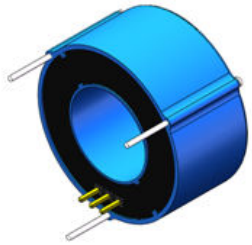
PCB Mounting Hall effect Current Sensor

SCK33D Series



Product description

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.

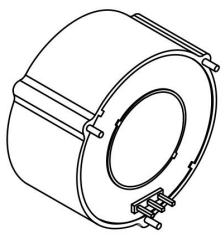
Model	SCK33D-			
Index（25℃）	200A	300A	400A	**500A**
Rated current I_{PN}	200A	300A	400A	**500A**
Measuring range I_{PM}	±200A	±300A	±400A	**±500A**
Output Signal V_{out} @±I_{PN}，R_L=10KΩ	**2.5V±2V**			

Performance Parameters

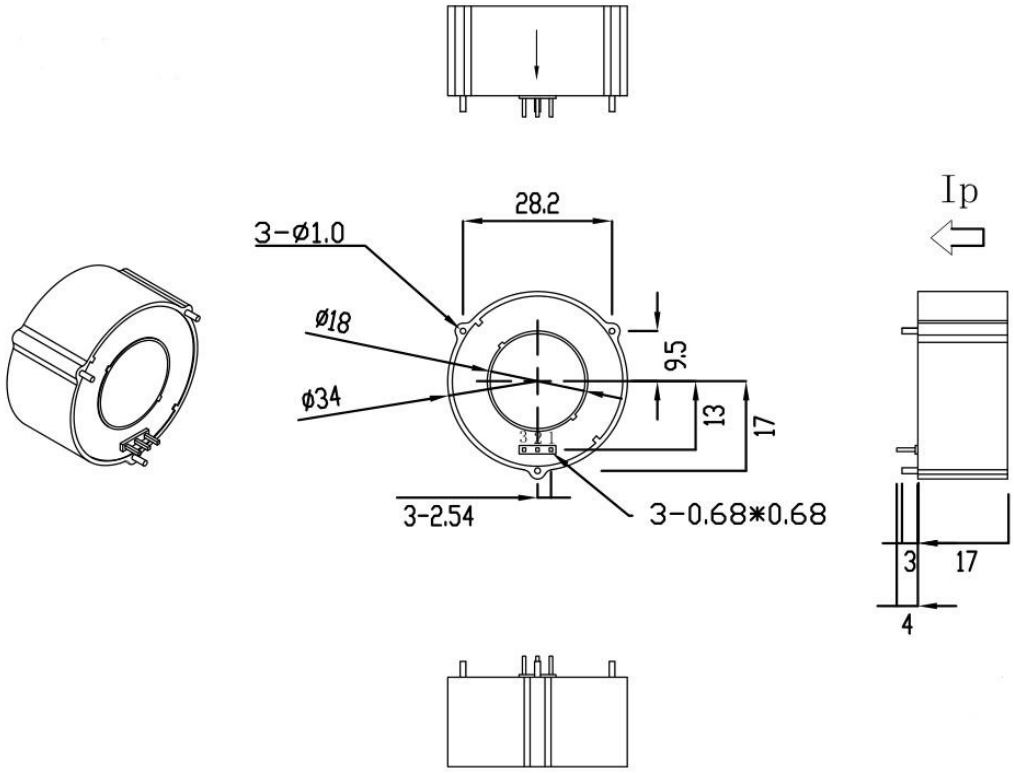
Name	Minimum	Typical value	Maximum	Measure
Input power supply voltage range Vc（Remark 1）（1%）	+4.5	+5	+5.05	V_{DC}
Current consumption Ic	-	±13	±15	mA
Withstand resistance R_{INS}@500V DC	1000	-	-	MΩ
Output voltage Vout @I_{PN}，R_L=25KΩ，T_A= 25℃	-	0.5～4.5V	-	V
Output internal resistance R_{OUT}	101	102	103	Ω
Load Resistance R_L（Remark 2）	1	10	-	KΩ
Accuracy X @I_{PN}，T_A= 25℃	-	±1	±1.5	%
Linearity ε_L@R_L=10KΩ，T_A= 25℃	-	±0.5	±1.0	%I_{PN}
Zero output voltage V_{OE}@T_A= 25℃	-	±10	±20	mV
Hysteresis voltage V_{OM} @ I_{PN}→0	-	±10	±20	mV
Temperature Coefficient of Offset Voltage TCV_{OE}	-	±0.5	±1	mV/℃
Output voltage temperature coefficient TCV_{out}	-	±0.05	±0.1	%/℃
Response time t_D @ 0→I_{PN}	-	3	5	us
Bandwidth BW	-	50	-	Hz
Ambient operating temperature T_A	-40	25	125	℃
Ambient storage temperature T_s	-40	25	125	℃
Withstand voltage V_D@50Hz,60s,0.1mA		3000		V_{AC}
Weight m		25		g

Remarks：

1. If VC is less than the minimum value, the measurement will be inaccurate, and if VC is greater than the maximum value, the measurement device may fail permanently.
2. When 4.5 < VCC < 5.05, the measurement range will be reduced.
3. di/dt＞50A/uS



Dimensions (in mm)



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

Notes：

1. General tolerance: ±0.3mm
2. Interface pin size: 3 PIN 0.68*0.68mm
Recommended PCB opening: ø0.9mm
3. Primary aperture (primary current aperture): ø18mm
4. Fastening hole: ø1.0*3
Recommended PCB opening: ø2.0mm

Incorrect wiring may damage the sensor