

General:

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

CS shunts up to 300 amperes consist of one or more bifilar strips of Evanohm, secured between finned aluminum extrusions. The extrusions are designed to dissipate heat during use at higher currents. CS shunts above 300 amperes consist of several parallel strips of Manganin, terminated in copper bus blocks.

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

Precautions:

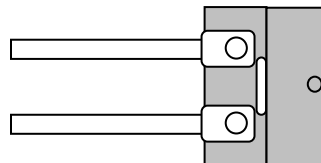
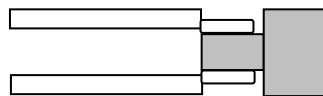
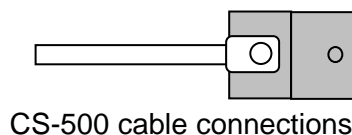
Connect shunt in series with the load, on the 'ground' or 'low' side of the line, especially if hazardous voltages may be in use. Insure that all connections are secure before applying current.

For higher current shunts, insure that the current leads are oriented in-line with the shunt. Significant measurement errors can result from improper or unbalanced current connections.

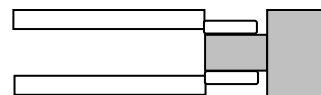
Connections:

These shunts must always be used as four-terminal resistors. The current circuit is connected to the heavy binding posts and potential measurement to the smaller posts. Passing current through the potential terminals can damage or destroy the shunt.

Note: Current connections to CS-500 and CS-1000 shunts must be geometrically balanced for proper operation. If using bus bars, secure with evenly torqued bolts, and extend the bus bar a minimum of six inches back from the end of the CS block. Connect current cables as shown below:



CS-1000 cable connections



Maintenance and Service:

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.

Calibration:

Periodic re-calibration at 20%, 50% and 100% of rated current is recommended.



CS-Series Precision Current Shunts Operating Instructions

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 10
CS-5	5	1	0.2	0.01 %	CS 10
CS-10	10	1	0.1	0.01 %	CS 10
CS-20	20	1	0.05	0.01 %	CS 50
CS-50	50	0.5	0.01	0.01 %	CS 50
CS-100	100	0.1	0.001	0.01 %	CS 300
CS-200	200	0.2	0.001	0.02 %	CS 300
Typical temperature coefficient of resistance (TCR) for CS-0.1 through CS-200: <5 ppm / °C					
CS-300	300	0.03	0.0001	0.03 %	CS 300
CS-500	500	0.5	0.001	0.05 %	Open element
CS-1000	1000	0.1	0.000 1	0.05 %	
Typical temperature coefficient of resistance (TCR) for CS-300 through CS-1000: <25 ppm / °C					
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 #)		
CS 500	915 x 140 x 125 (36" x 5.5" x 5")		13 kg (30 #)		
CS 1000	635 x 127 x 114 (25" x 5" x 4.5")		20 kg (44 #)		
* Stated accuracy is at time of manufacture. 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.