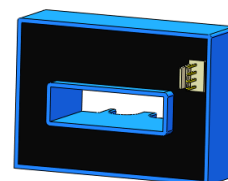


Hall effect Open-loop current sensor

SCK4



Product description

Features

- Based on Hall effect measurement principle, open loop circuit mode.
- The isolation voltage between primary and secondary is greater than 3000VAC.
- Comply with UL94-V0 flame retardant rating.

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

Certification



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Technical Parameters

Model Parameters (25°C)	SCK4-							
	300A	400A	500A	600A	800A	1000A	1500A	2000A
Primary Current I_{PN}	300A	400A	500A	600A	800A	1000A	1500A	2000A
Primary Current Max. Peak Value I_{PM}	$\pm 900A$	$\pm 1200A$	$\pm 1500A$	$\pm 1800A$	$\pm 2400A$	$\pm 3000A$	$\pm 3500A$	$\pm 3500A$
Output voltage V_{out} @ $\pm I_{PN}$, $R_L=10K\Omega$	$\pm 4V \pm 1\%$							

Electrical Data

Item	Min.	Typical	Max.	Unit
Input power supply voltage range V_c ($\pm 5\%$) (Remark 1, Remark 2)	± 11	± 15	± 18	V_{DC}
Current consumption I_c	-	± 15	± 20	mA
Withstand 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	-	Ω
Load Resistance R_L (Remark 3)	1	10	-	$K\Omega$
Accuracy X @ I_{PN} , $T_A=25^\circ C$	-	± 1	-	%
Linearity ε_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/ $^\circ C$
Output voltage temperature coefficient TCV_{out}	-	± 0.05	± 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	$^\circ C$
Withstand voltage V_D @ 50Hz, 60s, 0.1mA		3000		V_{AC}
Weight m		210		g

Remarks:

1. If V_C is less than the minimum value, the measurement will be inaccurate. If V_C is greater than the maximum value, it may cause permanent failure of the measuring device.

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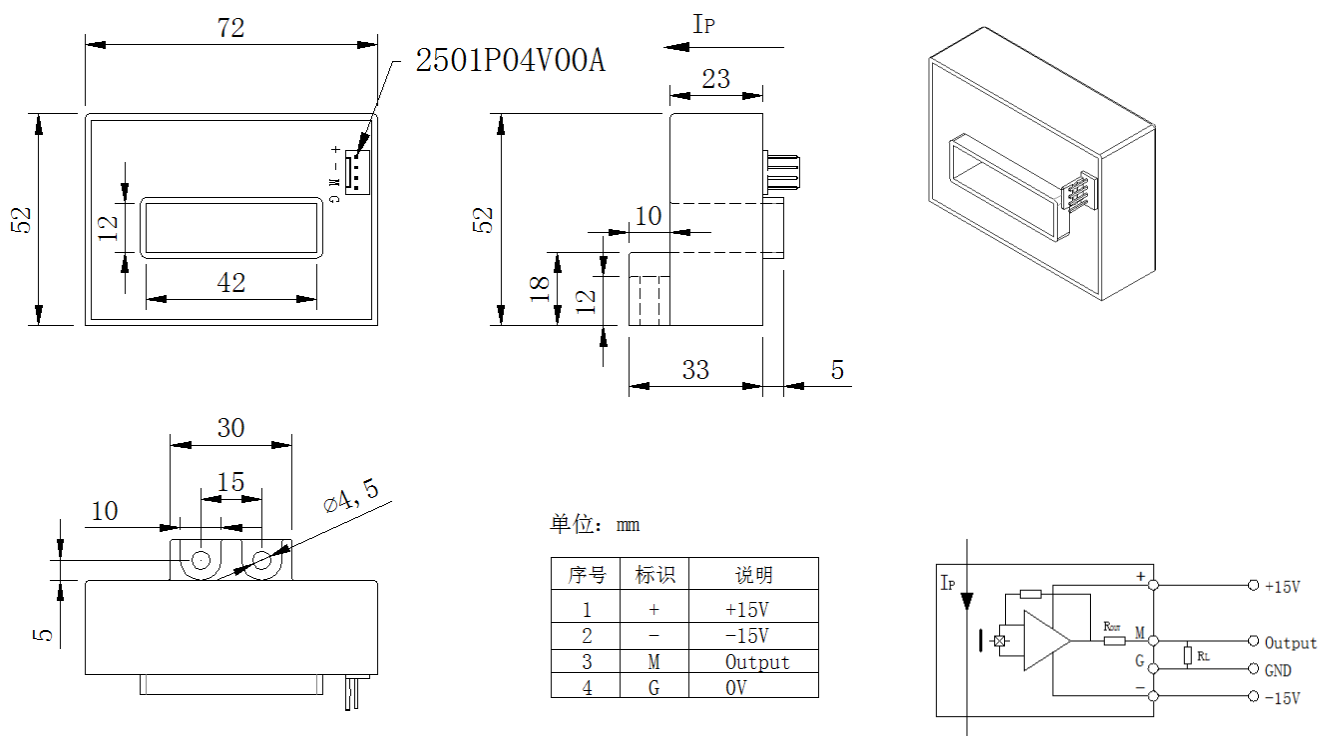
2. When $\pm 12V < VCC < \pm 15V$, will reduce the measurement range.

$$3. V_{OUT} = 4.04 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$

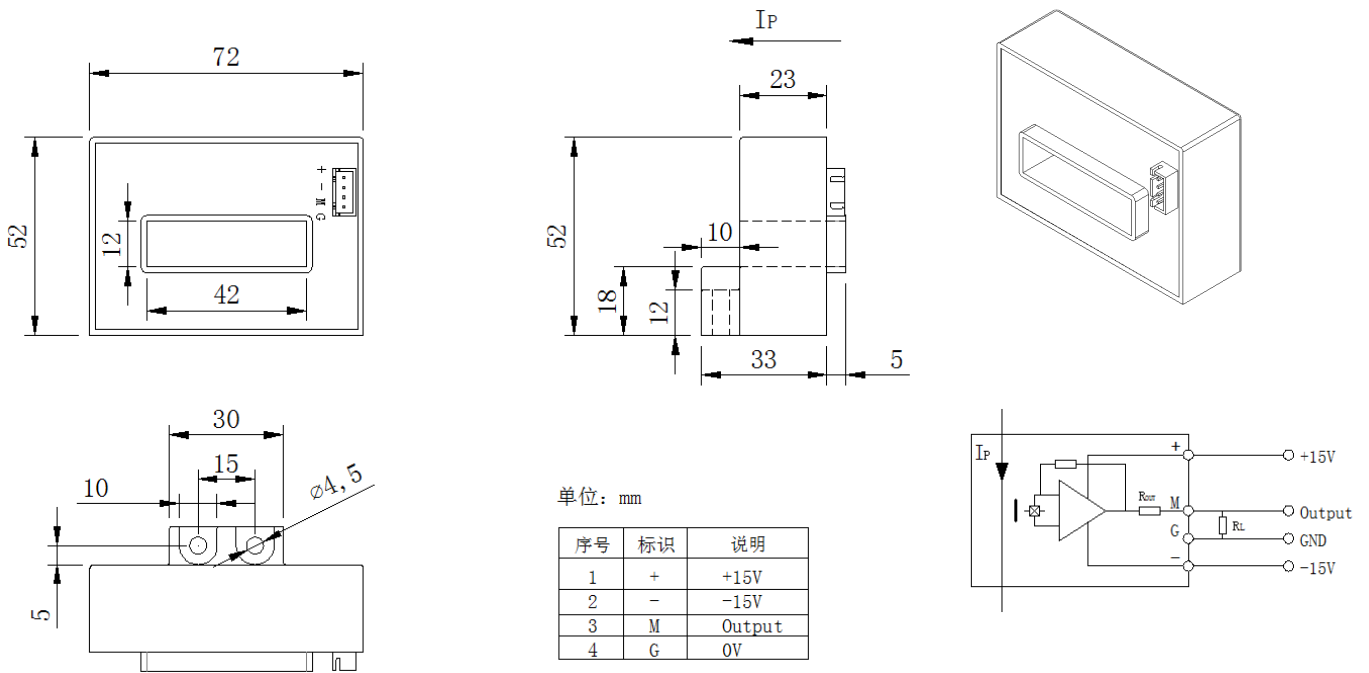
4. $di/dt > 50A/uS$

Dimensions (in mm)

SCK4 Series



SCK4A Series



Notes:

1. Size error: ± 1 mm;
2. Primary aperture: $\square 41.6 \times 12$ mm;
3. Fastening hole: $\phi 4.5$ mm*2;
4. SCK4 output terminal: 2501P04V00A;
SCK4A output terminal: JST B4B-XH-A
5. The I_P indication direction is the positive direction of the current;
6. The temperature of the primary conductor shall not exceed 105°C ;
7. Incorrect wiring may cause damage to the sensor.