



# CS-Series Precision Current Shunts Operating Instructions

## General:

Ohm-Labs CS-Series precision shunts are low resistance standards used primarily for accurate measurement of current using the potentiometric method. They may be used as comparison standards for resistance if the specified accuracy is satisfactory. The stated resistance is that between the potential terminals, measured in the 4-wire method.

CS-Series shunts up to 300 amperes consist of one or more bifilar strips of resistance alloy, secured within a finned aluminum extrusion. The housing is designed to dissipate heat at higher currents.

The CS-Series are designed to operate at room temperature up to continuous full rated current without damage.

## Precautions:

Connect shunt in series with the load, on the 'ground' or 'low' side of the line, especially if hazardous voltages may be in use. Insure that all connections are secure before applying current.

## Connections:

Current shunts must always be used as four-terminal resistors.

Connect current to the larger binding posts; measure voltage across the smaller binding posts. Passing current through the potential terminals can damage or destroy the shunt. The current path extends into the shunt beyond the binding posts. **Do not over-tighten the connections; excessive torque on the binding posts will not improve performance.** Finger tight plus 1/8 turn is adequate. The current and voltage terminals are electrically isolated from the case; the case may be grounded via the green binding post.

## Maintenance, Service and Calibration:

Other than occasional cleaning with a mild detergent solution, no maintenance is required. The CS-Series contain no user serviceable parts. If repair is required, return to the manufacturer. Periodic re-calibration at 20%, 50% and 100% of rated current is recommended.

## Specifications:

Model	Rated Amps	Rated Volts	Resistance	Accuracy*	Case
CS-0.1	0.1	1	10	0.005 %	CS 10
CS-1	1	1	1	0.005 %	
CS-5	5	1	0.2	0.01 %	
CS-10	10	1	0.1	0.01 %	
CS-20	20	1	0.05	0.01 %	CS 50
CS-50	50	0.5	0.01	0.01 %	
CS-100	100	0.1	0.001	0.01 %	CS 300
CS-200	200	0.2	0.001	0.02 %	
CS-300	300	0.03	0.000 1	0.03 %	
Case	Dimensions cm (inch)			Weight kg (pounds)	
CS 10	127 x 165 x 57 (5" x 6.5" x 2.25")			1 kg (2 #)	
CS 50	152 x 251 x 51 (6" x 9.875" x 2")			2 kg (4 #)	
CS 300	305 x 251 x 76 (12" x 9.875" x 3")			3 kg (6 #)	
* Stated accuracy is through full current range at time of manufacture. Temperature coefficient of resistance (TCR) for CS-0.1 through CS-200: <5 ppm / °C; CS-300 <20 Special ranges and values are available upon request.					

## Warranty:

The CS-series current shunts are warranted against defects in manufacture for five years from the date of shipment. For complete warranty terms, please see our website.