

TBC-C104/204 多量程闭环型霍尔电流传感器

TBC-C104/204 Multi-range Closed Loop Mode Hall Effect Current Sensor



TBC-C104/204 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。

TBC-C104/204 multi-range current sensor is a close 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)

参数 Parameter	型号 Type	TBC25C104	TBC50C204	单位 Unit
额定输入电流 (I _{pn}) Rated input (I _{pn})		25	50	A
测量电流范围 (I _p) Measure range (I _p)		0~±60	0~±120	A
测量电阻范围 Measure resister range		200~730 (±15V)	54~250 (±15V)	Ω
匝比 (N _p /N _s) Turns ratio (N _p /N _s)		1-2-3:2000	1-2-3-4:2000	
额定输出电流 (I _{sn}) Rated output (I _{sn})		±12.5 ±0.5% (I _p =±I _{pn})	±25 ±0.5% (I _p =±I _{pn})	mA
电源电压 Supply voltage		±15 ±5%		V
功耗电流 Power consumption		20+I _p X(N _p /N _s)		mA
零点失调电流 Zero offset current	@I _p =0	≤±0.2		mA
失调电流温漂 Offset current drift	@ -40°C~+85°C	≤0.5		mA
响应时间 Response time	@50A/μ S, 10%-90%	<1		μs
线性度 Linearity	@I _p =0-±I _{pn}	≤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
带宽 (-3dB) Bandwidth(-3dB)		DC...100		KHz
次级线圈电阻 @70°C Secondary coil resister		200	180	Ω

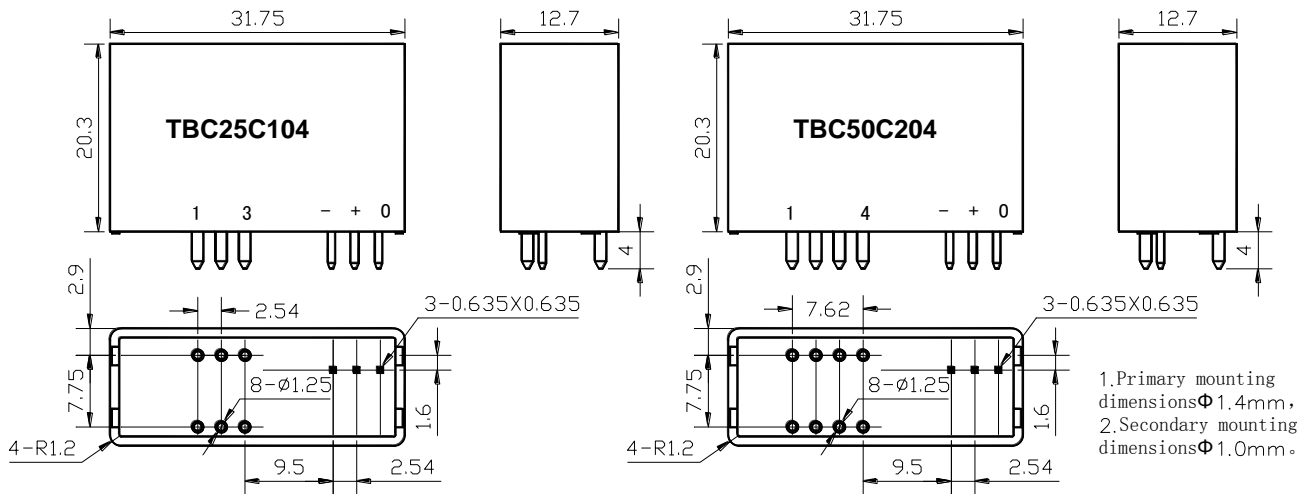
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应用 Applications

- 变频调速系统
Variable speed drives
- 电焊机
Welding machine
- 通讯电源
Battery supplied applications
- 不间断电源 UPS
Uninterruptible Power Supplies (UPS)
- 电化学
Electrochemical

结构参数 Mechanical dimension (for reference only)



- Remarks:
1. All dimensions are in mm.
 2. General tolerance $\pm 1\text{mm}$.

接线图 Pin connections

初级匝数 Primary turns	额定电流 Rated current IPN (A)	额定输出 Rated output IS (mA)	初级阻抗 Primary resistor [mΩ]	初级连接 Pins connections	
				TBC25C104	TBC50C204
1	25, 50	12.5, 25	0.05		
2	12, 24	12, 24	0.20		
3	8, 16	12, 24	0.48		
4	12	24	1.00		

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使用说明 Directions for use

1. 当待测电流从传感器输入脚流过，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	符号 Symbol
工作温度 Operating temperature	-40 to +85	°C	TA
储存温度 Storage temperature	-40 to +125	°C	TS
毛重(约) Mass (approx)	15	g	M

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)