

Hazard Identification: High Voltage

The BoNuS RTPC requires four channels of High Voltage, up to 6000 Volts, drawing currents less than one milliampere. These voltages are provided by a CAEN N470 high voltage supply, which can deliver up to 8000 Volts at up to 1 mA current per channel. (At 3000 Volts it can deliver up to 3 mA. This 9 Watt setting represents the maximum power capable of being provided.)

These High Voltages represent a potential hazard to personnel as well as a potential source of ignition.

Hazard Mitigation

Cable and SHV connectors are shielded and meet existing EH&S standards. The operating policy is to turn off the CAEN High Voltages before work occurs around the detector that does not absolutely require the HV. DO NOT attach/remove HV cables when voltages are present on the channels (a red LED above each channel on the power supply indicates the presence of a voltage). Turn off the main HV supply when attaching/removing HV cables.

Because of the compact design of the BoNuS RTPC, the high voltage divider circuits are built on the framework of the detector itself. Hazardous voltages are therefore present near the top and bottom 'ribs' of the detector. Detector work on the bench is performed only with the area carefully posted to warn of the potential hazard. When the detector is installed in Hall-B it will be inaccessible, as it resides within the DVCS solenoid. The power supplies are configured such that current demand above nominal values will cause the high voltage to be automatically shut off.