

Rongtech Industry (ShangHai) Inc.,

RTC200P3 Series Three-phase High Precision Closed Loop Mode Hall Effect Current Sensor

Rongtech®



The RTC200P3 Series 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, the size of primary not affect test precision, no matter the location of primary in the hole of current sensor, It can really measure resolution 1000:1 and it uses for precision measurement of DC, AC and pulse current.

Electrical data (Ta=25°C ± 5°C)					
Type Parameter	RTC25P3	RTC50P3	RTC100P3	RTC200P3	Unit
Rated input (I _{pn})	2-25	5-50	10-100	20-200	A
Measure range (I _p)	75 (±18V, 200Ω)	150 (±18V, 82Ω)	300 (±18V, 33Ω)	600 (±18V, 10Ω)	A
Turns ratio (N _p /N _s)	1:1000	1:1000	1:1000	1:2000	
Measure resister with ±12V	@±25A _{max} 390 (max)	@±50A _{max} 200 (max)	@±100A _{max} 91 (max)	@±200A _{max} 82 (max)	Ω
	@±75A _{max} 120 (max)	@±150A _{max} 50 (max)	@±300A _{max} 15 (max)	@400A _{max} 10 (max)	Ω
Measure resister with ±15V	@±25A _{max} 510 (max)	@±50A _{max} 270 (max)	@±100A _{max} 120 (max)	@200A _{max} 100 (max)	Ω
	@±75A _{max} 150 (max)	@±150A _{max} 68 (max)	@±300A _{max} 25 (max)	@600A _{max} 2.0 (max)	Ω
Rated output (I _{sn})	2 (2A) - 25 (25A) ±0.2%FS	5 (5A) - 50 (50A) ±0.2%FS	10 (10A) - 100 (100A) ±0.2%FS	10 (20A) - 100 (200A) ±0.2%FS	mA
Supply voltage	±12~±18				V
Power consumption	≤40+3XI _p (N _p /N _s)				mA
Offset current	@I _p =0	≤±0.1			mA
Offset drift	@ -40°C~85°C	≤±0.5			mA
Linearity	@I _p =±I _{pn}	≤0.1			%FS
Galvanic isolation	@ 50Hz, AC, 1min	3			KV
di/dt	>200				A/μs
Response time	@100A/μS, 10%-90%	<0.5			us
Bandwidth	@ -3db	DC~250			KHz
coil resister	30	25	20	45	Ω

Applications

1. Variable speed drives
2. Welding machine
3. Battery supplied applications
4. Uninterruptible Power Supplies (UPS)
5. Electrochemical

Standards

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

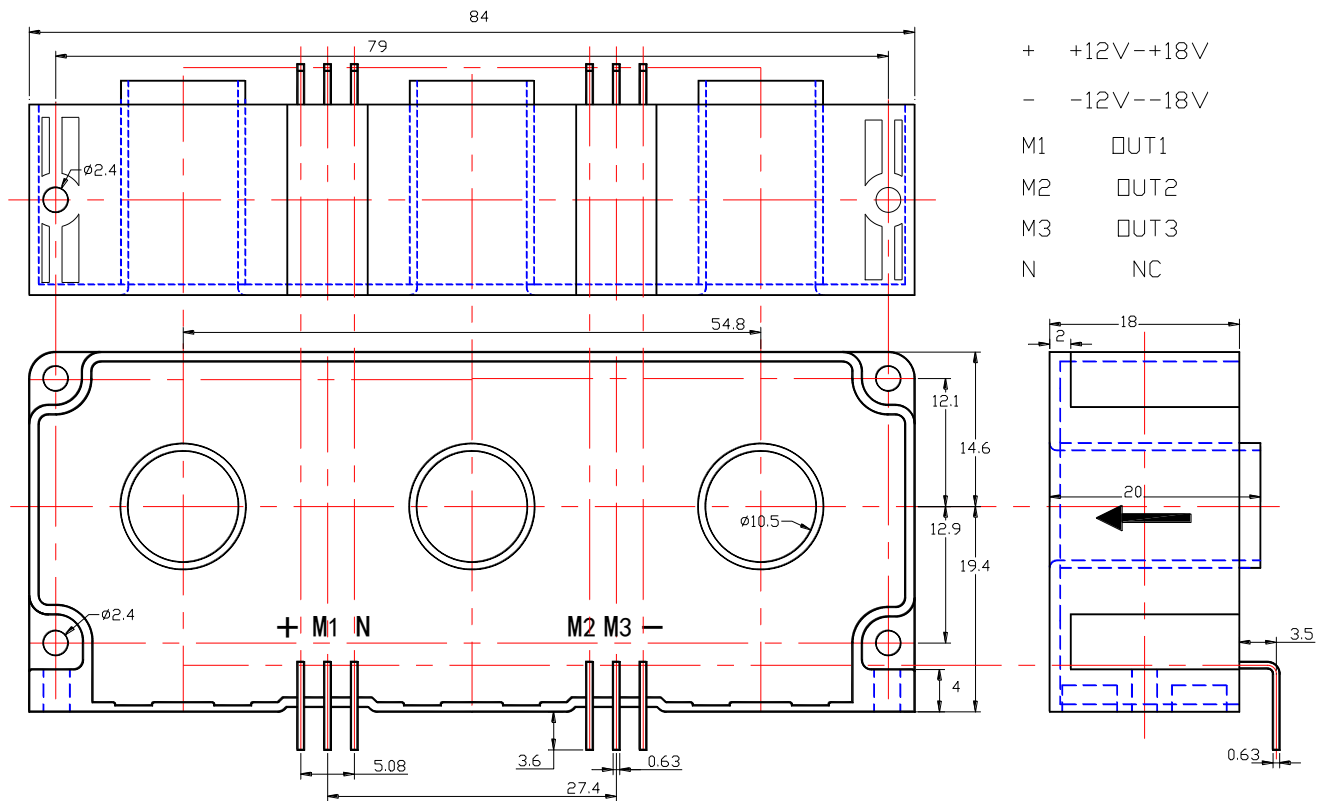
General date

	Value	Unit	Symbol
Operating temperature	-40 to +85	°C	TA
Storage temperature	-40 to +125	°C	TS
Mass (approx)	50	g	M

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Mechanical dimension(for reference only)



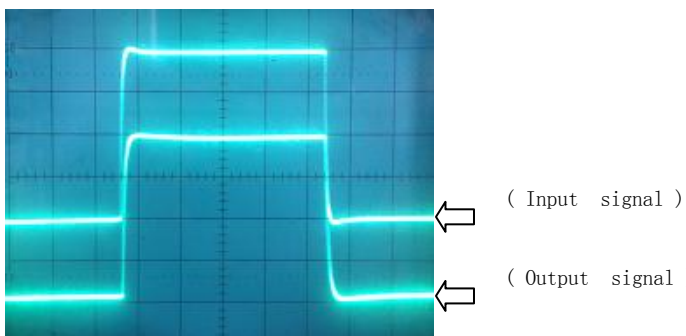
Remarks: 1. All dimensions are in mm. 2. General tolerance $\pm 0.1\text{mm}$

Directions for use

1. Is will be in a forward direction when the I_p flows according to the direction of the arrowhead.
2. The primary conductor should be $\leq 120^\circ\text{C}$.
3. The dynamic performance (di/dt and the response time) is the best when the primary hole is fully filled with the bus bar.

Characteristics chart

Pulse current signal response characteristic



Effects of impulse noise

