

**B1 系列多量程闭环型霍尔电流传感器**  
**B1 Series Multi-range Closed Loop Mode**  
**Hall Effect Current Sensor**

正角电子™



B1 多量程闭环型霍尔电流传感器的初、次级之间是绝缘的，可用于测量直流、交流和脉冲电流。

B1 series multi-range current sensor is a closed loop device based on the measuring principle of the hall effect and null balance method, with a galvanic isolation between primary and secondary circuit. It provides accurate electronic measurement of DC, AC or pulsed currents.



**电参数 Electrical data (Ta=25°C ± 5°C)**

Type	B1-25A	B1-50A	单位 Unit
额定输入电流 (I <sub>pn</sub> ) Rated current (I <sub>pn</sub> )	25	50	A
测量电流范围 (I <sub>p</sub> ) Measure range (I <sub>p</sub> )	±50	±100	A
测量电阻范围 Measure resistor range	54~360	68~180	Ω
额定输出电流(I <sub>sn</sub> ) Rated output (I <sub>sn</sub> )	±25	±50	mA
电源电压 Supply voltage	±15V		V
功耗电流 Power Consumption	≤20+ I <sub>p</sub> X(N <sub>p</sub> /N <sub>s</sub> )		mA
匝比 (N <sub>p</sub> /N <sub>s</sub> ) Turns ratio(N <sub>p</sub> /N <sub>s</sub> )	1-2-3-4:1000		T
零点失调电流 Zero offset current	@I <sub>p</sub> =0	≤ ±0.15	mA
失调电流温漂 Offset current drift	@ -40~+85°C	≤ ±0.5	mA
响应时间 Response time	@50A/μ S,10%-90%	<1	μ S
线性度 Linearity	@I <sub>p</sub> =0-±I <sub>pn</sub>	≤0.1	%FS
绝缘电压 Galvanic isolation	@ 50HZ/60HZ,AC,1min	5	KV
di/dt 跟随精度 di/dt accurately followed		>50	A / μ S

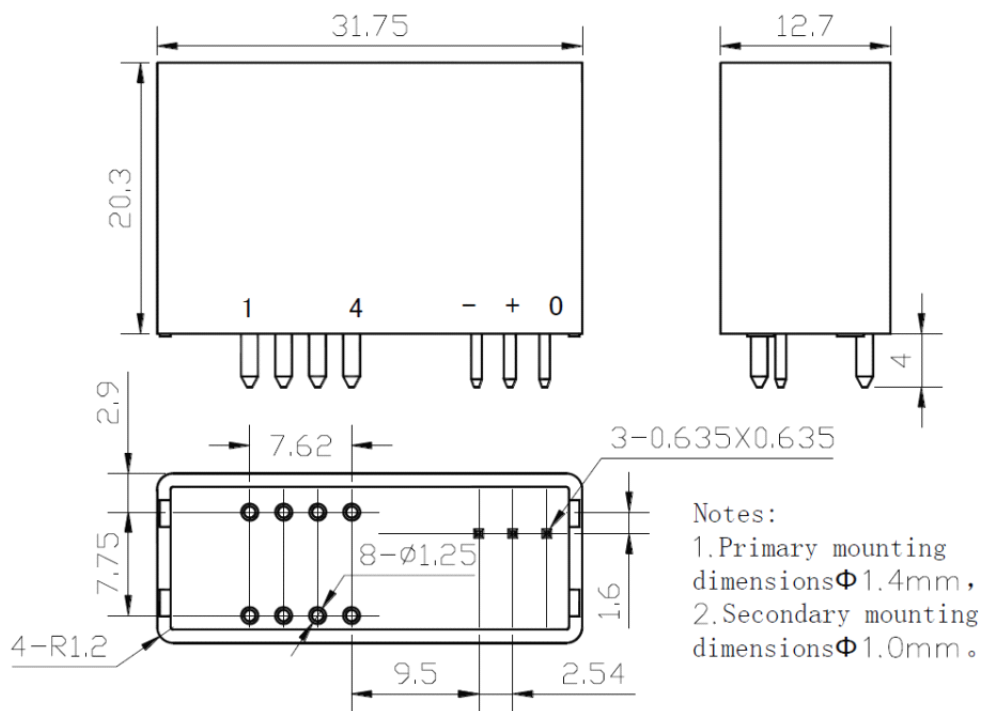
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带宽 Bandwidth	DC~200	KHZ
次级线圈电阻 @70℃ Secondary coil resister	40	Ω

**应用 Applications**

- 交流变速驱动器  
AC variable speed drives
- 直流电机驱动静态转换器  
Static converters for DC motor drives
- 通讯电源  
Battery supplied applications
- 不间断电源 UPS  
Uninterruptible Power Supplies (UPS)
- 开关电源  
Switched Mode Power Supplies (SMPS)
- 电焊机  
Power supplies for welding applications

**结构参数 Mechanical dimension(for reference only)**



**Remarks:**

1. All dimensions are in mm.
2. General tolerance ±1mm.

**接线图 Pin connections**

## B1 系列多量程闭环型霍尔电流传感器 B1 Series Multi-range Closed Loop Mode Hall Effect Current Sensor

初级匝数 Primary turns	额定电流 Rated current IPN (A)	初级阻抗 Primary resistor [mΩ]	额定输出 Rated output Is (mA)	初级连接 Pins connections
1	25, 50	0.05	25, 50	
2	12, 25	0.20	24, 50	
3	8, 16	0.48	24, 48	
4	6, 12	1.00	24, 48	

### 使用说明 Directions for use

1. 当待测电流从传感器穿过，即可在输出端测得电流大小。(注意：错误的接线可能导致传感器损坏)

When the current will be measured goes through a sensor, the current will be measured at the output end.

(Note: The false wiring may result in the damage of the sensor)

2. 可按用户需求定制不同额定输入电流和输出电流的传感器。

Custom design in the different rated input current and the output current are available.

### 执行标准 Standards

- UL94-V0.
- EN60947-1:2004
- IEC60950-1:2001
- EN50178:1998
- SJ 20790-2000

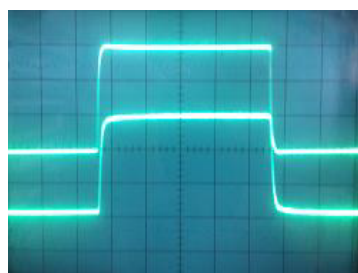
### 总体参数 General date

	数值 Value	单位Unit
工作温度 (TA) Operating temperature	-40 to +85	℃
储存温度 (TS) Storage temperature	-40 to +125	℃
毛重(约) (M) Mass(approx)	15	g

### 特性图 Characteristics chart

脉冲电流信号响应特性

Pulse current signal response characteristic



输入信号

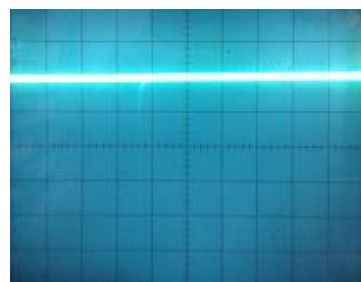
( Input signal )

输出信号

( Output signal )

抗脉冲电压干扰特性

Effects of impulse noise



输出电压

( Output voltage )