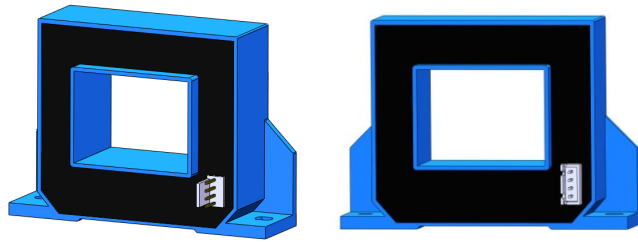


# Hall effect Current Sensor

## SCK18



### Product description:

#### Features

- Based on the Hall effect measurement principle, open loop circuit method.
- The isolation voltage between primary and secondary is greater than 5000VAC.
- Designed according to UL94-V0 flame retardant rating.
- Using automatic adjustment technology, product performance is better.

#### Performance

- Can measure DC, AC, pulse, and various irregular waveforms under isolated conditions.
- Wide measurement range, fast response speed, low zero drift, low temperature drift, high accuracy and good linearity.
- Dynamic performance (di/dt and response time) is optimal when the busbar is fully filled with primary perforations.
- Strong ability to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

#### Application

- It can be widely used in inverters, UPS, photovoltaic inverters, electric vehicle drives, high-frequency power supplies, inverter welding machines and other products.

#### Implementation standards

- GB/T 7665-2005
- JB/T 7490-2007
- JB/T 25480-2010
- JB/T 9473-2020
- SJ 20792-2000

#### Certifications



## Technical Parameters

| Model<br>Parameters (25℃)                                           | SCK18- |        |        |        |        |        |        |
|---------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|
|                                                                     | 400A   | 500A   | 600A   | 800A   | 1000A  | 1200A  | 1500A  |
| Primary Current (A) $I_{PN}$                                        | 400A   | 500A   | 600A   | 800A   | 1000A  | 1200A  | 1500A  |
| Primary Current Max. Peak Value (A) $I_{PM}$                        | ±1200A | ±1500A | ±1800A | ±2400A | ±2400A | ±2400A | ±2400A |
| Output voltage (V)<br>$V_{out}$ @ $\pm I_{PN}$ ,<br>$R_L=10K\Omega$ | ±4V±1% |        |        |        |        |        |        |

## Electrical Data

| Item                                                                        | Min.  | Typical. | Max.  | Unit            |
|-----------------------------------------------------------------------------|-------|----------|-------|-----------------|
| Input power supply voltage range $V_c$<br>(±5%) (Remark 1, Remark 2)        | ±11   | ±15      | ±18   | V <sub>DC</sub> |
| Current consumption $I_c$                                                   | -     | ±15      | ±20   | mA              |
| Withstand resistance $R_{INS}$ @500V DC                                     | 1000  | -        | -     | MΩ              |
| Output voltage $V_{out}$ @ $I_{PN}$ ,<br>$R_L=10K\Omega$ , $T_A=25^\circ C$ | 3.960 | 4.000    | 4.040 | V               |
| Output internal resistance $R_{OUT}$                                        | -     | 102      | -     | Ω               |
| Load Resistance $R_L$ (Remark 3)                                            | 1     | 10       | -     | KΩ              |
| Accuracy $X$ @ $I_{PN}$ , $T_A=25^\circ C$                                  | -     | ±1       | -     | %               |
| Linearity $\varepsilon_L$ @ $R_L=10K\Omega$ , $T_A=25^\circ C$              | -     | ±0.5     | -     | % $I_{PN}$      |
| Offset voltage $V_{OE}$ @ $T_A=25^\circ C$                                  | -     | ±10      | ±20   | mV              |
| Hysteresis voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$                        | -     | ±10      | ±20   | mV              |
| Temperature Coefficient of Offset Voltage $TCV_{OE}$                        | -     | ±0.5     | ±1    | mV/°C           |
| Output voltage temperature coefficient $TCV_{out}$                          | -     | ±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              |
| Withstand voltage<br>$V_D$ @ 50Hz, 60s, 0.1mA                               |       | 5000     |       | V <sub>AC</sub> |
| Weight m                                                                    |       | 260      |       | g               |

Remarks:

1. If VC is less than the minimum value, the measurement will be inaccurate. If VC is greater than

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the maximum value, it may cause permanent failure of the measuring device.

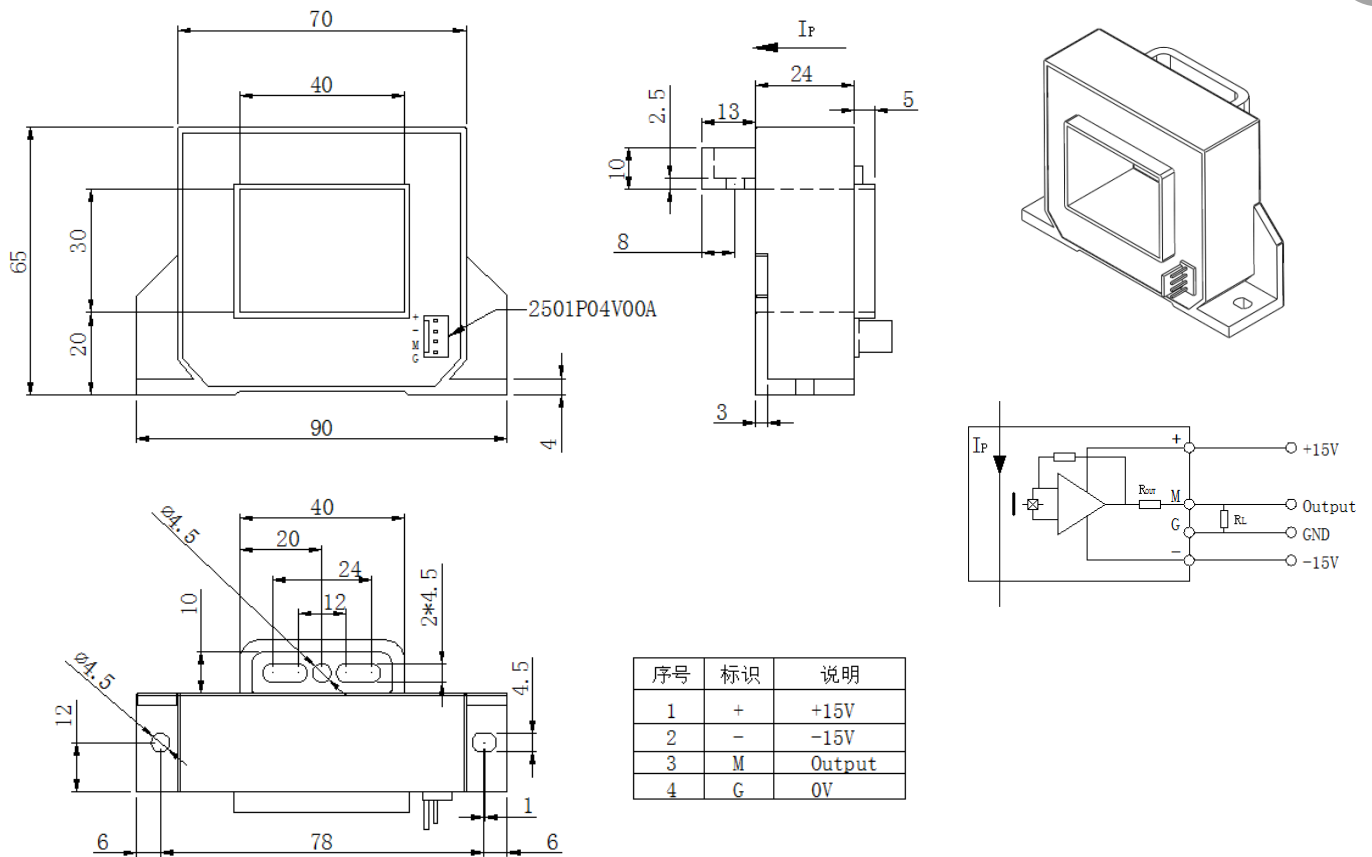
2. When  $\pm 12V < V_{CC} < \pm 15V$ , will reduce the measurement range.

3. 
$$V_{OUT} = 4.00 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$

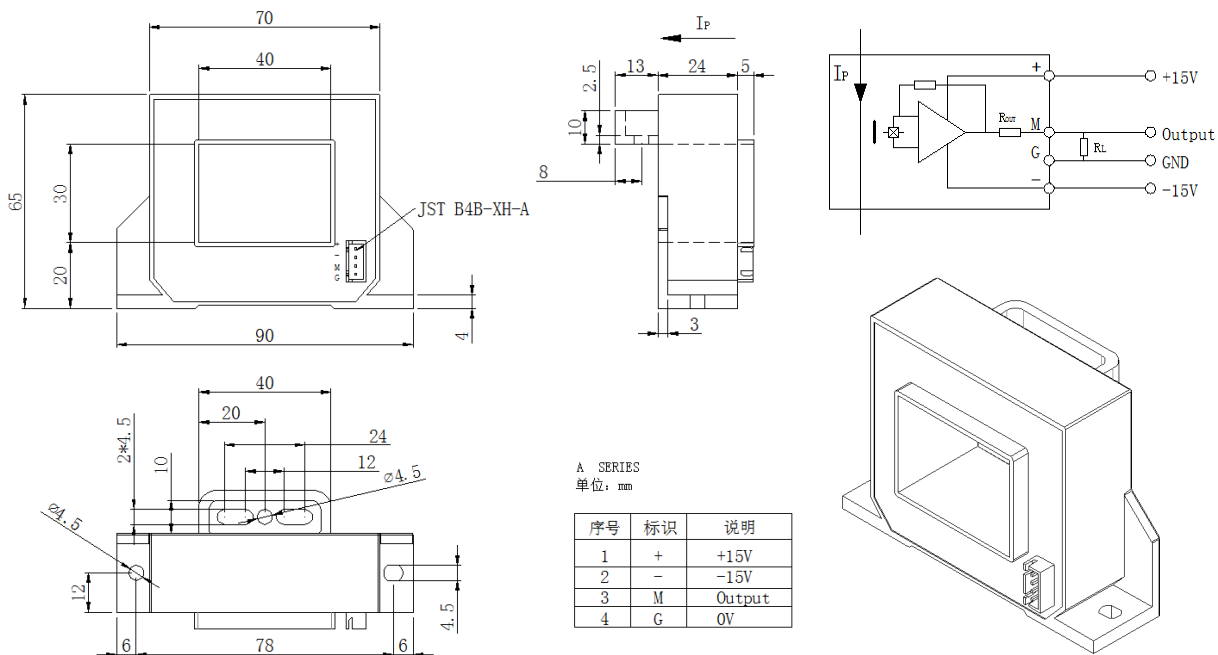
4.  $di/dt > 50A/uS$

## Dimensions (in mm)

### SCK18



### SCK18A



#### Notes:

1. Size error:  $\pm 1\text{mm}$ ;
2. Primary aperture:  $\square 40 \times 30\text{mm}$ ;
3. Fastening hole:  $\phi 4.5\text{mm} \times 2$ ;
4. The output terminal of SCK18 Series is 2501P04V00A;  
The output terminals of SCK18A is JST B4B-XH-A.
5. The IP indication direction is the positive direction of the current;
6. The temperature of the primary conductor shall not exceed  $105^{\circ}\text{C}$ ;