

Injector Service Building

Helicity related EPICS Control System Software

Normal grounded VME CRATE
(slow status and control- nothing occurs at helicity flip rate)

- 12 bit DAC: +HV setpoint
- 12 bit DAC: - HV setpoint
- 12 bit DAC: Hall A,B,C IA control setpoints
- RS-232: Rotating half-waveplate and laser attenuators
- Discrete Digital I/O: Insertable half-waveplate

Injector MOTT DAQ

FLOATING VME CRATE
Helicity Generator Card

HELICITY CONTROL (REAL TIME)

Delayed Helicity, Pair Sync,, Clock

Normal grounded VME CRATE

Passive re-transmission of Helicity Signals via fiber.

3 input fibers are split to 9 fibers for the three halls.

Fibers To Counting House

Hall A
Hall B
Hall C

Fiber To Tunnel

Galvanic Analog/Digital Isolation Card

Floating Analog and digital I/O

Rotating N/2 Plate & Attenuators

Insertable N/2 Plate

Pockels Cell Positive High Voltage Supply 0 to 4000V

Pockels Cell Negative High Voltage Supply 0 to -4000V

Current Asymmetry control electronics (IA)

Optical Switch Control

Fast High Voltage Switch

Helicity Pockels Cell

IA Cells for Halls A,B,C

AC Power Source

Floating DC Power

To all floating components

Floating Circuit Common

All electronics that can "see" real time helicity is floating

Injector Tunnel Laser Hut