

Hall C User Howto

Experiment: HKS

How to operate HKS and Enge magnets

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Abstract

This Howto outlines how to operate the HKS-D, q1 and q2, and Enge magnet.

1 Operation for HKS-D, q1 and q2

Login any PC of cdaq1 - cdaq6 with 'cvxwrks' and go to /home/cvxwrks/MEDM/HKS. Type **mag-control.tcl** and see the window of **MAGNET controller for E01-011**. This screen is to turn magnets ON, Off, reset and set current.

Items of Operation are

- > 'Turn ON' to turn ON,
- > 'Turn OFF' to turn OFF,
- > 'Reset' to reset,
- > 'Set current (A)' to set a current, type the current and push the button of 'set'
- > 'Initiarization' to initialize.

After the power down or trip, you have to do an initialization for magnets. The initialization procedure is as follows;

1. Enge : 0A - 550A - stay 2min. - 0A -stay 2min. - 550A.
2. HKS-D, q1 and q2 : Tree times iteration of 0A - 1254A - stay 1min. - 0A -stay 1min.

2 Monitor for HKS-D, q1 and q2

Login any PC of cdaq1 - cdaq6 with 'cvxwrks' and go to /home/cvxwrks/MEDM/HKS. Type **mag-monitor.tcl** and see the window of **Magnet monitor for E01-011**. This screen is to monitor the current status of magnets. Push the button of 'Show all' to check the current fault status.

Check the current status is as follows,

- Mode ; Remote
- Status; ON
- Polarity ; Positive
- B field (Tesla) ; measurements by Hall probe/NMR refer to Table 1.
- Fault ;All are 'OK'.

3 Enge controller and monitor

Login any PC of cdaq1 - cdaq6 with 'cvxwrks' and go to /home/cvxwrks/MEDM/HKS. Type **medm -x MAG_O_MEG3H00.adl** and see the window of 'ENGE power Supply'. To power on and set the current, use the skyblue button in the bottom-left corner.

- POWER ON to power on.
- Setpoint to set the current.

Check the Readback value.

4 Power supplies and Hall probes/NMR

Table 1 is a list of power supplies and Hall probes/NMR.

All controllers for power supplies and Hall probes/NMR are connected with hcpc10401 (pc104 board PC) through RS232C and are operated remotely. Some values (current, voltage..) and status are read out every one second, and stored in EPICS and data.

Table 1: List of power supplies, monitors, operation parameters.

name	Supply	Monitor	Field (T)	Current (A)	Spec.(V/A)
HKS-D	HKS	NMR	1.65	1050	165/1254
HKS-Q1	SOS Q	Hall probe		585	160/1000
HKS-Q2	SOS D2	Hall probe		364	250/1000
Enge	Splitter	Hall probe		331	150/1000
Splitter	Moeller	Hall probe			150/1500