

LMU PowerSupply

CSS Panels

Thorsten Röder, Manfred Valentan



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Problem Dimensions

- 40 PS
- 537 PVs per PS Unit
- 206 PVs need GUI support
- Per Unit Views (read & write) for
 - Run Control
 - Direct Channel Access
 - PowerUp Sequence Control
- Aggregated View (read)
 - Health/Status (overview all PS)
- The Challenge:
 - Uniform & Uncluttered Look & Feel
 - Fast Panel Access
 - Cross-Linking/Referencing
 - Context-related Information Access (e.g. Alarm State)

Overview and 1 HOP Access

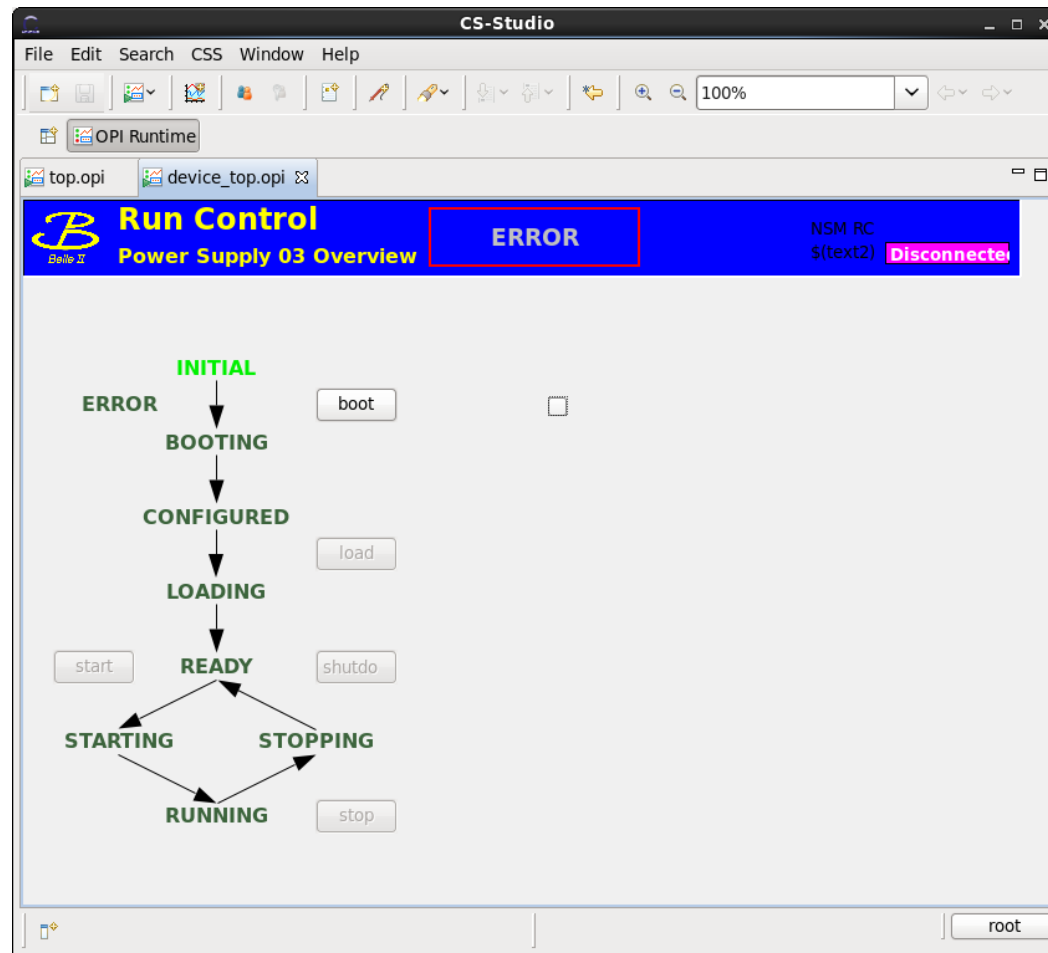
**Run Control**
PS Overview

ERROR

NSM RC
\$(text2) **Disconnected**

	Auto	RC State		
PS 01	☒	Disconnected	PowerUp	Values
PS 02	☒	Disconnected	PowerUp	Values
PS 03	☒	Disconnected	PowerUp	Values
PS 04	☒	Disconnected	PowerUp	Values
PS 05	☒	Disconnected	PowerUp	Values
PS 06	☒	Disconnected	PowerUp	Values
PS 07	☒	Disconnected	PowerUp	Values
PS 08	☐	INITIAL	PowerUp	Values
PS 09	☒	Disconnected	PowerUp	Values

Orchestrated & Individual RC



Channel Access Panel


Powersupply
P08 Overview

ERROR

P08 0

Disconnected

Emergency Shutdown

ENABLED

CONNECTED

OVP

THERMAL

UPS

INITIAL

ENABLE

DISABLE

	Set Current	Set Voltage	Reg.	Voltage at Regulator	Voltage at Load	Current	
sw-sub	0 mA	0 mV		0 mV	0 mV	0 mA	sw-sub
sw-dvdd	0 mA	0 mV		0 mV	0 mV	0 mA	sw-dvdd
sw-refin	0 mA	0 mV		0 mV	0 mV	0 mA	sw-refin
dcd-amplow	0 mA	0 mV		0 mV	0 mV	0 mA	dcd-amplow
dcd-avdd	0 mA	0 mV		0 mV	0 mV	0 mA	dcd-avdd
dcd-dvdd	0 mA	0 mV		0 mV	0 mV	0 mA	dcd-dvdd
dcd-refin	0 mA	0 mV		0 mV	0 mV	0 mA	dcd-refin
dhp-core	0 mA	0 mV		0 mV	0 mV	0 mA	dhp-core
dhp-io	0 mA	0 mV		0 mV	0 mV	0 mA	dhp-io
bulk	0 mA	0 mV		0 mV	0 mV	0 mA	bulk
clear-on	0 mA	0 mV		0 mV	0 mV	0 mA	clear-on
clear-off	0 mA	0 mV		0 mV	0 mV	0 mA	clear-off
gate-on1	0 mA	0 mV		0 mV	0 mV	0 mA	gate-on1
gate-on2	0 mA	0 mV		0 mV	0 mV	0 mA	gate-on2
gate-on3	0 mA	0 mV		0 mV	0 mV	0 mA	gate-on3
gate-off	0 mA	0 mV		0 mV	0 mV	0 mA	gate-off
source	0 mA	0 mV		0 mV	0 mV	0 mA	source
ccg1	0 mA	0 mV		0 mV	0 mV	0 mA	ccg1
ccg2	0 mA	0 mV		0 mV	0 mV	0 mA	ccg2
ccg3	0 mA	0 mV		0 mV	0 mV	0 mA	ccg3
hvv	0 mA	0 mV		0 mV	0 mV	0 mA	hvv
drift	0 mA	0 mV		0 mV	0 mV	0 mA	drift
polycover	0 mA	0 mV		0 mV	0 mV	0 mA	polycover
guard	0 mA	0 mV		0 mV	0 mV	0 mA	guard

Power Up Sequence Panel

File Edit Search CSS Window Help

100%

OPI Runtime

device_powerup.opi

Powersupply
P03 Overview

ERROR P03 1 **Disconnect**

Click to choose file load save View Logfile

boot

Step 01 - configure_digital1

	min.	current	max.	min.	voltage	max.
1 dhp io	0 mA	190 mA	550 mA	0 mV	1800 mV	1800 mV
2 dhp core	0 mA	230 mA	750 mA	0 mV	1200 mV	1640 mV
3 sw dvdd	0 mA	50 mA	50 mA	0 mV	1800 mV	1800 mV
4 buffer	0 mA	20 mA	20 mA	0 mV	2000 mV	2000 mV

error state
continue on error Disabling unit.

skip handshake Waiting for DHH waiting_for_dhh_01 shutdown

Step 02 - configure_digital2

	min.	current	max.	min.	voltage	max.
5 dcd dvdd	0 mA	940 mA	1200 mA	0 mV	1800 mV	1800 mV
6 dcd avdd	0 mA	340 mA	2100 mA	0 mV	1900 mV	1900 mV
7 dcd refin	0 mA	180 mA	900 mA	0 mV	1200 mV	1200 mV
8 dcd amplow	0 mA	340 mA	900 mA	0 mV	400 mV	500 mV

error state
continue on error Disabling unit.

skip handshake Waiting for DHH waiting_for_dhh_02 shutdown

Step 03 - S_configured

	min.	current	max.	min.	voltage	max.
9 dcd dvdd	0 mA	940 mA	1200 mA	0 mV	1800 mV	1800 mV
10 dcd avdd	0 mA	1200 mA	2100 mA	0 mV	1900 mV	1900 mV
11 dcd amplow	0 mA	340 mA	900 mA	0 mV	400 mV	500 mV

skip handshake Waiting for DHH waiting_for_dhh_02 shutdown

Step 03 - S_configured

	min.	current	max.	min.	voltage	max.
9 dcd dvdd	0 mA	940 mA	1200 mA	0 mV	1800 mV	1800 mV
10 dcd avdd	0 mA	1200 mA	2100 mA	0 mV	1900 mV	1900 mV
11 dcd amplow	0 mA	340 mA	900 mA	0 mV	400 mV	500 mV

error state
continue on error Disabling unit.

load

skip handshake Waiting for DHH waiting_for_dhh_03 shutdown

start

Step 04 - configure_analog

	min.	current	max.	min.	voltage	max.
12 bulk	0 mA	10 mA	10 mA	0 mV	17000 mV	17000 mV
13 clear on	0 mA	50 mA	50 mA	0 mV	19000 mV	27000 mV
14 clear off	0 mA	50 mA	50 mA	0 mV	10000 mV	10000 mV
15 clear on	0 mA	50 mA	50 mA	0 mV	27000 mV	27000 mV
16 gate on	0 mA	50 mA	50 mA	0 mV	12000 mV	120000 mV
17 gate off	0 mA	50 mA	50 mA	0 mV	12000 mV	12000 mV
18 source	0 mA	50 mA	50 mA	0 mV	7000 mV	7000 mV
19 ccg	0 mA	10 mA	10 mA	0 mV	5000 mV	5000 mV
20 hv	0 mA	10 mA	10 mA	-13000 mV	-12000 mV	0 mV
21 drift	0 mA	10 mA	10 mA	0 mV	4000 mV	4000 mV
22 polycover	0 mA	10 mA	10 mA	0 mV	4900 mV	4900 mV
23 gate on	0 mA	20 mA	50 mA	0 mV	4000 mV	120000 mV

error state
continue on error Disabling unit.

skip handshake Waiting for DHH waiting_for_dhh_04 stop

skip handshake Waiting for DHH waiting_for_dhh_05 root



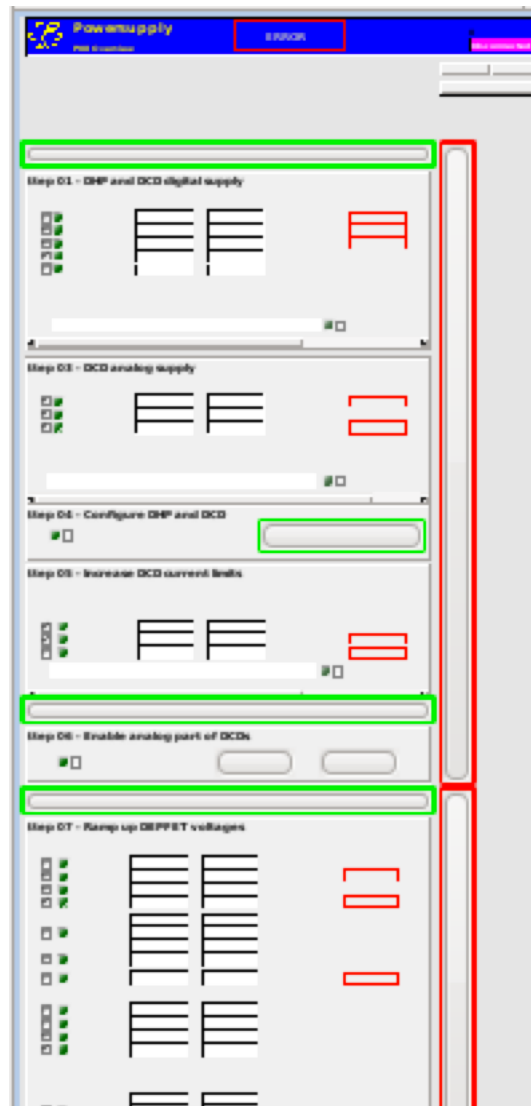
MAX-PLANCK-GESELLSCHAFT



Max-Planck-Institut für Physik
(Werner-Heisenberg-Institut)



Color Scheme & Layout & Labeling



Trying out Tooltips reducing Information Clutter

BOOT

Step 01 - DHP and DCD digital supply

		current	voltage	actual values	
1	☒	dhp core	730 mA	1620 mV	0 mV 0 mA
2	☒	dhp io	550 mA	1800 mV	0 mV 0 mA
3	☒	sw dvdd	30 mA	1800 mV	0 mV 0 mA
4	☒	sw sub	0 mA	0 mV	0 mV 0 mA
5	☒	dcd dvdd	940		

Check current regulator limits for
Check actual current values

State Unit is disabled. ☐ continue on error

Step 03 - DCD analog supply

		current	voltage	actual values	
6	☒	dcd avdd	340 mA	1900 mV	0 mV 0 mA

SHUT DOWN

Tooltip: PXD:B:config-P08:sw-dvdd:CURRE:cur
VDouble[30.0, INVALID(UDF_ALARM), 1990/01/01 01:00:00.000]
Lower Limit: 0.0
Upper Limit: 30.0

Channel Access Panel & Tooltips

Powersupply P08 Overview

ERROR P08 0 **Disconnect** Emergency Shutdown

ENABLED CONNECTED OVP THERMAL UPS INITIAL

ENABLE DISABLE

	Set Current	Set Voltage	Reg.	Voltage at Regulator	Voltage at Load	Current	
sw-sub	0 mA	0 mV		0 mV	0 mV	0 mA	sw-sub
sw-dvdd	0 mA	0 mV		0 mV	0 mV	0 mA	sw-dvdd
sw-refin	0 mA	0 mV		0 mV	0 mV	0 mA	sw-refin
cd-amplow	0 mA	0 mV		0 mV	0 mV	0 mA	dcd-amplow
dcd-avdd	0 mA	0 mV		0 mV	0 mV	0 mA	dcd-avdd
dcd-dvdd	0 mA	0 mV		0 mV	0 mV	0 mA	dcd-dvdd
dcd-refin						0 mA	dcd-refin
dhp-core						0 mA	dhp-core
dhp-io	0 mA	0 mV		0 mV	0 mV	0 mA	dhp-io
bulk	0 mA	0 mV		0 mV	0 mV	0 mA	bulk

epics://PXD:P08:dcd-avdd:CURRE:reg
VDouble[0.0, INVALID(LINK_ALARM), 2015/04/13 08:38:39.873]
Lower Limit: 0.0
Upper Limit: 3000.0