Hall effect Current Sensor
SEH3R 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.

Certifications

Technical Parameters

Model Parameters（25℃）	SEH3R							
	50A	100A	150A	200A	300A	400A	500A	600A
Primary Current (A)I_{PN}	50A	100A	150A	200A	300A	400A	500A	600A
Primary Current Max. Peak Value (A) I_{PM}	±150 A	±300 A	±450 A	±600 A	±900 A	±1200 A	±1200 A	±1200 A
Output voltage (V) V_{out} @±I_{PN}，R_L=10KΩ	±4V±1%							

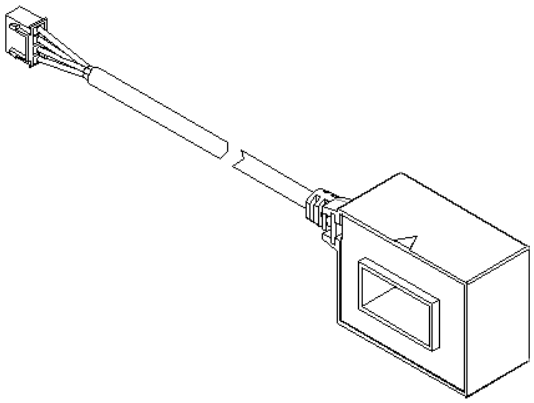
Electrical Data

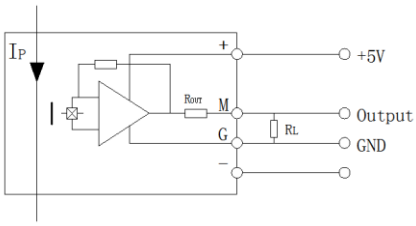
Item	Min.	Max.	Typical	Unit
Input power supply voltage range Vc（Remark 1）	±11	±15	±18	V_{DC}
Operating voltage fluctuation range Vcc（Remark 2）	±14.25	±15	±15.75	V_{DC}
Current consumption Ic	-	±13	±15	mA
Withstand resistance R_{INS}@500V DC	1000	-	-	MΩ
Output voltage Vout @I_{PN}，R_L=10KΩ，T_A= 25℃	3.96	4.0	4.04	V
Output internal resistance R_{OUT}	101	102	103	Ω
Load Resistance R_L (Remark 3）	1	10	-	KΩ
Accuracy X @I_{PN}，T_A= 25℃	-	±1	±1.5	%
Linearityε_L@R_L=10KΩ，T_A= 25℃	-	±0.5	±1.0	%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
Bandwidth BW	-	50	-	Hz
Ambient operating temperature T_A	-40	25	85	℃
Ambient storage temperature T_s	-40	25	85	℃
Withstand voltage V_D@50Hz,60s,0.1mA		3000		V_{AC}
Weight m		55		g

Remarks：

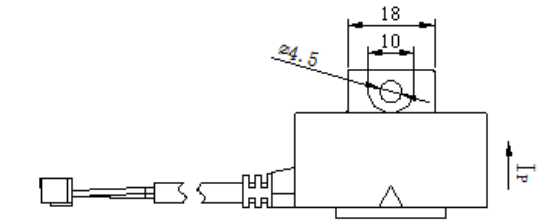
1. If VC is less than the minimum value, the measurement will be inaccurate. If VC is greater than the maximum value, it may cause permanent failure of the measuring device.
2. When ±12V＜V_{CC}＜±15V， will reduce the measurement range
3. $V_{OUT} = 4.00 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$
4. di/dt＞50A/Us

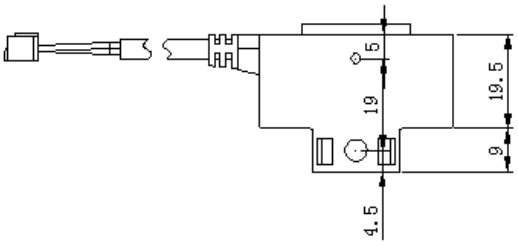
Dimension (in mm) & Wiring ref.:

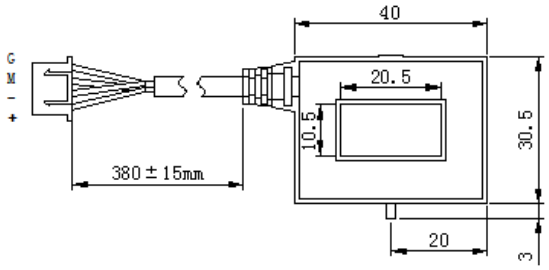


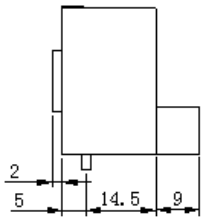


Connector：JST B4B-XH-A









1	+	+15V
2	-	-15V
3	M	OUT
4	G	GND

Notes：

1. Size error: ±1mm;
2. Primary aperture: □20.5*10.5mm;
3. Fastening hole: ϕ4.5mm;
4. The IP indication direction is the positive direction of the current;
5. The temperature of the primary conductor shall not exceed 105°C;
6. Incorrect wiring may cause damage to the sensor.