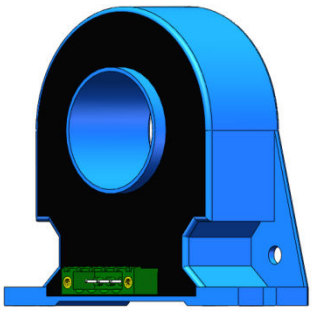
Hall effect Current Sensor



SCK12

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.
- Designed according to UL94-V0 flame retardant rating.
- Standing and lying two installation methods.

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.).

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

Certifications

Technical Parameters

Model / Parameters（25℃）	SCK12T-						
	200A	300A	500A	800A	1000A	1500A	2000A
Primary Current (A)I_{PN}	200A	300A	500A	800A	1000A	1500A	2000A
Primary Current Max. Peak Value (A) I_{PM}	±600A	±900A	±1500A	±2400A	±3000A	±3000A	±3000A
Output voltage (V) V_{out} @±I_{PN}，R_L=10KΩ	±4V±1%						

Electrical Data

Item	Min.	Typical	Max.	Unit
Input power supply voltage range Vc （±5%）（Remark 1，Remark 2）	±11	±15	±18	V_{DC}
Current consumption Ic	-	±15	±20	mA
Withstand resistance R_{INS} @500V DC	1000	-	-	MΩ
Output voltage Vout @I_{PN}，R_L=10KΩ，T_A= 25℃	3.960	4.000	4.040	V
Output internal resistance R_{OUT}	-	102	-	Ω
Load Resistance R_L（Remark 3）	1	10	-	KΩ
Accuracy X @I_{PN}，T_A= 25℃	-	±1	-	%
Linearity ε_L @R_L=10KΩ，T_A= 25℃	-	±0.5	-	%I_{PN}
Offset 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
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		260		g

Remarks:

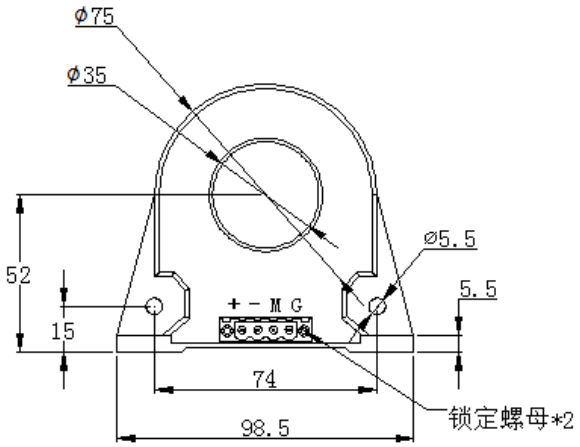
1. If VC is less than the minimum value, the measurement will be inaccurate. If VC is greater than the maximum value, it may cause permanent failure of the measuring device.
2. When ±12V＜V_{CC}＜±15V，will reduce the measurement range。

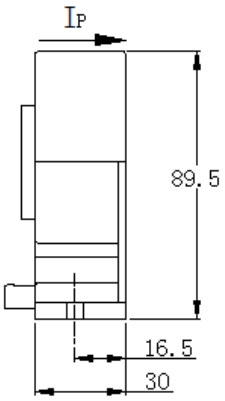
3. $$V_{OUT} = 4.00 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$$

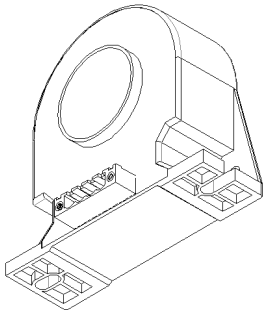
4. di/dt＞50A/uS

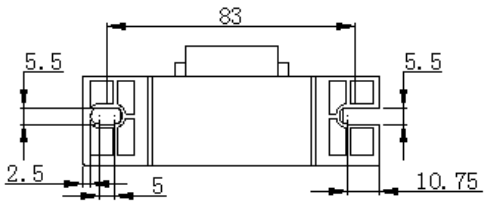
Dimensions (in mm)

SCK12T dimension



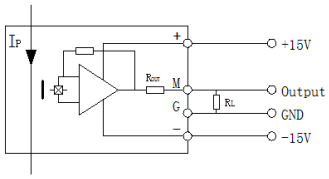




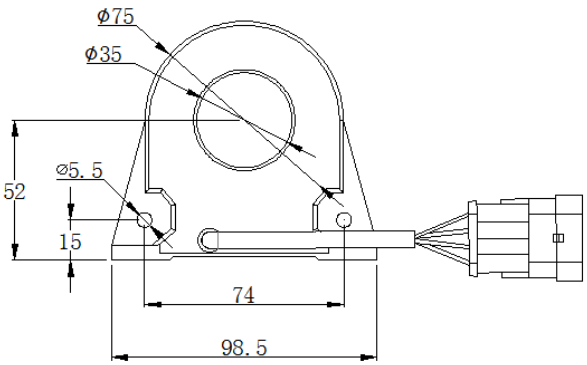


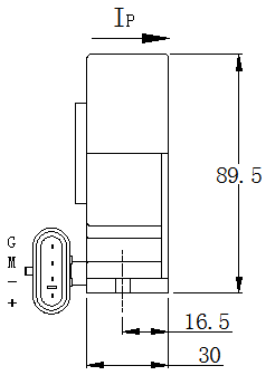
单位：mm

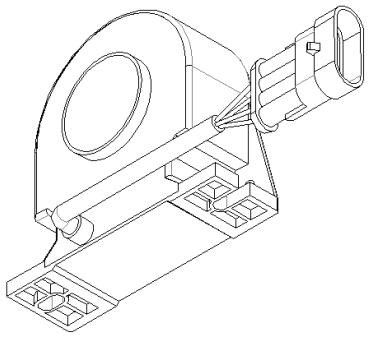
序号	标识	说明
1	+	+15V
2	-	-15V
3	M	Output
4	G	0V

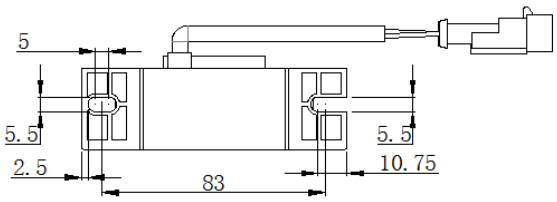


SCK12R dimension



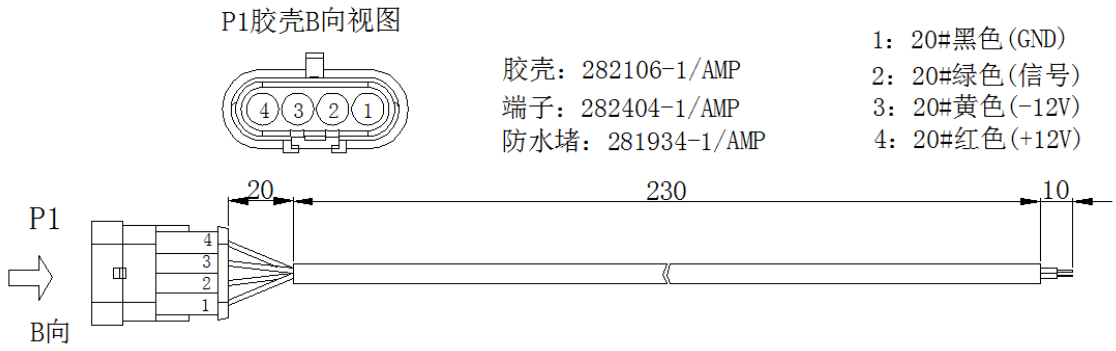






单位：mm

序号	标识	说明
1	G	0V
2	M	Output
3	-	-12
4	+	+12V



Notes

1. Size error: ±1mm;
2. Primary aperture: φ35mm;
3. Fastening hole: φ5.5mm*2;
4. SCK12T output terminal: 2EDGIV-5.08-4P;
SCK12T matching plug: 2EDGIK-5.08-4P;
5. SCK12R rubber case: 282106-1/AMP
SCK12R Terminal: 282404-1/AMP
SCK12R waterproof plug: 281934-1/AMP
6. The IP indication direction is the positive direction of the current;
7. The temperature of the primary conductor shall not exceed 105°C;
8. Incorrect wiring may cause damage to the sensor.