.4% I <sub>b</sub> -I <sub>max</sub> |
| Over current withstand          | 20 I <sub>max</sub> for 0.01s         |
| Operational frequency range     | 50 or 60Hz                            |
| Power consumption per phase     | ≤ 2W/10VA                             |
| Pulse output                    | Configurable                          |
| Display                         | LCD                                   |
| Max reading                     | 999999.99 kWh/kVarh                   |

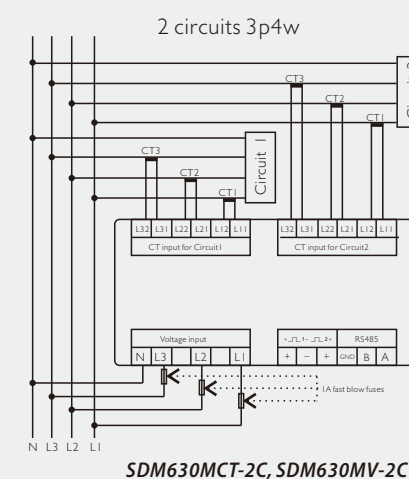
| Performance criteria                             |                            |
|--|----------------------------|
| Operating humidity                               | ≤ 90%                      |
| Storage humidity                                 | ≤ 95%                      |
| Operating temperature                            | -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 III                    |
| 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                         |
| 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               |

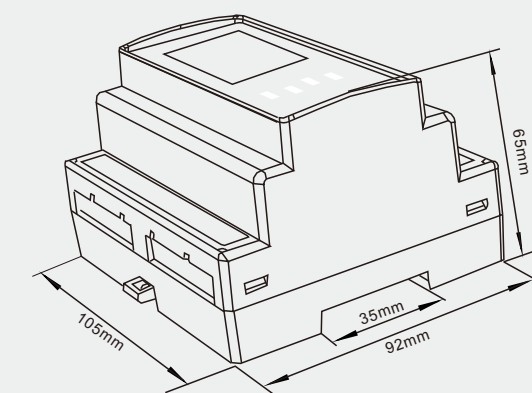
| Modbus                 |                                |
|------------------------|--------------------------------|
| Bus type               | RS485(semi-duplex)             |
| Protocol               | Modbus RTU                     |
| Baud rate              | 2400/4800/9600/19200/38400 bps |
| Address range          | 1-247                          |
| Max. Bus loading       | 64pcs                          |
| Communication distance | 1000M                          |
| Parity                 | EVEN/ODD/NONE                  |
| Data bit               | 8                              |
| Stop bit               | 1                              |

| Pulse Output      |                       |
|-------------------|-----------------------|
| Pulse outputs     | 2                     |
| Pulse output type | Passive               |
| Pulse Output 1    | C1 Configurable       |
| Pulse output 2    | C2 Configurable       |
| Pulse width       | 200/100(default)/60ms |

## Wiring diagram



## Dimensions



Height 92mm  
Width 105mm  
Depth 65mm





**SDM120 A / D / DB**  
SINGLE PHASE 2 WIRE KWH METER

- 45A MAX. direct load
- One module wide
- Active energy measured
- Pulse output
- Din rail mounted



**SDM 230A/D**  
SINGLE PHASE 2 WIRE KWH METER

- 100A MAX. direct load
- Two module wide
- Active energy measured
- Pulse output
- Din rail mounted

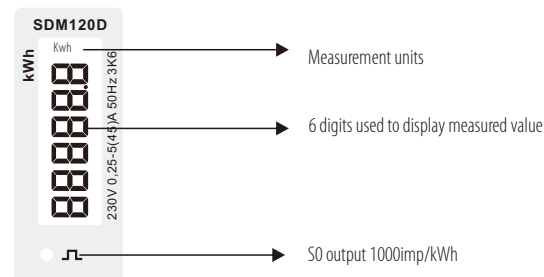
| Specification                             |                                    |
|---|------------------------------------|
| Model                                     | 120A/120D/120DB                    |
| Display                                   | SDM120A electromechanical register |
|   | SDM120D LCD                        |
|   | SDM120DB LCD with Backlit          |
| 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                          |
| Basic current (Ib)                        | 5A                                 |
| Maximum rated current (I <sub>max</sub> ) | 45A                                |
| Operational current range                 | 0.4% Ib-I <sub>max</sub>           |
| Over current withstand                    | 30 I <sub>max</sub> for 0.01s      |
| Operational frequency range               | 50 / 60Hz                          |
| Internal power consumption                | ≤ 2W/10VA                          |
| Pulse output                              | 1000imp/kWh                        |
| Max reading                               | 99999.9 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                         |
| 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                   |

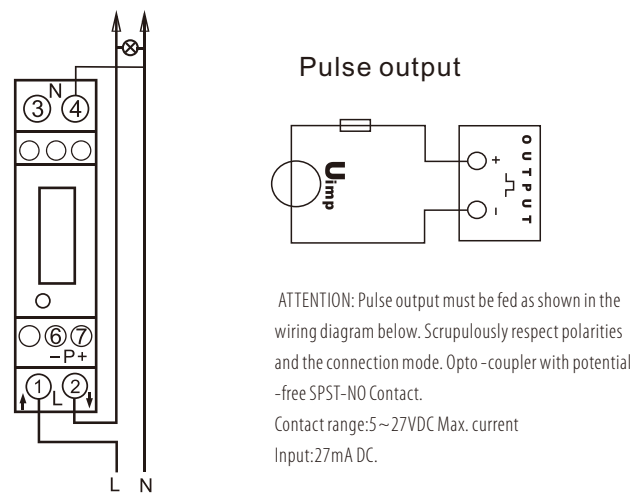


The SDM120 A/D/DB series provides an uni-direction (anti-reverse) measurement model. It would only counts the forward energy, and not counts the reverse energy. it is widely used in solar generation energy measurement.

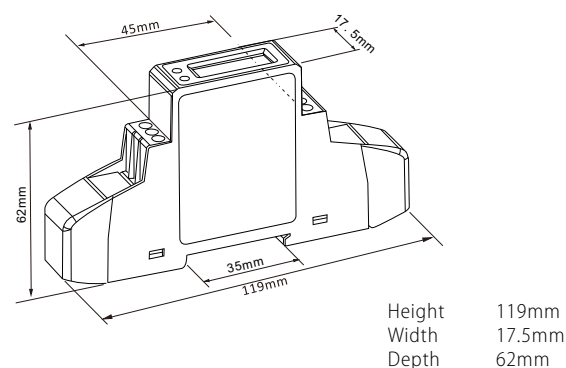
► Description



► Wiring diagrams



► Dimensions

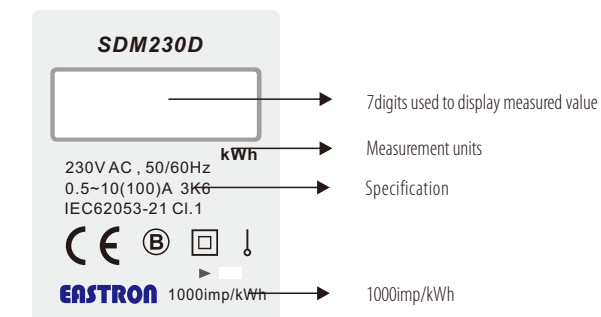


| Specification                             |  |
|---|--|
| Model                                     | SDM 230A / SDM230D                           |
| Display                                   | SDM230A electromechanical register           |
|   | SDM230D LCD                                  |
| Nominal 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                                    |
| Basic current (Ib)                        | 10A  |
| Maximum rated current (I <sub>max</sub> ) | 100A   |
| Operational current range                 | 0.4% Ib-I <sub>max</sub>                     |
| Over current withstand                    | 30 I <sub>max</sub> for 0.01s                |
| Operational frequency range               | 50 or 60Hz                                   |
| Internal power consumption                | ≤ 2W/10VA                                    |
| Pulse output                              | 1000imp/kWh                                  |
| Max reading                               | 99999.9 kWh(SDM230A)<br>99999.9 kWh(SDM230D) |

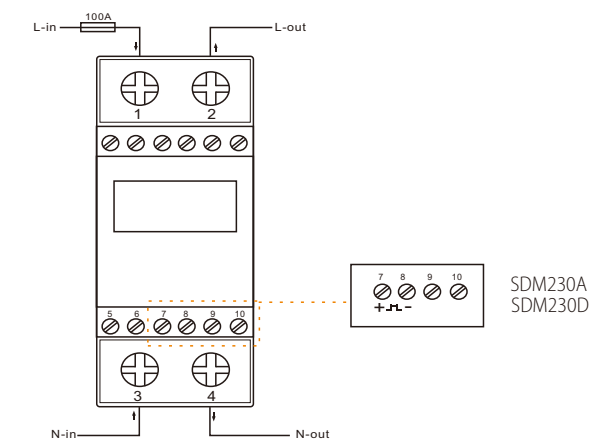
| Performance criteria                             |                            |
|--|----------------------------|
| Operating humidity                               | ≤ 90%                      |
| Storage humidity                                 | ≤ 95%                      |
| Operating temperature                            | -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                         |
| Aititude   | 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                   |

| Mechanics           |                            |
|---------------------|----------------------------|
| Din rail dimensions | 99x36x63 (WxHxD) DIN 43880 |
| Mounting DIN rail   | 35mm                       |
| Sealing             | IP51 (indoor)              |
| Material            | self-extinguishing UL94V-0 |

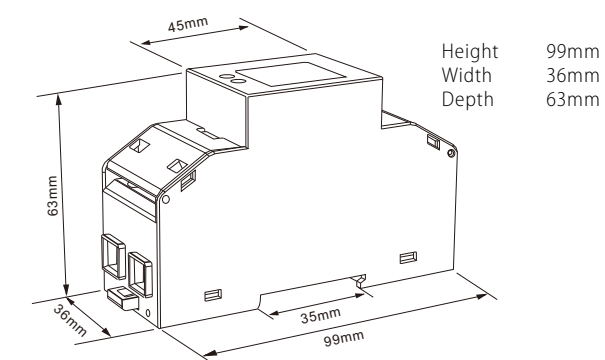
► Description



► Wiring diagrams



► Dimensions





**SDM 230DR/BI**  
SINGLE PHASE 2 WIRE KWH METER

- 100A MAX. direct load
- Active energy + power measured
- Resettable energy
- Pulse output
- Din rail mounted

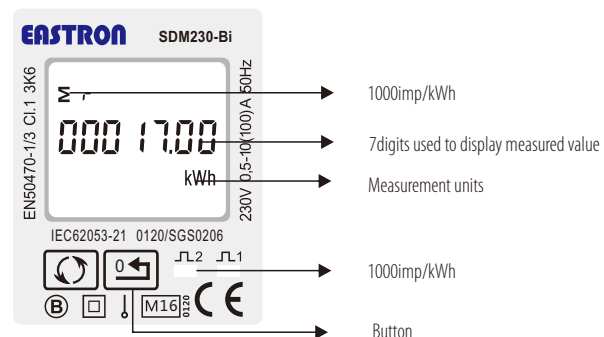


**SDM320D**  
SINGLE PHASE 3 WIRE KWH METER

- 100A MAX. direct load
- 4 module wide
- Active energy measured
- Pulse output
- IEC62053-21 Class 1

| Specification                             |                                       |
|---|---------------------------------------|
| Model                                     | SDM 230DR / SDM230BI                  |
| Display                                   | LCD with Backlit                      |
| 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                             |
| Basic current (Ib)                        | 10A                                   |
| Maximum rated current (I <sub>max</sub> ) | 100A                                  |
| Operational current range                 | 0.4% I <sub>b</sub> -I <sub>max</sub> |
| Over current withstand                    | 30 I <sub>max</sub> for 0.01s         |
| Operational frequency range               | 50 or 60Hz                            |
| Internal power consumption                | ≤ 2W/10VA                             |
| Pulse output 1                            | 1000imp/kWh                           |
| Pulse output 2                            | 1000imp/kWh                           |
| Max reading                               | 99999.9 kWh                           |

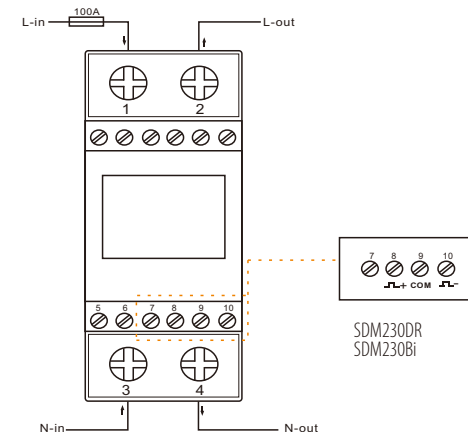
► Description Buttons



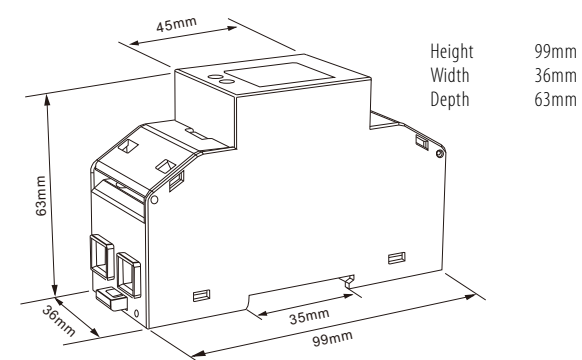
There are two buttons on the front panel of SDM230DR and SDM230BI:

- This button is used to scroll the information pages.
- This button is used to reset the partial energy information.

► Wiring diagrams



► Dimensions



| 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                         |
| 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                   |

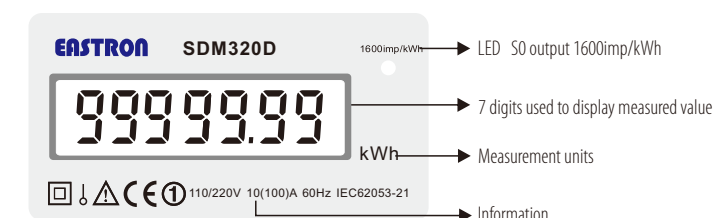
| MECHANICS           |                            |
|---------------------|----------------------------|
| Din rail dimensions | 99x36x63 (WxHxD) DIN 43880 |
| Mounting DIN rail   | 35mm                       |
| Sealing             | IP51 (indoor)              |
| Material            | self-extinguishing UL94V-0 |

| Specification                             |                                       |
|---|---------------------------------------|
| Model                                     | SDM320D                               |
| Nominal voltage(Un)                       | 230V ac / 110V ac                     |
| Operational voltage                       | 80% ~ 120% of Un                      |
| Insulation capabilities                   |                                       |
| - AC voltage withstand                    | 4KV for 1 minute                      |
| - Impulse voltage withstand               | 6KV-1.2μS                             |
| Basic current (I <sub>b</sub> )           | 10A                                   |
| Maximum rated current (I <sub>max</sub> ) | 100A                                  |
| Operational current range                 | 0.4% I <sub>b</sub> -I <sub>max</sub> |
| Over current withstand                    | 30 I <sub>max</sub> for 0.01s         |
| Operational frequency range               | 50 or 60Hz                            |
| Internal power consumption                | ≤ 2W/10VA                             |
| Pulse output                              | 1600imp/kWh                           |
| Display                                   | LCD                                   |
| Max reading                               | 99999.99 kWh                          |

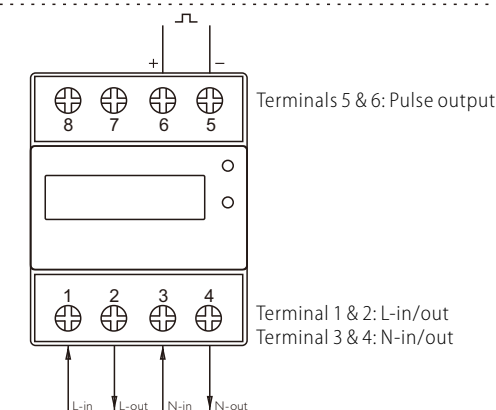
| Performance criteria                             |                            |
|--|----------------------------|
| Operating humidity                               | ≤ 90%                      |
| Storage humidity                                 | ≤ 95%                      |
| Operating temperature                            | -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                         |
| Aititude   | 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                   |

| MECHANICS           |                             |
|---------------------|-----------------------------|
| Din rail dimensions | 76x100x66 (WxHxD) DIN 43880 |
| Mounting DIN rail   | 35mm                        |
| Sealing             | IP51 (indoor)               |
| Material            | self-extinguishing UL94V-0  |

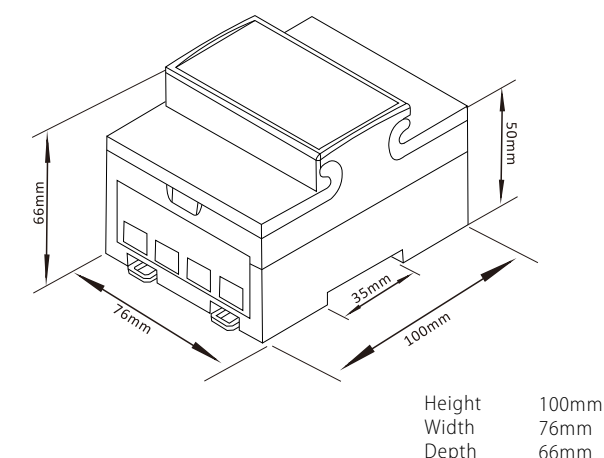
► Description



► Wiring diagrams



► Dimensions





## Smart X96 Series

SMART ENERGY ANALYZER FOR SINGLE AND THREE PHASE SYSTEMS

- Measures kWh, kVarh, kW, kVar, kVA, P, F, PF, Hz, dmd, V, A, etc.
- Bi-directional Measurement IMP & EXP
- Energy Information of Each Phase
- Total Harmonic Distortion of Voltage and Current
- 2nd~63rd Individual Harmonic Distortion
- RS485 Modbus RTU & Two Pulse Outputs
- Bar Graph for Power Indication
- Three phase self-power supply
- Backlit LCD Display for Full Viewing Angles
- Accuracy Class 1 / 0.5S
- Plug-in Play solution

## Introduction

The Smart X96 digital smart meter from Eastron is an ideal solution for the measurement and display of all important electrical parameters including harmonic distortion of total and individual, up to 63rd. The meter uses a high definition screen with programmable backlight for high visibility in dark area and from all viewing angles. New sector icons shows the percentage of the power load on 3 phases. Modbus RS485 RTU and 2 pulse outputs are equipped as standard.

The Smart X96 and 3-in-1 Current transformers provide a simple and fast installation solutions. With pre-cut wiring looms, the meters and CTs can be easily connected. This solution reduces lot of wiring and installation time, and save wrong wiring troubles.

| Input                                  |                                     |
|--|-------------------------------------|
| Nominal input voltage                  | 100-276V AC (L-N) 173-480V AC (L-L) |
| Max. continuous input overload voltage | 120% of nominal                     |
| Max. short duration input voltage      | 2 x nominal voltage for 1 second    |
| Nominal input voltage burden           | < 0.2VA per phase                   |
| Nominal input current                  | 100mA / 5A                          |
| Nom. Input current burden              | < 0.1 VA                            |
| Max. continuous input overload current | 120% of nominal                     |
| Max. short duration input current      | 20 x nominal current for 1 second   |

| Power supply    |   |
|-----------------|---|
| Operating range | Self powered (from any of the three phases) |
| Supply burden   | < 2W / 10VA                                 |

| Accuracy                |   |
|-------------------------|---|
| Voltage (V)             | 0.5% of range maximum                           |
| Current (A)             | 0.5% of range maximum                           |
| Frequency (Hz)          | 0.2% of mid-frequency                           |
| Power factor (PF)       | 1% of unity (0.01)                              |
| Active power (W)        | 1.0% of range maximum                           |
| Reactive power (VAr)    | 1.0% of range maximum                           |
| Apparent power (VA)     | 1.0% of range maximum                           |
| Active energy (kWh)     | Class 0.5S IEC62053-22<br>Class 1.0 IEC62053-21 |
| Reactive energy (kVArh) | 1.0% of range maximum to IEC 62053-24           |
| THD                     | 2% to 63rd harmonic                             |

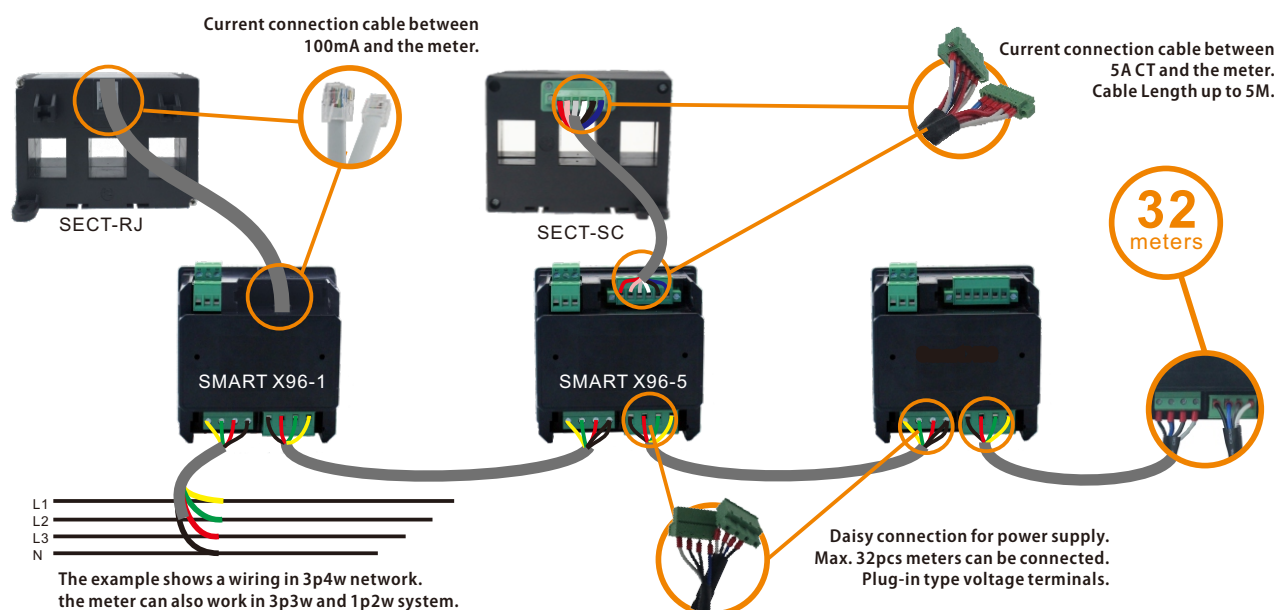
| Measured Range     |  |
|--------------------|--|
| Voltage (V)        | 5 – 120% of nominal (Min 100V -self powered) |
| Current (A)        | 5 – 120% of nominal                          |
| Frequency (Hz)     | 45– 66 Hz                                    |
| Power (W, VAr, VA) | 5 – 144% of nominal (bi-directional)         |
| Energy             | 8 digit, upto 9999999.9 MWh                  |
| Power factor       | 4 quadrant                                   |
| THD                | 0 – 40% upto 63rd harmonic                   |

| Environment           |  |
|-----------------------|--|
| Operating temperature | -25 °C to +55 °C                         |
| Storage temperature   | -40 °C to +70 °C                         |
| Relative humidity     | 0 to 95%, non-condensing                 |
| Shock                 | 30g in 3 planes                          |
| Vibration             | 10Hz to 50Hz, IEC 60068-2-6, 2g          |
| Dielectric Voltage    | 4kV between voltage and current to earth |
| Altitude              | 3000m                                    |
| Warm-up               | 1 minute                                 |

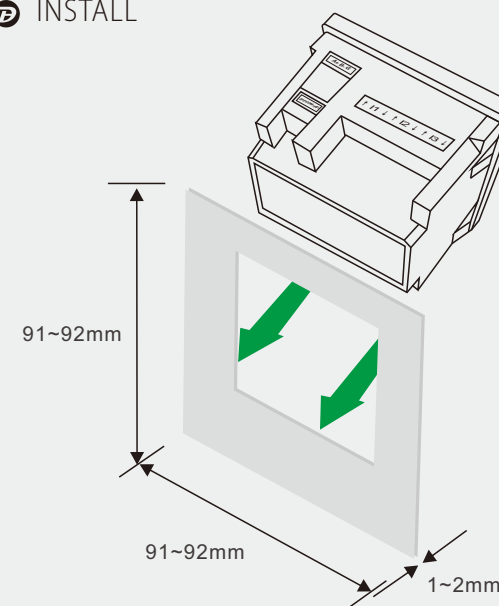
| Outputs                                  |  |
|--|--|
| Pulsed output relay (configurable)       | Opto-coupled, potential-free SPST-NO contact |
| Contact Rating current                   | 2-27mA at 27V DC                             |
| Contact Rating voltage                   | 5-27V DC                                     |
| Pulse Width                              | 60 / 100 / 200 ms                            |
| Pulse rate of SO 1                       | 0.01 / 0.1 / 1 / 10 / 100 kWh/kVArh          |
| Pulsed output of SO 2 (non-configurable) | 3200IMP/kWh                                  |
| Communications                           | Modbus RTU (RS485)                           |
| Type                                     | 2-wire half duplex                           |
| Baud rate                                | 2400, 4800, 9600, 19200, 38400               |
| Address                                  | 1 to 247                                     |

| Enclosure         |  |
|-------------------|--|
| Enclosure Style   | DIN 96 panel mount                           |
| Dimensions        | 96x96x62 mm                                  |
| Panel cut-out     | 92x92mm                                      |
| Panel thickness   | 1-2 mm                                       |
| Protection rating | Ip51 (Indoor)                                |
| Material          | UL94-V0                                      |
| Weight            | 340 g  |
| Cable size        | 0.05mm-4mm stranded wire                     |
| Terminals         | Voltage: Shrouded screw-clamp. Current: RJ12 |

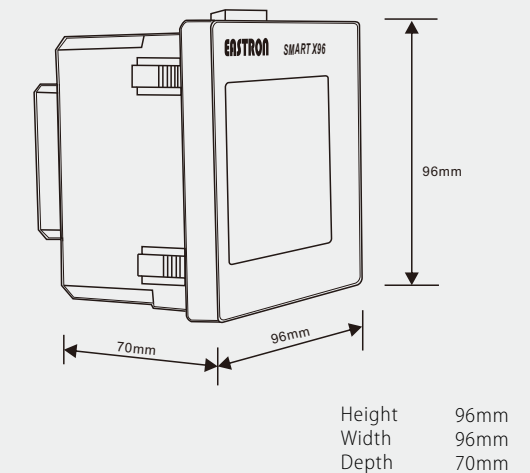
## “Plug-in Play Solution”



### INSTALL



### Dimensions







**SDM320E**  
SINGLE PHASE 3 WIRE KWH METER

- 100A MAX. direct load
- 4 module wide
- Active energy measured
- Pulse output
- IEC62053-21 Class 1



**SDM530D/D-2T**  
THREE PHASE 4 WIRE KWH METER

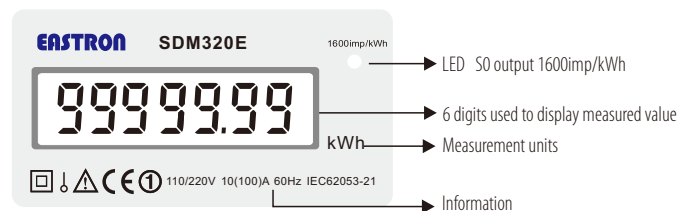
- 100A MAX. direct load
- 7 module wide
- Active energy measured
- IEC62053-21 Class 1
- Pulse output
- 2 Tariffs available

| Specification                |                   |
|------------------------------|-------------------|
| Model                        | SDM320E           |
| Nominal voltage(Un)          | 110/220V ac       |
| Operational voltage          | 80%~120% of Un    |
| Insulation capabilities      |                   |
| - AC voltage withstand       | 4KV for 1 minute  |
| - Impulse voltage withstand  | 6KV-1.2μs         |
| Basic current (Ib)           | 10A               |
| Maximum rated current (Imax) | 100A              |
| Operational current range    | 0.4% Ib-Imax      |
| Over current withstand       | 30 Imax for 0.01s |
| Operational frequency range  | 50 or 60Hz        |
| Internal power consumption   | ≤ 2W/10VA         |
| Pulse output                 | 1600imp/kWh       |
| Display                      | LCD               |
| Max reading                  | 99999.99 kWh      |

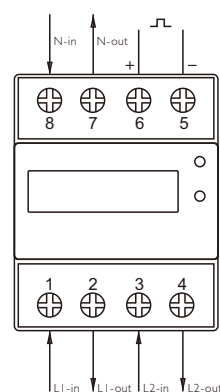
| Performance criteria                             |                            |
|--|----------------------------|
| Operating humidity                               | ≤ 90%                      |
| Storage humidity                                 | ≤ 95%                      |
| Operating temperature                            | -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                                   | Class 1/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                         |
| 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                   |

| Mechanics           |                             |
|---------------------|-----------------------------|
| Din rail dimensions | 76x100x66 (WxHxD) DIN 43880 |
| Mounting DIN rail   | 35mm                        |
| Sealing             | IP51 (indoor)               |
| Material            | self-extinguishing UL94V-0  |

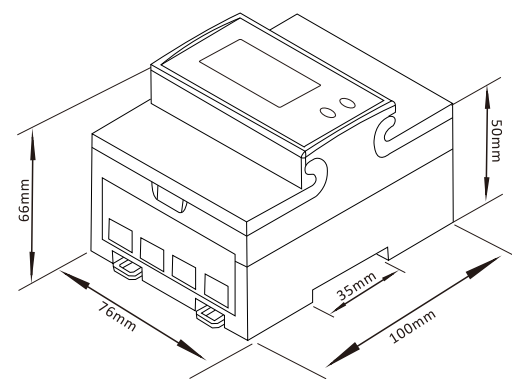
► Description



► Wiring diagrams



► Dimensions



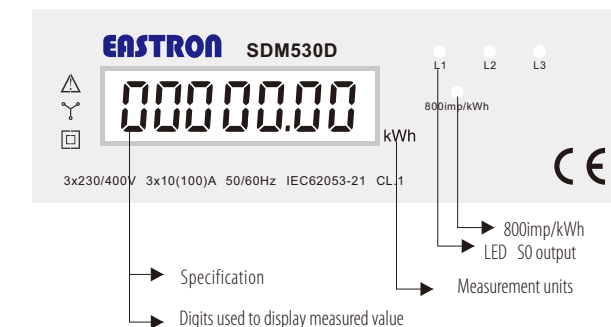
Height 100mm  
Width 76mm  
Depth 66mm

| Specification                |  |
|------------------------------|--|
| Model                        | SDM530D / SDM530D-2T                               |
| Nominal voltage(Un)          | 3x230/400V ac or 3x127/220V ac                     |
| Operational voltage          | 80%~120% of Un                                     |
| Insulation capabilities      |  |
| - AC voltage withstand       | 4KV for 1 minute                                   |
| - Impulse voltage withstand  | 6KV-1.2μs  |
| Basic current (Ib)           | 10A  |
| Maximum rated current (Imax) | 100A   |
| Operational current range    | 0.4% Ib-Imax                                       |
| Over current withstand       | 30 Imax for 0.01s                                  |
| Operational frequency range  | 50 or 60Hz   |
| Power consumption per phase  | ≤ 2W/10VA  |
| Pulse output                 | 800imp/kWh   |
| Display                      | LCD  |
| Max reading                  | 999999.9 kWh(SDM530D)<br>999999.99 kWh(SDM530D-2T) |

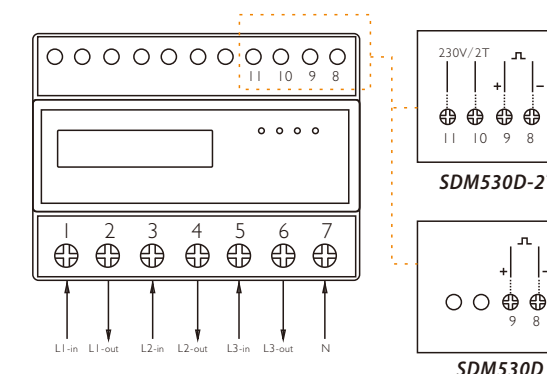
| Performance criteria                         |                            |
|--|----------------------------|
| Operating humidity                           | ≤ 90%                      |
| Storage humidity                             | ≤ 95%                      |
| Operating temperature                        | -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                               | Class 1/Class B            |
| Installation category                        | CAT II                     |
| Mechanical environment                       | M1                         |
| Electromagnetic environment                  | E2                         |
| Degree of pollution                          | 2                          |
| Insulating encased meter of protective class | II                         |
| 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                   |

| Mechanics           |                              |
|---------------------|------------------------------|
| Din rail dimensions | 100x125x65 (WxHxD) DIN 43880 |
| Mounting DIN rail   | 35mm                         |
| Sealing             | IP51 (indoor)                |
| Material            | self-extinguishing UL94V-0   |

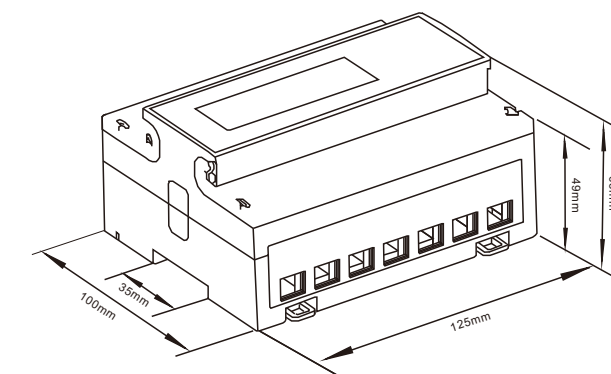
► Description



► Wiring diagrams



► Dimensions



Height 100mm  
Width 125mm  
Depth 65mm



**SDM72D/DR/BI**  
THREE PHASE 4 WIRE ENERGY METER

- 100A direct load
- 4 module wide
- Measures active energy(kWh)+ power(W)
- Bi-directional measurement
- Resettable energy
- Pulse output

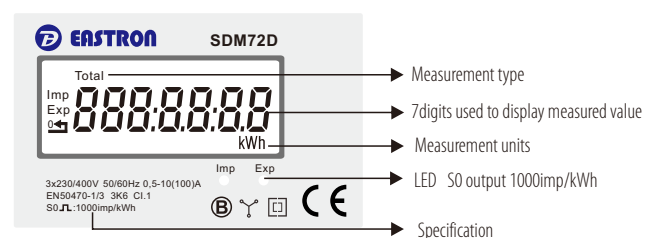


**SDM72CT-D/DR/BI**  
THREE PHASE 4 WIRE ENERGY METER

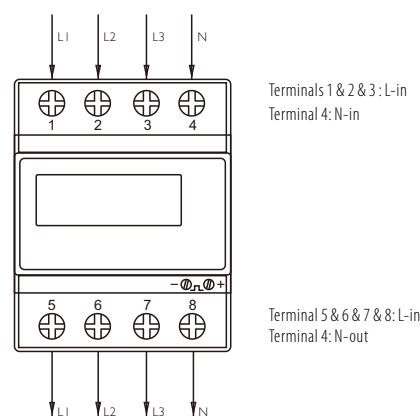
- CT operated
- 4 module wide
- Measures active energy(kWh)+ power(W)
- Bi-directional measurement
- Resettable energy
- Pulse output

| Specification                |                   |
|------------------------------|-------------------|
| Model                        | SDM72D/BR/BI      |
| Nominal voltage(Un)          | 3x230/400V ac     |
| Operational voltage          | 80%~120% of Un    |
| Insulation capabilities      |                   |
| - AC voltage withstand       | 4KV for 1 minute  |
| - Impulse voltage withstand  | 6KV-1.2μS         |
| Basic current (Ib)           | 10A               |
| Maximum rated current (Imax) | 100A              |
| Operational current range    | 0.4% Ib-Imax      |
| Over current withstand       | 30 Imax for 0.01s |
| Operational frequency range  | 50 or 60Hz        |
| Power consumption per phase  | ≤ 2W/10VA         |
| Pulse output                 | 1000imp/kWh       |
| Display                      | LCD               |
| Max reading                  | 999999.9 kWh      |

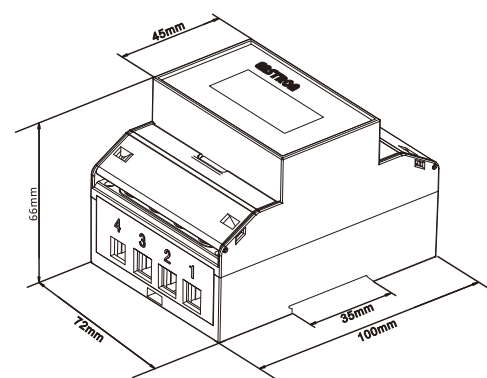
► Description



► Wiring diagrams



► Dimensions



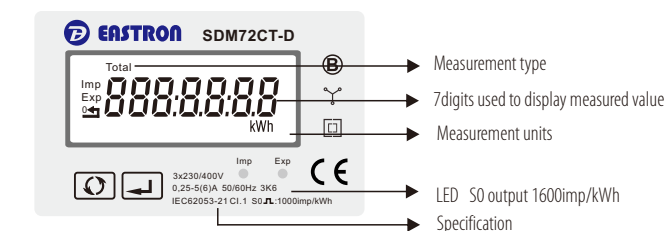
Height 100mm  
Width 72mm  
Depth 66mm

| 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                         |
| Aititude   | 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                   |

| Mechanics           |                             |
|---------------------|-----------------------------|
| Din rail dimensions | 72x100x66 (WxHxD) DIN 43880 |
| Mounting DIN rail   | 35mm                        |
| Sealing             | IP51 (indoor)               |
| Material            | self-extinguishing UL94V-0  |

| Specification                |                   |
|------------------------------|-------------------|
| Model                        | 72CT-D/DR/BI      |
| Nominal voltage(Un)          | 3x230/400V ac     |
| Operational voltage          | 80%~120% of Un    |
| Insulation capabilities      |                   |
| - AC voltage withstand       | 4KV for 1 minute  |
| - Impulse voltage withstand  | 6KV-1.2μS         |
| Basic current (Ib)           | 5A                |
| Maximum rated current (Imax) | 6A                |
| Operational current range    | 0.4% Ib-Imax      |
| Over current withstand       | 20 Imax for 0.01s |
| Operational frequency range  | 50 or 60Hz        |
| Power consumption per phase  | ≤ 2W/10VA         |
| Pulse output                 | 1000imp/kWh       |
| Display                      | LCD               |
| Max reading                  | 999999.9 kWh      |

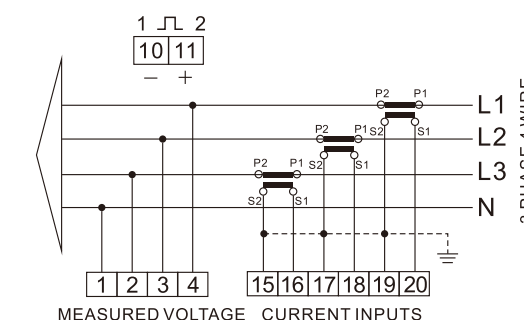
► Description



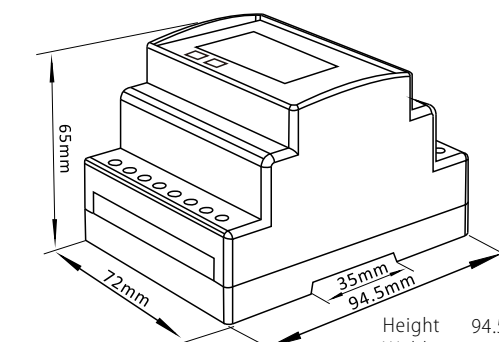
○ Keys

- scroll display
- reset the partial energy information.
- getting into setup mode
- Confirm selection

► Wiring diagrams



► Dimensions



Height 94.5mm  
Width 72mm  
Depth 65mm

| 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                         |
| 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                   |

| Mechanics           |                              |
|---------------------|------------------------------|
| Din rail dimensions | 100x125x65 (WxHxD) DIN 43880 |
| Mounting DIN rail   | 35mm                         |
| Material            | self-extinguishing UL94V-0   |



## Smart X835 series

SMART ENERGY ANALYZER FOR SINGLE AND THREE PHASE SYSTEMS

- Multi-parameters measured
- 2~63rd individual Harmonic Distortion
- Support 3P4W, 3P3W, 1P2W system
- CT and PT connected
- Multi tariffs available
- Digital output/ Digital input/ Analog output / Pulse output
- RS485 Modbus communication
- Crest factor & Key factor

## Introduction

The multifunction energy analyzer SMART X835 series is a top new-generation intelligent panel meter, used not only in the electricity transmission and power distribution system, but also in the power consumption measurement and analysis in high voltage intelligent power grid.

The unit measures and displays the characteristics of single phase two wires, three phase three wires and three phase four wires supplies, including voltage, frequency, current, power and active and reactive energy, imported or exported, Harmonic, Power factor, Max. Demand, crest factor and key factor etc. Energy is measured in terms of kWh, kVAh. Maximum demand current can be measured over preset periods of up to 60minutes. In order to measure energy, the unit requires voltage and current inputs in addition to the supply required to power the product. The requisite current input(s) are obtained via current transformers. The SMART X835 can be configured to work with a wide range of CTs, giving the unit a wide range of operation. Built-in interfaces provide pulse and RS485 Modbus RTU outputs. Configuration is password protected.



### SMART X835 - X - X

- 1: Single Tariff
- 4: Multi Tariffs
- P: 2 Pulse outputs
- B: RS485 Modbus, 2 Pulse outputs
- DIO: 2 Digital Inputs, 2 Digital Outputs, RS485 Modbus
- AO: 2 Analog Outputs, RS485, 2 Pulse outputs

SMART X835: Multi-parameter measured; 3p4w, 3p3w, 1p2w network workable; 2~63rd harmonic distortion.

| Input                                  |                                   |
|--|-----------------------------------|
| Nominal input voltage                  | 57.7 – 276V AC L-N (100-480V L-L) |
| Max. continuous input overload voltage | 120% of nominal                   |
| Max. short duration input voltage      | 2 x nominal voltage for 1 second  |
| Nominal input voltage burden           | < 0.2VA per phase                 |
| Nominal input current                  | 5A                                |
| Nom. Input current burden              | < 0.1 VA                          |
| Max. continuous input overload current | 120% of nominal                   |
| Max. short duration input current      | 20 x nominal current for 1 second |
| Auxiliary                              | 85-276V AC 50/60Hz or 120-380V DC |
| Supply burden                          | < 2W / 10VA                       |

| Accuracy               |                                       |
|------------------------|---------------------------------------|
| Voltage (V)            | 0.5% of range maximum                 |
| Current (A)            | 0.5% of range maximum                 |
| Frequency (Hz)         | 0.2% of mid-frequency                 |
| Power factor (PF)      | 1% of unity (0.01)                    |
| Active power (W)       | 1.0% of range maximum                 |
| Reactive power (VAR)   | 1.0% of range maximum                 |
| Apparent power (VA)    | 1.0% of range maximum                 |
| Active energy (kWh)    | 1.0% of range maximum to IEC 62053-21 |
| Reactive energy (kVAh) | 1.0% of range maximum to IEC 62053-24 |
| THD                    | 2% to 63rd harmonic                   |

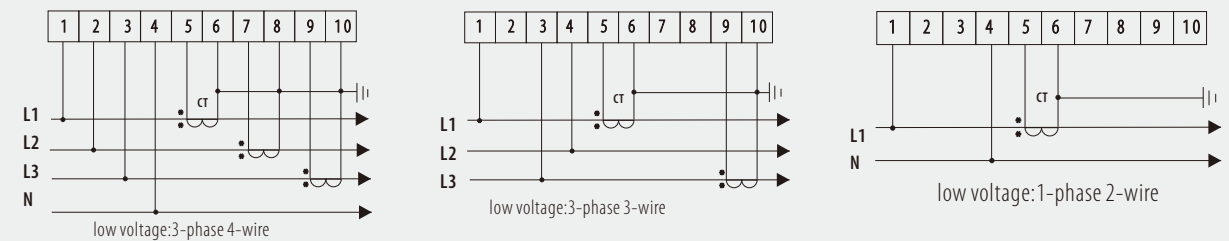
| Measured Range     |   |
|--------------------|---|
| Voltage (V)        | 5 – 120% of nominal (Min 100V – self powered) |
| Current (A)        | 5 – 120% of nominal                           |
| Frequency (Hz)     | 45 – 66 Hz                                    |
| Power (W, VAR, VA) | 5 – 144% of nominal (bi-directional)          |
| Energy             | 8 digit, upto 9999999.9 MWh                   |
| Power factor       | 4 quadrant                                    |
| THD                | 0 – 40% upto 63rd harmonic                    |

| Environment           |  |
|-----------------------|--|
| Operating temperature | -25°C to +55°C                           |
| Storage temperature   | -40°C to +70°C                           |
| Relative humidity     | 0 to 95%, non-condensing                 |
| Shock                 | 30g in 3 planes                          |
| Vibration             | 10Hz to 50Hz, IEC 60068-2-6, 2g          |
| Dielectric Voltage    | 4kV between voltage and current to earth |
| Altitude              | 3000m                                    |
| Warm-up               | 1 minute                                 |

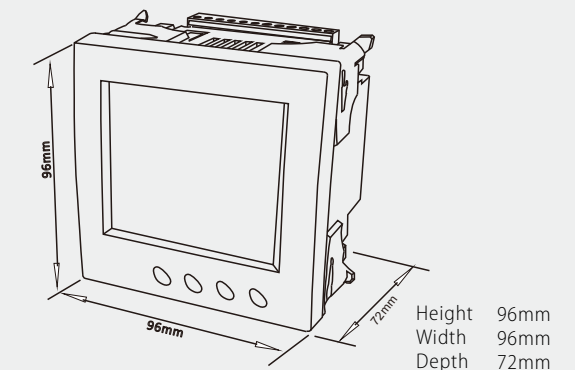
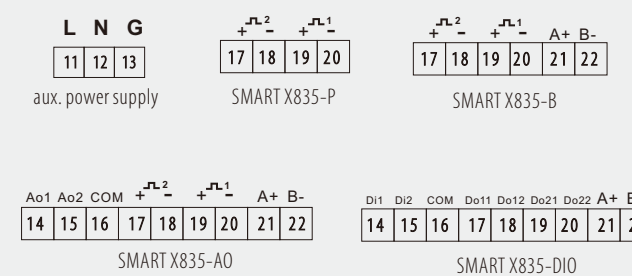
| Outputs                                  |  |
|--|--|
| Pulsed output relay (configurable)       | Opto-coupled, potential-free SPST-NO contact |
| Contact Rating current                   | 2-27mA at 27V DC                             |
| Contact Rating voltage                   | 5-27V DC                                     |
| Pulse Width                              | 60 / 100 / 200 ms                            |
| Pulse rate of SO 1                       | 0.01 / 0.1 / 1 / 10 / 100 kWh/kVAh           |
| Pulsed output of SO 2 (non-configurable) | 3200IMP/kWh                                  |
| Communications                           | Modbus RTU (RS485)                           |
| Type                                     | 2-wire half duplex                           |
| Baud rate                                | 2400, 4800, 9600, 19200, 38400               |
| Address                                  | 1 to 247                                     |

| Enclosure         |                          |
|-------------------|--------------------------|
| Enclosure Style   | DIN 96 panel mount       |
| Dimensions        | 96x96x72 mm              |
| Panel cut-out     | 92x92mm                  |
| Panel thickness   | 1-2 mm                   |
| Protection rating | Ip51 (Indoor)            |
| Material          | UL 94-V0                 |
| Weight            | 340 g                    |
| Cable size        | 0.05mm-4mm stranded wire |

## Wiring diagram



## Dimensions







**SMARTconnect X835**  
SMART POWER ANALYZER

- Measures kWh, kVarh, kW, kVar, kVA, P, F, PF, Hz, dmd, V, A, etc.
- Bi-directional Measurement IMP & EXP
- Total Harmonic Distortion of Voltage and Current
- RS485 Modbus RTU & Two Pulse Outputs
- Backlit LCD Display
- Plug-in solution

| Input                                  |   |
|--|---|
| Nominal input voltage                  | 100-276V AC (L-N) 173-480V AC (L-L)         |
| Max. continuous input overload voltage | 120% of nominal                             |
| Max. short duration input voltage      | 2 x nominal voltage for 1 second            |
| Nominal input voltage burden           | < 0.2VA per phase                           |
| Nominal input current                  | 333mA / 5A                                  |
| Nom. Input current burden              | < 0.1 VA                                    |
| Max. continuous input overload current | 120% of nominal                             |
| Max. short duration input current      | 20 x nominal current for 1 second           |
| Operating range                        | Self powered (from any of the three phases) |
| Supply burden                          | <2W/10VA                                    |

| Accuracy                |                                       |
|-------------------------|---------------------------------------|
| Voltage (V)             | 0.5% of range maximum                 |
| Current (A)             | 0.5% of range maximum                 |
| Frequency (Hz)          | 0.2% of mid-frequency                 |
| Power factor (PF)       | 1% of unity (0.01)                    |
| Active power (W)        | 1.0% of range maximum                 |
| Reactive power (VAr)    | 1.0% of range maximum                 |
| Apparent power (VA)     | 1.0% of range maximum                 |
| Active energy (kWh)     | 1.0% of range maximum to IEC 62053-21 |
| Reactive energy (kVArh) | 1.0% of range maximum to IEC 62053-24 |
| THD                     | 2%                                    |

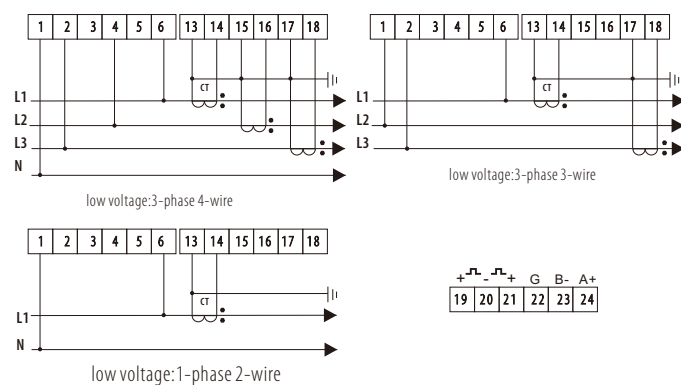
| Measured Range     |   |
|--------------------|---|
| Voltage (V)        | 5 – 120% of nominal (Min 100V – self powered) |
| Current (A)        | 5 – 120% of nominal                           |
| Frequency (Hz)     | 44 – 66 Hz                                    |
| Power (W, VAr, VA) | 5 – 144% of nominal (bi-directional)          |
| Energy             | 8 digit, upto 9999999.9 MWh                   |
| Power factor       | 4 quadrant                                    |
| THD                | 0 – 40% upto 63rd harmonic                    |

| Environment           |  |
|-----------------------|--|
| Operating temperature | -25°C to +55°C                           |
| Storage temperature   | -40°C to +70°C                           |
| Relative humidity     | 0 to 95%, non-condensing                 |
| Shock                 | 30g in 3 planes                          |
| Vibration             | 10Hz to 50Hz, IEC 60068-2-6, 2g          |
| Dielectric Voltage    | 4kV between voltage and current to earth |
| Altitude              | 3000m                                    |
| Warm-up               | 1 minute                                 |

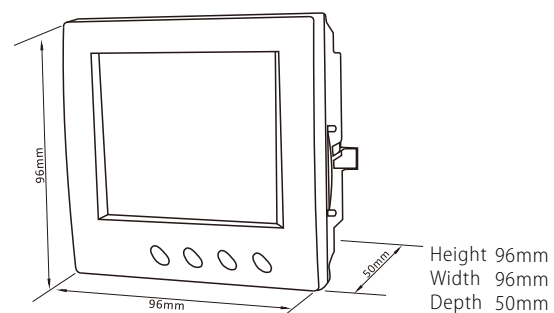
| Outputs                                |  |
|--|--|
| Pulsed output relay (configurable)     | Opto-coupled, potential-free SPST-NO contact |
| Contact Rating current                 | 2-27mA at 27V DC                             |
| Contact Rating voltage                 | 5-27V DC                                     |
| Pulse Width                            | 60 / 100 / 200 ms                            |
| Pulse rate                             | 0.01 / 0.1 / 1 / 10 / 100 kWh/kVArh          |
| Pulsed output relay (non-configurable) | 3200IMP/kWh                                  |
| Communications                         | Modbus RTU (RS485)                           |
| Type                                   | 2-wire half duplex                           |
| Baud rate                              | 2400, 4800, 9600, 19200, 38400               |
| Address                                | 1 to 247                                     |

| Enclosure         |  |
|-------------------|--|
| Enclosure Style   | DIN 96 panel mount                           |
| Dimensions        | 96x96x62 mm                                  |
| Panel cut-out     | 92x92mm                                      |
| Protection rating | Front IP54, Rear IP30                        |
| Material          | UL 94-V0                                     |
| Weight            | 340 g  |
| Cable size        | 0.05mm-4mm stranded wire                     |
| Terminals         | Voltage: Shrouded screw-clamp. Current: RJ12 |

► Wiring diagrams



► Dimension



**Smart X72**  
SMART POWER ANALYZER

- Multi-parameters measured
- RS485 Modbus RTU & two pulse output
- Digital input & Digital Output
- CT&PT programmable
- THD of Voltage and current

| Input                                  |                                   |
|--|-----------------------------------|
| Nominal input voltage                  | 57.7 – 276V ACL-N (100-480V L-L)  |
| Max. continuous input overload voltage | 120% of nominal                   |
| Max. short duration input voltage      | 2 x nominal voltage for 1 second  |
| Nominal input voltage burden           | < 0.2VA per phase                 |
| Nominal input current                  | 5A                                |
| Nom. Input current burden              | < 0.1 VA                          |
| Max. continuous input overload current | 120% of nominal                   |
| Max. short duration input current      | 20 x nominal current for 1 second |

| Power supply  |                                   |
|---------------|-----------------------------------|
| Auxiliary     | 85-276V AC 50/60Hz or 120-380V DC |
| Supply burden | < 2W / 10VA                       |

| Accuracy                   |                                       |
|----------------------------|---------------------------------------|
| Voltage (V)                | 0.5% of range maximum                 |
| Current (A)                | 0.5% of range maximum                 |
| Frequency (Hz)             | 0.2% of mid-frequency                 |
| Power factor (PF)          | 1% of unity (0.01)                    |
| Active power (W)           | 1.0% of range maximum                 |
| Reactive power (VAr)       | 1.0% of range maximum                 |
| Apparent power (VA)        | 1.0% of range maximum                 |
| Active energy (kWh)        | 1.0% of range maximum to IEC 62053-21 |
| Reactive energy (kVArh)    | 1.0% of range maximum to IEC 62053-24 |
| THD of current and voltage | 2%                                    |

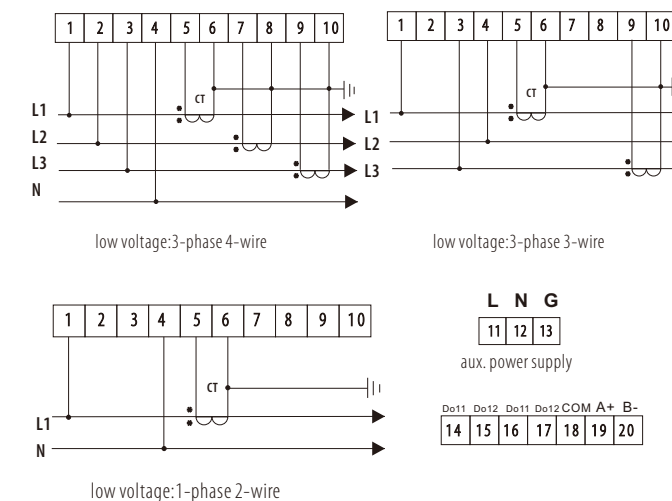
| Measured Range     |  |
|--------------------|--|
| Voltage (V)        | 5 – 120% of nominal (Min 100V -self powered) |
| Current (A)        | 5 – 120% of nominal                          |
| Frequency (Hz)     | 45 – 66 Hz                                   |
| Power (W, VAr, VA) | 5 – 144% of nominal (bi-directional)         |
| Energy             | 8 digit, upto 9999999.9 kWh                  |
| Power factor       | 4 quadrant                                   |
| THD                | 0 – 40% upto 21st harmonic                   |

| Environment           |  |
|-----------------------|--|
| Operating temperature | -25°C to +55°C                           |
| Storage temperature   | -40°C to +70°C                           |
| Relative humidity     | 0 to 95%, non-condensing                 |
| Shock                 | 30g in 3 planes                          |
| Vibration             | 10Hz to 50Hz, IEC 60068-2-6, 2g          |
| Dielectric Voltage    | 4kV between voltage and current to earth |
| Altitude              | 3000m                                    |
| Warm-up               | 1 minute                                 |

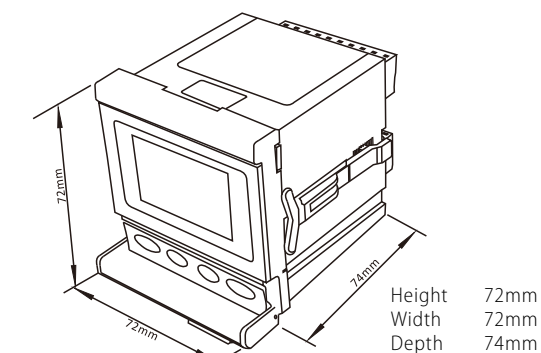
| Outputs        |                                |
|----------------|--------------------------------|
| Communications | Modbus RTU (RS485)             |
| Type           | 2-wire half duplex             |
| Baud rate      | 2400, 4800, 9600, 19200, 38400 |
| Address        | 1 to 247                       |

| Enclosure         |  |
|-------------------|--|
| Enclosure Style   | DIN 96 panel mount                           |
| Dimensions        | 96x96x50 mm                                  |
| Panel cut-out     | 92x92mm                                      |
| Protection rating | Front IP54, Rear IP30                        |
| Material          | UL 94-V0                                     |
| Weight            | 300 g  |
| Cable size        | 0.05mm-4mm stranded wire                     |
| Terminals         | Voltage: Shrouded screw-clamp. Current: RJ12 |

► Wiring diagrams



► Dimension





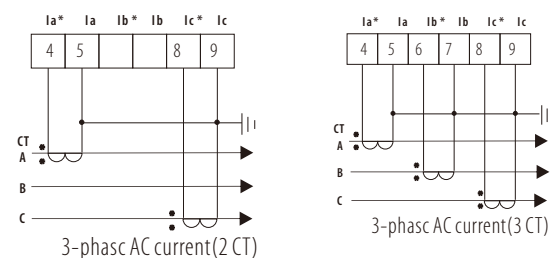
### SMART X302 Series THREE PHASE SYSTEMS

- High precision measurement of single phase Voltage (AC or DC), or current AC or DC) or Frequency or Power
- Programmable voltage ratio
- Auxiliary power supply: AC/DC 85V~265V
- Accuracy Class 0.5
- Dimension optional: 72x72, 96x96, 120x120mm

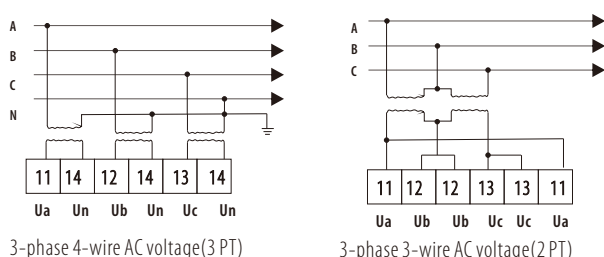
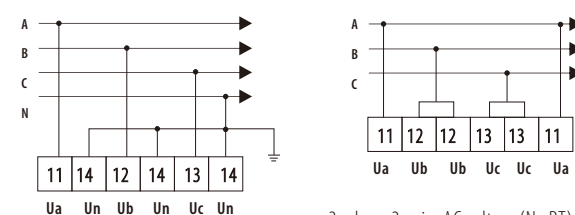
| Specification                         |   |
|---------------------------------------|---|
| Ratio value                           | AC100V, AC230V, AC400V                    |
| Overload                              | 120%                                      |
| Ferquency                             | 45~65Hz or DC                             |
| Working range                         | AC100V, AC230V, AC400V                    |
| Power consumption                     | <4VA                                      |
| Operational environment               | -25°C~+55°C                               |
| Storage environment                   | -40°C~+70°C                               |
| Relative humidity                     | ≤ 90%, in the place without corrosive gas |
| Height above sea level                | ≤ 2000m                                   |
| Insulation resistance                 | >100Mohm                                  |
| AC withstand voltage                  | AC 2KV                                    |
| Electro-Static discharge              | class 4                                   |
| Electrical Fast Transient pulse train | class 4                                   |
| Electrical surge                      | class 4                                   |

#### ► Wiring diagrams

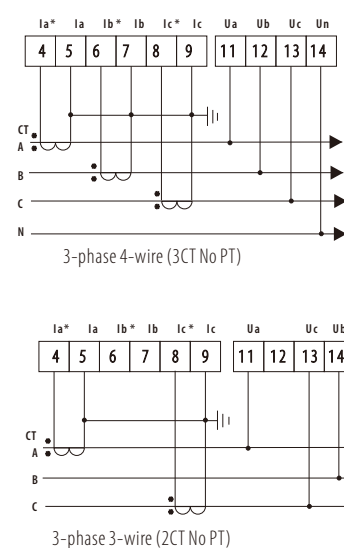
##### ○ Ampere meter



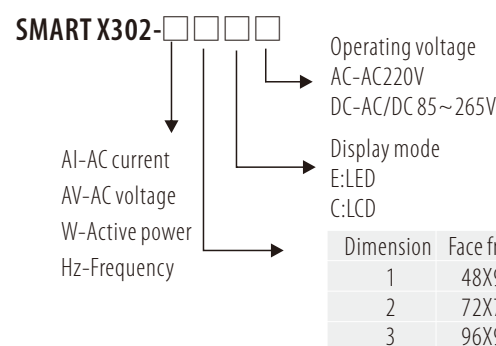
##### ○ Voltmeter



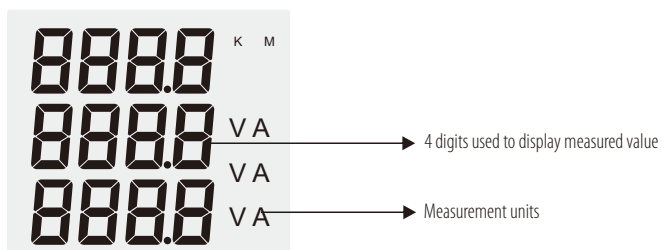
##### ○ VA meter/Power meter



#### ► Model Options



#### ► Description



| Keys |                           |   |                   |
|------|---------------------------|---|-------------------|
| SET  | ○Enter configuration menu | ← | ○Select menu      |
| ○    | ○Exit configuration menu  | → | ○Digit -          |
| →    | ○Select menu              | ↵ | ○Backward         |
| ○    | ○Digit +                  | ↴ | ○Confirm settings |

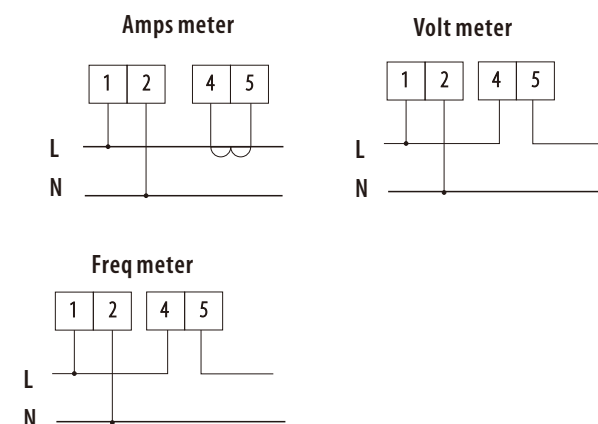


### SMART X203 Series SINGLE PHASE SYSTEMS

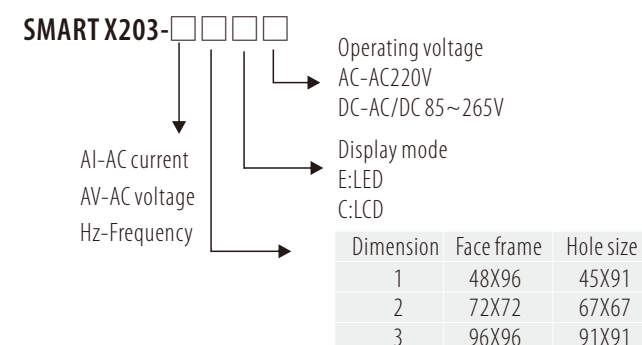
- High precision measurement of single phase Voltage (AC or DC), or current AC or DC) or Frequency or Power
- Programmable voltage ratio
- Auxiliary power supply: AC/DC 85V~265V
- Accuracy Class 0.5
- Dimension optional: 48x72, 72x72, 96x96mm

| Specification                         |   |
|---------------------------------------|---|
| Ratio value                           | AC100V, AC230V, AC400V                    |
| Overload                              | 120%                                      |
| Ferquency                             | 45~65Hz or DC                             |
| Working range                         | AC100V, AC230V, AC400V                    |
| Power consumption                     | <4VA                                      |
| Operational environment               | -25°C~+55°C                               |
| Storage environment                   | -40°C~+70°C                               |
| Relative humidity                     | ≤ 90%, in the place without corrosive gas |
| Height above sea level                | ≤ 2000m                                   |
| Insulation resistance                 | >100Mohm                                  |
| AC withstand voltage                  | AC 2KV                                    |
| Electro-Static discharge              | class 4                                   |
| Electrical Fast Transient pulse train | class 4                                   |
| Electrical surge                      | class 4                                   |

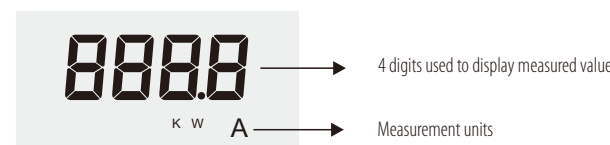
#### ► Wiring diagrams



#### ► Model Options

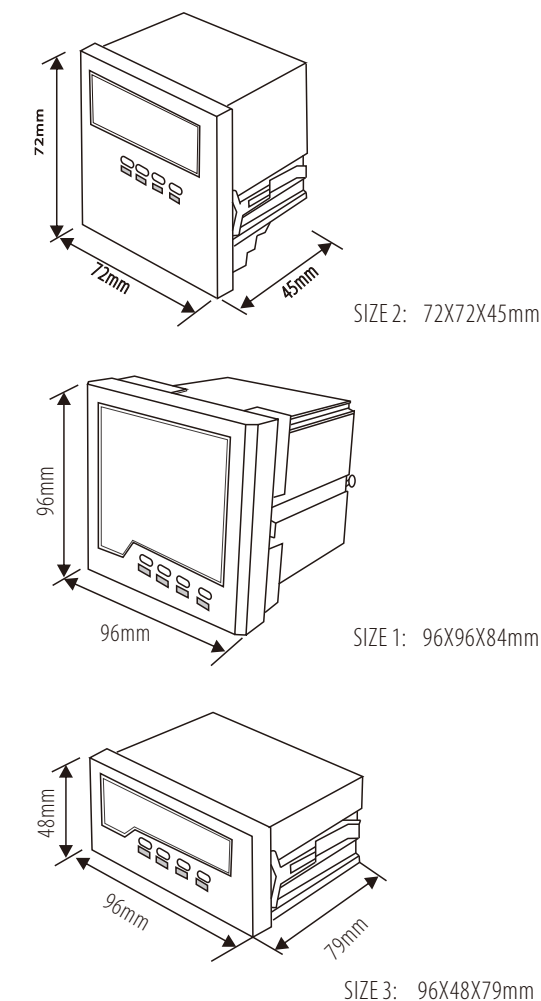


#### ► Description



| Keys |                           |   |                   |
|------|---------------------------|---|-------------------|
| SET  | ○Enter configuration menu | ← | ○Select menu      |
| ○    | ○Exit configuration menu  | → | ○Digit -          |
| →    | ○Select menu              | ↵ | ○Backward         |
| ○    | ○Digit +                  | ↴ | ○Confirm settings |

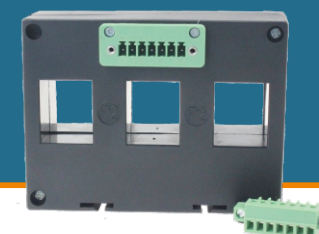
#### ► Dimensions





### ESCT-RJ Series 3-IN-1 CURRENT TRANSFORMER

- Cost effective three-phase moulded case
- Ratio's ranging from 100A~600A
- RJ12 socket for quite connection and to eliminate wiring error
- Busbar, DIN-rail and metal feet are supplied as standard



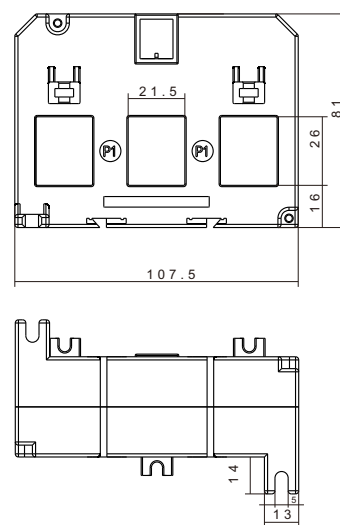
### ESCT-SC Series 3-IN-1 CURRENT TRANSFORMER

- Cost effective three-phase moulded case
- Ratio's ranging from 60/5 to 630/5
- Plug-in quite connection, 80% labor saving
- Lockable terminal for safety
- Both available for Busbar or DIN Rail mounted

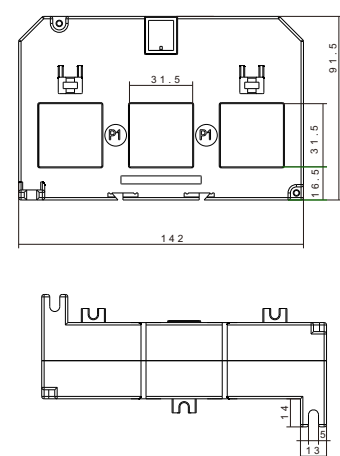
| Specification           |  |
|-------------------------|--|
| Frequency               | 50Hz-60Hz  |
| Rated current           | 100A to 630A loads                               |
| Rated output            | 100mA / 333mV (AC)                               |
| Secondary terminals     | RJ12   |
| Aperture holes centers  | 35,45mm  |
| Accuracy                | Class 0.5 or 1 from 20% to 120% of rated current |
| Phase angle             | Less than 2 degrees at 50% of rated current      |
| Insulation voltage      | 600Vac   |
| Maximum primary voltage | 5000Vac (Insulated Conductor)                    |
| Dielectric strength     | 2.5 KV / 1mA / 1min                              |
| Operating temperature   | -15°C to 60°C                                    |
| Operating humidity      | < 85%  |
| Case material           | PC / UL 94-V0                                    |
| Bobbin                  | PBT  |
| Internal structure      | Epoxy  |
| Compliant with          | IEC/EN60044/1                                    |

| Model      | Rated Amp | Output | Burden (VA) |           |
|------------|-----------|--------|-------------|-----------|
|            |           |        | class:0.5   | Class:1.0 |
| ESCT-RJ335 | 60A       | 100A   | 0.25        | 0.25      |
| ESCT-RJ335 | 125A      | 100A   | 0.25        | 0.5       |
| ESCT-RJ335 | 150A      | 100A   | 0.25        | 0.5       |
| ESCT-RJ335 | 200A      | 100A   | 0.25        | 0.5       |
| ESCT-RJ335 | 250A      | 100A   | 0.25        | 0.5       |
| ESCT-RJ345 | 250A      | 100A   | 0.25        | 0.5       |
| ESCT-RJ345 | 300A      | 100A   | 0.25        | 0.5       |
| ESCT-RJ345 | 400A      | 100A   | 0.25        | 0.5       |
| ESCT-RJ345 | 500A      | 100A   | 0.25        | 0.5       |
| ESCT-RJ345 | 600A      | 100A   | 0.25        | 0.5       |
| ESCT-RJ345 | 630A      | 100A   | 0.25        | 0.5       |

► Dimension



ESCT-RJ335

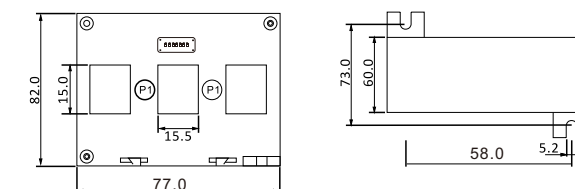


ESCT-RJ345

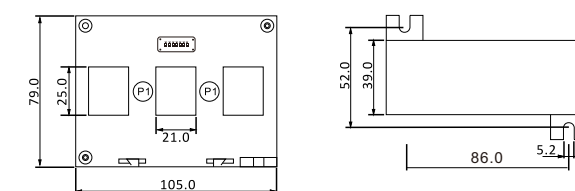
| Specification                 |  |
|-------------------------------|--|
| System voltage                | 720V maximum   |
| Test voltage                  | 3kV for 1 minute   |
| System frequency              | 50Hz or 60Hz   |
| Primary ratings               | 60A to 630A  |
| Short circuit thermal current | 60 x rated primary current   |
| Overload withstand            | 1.2 x rated current continuously                                     |
| Rated dynamic current         | 2.55 x Ith   |
| Secondary terminals           | M4 screw terminals   |
| Enclosure                     | Flame retardant grad classified UL 94V-0                             |
| Aperture holes centers        | 25,35,45mm   |
| Mounting hardware             | Plug-in metal feet for wall or base Mounting<br>Bus-bar and DIN-rail |
| Compliant with                | IEC/EN60044-1  |

| Model      | Ratio (A) | Burden (VA) |           |
|------------|-----------|-------------|-----------|
|            |           | class:0.5   | Class:1.0 |
| ESCT-SC325 | 60/1      | -           | 1         |
| ESCT-SC325 | 100/1     | -           | 1.5       |
| ESCT-SC325 | 125/1     | 1.5         | 1.5       |
| ESCT-SC325 | 150/1     | 1.5         | 1.5       |
| ESCT-SC325 | 300/1     | 1.5         | 1.5       |
| ESCT-SC335 | 100/1     | -           | 1.5       |
| ESCT-SC335 | 125/1     | -           | 1.5       |
| ESCT-SC335 | 150/1     | -           | 1.5       |
| ESCT-SC335 | 160/1     | 1.5         | 1.5       |
| ESCT-SC335 | 200/1     | 1.5         | 1.5       |
| ESCT-SC335 | 250/1     | 1.5         | 1.5       |
| ESCT-C345  | 250/1     | 1.5         | 1.5       |
| ESCT-C345  | 300/1     | 2.5         | 2.5       |
| ESCT-C345  | 400/1     | 2.5         | 2.5       |
| ESCT-C345  | 500/1     | 2.5         | 2.5       |
| ESCT-C345  | 600/1     | 2.5         | 2.5       |
| ESCT-C345  | 630/1     | 2.5         | 2.5       |

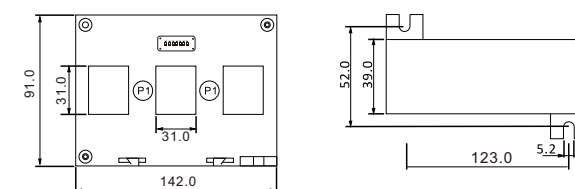
► Dimension



ESCT-SC325

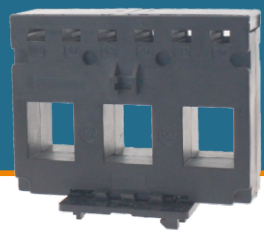


ESCT-SC335



ESCT-SC345





### ESCT-C Series 3-IN-1 CURRENT TRANSFORMER

- Cost effective three-phase moulded case
- Ratio's ranging from 60/5 to 630/5
- Integrated wire sealable terminal cover
- Busbar, DIN-rail and metal feet mounting hardware supplied
- Combined M4 posi /slot screw

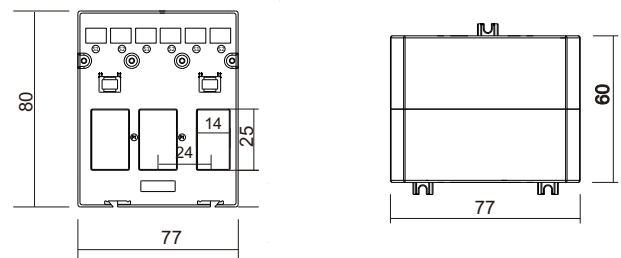


### ESCT-B Series SPLIT CORE CURRENT TRANSFORMER

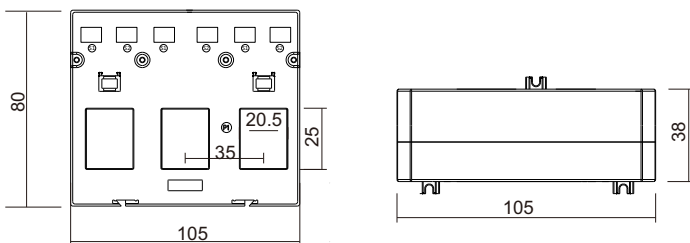
- Split Core
- Primary input 100A~5000A
- Secondary output 5A / 1A
- Two building fixing methods: Base; Busbar mounting
- Wide inner window, allowing clamping of big cables or bus-bars
- Standard: IEC60044-1, EN60044-1, VDE0414-44-1, GB1208-2006

| Specification           |  |
|-------------------------|--|
| Rated current           | 60A to 630A loads                                |
| Rated output            | 5A (AC)  |
| Accuracy                | Class 0.5 or 1 from 20% to 120% of rated current |
| Phase angle             | Less than 2 degrees at 50% of rated current      |
| Insulation voltage      | 600Vac   |
| Maximum primary voltage | 5000Vac (Insulated Conductor)                    |
| Dielectric strength     | 2.5KV / 1mA / 1min                               |
| Operating temperature   | -15°C to 60°C                                    |
| Operating humidity      | <85%   |
| Case material           | PC / UL 94-V0                                    |
| Bobbin                  | PBT  |
| Internal structure      | Epoxy  |

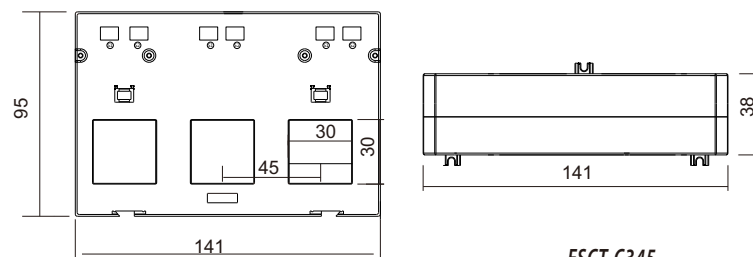
► Dimension



ESCT-C325



ESCT-C335



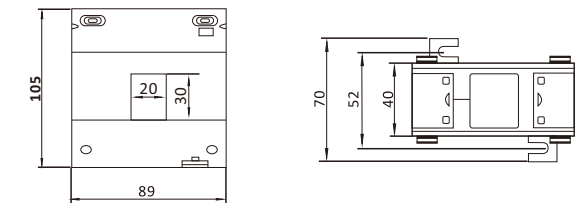
ESCT-C345

| Model     | Ratio (A) | Burden (VA) |           |
|-----------|-----------|-------------|-----------|
|           |           | class:0.5   | Class:1.0 |
| ESCT-C325 | 60/5      | /           | 1         |
| ESCT-C325 | 100/5     | /           | 1.5       |
| ESCT-C325 | 125/5     | 1.5         | 1.5       |
| ESCT-C325 | 150/5     | 1.5         | 1.5       |
| ESCT-C325 | 200/5     | 1.5         | 1.5       |
| ESCT-C335 | 100/5     | /           | 1.5       |
| ESCT-C335 | 125/5     | /           | 2.5       |
| ESCT-C335 | 150/5     | /           | 3.75      |
| ESCT-C335 | 160/5     | 1.5         | 1.5       |
| ESCT-C335 | 200/5     | 1.5         | 1.5       |
| ESCT-C335 | 250/5     | 1.5         | 1.5       |
| ESCT-C345 | 250/5     | 1.5         | 1.5       |
| ESCT-C345 | 300/5     | 2.5         | 2.5       |
| ESCT-C345 | 400/5     | 2.5         | 2.5       |
| ESCT-C345 | 500/5     | 2.5         | 2.5       |
| ESCT-C345 | 600/5     | 2.5         | 2.5       |
| ESCT-C345 | 630/5     | 2.5         | 2.5       |

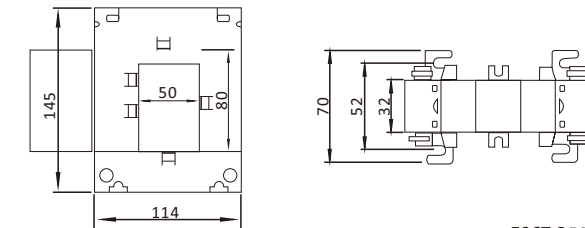
| Specification           |  |
|-------------------------|--|
| Frequency               | 50Hz-60Hz  |
| Rated current           | 100A to 5000A loads                              |
| Rated output            | 5A / 1A (AC)                                     |
| Accuracy                | Class 0.5 or 1 from 20% to 120% of rated current |
| Phase angle             | less than 2 degrees at 50% of rated current      |
| Insulation voltage      | 600Vac   |
| Maximum primary voltage | 5000Vac (Insulated Conductor)                    |
| Dielectric strength     | 2.5KV / 1mA / 1min                               |
| Operating temperature   | -15°C to 60°C                                    |
| Operating humidity      | <85%   |
| Case material           | PC / UL 94-V0                                    |
| Bobbin                  | PBT  |
| Internal structure      | Epoxy  |

| Model     | Ratio (A) | Burden (VA) |           |
|-----------|-----------|-------------|-----------|
|           |           | class:0.5   | Class:1.0 |
| ESCT-B23  | 100/5     | 1.5         | 2.5       |
| ESCT-B23  | 150/5     | 1.5         | 2.5       |
| ESCT-B23  | 200/5     | 2.5         | 3.75      |
| ESCT-B23  | 250/5     | 2.5         | 5         |
| ESCT-B23  | 300/5     | 5           | 5         |
| ESCT-B23  | 400/5     | 5           | 5         |
| ESCT-B58  | 250/5     | 1.5         | 2.5       |
| ESCT-B58  | 300/5     | 2.5         | 5         |
| ESCT-B58  | 400/5     | 3.75        | 5         |
| ESCT-B58  | 500/5     | 5           | 7.5       |
| ESCT-B58  | 600/5     | 5           | 7.5       |
| ESCT-B58  | 750/5     | 5           | 10        |
| ESCT-B58  | 800/5     | 5           | 10        |
| ESCT-B58  | 1000/5    | 7.5         | 10        |
| ESCT-B812 | 500/5     | 2.5         | 5         |
| ESCT-B812 | 600/5     | 2.5         | 5         |
| ESCT-B812 | 750/5     | 5           | 10        |
| ESCT-B812 | 800/5     | 5           | 10        |
| ESCT-B812 | 1000/5    | 7.5         | 10        |
| ESCT-B812 | 1200/5    | 7.5         | 10        |
| ESCT-B812 | 1250/5    | 7.5         | 10        |
| ESCT-B812 | 1500/5    | 7.5         | 10        |
| ESCT-B816 | 1000/5    | 10          | 15        |
| ESCT-B816 | 1500/5    | 10          | 15        |
| ESCT-B816 | 2000/5    | 15          | 20        |
| ESCT-B816 | 2500/5    | 20          | 25        |
| ESCT-B816 | 3000/5    | 20          | 30        |
| ESCT-B816 | 4000/5    | 20          | 30        |
| ESCT-B816 | 5000/5    | 20          | 30        |
| ESCT-B816 | 6000/5    | 20          | 30        |

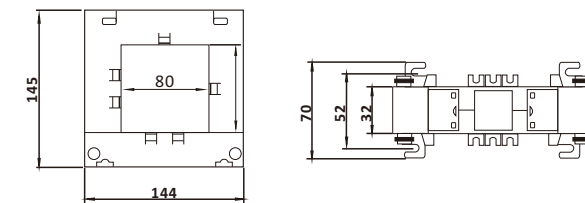
► Dimension



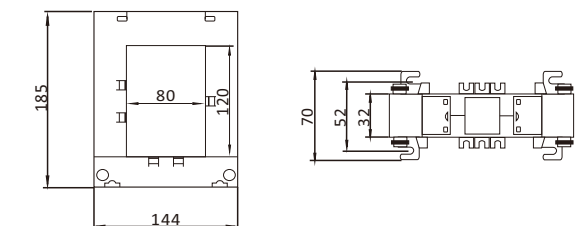
ESCT-B23



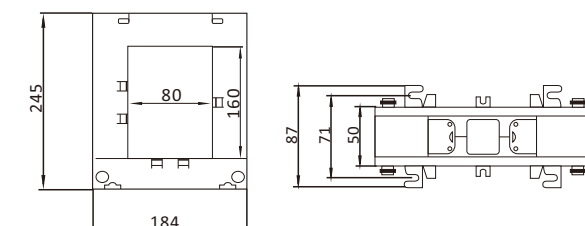
ESCT-B58



ESCT-B88



ESCT-B812



ESCT-B816



### ESCT-T Series SPLIT CORE CURRENT TRANSFORMER

- Split Core, easy installation
- Primary input 100A~600A
- Secondary output 5A / 1A
- Safe operation
- Standard: IEC60044-1, EN60044-1, VDE0414-44-1, GB1208-2006



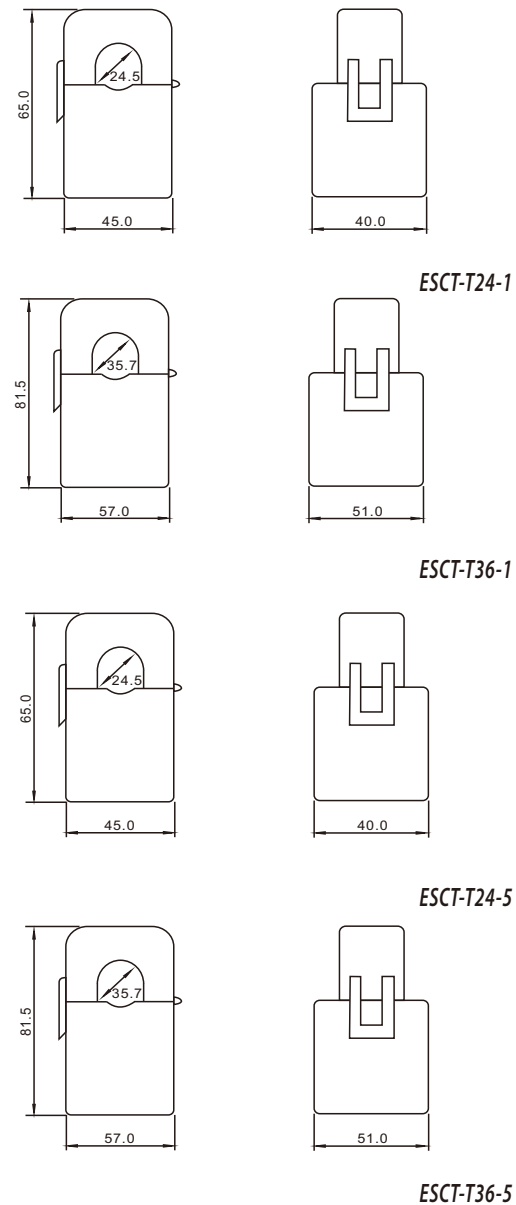
### ESCT-TU Series MINI SPLIT CORE CURRENT TRANSFORMER

- Split Core, easy installation
- Primary input 5A~600A
- Secondary output 333mV / 100mV / 100mA
- Safe operation
- Standard: IEC60044-1, EN60044-1, VDE0414-44-1, GB1208-2006

| Specification           |  |
|-------------------------|--|
| Frequency               | 50-60Hz  |
| Rated current           | 100A to 600A loads                               |
| Rated output            | 1A / 5A (AC)                                     |
| Accuracy                | Class 0.5 or 1 from 20% to 120% of rated current |
| Phase angle             | Less than 2 degrees at 50% of rated current      |
| Insulation voltage      | 600Vac   |
| Maximum primary voltage | 5000Vac (Insulated Conductor)                    |
| Dielectric strength     | 2.5KV/1mA/1min                                   |
| Operating temperature   | -15°C to 60°C.                                   |
| Operating humidity      | <85%   |
| Case material           | PC / UL94-V0                                     |
| Bobbin                  | PBT  |
| Core                    | Permalloy  |
| Internal structure      | Epoxy  |

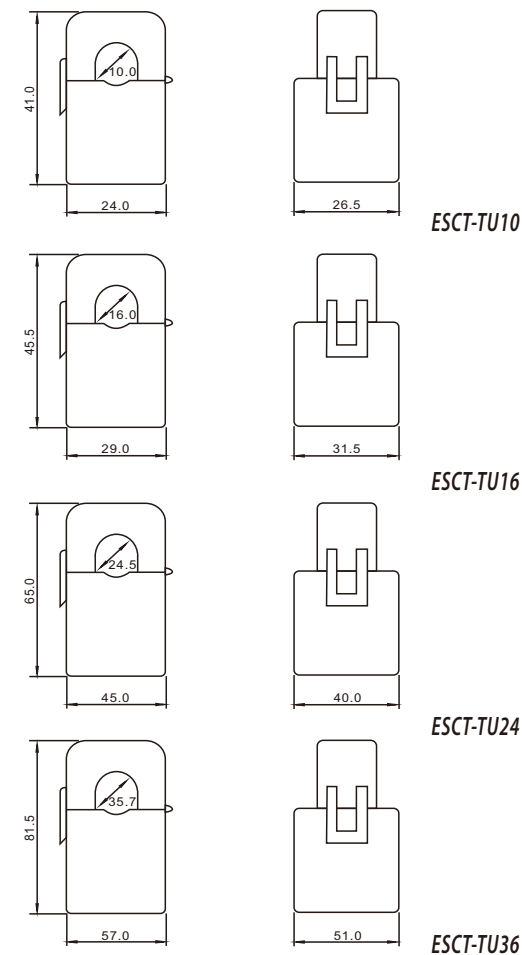
| Model      | Ratio (A) | Burden (VA) |           |
|------------|-----------|-------------|-----------|
|            |           | class 0.5   | Class 1.0 |
| ESCT-T24-1 | 100/1     | ---         | 1.5       |
| ESCT-T24-1 | 150/1     | ---         | 1.5       |
| ESCT-T24-1 | 200/1     | 1.5         | 2.5       |
| ESCT-T24-1 | 250/1     | 1.5         | 2.5       |
| ESCT-T24-1 | 300/1     | 1.5         | 2.5       |
| ESCT-T36-1 | 100/1     | ---         | 1.5       |
| ESCT-T36-1 | 150/1     | ---         | 1.5       |
| ESCT-T36-1 | 200/1     | 1.5         | 2.5       |
| ESCT-T36-1 | 300/1     | 1.5         | 2.5       |
| ESCT-T36-1 | 400/1     | 1.5         | 2.5       |
| ESCT-T36-1 | 500/1     | 2.5         | 3.75      |
| ESCT-T36-1 | 600/1     | 2.5         | 5         |
| ESCT-T24-5 | 100/5     | ---         | 1.5       |
| ESCT-T24-5 | 150/5     | ---         | 1.5       |
| ESCT-T24-5 | 200/5     | 1.5         | 2.5       |
| ESCT-T24-5 | 250/5     | 1.5         | 2.5       |
| ESCT-T24-5 | 300/5     | 1.5         | 2.5       |
| ESCT-T36-5 | 100/5     | ---         | 1.5       |
| ESCT-T36-5 | 150/5     | ---         | 1.5       |
| ESCT-T36-5 | 200/5     | 1.5         | 2.5       |
| ESCT-T36-5 | 300/5     | 1.5         | 2.5       |
| ESCT-T36-5 | 400/5     | 1.5         | 2.5       |
| ESCT-T36-5 | 500/5     | 2.5         | 3.75      |
| ESCT-T36-5 | 600/5     | 2.5         | 5         |

► Dimension



| Specification           |  |
|-------------------------|--|
| Frequency               | 50-60Hz  |
| Rated current           | 5A to 600A loads                                 |
| Rated output            | 333mV/100mV (AC)                                 |
| Accuracy                | Class 0.5 or 1 from 20% to 120% of rated current |
| Phase angle             | less than 2 degrees at 50% of rated current      |
| Insulation voltage      | 600Vac   |
| Maximum primary voltage | 5000Vac (Insulated Conductor)                    |
| Dielectric strength     | 2.5KV/1mA/1min                                   |
| Operating temperature   | -15°C to 60°C.                                   |
| Operating humidity      | <85%   |
| Case material           | PC / UL94-V0                                     |
| Bobbin                  | PBT  |
| Core                    | Permalloy  |
| Internal structure      | Epoxy  |
| Leads                   | UL 1015, Twisted Pair, 22AWG                     |

► Dimension



| Model     | Rated Amps | Output | Accuracy |
|-----------|------------|--------|----------|
| ESCT-TU10 | 5          | 0.333  | 0.5 or 1 |
| ESCT-TU10 | 10         | 0.333  | 0.5 or 1 |
| ESCT-TU10 | 20         | 0.333  | 0.5 or 1 |
| ESCT-TU10 | 50         | 0.333  | 0.5 or 1 |
| ESCT-TU10 | 75         | 0.333  | 0.5 or 1 |
| ESCT-TU10 | 5          | 0.1    | 0.5 or 1 |
| ESCT-TU10 | 10         | 0.1    | 0.5 or 1 |
| ESCT-TU10 | 20         | 0.1    | 0.5 or 1 |
| ESCT-TU10 | 50         | 0.1    | 0.5 or 1 |
| ESCT-TU10 | 75         | 0.1    | 0.5 or 1 |
| ESCT-U16  | 5          | 0.333  | 0.5 or 1 |
| ESCT-U16  | 10         | 0.333  | 0.5 or 1 |
| ESCT-U16  | 50         | 0.333  | 0.5 or 1 |
| ESCT-U16  | 100        | 0.333  | 0.5 or 1 |
| ESCT-U16  | 150        | 0.333  | 0.5 or 1 |
| ESCT-U16  | 5          | 0.1    | 0.5 or 1 |
| ESCT-U16  | 10         | 0.1    | 0.5 or 1 |
| ESCT-U16  | 50         | 0.1    | 0.5 or 1 |
| ESCT-U16  | 100        | 0.1    | 0.5 or 1 |
| ESCT-U16  | 150        | 0.1    | 0.5 or 1 |
| ESCT-U24  | 10         | 0.333  | 0.5 or 1 |
| ESCT-U24  | 50         | 0.333  | 0.5 or 1 |
| ESCT-U24  | 100        | 0.333  | 0.5 or 1 |
| ESCT-U24  | 250        | 0.333  | 0.5 or 1 |
| ESCT-U24  | 300        | 0.333  | 0.5 or 1 |
| ESCT-U24  | 10         | 0.1    | 0.5 or 1 |
| ESCT-U24  | 50         | 0.1    | 0.5 or 1 |
| ESCT-U24  | 100        | 0.1    | 0.5 or 1 |
| ESCT-U24  | 250        | 0.1    | 0.5 or 1 |
| ESCT-U24  | 300        | 0.1    | 0.5 or 1 |
| ESCT-U36  | 20         | 0.333  | 0.5 or 1 |
| ESCT-U36  | 100        | 0.333  | 0.5 or 1 |
| ESCT-U36  | 250        | 0.333  | 0.5 or 1 |
| ESCT-U36  | 400        | 0.333  | 0.5 or 1 |
| ESCT-U36  | 600        | 0.333  | 0.5 or 1 |
| ESCT-U36  | 20         | 0.1    | 0.5 or 1 |
| ESCT-U36  | 100        | 0.1    | 0.5 or 1 |
| ESCT-U36  | 250        | 0.1    | 0.5 or 1 |
| ESCT-U36  | 400        | 0.1    | 0.5 or 1 |
| ESCT-U36  | 600        | 0.1    | 0.5 or 1 |



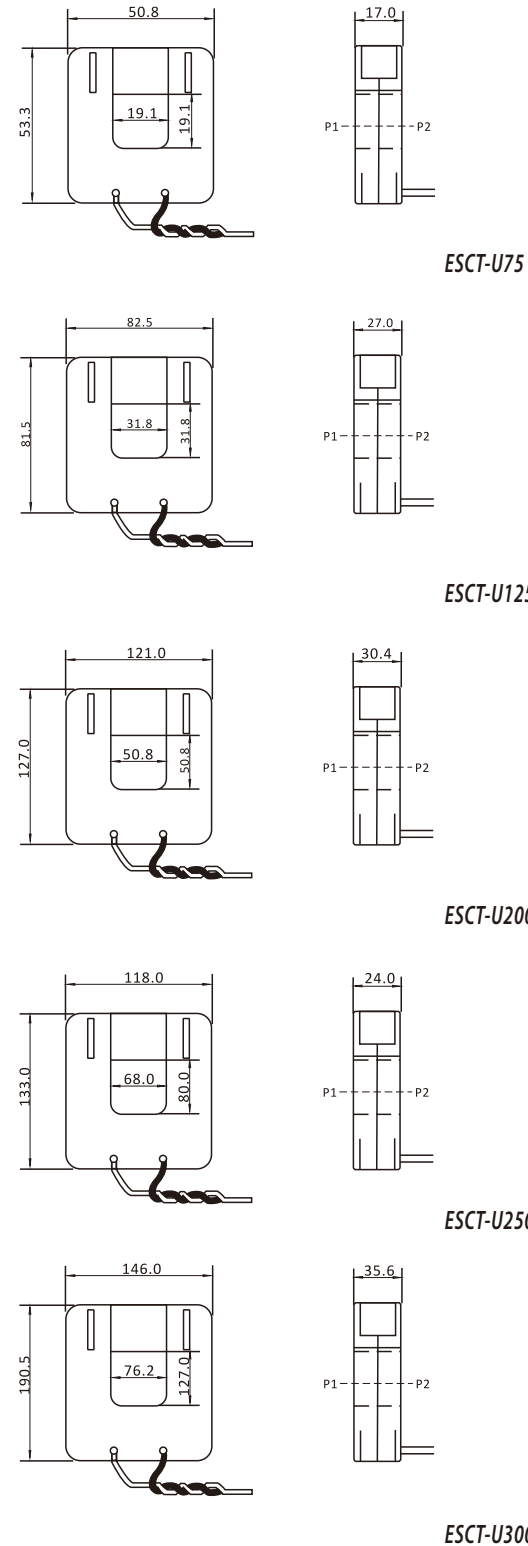
### ESCT-U Series SPLIT CORE CURRENT TRANSFORMER

- Split Core, easy installation
- Primary input 5A~3000A
- Secondary output 333mV
- Wide inner window, allowing clamping of big cables
- Standard: IEC60044-1, EN60044-1, VDE0414-44-1, GB1208-2006

| Specification           |   |
|-------------------------|---|
| Frequency               | 50-60Hz                                     |
| Rated current           | 5A to 3000A loads                           |
| Rated output            | 333mV (AC)                                  |
| Accuracy                | ± 1% from 20% to 120% of rated current      |
| Phase angle             | less than 2 degrees at 50% of rated current |
| Insulation voltage      | 600Vac                                      |
| Maximum primary voltage | 5000Vac (Insulated Conductor)               |
| Dielectric strength     | 2.5KV/1mA/1min                              |
| Operating temperature   | -15°C to 60°C.                              |
| Operating humidity      | <85%  |
| Case material           | PC / UL94-V0                                |
| Bobbin                  | PBT   |
| Core                    | Permalloy                                   |
| Internal structure      | Epoxy                                       |
| Leads                   | UL 1015, Twisted Pair, 22AWG                |

| Model     | Rated Amps | Output | Accuracy |
|-----------|------------|--------|----------|
| ESCT-U75  | 5          | 0.333V | 1        |
| ESCT-U75  | 10         | 0.333V | 1        |
| ESCT-U75  | 50         | 0.333V | 1        |
| ESCT-U75  | 75         | 0.333V | 1        |
| ESCT-U75  | 100        | 0.333V | 1        |
| ESCT-U75  | 125        | 0.333V | 1        |
| ESCT-U75  | 150        | 0.333V | 1        |
| ESCT-U75  | 200        | 0.333V | 1        |
| ESCT-U125 | 50         | 0.333V | 1        |
| ESCT-U125 | 100        | 0.333V | 1        |
| ESCT-U125 | 125        | 0.333V | 1        |
| ESCT-U125 | 200        | 0.333V | 1        |
| ESCT-U125 | 250        | 0.333V | 1        |
| ESCT-U125 | 400        | 0.333V | 1        |
| ESCT-U125 | 600        | 0.333V | 1        |
| ESCT-U200 | 100        | 0.333V | 1        |
| ESCT-U200 | 125        | 0.333V | 1        |
| ESCT-U200 | 250        | 0.333V | 1        |
| ESCT-U200 | 400        | 0.333V | 1        |
| ESCT-U200 | 630        | 0.333V | 1        |
| ESCT-U200 | 800        | 0.333V | 1        |
| ESCT-U200 | 1000       | 0.333V | 1        |
| ESCT-U200 | 2000       | 0.333V | 1        |
| ESCT-U300 | 400        | 0.333V | 1        |
| ESCT-U300 | 800        | 0.333V | 1        |
| ESCT-U300 | 1000       | 0.333V | 1        |
| ESCT-U300 | 1500       | 0.333V | 1        |
| ESCT-U300 | 2500       | 0.333V | 1        |
| ESCT-U300 | 3000       | 0.333V | 1        |

► Dimension



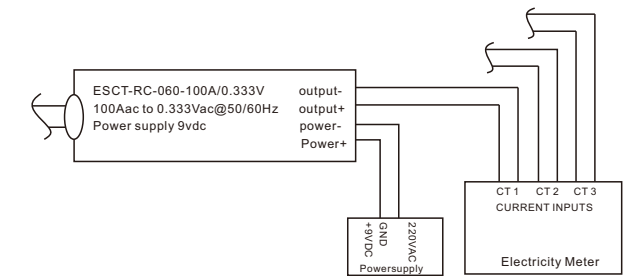
### ESCT-RC FLEXIBLE ROGOWSKI COIL CURRENT SENSOR

- Flexible and light weights
- Easy & quick installation in tight spaces
- No danger from open-circuited secondary
- No core saturation or damage if overloaded
- excellent linearity
- Multi- size are available
- Single phase and three phase are available

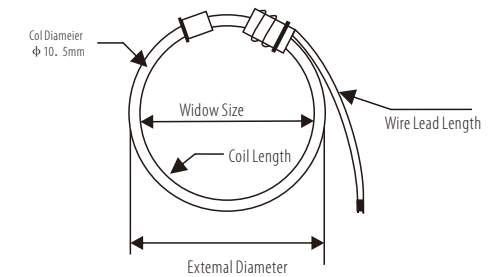
| Specification         |  |
|-----------------------|--|
| Current Range         | 10A to 100kA   |
| Rated output          | 0.333Vac at rated current with Integrator, 100mV/per 1000A @ 50Hz without integrator |
| Accuracy              | ± 1% from 5% to 120% of rated current with integrator (45-65Hz)                      |
| Phase Angle           | ≤ ± 1° 5% to 120% from 5% to 120% of rated current                                   |
| Linear                | 0.5%   |
| Frequency             | 1Hz-1MHz, 50/60 Hz nominal   |
| Work Voltage          | 600V   |
| Power supply          | 7-30VDC (9Vdc, 12Vdc recommended)  |
| Coil Diameter         | 10.5mm, 12mm or as customer order  |
| Window size           | 10mm, 15mm or as per customer order  |
| Wire lead             | 1 meter sheath cable or as customers order   |
| Withstand Voltage     | 3000V  |
| Operating temperature | -25°C - +70°C  |
| IP class              | IP65   |
| Certification         | CE recognized, RoHS Compliant  |

| Model                    | Rated Amps | Window Size |
|--------------------------|------------|-------------|
| ESCT-RC060-100A/0.333V   | 100/5      | 60mm        |
| ESCT-RC076-200A/0.333V   | 200/5      | 76mm        |
| ESCT-RC090-400A/0.333V   | 400/5      | 90mm        |
| ESCT-RC100-800A/0.333V   | 800/5      | 100mm       |
| ESCT-RC150-1000A/0.333V  | 1000/5     | 150mm       |
| ESCT-RC160-1200A/0.333V  | 1200/5     | 160mm       |
| ESCT-RC190-3000A/0.333V  | 3000/5     | 190mm       |
| ESCT-RC200-5000A/0.333V  | 5000/5     | 200mm       |
| ESCT-RC300-6000A/0.333V  | 6000/5     | 300mm       |
| ESCT-3RC060-100A/0.333V  | 100/5      | 60mm        |
| ESCT-3RC076-200A/0.333V  | 200/5      | 76mm        |
| ESCT-3RC090-400A/0.333V  | 400/5      | 90mm        |
| ESCT-3RC100-800A/0.333V  | 800/5      | 100mm       |
| ESCT-3RC150-1000A/0.333V | 1000/5     | 150mm       |
| ESCT-3RC160-1200A/0.333V | 1200/5     | 160mm       |
| ESCT-3RC190-3000A/0.333V | 3000/5     | 190mm       |
| ESCT-3RC200-5000A/0.333V | 5000/5     | 200mm       |
| ESCT-3RC300-6000A/0.333V | 6000/5     | 300mm       |

► Wiring diagram



► Dimension



ESCT-3RC





**ESCT-ABO Series**  
SOLID CORE CURRENT TRANSFORMER

- Two built in fixing methods: 1 side base; Busbar mounting
- Built in hinged terminal cover
- Built in transparent cover for name plate
- Wide range accuracy (3,1,0.5,0.5s, 0.2,0.2s)
- Primary current from 5A to 5000A



**ESCT-DM Series**  
SOLID CORE CURRENT TRANSFORMER

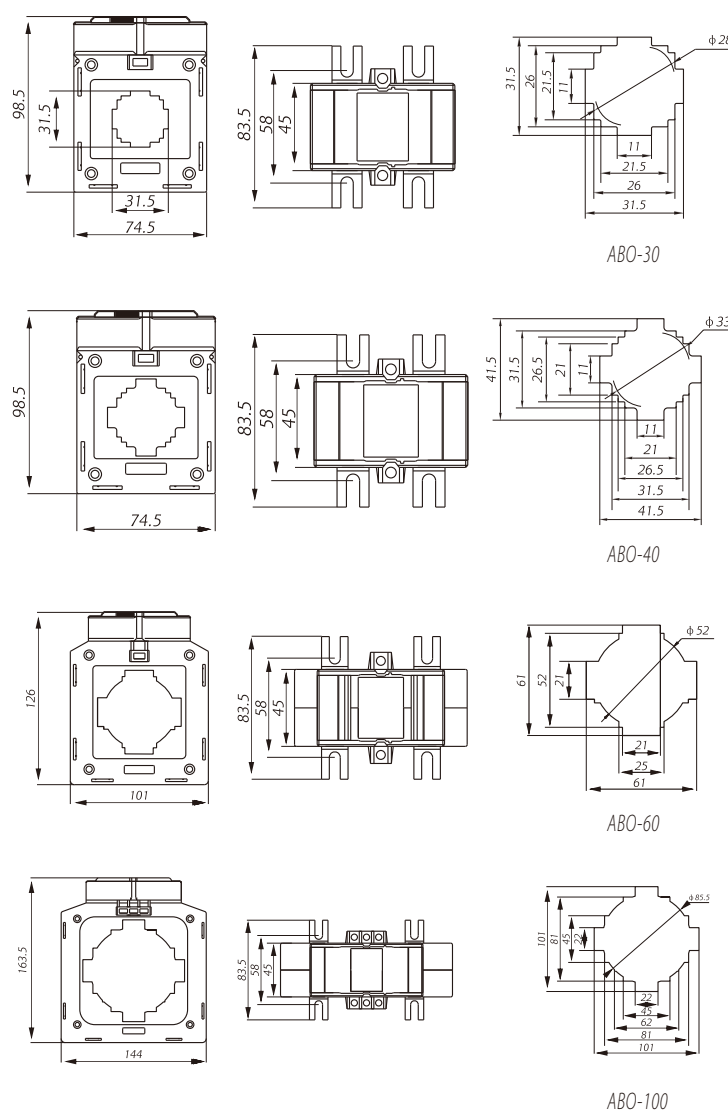
- Two built in fixing methods: 1 side base; Busbar mounting
- Built in hinged terminal cover
- Primary current from 15A to 300A

| Specification                          |  |
|--|--|
| Rated Frequency                        | 50Hz-60Hz  |
| Rated current                          | 5A to 5000A loads                                |
| Rated output                           | 5A, 1A, 0.5A, 0.25A, 0.1A                        |
| Accuracy                               | ± 1% from 20% to 120% of rated current           |
| Rated short-time thermal current (Ith) | 60In   |
| Rated voltage (Um)                     | 1.2In  |
| Operating temperature                  | -10°C~50°C                                       |
| Housing self-extinguishing class       | V0   |
| Standard                               | IEC60044-1, EN60044-1, VDE0414-44-1, GB1208-2006 |

► Introduction

ESCT-ABO perfect designed plastic case current transformer, advanced snap on body, high accuracy ( up to Class 0.2S), humanization transparent cover and lead seal hole design makes the CT very easy to identify after long term use and perfect anti-stealing electricity.

► Dimension



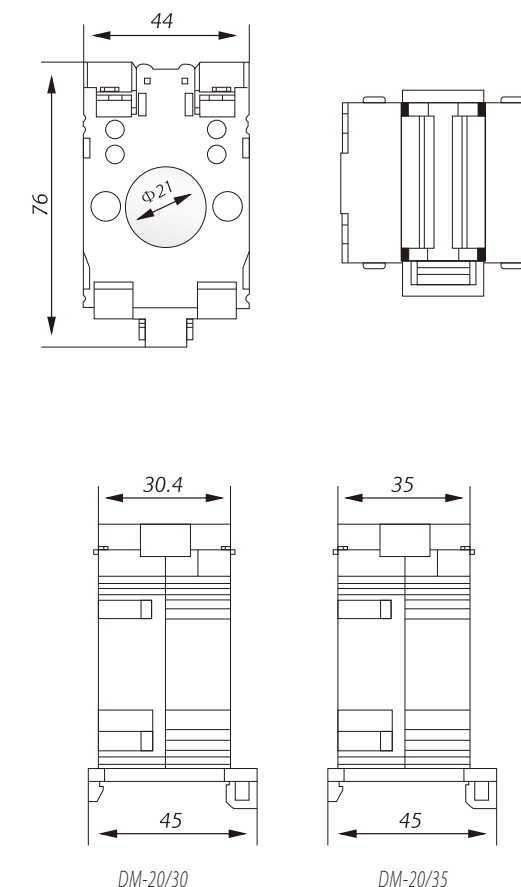
| Model        | Rated Amps | Suggest Window Size |      |
|--------------|------------|---------------------|------|
| ESCT-ABO-30  | 50/5       | 1.5                 | 2.5  |
| ESCT-ABO-30  | 60/5       | 1.5                 | 2.5  |
| ESCT-ABO-30  | 75/5       | 2.5                 | 3.75 |
| ESCT-ABO-30  | 80/5       | 2.5                 | 5    |
| ESCT-ABO-30  | 100/5      | 3.75                | 5    |
| ESCT-ABO-30  | 150/5      | 5                   | 5    |
| ESCT-ABO-30  | 200/5      | 5                   | 5    |
| ESCT-ABO-30  | 250/5      | 5                   | 5    |
| ESCT-ABO-30  | 300/5      | 5                   | 5    |
| ESCT-ABO-40  | 75/5       | 1.5                 | 1.5  |
| ESCT-ABO-40  | 80/5       | 1.5                 | 1.5  |
| ESCT-ABO-40  | 100/5      | 2.5                 | 2.5  |
| ESCT-ABO-40  | 150/5      | 3.75                | 5    |
| ESCT-ABO-40  | 200/5      | 5                   | 5    |
| ESCT-ABO-40  | 250/5      | 5                   | 5    |
| ESCT-ABO-40  | 300/5      | 5                   | 5    |
| ESCT-ABO-40  | 400/5      | 5                   | 5    |
| ESCT-ABO-40  | 500/5      | 5                   | 5    |
| ESCT-ABO-60  | 200/5      | 5                   | 5    |
| ESCT-ABO-60  | 250/5      | 5                   | 5    |
| ESCT-ABO-60  | 300/5      | 5                   | 5    |
| ESCT-ABO-60  | 400/5      | 5                   | 5    |
| ESCT-ABO-60  | 500/5      | 5                   | 5    |
| ESCT-ABO-60  | 600/5      | 5                   | 10   |
| ESCT-ABO-60  | 750/5      | 5                   | 10   |
| ESCT-ABO-60  | 800/5      | 5                   | 10   |
| ESCT-ABO-60  | 1000/5     | 5                   | 10   |
| ESCT-ABO-100 | 800/5      | 5                   | 10   |
| ESCT-ABO-100 | 1000/5     | 5                   | 10   |
| ESCT-ABO-100 | 1200/5     | 7.5                 | 10   |
| ESCT-ABO-100 | 1500/5     | 7.5                 | 10   |
| ESCT-ABO-100 | 1600/5     | 7.5                 | 10   |
| ESCT-ABO-100 | 2000/5     | 10                  | 15   |
| ESCT-ABO-100 | 2500/5     | 10                  | 15   |
| ESCT-ABO-100 | 3000/5     | 10                  | 15   |

| Specification                          |  |
|--|--|
| Rated Frequency                        | 50Hz-60Hz  |
| Rated current                          | 15A to 300A loads                                |
| Rated test voltage                     | 3kV AC ( 1min)                                   |
| Rated short-time thermal current (Ith) | 60In   |
| Rated voltage (Um)                     | 0.72kV AC.                                       |
| Rated output                           | 5A or 1A   |
| Rated voltage (Um)                     | 1.2 In   |
| Operating temperature                  | -10°C~50°C                                       |
| Housing self-extinguishing class       | V0   |
| Safety factor                          | Fs5  |
| Standard                               | IEC60044-1, EN60044-1, VDE0414-44-1, GB1208-2006 |

► Introduction

ESCT-DM is world famous MINI design plastic case current transformer, snap on body, be wildly used in generators. It is available for connecting with cable, and also available for connecting with Busbas. Its primary currents between 15A~300A with 5A or 1A secondaries with up to Class 1.0 accuracy Performance.

► Dimension



| Model         | Rated Amps | Burden(VA)0.5 /Accuracy1.0 |
|---------------|------------|----------------------------|
| ESCT-DM-20/30 | 50/5       | 1                          |
| ESCT-DM-20/30 | 60/5       | 1.25                       |
| ESCT-DM-20/30 | 75/5       | 1.5                        |
| ESCT-DM-20/30 | 80/5       | 1.5                        |
| ESCT-DM-20/30 | 100/5      | 2.5                        |
| ESCT-DM-20/30 | 120/5      | 2.5                        |
| ESCT-DM-20/30 | 150/5      | 2.5                        |
| ESCT-DM-20/30 | 200/5      | 3.75                       |
| ESCT-DM-20/30 | 250/5      | 3.75                       |
| ESCT-DM-20/30 | 300/5      | 3.75                       |
| ESCT-DM-20/35 | 50/5       | -                          |
| ESCT-DM-20/35 | 60/5       | -                          |
| ESCT-DM-20/35 | 75/5       | 1.5                        |
| ESCT-DM-20/35 | 80/5       | 1.5                        |
| ESCT-DM-20/35 | 100/5      | 2.5                        |
| ESCT-DM-20/35 | 120/5      | 2.5                        |
| ESCT-DM-20/35 | 150/5      | 2.5                        |
| ESCT-DM-20/35 | 200/5      | 2.5                        |
| ESCT-DM-20/35 | 250/5      | 3.75                       |
| ESCT-DM-20/35 | 300/5      | 3.75                       |



**ESRD-TMS1/S2**  
DIGITAL MULTIFUNCTION TIME RELAY

- Microcontroller based
- 24 operating modes
- LCD display operating modes, set delay and operating time
- Time ranges : 0-9999s, 0-9999min
- AC/DC 24-240V supply voltage
- 2 independent NO contacts, controlled by different operating modes
- Backlighted LCD display
- Easy setting by keys
- 2 module Din rail mounting



**ESRD-TPA1**  
SINGLE CHANNEL ASTRONOMICAL

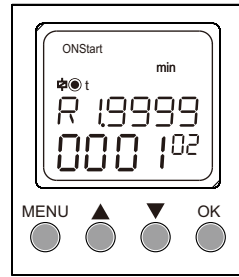
- Digital time switch with astronomical program
- 3 year power reserve(lithium battery).
- Sealable cover of the front panel, easy setting by 4 keys.
- Automatic summer/winter time switchover
- LCD display,Holiday mode.
- Single channel
- Automatic transfer of weekdays
- 220-240V AC input supply.
- Double-modules, mounted on TH-35 rail.

| Specification       |                                      |
|---------------------|--------------------------------------|
| Supply terminals    | A1,A2                                |
| Pulse terminal      | S                                    |
| Supply voltage      | AC/DC 24-240V                        |
| Rated frequency     | 50/60Hz                              |
| Time range          | 0-9999s, 0-9999min                   |
| Repetition accuracy | max.±3s/24h 25 °C                    |
| Data readout        | Back-lighted LCD display             |
| Data storage        | 10 years                             |
| Output contacts     | 1 C/O +1 NO                          |
| Current rating      | 8A/ AC1                              |
| Contacts capacity   | AC-15:2A                             |
| Insulation voltage  | 250V                                 |
| Protection degree   | IP20                                 |
| Pollution degree    | 3                                    |
| Electrical life     | 10 <sup>5</sup>                      |
| Mechanical life     | 10 <sup>6</sup>                      |
| Altitude            | ≤2000m                               |
| Ambient temperature | -5°C~+40°C                           |
| Storage temperature | -10°C~+50°C                          |
| Wire size           | 0.5mm <sup>2</sup> ~1mm <sup>2</sup> |
| Torque              | 0.5Nm                                |
| Mounting            | TH-35 DIN-Rail                       |

► Description

○ Panel

○ Symbol legend

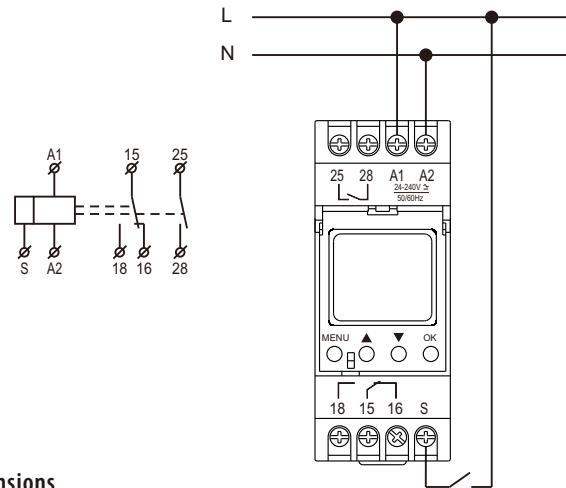


- ☉ — Output relay ON
- ☾ — Output relay OFF
- R1 — Output relay 1
- R2 — Output relay 2
- SET — Parameters setting
- ONStart — Starting with ON
- OFFStart — Starting with OFF
- J — Time impulse release by rising edge
- L — Time impulse release by falling edge
- min — Set time: minute
- sec — Set time: second
- T — Time delay T
- T1 — Time delay T1
- T2 — Time delay T2
- start — Starting with S pulse

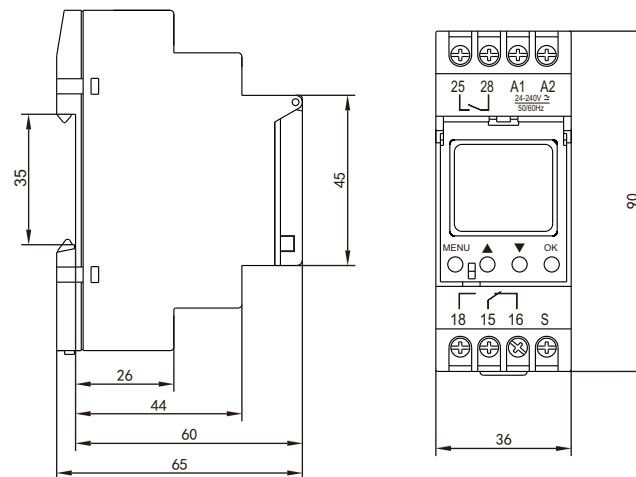
○ Keys

- |      |                            |    |                          |
|------|----------------------------|----|--------------------------|
| MENU | ○ Enter configuration menu | OK | ○ Confirm settings       |
| ▲    | ○ Select menu              | ▼  | ○ Select menu            |
| ○    | ○ Digit +                  | ○  | ○ Digit -                |
| ○    | ○ Display menu selection   | ○  | ○ Display menu selection |

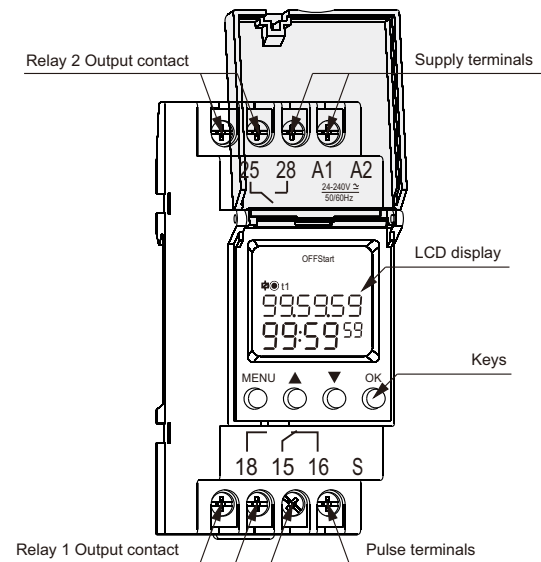
► Wiring diagrams



► Dimensions

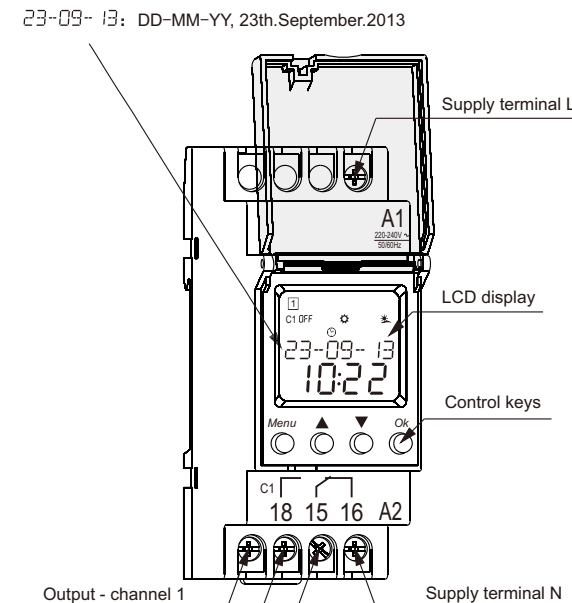


► Front-face panel



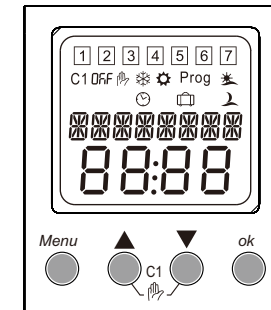
| Specification                 |                                     |
|-------------------------------|-------------------------------------|
| Supply terminals              | A1-A2                               |
| Rated voltage                 | AC220-240V                          |
| Rated frequency               | 50/60Hz                             |
| Power consumption             | 1W                                  |
| Supply voltage tolerance      | ±10%                                |
| Number of channels            | 1                                   |
| Program                       | astronomical                        |
| Mode of work                  | manual, automatic, holiday          |
| Summer/winter time            | off, automatic changes              |
| Time tolerance                | ≤1s/day at 20°C                     |
| Power reserve                 | 3 year                              |
| Data readout                  | LCD display                         |
| Number of contacts            | 1 C/O                               |
| Current of contacts           | 16A/250V AC1                        |
| Switching capacity            | 4000VA/AC, 384W/DC                  |
| Electrical life               | 10 <sup>6</sup>                     |
| Mechanical life               | 10 <sup>5</sup>                     |
| Rated insulation voltage      | 250V                                |
| Protection degree             | IP20                                |
| Pollution degree              | 3                                   |
| Altitude                      | ≤2000m                              |
| Ambient temperature           | -30°C~55°C                          |
| Permissible relative humidity | ≤50%(40°C,without condensation)     |
| Storage temperature           | -35°C~70°C                          |
| Wire size                     | 1mm <sup>2</sup> ~ 4mm <sup>2</sup> |
| Tightening torque             | 0.5Nm                               |
| Mounting                      | TH-35 Rail(EN60715)                 |
| Dimensions                    | 90*36*64mm                          |
| Standard                      | IEC60947-1/IEC60947-2-7             |

► Front-face panel



► Description

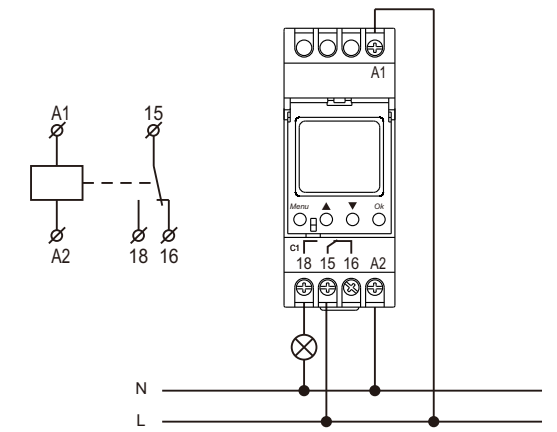
○ Panel



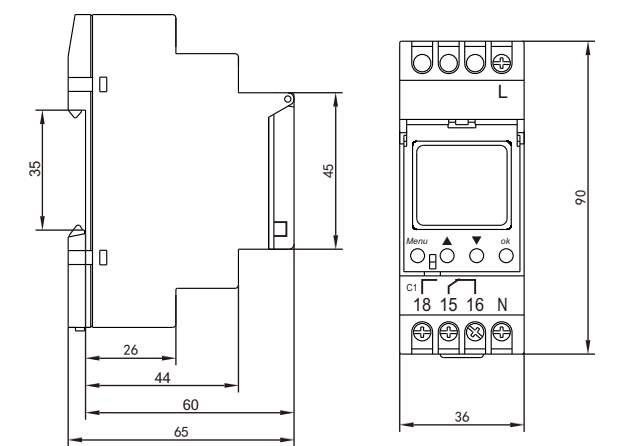
- 1 2 3 4 5 6 7 — Days of the week Monday, Tuesday, ...Sunday
- C1 — Channel 1
- On OFF — Relay status: On Activate, OFF Deactivate
- ☉ — Automatic mode
- ☾ — Manual mode
- ☰ — Holiday mode
- ☀ — Sunrise
- ☿ — Sunset
- ☄ — Winter time
- ☄ — Summer time
- Prog — Program setting

- |      |                              |    |                              |
|------|------------------------------|----|------------------------------|
| Menu | ○ Enter main menu            | OK | ○ Confirm selection          |
| ○    | ○ Back to main menu          | ○  | ○ Select menu                |
| ▲    | ○ Select menu                | ▼  | ○ Select menu                |
| ○    | ○ Increase a numerical value | ○  | ○ Decrease a numerical value |
| ▲▼   | ○ C1 manual operation        |    |                              |

► Wiring diagrams



► Dimensions



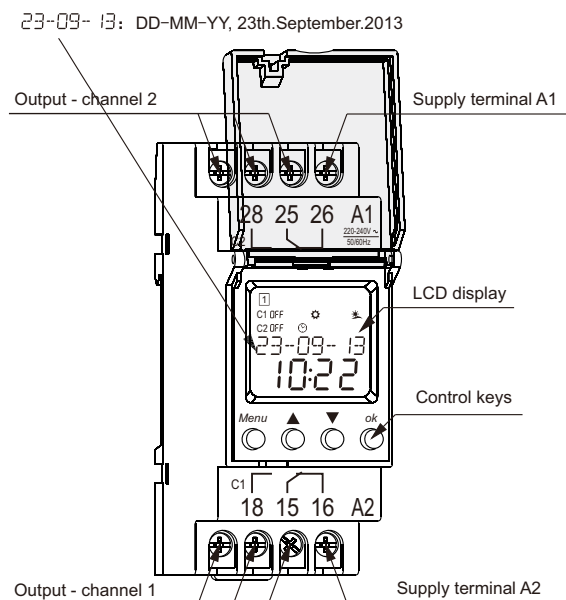


**ESRD-TPW1/2**  
DOUBLE CHANNEL DIGITAL WEEKLY

- Digital time switch with weekly program
- 10 year power reserve(lithium battery)
- Sealable cover of the front panel, easy setting by 4 keys
- Automatic summer/winter time switchover
- Back-lighted LCD display,Holiday mode
- Double channels
- Automatic transfer of weekdays
- 24-264V AC/DC input supply
- Double-module, mounted on TH-35 rail

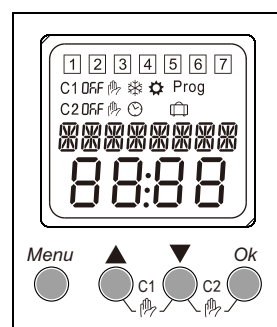
| Specification                 |                                    |
|-------------------------------|------------------------------------|
| Supply terminals              | A1-A2                              |
| Rated voltage                 | AC220-240V                         |
| Rated frequency               | 50/60Hz                            |
| Power consumption             | 2W                                 |
| Supply voltage tolerance      | ± 10%                              |
| Number of channels            | Double channels                    |
| Number of programs            | 100                                |
| Program                       | weekly program, daily program      |
| Operating modes               | manual, automatic, holiday         |
| Summer/winter time            | off, automatic changes             |
| Time tolerance                | ≤ 1s/day at 25°C                   |
| Power reserve                 | 10 year                            |
| Data readout                  | LCD display with backlight         |
| Number of contacts            | 2 C/O                              |
| Current of contacts           | 16A/250V AC1                       |
| Switching capacity            | 4000VA/AC1, 384W/DC                |
| Mechanical life               | 10 <sup>6</sup>                    |
| Electrical life               | 10 <sup>5</sup>                    |
| Rated insulation voltage      | 250V                               |
| Protection degree             | IP20                               |
| Pollution degree              | 3                                  |
| Altitude                      | ≤ 2000m                            |
| Ambient temperature           | -20°C~55°C                         |
| Permissible relative humidity | ≤ 50%(40°C,without condensation)   |
| Storage temperature           | -30°C~70°C                         |
| Wire size                     | 1mm <sup>2</sup> ~4mm <sup>2</sup> |
| Tightening torque             | 0.5Nm                              |
| Mounting                      | TH-35 Rail(EN60715)                |
| Dimensions                    | 90*36*64mm                         |
| Standard                      | IEC60947-1/IEC60947-2-7            |

► Front-face panel



► Description

○ Panel 1 2 3 4 5 6 7 — Days of the week Monday, Tuesday, ...Sunday

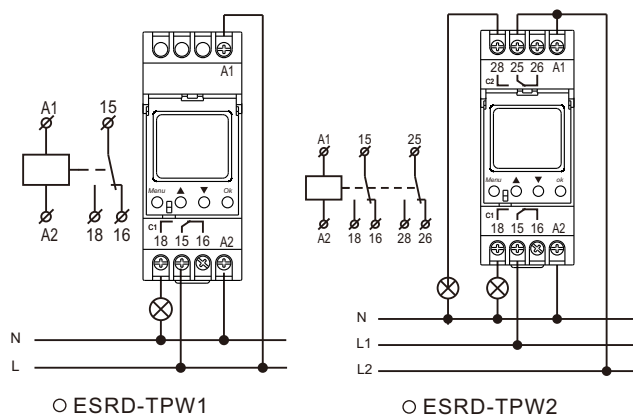


- C1 — Channel 1
- C2 — Channel 2
- On OFF — Relay status
- ⌚ — Automatic mode
- ⌚ — Manual mode
- 🏠 — Holiday mode
- ❄️ — Winter time
- ☀️ — Summer time
- Prog — Program setting

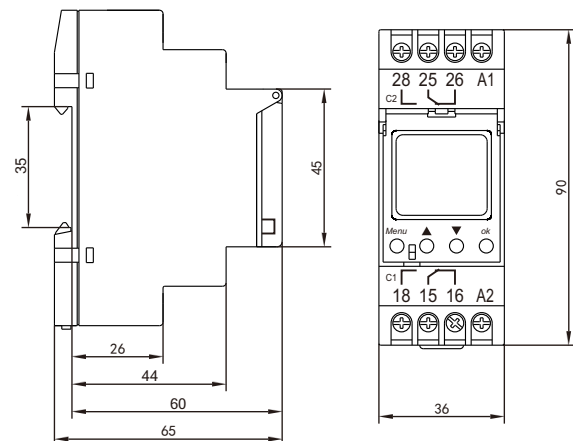
Keys

- Menu ○ Enter main menu
- Back to main menu
- Ok ○ Confirm selection
- ▲ ○ Select menu
- Increase a numerical value
- ▼ ○ Select menu
- Decrease a numerical value
- ▲ C1 ○ C1 manual operation
- ▼ C2 ok ○ C2 manual operation

► Wiring diagrams



► Dimensions

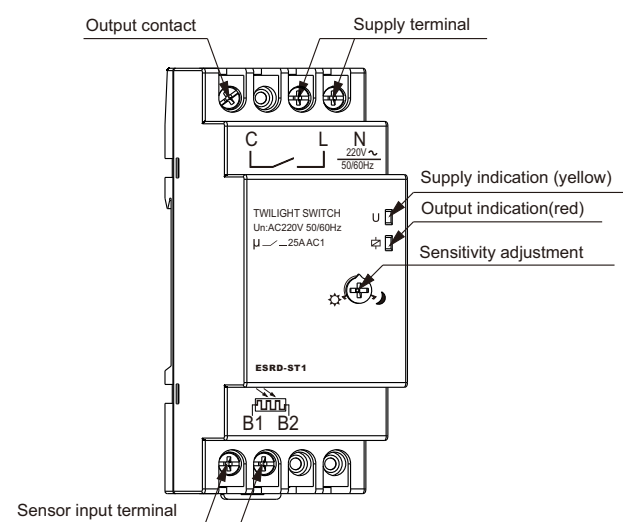


**ESRD-ST1**  
TWILIGHT SWITCH

- Modular design, 36mm wide housing.
- Sensitivity adjustment from 2 to 100 lux
- Eternal light sensor included in delivery
- Fixed switching on and off delay
- LED indication for power supply and relay status
- DIN Rail mounting

| Specification                         |                              |
|---------------------------------------|------------------------------|
| Rated control voltage                 | AC220V                       |
| Frequency                             | 50/60Hz                      |
| Sensitivity threshold                 | 2~100lux adjustable          |
| Switch-on delay                       | 2-5s                         |
| Switch-off delay                      | 10-15s                       |
| Hysteresis (switching off/on ratio)   | 1.20                         |
| Output contact                        | 1NO                          |
| Current rating                        | 25A/250V AC1                 |
| Incandescent lamp load                | 3000 W                       |
| Halogen lamp load                     | 3000W                        |
| Fluorescent lamp load (compensated)   | 1000 W                       |
| Fluorescent lamp load (uncompensated) | 1300 W                       |
| Protection degree                     | Terminal: IP20, Sensor: IP65 |
| Ambient temperature                   | -25°C~+40°C                  |

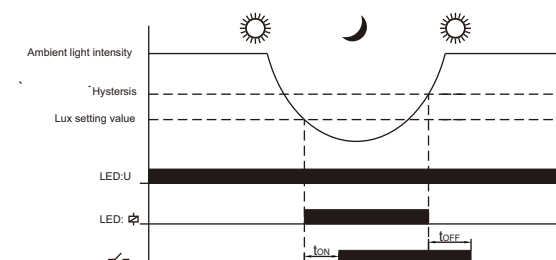
► Front-face panel



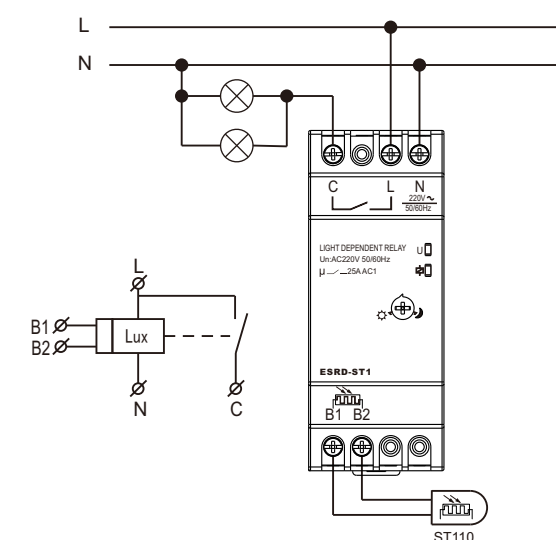
1. Connect the sensor ST110.
  2. Set the sensitivity.
  3. When the strength of light goes below set sensitivity value, output indication LED lights up and the delay begins. After the switch on delay, switch energizes its contacts. Delay can avoid any command caused by temporary illumination or headlights
- When the strength of light goes above the hysteresis value, output indication LED goes out and the delay begins. After the switch off delay, switch de-energizes its contacts.

Hysteresis= 1/4\* set sensitivity value

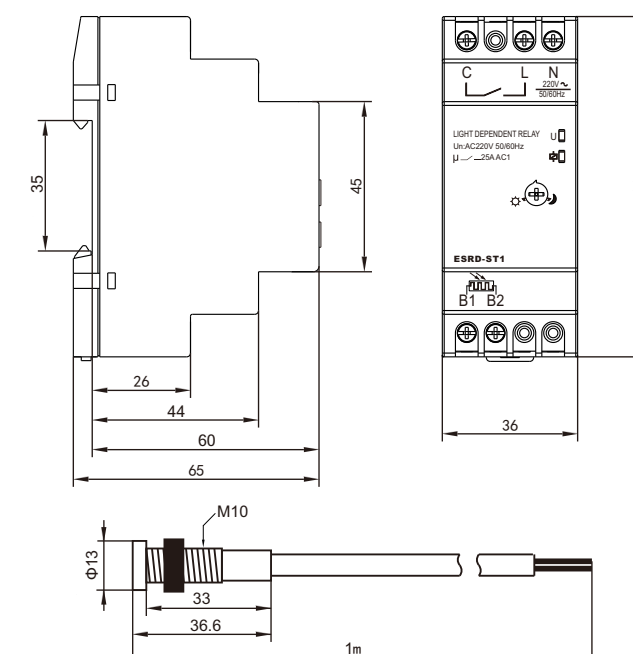
► Function diagram



► Wiring diagrams



► Dimensions





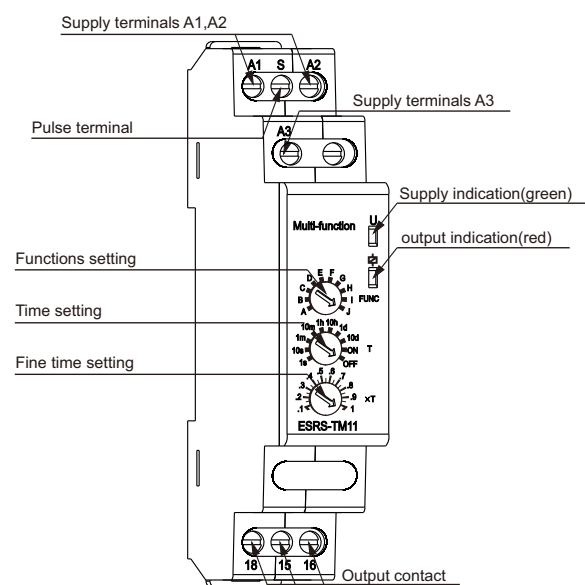


### ESRS-TM11/12/14/23 MULTIFUNCTION TIME RELAY

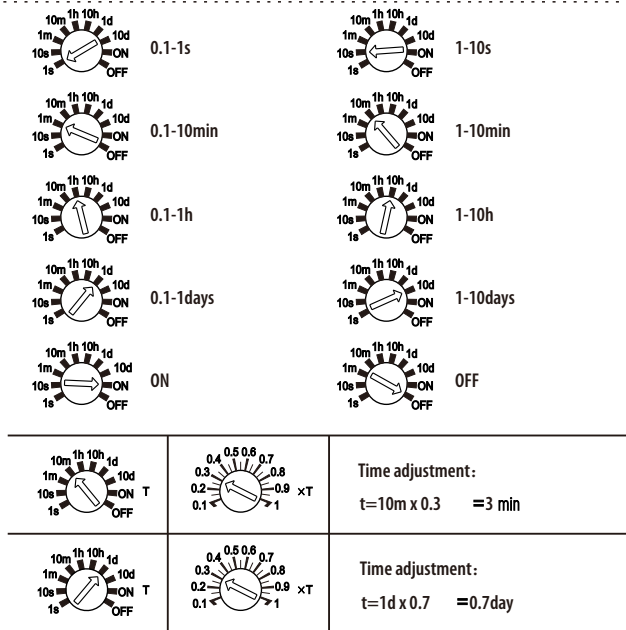
- Microcontroller based
- Modular design, 18mm wide housing
- 10 operating modes
- 10 time ranges(1s,10s,1m,10m,1h,10h,1d,10d,ON,OFF)
- 1 changeover contact
- LED indication for power supply and relay status
- DIN-Rail mounting

| Specification       |                                      |                                    |
|---------------------|--------------------------------------|------------------------------------|
| Models              | ESRS-TM11/14/23                      | ESRS-TM12                          |
| Supply terminals    | A1,A2                                | A1,A2,A3                           |
| Pulse terminal      | S                                    |                                    |
| Supply voltage      | AC 220V                              | A1-A2: AC 220V<br>A3-A2: AC/DC 24V |
| Rated frequency     | 50/60Hz                              |                                    |
| Time range          | 0.1s-10days                          |                                    |
| Setting accuracy    | <5%                                  |                                    |
| Repetition accuracy | <0.2%                                |                                    |
| Output contacts     | 1 C/O                                |                                    |
| Current rating      | 8A /AC1                              |                                    |
| Contacts capacity   | AC-15: 2A                            |                                    |
| Insulation voltage  | 250V                                 |                                    |
| Protection degree   | IP20                                 |                                    |
| Pollution degree    | 3                                    |                                    |
| Electrical life     | 10 <sup>5</sup>                      |                                    |
| Mechanical life     | 10 <sup>6</sup>                      |                                    |
| Altitude            | ≤2000m                               |                                    |
| Ambient temperature | -5°C~+40°C                           |                                    |
| Storage temperature | -10°C~+50°C                          |                                    |
| Wire size           | 0.5mm <sup>2</sup> ~1mm <sup>2</sup> |                                    |
| Torque              | 0.5Nm                                |                                    |
| Mounting            | TH-35 DIN-Rail                       |                                    |

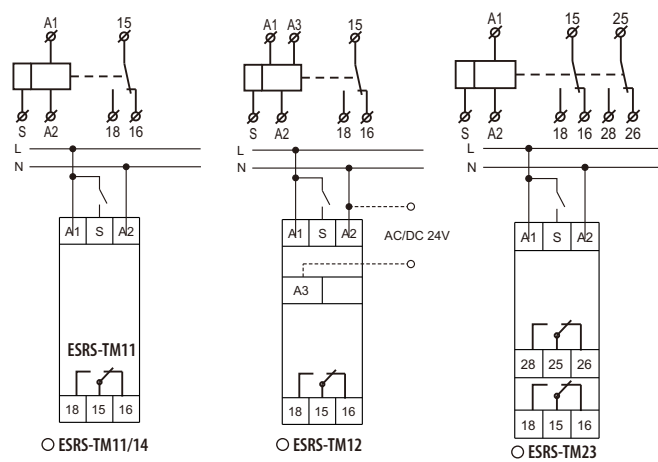
#### Front-face panel



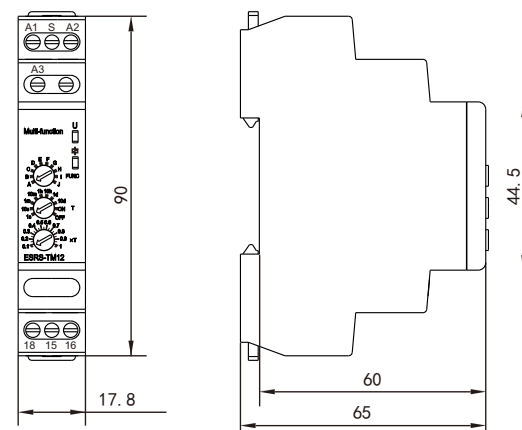
#### Description



#### Wiring diagrams



#### Dimensions

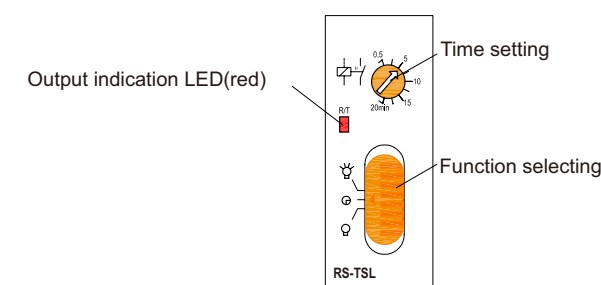


### ESRD-TSL Series STAIRCASE LIGHTING TIME

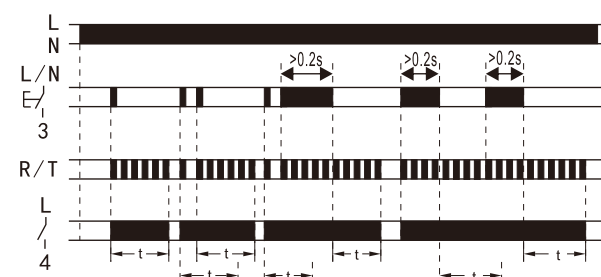
- Microcontroller based
- Modular design, 18mm wide housing
- Possibility of 3 wire or 4 wire connection
- ON,OFF,AUTO three operation modes
- Repetition accuracy<0.2%
- LCD indication for relay status
- DIN-Rail mounting

| Specification                              |                  |
|--|------------------|
| Rated supply voltage                       | AC230VAC,50/60Hz |
| Type of contact                            | 1NO(AgNi)        |
| Rated current(Ith)                         | 10A              |
| Power consumption                          | ≤1.5VA           |
| Incandescent lamp load                     | 2000W            |
| Fluorescent lamp load,leat-lag circuit     | 1000W            |
| Fluorescent lamp load,inductive-capacitive | 1000W            |
| Fluorescent lamp load,parallel compensated | 650W             |
| Inductive load,cosφ=0.6@230V               | 650W             |
| Mechanical life                            | 10 <sup>5</sup>  |
| Electrical life                            | 10 <sup>6</sup>  |
| Time range                                 | 0.5-20m          |
| Setting accuracy                           | ≤5%              |
| Repetition accuracy                        | ≤0.2%            |
| Maximum load of illuminated switch         | 50mA             |
| Reset time                                 | ≥200ms           |
| Altitude                                   | ≤2000m           |
| Protection degree                          | IP20             |
| Pollution degree                           | 3                |
| Ambient temperature                        | -5°C~+40°C       |
| Storage temperature                        | -25°C~+75°C      |

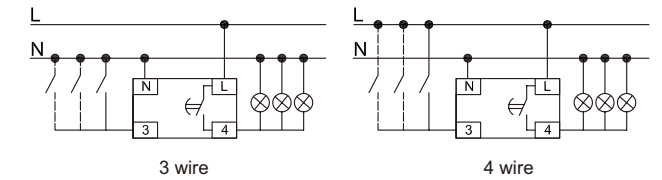
#### Front-face panel



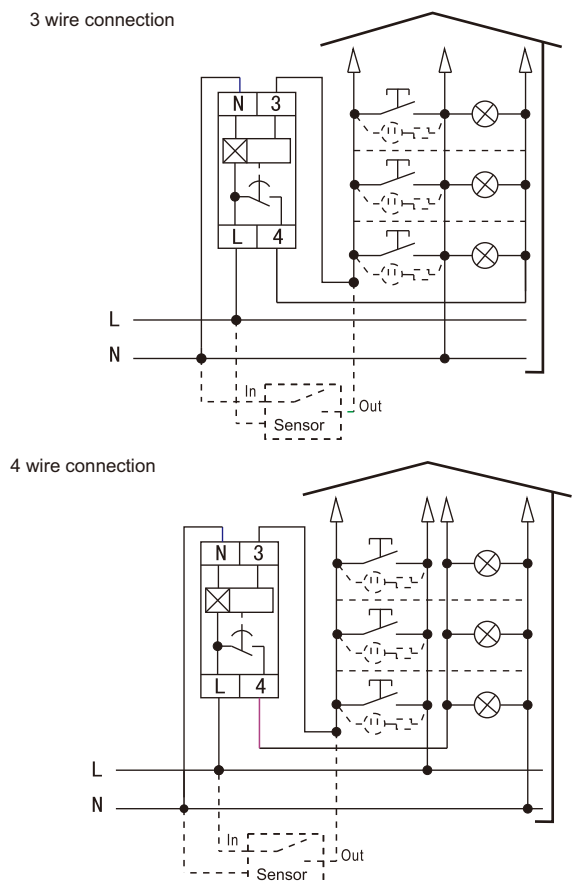
#### FUNCTION DIAGRAM



#### Wiring diagrams



#### Example of application



#### Dimensions

