

**SoCan<sup>®</sup>**  
*For So, We Can*

# Current Measurement Experts



Shenzhen SoCan Technologies Co., Ltd.



Founded in 2005, Shenzhen SoCan Technologies Co., Ltd. (SOCAN) is headquartered in Shenzhen, Guangdong province. It is a national high-tech enterprise and a specialized, fine, special and novel enterprise in Shenzhen. The company focuses on R&D and production of high-performance and low-cost Hall sensors and DC system modules. With the most advanced sensor manufacturing and testing equipment in the world, professional and efficient production capacity, SOCAN is continuously committed to the promotion of customer value. SOCAN has many patented technologies for sensor manufacturing and intelligent products in the DC field. The core team of the company is composed of many industry elites and senior experts in magnetic sensor technology and engineering services.





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## Classification

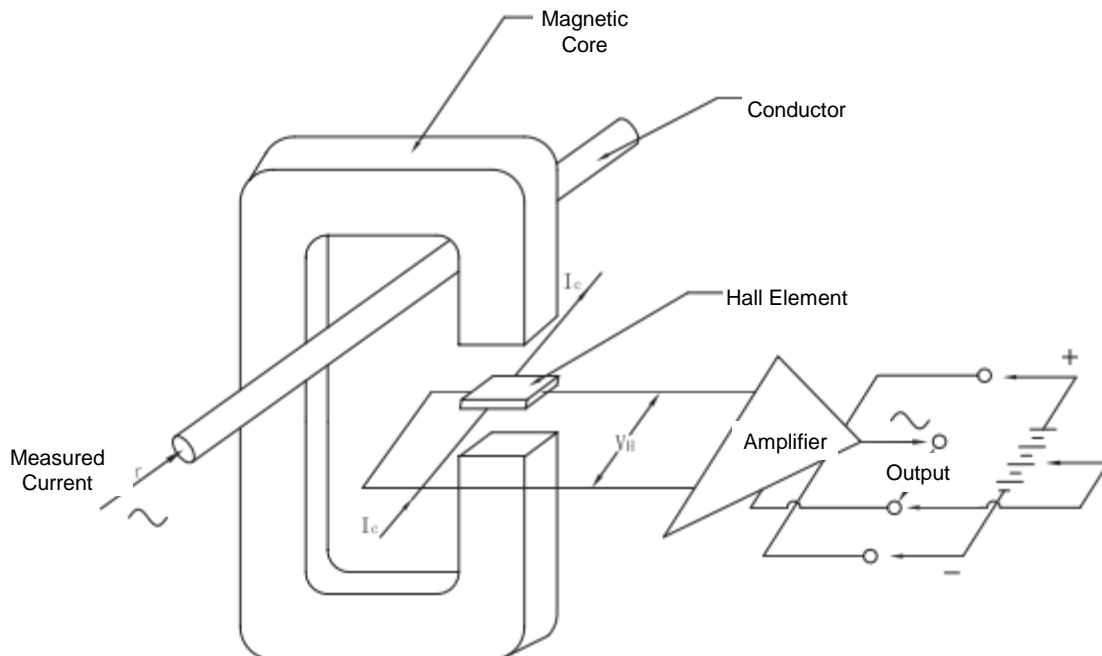
Hall current sensors can be divided into three main categories based on their working principles:

- An open-loop current sensor based on Hall direct measurement (open-loop), whose Hall effect chip sensing signal is amplified by operational amplifier and directly output, is also called direct measurement.
- A closed-loop current sensor based on the principle of Hall magnetic balance (closed loop), the induced signal of the Hall effect chip is amplified by operational amplifier and fed back to the sensor core to form a reverse magnetic field, so that the forward and reverse magnetic fields can be balanced, so as to detect the current.
- And a leakage current sensor based on magnetic modulation (zero-flux).

## Principle of Open-loop Hall Current Sensor

When the primary current ( $I_p$ ) passes through a conductor, a magnetic field is generated around the conductor, which is proportional to the current flowing through the conductor. It can sense the Hall device through magnetic core aggregation and generate an output signal. This signal is amplified by a signal amplifier and output directly. The output signal by hall current sensor accurately reflects the signal of primary current.

## Open-loop Schematic Diagram



## Performance of Open-loop Hall Current Sensor

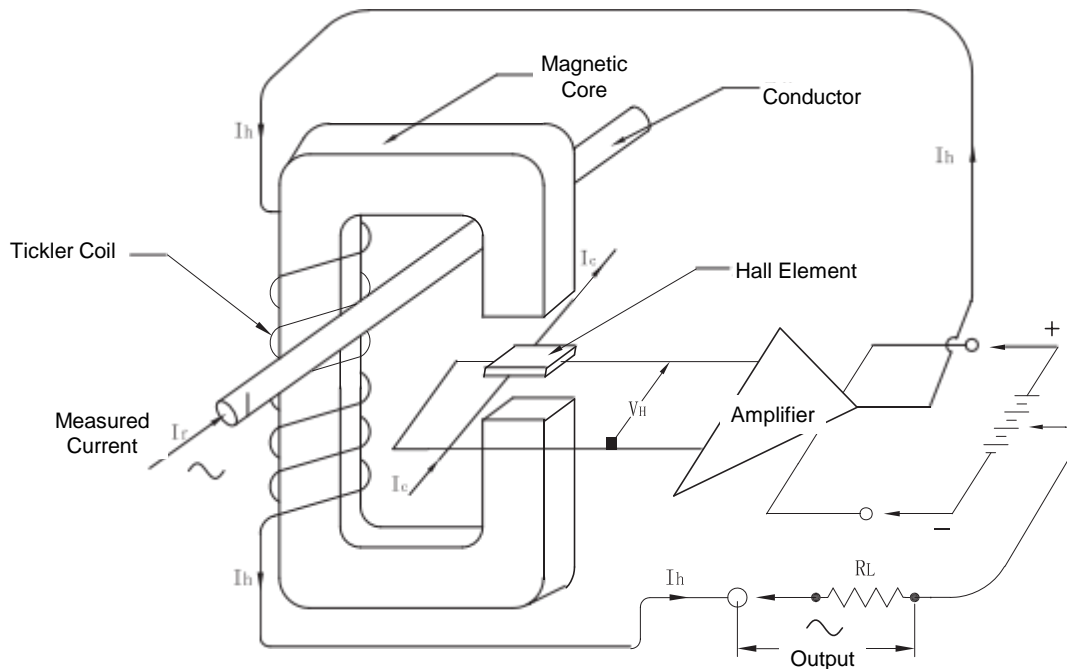
It can measure various types of current such as DC, AC, pulse.

Advantages: small package size, wide current measuring range, light weight, low power loss and no insertion loss.

### Working Principle of Closed-loop Hall Current Sensor

Closed-loop Hall current sensor is a modular product which uses Hall device as the core sensitive element to isolate and detect current. Its working principle is Hall magnetic balance type (or Hall magnetic compensation type, Hall zero-flux type). As we all know, when a current flows through a wire, a magnetic field will be generated around the wire. The magnitude of the magnetic field is proportional to the magnitude of the current flowing through the wire. This magnetic field can be gathered by soft magnetic materials and then detected by a Hall current sensor. Because the change of the magnetic field has a good linear relationship with the output voltage signal of Hall devices, the output signal measured by the Hall current sensor can directly reflect the magnitude of the current in the wire.

### Closed-loop Schematic Diagram



### Main Performance of Closed-loop Hall Current Sensor

Compared with open-loop Hall current sensor, it has more advantages than traditional current measurement methods such as shunt or transformer. The closed-loop Hall current sensor mainly has the following characteristics:

- 1) It can measure any waveform current such as DC, AC and pulse current simultaneously;
- 2) The measuring current on the secondary side is completely isolated from the measured current on the primary side, with insulation voltage of 2kV ~ 12kV;
- 3) Wide current measuring range;
- 4) Tracking velocity  $di/dt > 50A/\mu s$ ;
- 5) Higher accuracy and linearity;
- 6) Faster response time, generally less than 1 $\mu s$

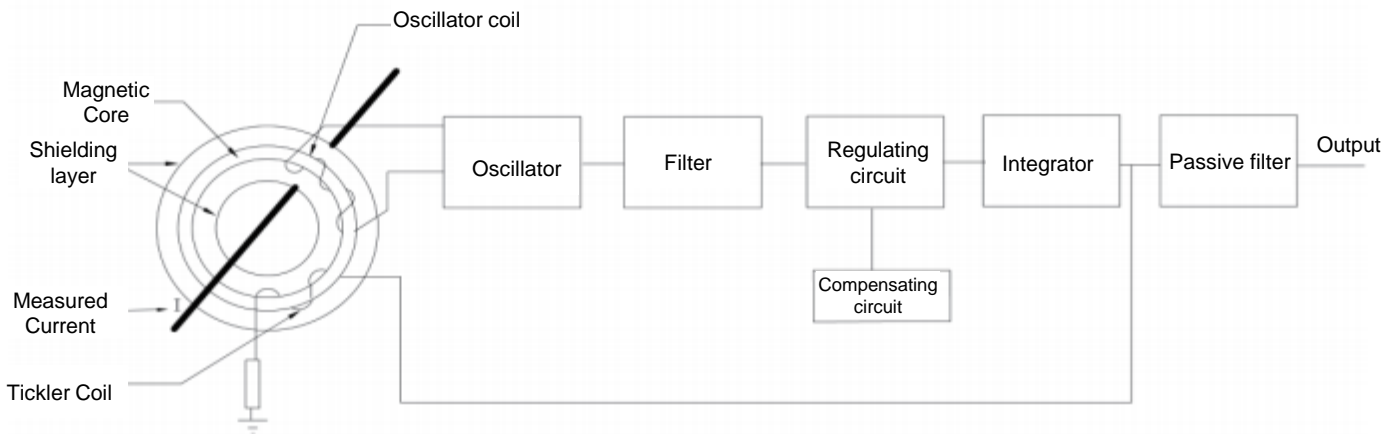
## Split core Hall Current Sensor

Split core Hall Current Sensor's working principle is open-loop. It has all the characteristics of open-loop current sensor, and can be opened and closed 180 degrees up and down, without disassembly for maintenance and replacement, and is convenient for installation.

## Working Principle of Leakage Current Sensor

Leakage current sensor is a new closed-loop current sensor developed based on the principle of magnetic modulation, with good stability in measuring low current and high insulation between primary and secondary. It is widely used in leakage monitoring system, signal system, current difference measurement and so on.

## Schematic Diagram of Magnetic Modulation



## Characteristics

The product has a smaller size, better linearity, higher capacity to resist interference than those of similar products, with the functions of power failure protection and power supply polarity protection. Its manufacturing material is imported soft adhesive resin, with good heat dissipation and insulation performance.



### Primary nominal current $I_{PN}$

It refers to the standard rated value that a current sensor can measure, expressed as the effective value (A.R.m.s), and the magnitude of the  $I_{PN}$  is related to the model of the sensor product.

### Primary current measuring range $I_{pm}$

It refers to the maximum current value (peak value) that the current sensor can measure, usually  $2 \cdot I_{pn}$  or  $3 \cdot I_{pn}$ , which may vary with some models.

### Power supply/Working voltage

It refers to a specified power supply voltage of the current sensor. If the voltage exceeds this specified value, the sensor cannot work normally or its reliability is reduced. In addition, the power supply voltage of Hall sensor with bipolar power supply is divided into positive power supply voltage  $V+$  and negative power supply voltage  $V-$ .

### Overload

When the current overloads, the primary current still increases outside the primary current measuring range, and the duration of overload current may be very short, and the overload value may exceed the allowable value of the sensor. The overload current value cannot be measured by the sensor generally, but it will not cause damage to the sensor itself.

### Accuracy

The accuracy of Hall effect sensors depends on the standard primary nominal current  $I_{PN}$ . Under  $+25^{\circ}\text{C}$ , the measurement accuracy of the sensor is affected by the primary current

### Zero drift, also known as offset current and offset voltage

When the input signal of the amplifier circuit is zero (that is, there is no alternating current input), the static working point changes due to the influence of temperature change, unstable power supply voltage and other factors, and is amplified and transmitted step by step, resulting in the phenomenon that the output voltage of the circuit deviates from the original fixed value and drifts up and down. It is also referred to as null drift for short.

### Response time

When the measured variable changes, the sensor cannot respond to it immediately, and there is a lag, and the lag time is the response time. The process of Hall current sensor can achieve microsecond level, and the process of leakage current sensor can achieve millisecond level.



We should select different types of sensors according to the parameters such as measured current value, primary current measuring range, aperture, accuracy and wiring mode. If the measured current exceeds the rated value for a long time, the terminal power amplifier tube (referring to magnetic compensation type) will be damaged. In general, the duration of twice the overload current should not exceed 1 minute.

- If we use the sensor, the secondary power supply should be connect first, and then the primary current or voltage should be connected.
- The best accuracy of current sensor is obtained under the condition of primary side rating, so when the measured current is higher than the rating of current sensor, the larger sensor should be selected; when the measured current is less than 1/2 of the rated value, the primary side should be multiple turns in winding, so that the total ampere turns are close to the rated value to obtain the best measurement accuracy.
- Sensors with impulse withstand voltage of 3KV can work normally in AC systems with 1KV and below and DC systems with 1.5 KV and below for a long time. Do not use in overvoltage state.
- In order to obtain better dynamic characteristics and sensitivity, we must note that the coupling between the primary coil and the secondary coil must be good, and it is best to completely fill the hole of Hall sensor module with a single conductor.
- When it is used in high current DC system and the working power supply is open or faulty for some reason, the iron core produces large remanence. Remanence affects accuracy. The method of demagnetization is to apply an AC current to the primary side without adding a power source and gradually reduce its value.
- Hall sensor's overload capacity is strong with time limit. When testing the overload capacity, the overload current more than 2 times should not exceed 1 minute.
- The temperature of the primary current busbar must not exceed the operating temperature range, which is determined by the characteristics of ABS engineering plastics. Users have special requirements and can customize them specially.



Hall current sensors are widely used in variable-frequency drivers, battery management system (BMS) and motor control unit (MCU) of new energy vehicles, DC cabinets, inverters, UPS, communication power supply, electric welding machines, electric automotives, substations, numerical control machine tools, electrolytic plating, computer monitoring, power grid monitoring and other facilities that need to isolate and detect current, as well as emerging solar energy, wind energy and subway track signals.

1. Application in variable-frequency drivers  
Mainly to protect expensive high-power transistors. Because the response time of Hall current sensor is often less than 5  $\mu$ s, when overload short circuit occurs, the power supply can be cut off before the transistor reaches the limit temperature, so that the transistor can be reliably protected.
2. Application in Battery Management System (BMS) and Motor Control Unit (MCU) of new energy vehicles  
Hall current sensor is widely used in BMS of new energy vehicle to accurately detect and control the charging and discharging current of battery, so as to ensure the stable and efficient operation of battery system. Hall current sensor is used in MCU of new energy vehicle motor control system to accurately detect and control the inverting current of driver.
3. Application in DC cabinets  
Hall sensor can be assembled in DC screen to measure the total loop current.
4. In the DC automatic control speed regulation system, Hall current and voltage sensor can directly replace current transformer, which not only has good dynamic response, but also can realize the best control of rotor current and overload protection of thyristor.
5. Application in inverters  
Hall current sensors can be used for analog sensing of ground fault detection, DC measurement, and AC measurement for inverters to ensure their safe operations.
6. Application in uninterruptible power supply  
Hall current sensor is used for control to ensure the normal operation of inverter power supply. Hall current sensor controls power supply of floating charge. Because of its fast response speed, Hall current sensor is especially suitable for uninterruptible power supply in computer.
7. Application in electronic spot welder  
Hall current sensor can measure and control the power supply of electronic spot welder. Its fast response can reproduce current and voltage waveforms and feed them back to the controllable rectifier.
8. Use for control of tram chopper  
The tram chopper's speed is adjusted by the voltage. The Hall current sensor and other components are used together, and all the signals of the sensor are input into the control system, which can ensure the normal operation of the tram.
9. Use for power management  
Hall current sensors can be installed on distribution lines for load management. The output of Hall current sensor is connected with the computer to monitor the power consumption. If overload is found, the controlled line will be disconnected in time to ensure the safety of electrical equipment. Load distribution and remote control, telemetry and patrol inspection of power grid can also be carried out with this device.
10. Application in grounding fault detection  
In power distribution and various electrical equipment, reliable grounding is an important measure for the safety of power distribution and electrical equipment. Using Hall current sensor to automatically monitor the grounding fault can ensure the electricity safety.
11. Application in switching power supply  
Modern switching power supply is a power conversion device that converts unstable AC voltage into stable DC voltage. The pulse width modulation is used in both voltage-controlled and current-controlled switching power supplies to maintain constant voltage output by means of a proportional relationship between driving pulse width and output voltage amplitude. The sampling and sensing of pulse voltage or current with variable width need to be completed by current and voltage sensors. Hall current and voltage sensors have become ideal choices because of their wide frequency bandwidth, fast response and easy installation.

## SCK1 Series

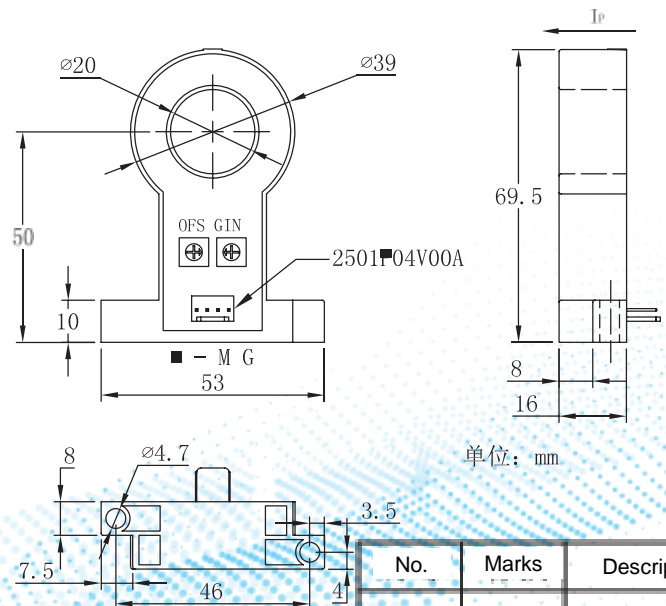
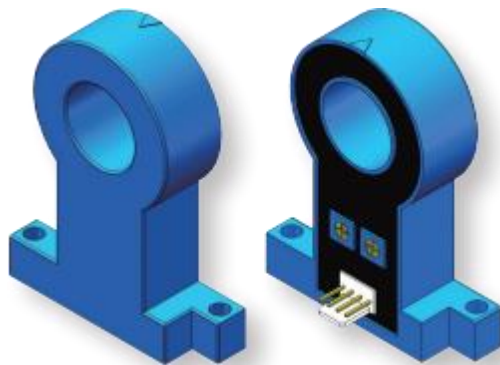
### Technical parameters

Spec (25°C)	Model	SCK1T -				
		50A	100A	200A	300A	400A
Primary nominal current $I_{PN}$		50A	100A	200A	300A	400A
Primary current measuring range $I_{PM}$		±150A	±300A	±600A	±800A	±800A
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		±4V±1%				

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	±11	±15	±18	V <sub>DC</sub>
Current consumption $I_c$	-	±13	±15	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	3.960	4.000	4.040	V
Output internal resistance $R_{OUT}$	-	102	-	Ω
Load resistance $R_L$	1	10	-	KΩ
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	±0.5	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±10	±20	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.5	±1	mV/°C
Temperature coefficient of output voltage $TCV_{out}$	-	±0.05	±0.1	%/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Ambient operating temperature $T_A$	-40	25	125	°C
Ambient storage temperature $T_s$	-40	25	125	°C
Impulse withstand voltage $V_D$ @50Hz, 60s,		3000		V <sub>AC</sub>

### Dimensions (mm)



### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

$$V_{OUT} = 4.04 \cdot \frac{R_L}{102 + R_L} \cdot \frac{I_P}{I_{PN}} + V_{OE}$$

No.	Marks	Description
1	+	+15V
2	-	-15V
3	M	Out
4	G	GND



## SCK3 Series

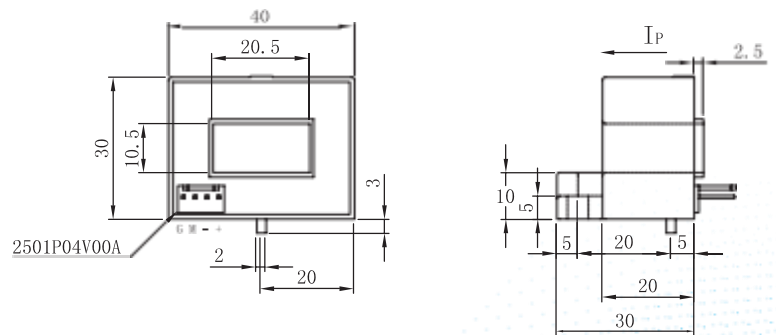
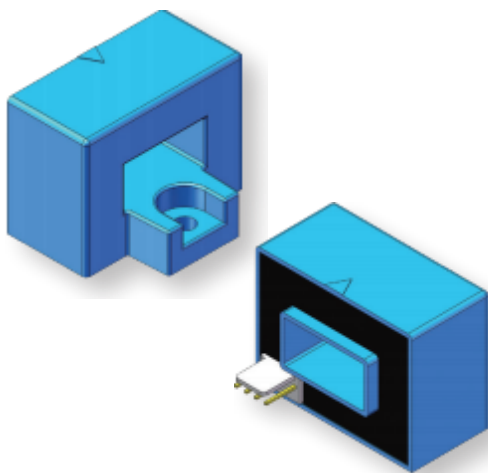
### Technical parameters

Spec (25°C)	Model	SCK3 -							
		50A	100A	150A	200A	300A	400A	500A	600A
Primary nominal current $I_{PN}$		50A	100A	150A	200A	300A	400A	500A	600A
Primary current measuring range $I_{PM}$		±150A	±300A	±450A	±600A	±900A	±1200A	±1200A	±1200A
Output voltage $V_{out}$ @ ± $I_{PN}$ , $R_L=10K\Omega$		±4V±1%							

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	±11	±15	±18	V <sub>DC</sub>
Current consumption $I_c$	-	±13	±15	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}$ , $R_L=10K\Omega$ , $T_A=25^\circ C$	3.960	4.000	4.040	V
Output internal resistance $R_{OUT}$	-	102	-	Ω
Load resistance $R_L$	1	10	-	KΩ
Accuracy X @ $I_{PN}$ , $T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega$ , $T_A=25^\circ C$	-	±0.5	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±10	±20	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.5	±1	mV/°C
Temperature coefficient of output voltage $TCV_{out}$	-	±0.05	±0.1	%/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Ambient operating temperature $T_A$	-40	25	125	°C
Ambient storage temperature $T_s$	-40	25	125	°C
Impulse withstand voltage $V_D$ @50Hz, 60s,		3000		V <sub>AC</sub>

### Dimensions (mm)



M SERIES  
单位: mm

No.	Marks	Description
1	+	+15V
2	-	-15V
3	M	Output
4	G	0V

### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

$$V_{OUT} = 4.04 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$

## SCK4 Series

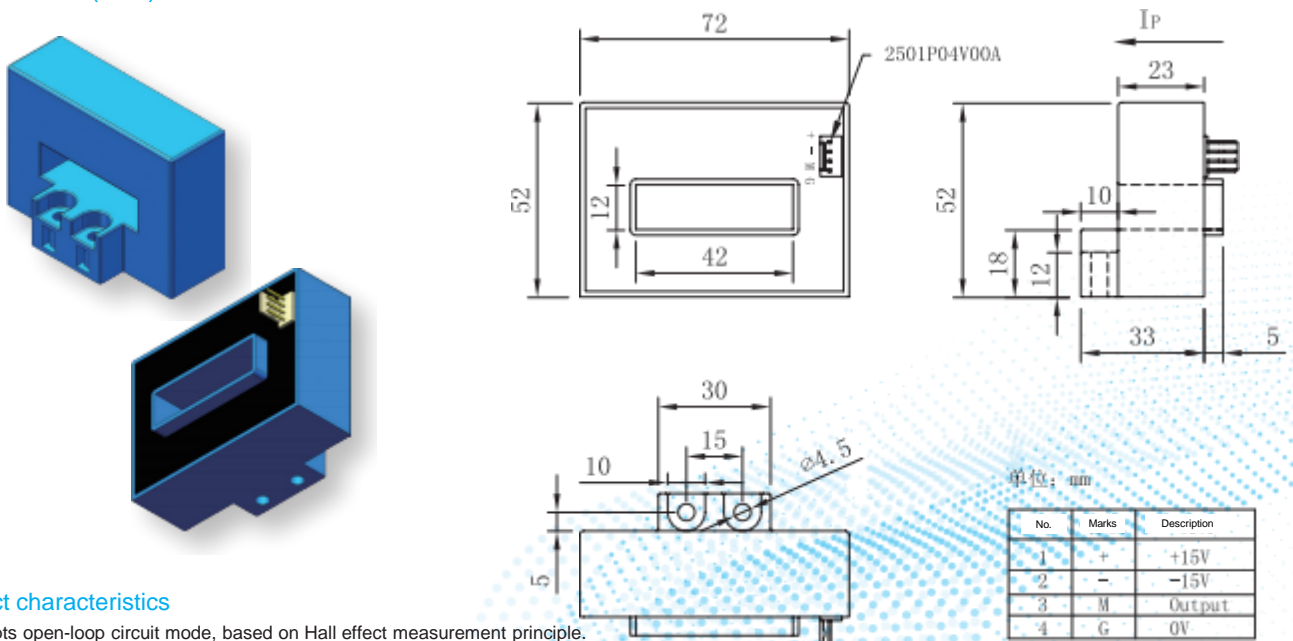
### Technical parameters

Spec (25°C)	Model	SCK4 -							
		300A	400A	500A	600A	800A	1000A	1500A	2000A
Primary nominal current $I_{PN}$		300A	400A	500A	600A	800A	1000A	1500A	2000A
Primary current measuring range $I_{PM}$		±900A	±1200A	±1500A	±1800A	±2400A	±3000A	±4000A	±4000A
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		±4V±1%							

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	±11	±15	±18	$V_{DC}$
Current consumption $I_c$	-	±15	±20	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	3.960	4.000	4.040	V
Output internal resistance $R_{OUT}$	-	102	-	Ω
Load resistance $R_L$	1	10	-	KΩ
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	±0.5	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±10	±20	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.5	±1	mV/°C
Temperature coefficient of output voltage $TCV_{out}$	-	±0.05	±0.1	%/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Ambient operating temperature $T_A$	-40	25	125	°C
Ambient storage temperature $T_s$	-40	25	125	°C
Impulse withstand voltage $V_D$ @50Hz, 60s, 0.1mA		3000		$V_{AC}$

### Dimensions (mm)



### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

$$V_{OUT} = 4.04 \cdot \frac{R_L}{102 + R_L} \cdot \frac{I_P}{I_{PN}} + V_{OE}$$

## SCK8 Series

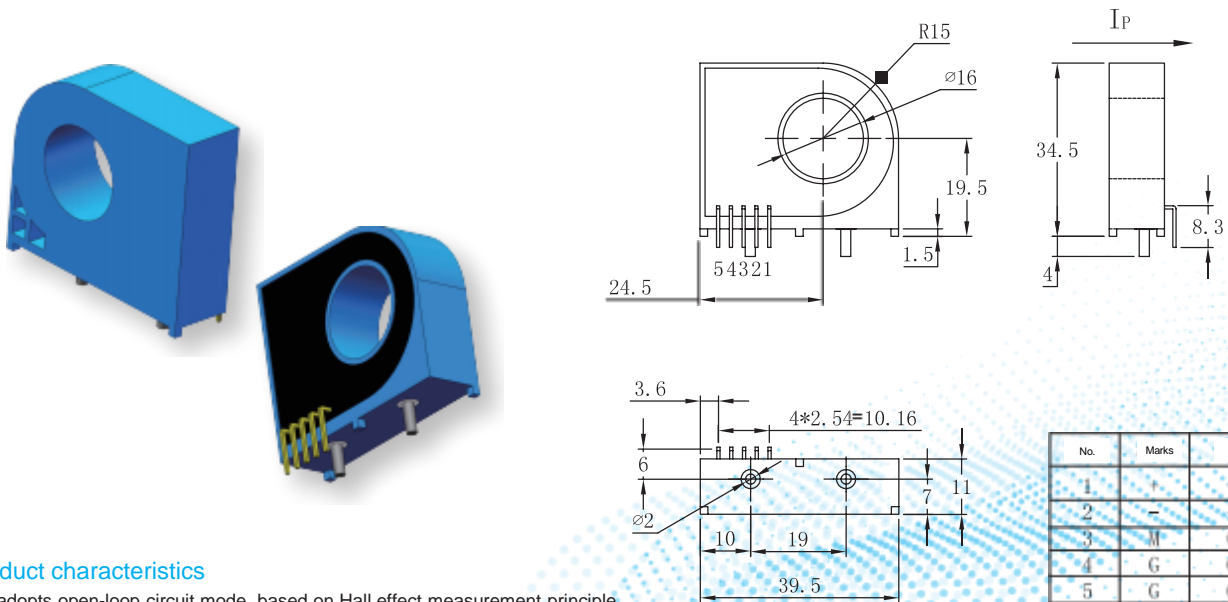
### Technical parameters

Spec (25°C)	Model	SCK8 -			
		50A	100A	150A	200A
Primary nominal current $I_{PN}$		50A	100A	150A	200A
Primary current measuring range $I_{PM}$		±150A	±300A	±450A	±450A
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		±4V±1%			

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	±11	±15	±18	$V_{DC}$
Current consumption $I_c$	-	±13	±15	mA
Insulation resistance $R_{INS}$ @500V DC	500	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	3.960	4.000	4.040	V
Output internal resistance $R_{OUT}$	-	102	-	Ω
Load resistance $R_L$	1	10	-	KΩ
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	±0.5	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±10	±20	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.5	±1	mV/°C
Temperature coefficient of output voltage $TCV_{out}$	-	±0.05	±0.1	%/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Ambient operating temperature $T_A$	-40	25	125	°C
Ambient storage temperature $T_s$	-40	25	125	°C
Impulse withstand voltage $V_D$ @50Hz, 60s, 0.1mA		2500		$V_{AC}$

### Dimensions (mm)



### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

$$V_{OUT} = 4.04 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$



## SCK18 Series

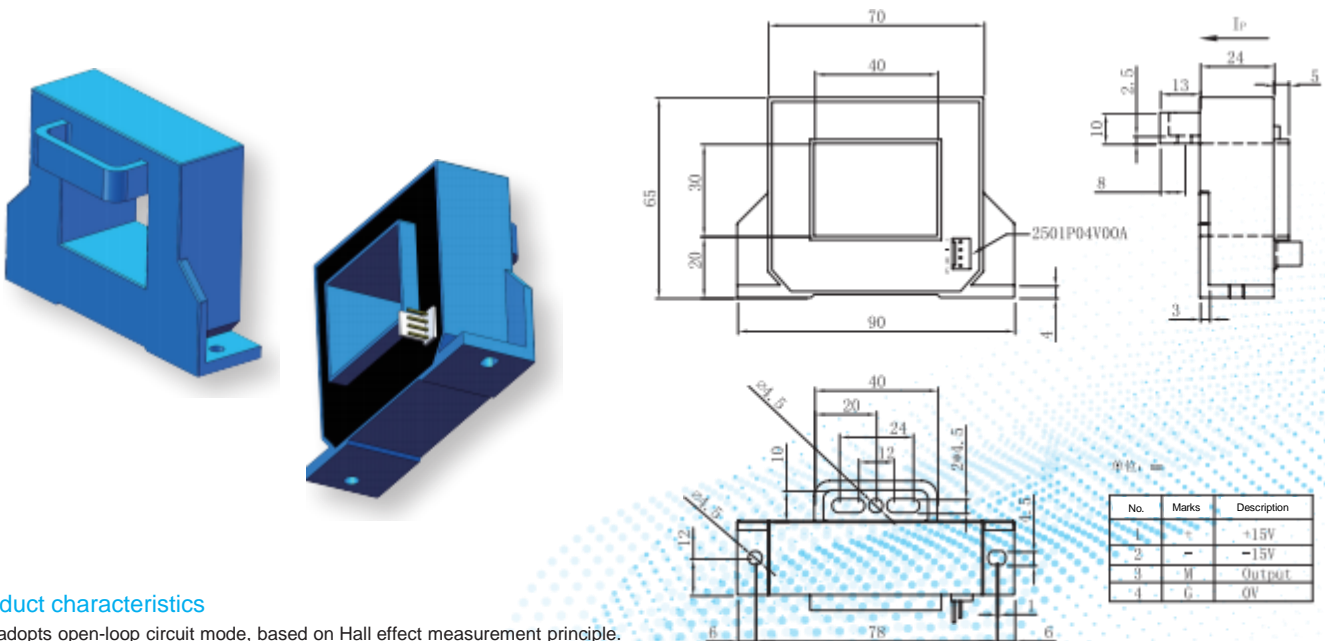
### Technical parameters

Spec (25°C)	Model	SCK18 -						
		400A	500A	600A	800A	1000A	1200A	1500A
Primary nominal current $I_{PN}$		400A	500A	600A	800A	1000A	1200A	1500A
Primary current measuring range $I_{PM}$		±1200A	±1500A	±1800A	±2400A	±3000A	±3600A	±4000A
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		±4V±1%						

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	±11	±15	±18	$V_{DC}$
Current consumption $I_c$	-	±15	±20	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	3.960	4.000	4.040	V
Output internal resistance $R_{OUT}$	-	102	-	Ω
Load resistance $R_L$	1	10	-	KΩ
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	±0.5	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±10	±20	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.5	±1	mV/°C
Temperature coefficient of output voltage $TCV_{out}$	-	±0.05	±0.1	%/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Ambient operating temperature $T_A$	-40	25	125	°C
Ambient storage temperature $T_s$	-40	25	125	°C
Impulse withstand voltage $V_D$ @50Hz, 60s,		5000		$V_{AC}$

### Dimensions (mm)



### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

$$V_{OUT} = 4.04 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$

## SCK19D Series

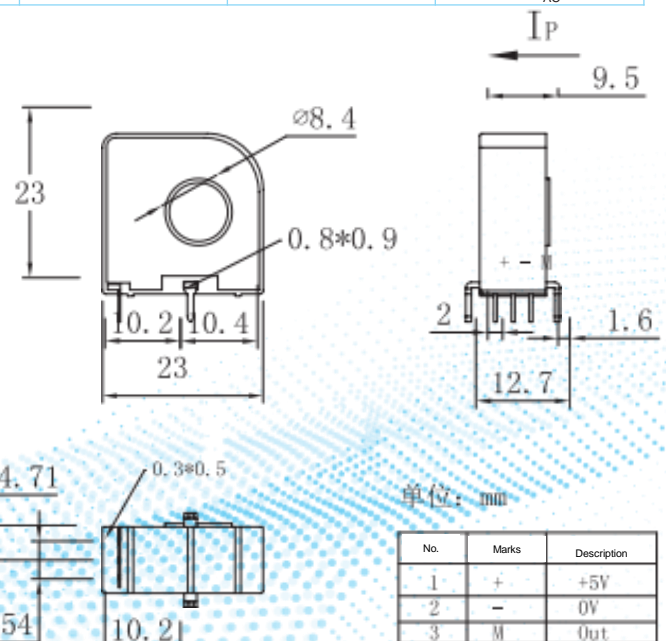
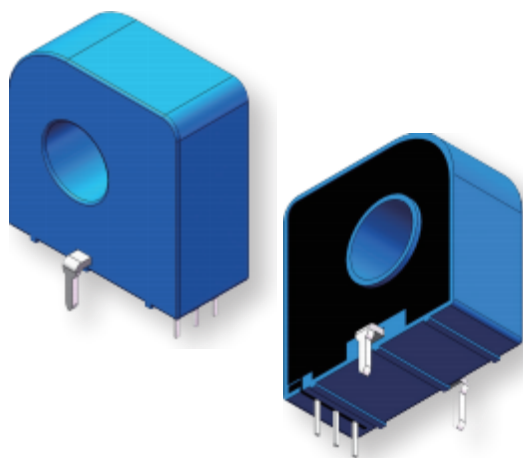
### Technical parameters

Spec (25°C)	Model	SCK19D -							
		5A	10A	15A	20A	25A	30A	50A	70A
Primary nominal current $I_{PN}$		5A	10A	15A	20A	25A	30A	50A	70A
Primary current measuring range $I_{PM}$		±10A	±20A	±30A	±40A	±25A	±30A	±50A	±70A
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		2.5V±0.5V		2.5V±1V		2.5V±2V			

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 0.5\%)$	+4.5	+5	+5.5	$V_{DC}$
Current consumption $I_c$	-	+13	+15	mA
Zero voltage $V_o$	-	2.5	-	V
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	$V_{OUT} = \frac{V_{CC}}{2} + 2.0 * \frac{V_{CC}}{5} * \frac{I_P}{I_{PN}}$			V
Output internal resistance $R_{OUT}$	-	1	-	$\Omega$
Load resistance $R_L$	10	-	-	K $\Omega$
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	±0.5	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±10	±20	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.05	±1	mV/ $^\circ C$
Temperature coefficient of output voltage $TCV_{out}$	-	±0.05	±0.1	%/ $^\circ C$
Response time $T_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Startup delay $T_{POD}$	-	-	5	ms
Ambient operating temperature $T_A$	-40	25	125	$^\circ C$
Ambient storage temperature $T_s$	-40	25	125	$^\circ C$
Impulse withstand voltage $V_D$ @ 50Hz, 60s,	-	3000	-	$V_{AC}$

### Dimensions (mm)



### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

## SCK25 Series

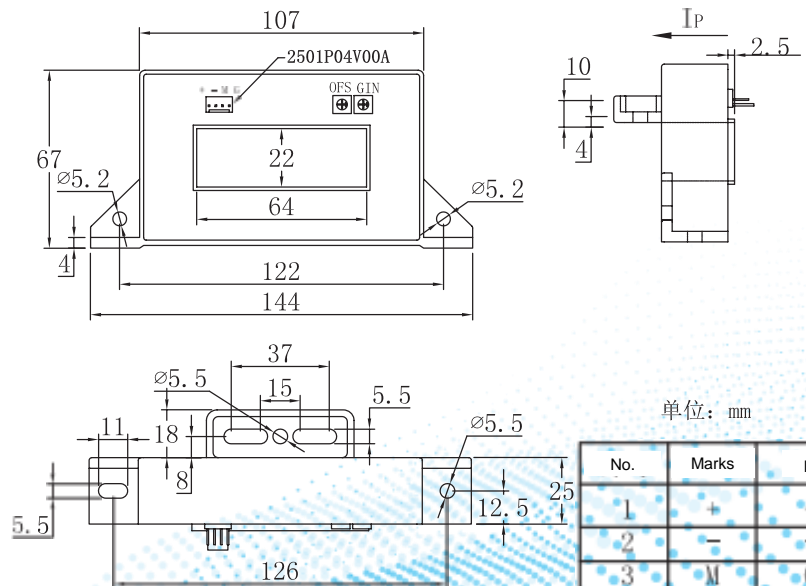
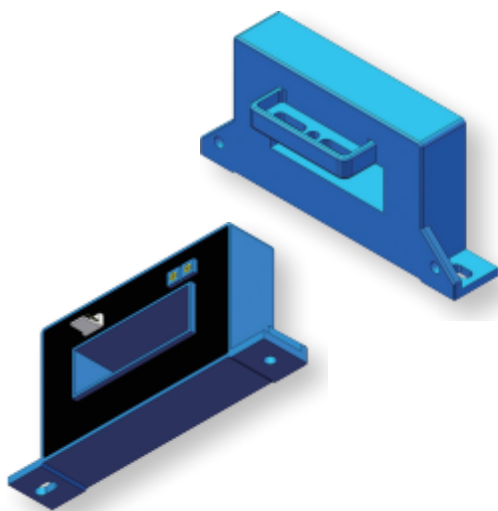
### Technical parameters

Spec (25°C)	Model	SCK25 -					
		600A	800A	1000A	1200A	1500A	2000A
Primary nominal current $I_{PN}$		600A	800A	1000A	1200A	1500A	2000A
Primary current measuring range $I_{PM}$		$\pm 1800A$	$\pm 2400A$	$\pm 3000A$	$\pm 3600A$	$\pm 4400A$	$\pm 4400A$
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		$\pm 4V \pm 1\%$					

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	$\pm 11$	$\pm 15$	$\pm 18$	$V_{DC}$
Current consumption $I_c$	-	$\pm 15$	$\pm 20$	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	M $\Omega$
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	3.960	4.000	4.040	V
Output internal resistance $R_{OUT}$	-	102	-	$\Omega$
Load resistance $R_L$	1	10	-	K $\Omega$
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	$\pm 1$	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	$\pm 0.5$	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	$\pm 10$	$\pm 20$	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	$\pm 10$	$\pm 20$	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	$\pm 0.5$	$\pm 1$	mV/ $^\circ C$
Temperature coefficient of output voltage $TCV_{out}$	-	$\pm 0.05$	$\pm 0.1$	%/ $^\circ C$
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Ambient operating temperature $T_A$	-40	25	125	$^\circ C$
Ambient storage temperature $T_s$	-40	25	125	$^\circ C$
Impulse withstand voltage $V_D$ @50Hz, 60s,		3000		$V_{AC}$

### Dimensions (mm)



### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

$$V_{OUT} = 4.04 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$



## SCK28 Series

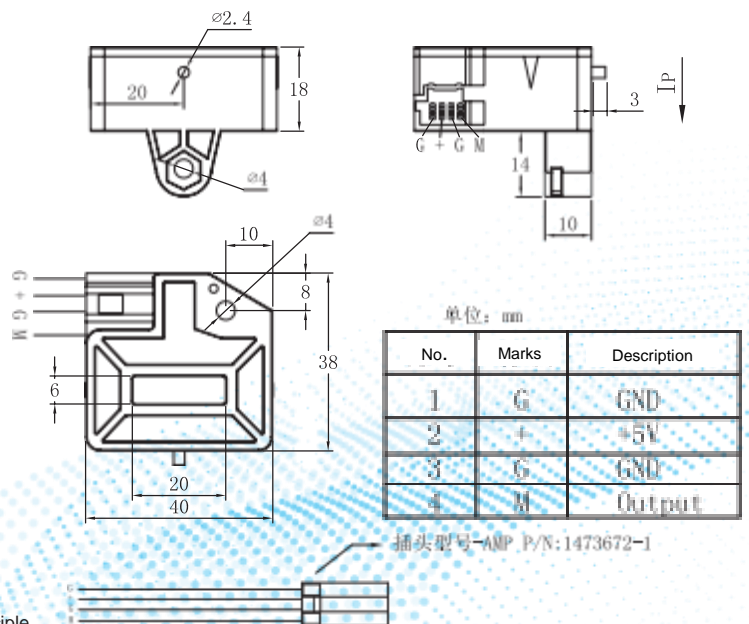
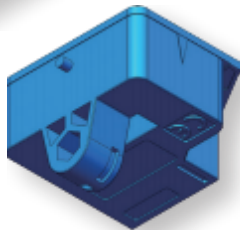
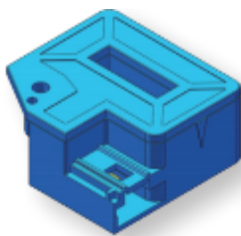
### Technical parameters

Spec (25°C)	Model	SCK28 -					
		100A	300A	500A	600A	900A	1200A
Primary nominal current $I_{PN}$		100A	300A	500A	600A	900A	1200A
Primary current measuring range $I_{PM}$		±100A	±300A	±500A	±600A	±900A	±1200A
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		2.5V±2V					

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 0.5\%)$	+4.5	+5	+5.5	$V_{DC}$
Current consumption $I_c$	-	+13	+15	mA
Zero voltage $V_o$	-	2.5	-	V
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	$V_{OUT} = \frac{V_{CC}}{2} + 2.0 * \frac{V_{CC}}{5} * \frac{I_P}{I_{PN}}$			V
Output internal resistance $R_{OUT}$	-	1	-	$\Omega$
Load resistance $R_L$	10	-	-	K $\Omega$
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	±0.5	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±10	±20	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.05	±1	mV/ $^\circ C$
Temperature coefficient of output voltage $TCV_{out}$	-	±0.05	±0.1	%/ $^\circ C$
Response time $T_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Startup delay $T_{POD}$	-	-	5	ms
Ambient operating temperature $T_A$	-40	25	125	$^\circ C$
Ambient storage temperature $T_s$	-40	25	125	$^\circ C$
Impulse withstand voltage $V_D$ @ 50Hz, 60s,	-	3000	-	$V_{AC}$

### Dimensions (mm)



### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

## SCK29 Series

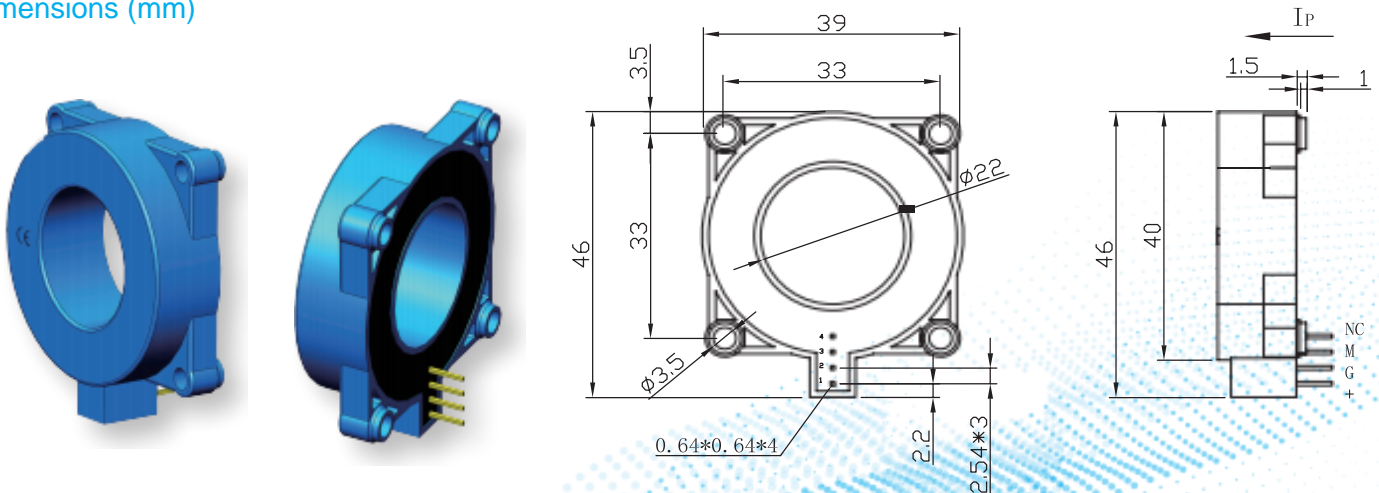
### Technical parameters

Spec (25°C)	Model				
	100A	200A	300A	400A	500A
Primary nominal current $I_{PN}$	100A	200A	300A	400A	500A
Primary current measuring range $I_{PM}$	±100A	±200A	±300A	±400A	±500A
Output voltage $V_{out}$ @ ± $I_{PN}$ , $R_L=10K\Omega$	2.5V±2V				

### Performance parameters

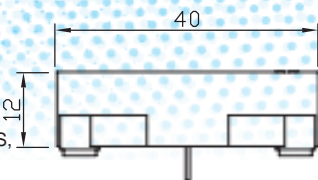
Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 0.5\%)$	+4.5	+5	+5.5	$V_{DC}$
Current consumption $I_c$	-	+13	+15	mA
Zero voltage $V_o$	-	2.5	-	V
Output voltage $V_{out}$ @ $I_{PN}$ , $R_L=10K\Omega$ , $T_A=25^\circ C$	$V_{OUT} = \frac{V_{CC}}{2} + 2.0 * \frac{V_{CC}}{5} * \frac{I_P}{I_{PN}}$			V
Output internal resistance $R_{OUT}$	-	1	-	$\Omega$
Load resistance $R_L$	10	-	-	$K\Omega$
Accuracy $X$ @ $I_{PN}$ , $T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega$ , $T_A=25^\circ C$	-	±0.5	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±10	±20	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.05	±1	mV/°C
Temperature coefficient of output voltage $TCV_{out}$	-	±0.05	±0.1	%/°C
Response time $T_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Startup delay $T_{POD}$	-	-	5	ms
Ambient operating temperature $T_A$	-40	25	125	°C
Ambient storage temperature $T_s$	-40	25	125	°C
Impulse withstand voltage $V_D$ @ 50Hz, 60s,	-	3000	-	$V_{AC}$

### Dimensions (mm)



### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).



No.	Mark	Description
1	+	+5V
2	G	0V
3	M	Output
4	NC	NC

## SCK34 Series

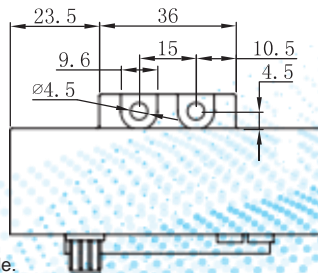
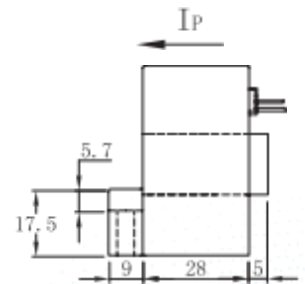
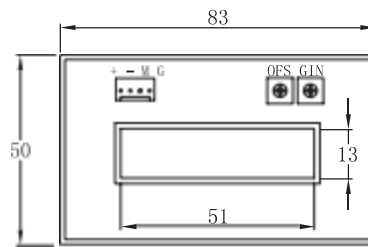
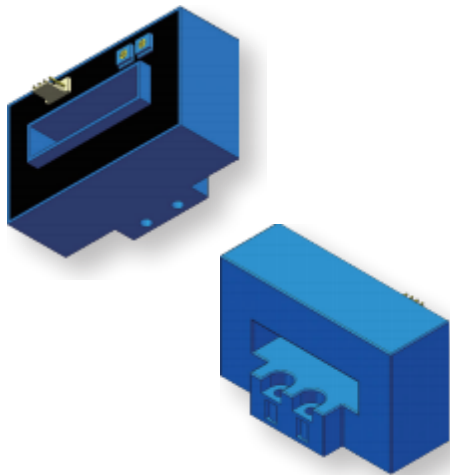
### Technical parameters

Spec (25°C)	Model	SCK34 -						
		600A	800A	1000A	1200A	1500A	2000A	2500A
Primary nominal current $I_{PN}$		600A	800A	1000A	1200A	1500A	2000A	2500A
Primary current measuring range $I_{PM}$		±1800A	±2400A	±3000A	±3600A	±4500A	±4500A	±4500A
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		±4V±1%						

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	±11	±15	±18	$V_{DC}$
Current consumption $I_c$	-	±15	±20	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	3.960	4.000	4.040	V
Output internal resistance $R_{OUT}$	101	102	103	Ω
Load resistance $R_L$	1	10	-	KΩ
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	±0.5	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±10	±20	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.5	±1	mV/°C
Temperature coefficient of output voltage $TCV_{out}$	-	±0.05	±0.1	%/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Ambient operating temperature $T_A$	-40	25	125	°C
Ambient storage temperature $T_s$	-40	25	125	°C
Impulse withstand voltage $V_D$ @50Hz, 60s, 0.1mA		3000		$V_{AC}$

### Dimensions (mm)



單位: mm

No.	Marks	Description
1	+	+15V
2	-	-15V
3	M	Out
4	G	0V

### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

$$V_{OUT} = 4.04 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$



## SCK35 Series

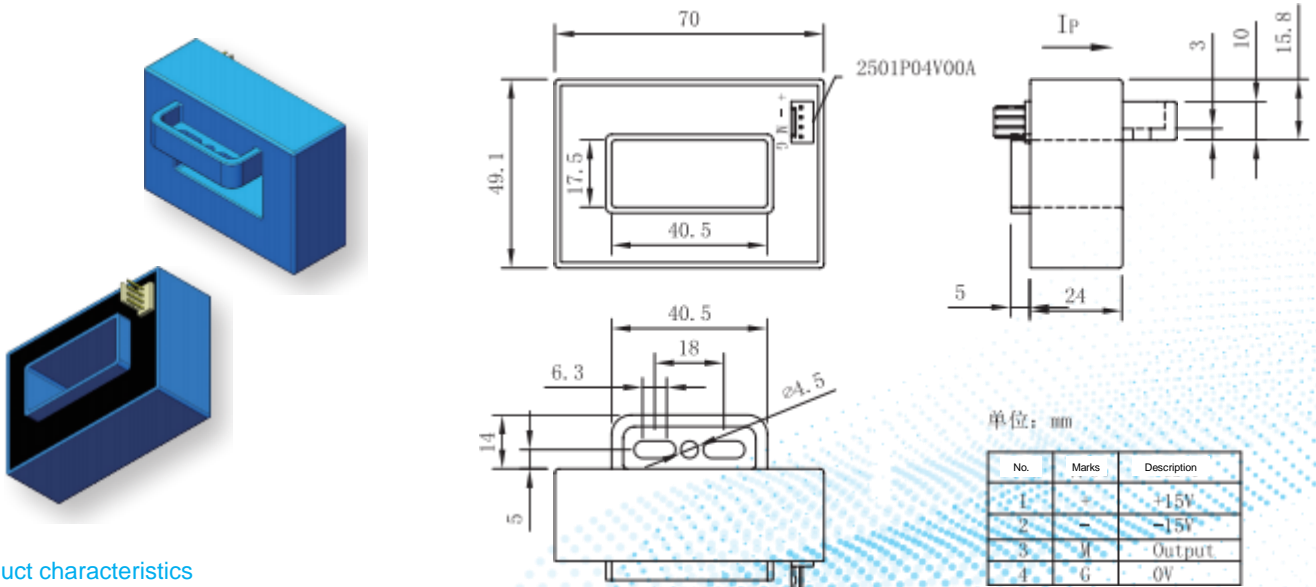
### Technical parameters

Spec (25°C)	Model	SCK35 -						
		300A	500A	600A	800A	1000A	1500A	2000A
Primary nominal current $I_{PN}$		300A	500A	600A	800A	1000A	1500A	2000A
Primary current measuring range $I_{PM}$		±900A	±1500A	±1800A	±2400A	±3000A	±4000A	±4000A
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		±4V±1%						

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	±11	±15	±18	$V_{DC}$
Current consumption $I_c$	-	±15	±20	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	3.960	4.000	4.040	V
Output internal resistance $R_{OUT}$	-	102	-	Ω
Load resistance $R_L$	1	10	-	KΩ
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	±0.5	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±10	±20	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.5	±1	mV/°C
Temperature coefficient of output voltage $TCV_{out}$	-	±0.05	±0.1	%/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Ambient operating temperature $T_A$	-40	25	125	°C
Ambient storage temperature $T_s$	-40	25	125	°C
Impulse withstand voltage $V_D$ @50Hz, 60s, 0.1mA	-	3000	-	$V_{AC}$

### Dimensions (mm)



### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

$$V_{OUT} = 4.04 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$

## SCK37 Series

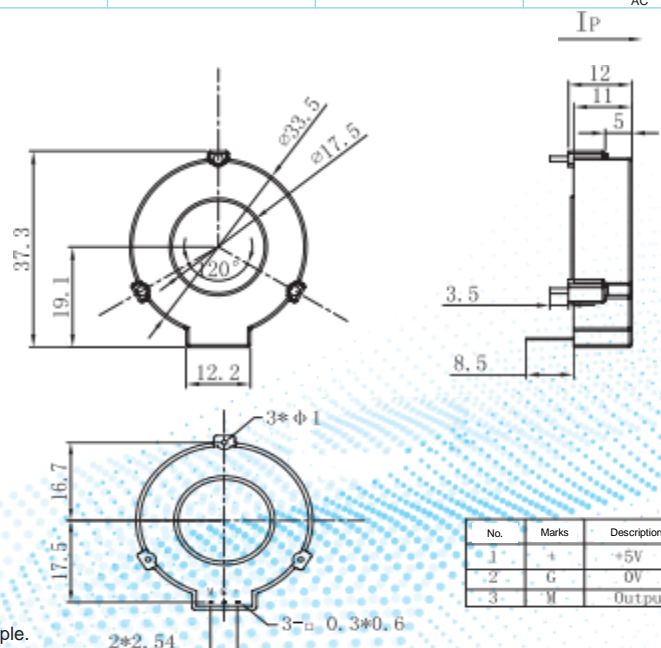
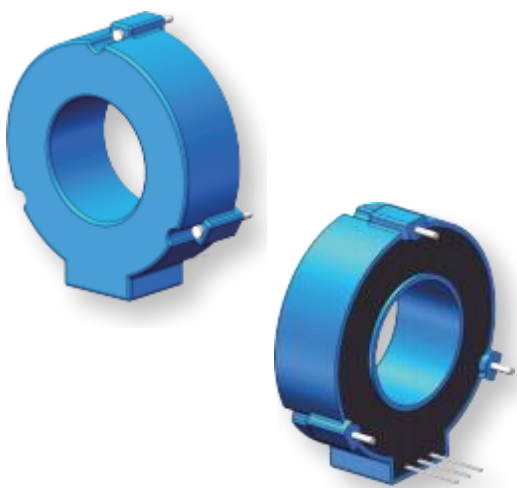
### Technical parameters

Spec (25°C)	Model	SCK37 -									
		100A	150A	200A	300A	400A	500A	600A	800A	900A	1000A
Primary nominal current $I_{PN}$		100A	150A	200A	300A	400A	500A	600A	800A	900A	1000A
Primary current measuring range $I_{PM}$		±100A	±150A	±200A	±300A	±400A	±500A	±600A	±800A	±900A	±1000A
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		±4V±1%									

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 0.5\%)$	+4.5	+5	+5.5	$V_{DC}$
Current consumption $I_c$	-	+13	+15	mA
Zero voltage $V_o$	-	2.5	-	V
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	$V_{OUT} = \frac{V_{CC}}{2} + 2.0 * \frac{V_{CC}}{5} * \frac{I_P}{I_{PN}}$			V
Output internal resistance $R_{OUT}$	-	1	-	$\Omega$
Load resistance $R_L$	10	-	-	K $\Omega$
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	±0.5	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±10	±20	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.05	±1	mV/ $^\circ C$
Temperature coefficient of output voltage $TCV_{out}$	-	±0.02	±0.05	%/ $^\circ C$
Response time $T_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Startup delay $T_{POD}$	-	-	5	ms
Ambient operating temperature $T_A$	-40	25	125	$^\circ C$
Ambient storage temperature $T_s$	-40	25	125	$^\circ C$
Impulse withstand voltage $V_D$ @ 50Hz, 60s,	-	4000	-	$V_{AC}$

### Dimensions (mm)



No.	Marks	Description
1	+	+5V
2	G	0V
3	M	Output

### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

## SCB1 Series

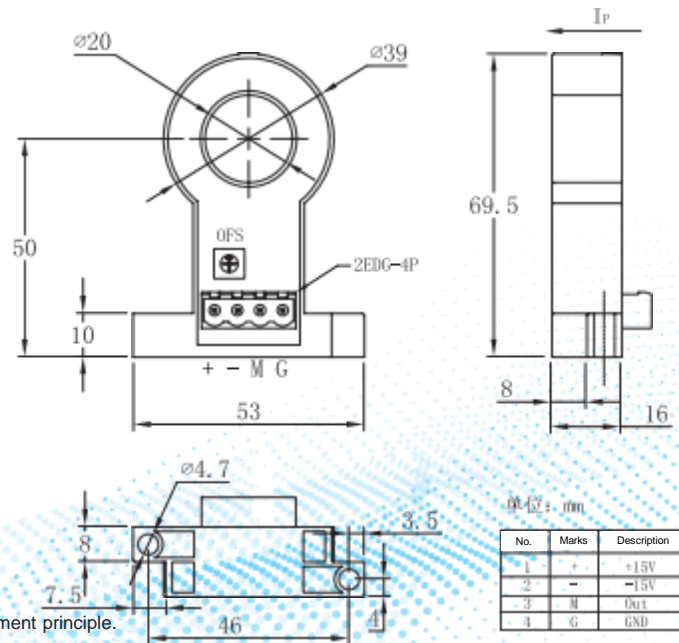
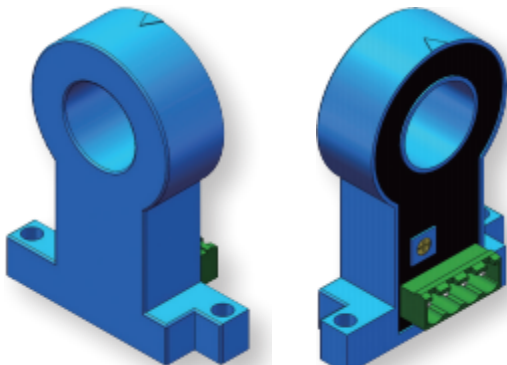
### Technical parameters

Spec (25°C)	Model	SCB1-/SCB1T -			
		50A	100A	200A	300A
Primary nominal current $I_{PN}$		50A	100A	200A	300A
Primary current measuring range $I_{PM}$		±100A	±200A	±400A	±400A
Turns ratio $K_N$		1:1000	1:1000	1:2000	1:3000
Internal resistance of secondary coil $R_S$ @ $T_s=70^\circ\text{C}$		20Ω	20Ω	40Ω	77Ω
Output current $I_{SN}$ @ $I_{PN}$		±50mA	±100mA	±100mA	±100mA
Measured resistance $R_M$ @ $I_{PN}$ , $V_C=\pm 15\text{V}$ ,		50 ~ 200Ω	30 ~ 100Ω	30 ~ 80Ω	0 ~ 40Ω

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_C(\pm 5\%)$	±12	±15	±18	V <sub>DC</sub>
Current consumption $I_C$ @ ±15V	13mA+ Output current $I_S$			mA
Accuracy X @ $I_{PN}$ , $T_s=25^\circ\text{C}$ @ ±15V	-	±0.5	±0.8	%
Linearity $\epsilon_L$ @ $T_A=25^\circ\text{C}$	-	±0.1	±0.5	%
Offset current $I_{OE}$ @ $T_A=25^\circ\text{C}$ , $I_P=0$	-	±0.2	±0.5	mA
Hysteresis offset current $I_{OM}$ @ $I_P=0$	-	±0.2	±0.5	mA
Temperature coefficient of offset current $TCI_{OE}$	-	±0.2	±1	mA
Response time $t_D$ @ 0 → $I_{PN}$	-	1	-	us
Band width BW	-	50	100K	Hz
Ambient operating temperature $T_A$	-40	25	85	°C
Ambient storage temperature $T_s$	-40	25	90	°C
Impulse withstand voltage $V_D$ @ 50Hz, 60s, 0.1mA	-	3000	-	V <sub>AC</sub>

### Dimensions (mm)



### Product characteristics

- It is a closed-loop (compensated) current sensor, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

$$I_{OUT} = I_{SN} * \frac{I_P}{I_{PN}} + I_{OE}$$

## SCB39 Series

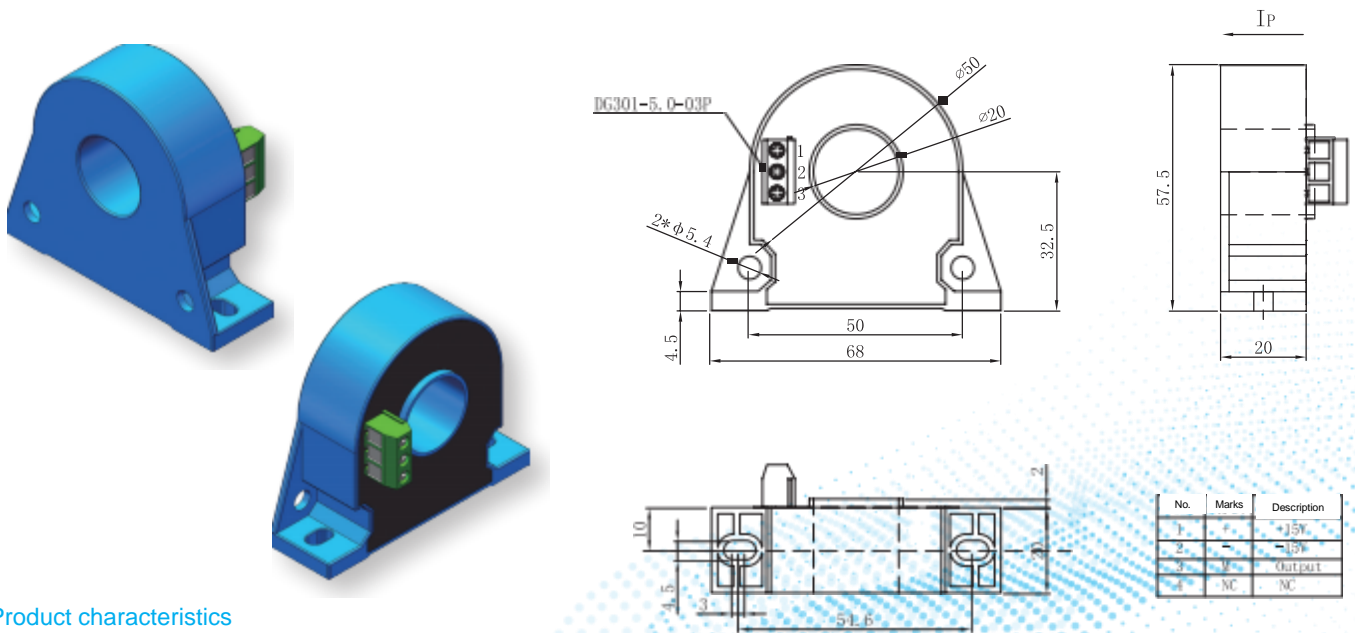
### Technical parameters

Spec (25°C)	Model	
	200A	300A
Primary nominal current $I_{PN}$	200A	300A
Primary current measuring range $I_{PM}$	±300A	±500A
Turns ratio $K_N$	1:2000	1:2000
Internal resistance of secondary coil $R_S$ @ $T_A=70^\circ\text{C}$	±100mA	±150mA
Output current $I_{SN}$ @ $I_{PN}$	40Ω	26.7Ω
Measured resistance $R_M$ @ $I_{PN}$ , $V_C=\pm 15\text{V}$ ,	50 ~ 200Ω	30 ~ 100Ω

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_C(\pm 5\%)$	±12	±15	±18	V <sub>DC</sub>
Current consumption $I_C$ @ ±15V	13mA+ Output current $I_S$			mA
Accuracy X @ $I_{PN}$ , $T_A=25^\circ\text{C}$ @ ±15V	-	±0.5	-	%
Linearity $\epsilon_L$ @ $T_A=25^\circ\text{C}$	-	±0.1	-	%
Offset current $I_{OE}$ @ $T_A=25^\circ\text{C}$ , $I_P=0$	-	±0.2	-	mA
Hysteresis offset current $I_{OM}$ @ $I_P=0$	-	±0.2	-	mA
Temperature coefficient of offset current $TCI_{OE}$	-	±0.2	±0.6	mA
Response time $t_D$ @ 0 → $I_{PN}$	-	≤ 1	-	us
Band width BW	-	50	100K	Hz
Ambient operating temperature $T_A$	-40	25	125	°C
Ambient storage temperature $T_S$	-40	25	125	°C
Impulse withstand voltage $V_D$ @ 50Hz, 60s, 0.1mA	-	3000	-	V <sub>AC</sub>

### Dimensions (mm)



### Product characteristics

- It is a closed-loop (compensated) current sensor, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

$$I_{OUT} = I_{SN} * \frac{I_P}{I_{PN}} + I_{OE}$$



## SCY5 Series

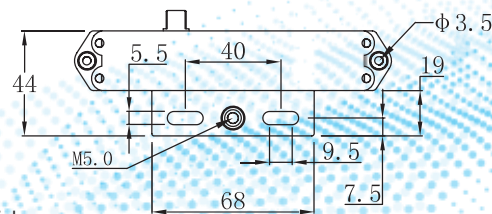
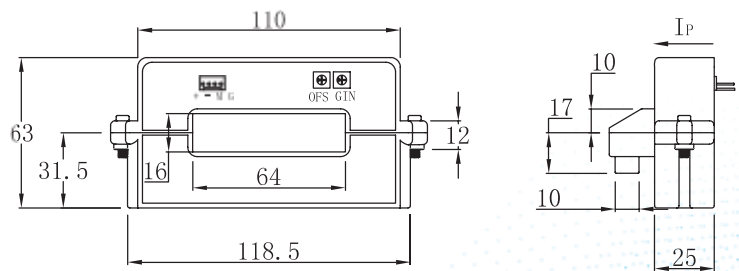
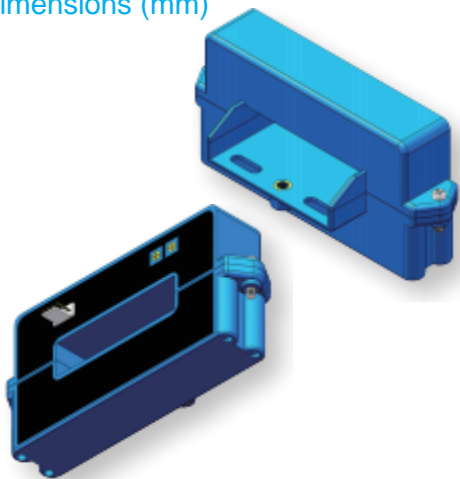
### Technical parameters

Spec (25°C)	Model	SCY5/SCY5T -						
		400A	500A	800A	1000A	1200A	1500A	2000A
Primary nominal current $I_{PN}$		400A	500A	800A	1000A	1200A	1500A	2000A
Primary current measuring range $I_{PM}$		±1200A	±1500A	±2400A	±3000A	±3600A	±4000A	±4000A
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		±4V±1%						

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	±11	±15	±18	V <sub>DC</sub>
Current consumption $I_c$	-	±15	±20	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	$V_{OUT} = 4.04 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OFF}$			V
Output internal resistance $R_{OUT}$	-	102	-	Ω
Load resistance $R_L$	1	10	-	KΩ
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	±1	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±20	±25	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.5	±1	mV/°C
Temperature coefficient of output voltage $TCV_{out}$	-	±0.08	±0.15	%/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Ambient operating temperature $T_A$	-40	25	125	°C
Ambient storage temperature $T_s$	-40	25	125	°C
Impulse withstand voltage $V_D$ @50Hz, 60s,		3000		V <sub>AC</sub>
Impulse withstand voltage $V_D$ @50Hz, 60s,	-	3000	-	V <sub>AC</sub>

### Dimensions (mm)



單位: mm

No.	Marks	Description
1	+	+15V
2	-	-15V
3	⊕	Output
4	G	OV

### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).
- It can be opened and closed up and down without disassembling busbar, and it is convenient to install.

## SCY6 Series

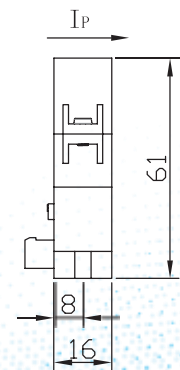
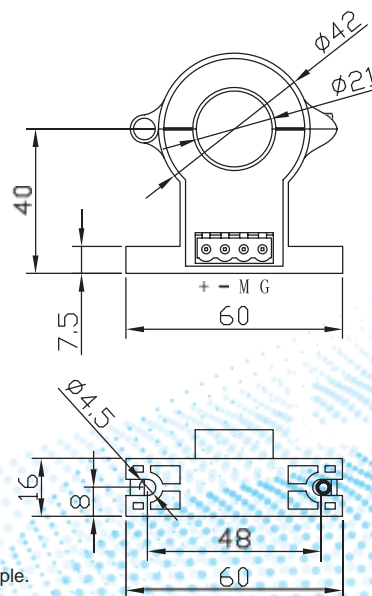
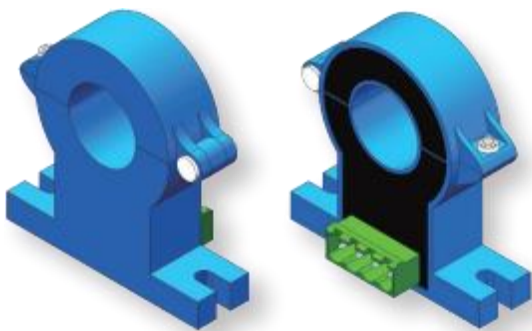
### Technical parameters

Spec (25°C)	Model	SCY6-/SCY6R -				
		50A	100A	200A	300A	500A
Primary nominal current $I_{PN}$		50A	100A	200A	300A	500A
Primary current measuring range $I_{PM}$		±100A	±200A	±400A	±600A	±1000A
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		±4V±1%				

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	±11	±15	±18	$V_{DC}$
Current consumption $I_c$	-	±15	±20	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	$V_{OUT} = 4.04 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$			V
Output internal resistance $R_{OUT}$	-	102	-	Ω
Load resistance $R_L$	1	10	-	KΩ
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	±1	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±20	±25	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.5	±1	mV/°C
Temperature coefficient of output voltage $TCV_{out}$	-	±0.08	±0.15	%/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Ambient operating temperature $T_A$	-40	25	125	°C
Ambient storage temperature $T_s$	-40	25	125	°C
Impulse withstand voltage $V_D$ @50Hz, 60s,		3000		$V_{AC}$
Impulse withstand voltage $V_D$ @50Hz, 60s,	-	3000	-	$V_{AC}$

### Dimensions (mm)



單位：mm

No.	Marks	Description
1	+	+12V
2	-	-12V
3	M	Output
4	G	0V

### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).
- It can be opened and closed up and down without disassembling busbar, and it is convenient to install.

## SCY10 Series

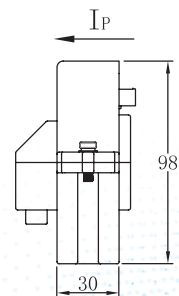
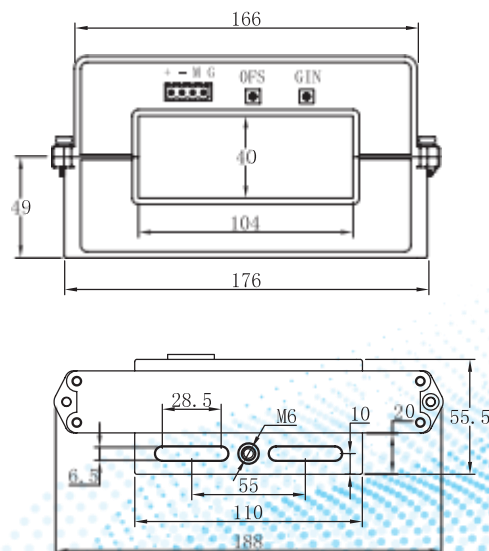
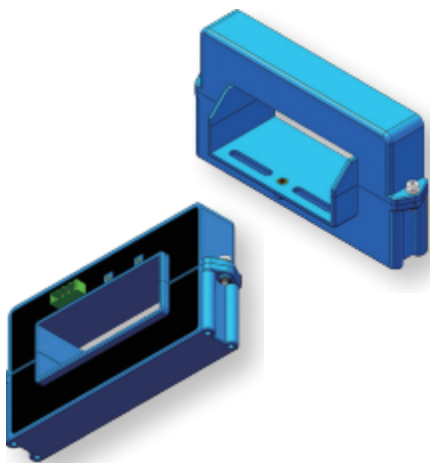
### Technical parameters

Spec (25°C)	Model						
	SCY10 -						
800A	1000A	1200A	1500A	2000A	2500A	3000A	
Primary nominal current $I_{PN}$	800A	1000A	1200A	1500A	2000A	2500A	3000A
Primary current measuring range $I_{PM}$	±2400A	±3000A	±3600A	±4500A	±5000A	±5000A	±5000A
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$	±4V±1%						

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	±11	±15	±18	$V_{DC}$
Current consumption $I_c$	-	±15	±20	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	$V_{OUT} = 4.04 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$			V
Output internal resistance $R_{OUT}$	-	102	-	Ω
Load resistance $R_L$	1	10	-	KΩ
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	±1	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±20	±25	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.5	±1	mV/°C
Temperature coefficient of output voltage $TCV_{out}$	-	±0.08	±0.15	%/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Ambient operating temperature $T_A$	-40	25	125	°C
Ambient storage temperature $T_s$	-40	25	125	°C
Impulse withstand voltage $V_D$ @50Hz, 60s,	-	3000	-	$V_{AC}$

### Dimensions (mm)



單位: mm

No.	Marks	Description
1	-	+15V
2	-	-15V
3	M	Output
4	G	0V

### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).
- It can be opened and closed up and down without disassembling busbar, and it is convenient to install.

## SCY13 Series

### Technical parameters

Spec (25°C)	Model	SCY13/SCY13A -				
			200A	300A	500A	750A
Primary nominal current $I_{PN}$		200A	300A	500A	800A	1000A
Primary current measuring range $I_{PM}$		±200A	±300A	±500A	±800A	±1000A
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		2.5V±2V				

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	-	+5	-	$V_{DC}$
Current consumption $I_c$	-	+15	+20	mA
Insulation resistance $R_{INS}$ @ 500V DC	1000	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}, R_L=25K\Omega, T_A=25^\circ C$	$V_{OUT} = 2.5 + 2.008 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$			V
Output internal resistance $R_{OUT}$	-	102	-	Ω
Load resistance $R_L$	-	25	-	KΩ
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=25K\Omega, T_A=25^\circ C$	-	±1	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±10	±20	mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	-	±10	±20	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±0.5	±1	mV/°C
Temperature coefficient of output voltage $TCV_{out}$	-	±0.08	±0.15	%/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Ambient operating temperature $T_A$	-40	25	125	°C
Ambient storage temperature $T_s$	-40	25	125	°C
Impulse withstand voltage $V_D$ @ 50Hz, 60s,		3000		$V_{AC}$

### Dimensions (mm)

No.	Marks	Description	Color
1	+	+5V	红色
2	G	GND	黑色
3	M	OUT	绿色
4	G	GND	棕色

单位: mm

### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).
- It can be opened and closed up and down without disassembling busbar, and it is convenient to install.



## SCY15 Series

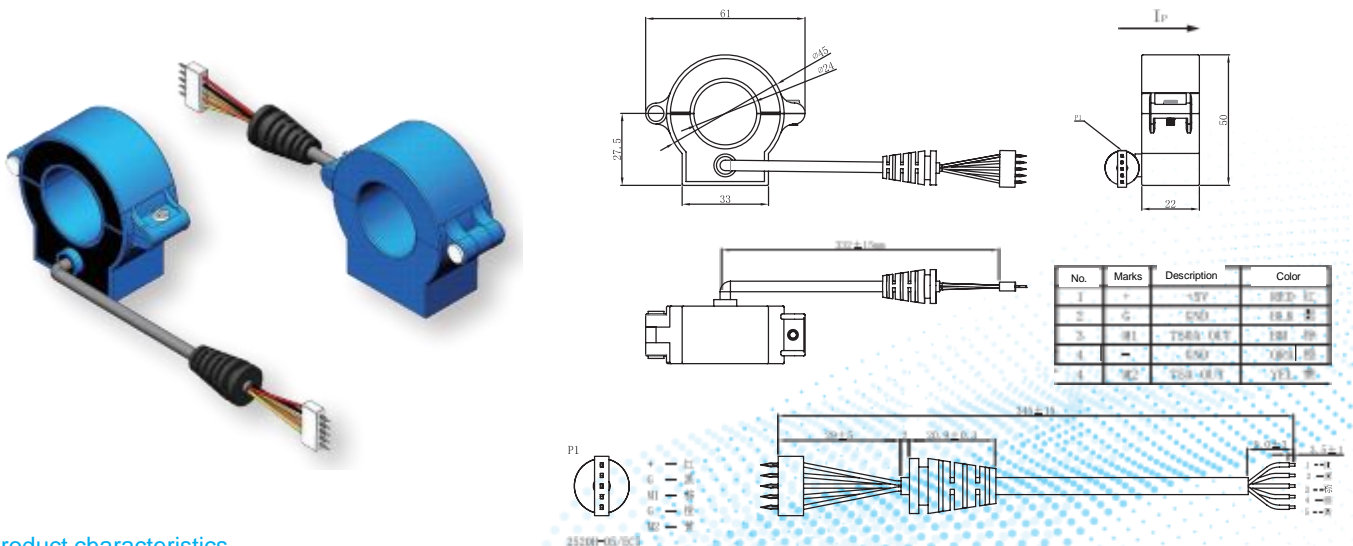
### Technical parameters

Spec (25°C)	Model	SCY15 -	
		750A	1000A
High-grade primary nominal current $I_{PH}$	750A	1000A	
Low-grade primary nominal current $I_{PL}$	100A	100A	
Primary current measuring range $I_{PM}$	±750A	±1000A	

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	-	+5	-	$V_{DC}$
Current consumption $I_c$	-	+25	+30	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}$ , $R_L=10K\Omega$ , $T_A=25^\circ C$	$V_{OUT} = 4.518 \times \frac{R_L}{102 + R_L} \times \frac{I_P}{I_{PN}} + V_{OFF}$			V
Output internal resistance $R_{OUT}$	-	10 2	-	Ω
Load resistance $R_L$	-	25	-	KΩ
Accuracy $X$ @ $I_{PN}$ , $T_A=25^\circ C$	M1: ±1% M2: ±2%			%
Linearity $\epsilon_L$ @ $R_L=25K\Omega$ , $T_A=25^\circ C$	-	±1	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	M1: ±20mV M2: ±50mV			mV
Hysteresis offset voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$	M1: ±20mV M2: ±50mV			mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±1	±2	mV/°C
Temperature coefficient of output voltage $TCV_{out}$	-	±0.08	±0.15	%/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	3	5	us
Ambient operating temperature $T_A$	-40	25	85	°C
Ambient storage temperature $T_s$	-40	25	85	°C
Impulse withstand voltage $V_D$ @50Hz, 60s,		3000		$V_{AC}$

### Dimensions (mm)



### Product characteristics

- It adopts open-loop circuit mode, based on Hall effect measurement principle.
- It can measure DC, AC, pulse and the currents with various irregular waveforms under isolated conditions.
- It has high capacity to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).
- It can be opened and closed up and down without disassembling busbar, and it is convenient to install.

## SCD1 Series

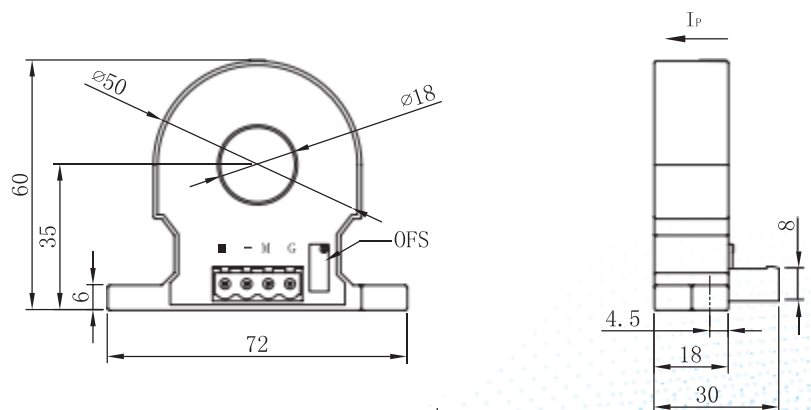
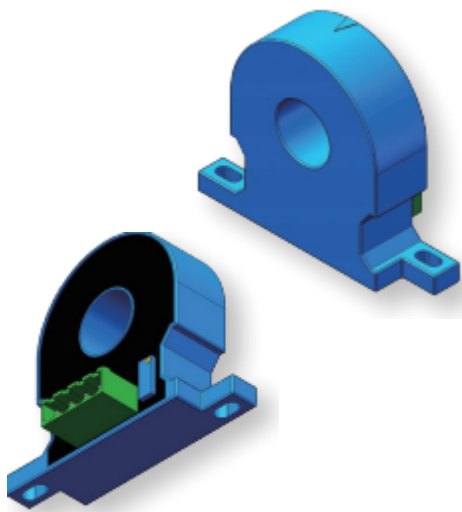
### Technical parameters

Spec (25°C)	Model	SCD1 -				
		10mA	20mA	50mA	100mA	1A
Primary nominal current $I_{PN}$		10mA	20mA	50mA	100mA	1A
Primary current measuring range $I_{PM}$		$\pm 12mA$	$\pm 24mA$	$\pm 60mA$	$\pm 120mA$	$\pm 1.2A$
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$		$\pm 5V \pm 1\%$				

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	$\pm 11$	$\pm 12$	$\pm 18$	$V_{DC}$
Current consumption $I_c$	-	$\pm 10$	-	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	M $\Omega$
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	4.950	5.000	5.050	V
Output internal resistance $R_{OUT}$	-	100	-	$\Omega$
Load resistance $R_L$	-	10	-	K $\Omega$
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	$\pm 1$	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	$\pm 0.5$	-	%
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	$\pm 50$	-	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	$\pm 1$	$\pm 2$	mV/ $^\circ C$
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	500	900	ms
Ambient operating temperature $T_A$	-10	25	75	$^\circ C$
Ambient storage temperature $T_s$	-25	25	85	$^\circ C$
Impulse withstand voltage $V_D$ @50Hz, 60s, 0.1mA		3000		$V_{AC}$

### Dimensions (mm)



单位: mm

No.	Marks	Description
1		+12V
2		-12V
3	M	Out
4	G	0V

### Product characteristics

- It is used for isolated measurement of DC milliamper microcurrent, based on the principle of magnetic modulation closed-loop.
- Temperature compensation circuit control with slight zero drift, accurate measurement.
- Widely used in power, industrial automation, solar photovoltaic and other emerging industries and fields.

$$V_{OUT} = 5.05 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$

## SCD2 Series

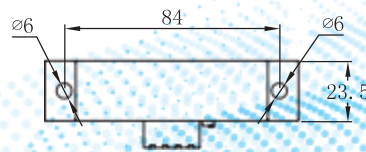
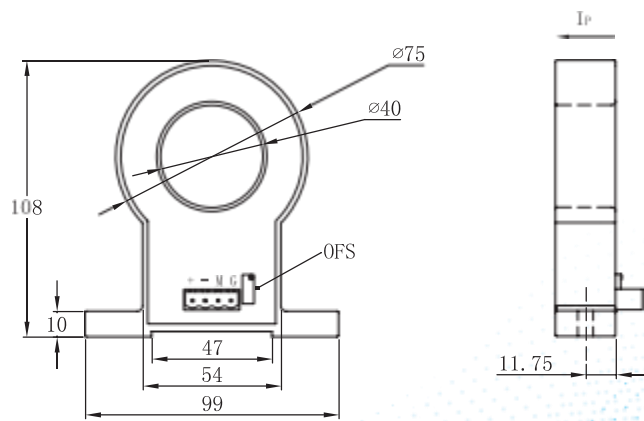
### Technical parameters

Spec (25°C)	Model	SCD2 -				
		10mA	20mA	50mA	100mA	1A
Primary nominal current $I_{PN(DC)}$		10mA	20mA	50mA	100mA	1A
Primary current measuring range $I_{PM(DC)}$		±12mA	±24mA	±60mA	±120mA	±1.2A
Output voltage $V_{out}$ @ ± $I_{PN}$ , $R_L=10K\Omega$		±5V±1%				

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	±11	±12	±18	$V_{DC}$
Current consumption $I_c$	-	±10	-	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}$ , $R_L=10K\Omega$ , $T_A=25^\circ C$	4.950	5.000	5.050	V
Output internal resistance $R_{OUT}$	-	100	-	Ω
Load resistance $R_L$	-	10	-	KΩ
Accuracy $X$ @ $I_{PN}$ , $T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega$ , $T_A=25^\circ C$	-	±0.5	-	%
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±50	-	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±1	±2	mV/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	500	900	ms
Ambient operating temperature $T_A$	-10	25	75	°C
Ambient storage temperature $T_s$	-25	25	85	°C
Impulse withstand voltage $V_D$ @50Hz, 60s, 0.1mA		3000		$V_{AC}$

### Dimensions (mm)



单位: mm

No.	Marks	Description
1	+	+12V
2	-	-12V
3	M	Output
4	G	0V

### Product characteristics

- It is used for isolated measurement of DC milliamper microcurrent, based on the principle of magnetic modulation closed-loop.
- Temperature compensation circuit control with slight zero drift, accurate measurement.
- Widely used in power, industrial automation, solar photovoltaic and other emerging industries and fields.

$$V_{OUT} = 5.05 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$

## SCD3 Series

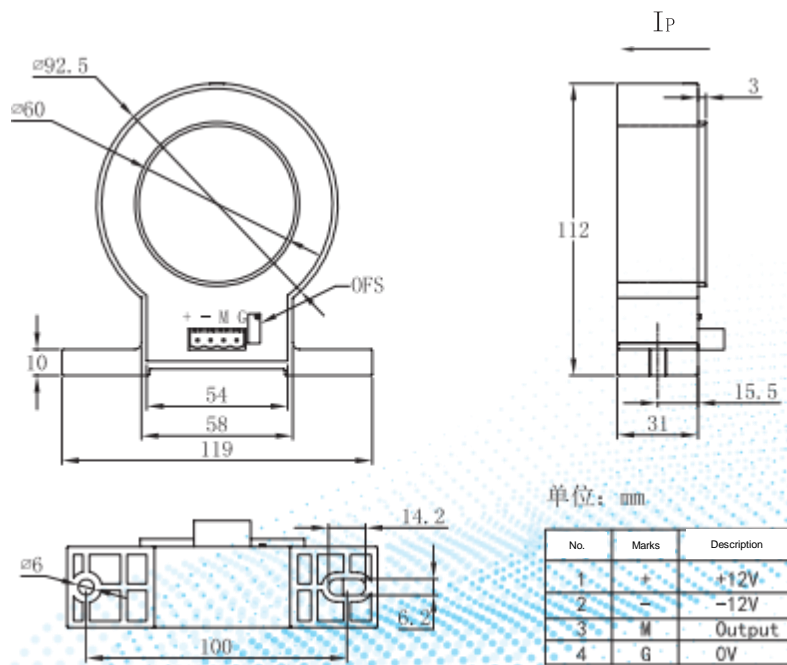
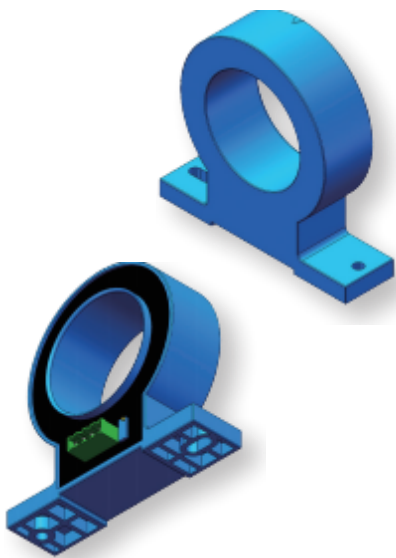
### Technical parameters

Spec (25°C)	Model	SCD3 -				
		10mA	20mA	50mA	100mA	1A
Primary nominal current $I_{PN(DC)}$		10mA	20mA	50mA	100mA	1A
Primary current measuring range $I_{PM(DC)}$		±12mA	±24mA	±60mA	±120mA	±1.2A
Output voltage $V_{out}$ @ ± $I_{PN}$ , $R_L=10K\Omega$		±5V±1%				

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	±11	±12	±18	$V_{DC}$
Current consumption $I_c$	-	±10	-	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	MΩ
Output voltage $V_{out}$ @ $I_{PN}$ , $R_L=10K\Omega$ , $T_A=25^\circ C$	4.950	5.000	5.050	V
Output internal resistance $R_{OUT}$	-	100	-	Ω
Load resistance $R_L$	-	10	-	KΩ
Accuracy $X$ @ $I_{PN}$ , $T_A=25^\circ C$	-	±1	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega$ , $T_A=25^\circ C$	-	±0.5	-	%
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	±50	-	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	±1	±2	mV/°C
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	500	900	ms
Ambient operating temperature $T_A$	-10	25	75	°C
Ambient storage temperature $T_s$	-25	25	85	°C
Impulse withstand voltage $V_D$ @50Hz, 60s, 0.1mA		3000		$V_{AC}$

### Dimensions (mm)



### Product characteristics

- It is used for isolated measurement of DC milliamper microcurrent, based on the principle of magnetic modulation closed-loop.
- Temperature compensation circuit control with slight zero drift, accurate measurement.
- Widely used in power, industrial automation, solar photovoltaic and other emerging industries and fields.

$$V_{OUT} = 5.05 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$



## SCD6 Series

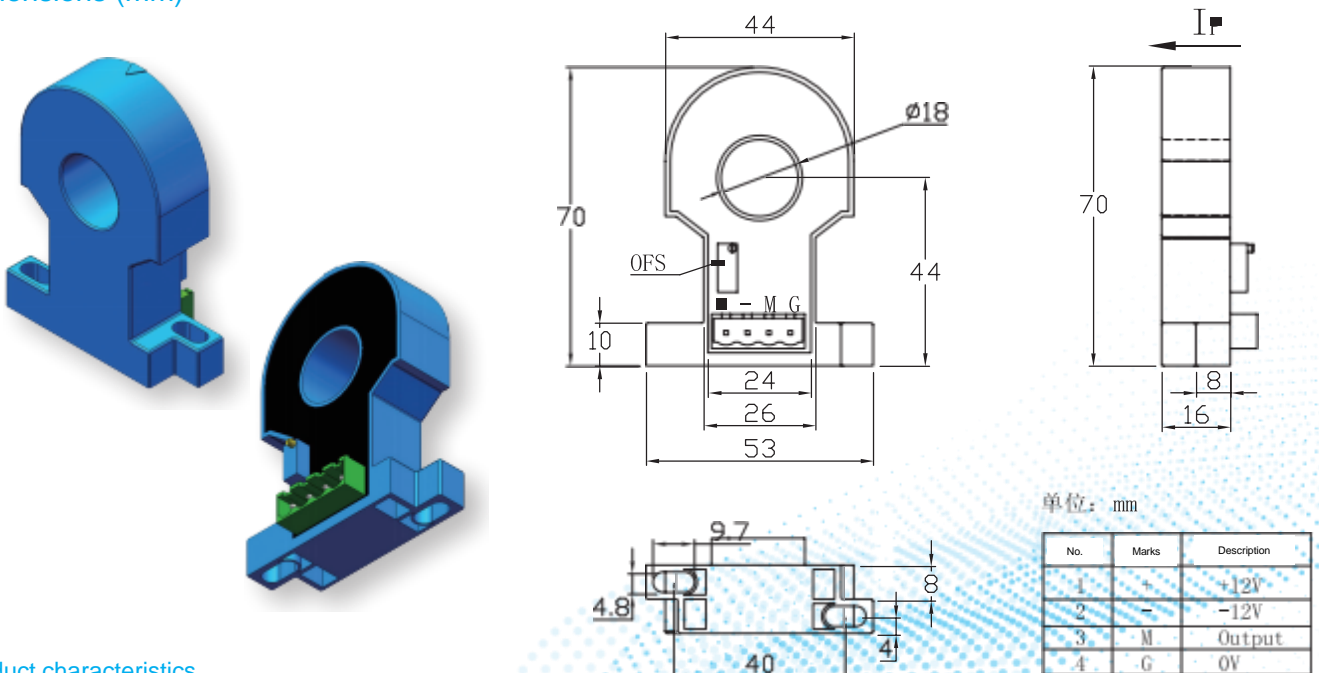
### Technical parameters

Spec (25°C)	Model				
	SCD6 -				
	10mA	20mA	50mA	100mA	1A
Primary nominal current $I_{PN(DC)}$	10mA	20mA	50mA	100mA	1A
Primary current measuring range $I_{PM(DC)}$	$\pm 12mA$	$\pm 24mA$	$\pm 60mA$	$\pm 120mA$	$\pm 1.2A$
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L = 10K\Omega$	$\pm 5V \pm 1\%$				

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	$\pm 11$	$\pm 12$	$\pm 18$	$V_{DC}$
Current consumption $I_c$	-	$\pm 10$	-	mA
Insulation resistance $R_{INS}$ @ 500V DC	1000	-	-	M $\Omega$
Output voltage $V_{out}$ @ $I_{PN}, R_L = 10K\Omega, T_A = 25^\circ C$	4.950	5.000	5.050	V
Output internal resistance $R_{OUT}$	-	100	-	$\Omega$
Load resistance $R_L$	-	10	-	K $\Omega$
Accuracy $X$ @ $I_{PN}, T_A = 25^\circ C$	-	$\pm 1$	-	%
Linearity $\epsilon_L$ @ $R_L = 10K\Omega, T_A = 25^\circ C$	-	$\pm 0.5$	-	%
Offset voltage $V_{OE}$ @ $T_A = 25^\circ C$	-	$\pm 50$	-	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	$\pm 1$	$\pm 2$	mV/ $^\circ C$
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	500	900	ms
Ambient operating temperature $T_A$	-10	25	75	$^\circ C$
Ambient storage temperature $T_s$	-25	25	85	$^\circ C$
Impulse withstand voltage $V_D$ @ 50Hz, 60s, 0.1mA	-	3000	-	$V_{AC}$

### Dimensions (mm)



### Product characteristics

- It is used for isolated measurement of DC milliamper microcurrent, based on the principle of magnetic modulation closed-loop.
- Temperature compensation circuit control with slight zero drift, accurate measurement.
- Widely used in power, industrial automation, solar photovoltaic and other emerging industries and fields.

$$V_{OUT} = 5.05 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$

## SCD9 Series

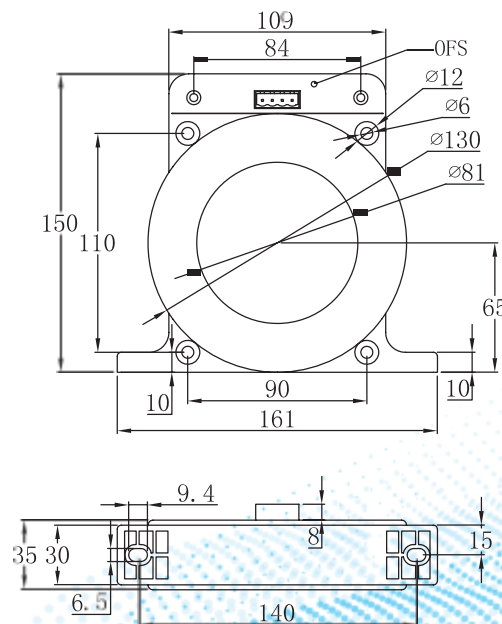
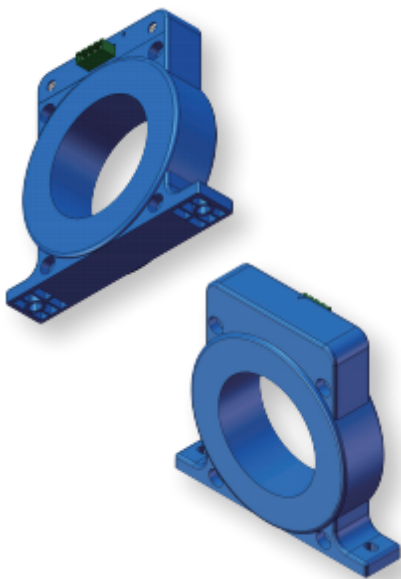
### Technical parameters

Spec (25°C)	Model				
	SCD9 -				
	10mA	20mA	50mA	100mA	1A
Primary nominal current $I_{PN(DC)}$	10mA	20mA	50mA	100mA	1A
Primary current measuring range $I_{PM(DC)}$	$\pm 12mA$	$\pm 24mA$	$\pm 60mA$	$\pm 120mA$	$\pm 1.2A$
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$	$\pm 5V \pm 1\%$				

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	$\pm 11$	$\pm 12$	$\pm 18$	$V_{DC}$
Current consumption $I_c$	-	$\pm 10$	-	mA
Insulation resistance $R_{INS}$ @500V DC	1000	-	-	M $\Omega$
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	4.950	5.000	5.050	V
Output internal resistance $R_{OUT}$	-	100	-	$\Omega$
Load resistance $R_L$	-	10	-	K $\Omega$
Accuracy $X$ @ $I_{PN}, T_A=25^\circ C$	-	$\pm 1$	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	$\pm 0.5$	-	%
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	$\pm 50$	-	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	$\pm 1$	$\pm 2$	mV/ $^\circ C$
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	500	900	ms
Ambient operating temperature $T_A$	-10	25	75	$^\circ C$
Ambient storage temperature $T_s$	-25	25	85	$^\circ C$
Impulse withstand voltage $V_D$ @50Hz, 60s, 0.1mA	-	3000	-	$V_{AC}$

### Dimensions (mm)



單位: mm

No.	Marks	Description
1	+	+12V
2	-	-12V
3	M	Output
4	G	0V

### Product characteristics

- It is used for isolated measurement of DC milliamper microcurrent, based on the principle of magnetic modulation closed-loop.
- Temperature compensation circuit control with slight zero drift, accurate measurement.
- Widely used in power, industrial automation, solar photovoltaic and other emerging industries and fields.

$$V_{OUT} = 5.05 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$

## SVL1 Series

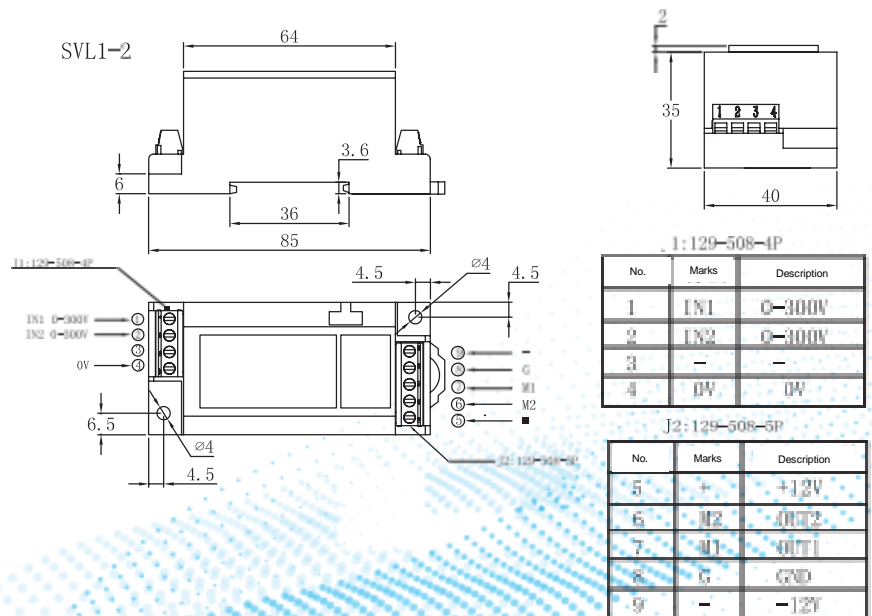
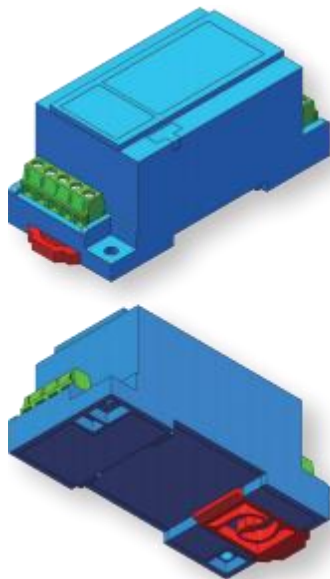
### Technical parameters

Spec (25°C)	Model				
	75V	100V	300V	500V	1000V
Primary nominal voltage $V_{PN}$ (DC)	75V	100V	300V	500V	1000V
Primary voltage measuring range $V_{PM}$	+90V	+120V	+360V	+600V	+1200V
Output voltage $V_{out}$ @ $\pm I_{PN}, R_L=10K\Omega$	DC 0 ~ 5V				

### Performance parameters

Items	Min. value	Rated value	Max. value	Unit
Power supply voltage range $V_c(\pm 5\%)$	$\pm 11$	$\pm 12$	$\pm 18$	$V_{DC}$
Current consumption $I_c$	<60mA			mA
Output voltage $V_{out}$ @ $I_{PN}, R_L=10K\Omega, T_A=25^\circ C$	$V_{OUT} = 5.000 * \frac{V_c}{V_{PN}} + V_{OE}$			V
Load resistance $R_L$	10	-	-	K $\Omega$
Accuracy X @ $I_{PN}, T_A=25^\circ C$	-	$\pm 1$	-	%
Linearity $\epsilon_L$ @ $R_L=10K\Omega, T_A=25^\circ C$	-	$\pm 0.5$	-	% $I_{PN}$
Offset voltage $V_{OE}$ @ $T_A=25^\circ C$	-	$\pm 25$	-	mV
Temperature coefficient of offset voltage $TCV_{OE}$	-	$\pm 0.5$	$\pm 1$	mV/ $^\circ C$
Temperature coefficient of output voltage $TCV_{out}$	-	$\pm 0.05$	$\pm 0.1$	%/ $^\circ C$
Response time $t_D$ @ $0 \rightarrow I_{PN}$	-	300	-	mS
Ambient operating temperature $T_A$	-40	25	85	$^\circ C$
Ambient storage temperature $T_s$	-40	25	85	$^\circ C$
Impulse withstand voltage $V_D$ @ 50Hz, 60s, 0.1mA	-	3000	-	$V_{AC}$
Mass m	-	70	-	g

### Dimensions (mm)



### Product characteristics

- Using the principle of electrical isolation, the measured high-voltage signal is converted into a linear low-voltage signal for easy measurement.
- The isolation voltage between the primary and secondary is greater than 3000VAC.
- High capacity to resist interference and high accuracy (0.5%).
- It is widely used in various industrial voltage online isolation and detection systems.

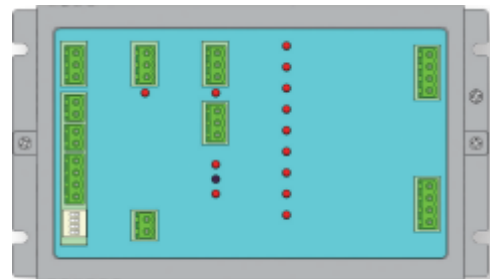
## SCM4 Series

### 1. Product Overview

The insulation detection unit is a device used for online detection of the feeder acquisition unit (intelligent sensor). Controlled by CPU, the standard MODBUS communication protocol is used for the device. The RS485 interface communicates with the feeder acquisition unit and the upper computer (liquid crystal screen) respectively. The sampling circuit and communication interface RS485 are isolated by optocouplers, with simple wiring, high reliability, and convenient and fast installation and maintenance; Simultaneously equipped with important functions such as balance bridge detection, imbalance detection and compensation, DC mutual interference alarm and line selection, AC series input alarm and line selection, and flash alarm output.

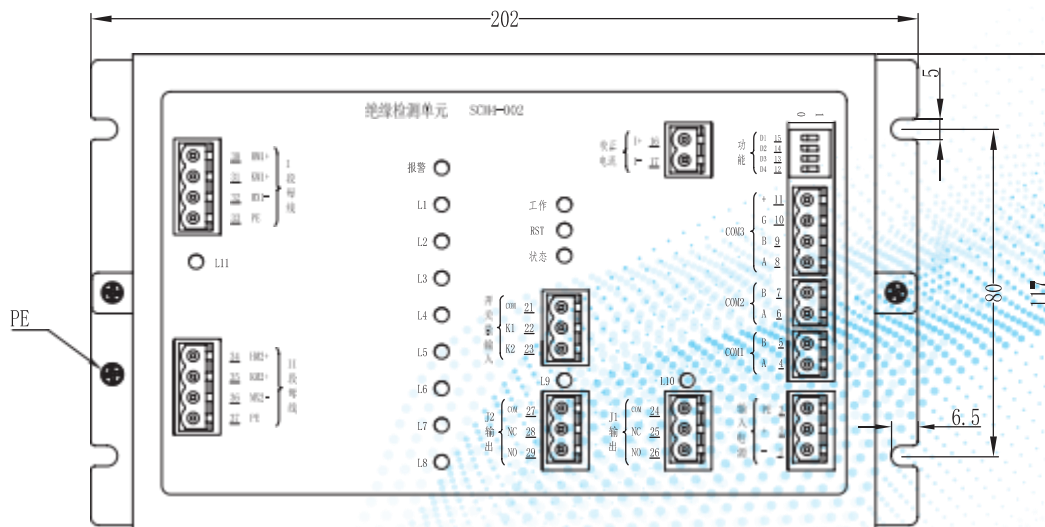
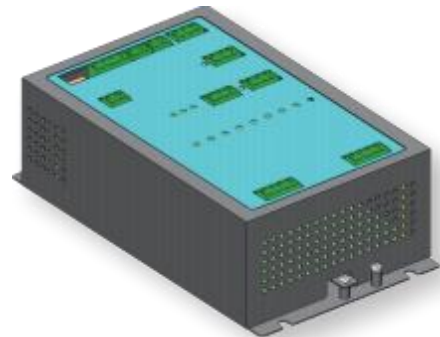
### 2. Main Function:

- 2.1. It can detect voltages to ground such as bus coupler voltage, control bus voltage and negative bus voltage in 1 segment;
- 2.2. It can detect the insulation resistance to ground such as bus coupler voltage, control bus voltage and negative bus voltage;
- 2.3. It can detect the AC inrush voltage of busbar in 1 segment and select the branch;
- 2.4. It can detect DC mutual leakage alarms and select branches;
- 2.5. The number of assembly bus branches can be set (depending on the specific site);
- 2.6. It can detect positive and negative resistance to ground at the same time;
- 2.7. Busbar support for early warning and alarm settings;
- 2.8. Branch support for early warning and alarm settings;
- 2.9. It supports two sets of switch status inputs and two sets of relay outputs;



### 3. Performance Indicators

- 3.1. Busbar voltage detection range: 0-330V DC
- 3.2. Voltage fluctuation range to ground:  $\leq |U_{km}/10|$ ,  $U_{km}$  is the busbar voltage
- 3.3. AC voltage range when entering the busbar: 0-250VAC (5%)
- 3.4. Input sensor signal: RS485 digital quantity
- 3.5. Input signal: RS485 digital quantity
- 3.6. Response time:  $\leq 200ms$
- 3.7. Impulse withstand voltage: 3.5KVDC
- 3.8. Working power supply: DC80-300V/AC110-220V(10%)
- 3.9. Working current:  $<35mA$
- 3.10. Operating temperature:  $-10\text{--}+75^{\circ}C$
- 3.11. Storage temperature:  $-40\text{--}+85^{\circ}C$





## SCM5 Series

### 1. Product Overview

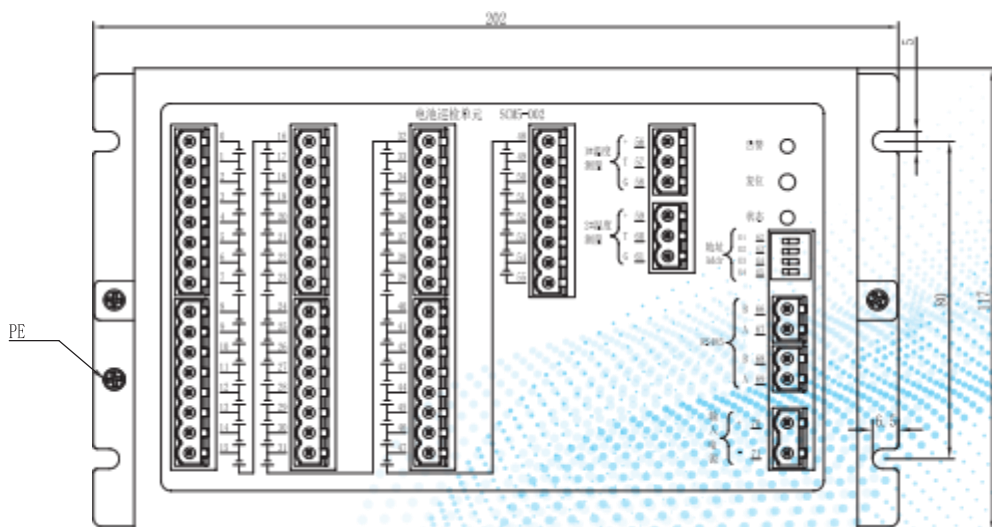
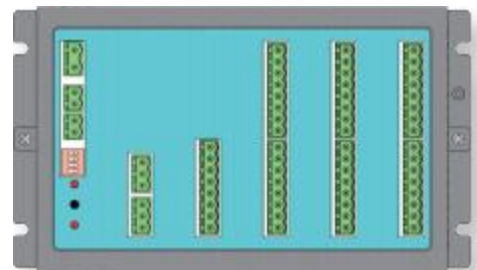
The battery patrol inspection unit is an equipment for online detection of batteries. 55 2V-12V batteries can be used for a single module. Controlled by CPU and converted by high-precision A/D, the standard MODBUS communication protocol is used for the equipment, communicating with the host computer through 485 ports, and multiple modules can be used in parallel to achieve 120 battery patrol inspection. It is mainly used to measure the voltage value of single battery and the temperature of battery packs.

### 2. Main Function:

- 2.1. It can detect the voltage of 55 batteries;
- 2.2. It supports dual battery temperature detection, detecting the surface temperature of the battery or the temperature of the battery cabinet;
- 2.3. Multiple modules can be connected in parallel, supporting 120 battery detection;
- 2.4. Real time monitoring of battery voltage and temperature, supporting grading alarms.

### 3. Performance Indicators

- 3.1. Scope of single battery application: 0V ~ 17V
- 3.2. Measurement error: 2.0V ~ 15V Measurement error within the range  $\leq \pm 1\%$
- 3.3. Maximum number of batteries for voltage sampling: 55
- 3.4. Setting range of number of batteries for voltage sampling: 1 ~ 55
- 3.5. Ambient temperature detection:  $-10^{\circ}\text{C} \sim +100^{\circ}\text{C}$  (measurement error  $\leq \pm 3^{\circ}\text{C}$ )
- 3.6. Insulation strength:  $> 10\text{M}\Omega$ , 2KVAC No flashover or breakdown within one minute
- 3.7. Working power supply: DC80-300V/AC110-220V(10%)
- 3.8. Rated power consumption:  $< 40\text{W}$
- 3.9. Operating temperature:  $-10 \sim +75^{\circ}\text{C}$
- 3.10. Storage temperature:  $-40 \sim +85^{\circ}\text{C}$



## SCM7 Series

### 1. Product Overview

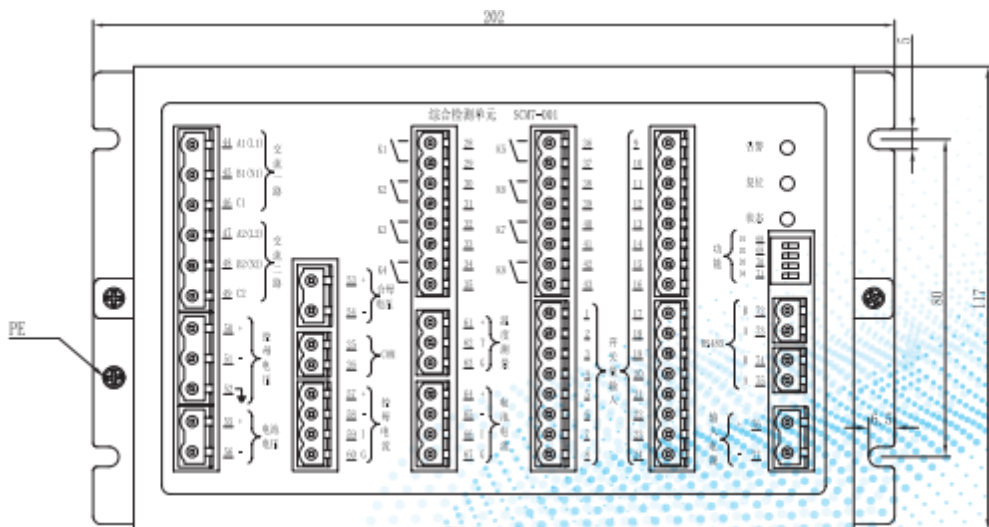
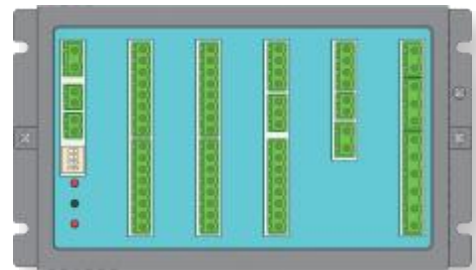
The comprehensive detection unit is a device that detects the AC and DC of the system and controls the rectifier module. Controlled by CPU, the device is mainly used for measuring three-phase AC voltage, DC voltage, DC current, switching input detection, relay output control, and DC insulation detection using standard MODBUS communication protocol.

### 2. Main Function:

- 2.1. It can detect the bus coupler voltage, control bus voltage and battery voltage in 1 circuit;
- 2.2. It can detect three-phase AC voltage or single-phase AC voltage in 2 circuits;
- 2.3. It can detect one circuit of battery current, control bus current and battery temperature;
- 2.4. It can detect the insulation resistance to ground of busbar in 1 segment;
- 2.5. It supports on-off input detection of 24 circuits and relay output control of 8 circuits
- 2.6. It supports early warning and alarm settings;

### 3. Performance Indicators

- 3.1. DC voltage detection: 0-300VDC (90%~130% Measurement error within the primary nominal voltage range  $\leq \pm 0.5\%$ )
- 3.2. DC current detection: 0~ $\pm 100A$  (20%~100% Measurement error within the range  $\leq \pm 1\%$ )
- 3.3. AC voltage detection: 0~500VAC (304~456VAC Measurement error in range  $\leq \pm 1.0\%$ )
- 3.4. Ambient temperature detection:  $-10^{\circ}C$  ~  $+100^{\circ}C$  (Measurement error  $\leq \pm 3^{\circ}C$ )
- 3.5. Switching input: circuit 1-24 passive nodes
- 3.6. Switching output: circuit 1-8 open nodes, capacity AC250V/5A, DC30V/5A
- 3.7. Insulation strength:  $> 10M\Omega$ , 2KVAC for one minute without flashover or breakdown.
- 3.8. Working power supply: DC80-300V/AC110-220V(10%)
- 3.9. Rated power consumption:  $< 40W$
- 3.10. Operating temperature:  $-10$ ~ $+75^{\circ}C$
- 3.11. Storage temperature:  $-40$ ~ $+85^{\circ}C$



## SCM9 Series

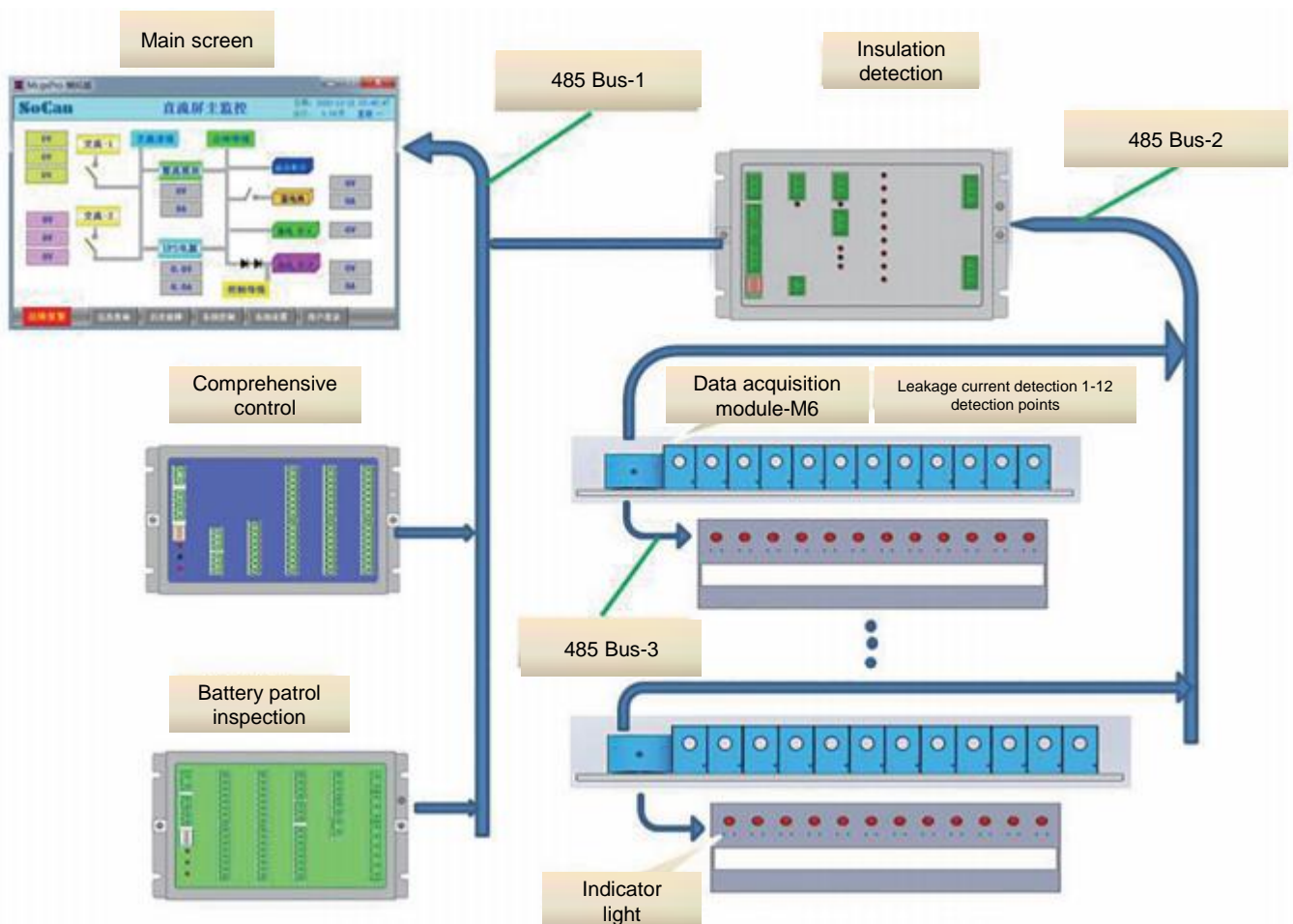
### 1. Product Overview

SCM9-012 feeder display unit (hereinafter referred to as SCM9-012) is a device for displaying the status of feeder branches. A single display unit can detect the conduction and shutdown status of 12 feeder circuits. Controlled by CPU, it communicates with the feeder detection unit through RS485. The PCB is installed fixedly, making installation and maintenance convenient and fast.

### 2. Performance Indicators

- 2.1. A single display unit can display the maximum feeder circuit: circuit 12;
- 2.2. Output signal: ModBus RTU protocol;
- 2.3. Baud rate: 9600bps;
- 2.4. Response time:  $\leq 200\text{ms}$
- 2.5. Operating temperature:  $-10^{\circ}\text{C} \sim +75^{\circ}\text{C}$
- 2.6. Storage temperature:  $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

### 3. Schematic Diagram of Module Application





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