

September 2024

## User Data Collection

### Starting up

Login to the Linux workstation, using your FedID (the same login to the UAS system) and password.

### Webcam

The moveable webcam in EH1 can be accessed by typing the following URL's in a Firefox window:

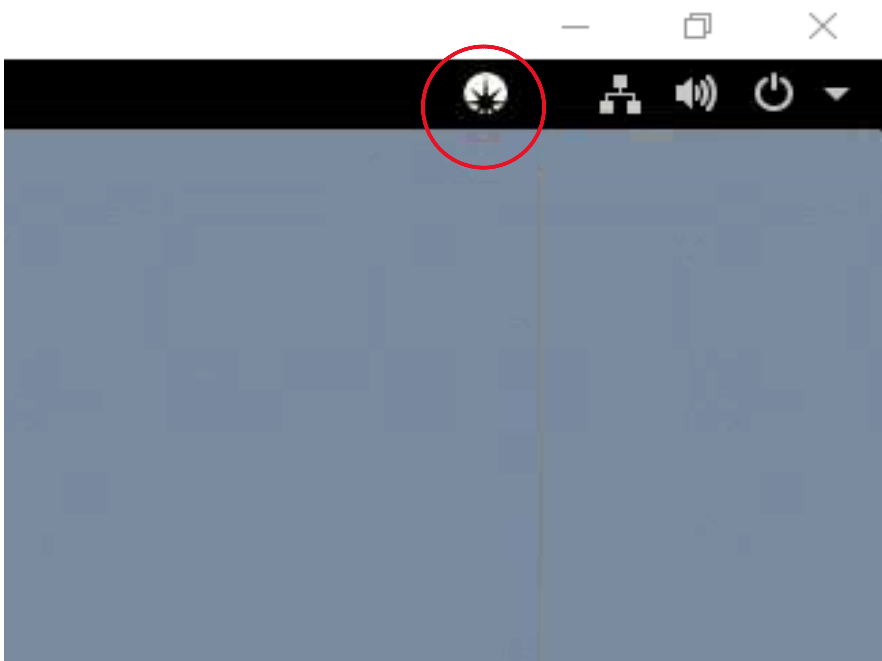
172.23.115.183

Username: i15

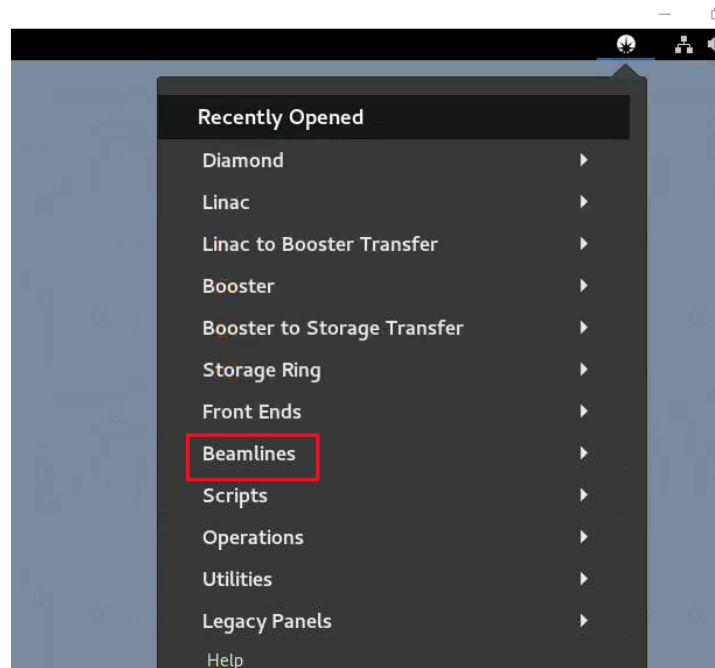
Password: i15

### Open The EPICS Synoptic

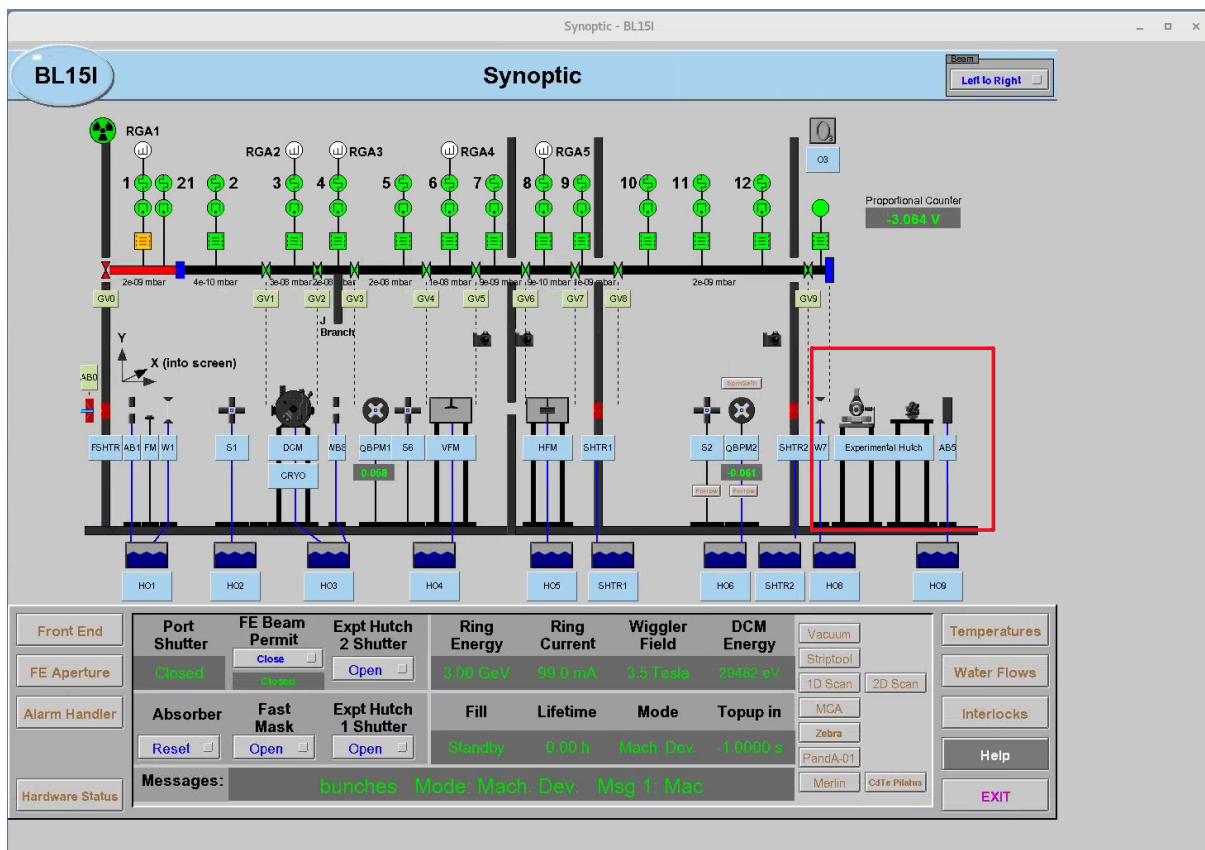
In the top-right corner of the desktop, click the Diamond icon, as highlighted in a red circle.



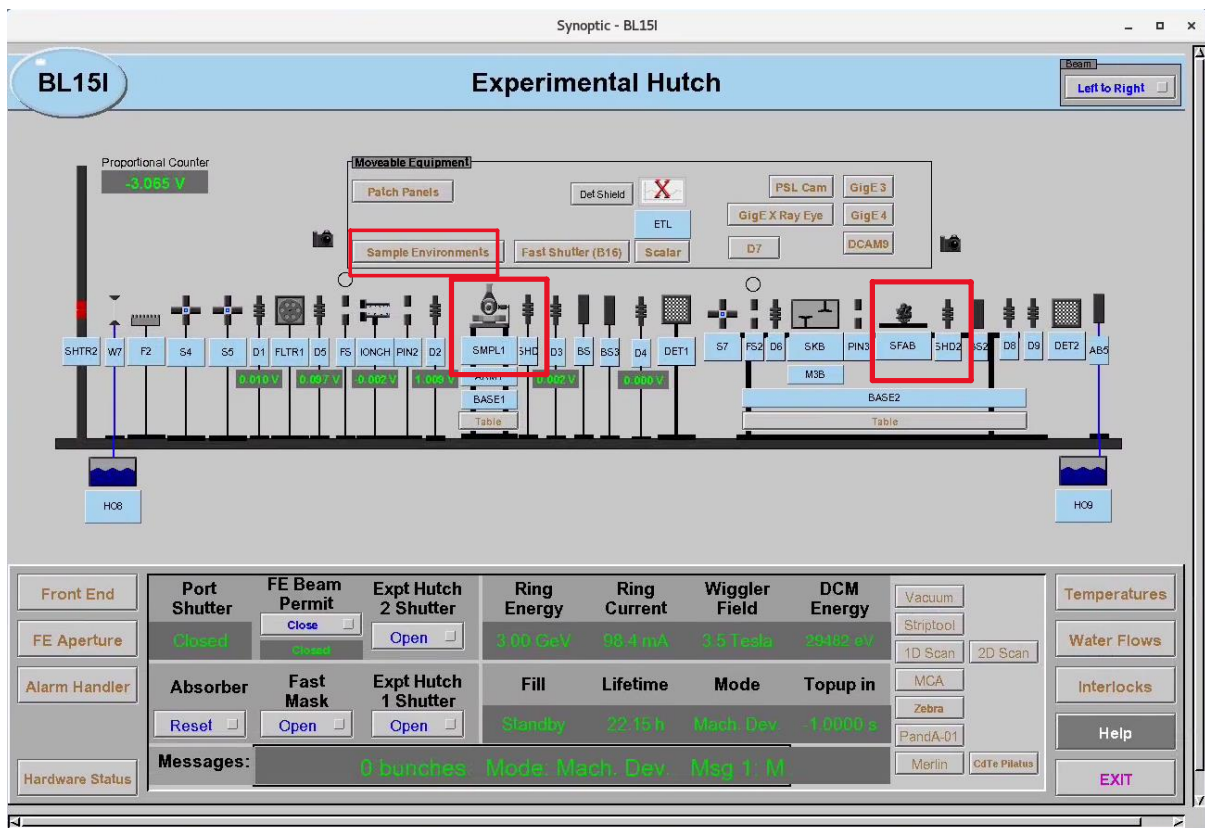
Select **Beamlines** from the resulting drop-down menu.



Click on **BL15I Extreme Conditions**. This will open the I15 EPICS Synoptic.



This is the control Panel for the complete beamline, you won't use it during your experiment. Please **DO NOT** change anything on this panel. On the right-hand side, click on the **Experimental Hutch** and minimise current panel.



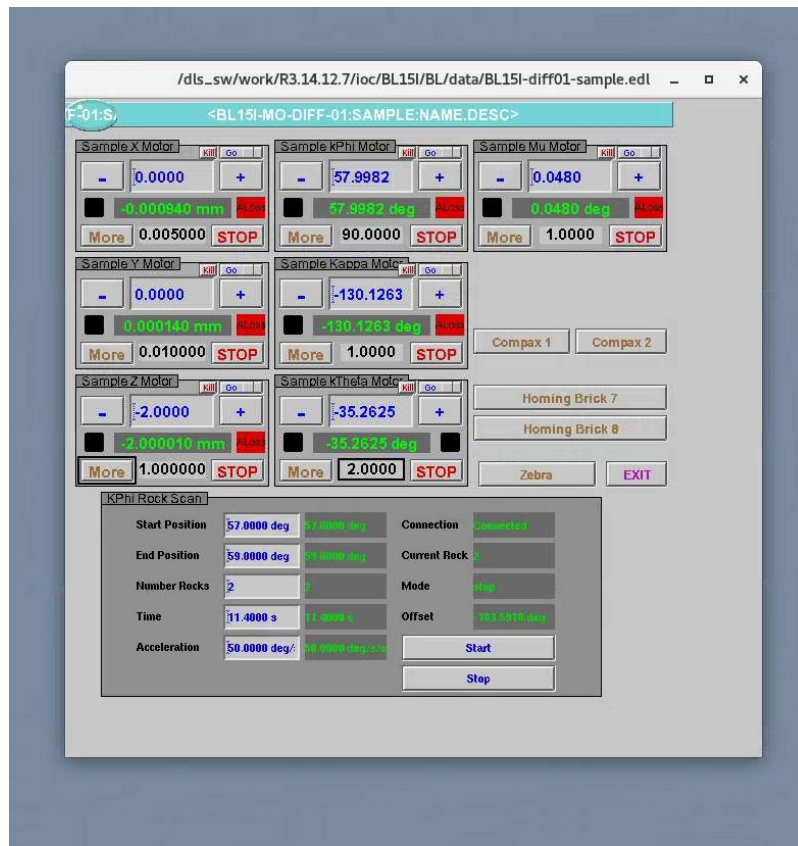
This brings up the control panel for your experiment. For standard experiments, you only need to use panels highlighted by red lines. Beamline staff will setup other panels prior to your experiment if needed, please do not change them unless the beamline staff tell you otherwise.

For experiments running on the diffractometer, you will need **SMPL1** (diffractometer), **SHD** (Superhead), and **Sample Environments** (controls for additional devices such as the pressure controller)

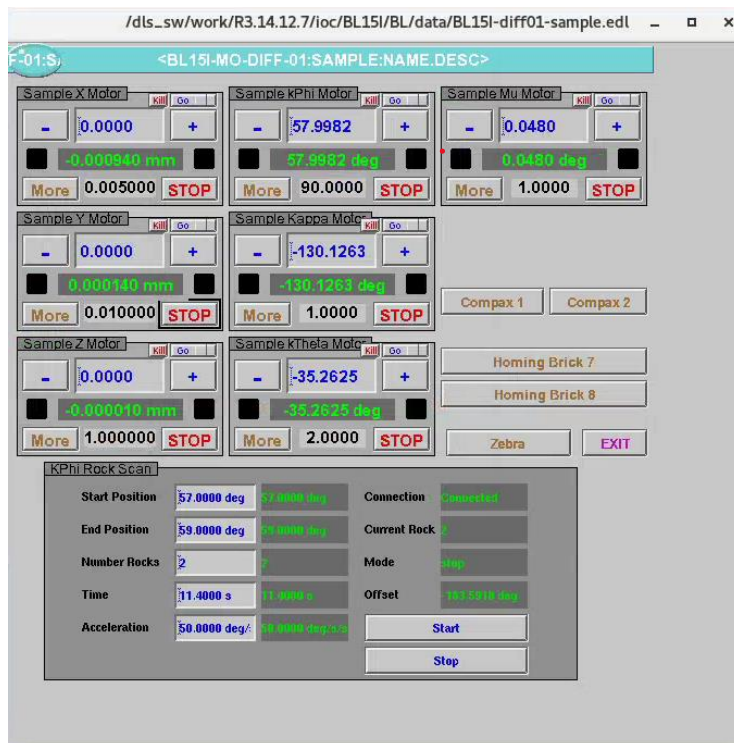
For experiments running on the second table (microfocus and/or laser heating), you will need **SFAB** (Sample stage), **SHD2** (Superhead2), and **Sample Environments**.

## Diffractometer

In order to control the diffractometer during your experiment, click **SMPL1**. If the ALoss lights show in red on the panel, it indicates that motors on the diffractometer have been disabled for safety reasons.

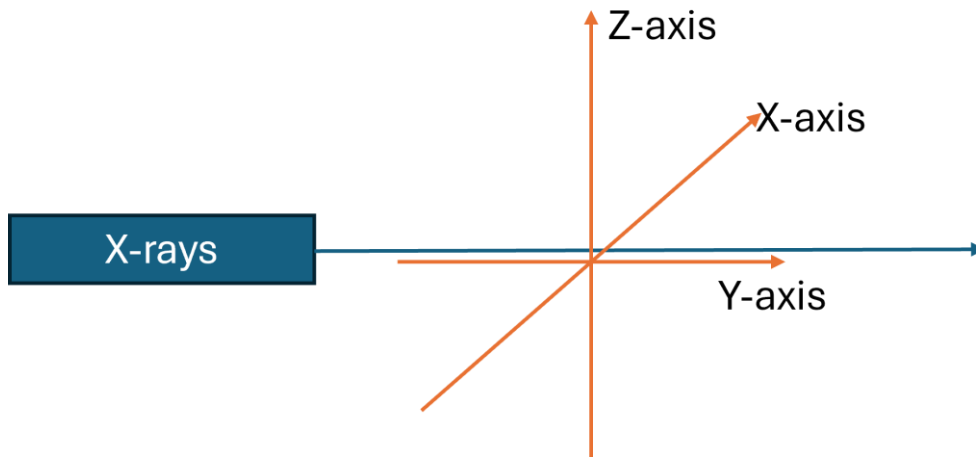


To reactivate the motors, you will need to use the interlock panel above your workstation. Turn the enabling key clockwise, then press the blue button. Once the ALoss lights are off, the diffractometer is ready to operate.



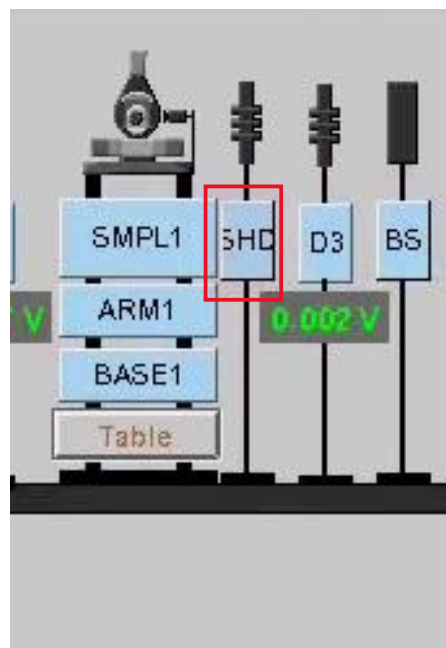
Please note, for safety reasons, the motors on the diffractometer will be disabled every 30 minutes if the hutch door is open.

On this diffractometer, the motor directions are slightly different from the common setup. As is shown on the scheme below, the Sample X Motor moves across the X-ray beam, the Sample Y Motor moves along the X-ray direction, while the Sample Z Motor moves perpendicular to the X-ray direction. You will only use the Sample kPhi Motor for rotation (58° is the starting position). Please do not touch other setups on this panel.

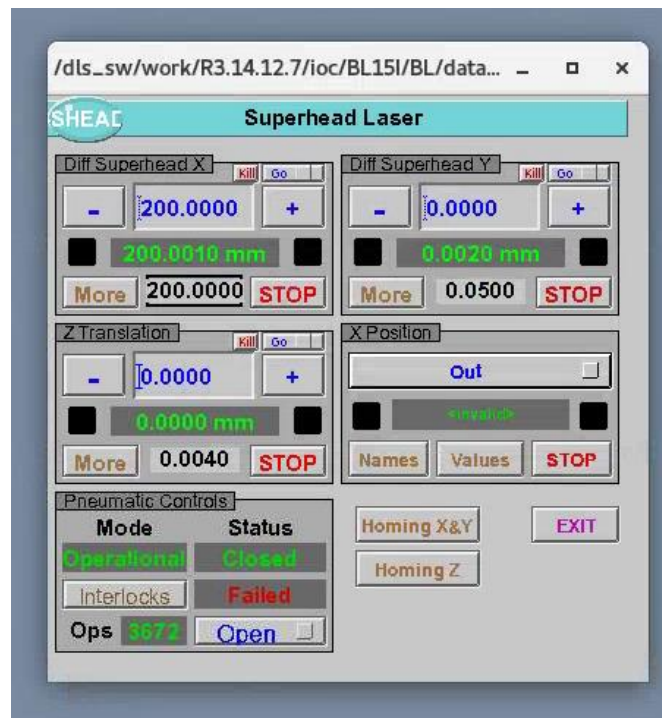


### Optical Focus

Click **SHD** on the Synoptics, this will bring up the control panel for the Superhead – a system that allows you to optically visualize your sample and to measure ruby fluorescence if required.

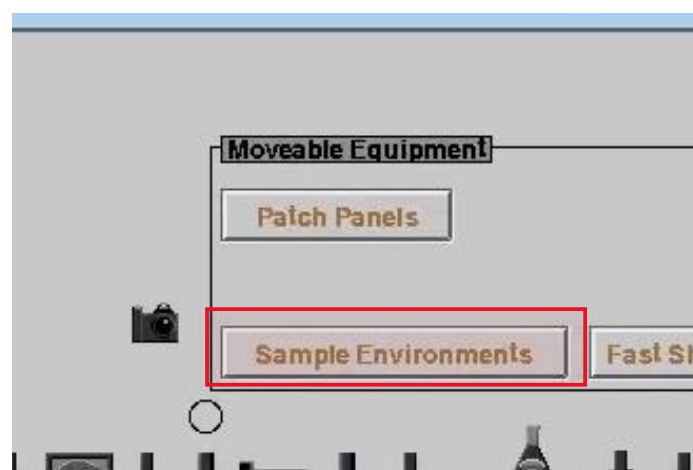


The X-axis of the Superhead runs across the X-ray direction. Typically, the focal point of the Superhead is set to the centre of rotation. To move superhead into focus, set **Diff Superhead X** to 0.

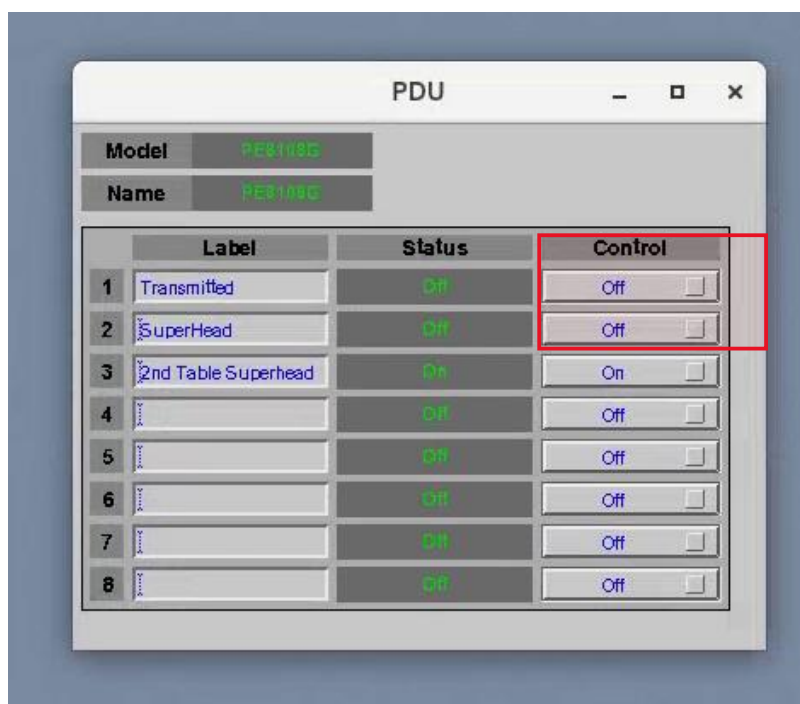
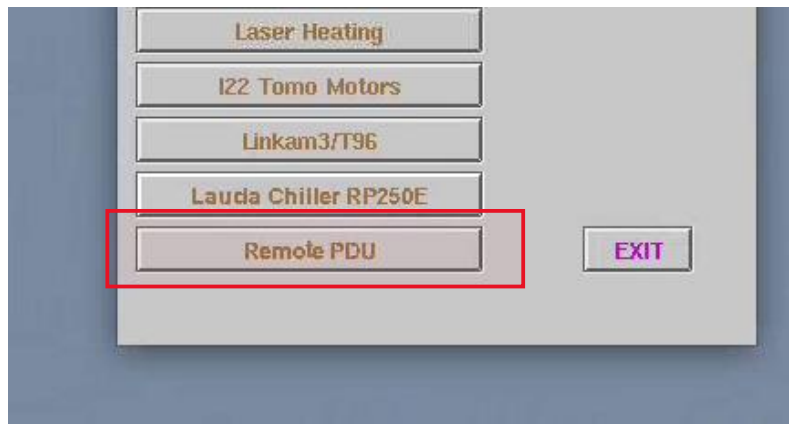


Before changing or rotating sample, please make sure the Superhead is moved out (x = 200 or 180). Since the distance between the Superhead lens and the standard sample holder is shorter than the size of the sample holder, **rotating sample while the Superhead is in the focus position causes a collision.**

To control the Superhead lights, click **Sample Environments** on the Synoptics.

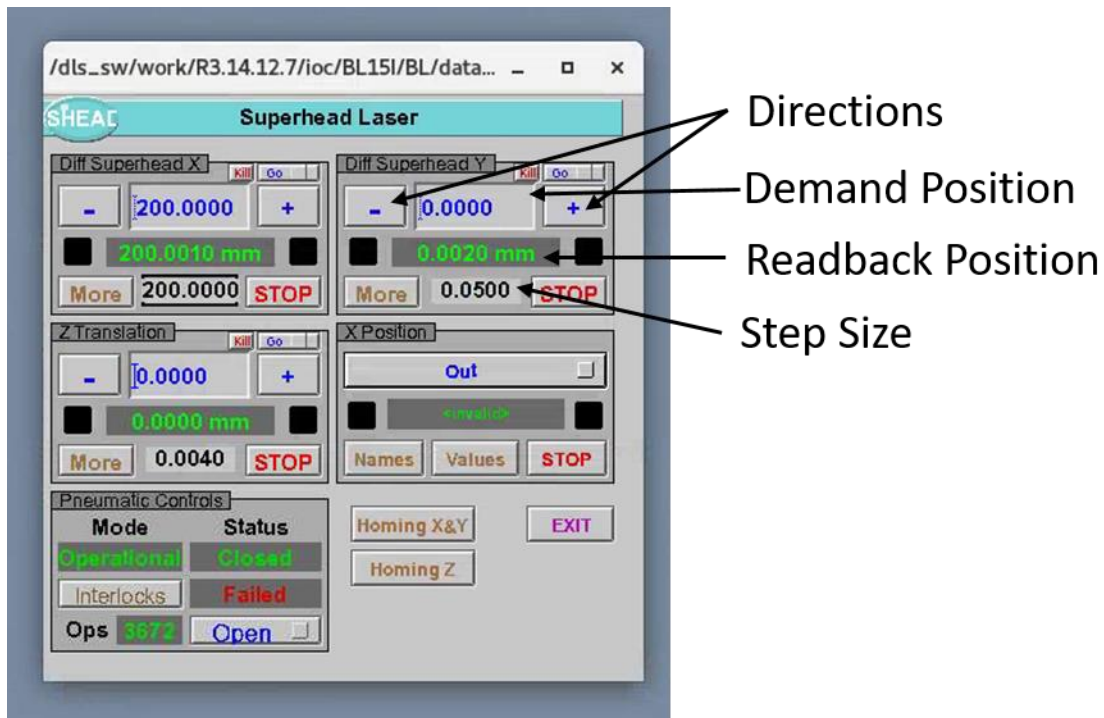


Click on **Remote PDU**.



## Motor controls

You can control motors via **Synoptic**, for instance:



You can move the motor to the target positions, by adjusting the Demand Position. Alternatively, you can set the **Step Size**, then click the direction (- or +). The unit for most motors is  $\mu\text{m}$ .

Please **DO NOT** change rest of the setups on the Synoptic panel. If you do so accidentally, please contact your local contact.