Power supply for the BMS

Initial proposal: install it in the same rack as the psu for the main tracker (outside the beamline).

pros

- Easy intervention in case of trips.
- Can be left in place when AMBER will run with hadrons (no radiation damage).

cons

- Routing 100m HV and LV cables to reach the farthest BMS is quite expensive (we have ~2km of cables in total: ~ 20k CHF).
- Non negligible drop for the LV requires DCtoDC converter at the BMS site to avoid problems to the electronics.

Power supply for the BMS

Discussion in Liverpool + meeting Themis, Riccardo and Aldo: place the BMS PSU along the beam line, at the location of one of the two BMS stations.

pros

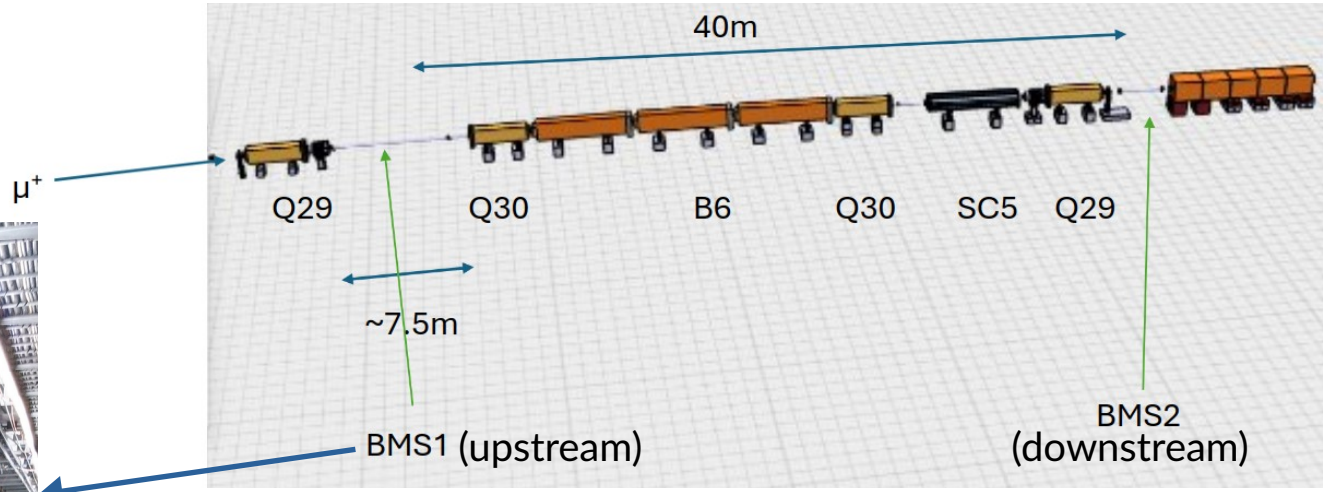
- Cheaper option:
  4xLV + 4xHV (+ spares) ~3m long, to serve the closest BMS
  4xLV + 4xHV (+ spares) ~50m long, to serve the other BMS
- No need of DCtoDC converters, as the LV cables for the tracker are also *O*(50m) long and we don't have a DCtoDC for them.

cons

- No easy access in case of trips.
  Install a switch controlled remotely by ethernet to reset the psu
  Can install a cheap camera wifi connected to monitor the warning lights
- Need to remove it for the future AMBER hadron runs.

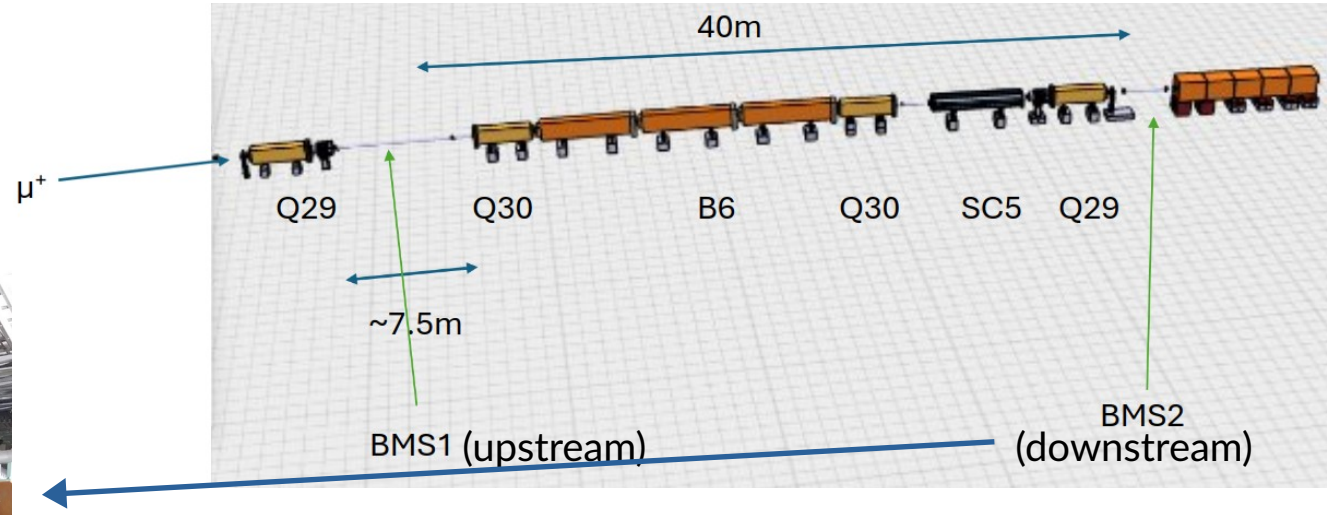
The decision is to place the PSU on the beamline

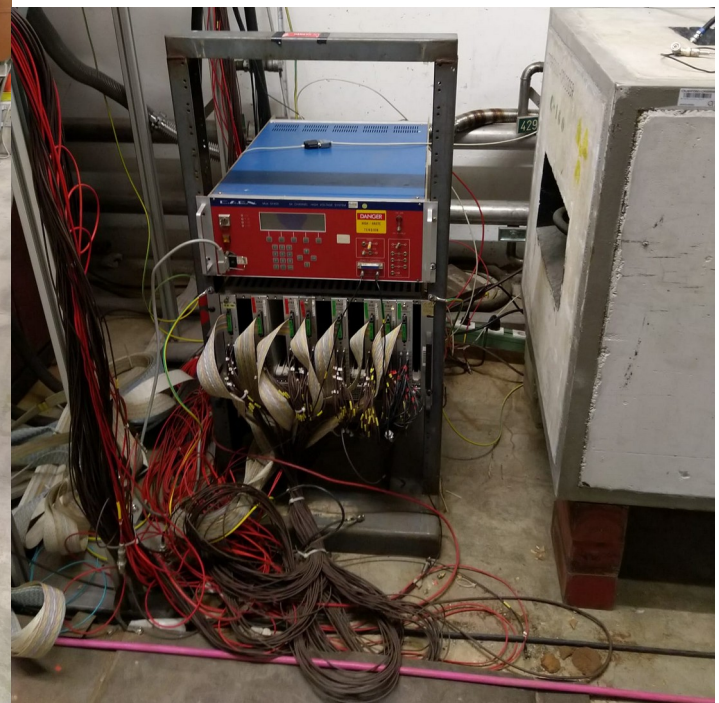
Power supply for the BMS



- Plenty of space for the installation
- Closest power socket is ~8m away

Power supply for the BMS





- Much less space, but a rack (AMBER's) is already present (and socket is closer).
  To be checked if we can put it there