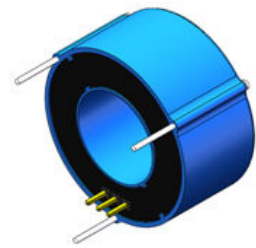


# PCB Mounting Hall effect Current Sensor

## SCK33D Series



### Product description

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#### Features:

- Based on the Hall effect measurement principle, open loop circuit method.
- The isolation voltage between primary and secondary is greater than 3000VAC.
- Easy to install, small in size and not occupying space.
- The material of the product has good mechanical properties such as corrosion resistance, aging resistance, and heat resistance.
- Potting glue has elastic characteristics.
- Designed according to UL94-V0 flame retardant rating.

#### Performance:

- It can measure DC, AC, pulse, and various irregular waveform currents of cable conductors under isolation conditions.
- High measurement accuracy, wide range, fast response speed, low zero drift, low temperature drift, small overshoot, and good linearity.
- The dynamic performance (DI/DT and response time) is the best when the busbar is completely filled with the primary perforation.
- Strong ability to resist external electromagnetic interference (ESD, EFT, CS, CE, BCI, dv/dt, etc.).

#### Implementation standards:

- GB 7665
- JB/T 7490
- JB/T 9329-1999
- JB/T9473-1999
- SJ/20792-2000

#### Application:

- It can be applied to AC frequency conversion speed regulation and servo motor traction.
- Battery power, uninterruptible power supply.
- Switching power supply, welding machine power supply.
- Electric vehicles.
- New energy sources such as photovoltaics.

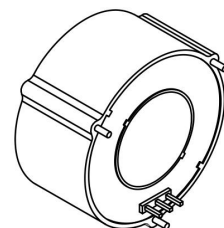
Model	SCK33D-			
Index (25℃)	200A	300A	400A	500A
Rated current $I_{PN}$	200A	300A	400A	500A
Measuring range $I_{PM}$	$\pm 200A$	$\pm 300A$	$\pm 400A$	$\pm 500A$
Output Signal $V_{out} @ \pm I_{PN}, R_L=10K\Omega$	$2.5V \pm 2V$			

#### Performance Parameters

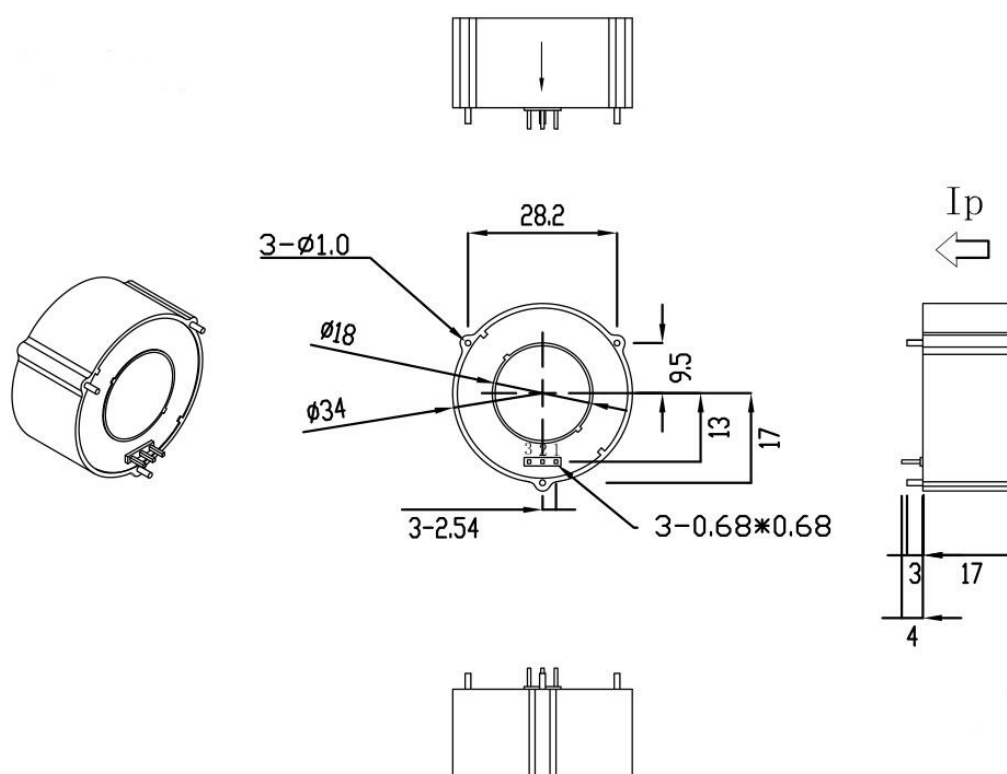
Name	Minimum	Typical value	Maximum	Measure
Input power supply voltage range $V_c$ (Remark 1) (1%)	+4.5	+5	+5.05	$V_{DC}$
Current consumption $I_c$	-	$\pm 13$	$\pm 15$	mA
Withstand resistance $R_{INS}@500V DC$	1000	-	-	$M\Omega$
Output voltage $V_{out} @ I_{PN}, R_L=25K\Omega, T_A=25^\circ C$	-	0.5~4.5V	-	V
Output internal resistance $R_{OUT}$	101	102	103	$\Omega$
Load Resistance $R_L$ (Remark 2)	1	10	-	$K\Omega$
Accuracy $X @ I_{PN}, T_A=25^\circ C$	-	$\pm 1$	$\pm 1.5$	%
Linearity $\varepsilon_L @ R_L=10K\Omega, T_A=25^\circ C$	-	$\pm 0.5$	$\pm 1.0$	% $I_{PN}$
Zero output voltage $V_{OE}@T_A=25^\circ C$	-	$\pm 10$	$\pm 20$	mV
Hysteresis 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/ $^\circ C$
Output voltage temperature coefficient $TCV_{out}$	-	$\pm 0.05$	$\pm 0.1$	%/ $^\circ C$
Response time $t_D @ 0 \rightarrow I_{PN}$	-	3	5	us
Bandwidth BW	-	50	-	Hz
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		25		g

Remarks:

1. If  $V_C$  is less than the minimum value, the measurement will be inaccurate, and if  $V_C$  is greater than the maximum value, the measurement device may fail permanently.
2. When  $4.5 < V_{CC} < 5.05$ , the measurement range will be reduced.
3.  $di/dt > 50A/\mu S$



## Dimensions (in mm)



Terminal Pin	Function
(+) 1	+5V
(G) 2	0V
(M) 3	Output

### Notes:

- General tolerance:  $\pm 0.3\text{mm}$
  - Interface pin size: 3 PIN  $0.68 \times 0.68\text{mm}$   
Recommended PCB opening:  $\phi 0.9\text{mm}$
  - Primary aperture (primary current aperture):  $\phi 18\text{mm}$
  - Fastening hole:  $\phi 1.0 \times 3$   
Recommended PCB opening:  $\phi 2.0\text{mm}$
- Incorrect wiring may damage the sensor