Product Application Notice

Telect

Number 073114-001

Effected Systems:

IOE-24S-A203
IOE-32S-A201
IOE-32S-A202
IOE-40S-A205

Shunt Calibration

To properly calibrate any shunt the same procedures must be followed regardless of the type or brand of software being used. In the following procedures, the directions are based on Eaton's DCTools or its web based version for the SC200 system controller.

For PCB based shunts that are equipped with tuning pots:

1) Set the system gain to 6500 (ratio)
2) Insure via 2% or better accuracy clamp on amp meter (tolerance is per scale) that there is actual "0" current on the shunt
3) By using the tuning pot adjust the shunt as close to actual "0" as read by the SC200 in the Value column for the specific analog channel that the shunt reports on. Actual "0" means a value of 2 to 3 0's to the right of the decimal point minimum. If the Pot will not adjust to a value equal to .000, adjust to the lowest value possible – record this value.
4) If in step 3 above a value other than absolute 0 was the result, enter whatever the recorded value was in step 3 into the offset column for this channel – repeat fine adjustment via the pot to the lowest value possible again.
5) Once the lowest value is abstained – absolute "0" – apply a load equal to ½ of the shunt's rating to the shunt.
6) Adjust the shunt's gain (ratio) to the absolute best value to match the clamp on amp meter's value to at least 2 decimal points.
7) Remove the load and verify that the circuit returns to true "0".
8) Apply step loads from 10% through 100% to the shunt and make sure that the reported values remain within 2 to 3% accurate (compared to the hand held clamp on amp meter) from full load down to 0 load.

Complete

For all other fixed value none tunable shunts perform the same procedure as above less the tunable pot portion.