

## MULTIPLE CURRENT SHUNT – TEMPERATURE STABILIZED

- *IMPROVED ACCURACY*
- *WIDE RANGE: <0.1 A TO 300 A*
- *HIGH IMMUNITY FROM AMBIENT TEMPERATURE CHANGES*
- *DC OR AC USE*
- *TRANSPORTABLE*



Model MCS Temperature Stabilized Multiple Current Shunt

Ohm-Labs' innovative model MCS Multiple Current Shunt is designed to reduce the main uncertainty in accurate current measurement.

Traditional passive shunts generate heat under power. Heat changes their resistance, and thus their voltage output. Various strategies – finned designs, even adding fans – have been tried to reduce errors from self-heating.

The MCS thermally bonds cooling modules to the shunts themselves. A thermistor embedded in the shunt monitors temperature. As the temperature rises with the application of current, the cooling modules remove heat, reducing the major source of uncertainty in current measurement.

The 100 amp shunt in the MCS has been tested to change less than 33 ppm (0.0033%) across its full current range. This is significantly lower than the change of a (+/-0.01%) precision 100A shunt.

A set of 10 K thermistors allows the user to continuously monitor the temperature of each shunt.

All shunts in the MCS are of bifilar construction, assuring conformance between DC and AC measurement.

ISO 17025 accredited, NIST traceable calibration is included through the full current range of each shunt.

For less than the cost of five separate precision shunts, the MCS provides superior performance and greater versatility.

### MCS Condensed Specifications

Current (I)	Resistance in Ohms	Volts at Rated I	Accuracy in %
3 A	1	3	<0.005
10 A	0.1	1	
30 A	0.01	0.3	
100 A	0.001	0.1	<0.01
300 A	0.000 1	0.03	<0.05

Stated accuracy is at time of manufacture  
 Temperature Coefficient of Resistance: <5 ppm / °C  
 TCR is change in resistance from 15° to 40°C  
 Power coefficient (ppm/W): 1Ω <1; 0.1Ω <2; 0.01Ω <5;  
 0.001Ω <10; 0.000 1Ω <30  
 12-month stability typically <10 ppm  
 Power: 100-240 VAC, 50/60 Hz  
 Physical: 471 x 147 x 463 (17.75" x 5.25" x 18.25") 3U  
 Weight: 20 kG / 44 #  
 Warrantee: 2 years  
 Accessories: Power cord, spare fuses  
 Options: Current & potential cables, transit container

For traditional, passive shunts, please see our CS-series, or our line of low resistance standards.

