Rongtech Industry (ShangHai) Inc.,

RTC50HR5 Series Multi-range Closed Loop Mode Hall Effect Current Sensor

RTC50HR5 series multi-range current sensor is a closed loop device based on the principle of the hall effect and null balance method,it isolation between primary and secondary, It provides accurate electronic measurement of DC,AC or pulsed currents.

Electrical data(Ta=25℃±5℃)

Parameter \ Type	RTC06HR5	RTC15HR5	RTC25HR5	RTC50HR5	Unit
Rated input (Ipn)	6	15	25	50	A
Measure range(Ip)	19.2	48	80	150	A
Secondary turns	960±1	1200±1	1000±1	1000±1	
Internal measuring resister	100±0.1%	50±0.1%	25±0.1%	12.5±0.1%	Ω
Rated output voltage	0.625±0.5%	0.625±0.5%	0.625±0.5%	0.625±0.5%	V
Supply voltage	+5±5%				V
Power consumption	≤20+Ip/Ns				mA
Zero voltage	@ Ip=0	2.5±0.5%			V
Offset voltage drift	@ -40～+85℃	≤±0.5			mV/℃
output drift	@ -40～+85℃	≤±0.5			mV/℃
Linearity	@ Ip=0-±Ipn	≤0.1			%FS
Total precision	≤±0.7				%
di/dt accurately followed	＞50				A/μS
Response time	@ Ip=Ipn, 50 A/μS ,10%-90%	＜500			nS
Bandwidth	@ -1db	DC～200			KHz
Galvanic isolation	@ 50HZ,AC,1min	2.5			KV

Applications

1. AC variable speed drives
2. Static converters for DC motor drives
3. Battery supplied applications
4. Uninterruptible Power Supplies (UPS)
5. Switched Mode Power Supplies(SMPS)
6. Power supplies for welding applications

Standards

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

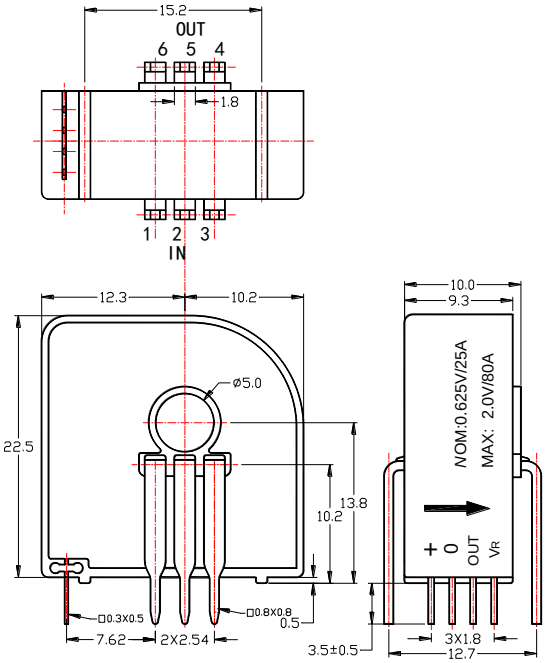
General date

	Value	Unit	Symbol
Operating temperature	-40 to +85	°C	TA
Storage temperature	-40 to +125	°C	TS
Mass(approx)	10	g	M

Directions for use

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

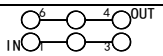
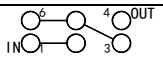
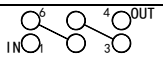
Mechanical dimension(for reference only)



Remarks:

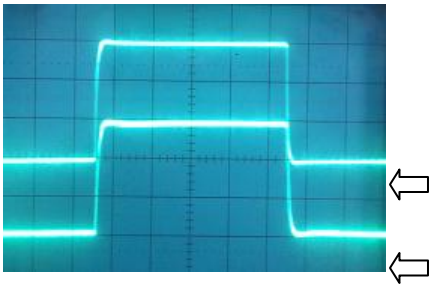
1. All dimensions are in mm.
2. General tolerance ±1mm

Pin connections

Turns	IPN (A) Primary rated current	Vout (V) Rated putout Voltage	[mΩ]Primary impedance	[uH]Primary Inductance	Connect point
1	±6 (±15, ±25, ±50)	2.5±0.625	0.18	0.013	
2	±3 (±7.5, ±12.5, ±25)	2.5±0.625	0.81	0.05	
3	±2 (±5, ±8.3, ±16.6)	2.5±0.625	1.62	0.12	

Characteristics chart

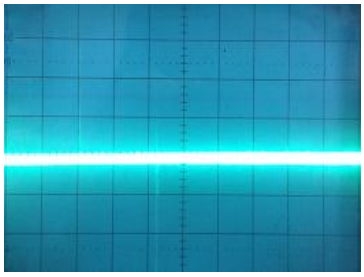
Pulse current signal response characteristic



(Input signal)

(Output signal)

Effects of impulse noise



(Output voltage)

Input current-Output Voltage characteristic