RICH

1.. **RICH** : Radiator Vessel, Mirrow , Photon detector
2.3 **Local DCS:** RICH gas system; Photon MWPC gas system; Vessel Cooling
Use PLC Schneider type TSX3722001; port RS232 connect to PC
Gas Presure, T, Gas flow, ... - 150-200 parametrov to control

3. **Crate control**
A few NIM crates---?
A few VME crates---1 VME 9U
Monitoring: for NIM crates - V level
for VME - CAN bus ; all items for crate monitoring,
RESET communication
5 min, 10% precision

4. **HV control**
16 ch for Photon Detectors RICH 1 , 12 ch for RICH2 --- 28ch
CAEN SY527, 2 -3 board A 821(12ch),
VME to H.S. CAENet Interface (V288)
No spare policy
Monitoring: V, I (in/out burst), status ON/OFF, Vmax, I max, RampU/RamoDown
Trip

5. **LV control**
Power Supply - 32 (2 supply for each chamber) for RICH1 , + 24 pc for RICH 2 = 56pc
probably power supply - WIENER, series PL500F
CAN- bus interface to VME
Monitoring : V, I, (in / out of burst),
Set param : V, I, ON?OFF

6. **Analog controk**
By PLC -------150-200 parameters

7. **Boolen**
Appr 10 status Flags

10**. ALARMS**
HV ------ V, I Status
LV-------- V,I, ON?OFF, status
BORA - readout electronic. --- ON?OFF, V, I, T
Leak gas detectors, smoke detectors, O2 meter security, C4F10 trnsparency measurements.

ALARM -gas system MWPC - gas flow rate, gas purity,
gas purity, O2 contamination
gas purity, H2O contamination
gas bottle level
FE cooling system - water T monitor
water flow monitor
Vessel cooling system-- air monitoring
vessel Temperature
Radiator gas system - control by PLC
independent(from PLC) temperature sensor s

pressure monitoring
tank level sensor
gas purity , O2
gas purity, H2O

9. **Spesial procedure**

Calibration events at each Start of RUN to measure piedestal

Monitoring of piedestal

Calibration RUN cross-check events

Analog calibration events to calibrate amplification + ADC responce; by sending calibration signal to front- board.