

Rongtech Industry (ShangHai) Inc.,

RTC50H5 Series Multi-range Closed Loop Mode Hall Effect Current Sensor

Rongtech®



RTC50H5 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。
RTC50H5 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)						
参数 Parameter	型号 Type	RTC06H5	RTC15H5	RTC25H5	RTC50H5	单位 Unit
额定输入电流 (I _{pn}) Rated input (I _{pn})		6	15	25	50	A
测量电流范 (I _p) Measure range (I _p)		±12	±30	±50	±100	A
次级匝 数 (N _s) Secondary turns (N _s)		960±1	960±1	1200±1	1200±1	T
内接取样电阻 Internal resister		25±0.1%	10±0.1%	7.5±0.1%	3.75±0.1%	Ω
额定输出电压 (V _{sn}) Rated output (V _{sn})	I _p =±I _{pn}	±0.625±0.5%				V
电源电压 Supply voltage		+5±5%				V
功耗电流 Power consumption		≤15+I _p /N _s				mA
零点电压 Zero voltage	@ I _p =0	1.65±0.5%				V
零点电压温漂 Zero voltage drift	@ -40~+105°C	≤±0.05				mV/°C
输出电压温漂 output drift	@ -40~+105°C	≤±0.05				mV/°C
线性度 Linearity	@ I _p =0-±I _{pn}	≤ 0.1				%FS
总精度 Total precision		≤±0.7				%
di/dt 跟随精度 di/dt accurately followed		>50				A/μS
响应时间 Response time	@ I _p =I _{pn} , 50 A/μS, 10%-90%	<500				nS
带宽 Bandwidth	@ -1db	DC~200				KHZ
绝缘电压 Galvanic isolation	@ 50HZ, AC, 1min	2.5				KV

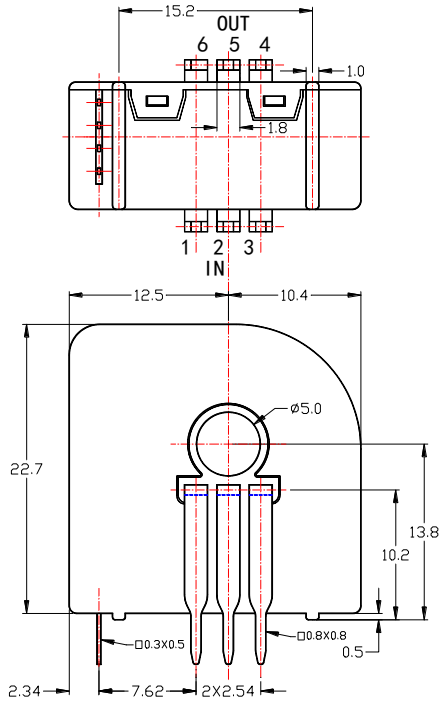
应用 Applications

1. 交流变速驱动器 AC variable speed drives
2. 直流电机驱动静态转换器 Static converters for DC motor drives
3. 通讯电源 Battery supplied applications
4. 不间断电源 Uninterruptible Power Supplies (UPS)
5. 开关电源 Switched Mode Power Supplies (SMPS)
6. 电焊机 Power supplies for welding applications
7. 光伏产品 Solar inverters

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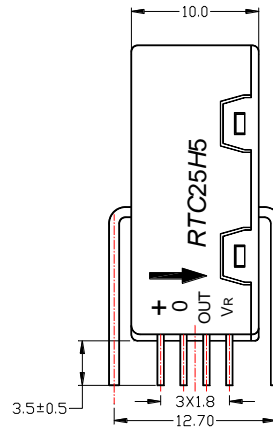
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结构参数 Mechanical dimension (for reference only)

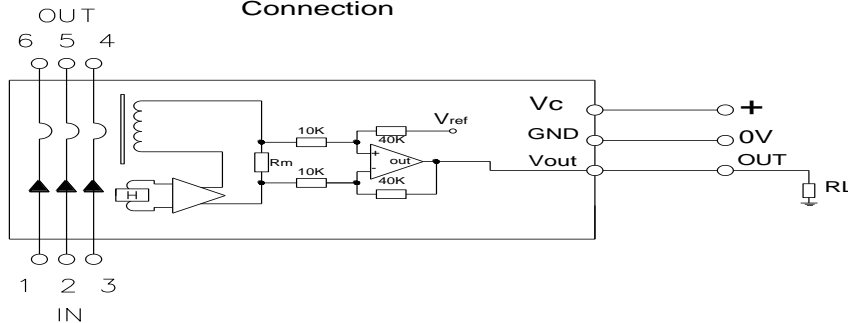


Terminal Pin Identification

- +..... +5V
- 0..... 0V
- OUT.....Output
- VR.....2.5V(in/out)



Connection



Remarks:

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

接线图 Pin connections

匝数 Turns	额定电流 IPN (A) Rated current	额定输出电压 Vo (V) Rated output	初级电阻[mΩ] Primary impedance	初级电感[μH] Primary inductance	连接点 Connected points
1	± 6 (± 15 , ± 25 , ± 50)	1.65 ± 0.625	0.18	0.013	
2	± 3 (± 7.5 , ± 12.5 , ± 25)	1.65 ± 0.625	0.81	0.05	
3	± 2 (± 5 , ± 8.3 , ± 16.6)	1.65 ± 0.625	1.62	0.12	

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执行标准 Standards

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

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压大小。(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 voltage 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压的传感器。
Custom design in the different rated input current and the output voltage are available.

总体参数 General date

	数值 Value	单位 Unit	符号 Symbol
工作温度 Operating temperature	-40 to +105	°C	TA
储存温度 Storage temperature	-40 to +125	°C	TS
毛重(约) Mass (approx)	10	g	M

特性图 Characteristics chart

脉冲电流信号响应特性

Pulse current signal response characteristic

抗脉冲电压干扰特性

Effects of impulse noise



输入电流-输出电压特性

Primary Current (I_p)--Output

