

FSD Signals for KLF

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General Comments

- There are certain conditions that will require electron beam be shut off
 - Beam positions or directions are wrong
 - CPS magnetic field or current issues
 - CPS and KPT cooling and temperatures
 - Some of the signals will be aggregated into PLC to generate a logical signal for FSD.
 - We will need to have masking capability for our FSD signals.
- KLF will need to have FSD implemented in both tagger hall and the main hall.
 - Already have FSD signals set up in the tagger hall for GlueX with tagger dump, ion chambers, BLM, and amorphous radiator stick signals.
 - We may not have any FSD hardware in the main hall.
- Created a preliminary list of FSD signals that we think KLF will need
 - Does not include BLM and tagger dump signals that MCC uses for FSD
 - Need to work with Tim and Josh to get the exact number of FSD-related slow sensors for CPS and KPT.
 - They will all go to PLC first where a decision will be made.
- We need to have a meeting with proper people in OPS to start the discussions.
 - Create and FSD board availabilities in both halls.
 - FSD board input parameters
 - Edy could help organize this meeting

Tagger Hall

Signal Description	# of signals	Type	Signal Owner	Location	Uses Hall D PLC	Comments
Ion Chambers	2	Analog	MCC	In front of CPS, after CPS	NO	Can use those near GlueX goniometer
Flow meters	4	Analog	Hall D	Inside CPS, water skids	YES	Monitor coolant flow inside CPS
Temperature sensors	4	Analog	Hall D	Inside CPS	YES	Multiple sensors read by PLC, one logical output
Beam excursion counters	5	Scaler	Hall D	In front of CPS	NO	Four PMTs read out into a custom-made board
CPS Magnetic field	1	Analog	Hall D	Inside CPS	YES	Read by PLC, logical output
CPS Magnet PS is ON	1	Digital	MCC	From CPS magnet PS	NO	Check that magnet PS is on
CPS Magnet PS current	1	Digital	MCC	From CPS magnet PS	NO	Monitor minimum current in magnet PS
CPS Magnet cooling Klixon	1	Digital	MCC	From CPS magnet PS	NO	Trip the beam when there is a cooling problem

Analog signals to FSD board	2
Digital signals to FSD board	4
Scaler signals to FSD board	5

Main Hall D

Signal Description	# of signals	Type	Signal Owner	Location	Uses Hall D PLC	Comments
Flow meters	2	Analog	Hall D	Inside KPT	YES	Monitor coolant flow inside KPT absorber
Temperature sensors	2	Analog	Hall D	Inside KPT, on the absorber	YES	Multiple sensors read by PLC, one logical output
Active Collimator	1	Digital	Hall D	AC electronics	NO	Trip the beam when X or Y asymmetry is large

Analog signals to FSD board	0
Digital signals to FSD board	2
Scaler signals to FSD board	0