



PERLE Progress Review (PPR-3) PERLE Command Control Architecture

<https://indico.ijclab.in2p3.fr/event/13582/>

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Point sur l'avancée

Salle de contrôle (déployée mi-mars)

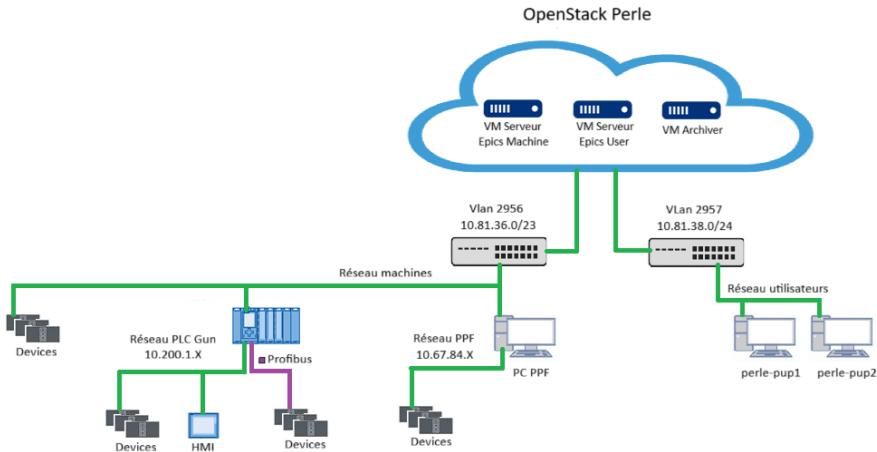


merci O. DALIFARD, N. BARRE, P. LEJEANNIC



Point sur l'avancée

Architecture en place (... sauf configuration du lien avec VirtualData... incessamment)



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Fenêtre Perle

HVPS Magnets Laser Vacuum

Insul. Gas Pressure

Device Status

- Nominal Range
- Over Range
- High Range
- Low Range
- Under Range

Pressure mbar

Ammeter Anode

Value mA

IMG 400:Gun Chamber

Pressure mbar

Insul. Gas Temperature

Device Status

- Nominal Range
- Over Range
- High Range
- Low Range
- Under Range

Temperature mbar

HVPS Main Controller

Reset Device

- HV On
- Voltage Control Mode
- Undefined Command Code
- Checksum Error
- Extra Byte(s) Received
- Illegal Digital Control Byte
- Illegal Set Command Received
- Processing Error
- HVPS Fault

SH Reset

- Busy
- Error
- Wrong State
- Pending Error
- TimeOut Send
- TimeOut Receive
- Pending Interlock

Commands **HV On** **HV Off**

set	applied	monitor	
Voltage <input type="text" value="0.000"/>	<input type="text" value="0.000"/>	<input type="text" value="0.000"/>	kV
Current <input type="text" value="0.000"/>	<input type="text" value="0.000"/>	<input type="text" value="0.000"/>	mA

Active Max Range Voltage (kV) Value & kV/mils

Start **Stop**

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Fenêtre Perle

HVPS Magnets Laser Vacuum

Solenoid 1

set	applied	monitor
Current	0.00	0.00

Solenoid 2

set	applied	monitor
Current	0.00	0.00

The diagram illustrates a particle beamline. It starts with a source on the left, followed by a series of components: Steerer 1, a dipole magnet (BPM1), Steerer 2, a quadrupole magnet (Solenoid 1), a screen (Screens 1), another quadrupole magnet (Solenoid 2), a third dipole magnet (BPM2), Steerer 3, and finally a Far Counter (FC) with an Ammeter. Each component has associated control and monitoring parameters.

Ammeter FC

monitor	
Value	0.000

Steerer 1

set	applied	monitor
H Current	0.00	0.00
V Current	0.00	0.00

Steerer 2

set	applied	monitor
H Current	0.00	0.00
V Current	0.00	0.00

Steerer 3

set	applied	monitor
H Current	0.00	0.00
V Current	0.00	0.00

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Fenêtre Perle

HWPS Magnets Laser Vacuum

Laser Off

Laser Status

Interlock	●	Self Test	●
Mode-Lock	●	Front-End Ready	●
Oscillator Ready	●	Amplifier Ready	●

Controller Status

Key	Standby
Status	Connected
Shutter	Closed

Synchro

Frequency Secu	0 kHz
External Modulator	0 kHz

Laser Output

0 mW

Oscillator

0 mA	
Temperature	0 °C
Power LD	0 mW

Preamp 1

0 mA	
Temperature	0 °C
Power LD	0 mW

Amplifier

MPS	●
0.0 A	0.0 A
Temperature	0 °C
Power LD	0 mW

Synchronization

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Synchronization Configuration

Pulse Picker		External Modulator	
Frequency	<input type="text" value="0 kHz"/>	Width	<input type="text" value="0 ns"/>
Frequency Secu	<input type="text" value="0 kHz"/>	Delay	<input type="text" value="0 ns"/>
Trigger	<input type="text" value="External"/>	Frequency	<input type="text" value="0 kHz"/>
Free Running	<input type="text" value="Off"/>	External Gate	<input type="text" value="Off"/>
Custom Pattern Burst	<input type="text" value="Disabled"/>	Free Running	<input type="text" value="Off"/>
Burst Mode	<input type="text" value="0"/>	Transmission	<input type="text" value="Software"/>
			<input type="text" value="RF POWER (%)"/>
			<input type="text" value="0.00 %"/>



Firefox Web Browser Fenêtre Perle

HVPS Magnets Laser Vacuum

Gun Chamber PPF

NEXTorr 2000 #1

Clear Errors

<input type="checkbox"/> Enable	<input type="checkbox"/> Over Temp Alarm
<input type="checkbox"/> Need Restart After 3 Arcs	<input type="checkbox"/> Input Voltage Alarm
<input type="checkbox"/> Bit #0 Of Cur Ramp/HoldUp	<input type="checkbox"/> Output Over-voltage Alarm
<input type="checkbox"/> Bit #1 Of Cur Ramp/Down	<input type="checkbox"/> Output Over Current Alarm
<input type="checkbox"/> Sum Alarm	<input type="checkbox"/> Arcing Alarm
<input type="checkbox"/> Safe Alarm	<input type="checkbox"/> Communication Alarm
<input type="checkbox"/> Interlock Alarm	

SH Reset

<input type="checkbox"/> Busy	<input type="checkbox"/> Pending Error
<input type="checkbox"/> Error	<input type="checkbox"/> TimeOut Send
<input type="checkbox"/> Wrong Safe	<input type="checkbox"/> TimeOut Receive

Commands **Start** **Stop** **Arc Restart**

set	applied	monitor
Voltage 0.0 0.0 0.0 V		
Pressure 0e+00 0e+00 mbar		
Arc# 0		

NEXTorr 2000 #2

Clear Errors

<input type="checkbox"/> Enable	<input type="checkbox"/> Over Temp Alarm
<input type="checkbox"/> Need Restart After 3 Arcs	<input type="checkbox"/> Input Voltage Alarm
<input type="checkbox"/> Bit #0 Of Cur Ramp/HoldUp	<input type="checkbox"/> Output Over-voltage Alarm
<input type="checkbox"/> Bit #1 Of Cur Ramp/Down	<input type="checkbox"/> Output Over Current Alarm
<input type="checkbox"/> Sum Alarm	<input type="checkbox"/> Arcing Alarm
<input type="checkbox"/> Safe Alarm	<input type="checkbox"/> Communication Alarm
<input type="checkbox"/> Interlock Alarm	

SH Reset

<input type="checkbox"/> Busy	<input type="checkbox"/> Pending Error
<input type="checkbox"/> Error	<input type="checkbox"/> TimeOut Send
<input type="checkbox"/> Wrong Safe	<input type="checkbox"/> TimeOut Receive

Commands **Start** **Stop** **Arc Restart**

set	applied	monitor
Voltage 0.0 0.0 0.0 V		
Pressure 0e+00 0e+00 mbar		
Arc# 0		

NEXTorr 2000 #3

Clear Errors

<input type="checkbox"/> Enable	<input type="checkbox"/> Over Temp Alarm
<input type="checkbox"/> Need Restart After 3 Arcs	<input type="checkbox"/> Input Voltage Alarm
<input type="checkbox"/> Bit #0 Of Cur Ramp/HoldUp	<input type="checkbox"/> Output Over-voltage Alarm
<input type="checkbox"/> Bit #1 Of Cur Ramp/Down	<input type="checkbox"/> Output Over Current Alarm
<input type="checkbox"/> Sum Alarm	<input type="checkbox"/> Arcing Alarm
<input type="checkbox"/> Safe Alarm	<input type="checkbox"/> Communication Alarm
<input type="checkbox"/> Interlock Alarm	

SH Reset

<input type="checkbox"/> Busy	<input type="checkbox"/> Pending Error
<input type="checkbox"/> Error	<input type="checkbox"/> TimeOut Send
<input type="checkbox"/> Wrong Safe	<input type="checkbox"/> TimeOut Receive

Commands **Start** **Stop** **Arc Restart**

set	applied	monitor
Voltage 0.0 0.0 0.0 V		
Pressure 0e+00 0e+00 mbar		
Arc# 0		

Pressure Puck Lock (ppf #5)

monitor 0e+00 mbar

+TRB-BP1

Pressure BU

monitor 0e+00 mbar

IMG 400:Gun Chamber

reset Device

<input type="checkbox"/> Device #2 Selected
<input type="checkbox"/> Reading Invalid/Sensors Off
<input type="checkbox"/> Overrange
<input type="checkbox"/> Underrange

SH Reset

<input type="checkbox"/> Busy	<input type="checkbox"/> TimeOut Send
<input type="checkbox"/> Error	<input type="checkbox"/> TimeOut Receive
<input type="checkbox"/> Wrong Safe	<input type="checkbox"/> PROFBUS Error
<input type="checkbox"/> Pending Error	

Pressure monitor 0e+00 mbar

Gate Valve To Transfer

Device Status

<input type="checkbox"/> Position Switch For OPEN
<input type="checkbox"/> Position Switch For CLOSED
<input type="checkbox"/> Redundant Switch Activated (not used)

SH Reset

<input type="checkbox"/> Busy	<input type="checkbox"/> Pending Interlock
<input type="checkbox"/> Error	<input type="checkbox"/> Pending Inhibit (Open)
<input type="checkbox"/> Wrong Safe	<input type="checkbox"/> Pending Inhibit (Close)
<input type="checkbox"/> Pending Error	

Commands **Open** **Close**

Gate Valve To Buncher Section

Device Status

<input type="checkbox"/> Position Switch For OPEN
<input type="checkbox"/> Position Switch For CLOSED
<input type="checkbox"/> Redundant Switch Activated (not used)

SH Reset

<input type="checkbox"/> Busy	<input type="checkbox"/> Pending Interlock
<input type="checkbox"/> Error	<input type="checkbox"/> Pending Inhibit (Open)
<input type="checkbox"/> Wrong Safe	<input type="checkbox"/> Pending Inhibit (Close)
<input type="checkbox"/> Pending Error	

Commands **Open** **Close**

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fenêtre Perle

HVPS Magnets Laser Vacuum

Gun Chamber PPF

PPF Pressure 1

Device Status

- Input Overrange
- Input High Range
- Input Low Range
- Input Underrange

monitor

+MBE-BP1 mbar

PPF Pressure 3

Device Status

- Input Overrange
- Input High Range
- Input Low Range
- Input Underrange

monitor

+MBE-BP3 mbar

PPF Pressure 4

Device Status

- Input Overrange
- Input High Range
- Input Low Range
- Input Underrange

monitor

+TRa-BP1 mbar

PPF Pressure 5

Device Status

- Input Overrange
- Input High Range
- Input Low Range
- Input Underrange

monitor

+TRb-BP1 mbar

PPF Pressure 6

Device Status

- Input Overrange
- Input High Range
- Input Low Range
- Input Underrange

monitor

+LL-BP1 mbar

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Archivage

- Accueil d'un stagiaire de BUT (Clément KRAWIEC)
- ⇒ *Spring EPICS collaboration meeting 2026*
 - ▶ 20–24 avr. 2026
 - ▶ <https://indico.in2p3.fr/event/37441/>
 - ▶ tout le groupe contrôle-commande