MPOD commissioning ENH1

Test Procedure

MPOD-01 and MPOD-02 are reserved for LV boards while MPOD-00 is for HV boards and they are located in the main rack 1. Each board has 8 channels, first 4 channels (e.g.: 0-3) can be read from the upper connector while other 4 channels (e.g.:4-7) from the bottom connector on each LV boards.

The LV channels can be controlled/displayed either through MPOD front panel (detailed instruction can be found on: MPOD Features.) or FSM. The MPOD commissioning has been performed in 2 categories. Step by step test procedure is explained below.

1. Basic mapping in FSM:

   * Connect to FSM in ENH1.

   //login to the faser dcs in ENH1
   ssh -XYC username@faser-dcs-001.cern.ch

   //run the mpod_channels.sh script to open the FSM interface.
   source /data/mpod_channels.sh

   * After you run the script the FMS interface will appear.
To see the list of channels click on "Show" button.

- First 18 channels are reserved for HV channels (e.g: FASERDCS1:STATION0/LAYER0/MODULE0-3/HV)
- Rest of the channels in the list reserved for LV channels. (e.g: FASERDCS1:STATION0/LAYER0/MODULE1/VDD)

Choose one of the channels you want to control by clicking on it. Another window will appear related to the selected channels.

- Channels settings window will appear when you click on "Show" button.
  - The panel at the top left the values for the analogue VCC and digital VDD voltage appear.
  - The panel at the bottom left indicates whether the modules are OFF or ON status.

Check the status of the channels in FSM and MPOD control panel. Make sure all channels are "OFF" status.

Switch on each channel/module in FSM individually.

2. Hardware-wise:

- Cabling and test set up for LV Channels:
- Tracker LV PS Cable 02 should be connected from MPOD LV boards to PP. (Only one cable was used to check each LV channels.)
Read states and voltage values from the screen of MPOD. Measure VCC/VDD voltage values using a multimeter on the patch panel. Compare the values. Nominal LV values: LV values are VDD ~4V and VCC ~3.5V.

Repeat the same procedure for other LV boards by moving the LV cable from one connector to other for each board.

Cabling and test set up for HV Channels

- HV interlock cable 2 should be connected from MPOD HV boards to TIM.
- HV power to splitter cable 1 should be connected from MPOD HV boards to HV splitter "IN".
- HV splitter to tracker cable 1 should be connected from HV splitter "OUT"-"CH0" connector to PP.

Set the voltage values on FSM (from 10 to 150V ). Measure the voltage values using a multimeter on Patch Panel side. The HV set and read back values should match on both FSM and PP. Nominal HV value is 150V.

Repeat the same procedure for "OUT-CH1", "OUT-CH2", "OUT-CH5", "OUT-CH6", "OUT-CH7" on HV splitter ("OUT-CH6", "OUT-CH7"). and for other 2 HV boards.
Test Procedure