



Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

WA105 

Updates on instrumentation

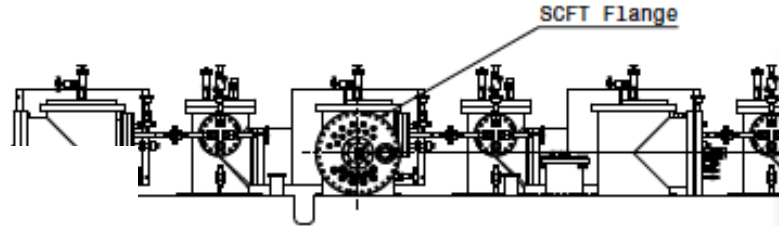
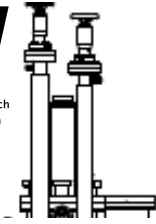
02/06/2016

C.Cantini

- Status of
 - Temperature measurement
 - HV for LEM powering
 - Slow Control flanges
 - Pulser Board and Calibration
 - Level meter

Temperatures

WA105



resistive chain:

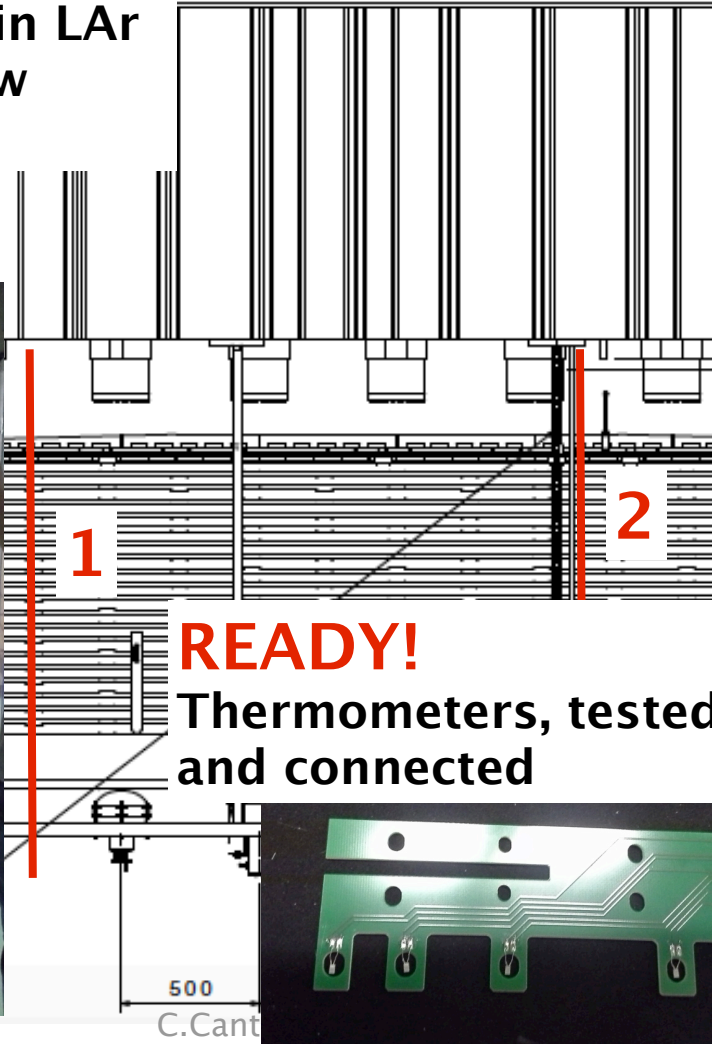
- Pt 1kOhm
- spaced **40 mm**
- over 1500 mm
- 36 Pt per ribbon
- **2x ribbon cables**

READY!

all Pt sensors tested in LAr and connected to Slow Control System

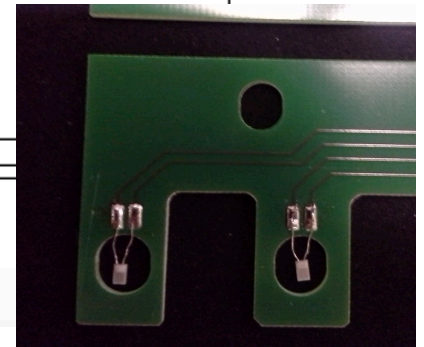
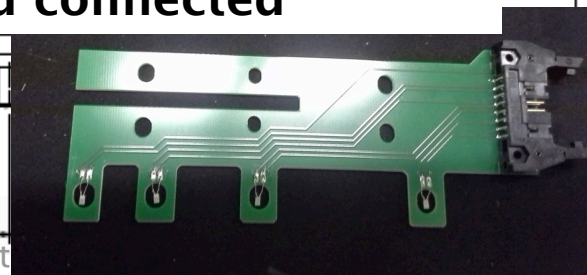


CRP hanging

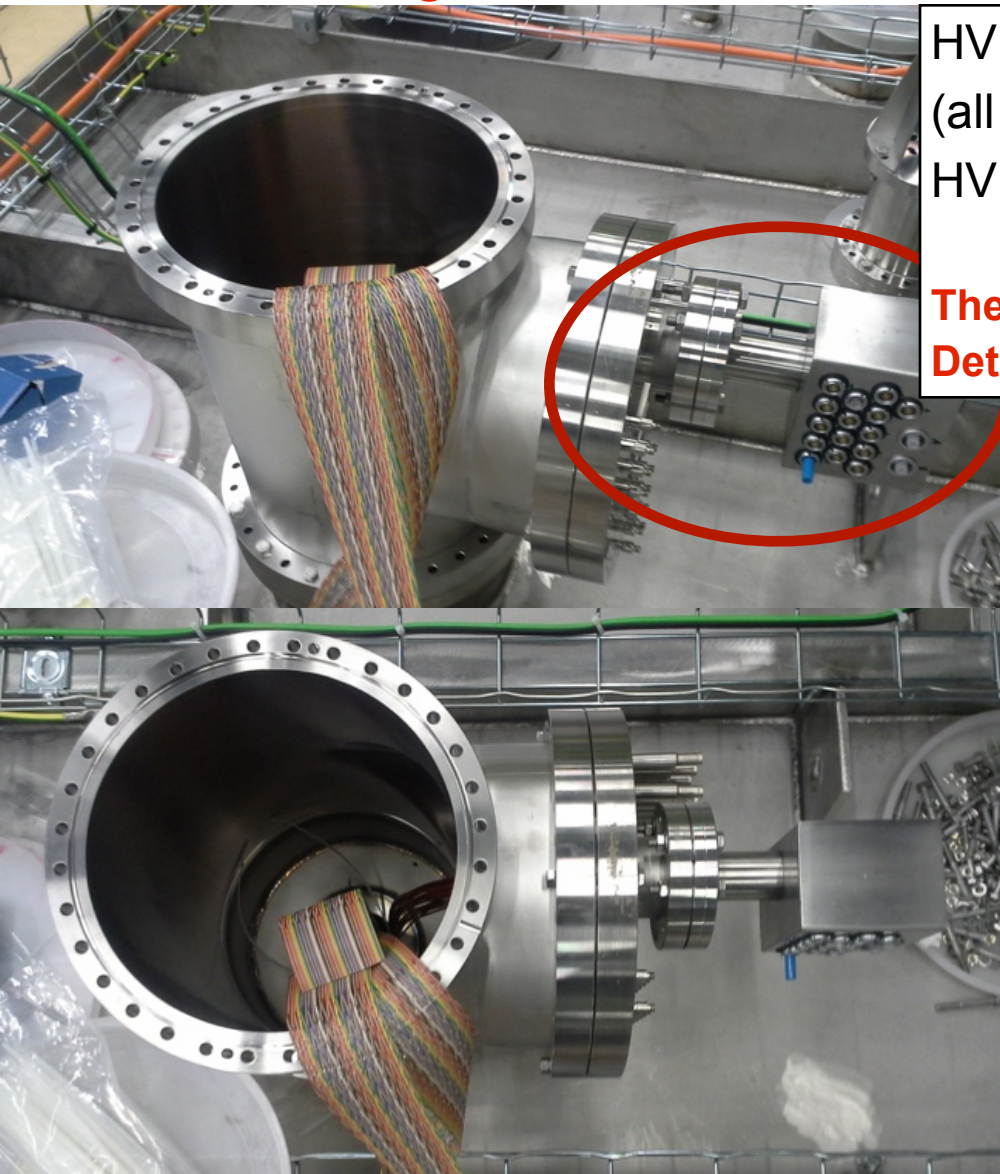


READY!

Thermometers, tested and connected



Final new design for 311 Detector.



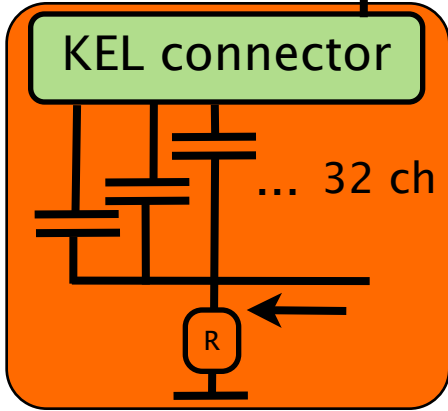
HV Head 1 ready and installed
(all channels tested in air, vacuum and Ar gas)
HV Head 2 in preparation

**The entire set of power supplies for WA105 311
Detector has arrived - in clean room now**



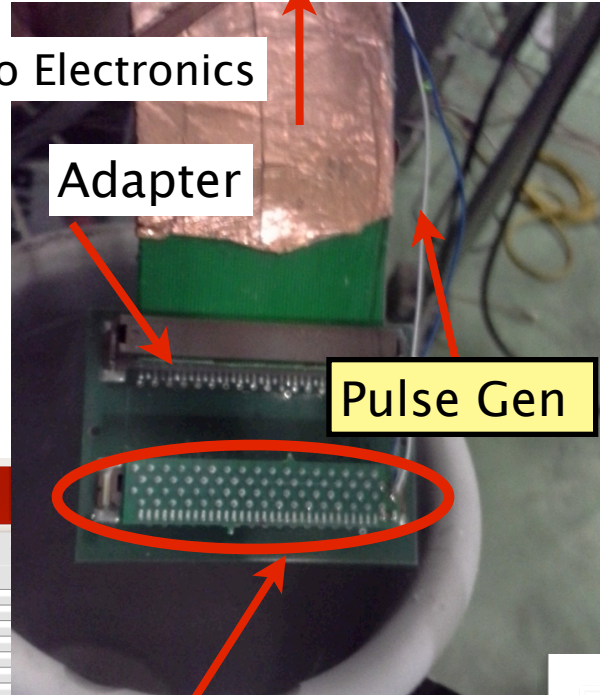
Connectors protected by
accidental overflow of
glue while casting

To Anode Strips ↑



Pulsed in warm and cold with an adapter board to the 3L electronics

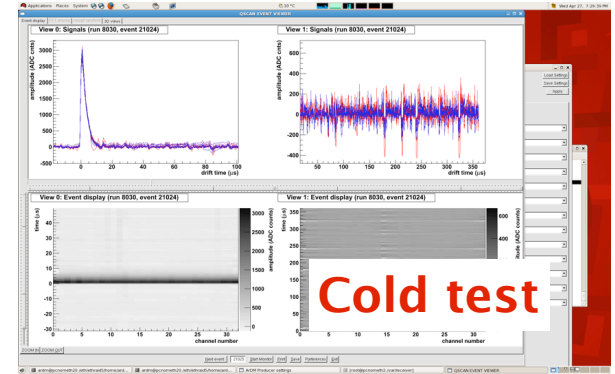
To Electronics ↑



Adapter

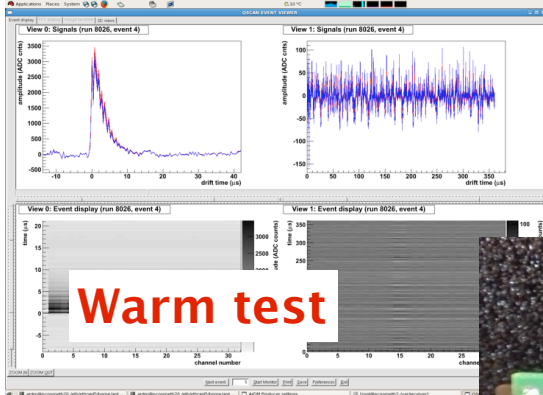
Pulse Gen

Pulser board

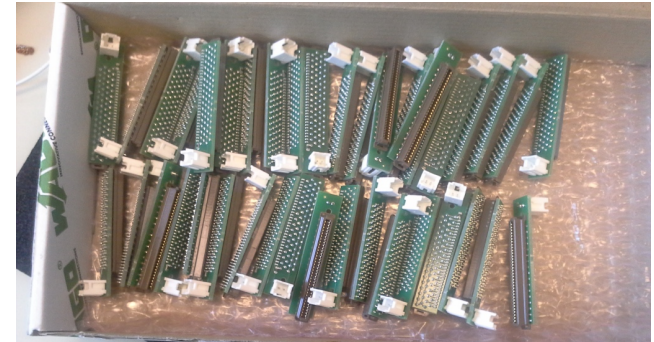


Cold test

Dipping Pulser board in LAr is successful, no damage!

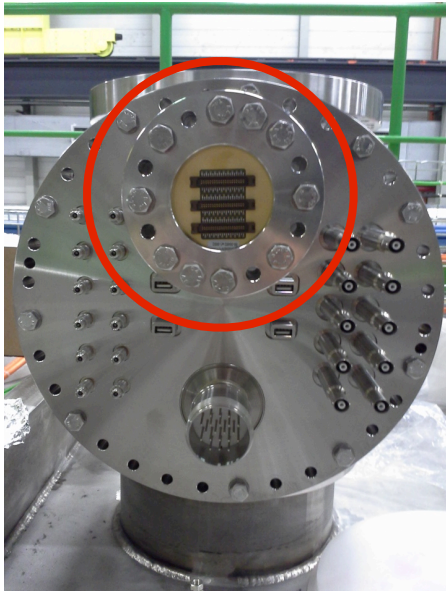
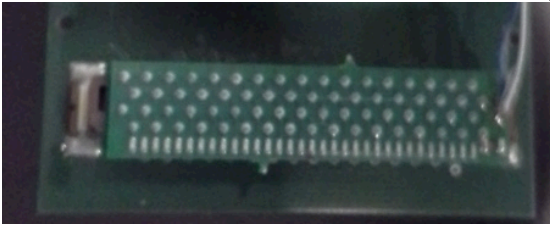
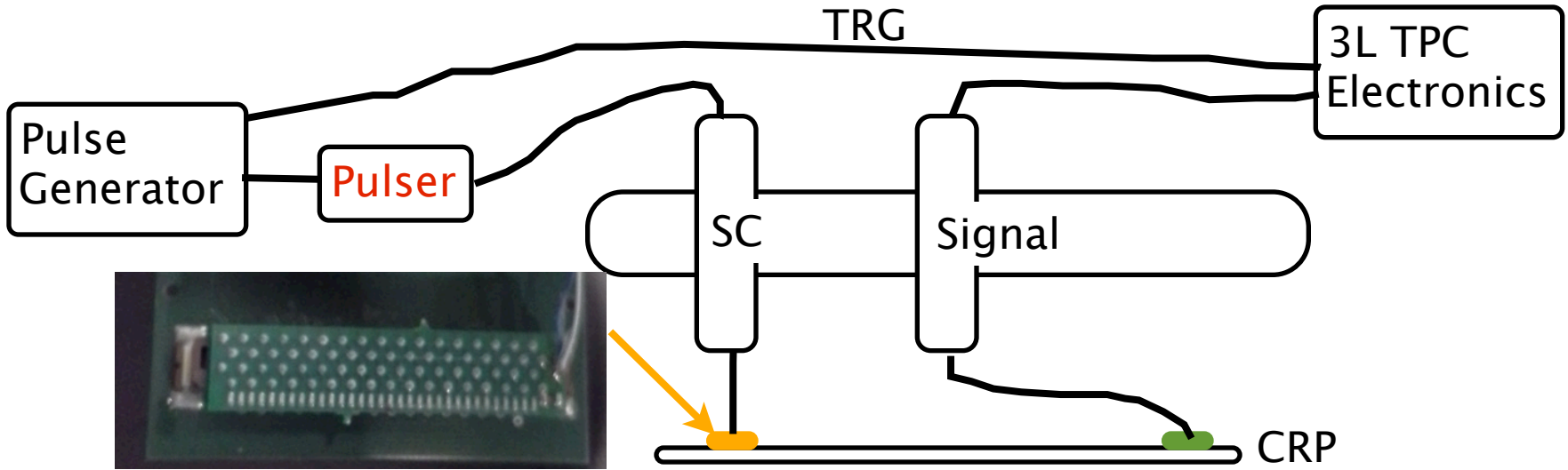


Warm test

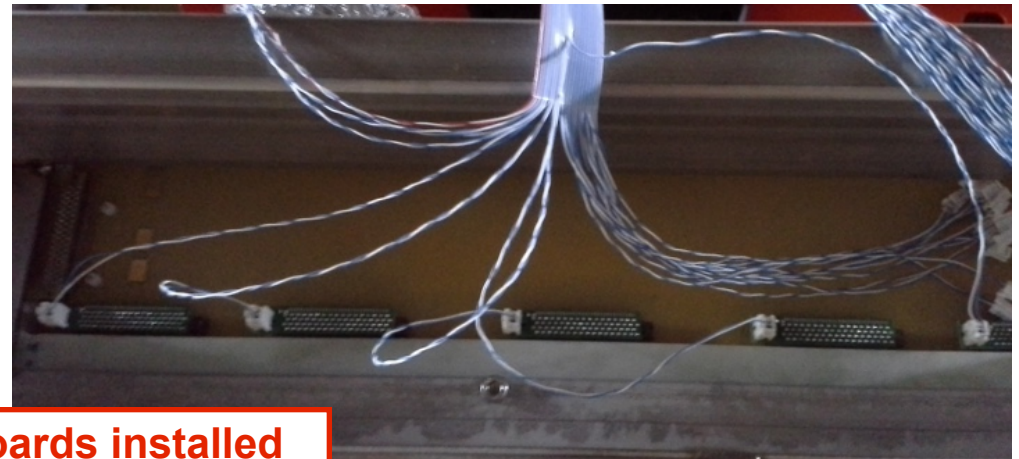


40 Pieces there, being installed on CRP

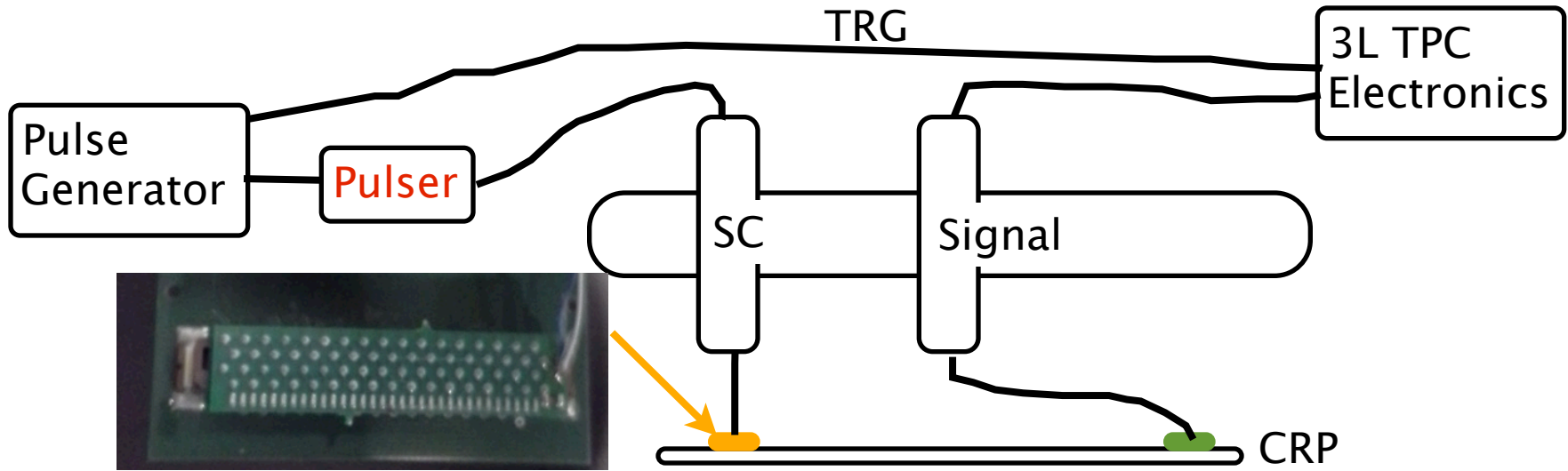
Pulser system for calibration



**Calibration
Flange in
place**



**Pulser Boards installed
on CRP and internally
connected to flange**

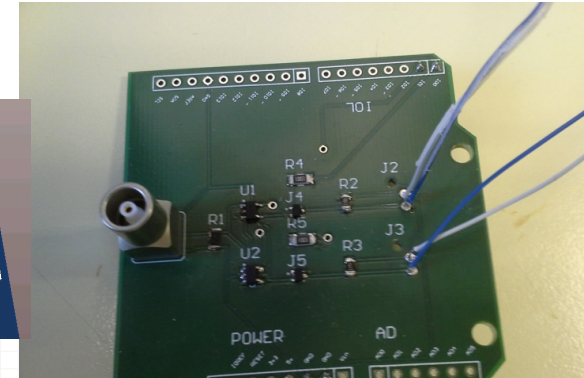
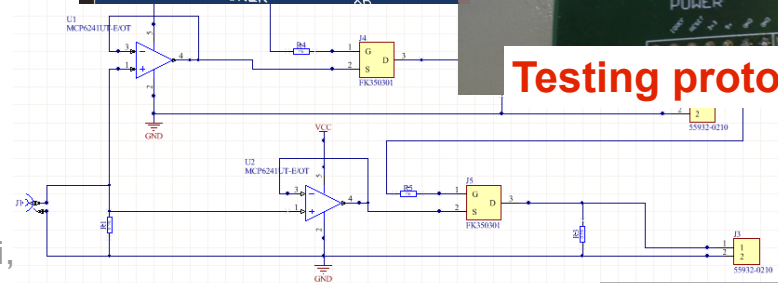
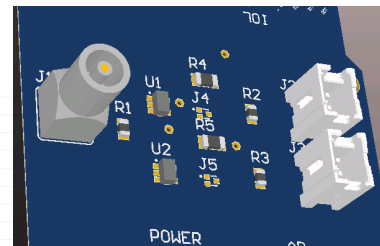


Pulser:

- assess:
 - continuity
 - cross talk between adjacent channels (odd/even)
- distribute pulse selectively on anode connectors – multiplicity of 32 Channels
- how:
 - set of switches controlled by uC
 - adapt impedance with buffer
 - order of 50 MOS switches

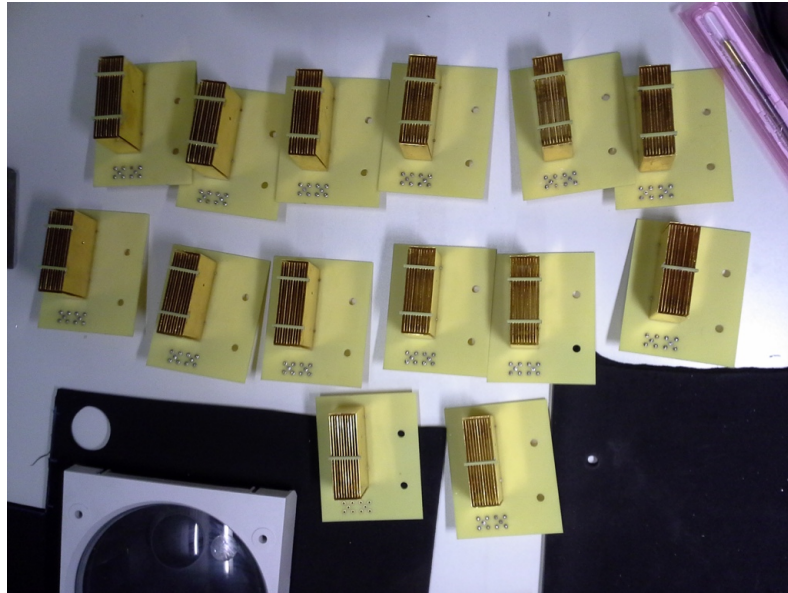
Design of external feeding system for pulse ongoing.

02.06.16

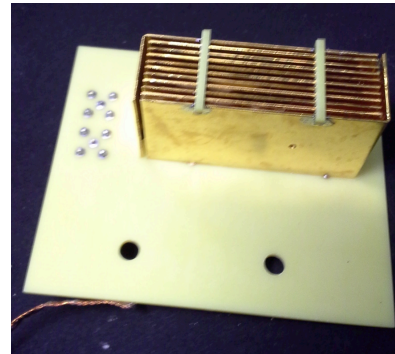


Testing proto 2 Channels

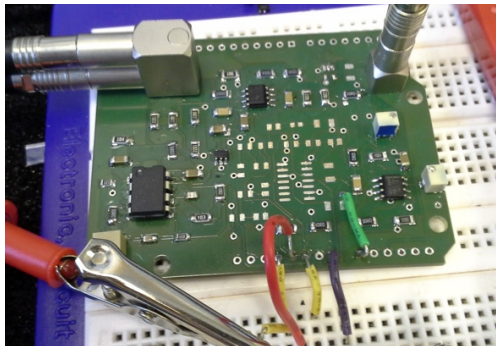
C.Cantini,



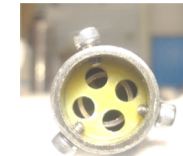
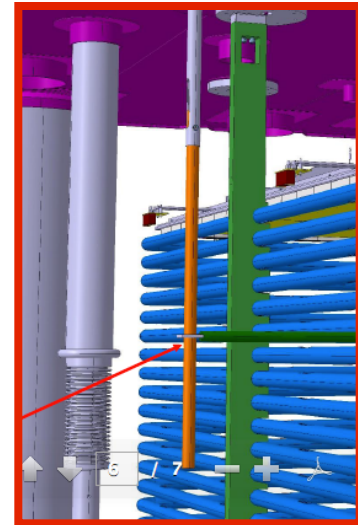
Entire set of parallel plate capacitor for fine measurement of LAr level ready!



Proto 1 ch
0-10 V output



Coaxial ready!



500 mm range₈

Installation of **High Voltage** for LEM

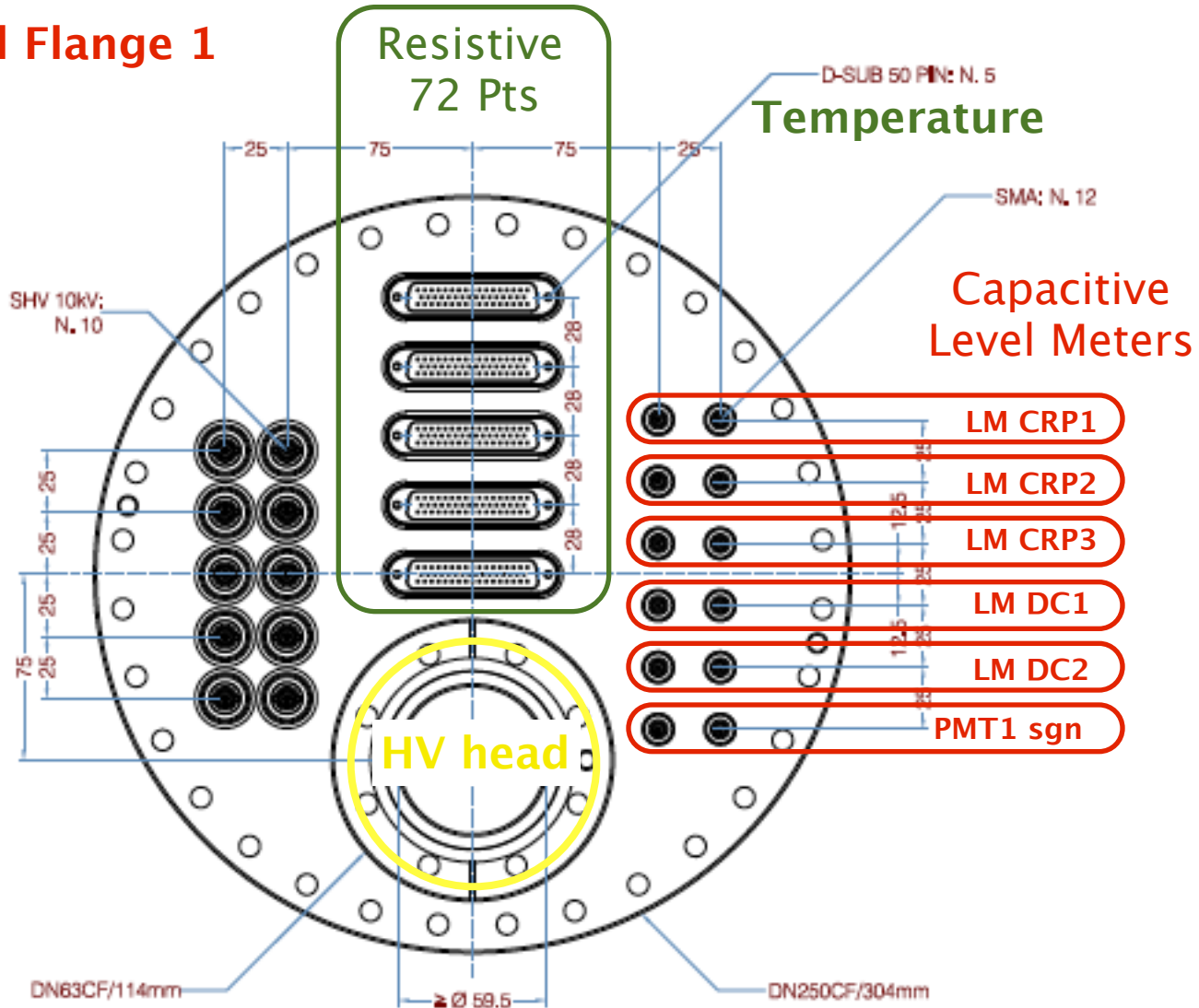
Finalise design of **level meter**

Finalise design **calibration system**

backup

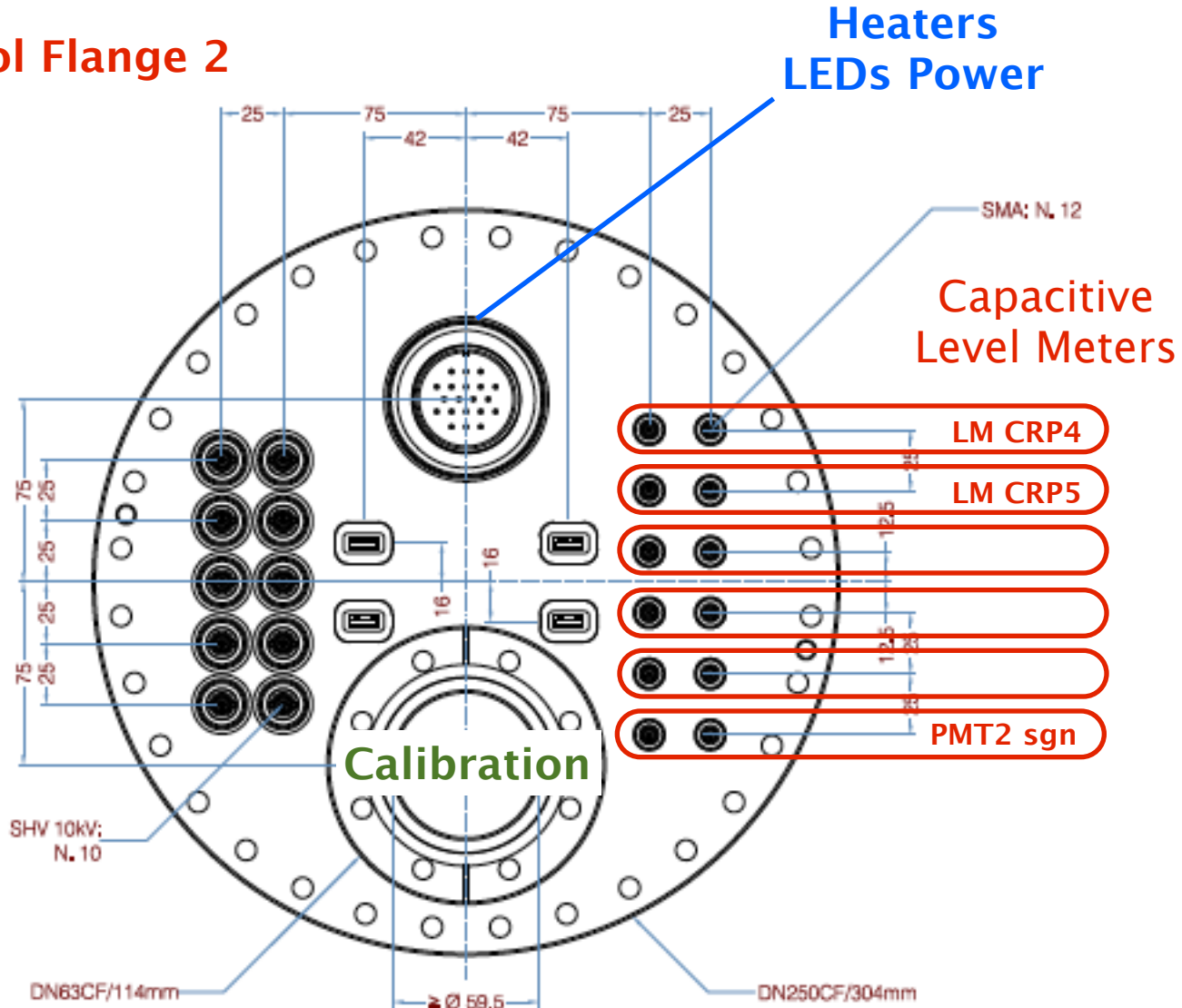
Mapping connectors on SC flanges

Slow Control Flange 1



Mapping connectors on SC flanges

Slow Control Flange 2



Mapping connectors on SC flanges

Slow Control Flange 3

