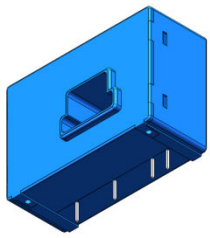
Hall effect Current Sensor

SCB31



Product description

Features

- Based on Hall effect measurement principle, close 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.
- Very low temperature drift, zero drift, fast response time, good linearity, accuracy can reach 0.1%.
- 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

Technical Parameters

Model / Parameters（25℃）	SCB31-	
	100A	200A
Primary Current (A)I_{PN}	100A	200A
Primary Current Max. Peak Value (A) I_{PM}	±200A	±300A
Turns ratio K_N	1:2000	1:2000
Secondary coil internal resistance R_S @T_A=70℃	76Ω	76Ω
Output signal I_{SN} @I_{PN}，	±50mA	±100mA
Measure resistance R_M @I_{PN},Vc=±15V,	20～80Ω	12～70Ω

Electrical Data

Item	Min.	Typical	Max.	Unit
Input power supply voltage range Vc （±5%）（Remark 1，Remark 2）	±12	±15	±18	V_{DC}
Current consumption Ic Ic @±15V	13mA+Output Current I_S			mA
Accuracy X @I_{PN}，T_A= 25℃	-	±0.5	±0.8	%
Linearity ε_L @R_L=10KΩ，T_A= 25℃	-	±0.1	±0.5	%
Offset current I_{OE} @T_A= 25℃,I_P=0	-	±0.2	±0.5	mA
Magnetic offset current I_{OM} @ I_P→0	-	±0.2	±0.5	mA
Temperature coefficient of offset current TCI_{OE}	-	±0.2	±1	mA
Response time t_D @ 0→I_{PN}	-	1	-	us
Band width BW	-	50	100K	Hz
Ambient operating temperature T_A	-40	25	85	℃
Ambient storage temperature T_s	-40	25	90	℃
Withstand voltage V_D@50Hz,60s,0.1mA	-	3000	-	V_{AC}
Weight m	-	40	-	g

Remarks:

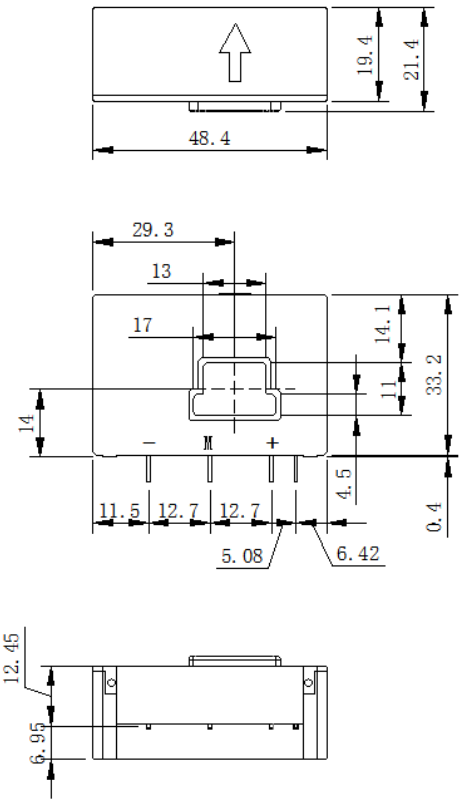
1. VC is greater than the maximum value, which may cause permanent failure of the measurement

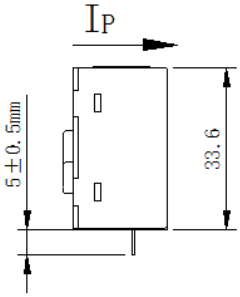
device.

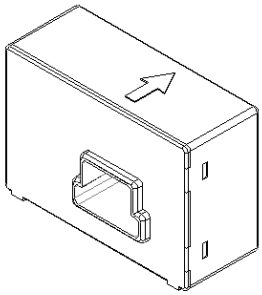
2. $I_{OUT} = I_{SN} * \frac{I_P}{I_{PN}} + I_{OE}$

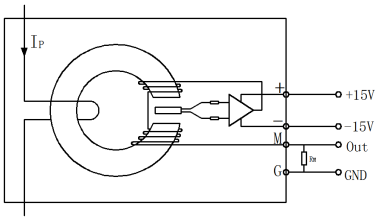
3. Follow speed di/dt＞100A/uS

Dimensions (in mm)









序号	标识	说明
1	+	+15V
2	-	-15V
3	M	Out

Notes:

1. Size error: ±0.5mm;

2. Primary aperture: □17*4.5+13*6.5mm;

3. Pinpoint output: □0.64*0.56mm*4,

Recommended PCB cut-out: 0.9mm;

4. The IP indication direction is the positive direction of the current;

5. Incorrect wiring may cause damage to the sensor.