

AGATA – DSS

DSS setup at LNL

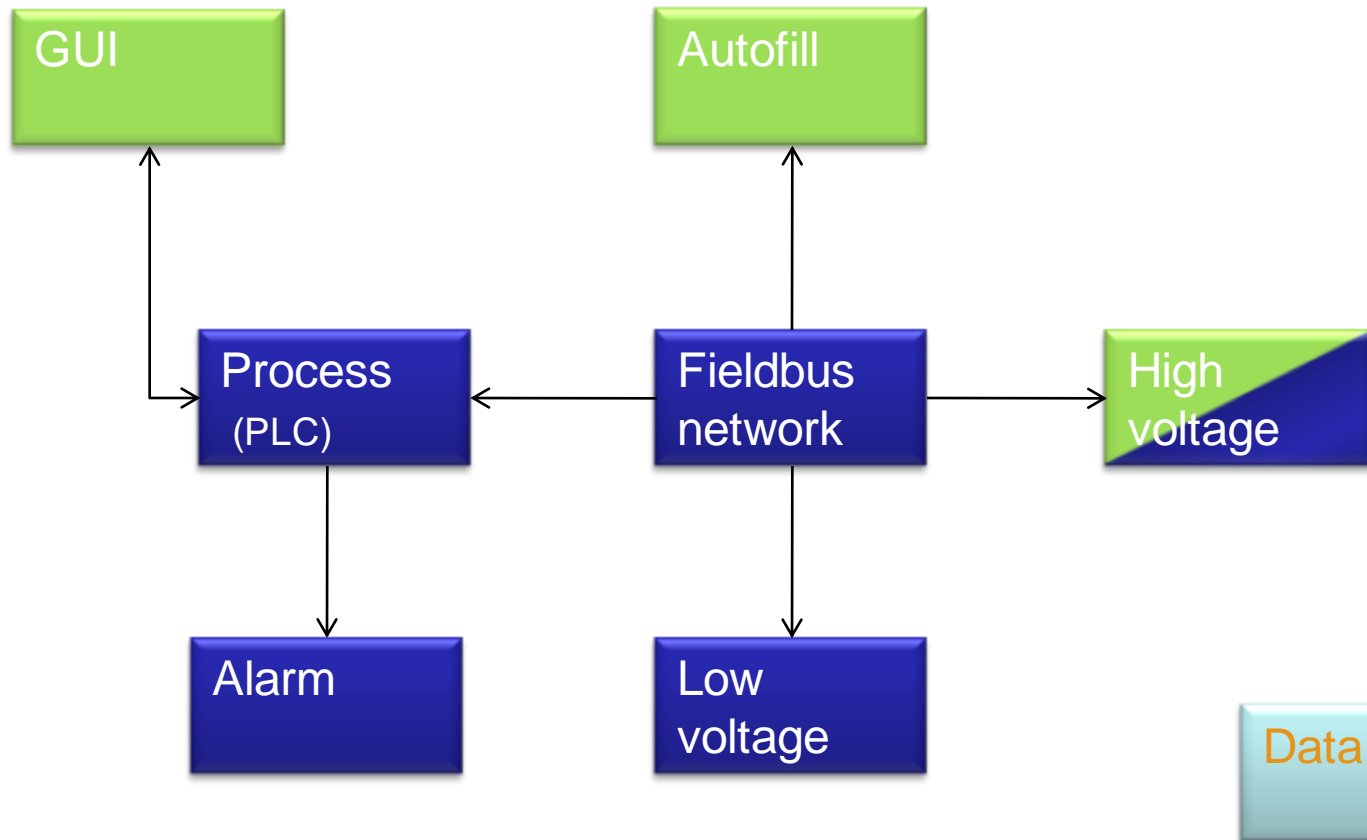
AGATA week LNL 22/01/2010

Christian VEYSSIERE
André BOUTY
Sylvain BROUSSARD
Ange LOTODE

The different parts of the DSS

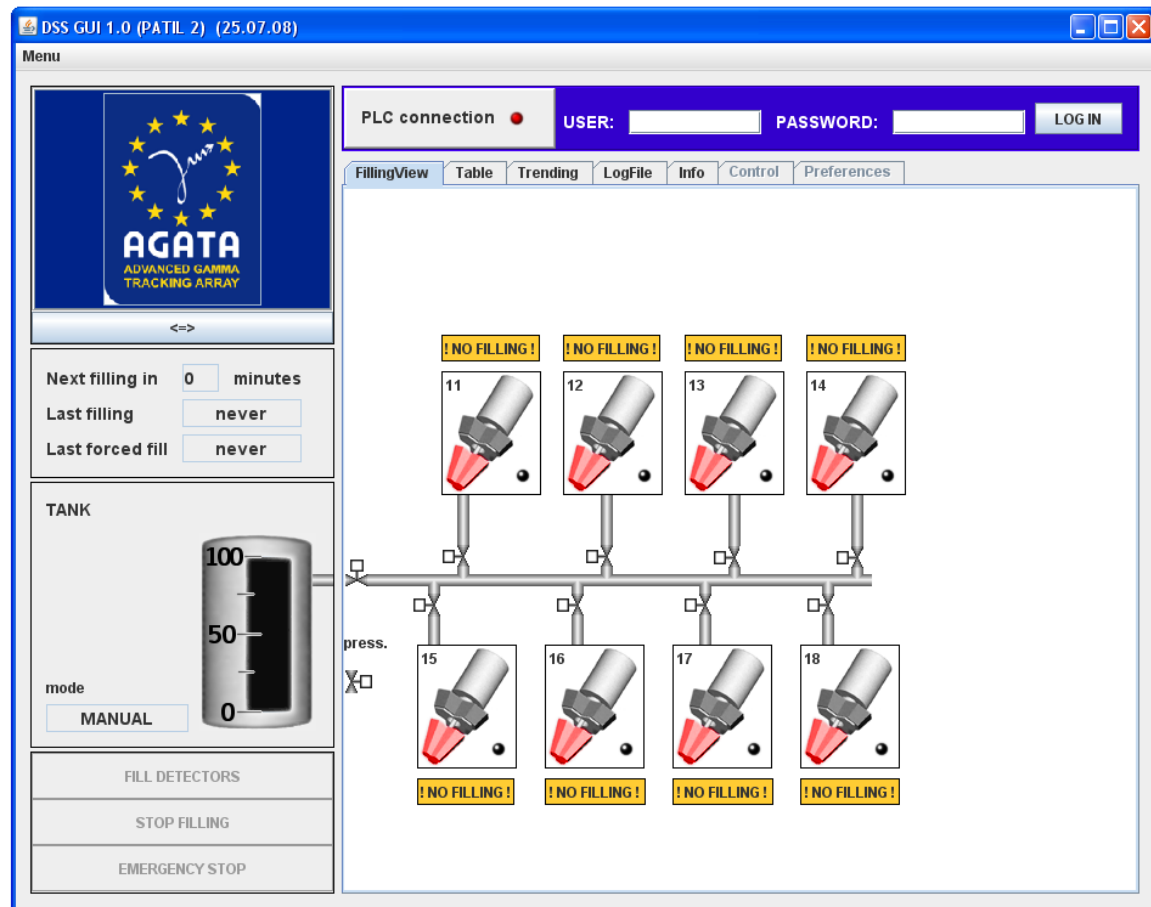
GSI

Saclay

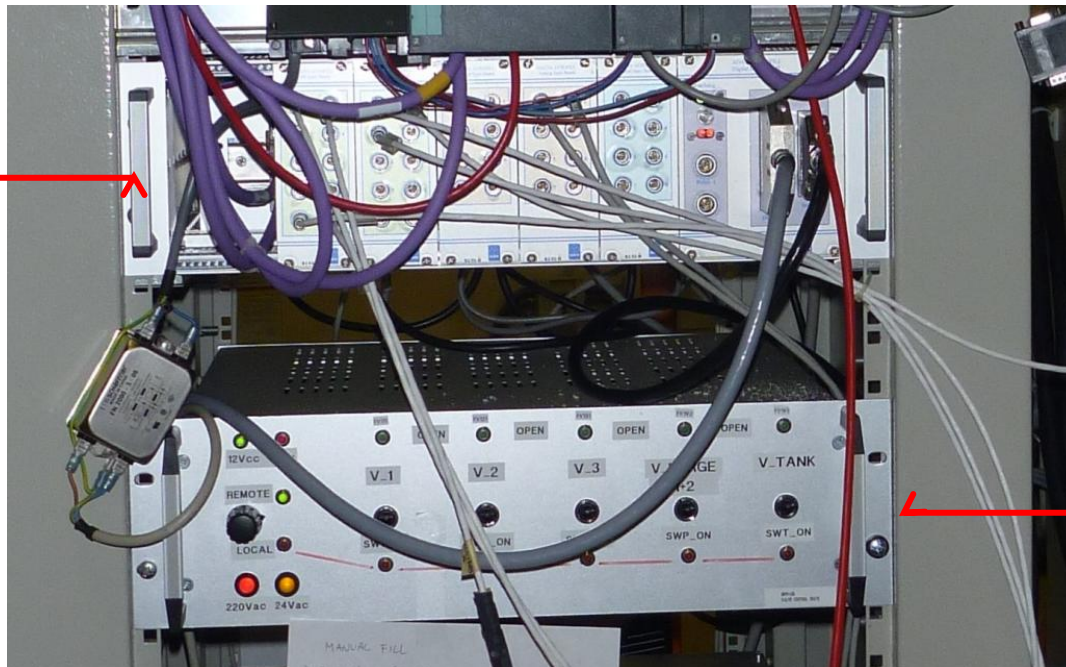


Graphical User Interface

- Java specific development
- Displays/control parameters but also trends
- Remote control via Timbuktu
- Data exchange with the PLC via OPC server

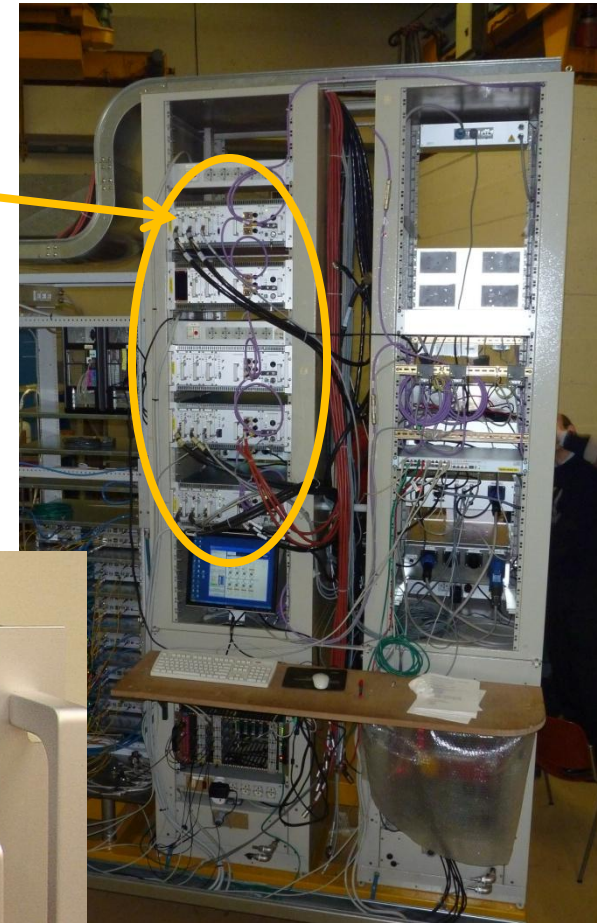


- 2 crates:
 - Profibus I/O crate
 - On site for 1 year
 - Valve control crate
 - Should be installed in the coming weeks (should come via Saclay for tests with PLC) , LNL crate at present



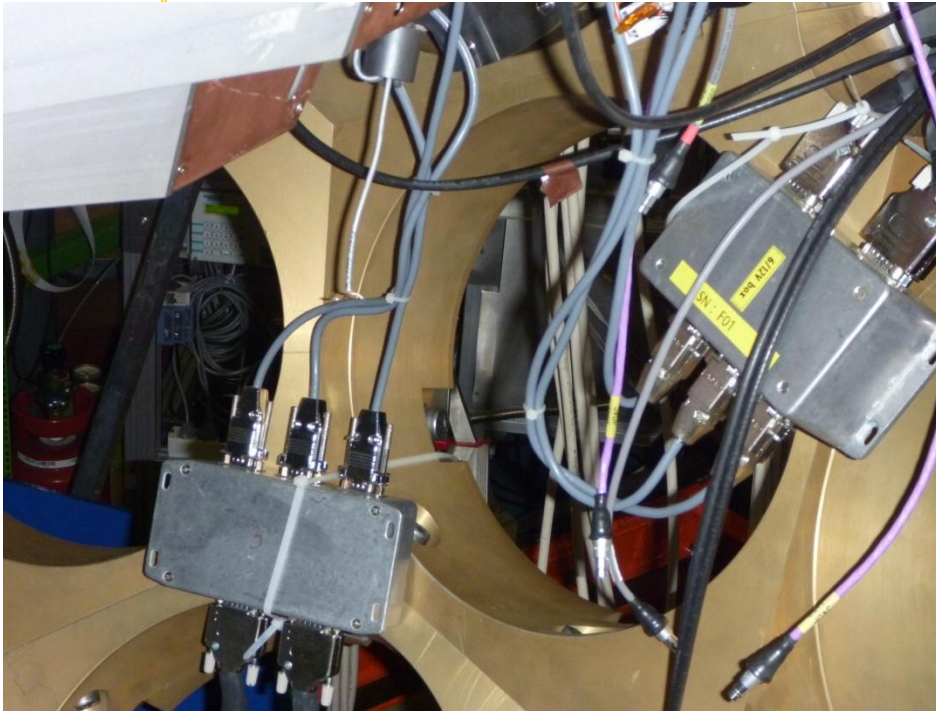
Low Voltage Power Supply (LVPS)

- Low voltage:
 - 5 crates installed
 - 12 crates altogether (9 Saclay, 3 Munich)
 - Manual controls on front panel have been added for lab purpose

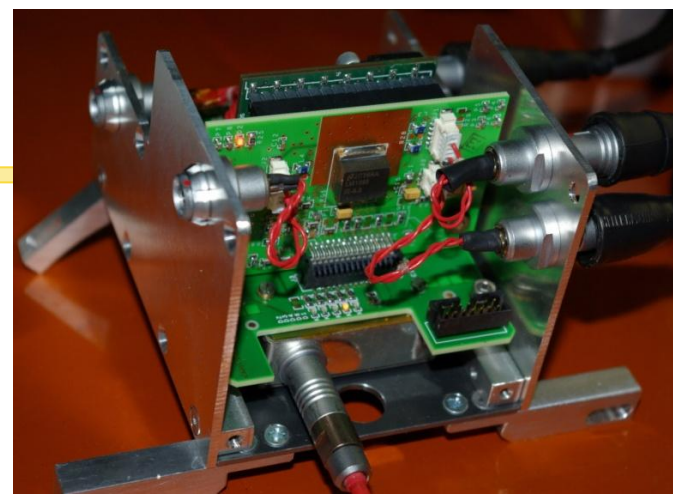


- Oscillation problems have been solved
 - 15 m long cable
 - Voltage control

1st version of the filters



2nd version of the filters in the proposed CTT box



- 15 HV modules realized
 - Qualified in Köln (noise and energy resolution)

Test of HV Boxes on 9-10.09.09 (A. Bouty, J. Eberth, P. Jones, Ch. Veyssiere, A. Wiens)

Test of performance with CTT filters and ORTEC HV supply with ^{60}Co :

Red core: 2,43/2,44 keV

Green core: 2,32/2,38 keV

Blue core: 2,55/2,66 keV

In a further test the HV filter was disconnected and voltage applied again. The current spikes did not appear again. Then the ISEG box was connected with a cable with a Fischer connector at the one end and a SHV connector which was connected to the CTT filter mounted on the detector.

All three boxes were tested on red detector with ^{60}Co :

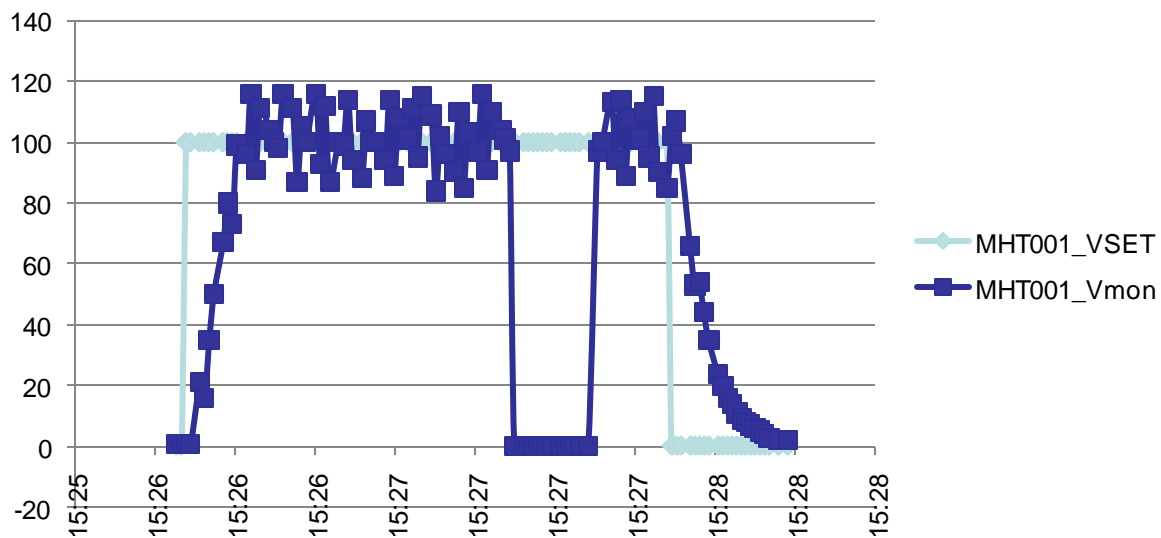
#147: 2,36/2,46 keV

#126: 2,36/2,45 keV

#127: 2,33/2,42 keV

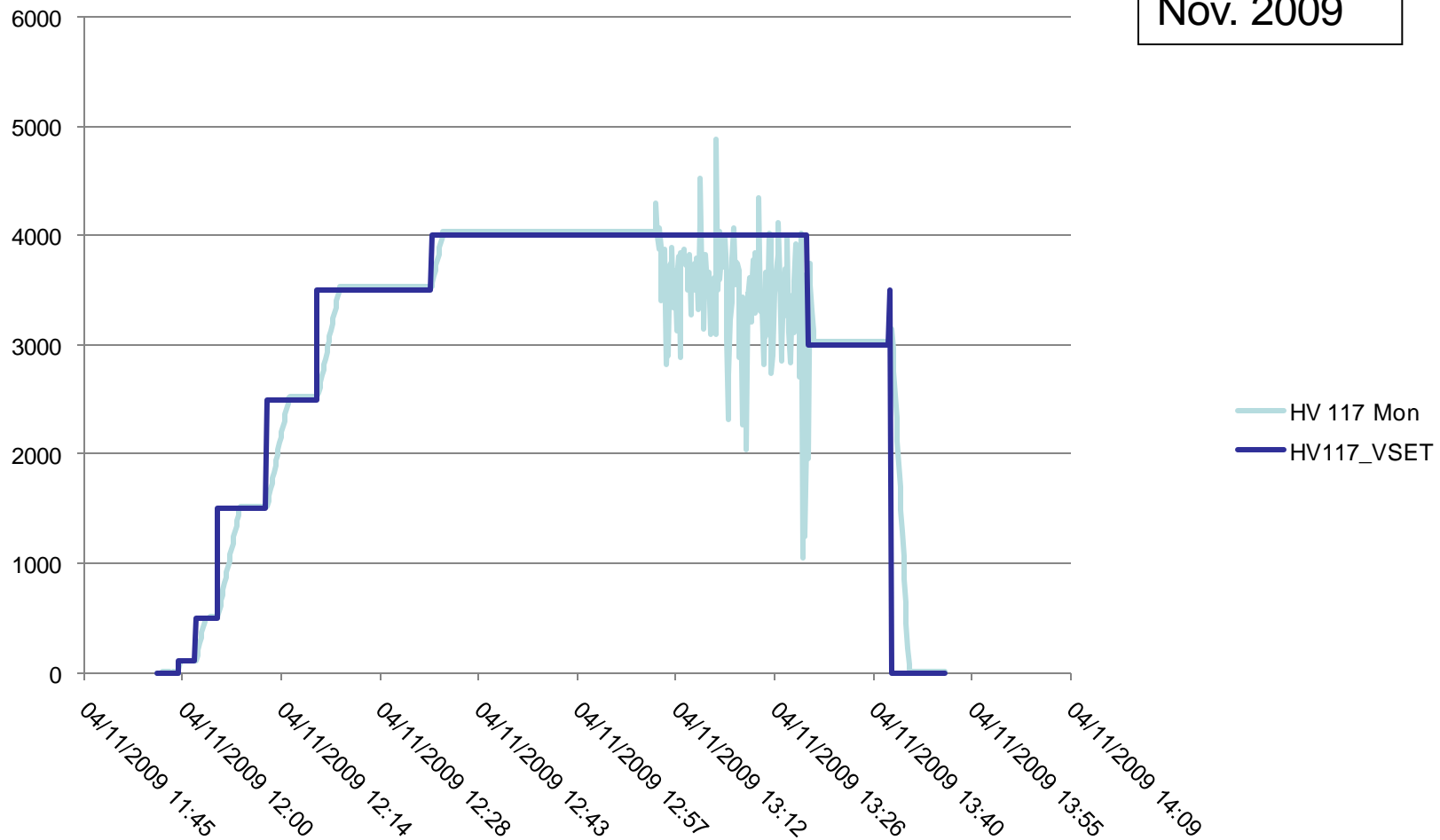
l r f u
cea
saclay

CEA DSM Irfu SIS



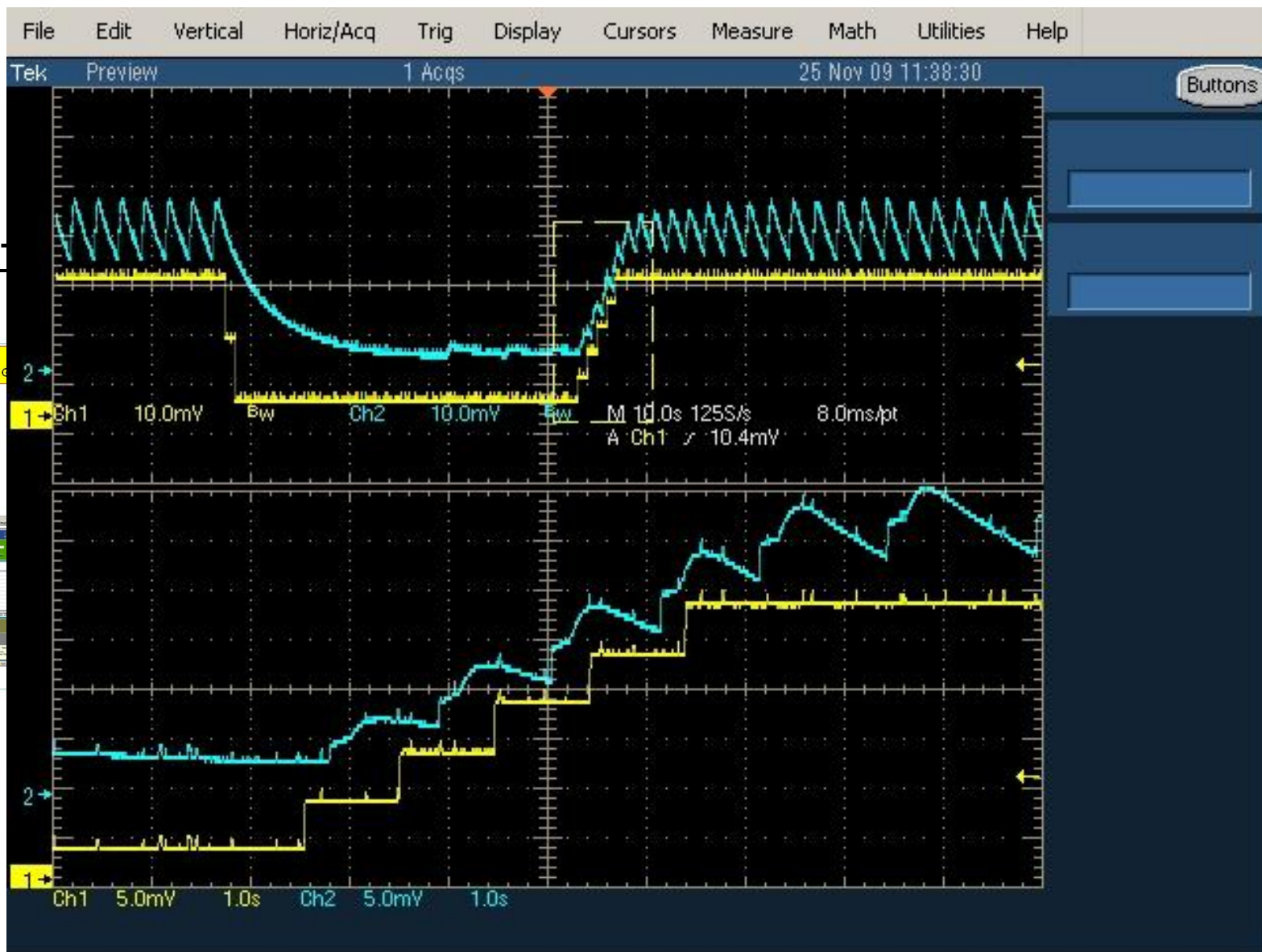
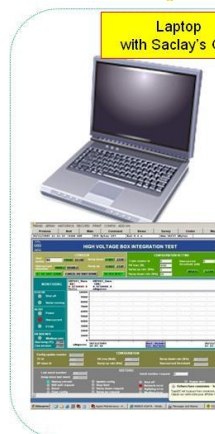
Unstabilities while detector is biased

Legnaro,
Nov. 2009



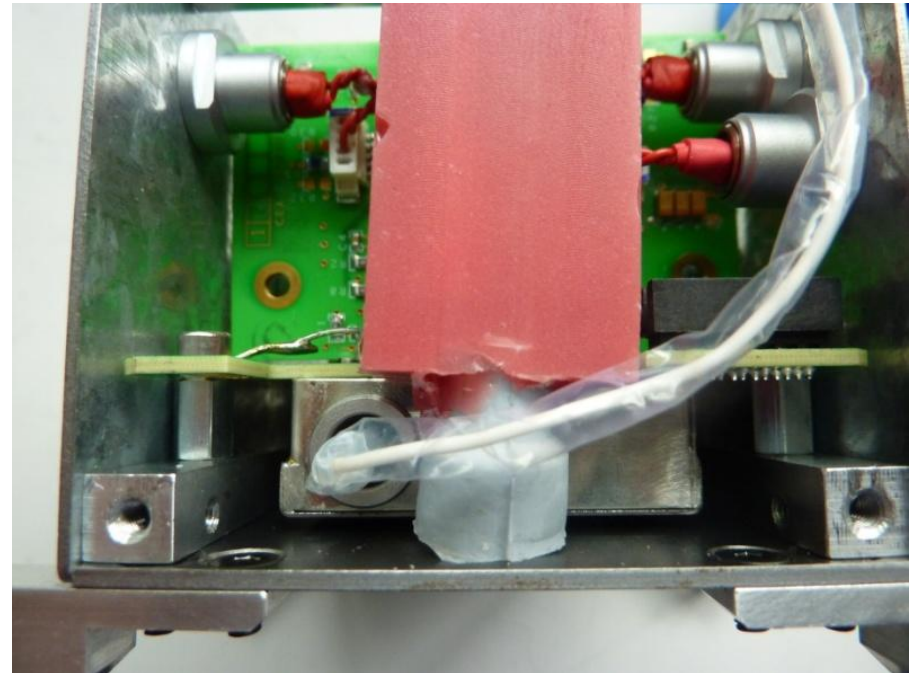
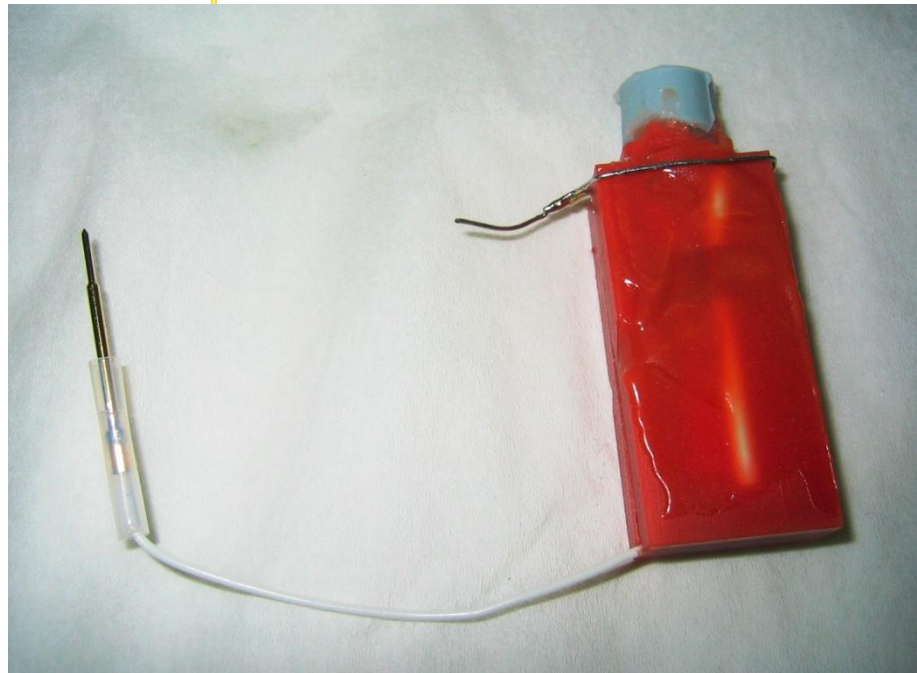
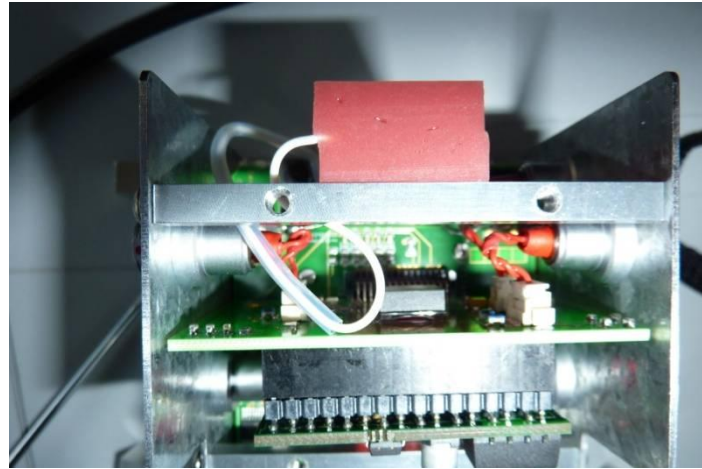
Reproduction of the instabilities on a test bench

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High voltage box mounting (1/2)

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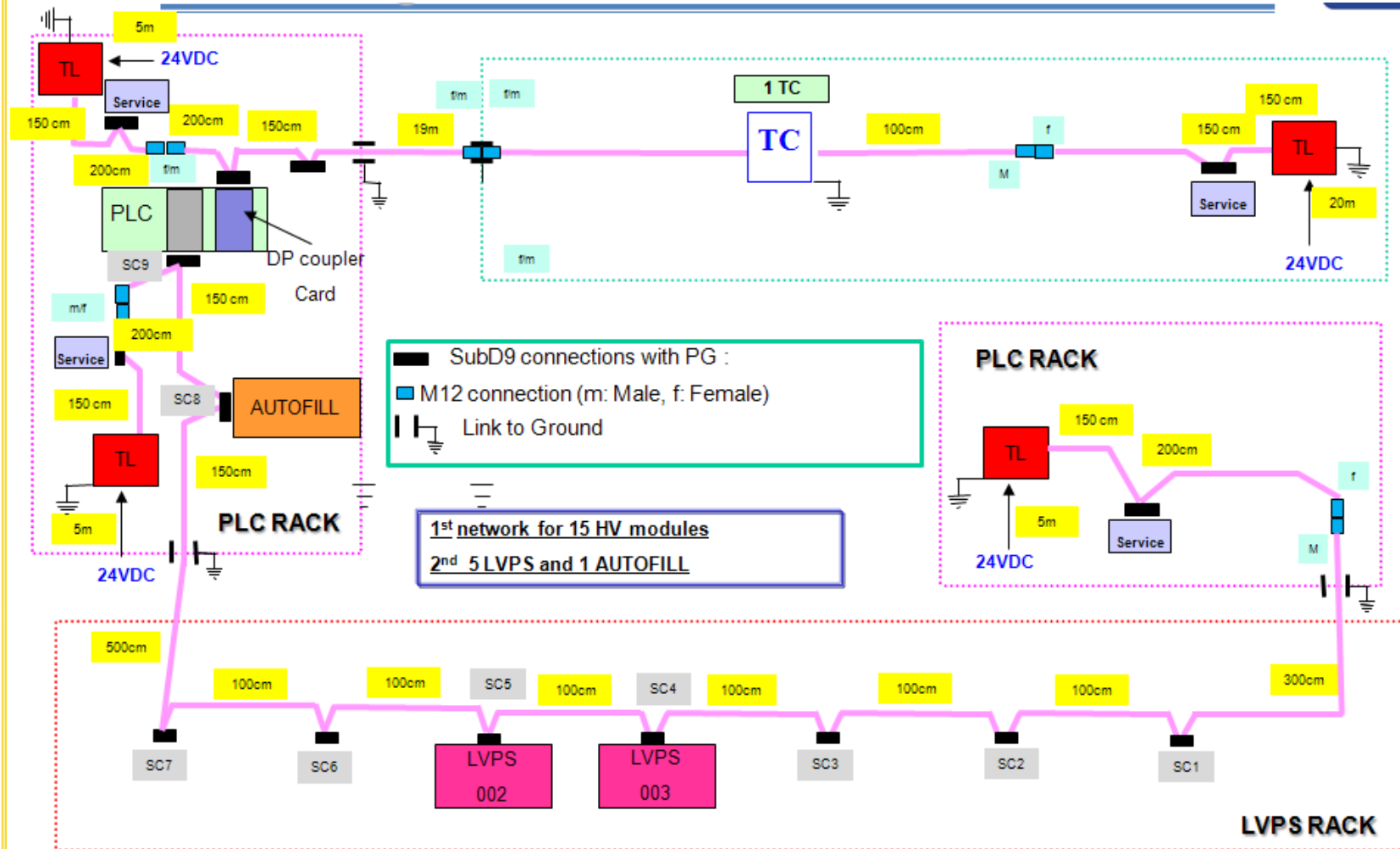
Improvements to be done

- Path of the HV courant
- Quality of the HV connection
- ISEG module oscillations removal => meeting to come
- Protection against short-circuit
- Current measurement
- Take into account HV filter

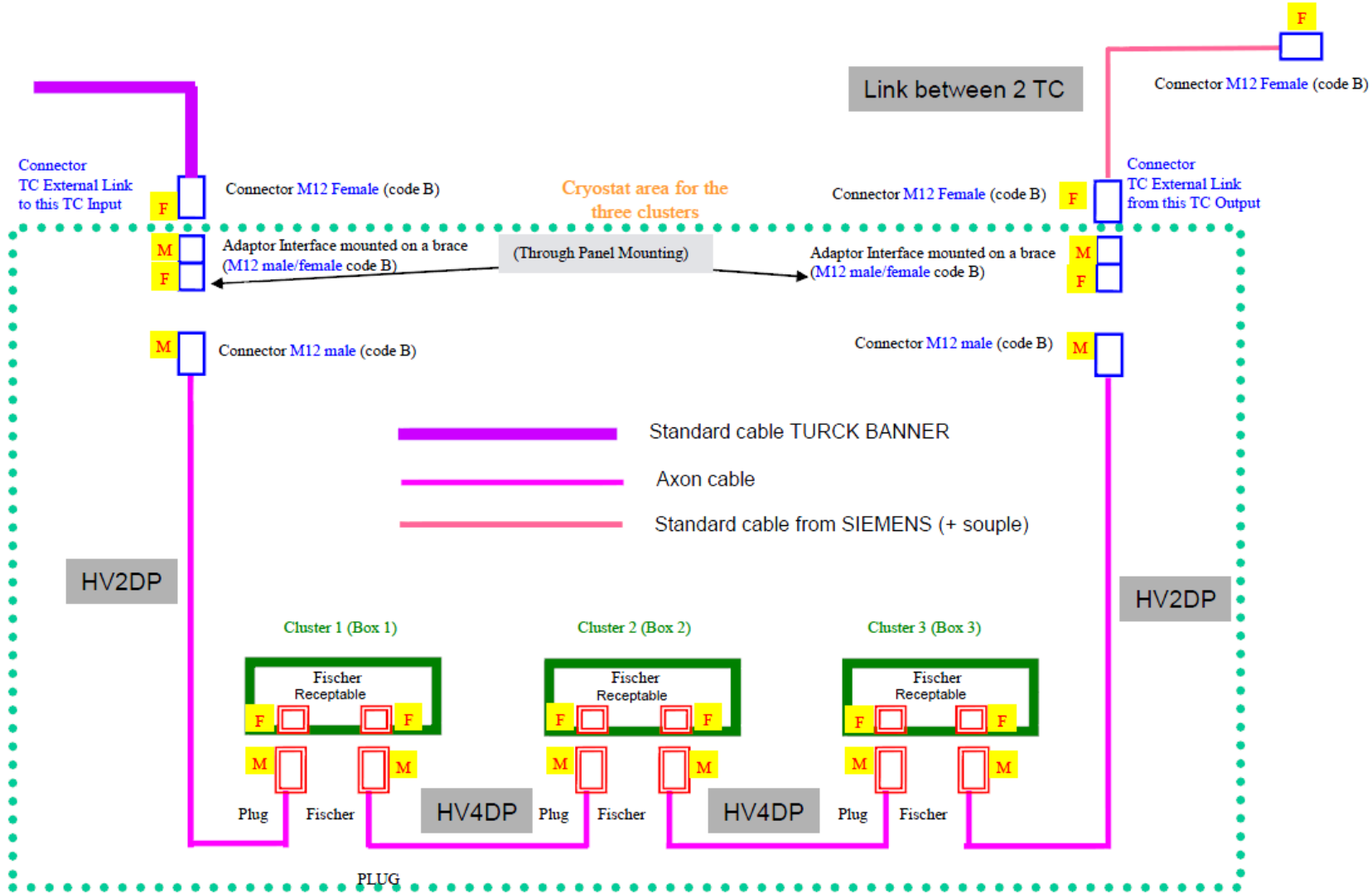
- Drives via Profibus-DP:
 - 8 LV modules
 - 24 HV modules
 - 1 autofill system
- Profibus-DP fieldbus installed



Profibus-DP in Legnaro



Cables and connectors for Profibus-DP



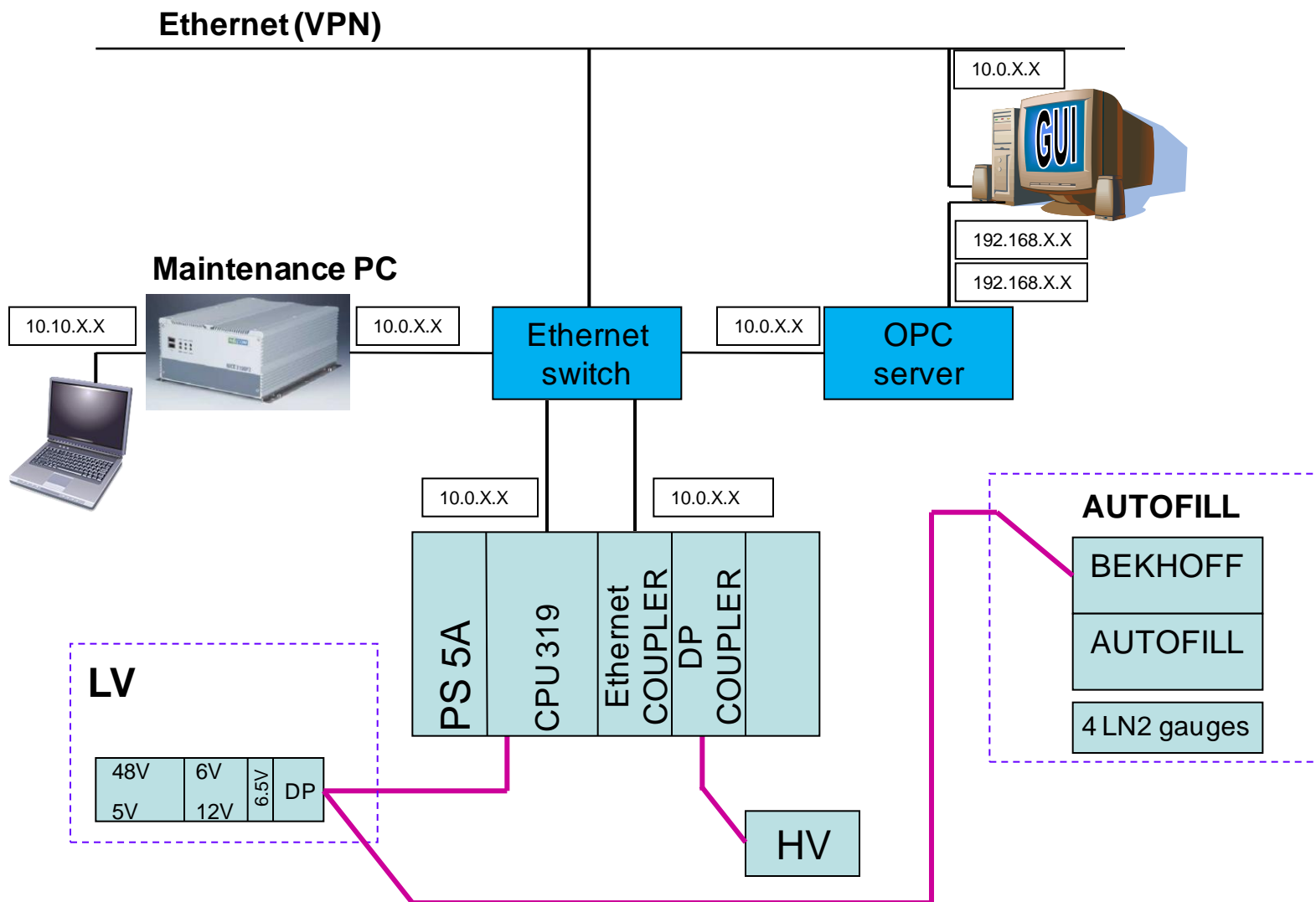
Patch box/Patch panel for Profibus



Difficulties to lock the connectors



Patch panel



- Some elements are linked to their position on the frame: LVPS, valves.
- Some are linked to the ATC: HV modules, Pt100, LN2 level
- One should be able to swap detectors
 - Normal procedure is to change the Profibus address in the HV module
- But :
 - Nobody wishes to dismount HV modules...
- Solution:
 - Let's imagine the next generation of HV modules will be reliable (+ trap door)

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cea
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saclay



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