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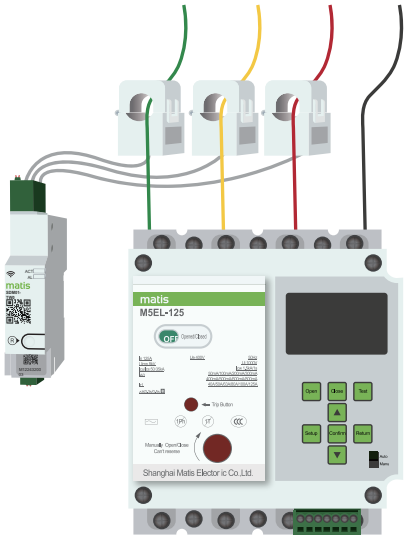

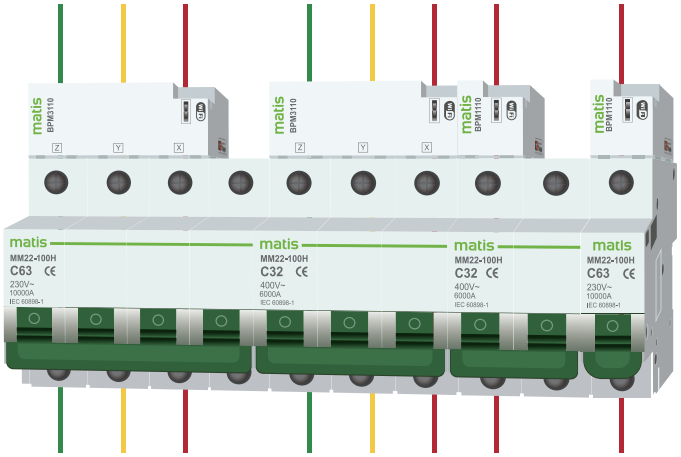

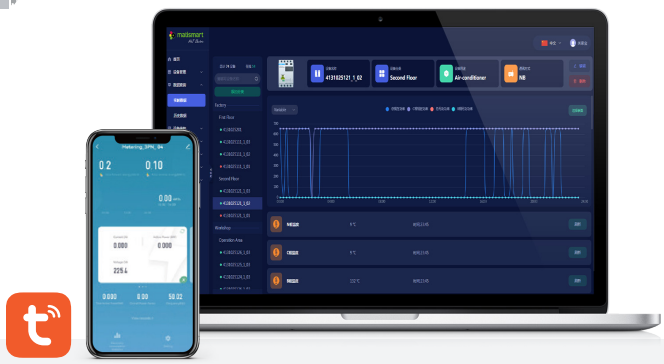

BPM Series

Compact Smart Energy Monitoring Sensor

Innovative, Scalable, Flexibile and Space Saving

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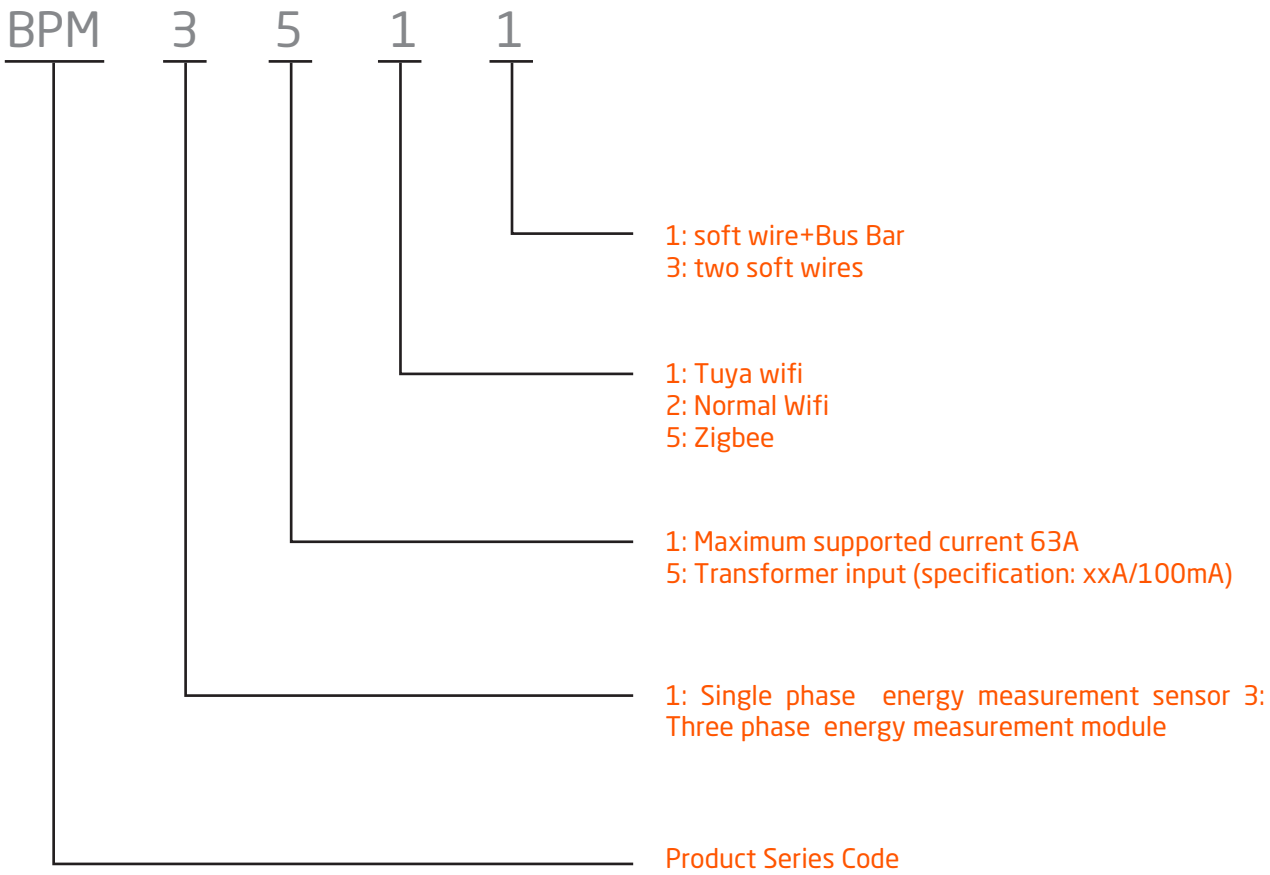
Type Code Introduction



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Applicable Scenarios

Home and Small Business (HEMS):

Real-time monitoring of total power consumption and each branch
Power usage analysis and energy efficiency optimization

Energy Management for Office Buildings and Shops:

Classified metering of loads such as air conditioners and lighting
Statistics of energy by floor/area to assist energy saving

Building BMS / Industrial EMS System:

Subsystem power consumption acqiusition and remote centralized management Adapt to mainstream platforms to help upgrade smart buildings

PV and Energy Storage Systems:

Power generation monitoring and surplus power management
Power output limitation and energy flow control

Charging Pile and Load Control:

Dynamic load balancing management
Multi-circuit independent metering, assisting peak and v alley control

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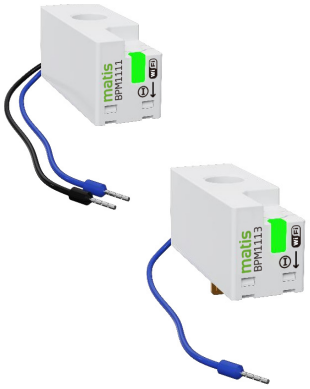
General Introduction

Compact Smart Energy Monitoring Sensor is tailor-made tailor-made for modern power distribution systems. The products cover single-phase, three-phase and multi-circuit measurement needs, integrates high-precision metering and a variety of wireless communication modes, and is suitable for energy efficiency management systems in multiple scenarios such as home, business and industry. Flexible installation and compact structure make it an ideal choice for smart power distribution upgrades.



BPM1100 – Single-phase Compact Smart Energy Monitoring Sensor

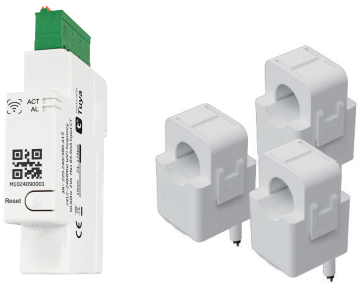
Suitable for home and small commercial power distribution systems, it can be embedded above or below the circuit breaker without occupying the rail space. It supports wireless communications such as Wi-Fi and Zigbee to achieve realtime high-precision monitoring of parameters such as voltage, current, active power, and energy.

- For single phase, up to 63A
- Compact size
- Active energy measurement accuracy ±1%
- Support Wi-Fi/Zigbee/BLE

BPM3100 – Three-phase Compact Smart Energy Monitoring Sensor

Designed for three-phase power distribution environment, with compact structure, it is suitable for three-phase circuit energy consumption monitoring in buildings, power and infrastructure. It can be easily integrated into BMS/ EMS and other systems, supporting high-precision measurement and remote control.

- For three phase, up to 63A
- Flexible embedded installation design
- Active energy measurement accuracy ±1%
- Support Wi-Fi/Zigbee/BLE



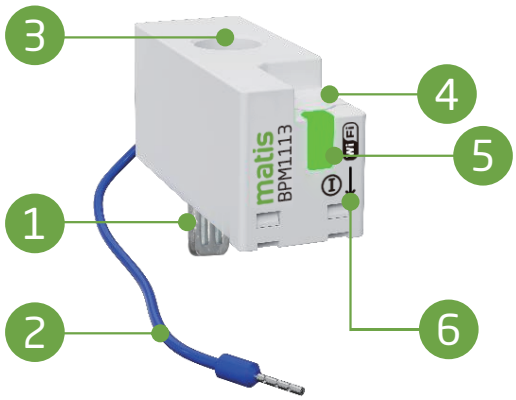
BPM3500 - Energy Monitoring Module with Split core CT

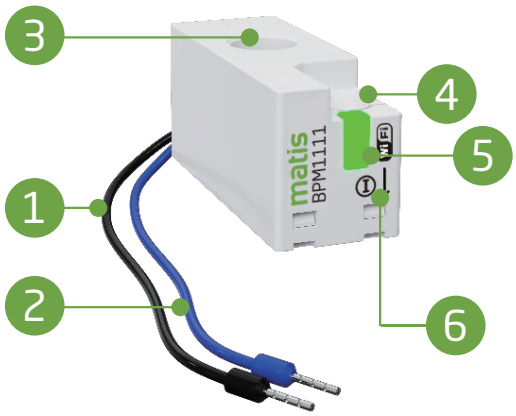
It is installed on an 18mm ultra-thin DIN rail and has three built-in open-core CTs. It is suitable for three-phase and multicircuit single-phase load monitoring and supports two-way energy metering. It is compatible with Wi-Fi/Zigbee/Modbus and other communication modes and is suitable for advanced scenarios such as electric vehicle charging, PV output limitation, and building energy efficiency control.

- Three-phase/multi-circuit energy monitoring
- Bidirectional metering, dynamic load management
- Support local automation control
- Adapt to DIN rail for quick installation

Overview

BPM1100 Single-phase Compact Smart Energy Monitoring Sensor





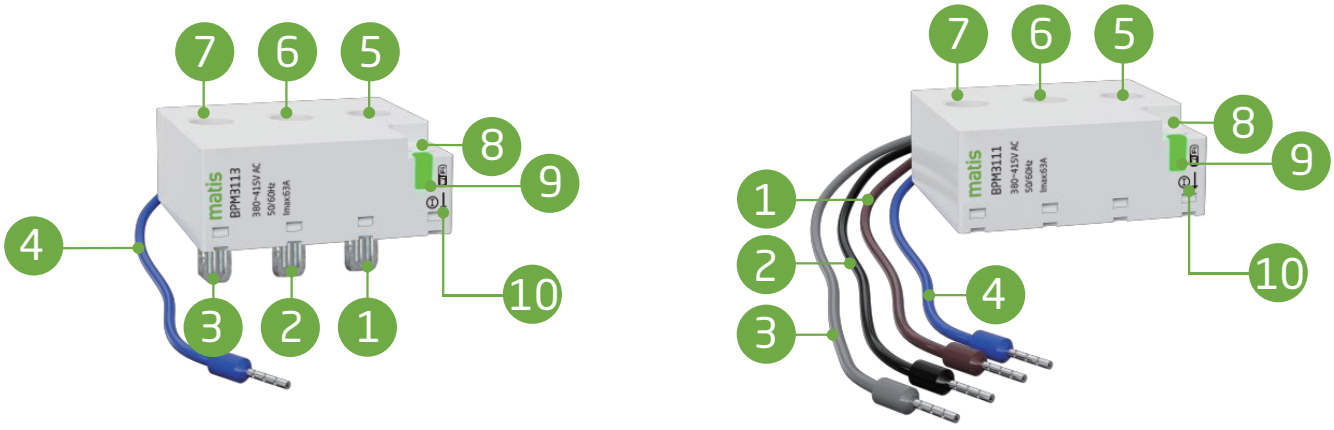
NO.	Component Name	Functions
1	Direct copper busbar (L end)	Insert into the terminal box of the protection device and introduce the working power supply from the phase line (L)
1	Voltage wiring (L)	Connect to the phase line power supply to realize voltage sampling function
2	Voltage wiring (N)	Connect to the neutral line power supply to form a voltage loop
3	Current sampling hole	The phase line (L) needs to pass through this hole to achieve current sampling (aperture Φ9.8mm)
4	Reset button	Long press for 3-5s to enter network configuration mode.
5	Status indicator (LED)	Indicate device operating status and network connection status through flashing status
6	Current direction indication	Used to indicate the direction of current flow to ensure the correct installation direction

Remarks

- If you are not sure whether the circuit breaker you are using is compatible with rail mounting, it is recommended to choose aflexible mounting version.
- Do not pass the live wire and the neutral wire through the same current sampling hole at the same time.
- For detailed meanings of the status indicators, refer to the user manual of the selected model.

Overview

BPM3100 Three-phase Compact Smart Energy Monitoring Sensor



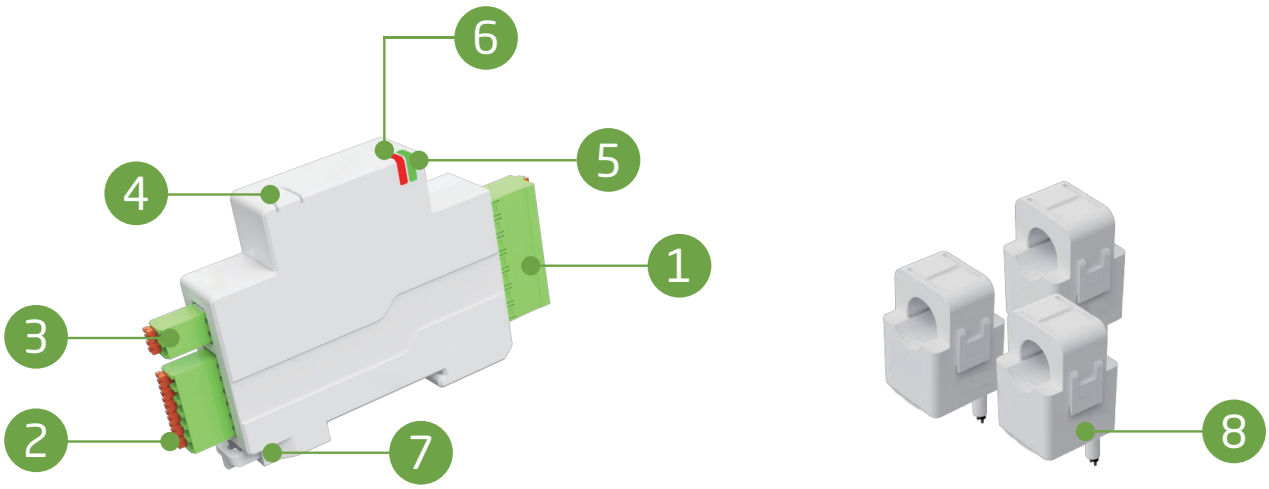
NO.	Component Name	Functions
1	X-phase terminal board	Plug into the protection device terminal box and get power from phase X
1	Voltage wiring (X)	Connect the X-phase power supply and complete the phase voltage sampling
2	Y-phase terminal board	Plug into the protection device terminal box and get power from phase Y
2	Voltage wiring (Y)	Connect the Y-phase power supply and complete the phase voltage sampling
3	Z-phase terminal board	Plug into the protection device terminal box and get power from phase Z
3	Voltage wiring (Z)	Connect the Z-phase power supply and complete the phase voltage sampling
4	Voltage wiring (N)	Connect the neutral line (N) to form a voltage measurement circuit
5	Current sampling hole (phase X)	The X-phase current line needs to pass through this hole for current sampling
6	Current sampling hole (phase Y)	The Y-phase current line needs to pass through this hole for current sampling
7	Current sampling hole (phase Z)	The Z-phase current line needs to pass through this hole for current sampling
8	Reset button	Long press for 3-5s to enter network configuration mode
9	Status indicator (LED)	Indicate device operating status and network connection status through flashing status
10	Current direction indication	Used to indicate the direction of current flow to ensure the correct installation direction

Remarks

- If you are not sure whether the circuit breaker you are using is compatible with rail mounting, it is recommended to choose a flexible mounting version.
- Do not pass the live wire and the neutral wire through the same current sampling hole at the same time.NO. Component Name Functions
- For detailed meanings of the status indicators, refer to the user manual of the selected model.

Overview

BPM3500 Energy Monitoring Module with Split core CT



NO.	Component Name	Functions
1	Voltage terminal	Connect to 230VAC power supply through four wires X, Y, Z, and N to realize power supply and voltage measurement
2	CT terminal	The red line (+) and the black line (–) correspond to the positive and negative poles of CT(X), CT(Y), and CT(Z) respectively. Please make sure the polarity is consistent.
3	RS485 terminal	Only applicable to product versions that support RS485 protocol
4	Reset button	Long press for 3-5s to enter network configuration mode
5	Status indicator (ACT)	Indicate device operating status and network connection status through flashing status
6	Alarm indicator (AL)	Flashing prompt when the system has an alarm or fault
7	DIN rail clips	Designed to mount on standard 35mm DIN rails, ensuring a secure fit
8	CT closed lock	Ensure that the split current transformer lock is closed to ensure stable measurement

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Technical Specifications

BPM1100 – Single-phase Compact Smart Energy Monitoring Sensor

Items	Parameters
Rated operating voltage	~220-240 VAC (L-N), ~380-415 VAC(L-L), 50/60 Hz
Max. current	63A
Overvoltage category	Class III
Rated insulation voltage	250V
Power frequency withstand voltage impulse voltage	4kV
Pollution degree	Class 3
Protection class	IP20
Energy measurement accuracy	IEC 61557-12: • Voltage: class 0.5 • Current: Class 1 • Active power: Class 1 • Forward active energy: Class 1 ± 1%
Max. power consumption	≤ 2VA
Operating temperature	-25℃ ~ +70℃
Dimensions (height x width x depth)	46.8mm x 17.8mm x 21.3mm
Integrated communication mode	Tuya wifi ; Wi-Fi + BLE ; Zigbee
Remarks	Modular hardware platform, supports extension of Thread and other protocols

BPM3100 – Three-phase Compact Smart Energy Monitoring Sensor

Items	Parameters
Rated operating voltage	~220-240 VAC (L-N), ~380-415 VAC(L-L), 50/60 Hz
Max. current	63A
Overvoltage category	Class III
Rated insulation voltage	440V
Power frequency withstand voltage impulse voltage	4kV
Pollution degree	Class 3
Protection class	IP20
Energy measurement accuracy	IEC 61557-12: • Voltage: class 0.5 • Current: Class 1 • Active power: Class 1 • Forward active energy: Class 1 ± 1%
Max. power consumption	≤ 2VA
Operating temperature	-25℃ ~ +70℃
Dimensions (height x width x depth)	46.4 x 53.0 x 21.3 mm
Integrated communication mode	Tuya wifi ; Wi-Fi + BLE ; Zigbee
Remarks	Modular hardware platform, supports extension of Thread and other protocols

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Technical Specifications

BPM3500 Energy Monitoring Module with Split core CT

Items	Parameters
Rated operating voltage	~220-240 VAC (L-N), ~380-415 VAC(L-L), 50/60 Hz
Max. current	120A / 200A (transformer input)
Overvoltage category	Class III
Rated insulation voltage	440V
Power frequency withstand voltage impulse voltage	4kV
Energy measurement accuracy	IEC 61557-12: • Voltage: class 0.5 • Current: Class 1 • Active power: Class 1 • Forward active energy: Class 1
Max. power consumption	≤ 2VA
Operating temperature	-25℃ ~ +70℃
Dimensions	Main module: 113.7 × 18.0 × 65.9 mm CT: See dimension drawing
Applicable standards	IEC 61557-12, IEC 61326-1, ETSI EN 300 328, 301 489-1/17
Remarks	Tuya wifi ; Wi-Fi + BLE ; Zigbee
Remarks	Do not support 3P3W system; supports extended Thread / DL645 and other protocols

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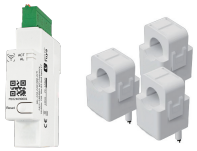
Order Code

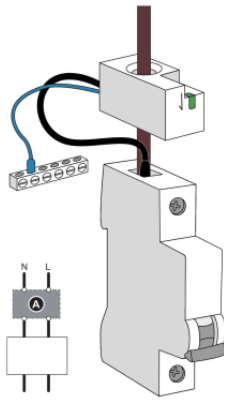
Order Code	Pole	Comm.	Wiring mode	Max. current	Accuracy	Pictur3p
BPM1111	1P	Tuya Wi-Fi	soft wire+Bus Bar	63A	1%	
BPM1121		Wi-Fi + BLE				
BPM1151		Zigbee				
BPM1113		Tuya Wi-Fi	two soft wires			
BPM1123		Wi-Fi + BLE				
BPM1153		Zigbee				
BPM3111	3P	Tuya Wi-Fi	soft wire+Bus Bar	63A		
BPM3121		Wi-Fi + BLE				
BPM3151		Zigbee				
BPM3113		Tuya Wi-Fi	two soft wires			
BPM3123		Wi-Fi + BLE				
BPM3153		Zigbee				
BPM3510_120	3P+CT	Tuya Wi-Fi	Upper/lower incoming line	120A		
BPM3520_120		Wi-Fi + BLE				
BPM3550_120		Zigbee				
BPM3510_200		Tuya Wi-Fi		200A		
BPM3520_200		Wi-Fi + BLE				
BPM3550_200		Zigbee				

Wiring Instructions

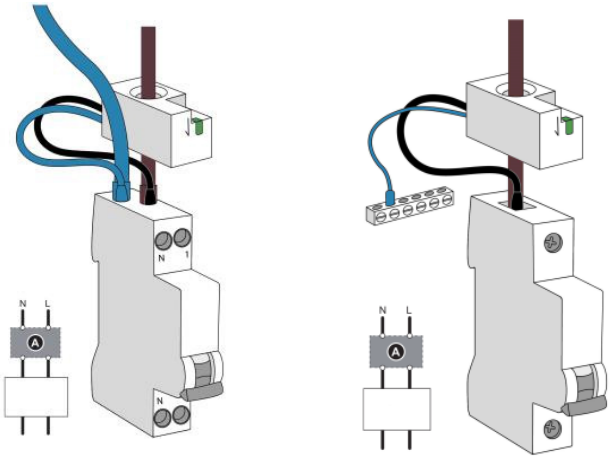
Single-phase wiring:

X/Y/Z lines pass through three holes respectively, and the N end is wired

Suitable for: BPM1111, BPM1121, BPM1151



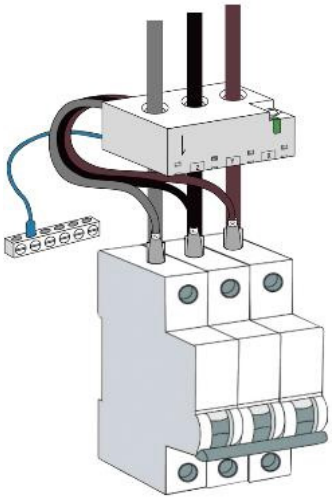
Suitable for: BPM1113, BPM1123, BPM1153



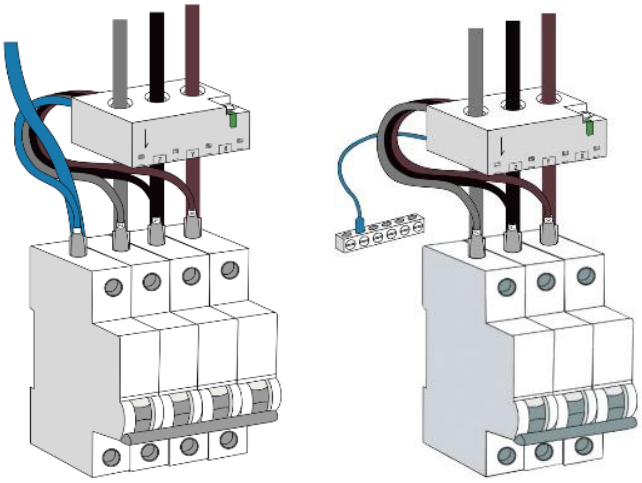
Three-phase wiring:

X/Y/Z lines pass through three holes respectively, and the N end is wired

Suitable for: BPM3111, BPM3121, BPM3151



Suitable for: BPM3113, BPM3123, BPM3153



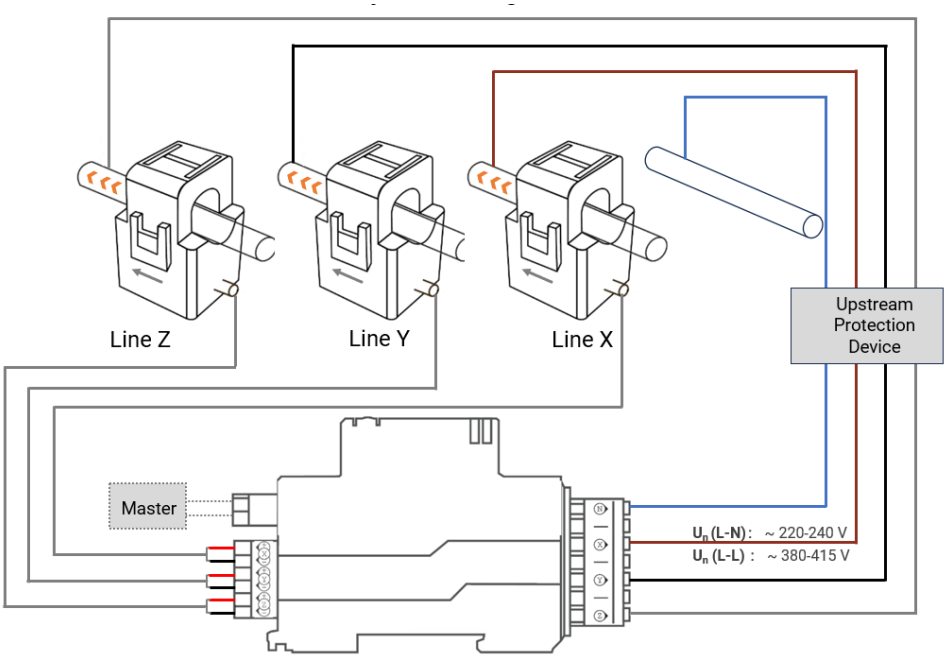
Wiring Instructions

Energy Monitoring Module with Split core CT

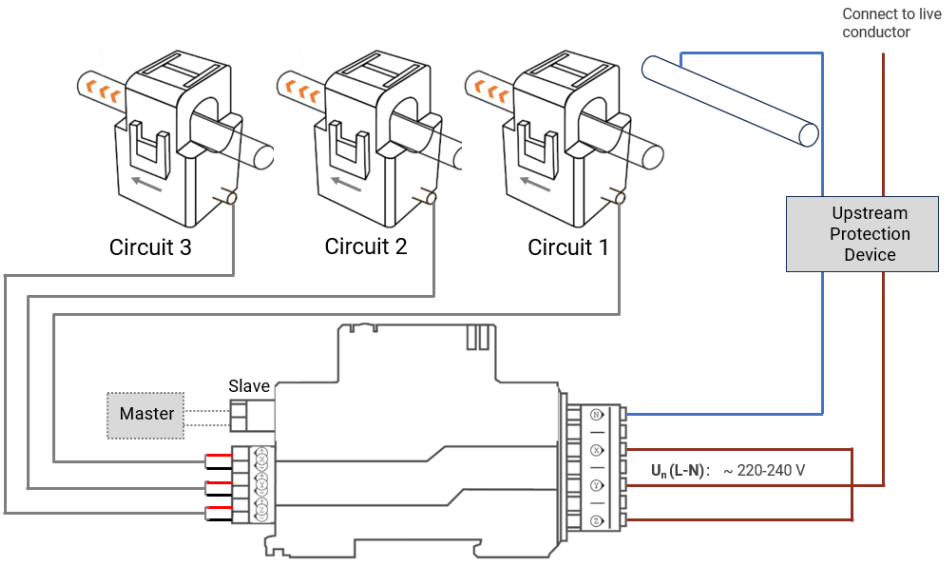
- Voltage signal input (X/Y/Z/N wiring)
- The three sets of red and black lines of the CT are connected to the module interface (polarity direction corresponds)

All models support neutral line detection, and the CT direction is toward the load end. Wrong direction will cause power reverse.

3P+N System Wiring



1P+N System Wiring up to 3 Branch Circuits

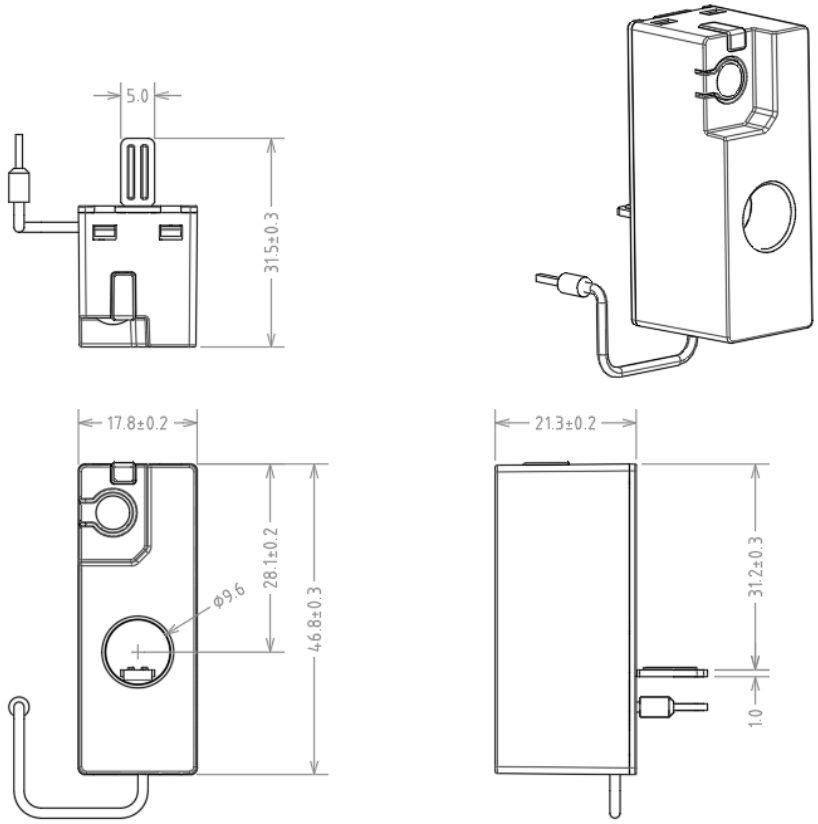


Dimensions

Solution	Wiring Type	Scope of Application
BPM1100	46.8×17.8×21.3mm	Install above/below the circuit breaker
BPM3100	46.8×52.8×21.3mm	Same as above
BPM3500	113.7×18.0×65.9mm	DIN rail
CT dimensions	Φ16mm（120A） / Φ20mm（200A）	The CT snap is closed to fix

BPM1100 - Single-phase Compact Smart Energy Monitoring Sensor

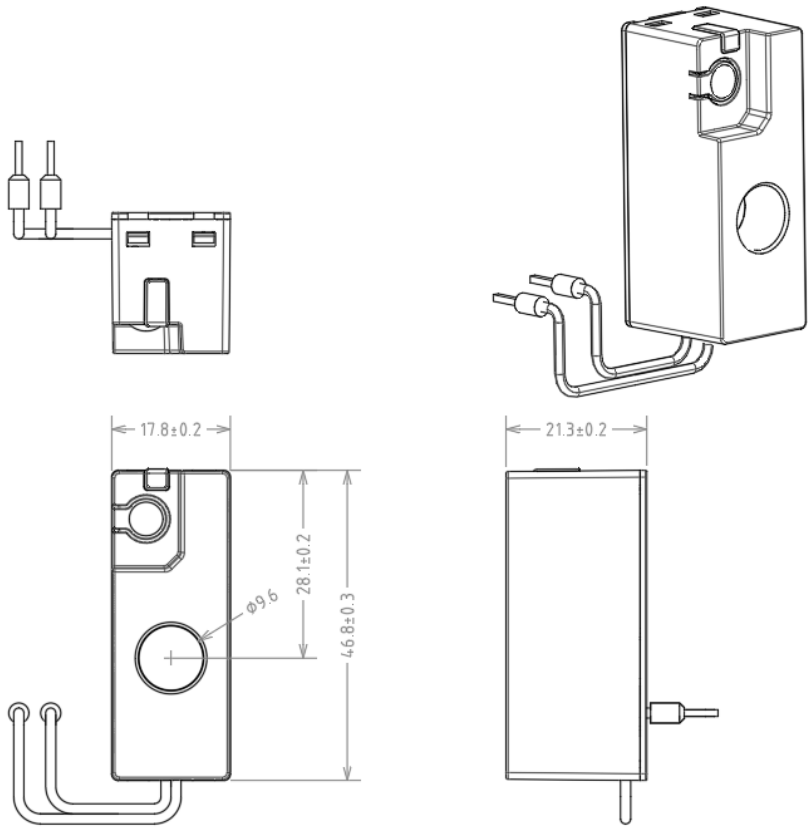
Applicable to: BPM1111, BPM1121, BPM1151



Dimensions

BPM1100 - Single-phase Compact Smart Energy Monitoring Sensor

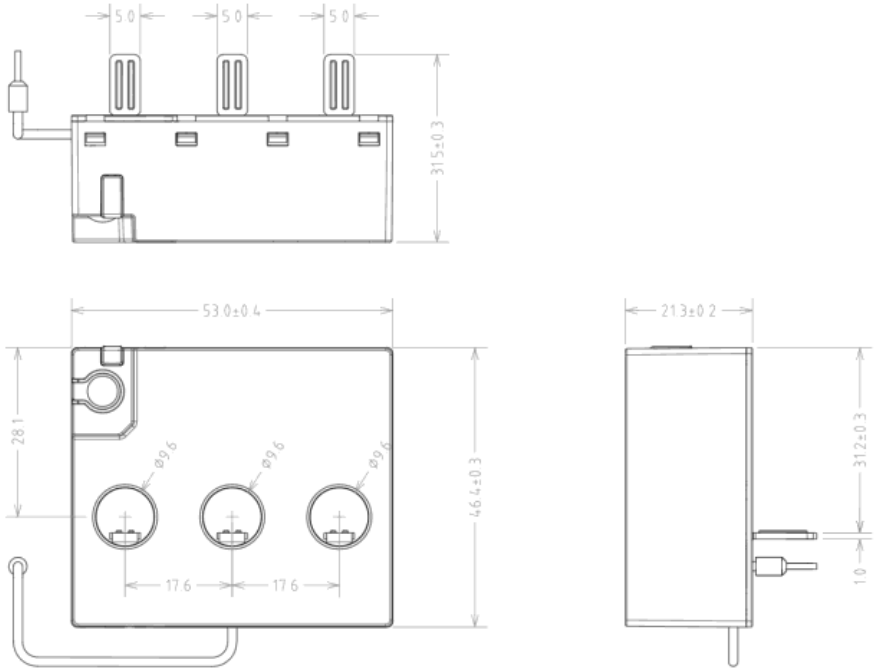
Applicable to: BPM1113, BPM1123, BPM1153



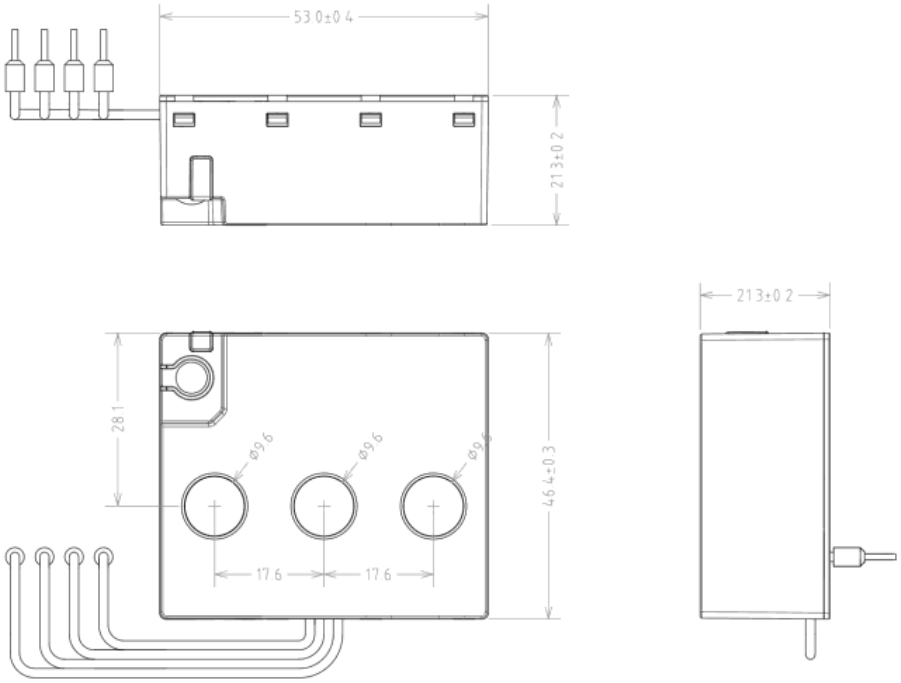
Dimensions

BPM3100 - Single-phase Compact Smart Energy Monitoring Sensor

Applicable to: BPM3111, BPM3121, BPM3151

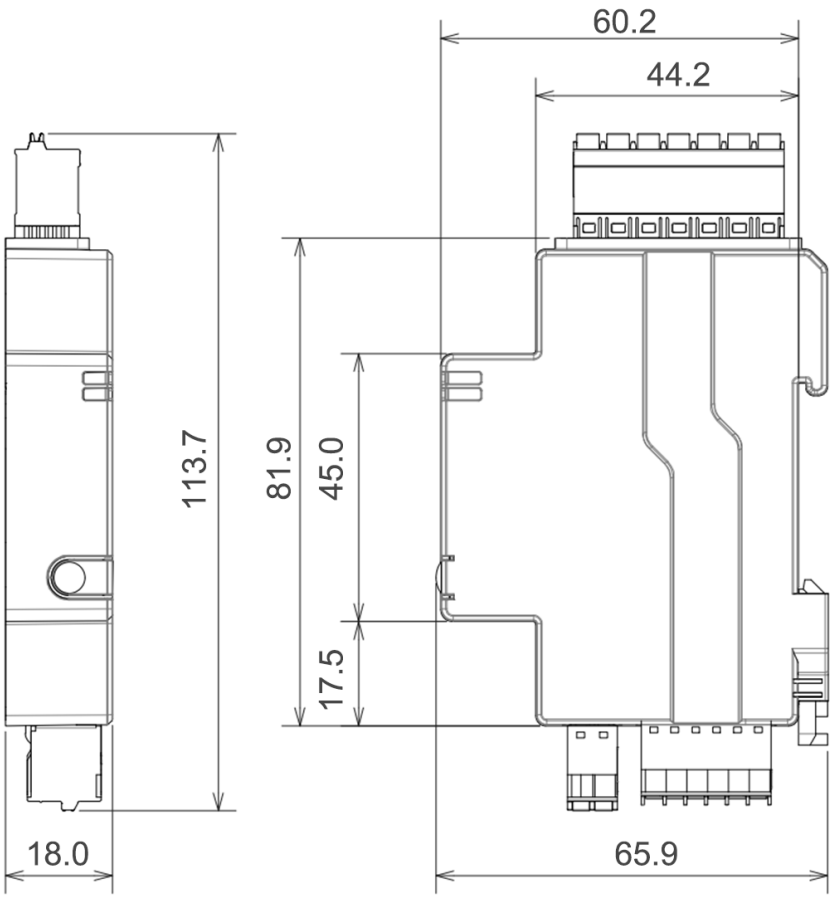


Applicable to: BPM3113, BPM3123, BPM3153

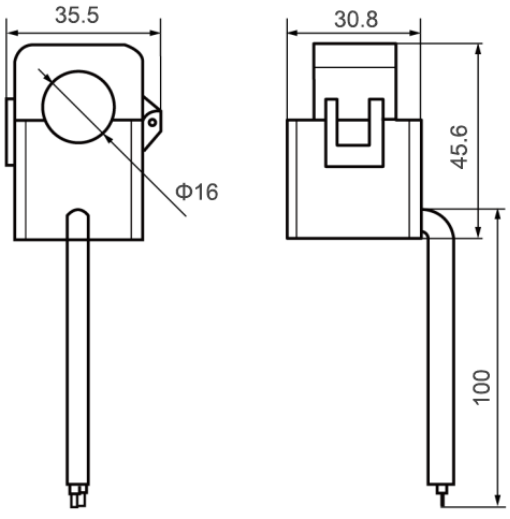


Dimensions

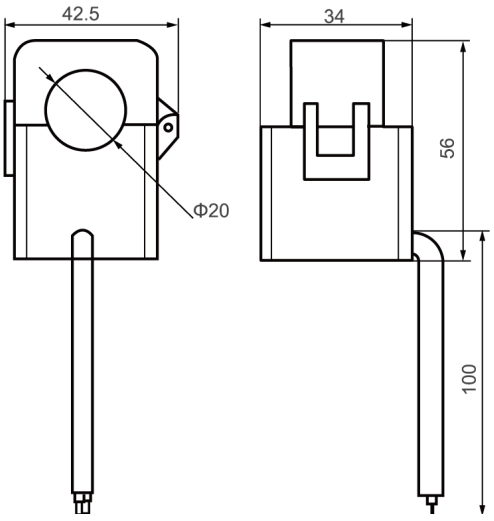
BPM3500 - DIN Rail Energy Monitoring Module (Split Type)



Applicable to:CT-120A



Applicable to:CT-200A



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