

Circuit Board: Bootstrap Power Supply Board

Because it is necessary to power the processor, motor encoder, bridge board drivers, and current shunt amplifiers sub-sea, a power supply is required to convert the bus voltage to 15V, 5V, and 3V. This board is a 15V 2W supply designed with a wide input range (40-400V) for this. The 15V supply is further converted to 3.3V and 5V on-board the Controller board for powering the processor and the motor encoder. The 15V also goes directly to the bridge board and High-voltage measurement board. Because this supply turns on at 40V, the processor will power up at about 1000RPM in the case the batteries are disconnected and control the load on the system appropriately before the generator spins too fast.

This circuit has been prototyped and is operational.

Documentation Included:

- Schematic