

Hall effect Current Sensor

Q/SC 003 2010

SCK13



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

- It can measure DC, AC, pulse, and various irregular waveform currents of cable conductors under isolation 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	SCK13T-						
	200A	300A	500A	800A	1000A	1500A	2000A
Parameters (25°C)							
Primary Current (A) I_{PN}	200A	300A	500A	800A	1000A	1500A	2000A
Primary Current Max. Peak Value (A) I_{PM}	±600A	±900A	±1500A	±2400A	±2400A	±2400A	±2400A
Output voltage (V) V_{out} @± I_{PN} , $R_L=10K\Omega$	±4V±1%						

Electrical Data

Item	Min.	Max.	Typical	Unit
Input power supply voltage range V_c (±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/°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 V_D @50Hz,60s,0.1mA		3000		V_{AC}
Weight m		230		g

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Remarks:

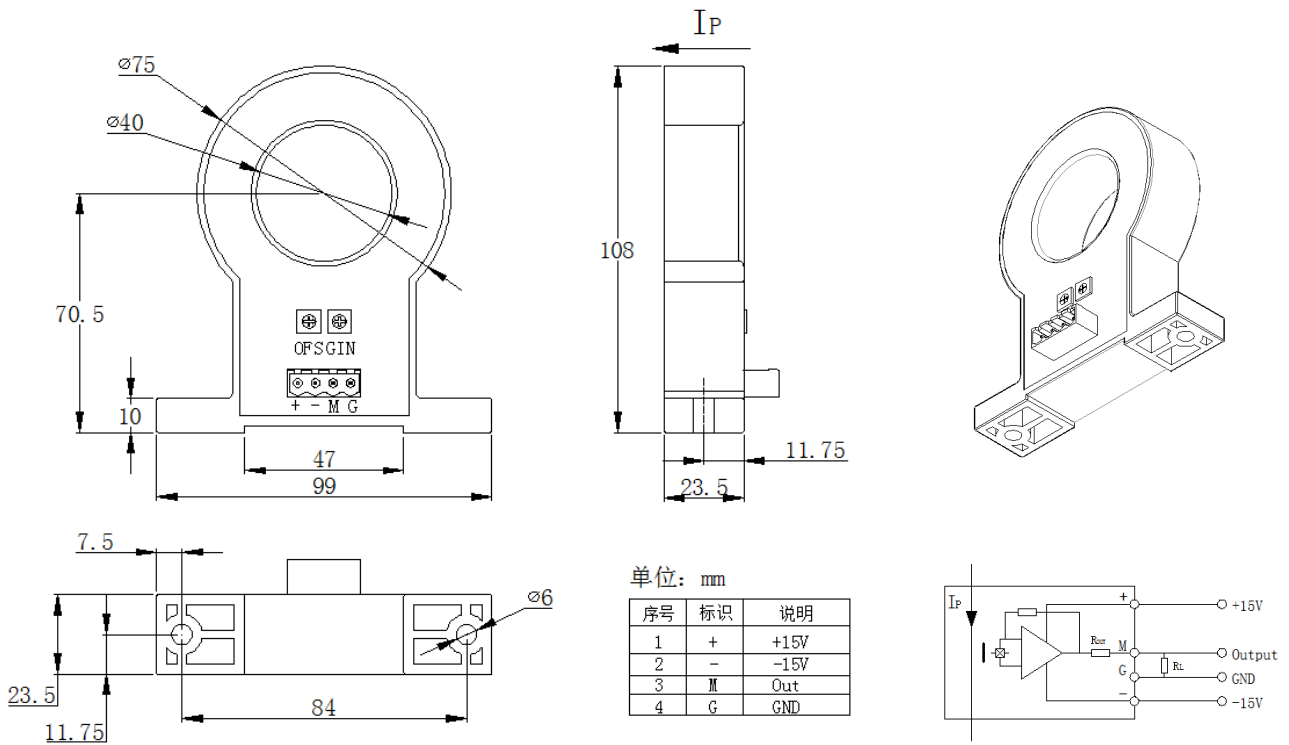
1. VC is less than the minimum value, which will lead to inaccurate measurement, VC is greater than the maximum value, which may cause permanent failure of the measurement device.

2. When $\pm 12V < VC < \pm 15V$, the measurement range will be reduced.

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

4. Follow the speed $di/dt > 50A/uS$

Dimensions (in mm)



Notes:

1. Size error: $\pm 1mm$;
2. Primary aperture: $\phi 40mm$;
3. Fastening hole: $\phi 6mm * 2$;
4. Output terminal: 2EDGVC-5.08-4P;
Mating plug: 2EDGK-5.08-4P;
5. The IP indication direction is the positive direction of the current, OFS is the zero adjustment, and GIN is the output regulation;
6. The temperature of the primary conductor shall not exceed $105^{\circ}C$;
7. Incorrect wiring may cause damage to the sensor.

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