



TOTEM / PPS XRP Interlock Tests



MPP Meeting

24 March 2023

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Test Summary



Screenshots from MPP checklist:
<https://checklist.cern.ch/machine/13/node/1003699>

	All P5 Roman pots
MPP/TOTEM - 01 - Injection permit removal	tested for each pot
MPP/TOTEM - 02 - User permit removal	tested for each pot and both sets of inner limits (old and IPL)
MPP/TOTEM 03 - LVDT bypass	

DEILE 2023-03-17 15:23:01

Bypass box successfully tested:

```
https://logbook.cern.ch/elogbook-server#/logbook?logbookId=1696&dateFrom=2023-03-17T07%3A00%3A00&dateTo=2023-03-18T07%3A00%3A00
```

also reported here: test of Override key.

DEILE 2023-03-17 15:23:50 ✓

Beam mode and flags combinatorics test not done,
as agreed (interlock logic card not touched).
Last test: spring 2022.

DEILE 2023-03-08 16:20:47

Test ok. See collimation logbook:
<https://logbook.cern.ch/elogbook-server#/logbook?logbookId=1696&dateFrom=2023-03-08T07%3A00%3A00&dateTo=2023-03-09T07%3A00%3A00>

DEILE 2023-03-08 16:21:37 ✓

DEILE 2023-03-09 16:06:07

Test of IPL violations complete and ok. See collimation logbook:
<https://logbook.cern.ch/elogbook-server#/logbook?logbookId=1696&dateFrom=2023-03-08T07%3A00%3A00&dateTo=2023-03-09T07%3A00%3A00>

https://logbook.cern.ch/elogbook-server#/logbook?logbookId=1696&dateFrom=2023-03-09T07%3A00%3A00&dateTo=2023-03-10T07%3A00%3A00

DEILE 2023-03-09 18:18:07 ✓

DEILE 2023-03-09 18:18:59

Test of dump limit violations complete and ok. See collimation logbook:
<https://logbook.cern.ch/elogbook-server#/logbook?logbookId=1696&dateFrom=2023-03-09T07%3A00%3A00&dateTo=2023-03-10T07%3A00%3A00>



Status

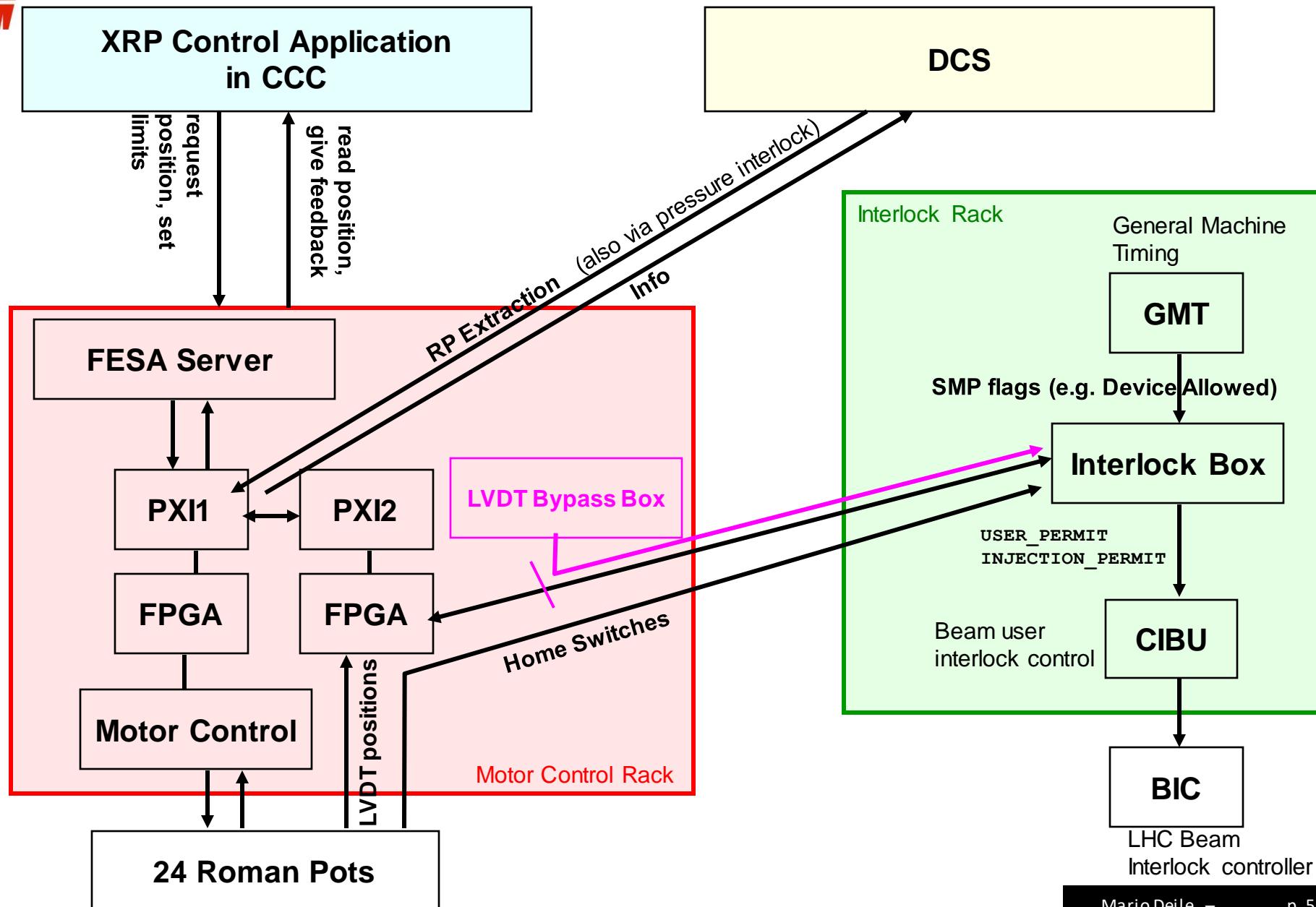


No anomalies observed.

XRP system ready for beam.



Reference Material





TOTEM-BIS Interlock Logic Since 2015

IN MOTOR CONTROL RACK

RP_HOME_B1(01)

Home Switch B1(01)
x 13

RP_HOME_B1(13)

LVDT_B1(01)
x 13

LVDT_B1(13)

FESA

LVDT_B2(01)
x 13

LVDT_B2(13)

Pos_B2(01) x 13
Pos_B2(13)

RP_HOME_B2(01)

Home Switch B2(01)
x 13

Home Switch B2(13)

RP_HOME_B2(13)

Bypass Key

INJECTION_PERMIT_KEY

TOTEM Operator OVERRIDE1

DEVICE_ALLOWED

STABLE_BEAMS

all machine flags

GMT (SMP)

TOTEM INTERLOCK BOX

AND ALL_RP_HOME_B1

AND INJECTION_PERMIT (Beam 1)

AND ALL_LVDT_OK_B1

AND USER_PERMIT1 (Beam 1)

AND ALL_RP_HOME_B2

AND USER_PERMIT1 (Beam 2)

AND INJECTION_PERMIT (Beam 2)

AND ALL_LVDT_OK_B2

INJECTION_PERMIT_KEY

TOTEM Operator OVERRIDE1

DEVICE_ALLOWED

STABLE_BEAMS

all machine flags

GMT (SMP)

CMS S1E08

CIBF 1

CIBU 1 (double)

CIBF 2

Motor Control

DCS

INJECTION_PERMIT_KEY

OVERRIDE1

NOT BACK HOME

= "do not extract"

all machine flags

