

SCT Power Supply operation

In case you are affected by **serious** problems you can't solve by following the notes below **call Pamela or Heidi (as per current support arrangement.)** After you have finished to use the Power Supply DCS please disconnect the CANBUS cable from the Crate Controller, this should guarantee better stability of the system by stopping any traffic on the backplane.

1) trips of LV/HV channels:

- You will realize that a channel has tripped since you will see it blinking on the front panel of the power supply crate. Only channels (1,6,9,17,22,30,38) are in use, so if a channel different from those 8 is tripped it doesn't matter. In case one of the used 8 channels tripped:
 - Connect the CANBUS Cable to the SCT Power supply crate.
This will cause all the Power supplies to be ramped down (light flashing on the front panel).
 - When lights have stopped blinking switch OFF the crate by pressing the lower of the 2 main power interruptors and then switch it ON again
 - Go to the LCD screen opposite the SCT racks, pctb-sct-dcs01

Make sure the communication with the crate is working:

press the button "ELMB view" on the top right of the panel and check that the ELMB state is toggling between 5 and 133.

If not write in the "CONTROL CC NMT" space 129 press "return" then 133 "press "return" then 1 press "return", then wait for a while, within 1-2 minutes you should get the ELMB state toggling between 133 and 5. If not repeat the operation.

On the screen there is a button on the top right called "Crate View" (press it to see the crate view).

- select the "Global CMD" tab on the bottom left of the panel.
- Press the "ALL MASK ON" button on the "Global CMD" panel.
- If all channel indicators on the " Crate View" panel become white, this operation has been successful, if not try to repeat it.
- When all indicators are white, press the "ON ALL button", the channels will become green and yellow while ramping and after 40 seconds all indicators should all become green (both the LV and HV indicators). If some of them don't become green press again " ON ALL".

At this point all indicators on the Crate view panel should be green.

If any is white, yellow or red this indicates a trip.

- Check specifically channels 1,6,9,17,22,30,38 and 41 both their LV and HV indicators.
If any of those channels is not green a channel has tripped. Other channels are not really used but are usually switched on since it seems to increase stability. If tripped these channels are not a problem.

If no channel is tripped disconnect the CANBUS cable from the crate and leave it running.

Else **LV Trip recovery procedure:**

If some LV channel is still switched off:

- press the "Select" tab on the top left of the main panel
- select the desired channel in the "channel NB" space by typing the channel number and pressing "return", pay attention not to leave empty spaces in front of the channel number
- press the "channel values" button on the top right to see the channel parameters
- select the "Local CMD" tab on the bottom left of the main panel.
- press the "LV ch OFF" button, then press "SEND CH"
- press the "LV ch ON" button then press "SEND CH"
- write "3" in the Control "Vdd (V)" space on the channel parameter panel
- then press "return"
- press the "SEND CH" button on the "Local CMD" panel
- write "4" then press return in the Control "Vdd (V)" space on the channel parameter panel
- press the "SEND CH" button on the "Local CMD" panel

Check in the Monitoring "Vdd(V)" of the channel parameter panel that Vdd is now ramped at 4 V.

If all of this didn't work the LV card might be busy: follow the instructions on point 4) of these instructions

2) In case of a reboot of the DCS machine then:

- restart the PC. The account is: sct_daq and the password is silicon2

-click on the PVSS II console on the top left corner on the screen. This will automatically start the PVSS console.

The project Proj_R250x_MoPS_testbeamok will be selected (else select it from the scroll down menu).

- Then press the green traffic light button on the right.
- The project will start and a panel will automatically open.
- At this point make sure that the communication with the crate is working by pressing the "ELMB view" button. If the ELMB state is not toggling between 5 and 133, then write in the "CONTROL CC NMT" space 129 press "return" then 133 "press "return" then 1 press "return", then wait for a while, within 1-2 minutes you should get the ELMB state toggling between 133 and 5. If not just repeat the operation. When communication is restored press the "Crate View" button, such that you can see the status of the crate.

3) In case of tripped crate:

- restore the communication with the crate by pressing the "ELMB view" button. if the ELMB state is not toggling between 5 and 133, then write in the "CONTROL CC NMT" space 129 press "return" then 133 "press "return" then 1 press "return", then wait for a while, after 1-2 minutes you should get the ELMB state toggling between 133 and 5.
- Press the "Crate view" button, select the "Global CMD" tab on the bottom left panel. press the "ALL MASK ON" button. If all channel indicators on the "Crate View" panel become white, this operation has been successful, or not try to repeat it.
- When all indicators are white, press the "ON ALL button", the channels will become green and yellow while ramping and after 40 seconds all indicators should all become green (both the LV and HV indicators). If some of them doesn't press again "ON ALL". If all trips are recovered disconnect the CANBUS cable from the crate. The only used channels are 1,6,9,17,22,30,38,41 so if other channels are not OK it doesn't matter. When the normal situation is recovered disconnect the CANBUS cable.

4) In case one LV card doesn't respond to commands:

If this is the case the LV card might be busy, to recover from this:

plug the card out of the crate and plug it in again. This will reset the memory of the card and after

this it will work again.

- after having plugged out the card, select the "Global CMD" tab on the bottom left of the main panel.
- Press the "ALL MASK ON" button on the "Global CMD" panel.
- If all channel indicators for the card you have just unplugged on the "Crate View" panel become white, the card is masked on, if not repeat it.
- When the indicators are white, press the "ON ALL button", the channels of the specific card will become green. If some of them don't become green press again "ON ALL".

If the channels in the card don't ramp follow the LV recovery procedure described in point 1.

How to recover chips from the clock/4 :

If after power up a channel goes into clock/4 mode

- go to the "select tab" on the left top corner of the panel.
- Select the desired channel by writing into the "channel Nb" space, paying attention not to leave empty spaces in front of the number. Press "return".
- open the "Channel values" panel by pressing on the Channel value button on the top right of the panel
- select the "Local" command tab in the bottom left of the main panel
- press the "Hard reset" button for the specific channel involved.

The chip should go back to clock/2, if not repeat the operation.