

Diagram and materials for HV small box

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Attachments: Diagram_and_box_964369BC~1.jpeg (184 KB) ; Diagram_786C52FB-7FC4-46D~1.jpeg (154 KB) ; EEE HV Box Materials.xlsx (16 KB) ; red_blue_boxes_8CA0A6D3-E~1.jpeg (293 KB)

Dear Ian,

I am attaching the list of materials and connection diagram that I produced in Crispin's lab. The list of materials came from Roman Zuyewski who helps Crispin in the lab.

Today I reviewed with you the connection diagram of the small boxes that we normally connect to the MRPCs that we build in Crispin's lab.

As you know we need 2 of these boxes for every chamber, 1 to produce the negative voltage and 1 to produce the positive voltage. The DC-HVDC converters that we use are marked with yellow in the next table. The nice thing about them is that we always supply a normally small positive voltage value and the converter will give us an increased voltage (by a factor of 2000) and depending if we use the Q101N-5 we will get a negative value (blue box) or the Q101-5 we will get the positive value (red box).

For the normal mixture of gas 98/2 C2F4H2/SF6 and a 6 (0.25mm) gaps we need a total voltage of 15kV so a +7.5 kV and -7.5kV then we just need to apply a 3.75V to every box (red and blue) to get the positive and negative 7.5kV for each.

Best Regards,
Cecilia