

Rongtech Industry (Shanghai) Inc.,

RTC100LA2 Series Closed Loop Mode Hall Effect Current Sensor



The RTC100LA2 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. It provides accurate electronic measurement of DC, AC or pulsed currents.

Electrical data (Ta=25°C ±5°C)						
Type Parameter	RTC025LA2	RTC50LA2	RTC100LA2	RTC125LA2	RTC100LA22	Unit
Rated input (I _{pn})	25	50	100	125	100	A
Measure range (I _p)	50 ±15V, 180Ω	100 ±15V, 80Ω	200 ±15V, 20Ω	200 ±15V, 20Ω	200 ±15V, 47Ω	A
Turnsratio (N _p /N _s)	1:1000	1:1000	1:1000	1:1000	1:2000	
Coil resister	45.00	40.00	40.00	40.00	80.00	Ω
Rated output (I _s)	25 ± 0.5%	50 ± 0.5%	100 ± 0.5%	125 ± 0.5%	50 ± 0.5%	mA
Measure resister (R _M)	10~200					Ω
Supply voltage	±12~±15					V
Power consumption	20+I _p X (N _p /N _s)					mA
offset current	@I _p =0	≤ ±0.2				mA
Offset current drift	@ -40~+85°C	≤ ±0.5				mA
Linearity	@I _p =0-±I _{pn}	≤ 0.1				%FS
Bandwidth	@ -3dB	0~200				KHz
Response time	@100A/μ S, 10%-90%	≤ 1				μs
Galvanic isolation	@ 50HZ, 1min	3.0				KV

Applications

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

Standards

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

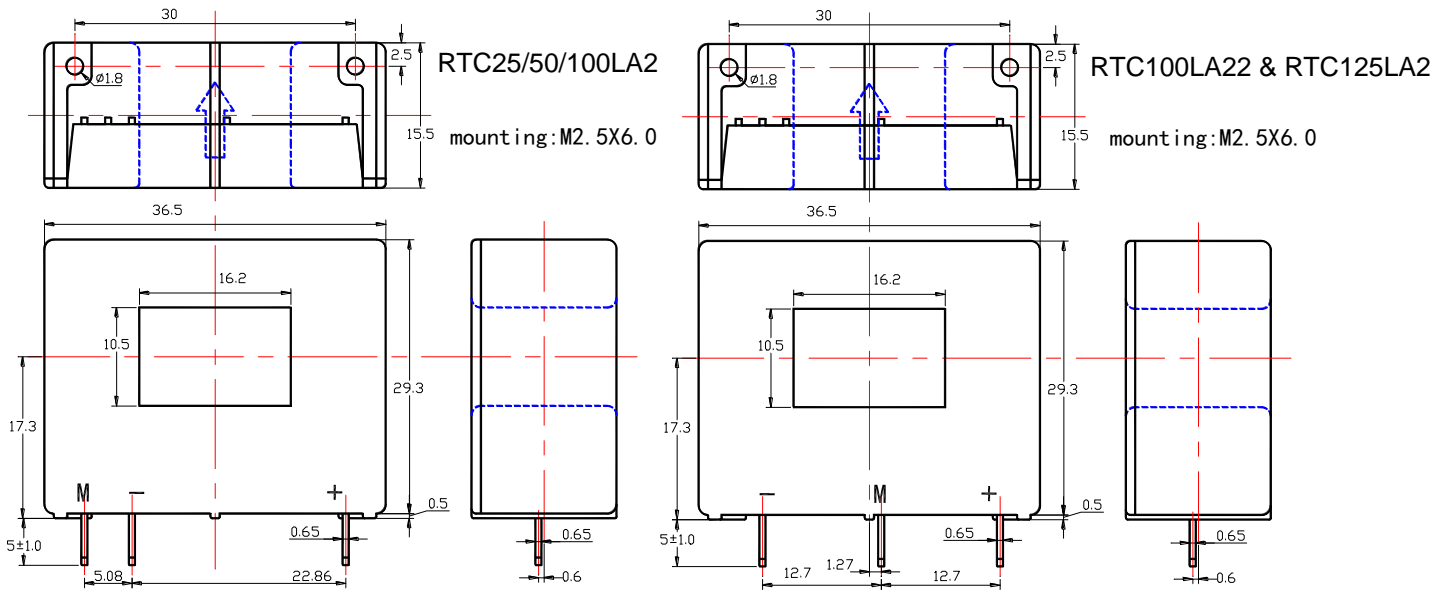
General date

	Value	Unit	Symbol
Operating temperature	-40 to +85	°C	TA
Storage temperature	-40 to +125	°C	TS
Mass (approx)	25	g	M

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Mechanical dimension (for reference only)



Remarks: 1. All dimensions are in mm.

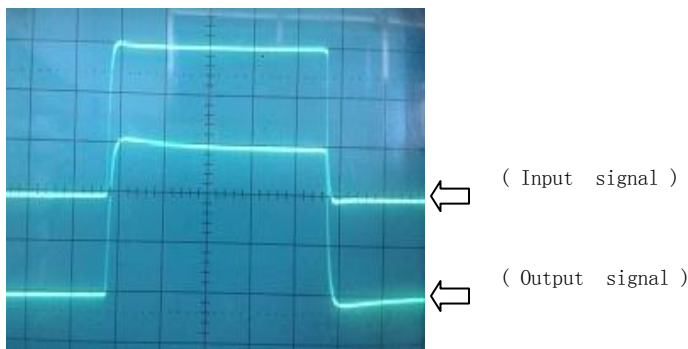
2. General tolerance $\pm 1\text{mm}$.

Directions for use

1. When measure current flows according to the direction of the arrowhead, Output terminal gets the same phase current.
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.
4. The primary turns should be at the top of the sensor for the best magnetic coupling.
5. 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)
6. Custom design in the different rated input current and the output current are available.

Characteristics chart

Pulse current signal response characteristic



Effects of impulse noise

