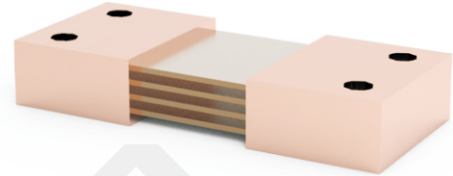


Precision Shunt, Rated Current 1000A, Standard Tolerance 0.1% Low Thermal EMF, TCR 20ppm/°C

Shunt works at very high current, so the temperature of surface rises sharply which will cause the change of resistance. For precision measurement, we must choose shunts which are with low TCR, low PCR and low Thermal EMF.

Resi launched the precision shunt series which can reach 0.1% tolerance from 10% to 100% of rated current. The maximum TCR is 20ppm/°C in the range of -20°C to 120°C. Besides, the shunt has extremely stability with low PCR and low Thermal EMF



Dimensions (mm)							
Model	Resistance	Tolerance	TCR	Output Voltage	Rated Current	Max. Current	Weight
RTCS1000B050Z00	50μΩ	±0.1%	±20ppm	50mV	1000A	1200A	≤1.7Kg

Performance		
Test	Test Method	Standard
Optimum Surface Temperature	Measured at the center of metal strip	+30°C~+90°C
Operating Temperature Range	Measured at the center of metal strip	-40°C~+140°C
Maximum Surface Temperature	Measured at the center of metal strip	140°C
Thermal EMF	When reach heat balance, disconnect the circuit and test EMF	<0.05 μV/°C
TCR	Measured temperature range of -25°C to +120°C, 25°C ref.	≤±20ppm/°C
Current Coefficient	10%-100% Rated Current Test	≤±5ppm/A
Short Time Overload	2.25 rated voltage for 5 seconds	ΔR≤±0.05%
Long Time Overload	1.2 rated voltage for 2 hours, 25°C	ΔR≤±0.1%
Thermal Equilibrium Time	Measured at the center of metal strip when resistance won't change	<5min

Part Number Information														
Example: RTCS1000B050Z00 (RTCS 1000A ±0.1% 50mV Identification Code)														
R	T	C	S	1	0	0	0	B	0	5	0	Z	0	0
Series RTCS			Rated Current 1000=1000A			Tolerance B=±0.1%			Output Voltage 050=50mV			Identification Code		

*Better tolerance can be customized.
*60mV, 100mV can be customized.

Custom Service for Your Application (CTS Service)

Each shunt requires precise trimming of value. The main challenge in the trimming process is to reach tight tolerance both at 10% of rated current and 100% rated current. It is known that the temperature curve of Manganin material is not linear, so to adjust the surface temperature of metal strip to the optimum surface temperature is the only way to achieve tight tolerance .

CTS is a free customized trimming service. It will estimate customer's working condition and the average surface temperature of the shunt, and then provides the best resistance for precision measurement. CTS can significantly improve the tolerance. Each CTS product will be assigned with a unique identification code.

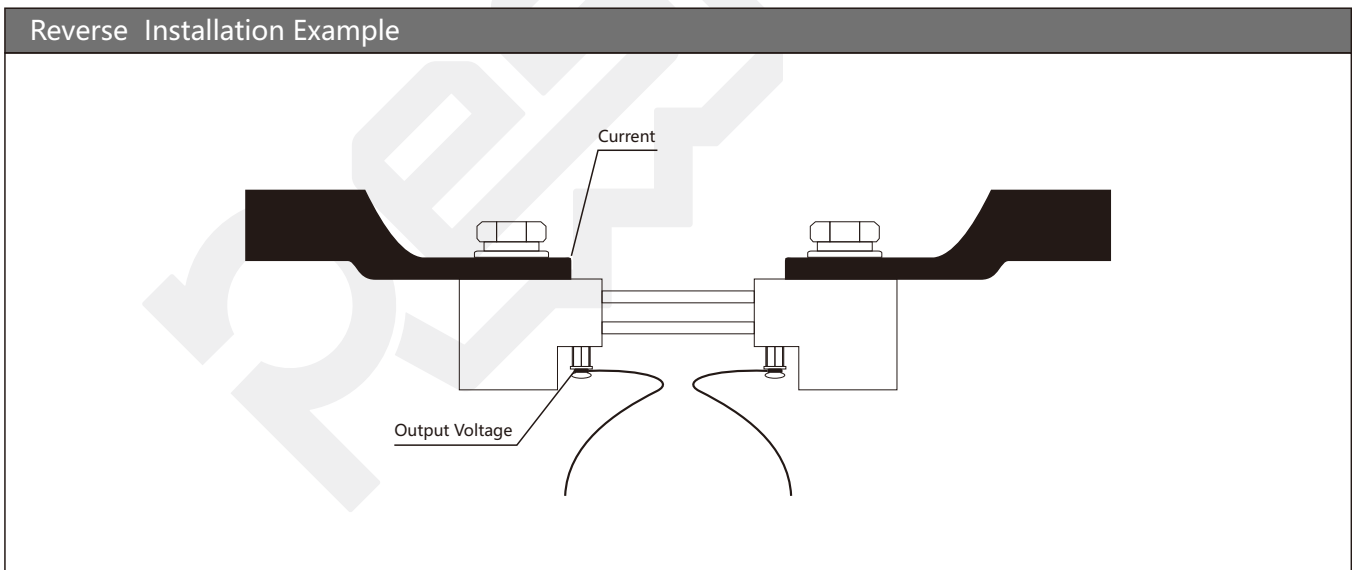
We will provide test reports for every CTS product for free.

If you are interested in CTS service, please contact our sales engineers with below required information.

Minimum Operating Current		Minimum Ambient Temperature	
Maximum Operating Current		Maximum Ambient Temperature	
Working Current Curve		Ambient Temperature Curve	
Final Product		Installation Method	
Final Product Working Condition		Heat Dissipation Condition	
Design Lifetime		Installation Notes or Picture	
Note			

Reverse Installation Advice

During installing the shunt, the copper head shall be in close contact with the busbar and the contact area between the copper head and the busbar shall be enlarged. If conditions permit, the size of the bus bar shall be increased as much as possible and the smoothness of the busbar shall be ensured.



According to the IEEE standard, the operating current should not be higher than 2/3 of the rated current under the normal conditions.

Derating is required when the ambient temperature is higher than 40 °C to avoid damaging the shunt.

Air cooling, water cooling, increased physical size, and installation of heat sinks can be used to reduce operating temperature.