

MULTIPLE CURRENT SHUNT – TEMPERATURE STABILIZED

- *IMPROVED ACCURACY*
- *WIDE RANGE – 1 A TO 300 A*
- *HIGH IMMUNITY FROM AMBIENT TEMPERATURE CHANGES*
- *DC OR AC USE*
- *TRANSPORTABLE*



Model MCS Temperature Stabilized Multiple Current Shunt

With new features, Ohm-Labs' model MCS Multiple Current Shunt for the first time overcomes much of the chief problem with 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 its 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	<0.001
10 A	0.1	1	<0.002
30 A	0.01	0.3	<0.005
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.

