



Available in 60+ Countries Worldwide  
Certified Globally · Precision Metering · Smart IOT



## SINGLE PHASE/ THREE PHASE ENERGY METER FOR SOLAR PV SYSTEM

When Electricity Matters

### SOLAR PV



### Eastron Electronic Co., Ltd.

Tel: +86-400-996-9296

E-mail: [sales@eastrongroup.com](mailto:sales@eastrongroup.com)

Web: [www.eastrongroup.com](http://www.eastrongroup.com)

Address: NO 52, Dongjin Road, Nanhu, Jiaxing, Zhejiang, China

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# ABOUT US

## COMPANY PROFILE

Annual Production Capacity

**5000000+**

Patent

**300+**

Export Country

**60+**



Eastron Electronic Co., Ltd., founded in 2012 and headquartered in Jiaxing, China, is a National High-Tech Enterprise and a Specialized and Sophisticated Enterprise. Eastron focuses on intelligent energy metering and energy management solutions. Its products are widely used in solar PV, energy storage, data centers, smart factories, EV charging stations, power transmission and distribution, etc. In the solar PV and energy storage field, Eastron has cutting-edge technology and a mature product line. It offers a full range of energy metering and control products, from bus metering instruments to smart controllers at the load end, precisely tailored to diversified applications such as residential balcony PV & storage systems and C&I energy storage.

### Application Fields



Balcony PV Systems



Distributed PV



Energy Storage Systems



EV Charging



Energy Management System

### Innovation-Driven, Technology-First

Eastron has established provincial R&D and industrial design centers, and continues to invest heavily in the development of new metering technologies and products. With over 300 proprietary intellectual property rights, Eastron's product performance leads the industry.

### International Certifications, Global Presence

Eastron's products are certified to major international standards, including MID, CE, PTB (Eichrecht), UL, ETL, and SAA. They are exported to more than 60 countries and regions across Europe, Southeast Asia, Oceania, and the Americas.

### Industry Expertise, Tailored Solutions

Eastron has deep expertise in new energy (solar PV and EV charging), intelligent buildings (building automation), Industry 4.0 (smart factories), data centers, and power transmission & distribution. Eastron delivers smart energy management solutions covering high-precision metering, power quality monitoring, and intelligent power distribution management.

### Company Culture

[Vision] Global Leader in Micro Smart Metering

[Philosophy] Enabling Sustainable Growth for Customers

[Mission] Making Every kWh Smarter, Safer, and More Accurate

[Value] Integrity, Pragmatism, Innovation, Progress



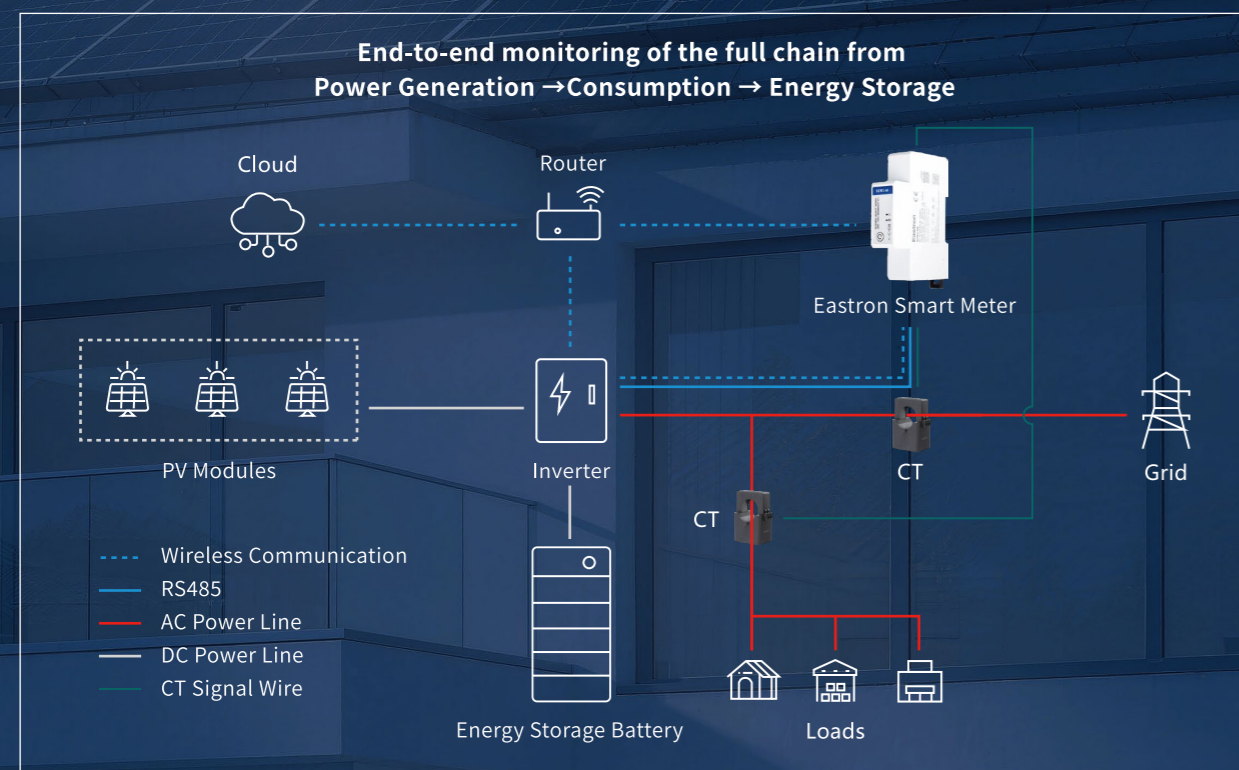
# SOLAR PV

## Smart Metering Solution Value

The booming solar industry urgently demands robust solutions for distributed PV systems to enhance energy independence and grid resilience. Eastron has engineered a range of compact, powerful anti-reverse-current smart energy meters precisely tailored to solar photovoltaic systems — a direct response to the industry’s evolving requirements.

Our meters enable real-time energy monitoring via RS485, with select models featuring Wi-Fi or LoRa for flexible data access. Certified to MID, UL, CE, and SAA standards, they ensure precise tracking of grid consumption and solar feed-in, providing instant energy flow insights.

Designed specifically for PV performance, Eastron meters drive granular optimization of generation, consumption, and storage efficiency. We transform solar data into actionable efficiency gains through reliable, industry-validated operation.



- Real-time monitoring of generation and consumption data to maximize PV system returns
- Accurate metering of grid import and export to minimize energy waste
- Local and remote data access support for data-driven energy management



# BALCONY PHOTOLTAIC METERING

- SEM1-M-2 & SEM1-WL-2 ..... 05
- SEM1-M-2L & SEM1-WL-2L ..... 06
- SEM3-M-2 & SEM3-WL-2 ..... 07
- SEM3-M-2L & SEM3-WL-2L ..... 08
- SEM5-1 ..... 09
- SEM5-5 ..... 10
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# SEM1-M-2 & SEM1-WL-2

Balcony Photovoltaic Metering



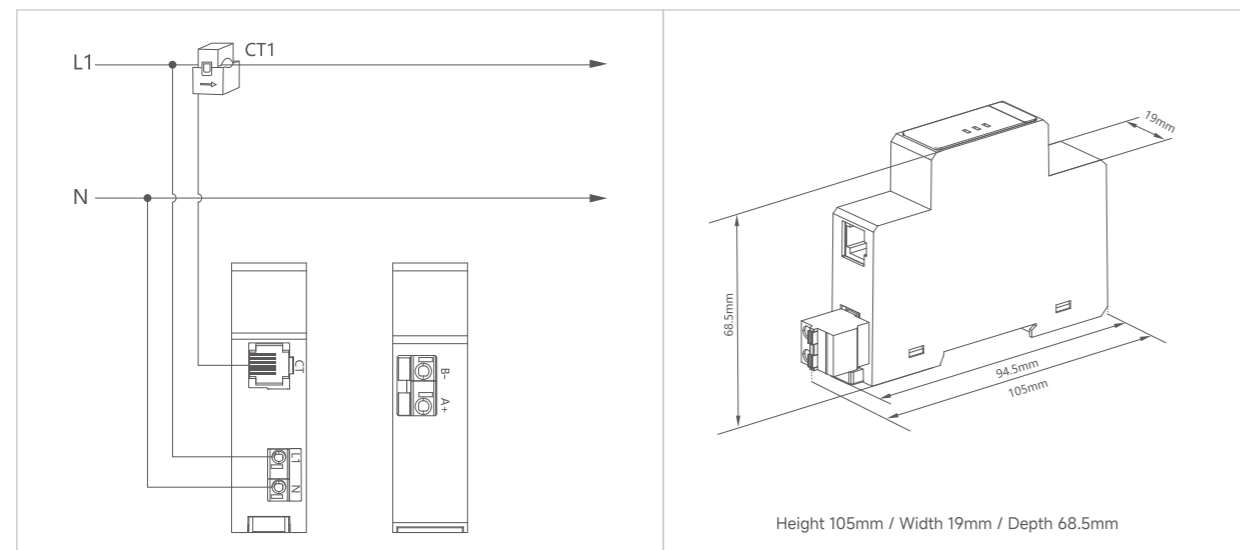
- Works with 1P2W
- Multi-parameter Measurement
- Bi-directional Measurement
- RS485 Modbus RTU
- Wi-Fi Available
- Easy-to- connect Solution
- 50 mS Data Update Rate



## Technical Specification

<b>Electrical Characteristics</b>	
Voltage Range	100~277V AC
Current	40mA CT Input
Frequency	50/60Hz
Data Update Rate	RS485:50mS / Wi-Fi:100mS
<b>Performance Criteria</b>	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤90%,non-condensing
Altitude	≤2000m
<b>Accuracy</b>	
Active Energy	Class 1 IEC62053-21
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
<b>Communication</b>	
<b>Interface 1</b>	
RS485	
Interface 1 Protocol	Modbus RTU
Baud Rate	2400~115200bps (9600bps default)
Address Range	001 to 247
Parity Bit	none (default) / odd /even
Response Time	<50 mS
<b>Interface 2</b>	
Wi-Fi (SEM1-WL-2 Only)	
Interface 2 Protocol	MODBUS TCP
Wi-Fi Range	Up to 30m indoors and 80m outdoors

## Wiring and Dimension



# SEM1-M-2L & SEM1-WL-2L

Balcony Photovoltaic Metering



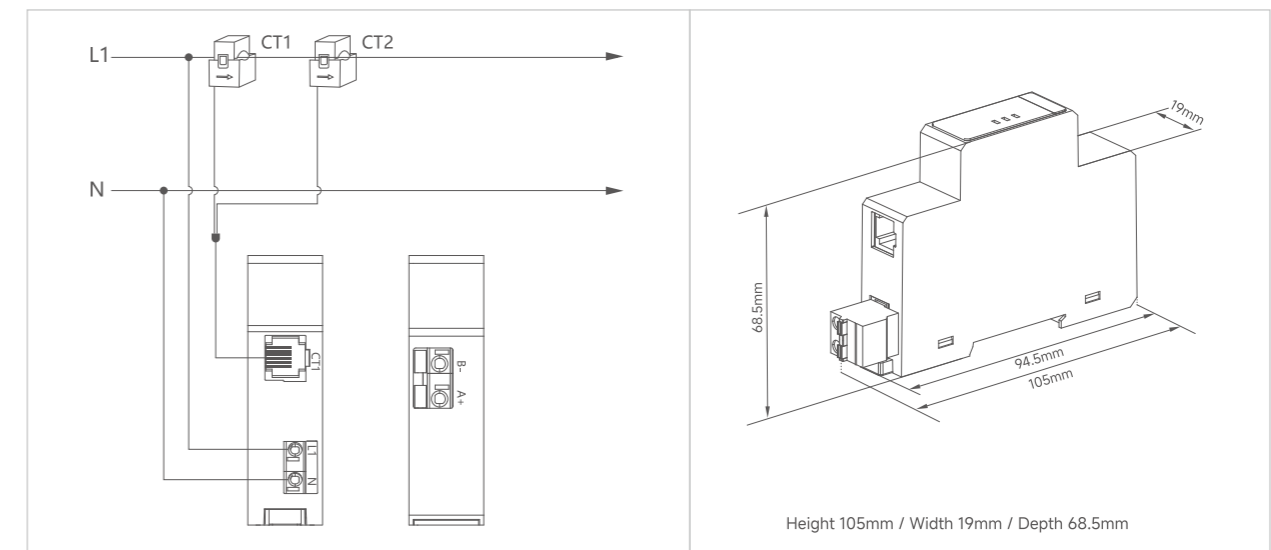
- Works with 2\*1P2W
- Bi-directional Measurement
- RS485 Modbus RTU
- Wi-Fi Available
- Easy-to- connect Solution
- 50 mS Data Update Rate



## Technical Specification

<b>Electrical Characteristics</b>	
Voltage Range	100~277V AC
Current	40mA CT Input
Frequency	50/60Hz
Data Update Rate	RS485:50mS / Wi-Fi:100mS
<b>Performance Criteria</b>	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤90%,non-condensing
Altitude	≤2000m
<b>Accuracy</b>	
Active Energy	Class 1 IEC62053-21
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
<b>Communication</b>	
<b>Interface 1</b>	
RS485	
Interface 1 Protocol	Modbus RTU
Baud Rate	2400~115200bps (9600bps default)
Address Range	001 to 247
Parity Bit	none (default) / odd /even
Response Time	<50 mS
<b>Interface 2</b>	
Wi-Fi (SEM1-WL-2L Only)	
Interface 2 Protocol	MODBUS TCP
Wi-Fi Range	Up to 30m indoors and 80m outdoors
Wi-Fi Protocol	802.11 b/g/n

## Wiring and Dimension



# SEM3-M-2 & SEM3-WL-2

Balcony Photovoltaic Metering



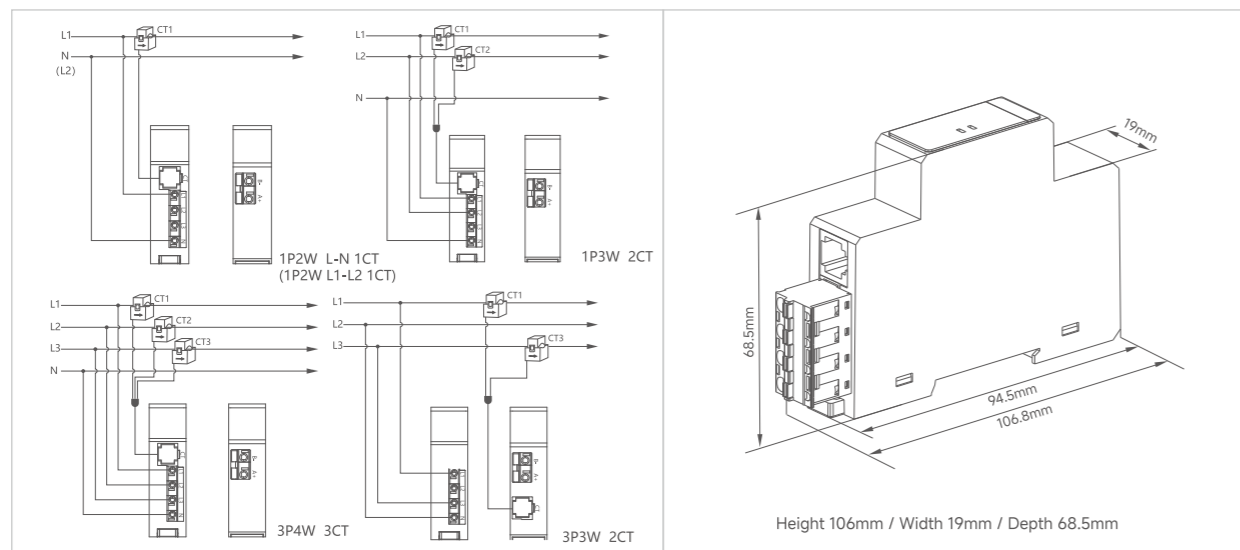
- Works with 3P3W/3P4W/1P2W/1P3W
- Multi-parameter Measurement
- Bi-directional Measurement
- RS485 Modbus RTU
- Wi-Fi Available
- Phase Sequence Automatic Detection
- CT Open Circuit Detection & Ratio Auto-Recognition



## Technical Specification

<b>Electrical Characteristics</b>	
Voltage Range	90~277V/AC (L-N)/156~480V/AC (L-L)
Current	40mA CT Input
Frequency	50/60Hz
Data Update Rate	RS485:50mS / Wi-Fi:100mS
<b>Performance Criteria</b>	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤90%,non-condensing
Altitude	≤2000m
<b>Accuracy</b>	
Active Energy	Class 1 IEC62053-21
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
<b>Communication</b>	
<b>Interface 1</b>	
Interface 1 Protocol	RS485 Modbus RTU
Baud Rate	2400~115200bps (9600bps default)
Address Range	001 to 247
Parity Bit	none (default) / odd /even
Response Time	<50 mS
<b>Interface 2</b>	
<b>Wi-Fi (SEM3-WL-2 Only)</b>	
Interface 2 Protocol	MODBUS TCP
Wi-Fi Range	Up to 30m indoors and 80m outdoors
Wi-Fi Protocol	802.11 b/g/n

## Wiring and Dimension



# SEM3-M-2L & SEM3-WL-2L

Balcony Photovoltaic Metering



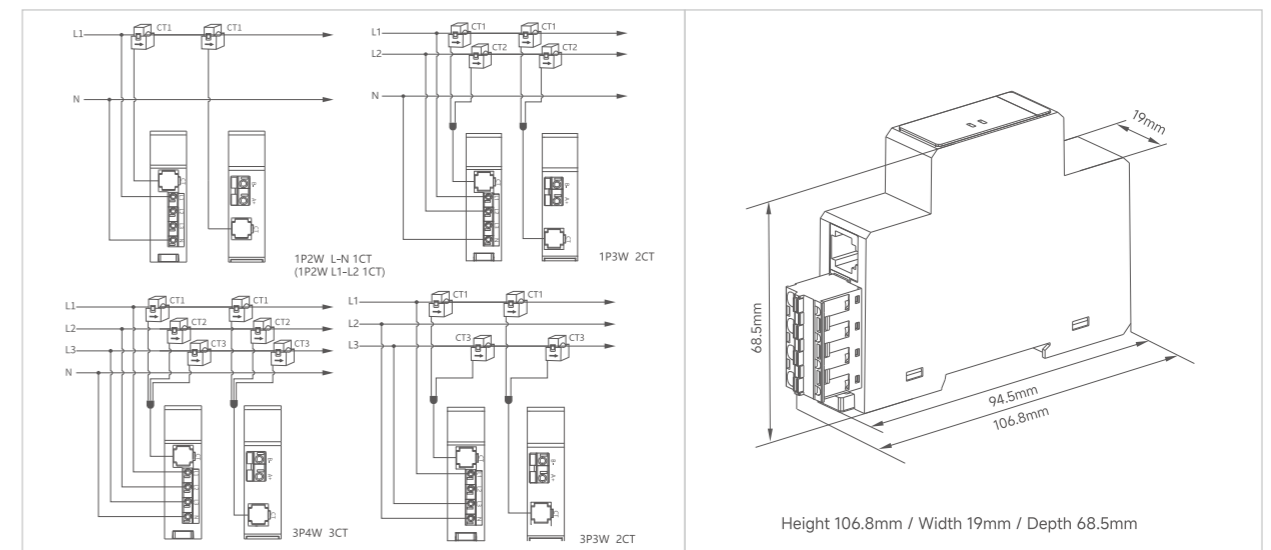
- Works with 2\*3P3W/3P4W/1P2W/1P3W
- Multi-parameter Measurement
- Bi-directional Measurement
- RS485 Modbus RTU
- Wi-Fi Available
- Phase Sequence Automatic Detection
- CT Open Circuit Detection & Ratio Auto-Recognition



## Technical Specification

<b>Electrical Characteristics</b>	
Voltage Range	90~277V AC (L-N)/156~480V AC (L-L)
Current	40mA CT Input
Frequency	50/60Hz
Data Update Rate	RS485:50mS / Wi-Fi:100mS
<b>Performance Criteria</b>	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤90%,non-condensing
Altitude	≤2000m
<b>Accuracy</b>	
Active Energy	Class 1 IEC62053-21
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
<b>Communication</b>	
<b>Interface 1</b>	
Interface 1 Protocol	RS485 Modbus RTU
Baud Rate	2400~115200bps (9600bps default)
Address Range	001 to 247
Parity Bit	none (default) / odd /even
Response Time	<50 mS
<b>Interface 2</b>	
<b>Wi-Fi (SEM3-WL-2L Only)</b>	
Interface 2 Protocol	MODBUS TCP
Wi-Fi Range	Up to 30m indoors and 80m outdoors
Wi-Fi Protocol	802.11 b/g/n

## Wiring and Dimension



# SEM5-1

Balcony Photovoltaic Metering



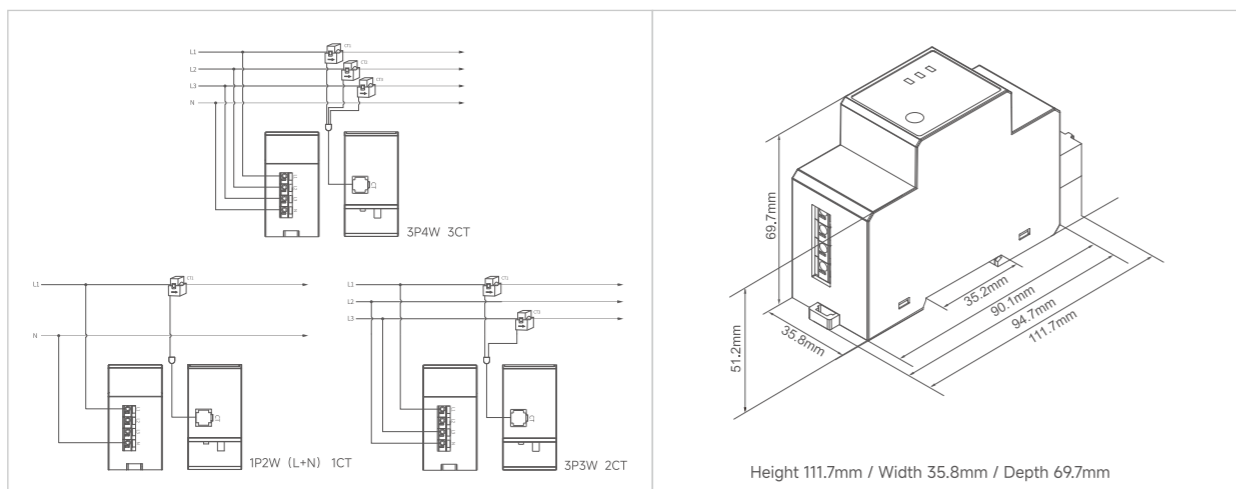
- Works with 3P3W/3P4W/1P2W/2P3W
- Multi-parameter Measurement
- Wi-Fi Available
- LoRa Available
- Phase Sequence Automatic Detection
- Easy-to-connect Solution



## Technical Specification

Electrical Characteristics	
Voltage Range	100-277V AC (L-N) / 208-480V AC (L-L)
Current	40mA CT Input
Frequency	50/60Hz
Data Update Rate	WiFi: 100mS / LORA:100mS
Performance Criteria	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤ 95%, non-condensing
Altitude	≤ 2000m
Accuracy	
Active Energy	Class 1 IEC62053-21
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
Communication	
Interface 1	
Interface 1 Protocol	MODBUS TCP
Data Type	Floating Point
RF Band	2.4 GHz to 2.5 GHz
Max. RF Power	<20 dBm
Wi-Fi Protocol	802.11 b/g/n
Wi-Fi Range	Up to 30m / 100ft indoors and 50m / 160ft outdoors
Response Time	<100 mS
Interface 2	
Interface 2 Protocol	MODBUS TCP
RF Band	2.4 GHz to 2.5 GHz
Max. RF Power	<20 dBm
Wi-Fi Protocol	802.11 b/g/n
Wi-Fi Range	Up to 30m / 100ft indoors and 50m / 160ft outdoors
Response Time	<100 mS
Interface 3	
Interface 3 Protocol	LoRa
Frequency	EU868/AS923...(customizable)
Communication Distance	3000M in an open area
Interface 4	
Interface 4 Protocol	Ethernet
Modbus Address Range	1 to 247
IP	192.168.1.200 (default)
Port	502
Mask	255.255.255.0
Gateway	192.168.1.1
DHCP	OFF (default)

## Wiring and Dimension



# SEM5-5

Balcony Photovoltaic Metering



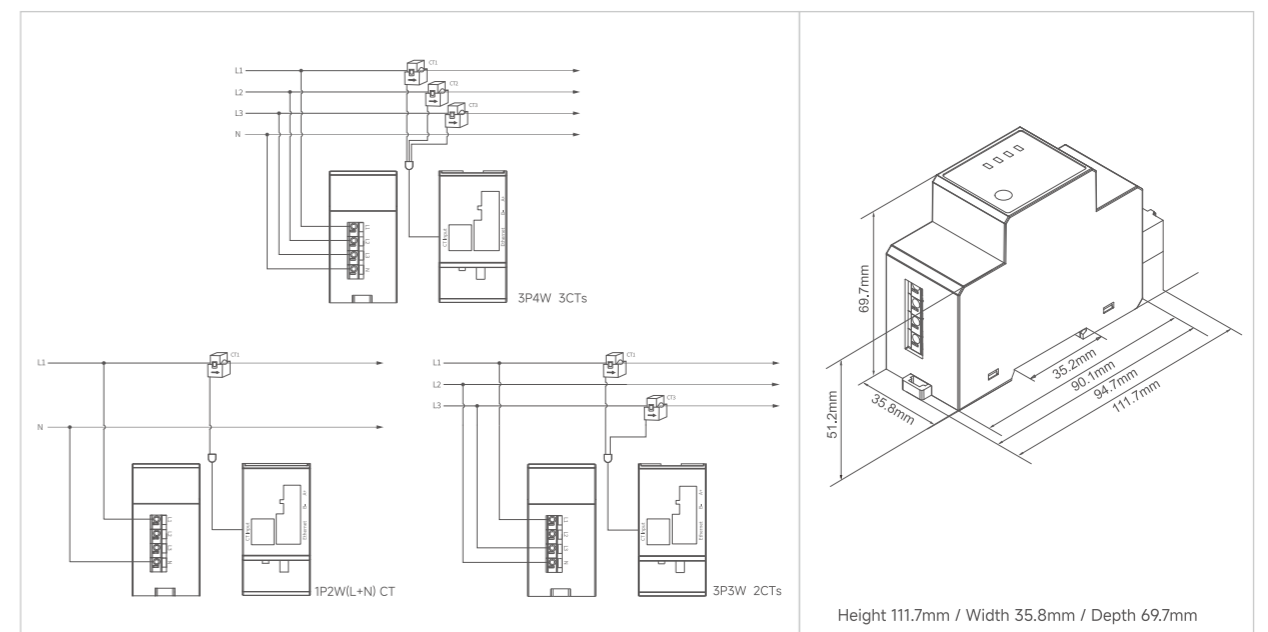
- Works with 3P3W/3P4W/1P2W/2P3W
- Multi-parameter Measurement
- RS485 Modbus RTU
- LoRa Available
- Wi-Fi Available
- Ethernet Modbus TCP
- Phase Sequence Automatic Detection
- Easy-to-connect Solution



## Technical Specification

Electrical Characteristics	
Voltage Range	100-277V AC (L-N) / 208-480V AC (L-L)
Current	40mA CT Input
Frequency	50/60Hz
Data Update Rate	Modbus:50mS / WiFi:100mS / LORA:100mS
Performance Criteria	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤ 95%, non-condensing
Altitude	≤2000m
Accuracy	
Active Energy	Class 1 IEC62053-21
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
Communication	
Interface 1	
Interface 1 Protocol	RS485
Interface 1 Protocol	Modbus RTU
Baud Rate	2400-115200 bps (9600 bps default)
Address Range	001 to 247
Interface 2	
Interface 2 Protocol	Wi-Fi
RF Band	2.4 GHz to 2.5 GHz
Max. RF Power	<20 dBm
Wi-Fi Protocol	802.11 b/g/n
Wi-Fi Range	Up to 30m / 100ft indoors and 50m / 160ft outdoors
Response Time	<100 mS
Interface 3	
Interface 3 Protocol	LoRa
Frequency	EU868/AS923...(customizable)
Communication Distance	3000M in an open area
Interface 4	
Interface 4 Protocol	Ethernet
Modbus Address Range	1 to 247
IP	192.168.1.200 (default)
Port	502
Mask	255.255.255.0
Gateway	192.168.1.1
DHCP	OFF (default)

## Wiring and Dimension



# P1 Meter

Data Reader

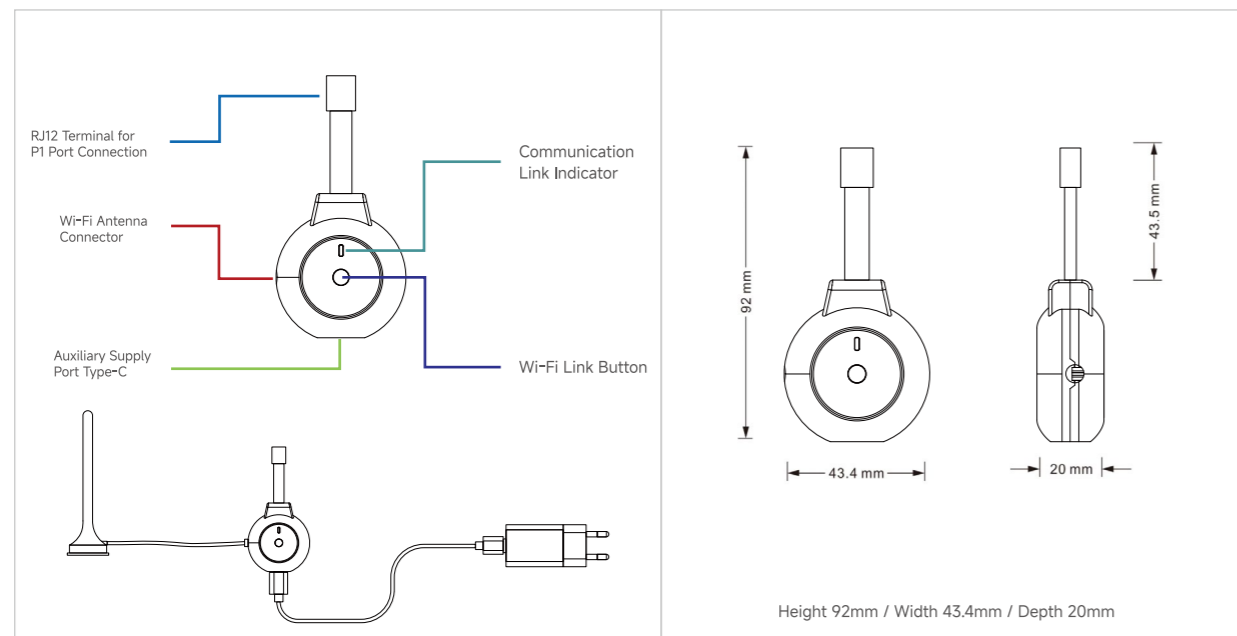
CE RED EN18031

- Compatible with all types of European P1 meters
- Supports DSMR4.x /5.0
- Wi-Fi Communication
- External Antenna
- Stable & Reliable

Technical Specification

Electrical Characteristics	
Operating Temperature	-40~+70°C
Compatibility	Supports DSMR4.x /5.0
Phases	Compatible With Single Phase & Three Phase Energy Meter
Connection	RJ12 Terminal
Degree of Protection	IP20 (In door)
Power Consumption	<1.5W (Typ. @ 5V/260mA)
Measurement	Voltage, Current, Power, Energy
Data Frequency	1S (on DSMR5 smart meters) / 10S (on DSMR4 smart meters)
Local API	Yes
Bridge/Hub Required	No
Wi-Fi Communication	
Protocol	HTTP
Data Type	JSON
RF Band	2.4 GHz to 2.5 GHz
Max. RF Power	<20 dBm
Wi-Fi Protocol	802.11 b/g/n
Wi-Fi Range	Up to 30m / 100ft indoors and 50m / 160ft outdoors
Bluetooth Protocol	Ble 5.0

Wiring and Dimension



# IR1 Meter

Data Reader

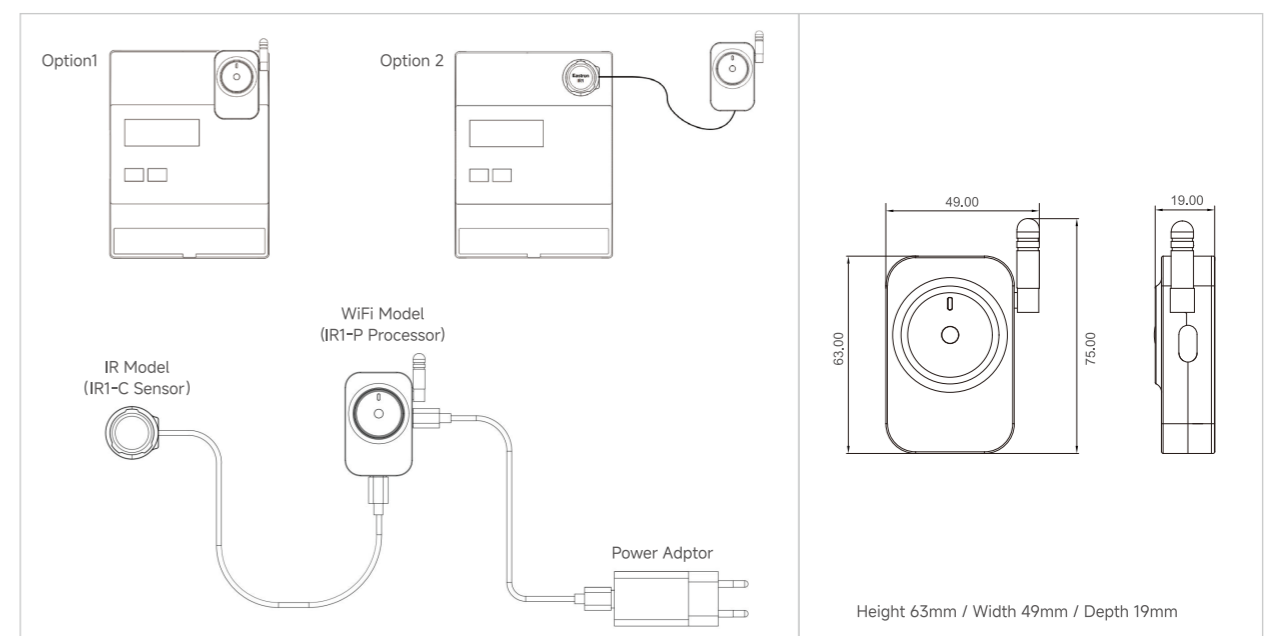
CE RED

- Compatible with SML IR Connection
- Wi-Fi Output
- External Antenna
- Easy Installation

Technical Specification

Electrical Characteristics	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Applicable Meters	Single and Three Phase
Connection	Magnetic Connection
IP Degree of Protection (IEC60529)	IP20 (In door)
Power Consumption	<1.5W (Typical Value 5V/260mA)
Measurement	Voltage,Current,Power,Power Factor,Frequency,Energy
IR Compatibility	Compatible with SML Protocol
Local API	Yes
Bridge/Hub Required	No
Wi-Fi Communication	
Communication Protocol	HTTP/Modbus TCP
Data Type	JSON/Modbus TCP
RF Band	2.4G
Max. RF Power	20dbm
Wi-Fi Protocol	802.11 b/g/n
Wi-Fi Range	Indoor:30m/100ft;Outdoor:50m/160ft
Bluetooth Protocol	Ble 4.2

Wiring and Dimension



# SOLAR PV SYSTEM METERING

- SDM120-M ..... 15
- SDM120CT-M ..... 16
- SDM120CT-RJ ..... 17
- SDM230-M ..... 18
- SDM630-M ..... 19
- SDM630MCT ..... 20
- SDM630MCT ETL ..... 21
- SDM630MCT-40mA ..... 22

## PL1

### Fast-Connect Voltage Module

- Instant Magnetic Attachment & Installation
- Plug-and-Play for Fast Deployment
- Patented Design with Broad Compatibility
- Insulated Material for Long-Term Safety



### Technical Specification

**Patented design:**

The sleek, compact form keeps the meter box tidy, while durable construction ensures long-term reliability

**Magnetic connector:**

Made from NdFeB, it provides strong magnetic attraction and a secure connection. An optional extender allows flexible adaptation to different breaker depths.

**Insulated Cord End Terminal:**

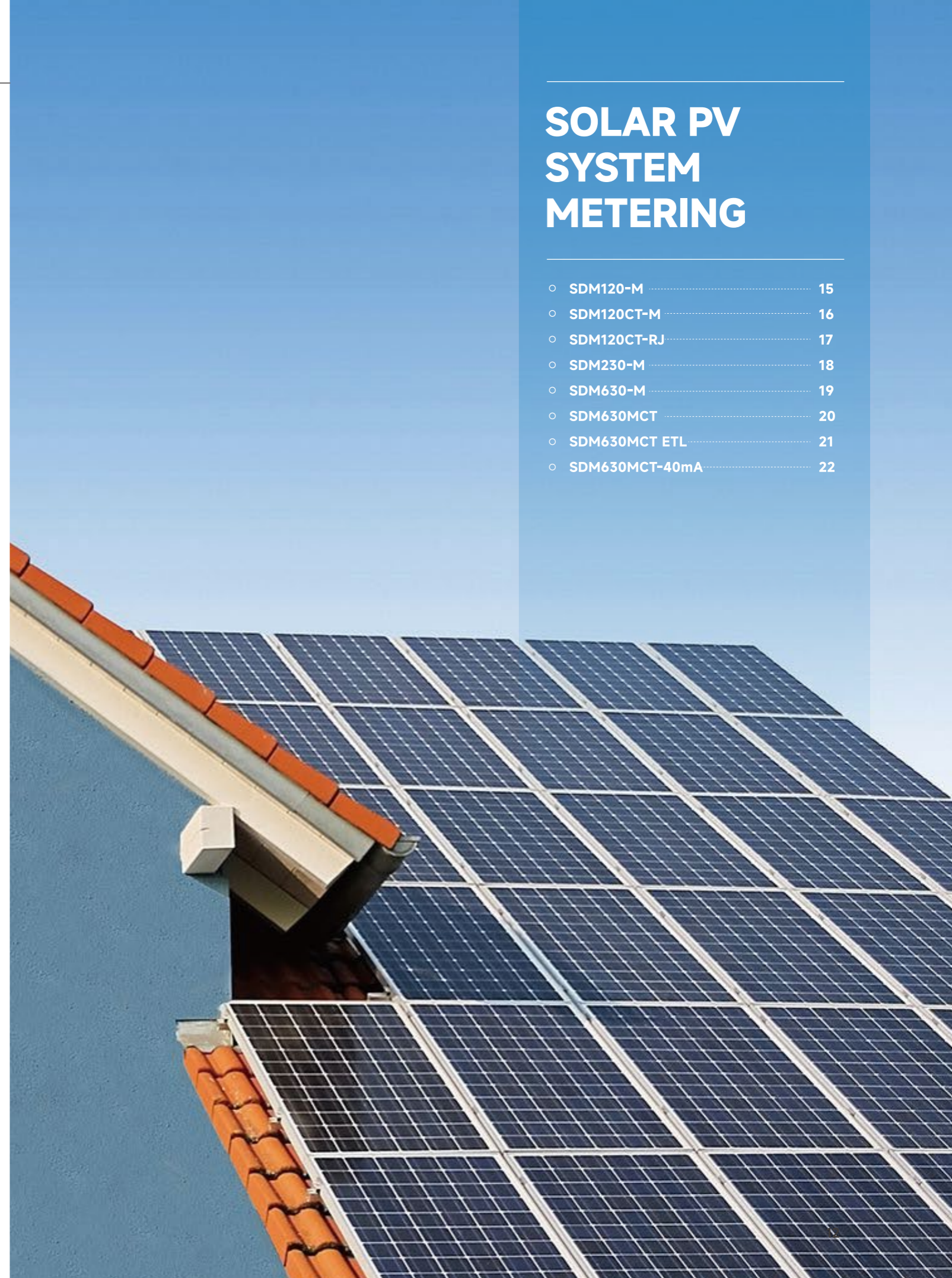
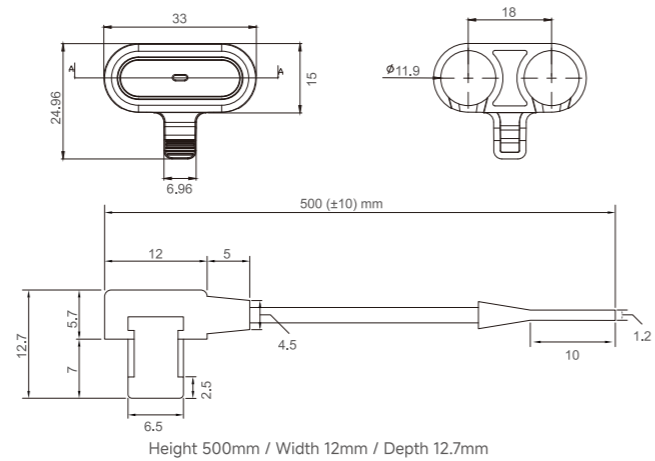
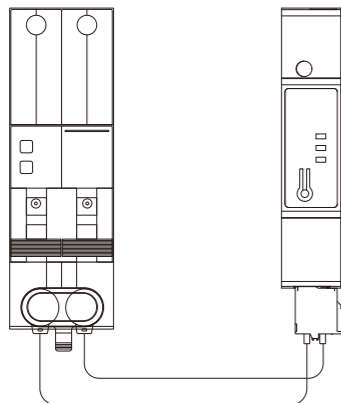
Precisely fits the spring terminal of SEM series smart energy meters – tool-free installation, plug-and-play connection.

**High-quality silicone cable:**

Flexible and tangle-resistant, it supports a clean and organized installation.



### Wiring and Dimension



# SDM120-M

Solar Photovoltaic System Metering



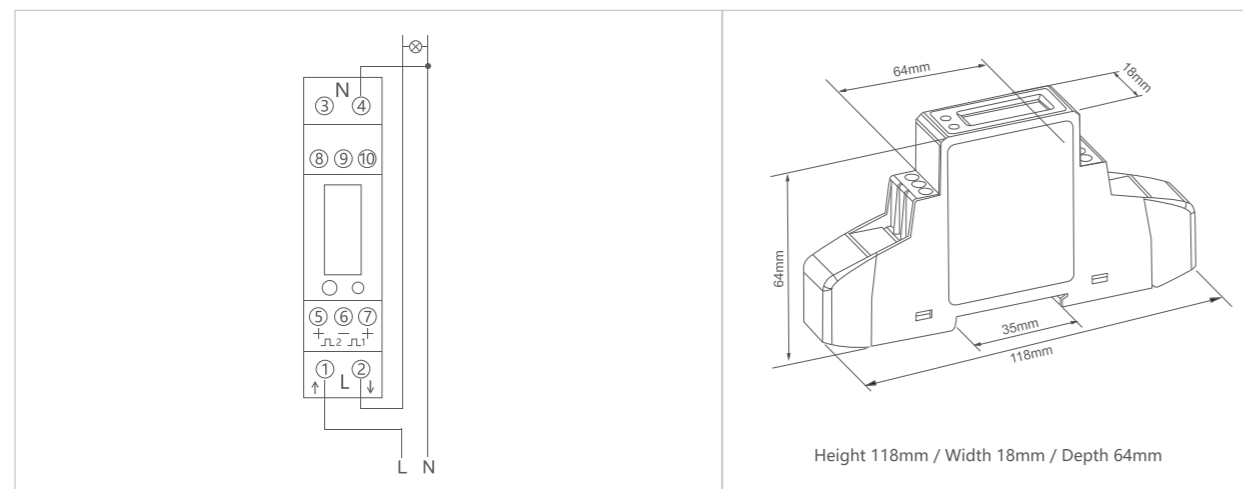
- Works with 1P2W
- 100~277V AC
- 0.15~5 (45) A
- Multi-parameter Measurement
- Bi-directional Measurement
- Two Pulse Outputs
- RS485 Modbus RTU
- Accuracy Class 0.5/1 or Class C/B



## Technical Specification

Electrical Characteristics	
Voltage Range	100~277V AC
Current Range	0.15~5(45)A
Power Consumption	<2W/10VA
Frequency	50/60Hz
Max. Reading	99999.9 kWh
Performance Criteria	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤ 90%, non-condensing
Altitude	≤ 2000m
Accuracy	
Active Energy	Class 0.5 IEC62053-22/Class 1 IEC62053-21/Class C或B EN50470-3:2022
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
Communication	
Communication Type	RS485 Modbus RTU
Baud Rate	2400~38400 bps (9600 bps default)
Address Range	001 to 247
Parity Bit	none(default) / odd / even

## Wiring and Dimension



# SDM120CT-M

Solar Photovoltaic System Metering



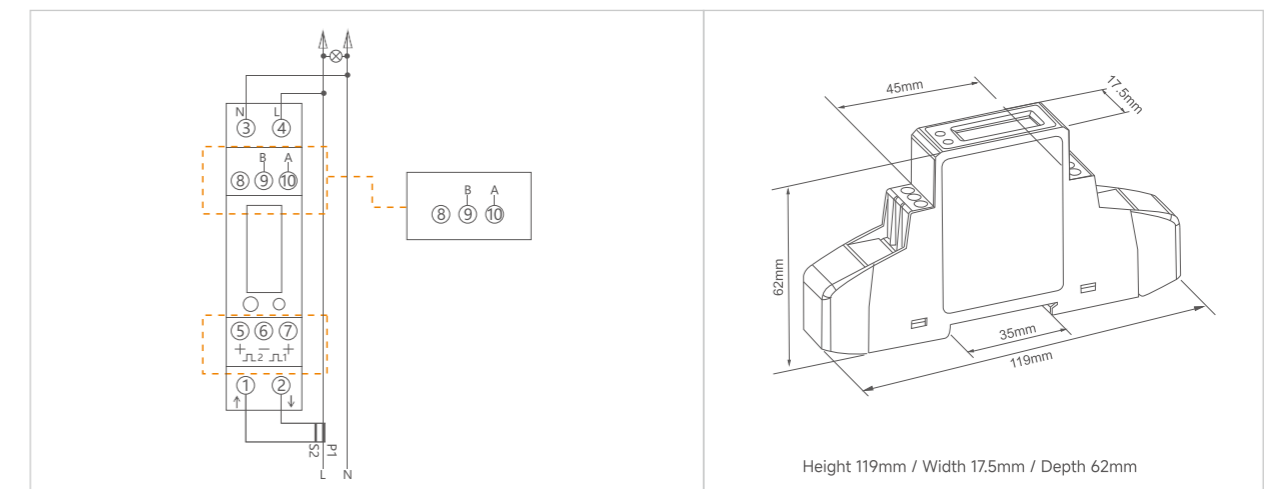
- Works with 1P2W
- 176~277V AC
- 40/100mA CT Input
- Multi-parameter Measurement
- Bi-directional Measurement
- Two Pulse Outputs
- RS485 Modbus RTU
- Accuracy Class 1



## Technical Specification

Electrical Characteristics	
Voltage Range	176~277V AC
Current Range	40/100mA CT Input
Power Consumption	<2W/10VA
Frequency	50/60Hz
Max. Reading	99999.99 kWh
Performance Criteria	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤ 90%, non-condensing
Altitude	≤ 2000m
Accuracy	
Active Energy	Class 1 IEC62053-21
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
Communication	
Communication Type	RS485 Modbus RTU
Baud Rate	1200~9600 bps (2400 bps default)
Address Range	001 to 247
Parity Bit	none (default) / odd / even

## Wiring and Dimension



# SDM120CT-RJ

Solar Photovoltaic System Metering



- Works with 1P2W
- 176~276V AC
- 100mA RJ CT Connection
- Multi-parameter Measurement
- Bi-directional Measurement
- RS485 Modbus RTU
- Accuracy Class 0.5S/1 or Class C/B



# SDM230-M

Solar Photovoltaic System Metering



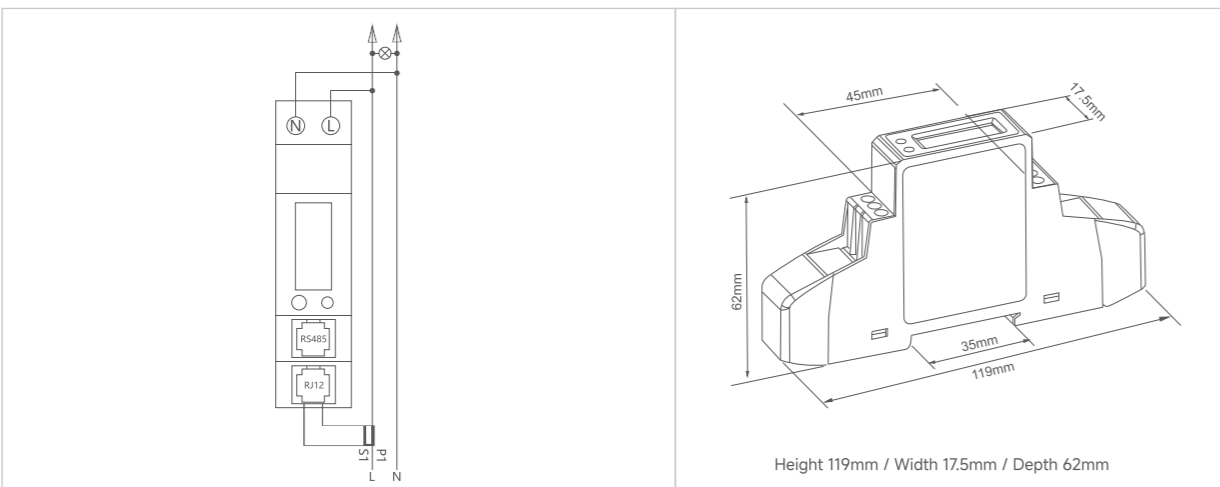
- Works with 1P2W
- 100~277V AC
- 0.15~10 (100) A
- Multi-parameter Measurement
- Bi-directional Measurement
- Two Pulse Outputs
- RS485 Modbus RTU
- Accuracy Class 0.5/1 or Class C/B



## Technical Specification

Electrical Characteristics	
Voltage Range	176~276V AC
Current Range	100mA RJ CT Connection
Power Consumption	<1W/10VA
Frequency	50/60Hz
Max. Reading	9999999kWh
Performance Criteria	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤ 90%, non-condensing
Altitude	≤ 2000m
Accuracy	
Active Energy	Class 0.5S IEC62053-22/Class 1 IEC62053-21/Class C或B EN50470-3:2022
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
Communication	
Communication Type	RS485 Modbus RTU
Baud Rate	1200~9600 bps (9600 bps default)
Address Range	001 to 247
Parity Bit	none (default) / odd / even

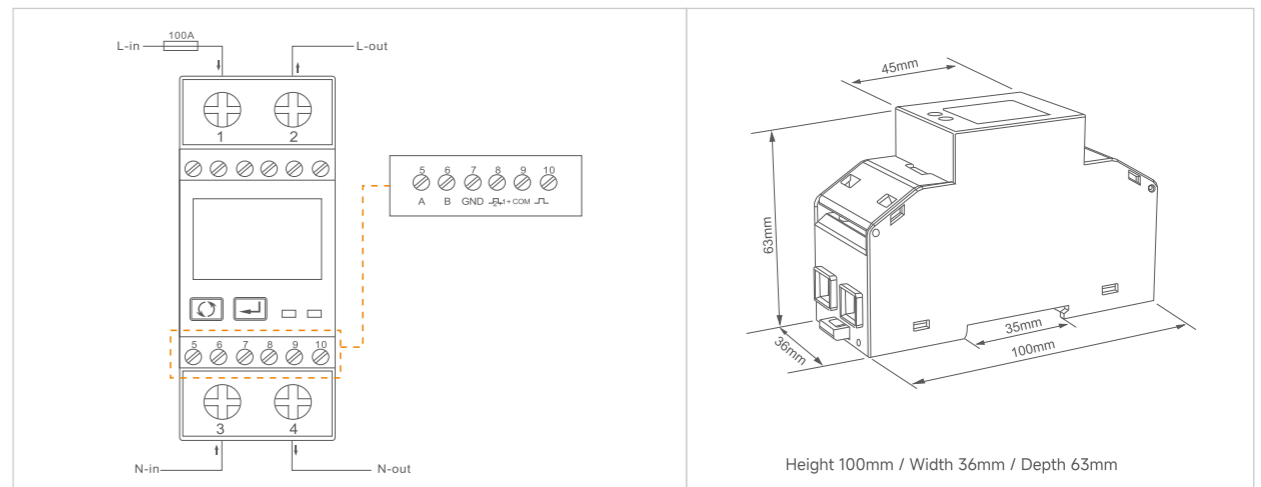
## Wiring and Dimension



## Technical Specification

Electrical Characteristics	
Voltage Range	100~277V AC
Current Range	0.15~10 (100) A
Power Consumption	<2W/10VA
Frequency	50/60Hz
Max. Reading	9999999kWh
Performance Criteria	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤ 90%, non-condensing
Altitude	≤ 2000m
Accuracy	
Active Energy	Class 0.5 IEC62053-22/Class 1 IEC62053-21/Class C或B EN50470-3:2022
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
Communication	
Communication Type	RS485 Modbus RTU
Baud Rate	1200~38400 bps (9600 bps default)
Address Range	001 to 247
Parity Bit	none (default) / odd / even

## Wiring and Dimension



# SDM630-M

Solar Photovoltaic System Metering



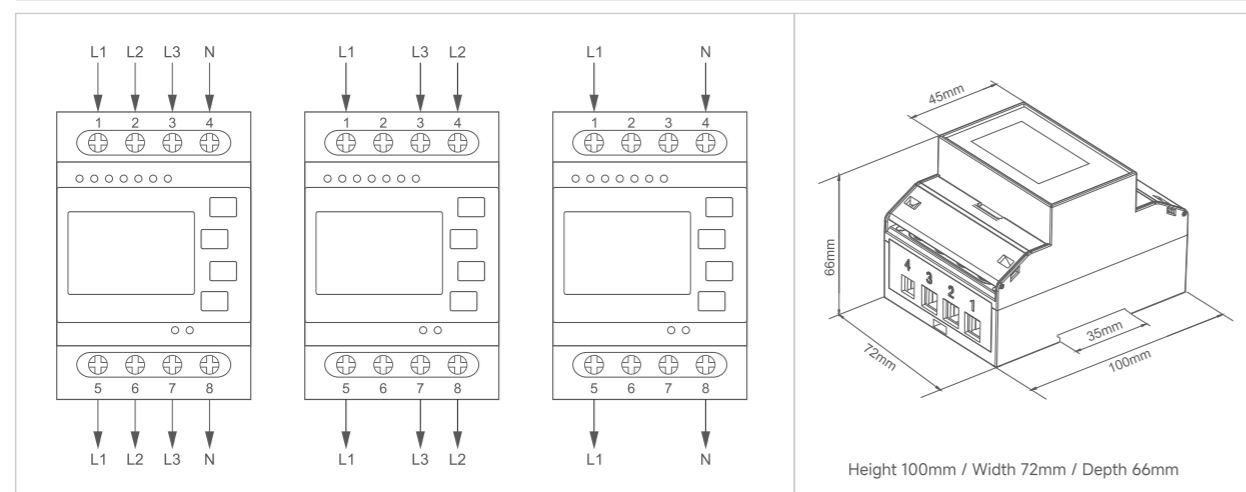
- Works with 1P2W/3P3W/3P4W
- 100-277V (L-N) , 100-480V (L-L)
- 0.3-10 (100) A
- Multi-parameter Measurement
- Bi-directional Measurement
- Two Pulse Outputs
- RS485 Modbus RTU
- Accuracy Class 0.5/1 or Class C/B



## Technical Specification

Electrical Characteristics	
Voltage Range	100-277V AC (L-N) / 100-480V AC (L-L)
Current Range	0.3-10(100)A
Power Consumption	<2W/10VA
Frequency	50/60Hz
Max. Reading	9999999.99 kWh/kVArh
Performance Criteria	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤ 90%, non-condensing
Altitude	≤2000m
Accuracy	
Active Energy	Class 0.5 IEC62053-22/Class 1 IEC62053-21/Class C或B EN50470-3:2022
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
Communication	
Communication Type	RS485 Modbus RTU
Baud Rate	2400~38400 bps (9600 bps default)
Address Range	001 to 247
Parity Bit	none (default) / odd / even

## Wiring and Dimension



# SDM630MCT

Solar Photovoltaic System Metering



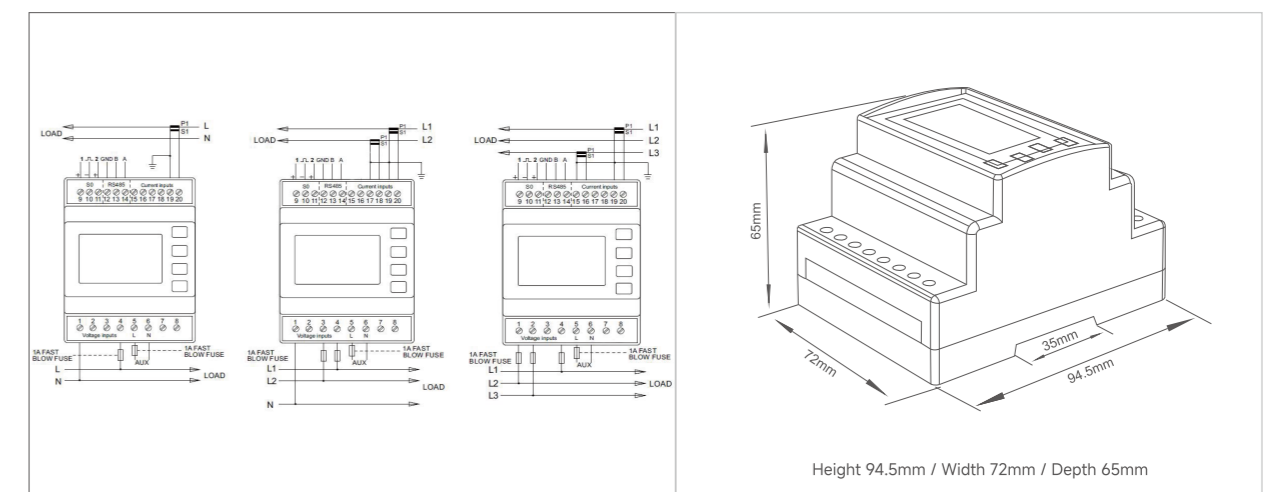
- Works with 1P2W/1P3W/3P3W/3P4W
- 100-277V (L-N) , 100-480V (L-L)
- 0.05-5 (6) A
- Multi-parameter Measurement
- Bi-directional Measurement
- Two Pulse Outputs
- RS485 Modbus RTU
- Accuracy Class 0.5S/1 or Class C/B



## Technical Specification

Electrical Characteristics	
Voltage Range	100-277V AC (L-N) / 100-480V AC (L-L)
Current Range	0.05-5(6)A
Power Consumption	<2W/10VA
Frequency	50/60Hz
Max. Reading	9999999.9 kWh/kVArh
Performance Criteria	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤ 90%, non-condensing
Altitude	≤ 2000m
Accuracy	
Active Energy	Class 0.5S IEC62053-22/Class 1 IEC62053-21/Class B或C EN50470-3:2022
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
Communication	
Communication Type	RS485 Modbus RTU
Baud Rate	2400~38400 bps (9600 bps default)
Address Range	001 to 247
Parity Bit	none (default) / odd / even

## Wiring and Dimension



# SDM630MCT ETL

Solar Photovoltaic System Metering



- Works with 1P2W/1P3W/3P3W/3P4W
- 100~277V (L-N) , 100~480V (L-L)
- 0.05-5 (6) A
- Multi-parameter Measurement
- Bi-directional Measurement
- Two Pulse Outputs
- RS485 Modbus RTU
- Accuracy Class 1



# SDM630MCT-40mA

Solar Photovoltaic System Metering



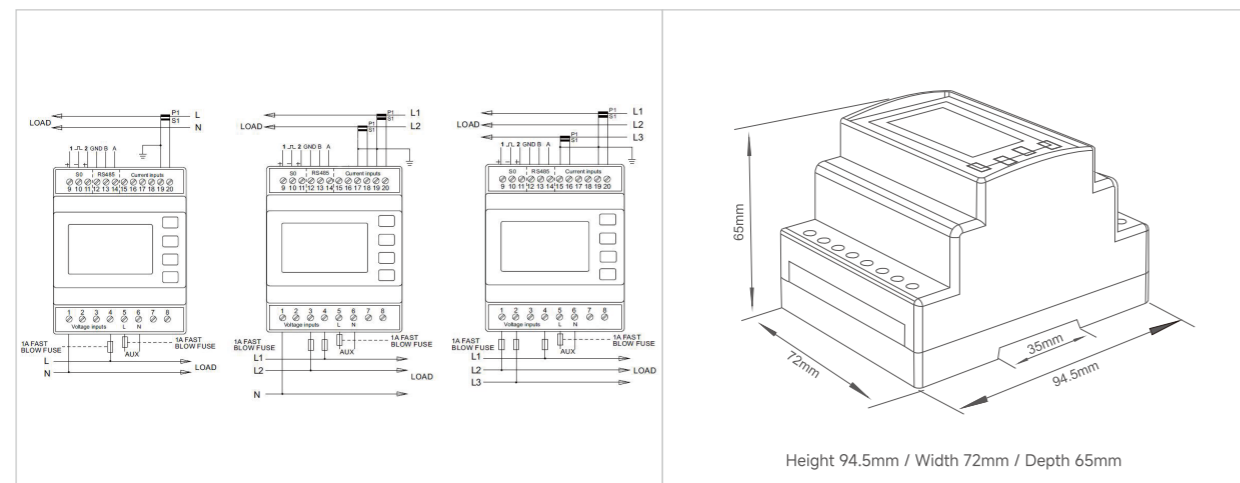
- Works with 1P2W/3P3W/3P4W
- 100~277V (L-N) , 100~480V (L-L)
- 40mA CT Input
- Multi-parameter Measurement
- Bi-directional Measurement
- Two Pulse Outputs
- RS485 Modbus RTU
- Accuracy Class 1



## Technical Specification

Electrical Characteristics	
Voltage Range	100~277V AC (L-N) / 100~480V AC (L-L)
Current Range	0.05-5(6)A
Power Consumption	<2W/10VA
Frequency	50/60Hz
Max. Reading	9999999.9 kWh/kVArh
Performance Criteria	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤ 90%, non-condensing
Altitude	≤ 2000m
Accuracy	
Active Energy	Class 1 IEC62053-21
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
Communication	
Communication Type	RS485 Modbus RTU
Baud Rate	2400~38400 bps (9600 bps default)
Address Range	001 to 247
Parity Bit	none (default) / odd / even

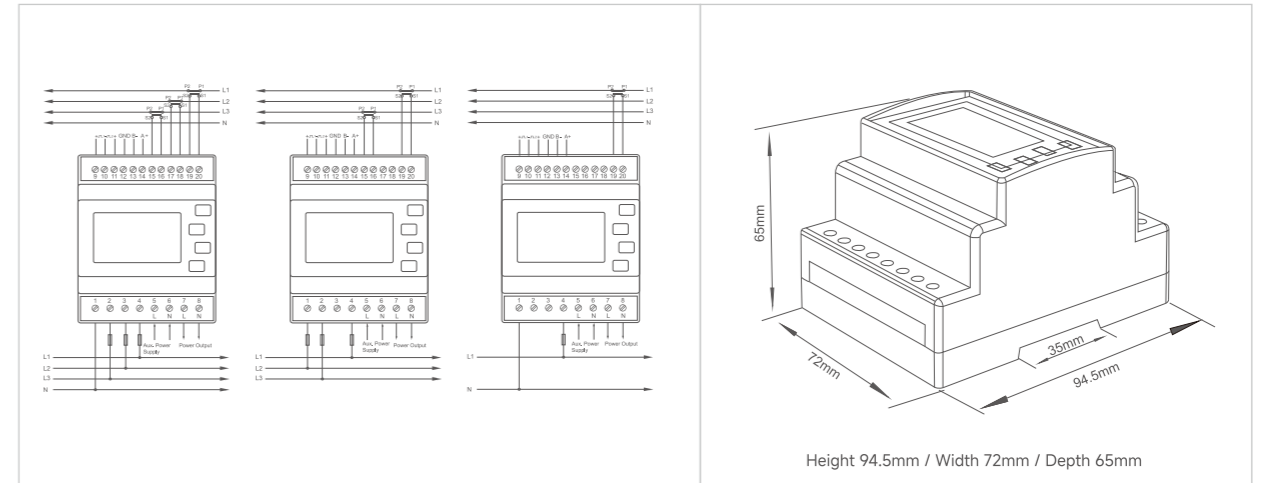
## Wiring and Dimension



## Technical Specification

Electrical Characteristics	
Voltage Range	100~277V AC (L-N) / 100~480V AC (L-L)
Current Range	40mA CT Input
Power Consumption	<2W/10VA
Frequency	50/60Hz
Max. Reading	9999999.9 kWh/kVArh
Performance Criteria	
Operating Temperature	-40°C~+70°C
Storage Temperature	-40°C~+85°C
Operation Humidity	≤ 90%, non-condensing
Altitude	≤ 2000m
Accuracy	
Active Energy	Class 1 IEC62053-21
Voltage	±0.5%
Current	±0.5%
Active Power	±1%
Communication	
Communication Type	RS485 Modbus RTU
Baud Rate	2400~38400 bps (9600 bps default)
Address Range	001 to 247
Parity Bit	none (default) / odd / even

## Wiring and Dimension



# SENSORS & CIRCUIT BREAKERS

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## ESCT-T

Current Transformer

- Split Core Installation
- Primary Input 100A-800A
- Secondary Output 5A / 1A
- Standard: IEC60044-1, EN60044-1, VDE0414-44-1, GB1208-2006
- Accuracy Class 0.5S/1

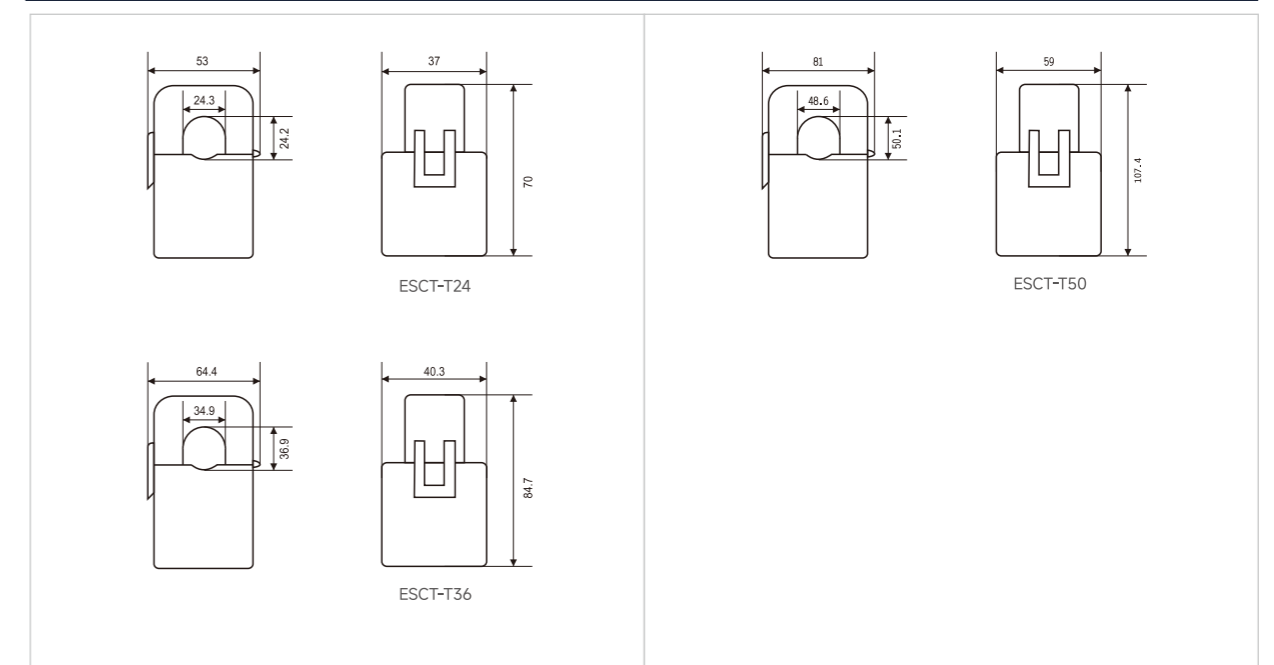


### Technical Specification

Specification	
Frequency	50/60Hz
Rated Current	100A-800A loads
Rated Output	5A/1A
Accuracy	Class 0.5/1 from 20%-120% of Rated Current
Phase Angle	Less than 2 degrees at 50% of Rated Current
Insulation Voltage	600V AC
Maximum Primary Voltage	5000V AC (Insulated Conductor)
Dielectric Strength	2.5KV/1mA/1min
Operating Temperature	-15°C~+75°C
Operating Humidity	<85%
Case Material	PC/UL94-V0
Bobbin	PBT
Core	Permalloy
Internal Structure	Epoxy

Model	Rate Amp (A)	Output	Accuracy
ESCT-T24	100-300	1A/5A	0.5
ESCT-T36	100-600	1A/5A	0.5
ESCT-T50	100-800	1A/5A	0.5/1

### Dimension



# ESCT-TA

## Current Transformer

- Split Core, Easy Installation
- Primary Input 5A~600A
- Secondary Output 100mA / 40mA
- Safe Operation
- Standard: IEC60044-1, EN60044-1, VDE0414-44-1, GB1208-2006

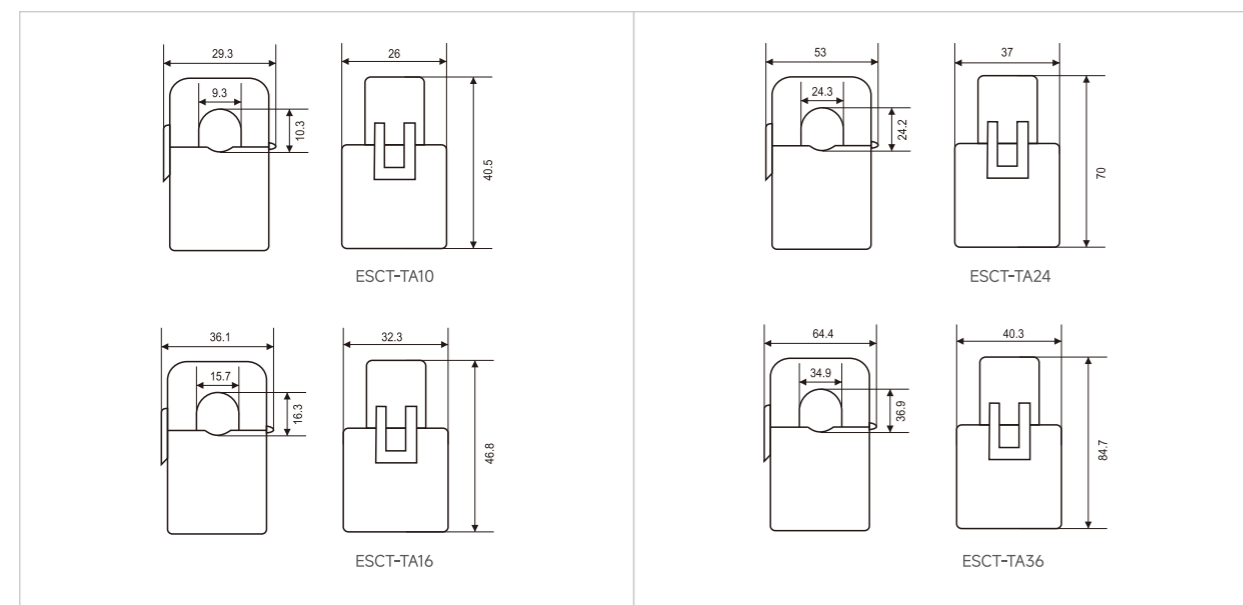


### Technical Specification

Specification	
Frequency	50/60Hz
Rated Current	5A~600A loads
Rated Output	100mA/40mA(AC)
Accuracy	Class 0.5/1 from 20%~120% of Rated Current
Phase Angle	Less than 2 Degrees at 50% of Rated Current
Insulation Voltage	600V AC
Maximum Primary Voltage	5000V AC (Insulated Conductor)
Dielectric Strength	2.5KV/1mA/1min
Operating Temperature	-15°C~+75°C
Operating Humidity	<85%
Case Material	PC/UL94-V0
Bobbin	PBT
Core	Permalloy
Internal Structure	Epoxy
Leads	UL 1015, Twisted Pair, 22AWG *HY Connector at End of Lead is Optional for RJ Adaptor

Model	Rate Amp (A)	Output	Accuracy
ESCT-TA10	5~75	100mA/40mA	0.5
ESCT-TA16	10~120	100mA/40mA	0.5
ESCT-TA24	10~300	100mA/40mA	0.5
ESCT-TA36	20~600	100mA/40mA	0.5

### Dimension



# ESCT-RJ-1

## Current Transformer

- Split Core, Easy Installation
- RJ12 Socket for Quick Connection and to Eliminate Wiring Error
- Primary Input 5A~800A
- Secondary Output 333mV/100mV/100mA
- Safe Operation
- Standard: IEC60044-1, EN60044-1, VDE0414-44-1, GB1208-2006

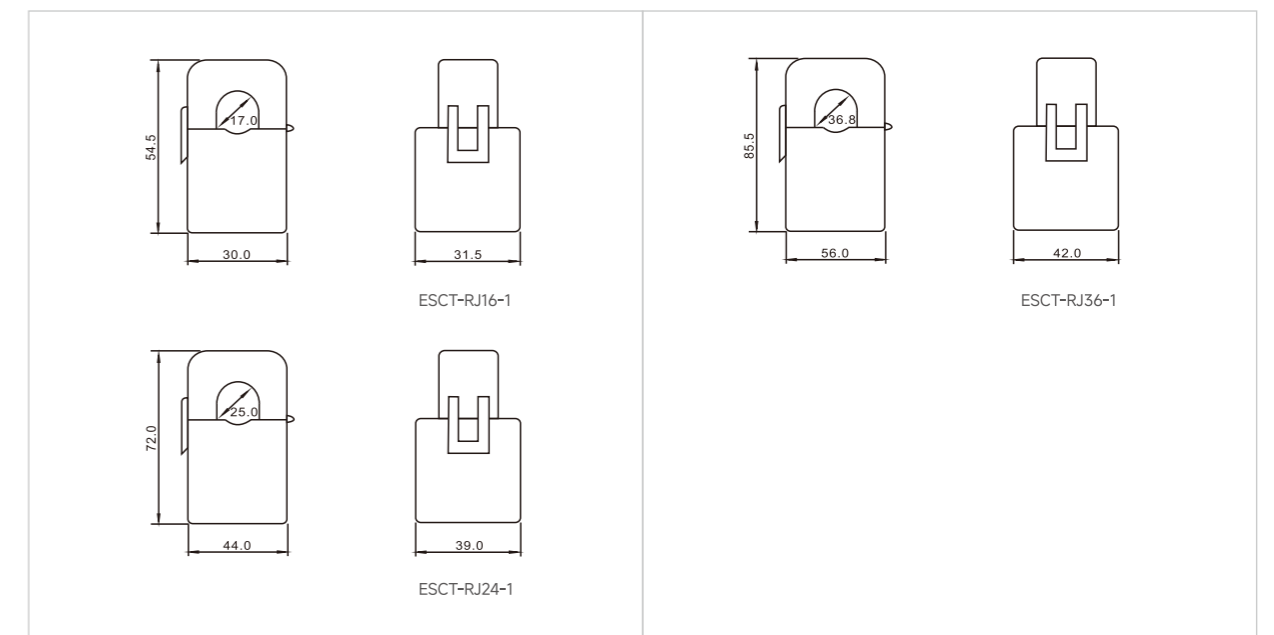


### Technical Specification

Specification	
Frequency	50/60Hz
Rated Current	5A~800A loads
Rated Output	333mV/100mV/100mA
Accuracy	RJ12
Phase Angle	Class 0.5/1 from 20%~120% of Rated Current
Insulation Voltage	Less than 2 Degrees at 50% of Rated Current
Maximum Primary Voltage	600V AC
Dielectric Strength	5000V AC (Insulated Conductor)
Operating Temperature	2.5KV/1mA/1min
Operating Humidity	-15°C~+75°C
Case Material	<85%
Bobbin	PC/UL94-V0
Core	PBT
Internal Structure	Epoxy
Leads	IEC/EN60044-1

Model	Rate Amp (A)	Output	Accuracy
ESCT-RJ16-1	5~120	100mA/100mV/333mV	0.5/1
ESCT-RJ24-1	10~300	100mA/100mV/333mV	0.5/1
ESCT-RJ36-1	20~800	100mA/100mV/333mV	0.5/1

### Dimension



# ESCT-RJ-3

## Current Transformer

- Split Core, Easy Installation
- RJ12 Socket for Quick Connection and to Eliminate Wiring Error
- Primary Input 10A-600A
- Secondary Output 333mV/100mV/100mA/40mA
- Safe Operation
- Standard: IEC60044-1, EN60044-1, VDE0414-44-1, GB1208-2006



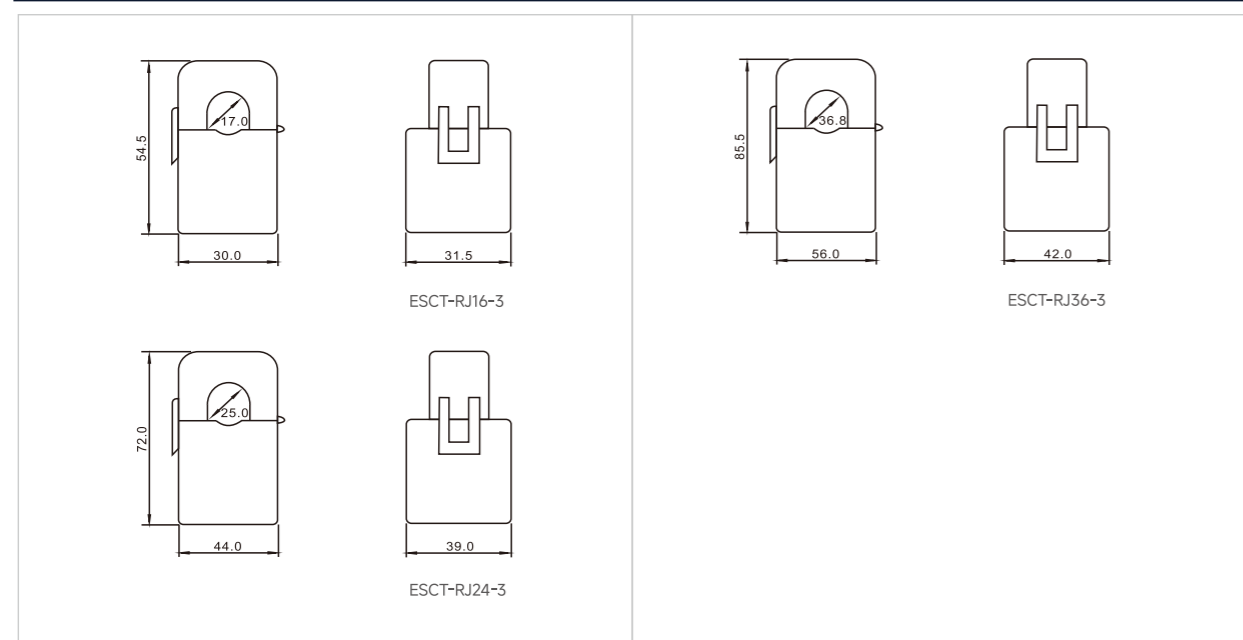
### Technical Specification

Specification	
Frequency	50/60Hz
Rated Current	10A-600A Iodas
Rated Output	40mA/100mA/100mV/333mV
Accuracy	Class 0.5/1 from 20%-120% of Rated Current
Phase Angle	Less than 2 Degrees at 50% of Rated Current
Insulation Voltage	600V AC
Maximum Primary Voltage	5000V AC (Insulated Conductor)
Dielectric Strength	2.5KV/1mA/1min
Operating Temperature	-15°C ~ +75°C
Operating Humidity	<85%
Case Material	PC/UL94-V0
Bobbin	PBT
Core	Permalloy
Internal Structure	Epoxy
Leads	UL 1015, Twisted Pair, 22AWG

Model	Rate Amp (A)	Output	Accuracy
ESCT-RJ16-3	10-120	40mA/100mA/100mV/333mV	0.5/1
ESCT-RJ24-3	10-300	40mA/100mA/100mV/333mV	0.5/1
ESCT-RJ36-3	20-600	40mA/100mA/100mV/333mV	0.5/1

### Dimension



# ESCT-D24

## Current Transformer

- Clamp-on Design, Easy Operation
- 15mm Ultra-slim Design, Ideal for Space-constrained Installation
- Operating Altitude up to 4000m
- Enhanced Safety
- Safe Operation
- Standards: GB 20840.2-2014 / IEC61869-2



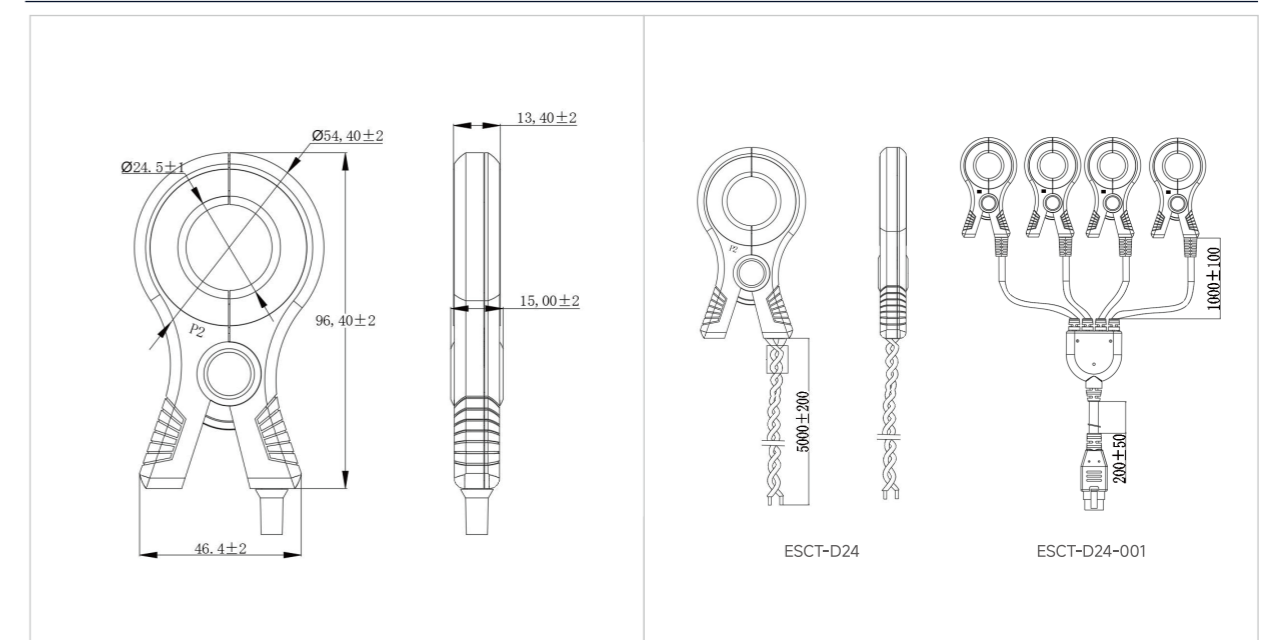
### Technical Specification

Specification	ESCT-D24	ESCT-D24-001
Frequency	50-60Hz	50-60Hz
Rated Primary Current	200A/40mA	L1/L2: 200A/40mA
Rated Secondary Current		B1/B2: 50A/10mA
Accuracy	Class 0.5	Class 0.5
Rated Burden	30 Ω	200A:10Ω 50A:40Ω
Altitude	4000m	4000m
Insulation Strength	500MΩ/500V/min	500MΩ/500V/min
PF Withstand Voltage	4KV/1mA/1min (Cable Feed-through)	4KV/1mA/1min (Cable Feed-through)
Operating Temperature	-40°C ~ +70°C	-40°C ~ +70°C
Storage Temperature	-40°C ~ +85°C	-40°C ~ +85°C
Linearity	0.5	0.5
Standard	GB 20840.2-2014 / IEC61869-2	GB 20840.2-2014 / IEC61869-2

Model	Rate Amp (A)	Output	Accuracy
ESCT-D24	200	40mA	0.5
ESCT-D24-001(L1/L2)	200	10mA	0.5
ESCT-D24-001(B1/B2)	50	10mA	0.5

### Dimension



# ESCT-RC

## Current Transformer

- 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



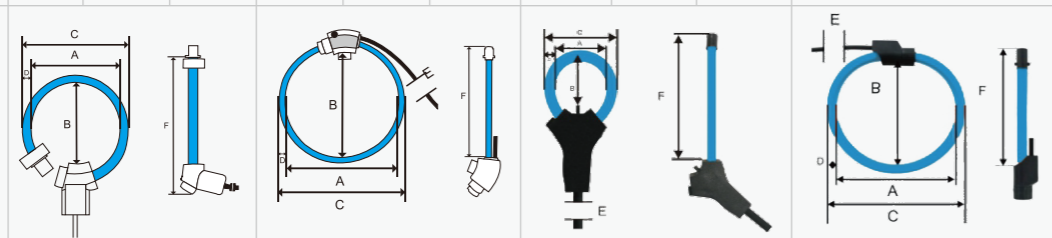
### Technical Specification

Specification	
Current Range	0.1A-10kA
Rated Output	85mV/ per 1000A @ 50Hz without integrator 50mV/ per 1000A @ 50Hz without Integrator
Accuracy	±1% from 5%-120% of Rated Current with Integrator(45-65Hz)
Phase Angle	≤±1°, from 5% to 120% of Rated Current
Linear	0.5%
Frequency	1Hz-1MHz ,50/60 Hz Nominal
Work Voltage	600V
Coil Diameter	10.5mm,12mm or as Customer Order
Window Size	16mm,24mm or as Per Customer Ordered
Wire Lead	2 Meters Sheath Cable or as Customers Order
Withstand Voltage	3000V
Operating Temperature	-30°C-+70°C
IP Slass	IP65
Certification	CE / RoHS

Model	Rate Amp (A)	Output	Accuracy
ESCT-RC16	100	50mV/kA (Customizable)	0.5
ESCT-RC24	300	50mV/kA	0.5
ESCT-RC36	600	50mV/kA	0.5
ESCT-RC45	500	85mV/kA	0.5
ESCT-RC60	500	85mV/kA	0.5
ESCT-RC100	1000	85mV/kA	0.5
ESCT-RC105	1500	85mV/kA	0.5
ESCT-RC150	3000	85mV/kA	0.5
ESCT-RC200	6000	85mV/kA	0.5
ESCT-RC240	10000	85mV/kA	0.5
ESCT-RC-RJ12 Series	0.1A to 1kA	mA / mV	0.5

### Dimension

Coil Type	Type A			Type B			Type C			Type D
	RC60	RC105	RC240	RC100	RC150	RC200	RC16	RC24	RC36	
Model	RC60	RC105	RC240	RC100	RC150	RC200	RC16	RC24	RC36	RC45
Window Size A(mm)	60	105	245	135	165	210	22	27.5	36	65
Window Size B(mm)	50	100	240	100	150	200	16	24	37	45
Coil O.D(mm)	66	121	261	151	181	226	24	39.5	48	81
Coil Section(mm)	8						6			8
Lead Cable Total Length	2000									
Coil Length	200	350	800	395	525	665	80	97	130	205



# IB1-63

## Smart Breaker

- Remote Access via the Tuya Smart APP
- Precision Energy Measurement Chip
- High Load Capacity
- Timer Switch
- Real-time Monitoring of Voltage, Current, Power

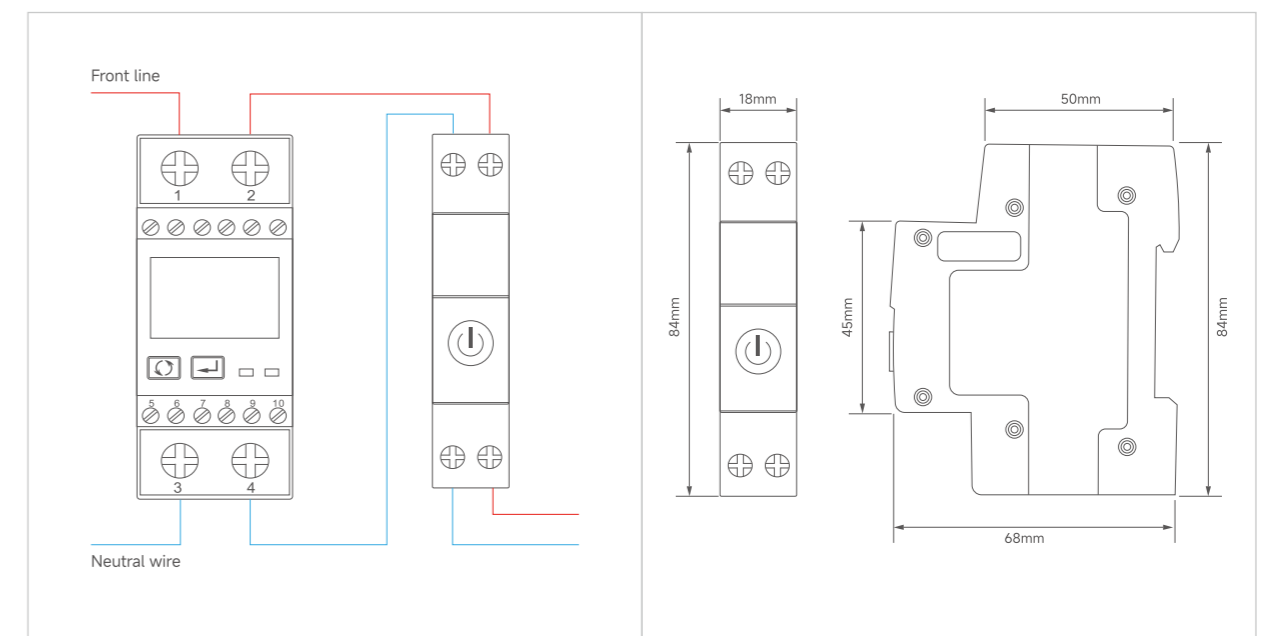


### Technical Specification

Specification	
Voltage Range	220V/110V AC
Operating Voltage Range	80V-300V AC
Wireless Protocol	Tuya Smart
Operating Frequency	50/60Hz
Overvoltage Protection Range	130-300V
Undervoltage Protection Range	75-210V
Energy Metering Range	0-9999kWh
Timer Settings	15 Timing Tasks
Current Setting Range	1-63A
Withstand Voltage Level	400V
Protection Rating	IP30
Operating Temperature	-40°C-70°C
Operating Altitude	≤2000m
Operation Humidity	≤ 90%, non-condensing
Maximum Power	15KW

Model	Specifications	Description
IB1-63B	1-63A, 220V/110V AC	App/Voice control, Timer switch
IB1-63M	1-63A, 220V/110V AC	App/Voice control, Timer switch, Monitor power consumption
IB1-63MP	1-63A, 220V/110V AC	App/Voice control, Timer switch, Monitor power consumption, Full Protection Features

### Wiring and Dimension



# IB10 & IB16

## Smart Breaker

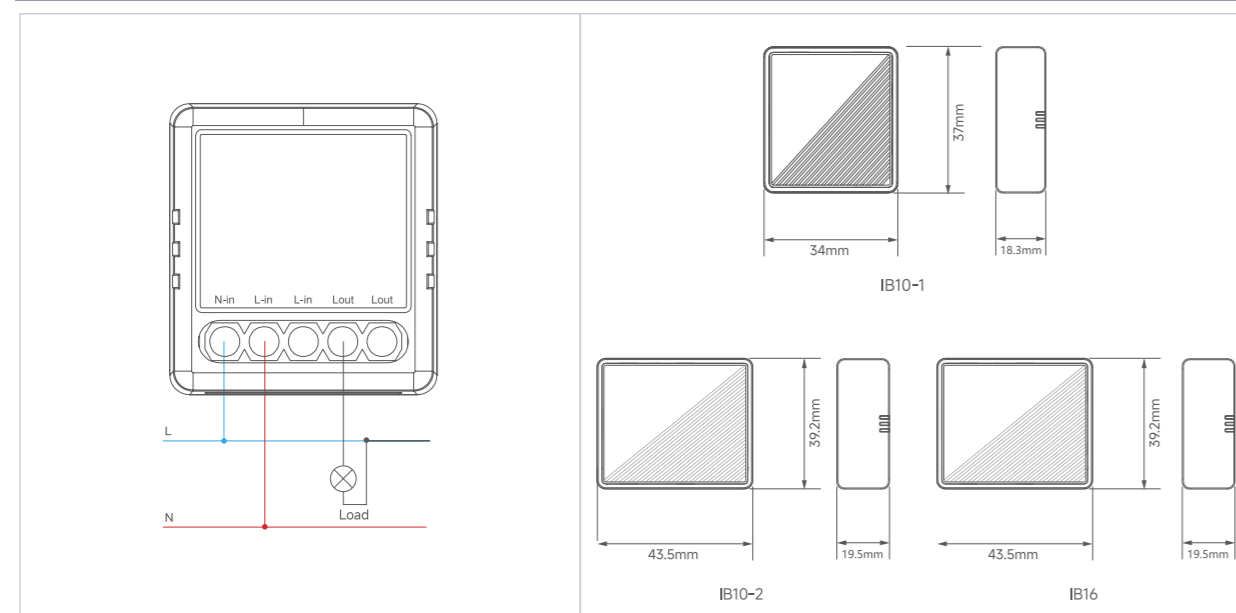
- Small Size, Easy to Install
- Remote or Local on/off, App Timing and Multi-scenes Linkage
- Support Voice Control with Alexa and Google Home Assistant
- Signal Transmission Distance is Max. 80-100m



### Technical Specification

Specification	IB10-1	IB10-2	IB16
Communication Protocol	Wi-Fi/Bluetooth	Wi-Fi/Bluetooth	Wi-Fi/Bluetooth
Control Distance	< 100m	< 100m	< 100m
Working Voltage	110-250V	110-250V	110-250V
Working Frequency	50/60Hz	50/60Hz	50/60Hz
Max. Current	10A	10A (1 Way)	16A
Operating Temperature	-10°C-55°C	-10°C-55°C	-10°C-55°C
Operation Humidity	≤85%, non-condensing	≤85%, non-condensing	≤85%, non-condensing
Wi-Fi Frequency	2.412-2.484GHz	2.412-2.484GHz	2.412-2.484GHz
Bluetooth Frequency	2402-2480MHz	2402-2480MHz	2402-2480MHz
Energy Metering	/	✓	✓
Loading Power	Capacitance ≤200W Resistance ≤2300W	Capacitance ≤200W (1 Way) Resistance ≤2300W (1 Way)	Capacitance ≤350W Resistance ≤3680W

### Wiring and Dimension



# SP11 & SP12

## Smart Plug

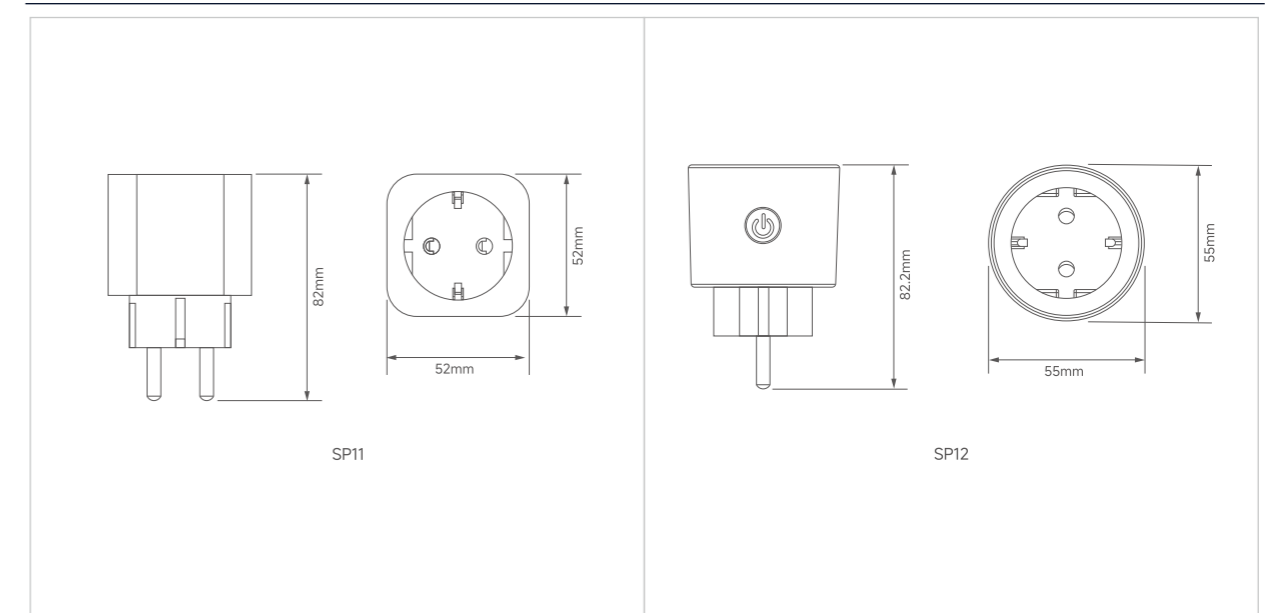
- Remote Control
- Wi-Fi Connection
- Voice Control
- Overcharge Protection
- Set Timers



### Technical Specification

Specification	SP11	SP12
Current (Max.)	16A	16A
Input Voltage	220-240V AC	230V AC
Load Power (Max.)	3680W	3680W
Wireless Type	Wi-Fi/ZigBee/Matter	Wi-Fi/Bluetooth/Matter
Controls	Manual On/Off	Manual On/Off
Operating Temperature	-10-+55°C	-10-+55°C
Operating Humidity	≤95%,non-condensing	≤85%,non-condensing
Support System	Android/iOS	Android/iOS
Metering	✓	✓
Material	PC	PC

### Dimension



# SP21

## Smart Plug

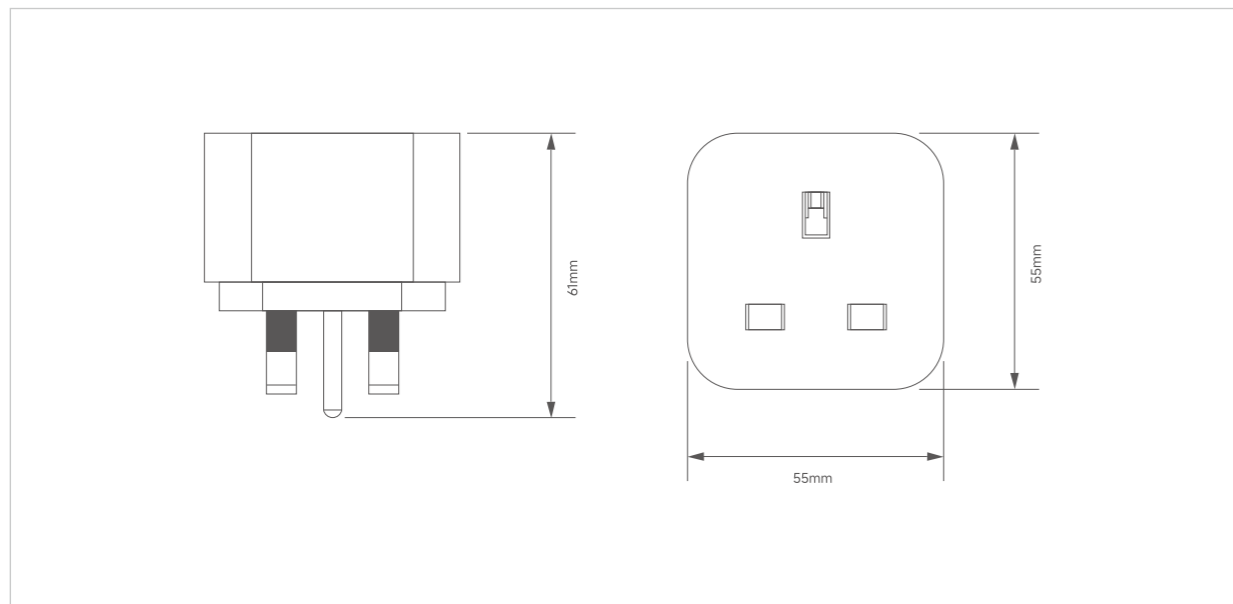
- Remote Control
- Wi-Fi Connection
- Voice Control
- Overcharge Protection
- Set Timers



### Technical Specification

Specification	
Current (Max.)	13A
Input Voltage	220-240V AC
Load Power (Max.)	3120W
Wireless Type	Wi-Fi/ZigBee/Matter
Controls	Manual On/Off
Operating Temperature	-10~+55°C
Operating Humidity	≤95%,non-condensing
Support System	Android/iOS
Metering	✓
Material	PC

### Dimension



# SP31

## Smart Plug

- Remote Control
- Wi-Fi Connection
- Voice Control
- Overcharge Protection
- Set Timers



### Technical Specification

Specification	
Current (Max.)	15A
Input Voltage	110-130V AC
Load Power (Max.)	1800W
Wireless Type	Wi-Fi/ZigBee/Matter
Controls	Manual On/Off
Operating Temperature	-10~+55°C
Operating Humidity	≤95%,non-condensing
Support System	Android/iOS
Metering	✓
Material	PC

### Dimension

