

Technical Support Bulletin: S3-FCCC-02

**Field Calibration of the BVS-S3 Current Clamp with a
910X20-X5/X6 Motherboard**

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This procedure outlines the steps required to calibrate the current clamp in the BVS-S3.

ELECTROCUTION HAZARD!

High voltage is present within the BVS chassis. The voltage sensing leads and load current leads carry full battery voltage. Battery Voltage can be as high as 600Vdc depending on the battery system! If you are not trained to work with high voltage equipment, do not attempt to use this procedure!

Tools required:

Voltmeter
Clamp Meter
Current Coil
Current Controlling Device
Adjustment Screwdriver

Procedure:

1. Remove the load leads from the Hypertronics connectors in the upper, left corner of the unit.
2. Remove the AC power plug from the chassis.
3. Remove the chassis cover.
4. Ensure the jumpers are in the correct positions on the motherboard for the models that have the current sensor circuitry on the motherboard. See Table 1 for jumper settings.
5. Insert the plug from the current controlling device into the AC power connector. Then piggy-back the AC power plug.
6. Place the current clamp and clamp meter around the coil.
7. Attach the voltmeter leads to the current (CRNT) test pin and ground pin. Set the meter for mV. See Figure 1 for location of pins.
8. Adjust the offset pot to 0.000 V +/-0.001 V. See Figure 1 for location of pot.
9. Turn the Current Controlling Device on and adjust the current to correspond with the Current Clamp being tested. See Table 1
10. Adjust the scale pot to the voltage that corresponds with the Current Clamp being tested.
NOTE: The current measurement should be negative. See Diagram 1 for location of pot and Table 1 for voltage calibration.
11. Turn off the Current Controlling Device and adjust the offset pot to 0.000 V +/-0.001 V again.
12. Repeat the scale and offset adjustments until the measurements fall within the tolerances.
13. Turn the Current Controlling Device on and adjust the current to the threshold current level (low output trigger point). See Table 1 for appropriate level.
14. Move the voltmeter lead from the current test pin to the hit (HIT) test pin. See Figure 1 for location of pin.
15. Adjust the level pot to the point where the logic switches. See Figure 1 for location of pot.

16. Check the low output trigger point for the appropriate current. The logic should switch within 1 Volt of the trigger point.
17. Check the high output trigger point for the appropriate current. The logic should switch within 1 Volt of the trigger point.
18. When the proper adjustments have been made, replace the chassis cover and insert the load leads in the Hypertronics connector(s).

Table 1: 910X20-X5/X6 MOTHER BD. JUMPER SETTINGS FOR CURRENT CLAMPS

Current Clamp	Hit Set	Hit Reset	Jumper A	Jumper B	Jumper C	Full Current Mult.	Cal Current	Cal Volts	Full Scale Volts
200A	8A	4A	1	1	1	20	25A	0.125V	1.000V
200A	12A	6A	1	1	1	20	25A	0.125V	1.000V
200A	25A	10A	1	1	2	20	25A	0.125V	1.000V
600A	50A	20A	2	2	2	30	100A	0.333V	2.000V
2000A	100A	25A	3	3	3	100	1000A	1.000V	2.000V
2200A	100A	25A	3	3	3	110	1100A	1.000V	2.000V
1200A	50A	20A	4	4	2	60	200A	0.333V	2.000V

*Resistance on motherboard is modified for 3000 A and 4000 A clamps

