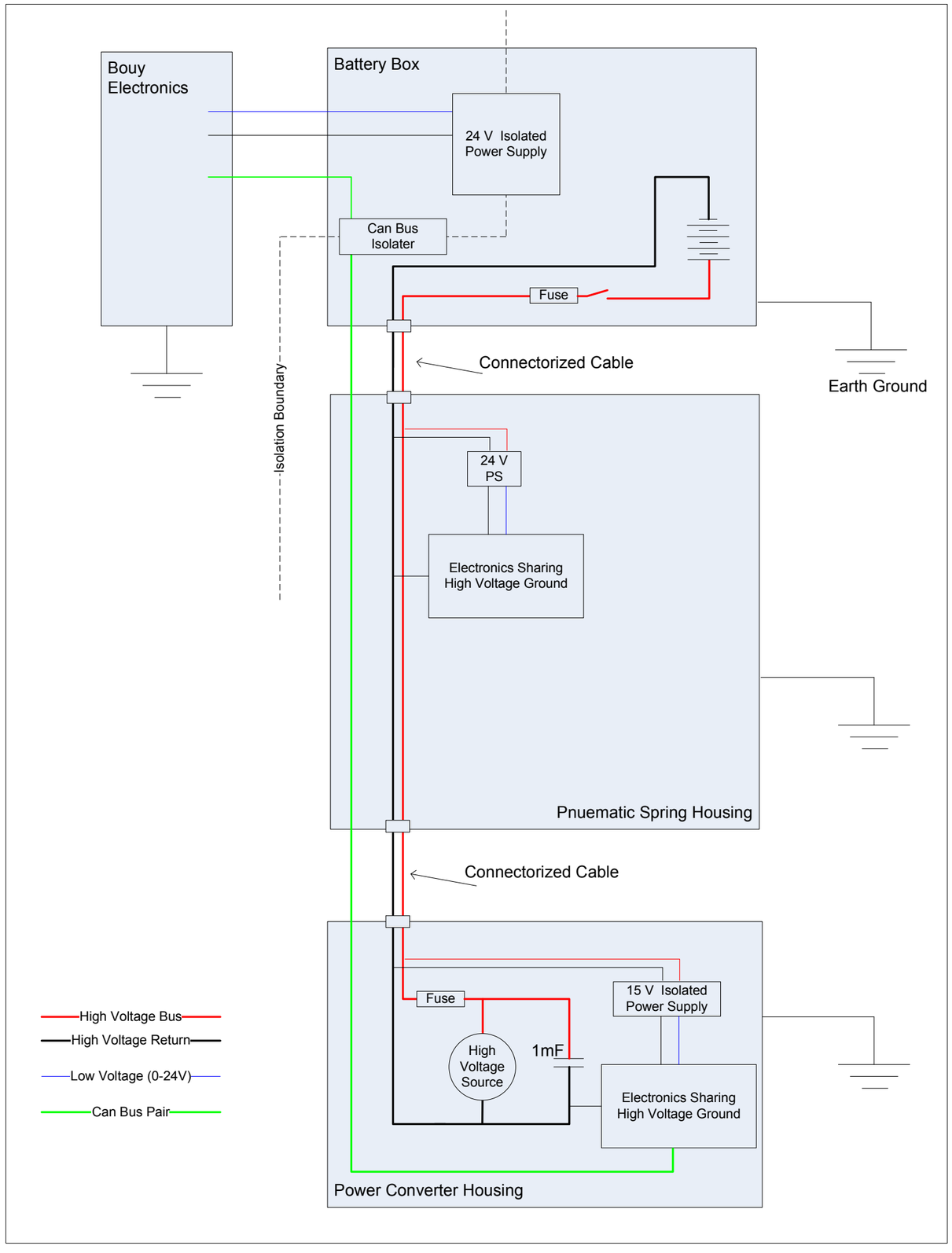

Fault	Effect
HV or HV-Retrun connects to housing or seawater	In this case nothing much happens, the potential of the HV system will shift but no current will flow abnormally.
HV hard shorts to HV-Return	In this case fuses will blow, any fuse on the battery side of the short the short will blow immediately, and any fuse on the generator side of the short will blow when the power converter tries to charge the batteries. With the fuses blown the battery will continue to power the buoy electronics for a time, and the power converter will continue to load the generator and dump power through the load-dump resistor in boot-strap mode (i.e. above ~1000RPM). Load on the PTO will be maintained.
HV and HV-Return short independently to seawater.	This is the most likely fault, resulting from a simple severing of the cable between the PTO and Buoy by fishing activity. If this does not blow the fuses, current will flow through the seawater and burn the wires. The batteries will discharge in this case and the power converter will deliver what power it can to the short, and direct the rest to the load dump in bootstrap mode. Load on the PTO will be maintained.
HV shorts to HV-Return with some resistance.	In the case that the fuses do not blow, the battery will discharge through the short, and the power converter will deliver what power it can into the short up to 330V, at which point the load dump circuit will take over. Load on the PTO will be maintained.
HV or HV-Return becomes an open circuit	In this case no current flows and the power converter will direct all power through the load dump in bootstrap mode. Load on the PTO will be maintained.
HV becomes open circuit and connects to system housings in two different locations, i.e on the buoy, and on the PTO.	This degenerates to fault three or four if the PTO housing and the Buoy housing are bonded together. If they are insulated (due to a plastic bushing as we've been using at the connection), a voltage that is potentially hazerdous to divers could exist between the PTO and the buoy structure, depending upon the resistance of seawater.