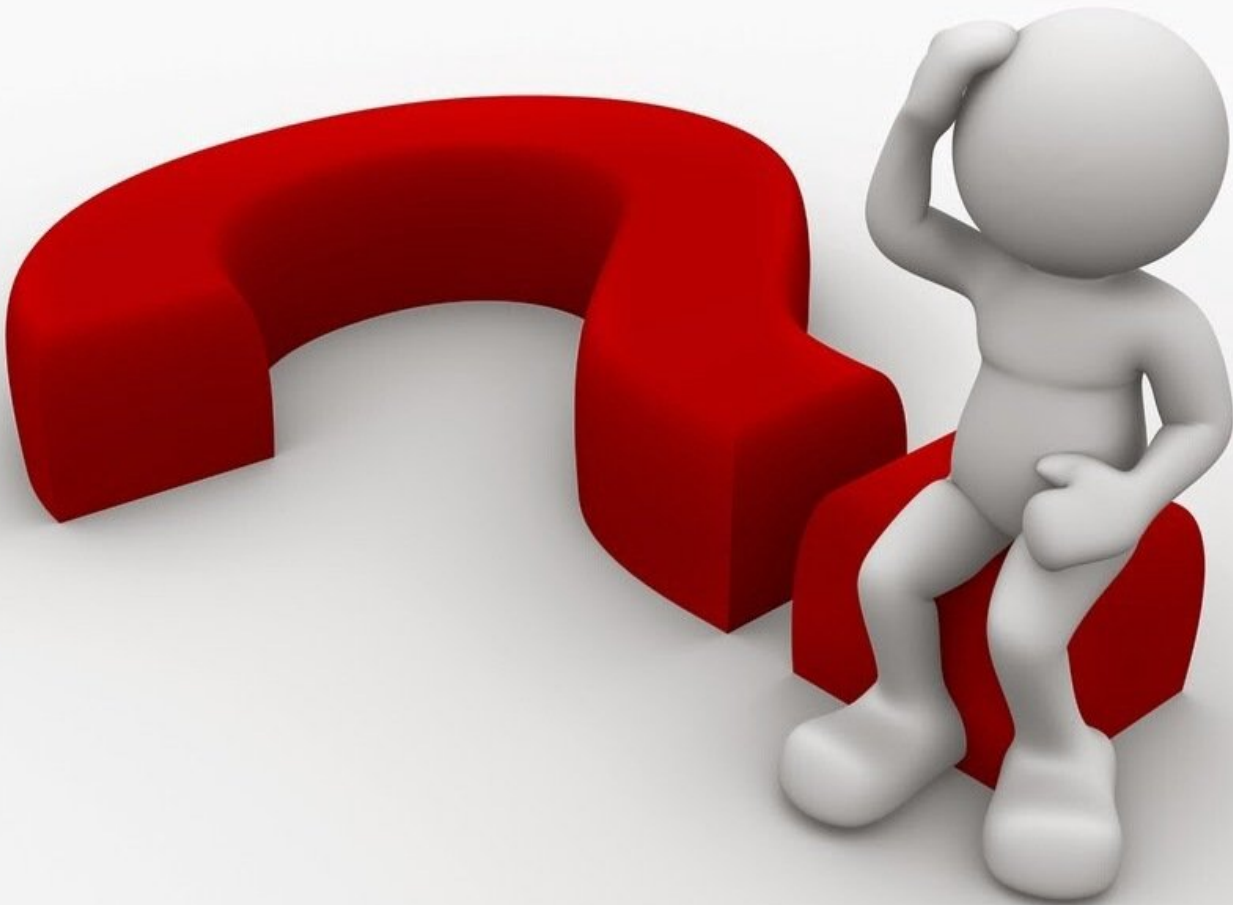


# TEM - TFS Titan Krios G3i: K3 Power Off Power On cycle

How to restart the K3 of the TEM - Thermo Fisher Titan Krios G3i located at ZMB, Irchel Campus, room Y24-F-11, UZH, Zurich, Switzerland.

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## INTRODUCTION


How to power off/ power on the K3 of the TEM - Thermo Fisher Titan Krios G3i located at the Center for Microscopy and Image Analysis (ZMB), Irchel Campus, room Y24-F-11, UZH, Zurich, Switzerland.


The K3 power off/ power on cycle needs to be performed when either the camera or the energy filter is not inserting (or retracting), or not responding.

**If the energy Filter does not have any issue, do not restart the GIB (skip step 4 and 5).**

## Step 1 — When to do the K3 power off/power on cycle?

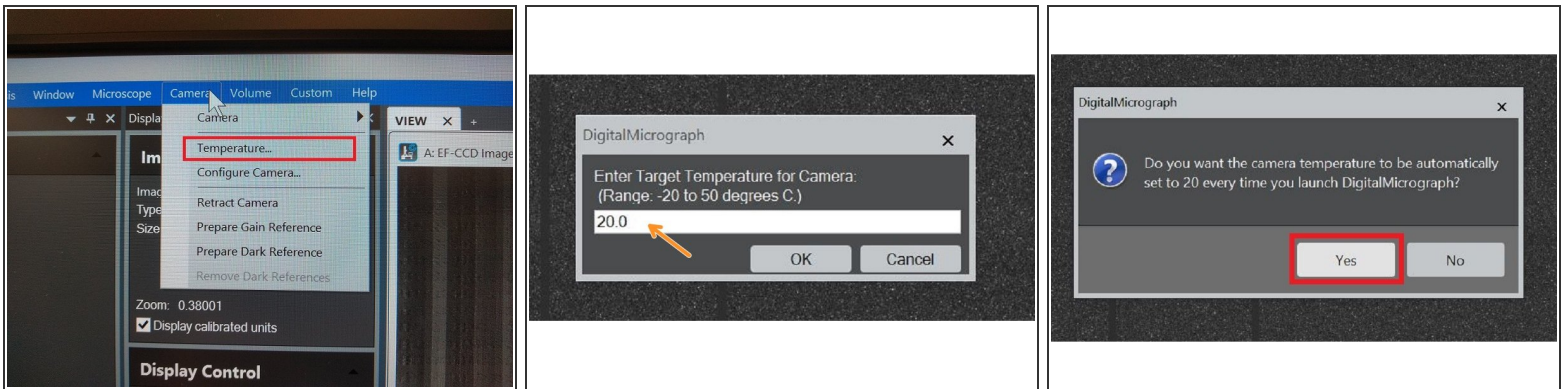


 The power off and power on cycle should be done when there are issues at the K3 camera that a restart can fix. I will list few examples below.

 A camera restart takes 30 minutes, and typically you should re-do the energy filter tuning and gain reference afterwards. Do it only when really sure that the issue is the camera. When in doubt, call the CryoEM specialist: [Simona](#) .

- The computer is completely frozen, the screen is blue and you don't see any program/reaction.
- The Camera is refusing to insert, or to retract.
- Digital micrograph (DM) crashed already few times, and restarting only DM does not help.
- The Camera health is grey, or red, because there is no data connection.

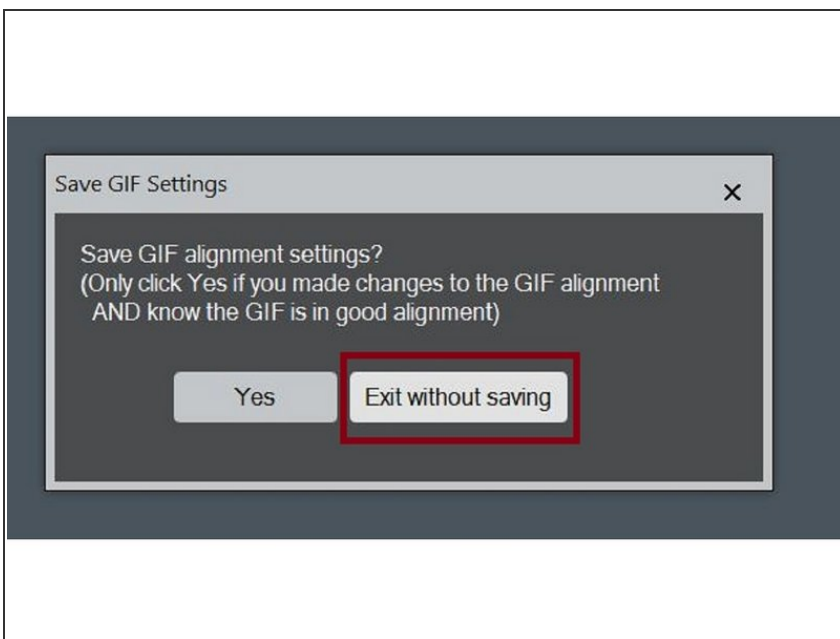
## Step 2 — Modify the camera temperature



**i** The camera is more stable upon restart if it is set at 20 ° C.

- To set the temperature at 20 ° C select "Camera" -> "Temperature..." in the DM Menu.
- Set 20 ° C as target temperature.
- The software will ask you if you want the camera to be at 20 ° C also when DM is launched again - > say "**Yes**".

## Step 3 — Shut down the computer



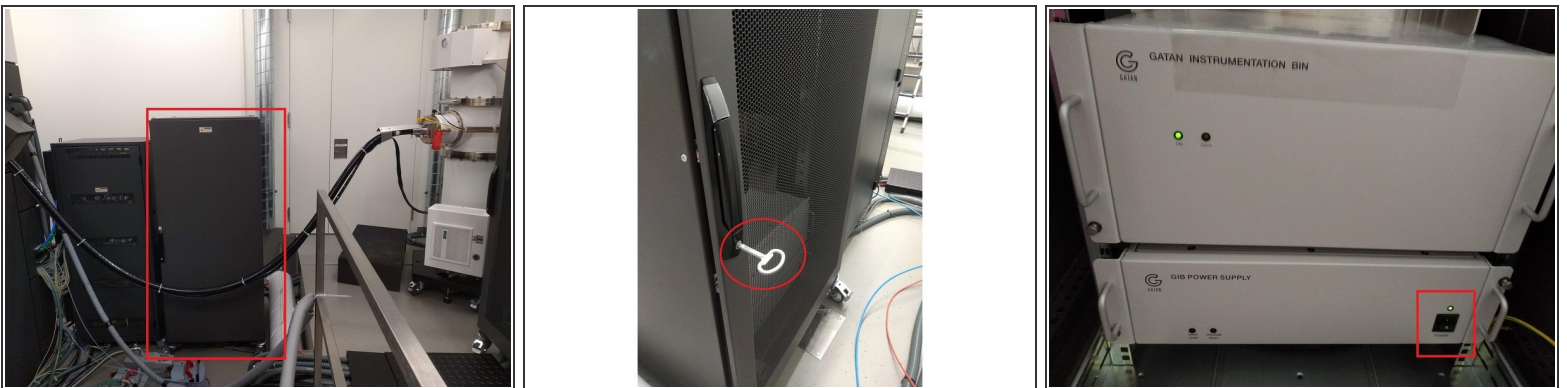
- Close DM
- The software will ask you if you want to save the GIB alignment. Do so only if you tuned the energy filter lately.
- Shut down the Computer

## Step 4 — K3 Power Supply OFF



- Locate the rack for the K3 computer and power supply at the back of the room.
- Open the rack with the key (that is always inserted) and switch off the K3 Power supply pushing few seconds the big blue G until the green lights are off.
- Wait 30 sec before the next step.

## Step 5 — GIB OFF



**⚠ GIB (Gatan Instrumentation Bin) OFF only if there is a problem with the energy filter.**

- Locate the big rack at the back of the room where the GIB (Gatan Instrumentation Bin) is located.
- Open it with the key that is on top of the rack.
- Switch off the GIB power supply.
- Wait 30 sec before the next step.



## Step 6 — GIB ON



**⚠** GIB ON only when step 4 was performed (if there is a problem with the energy filter).

- Switch GIB power supply ON.
- Wait 30 sec before the next step.

## Step 7 — K3 Power Supply ON

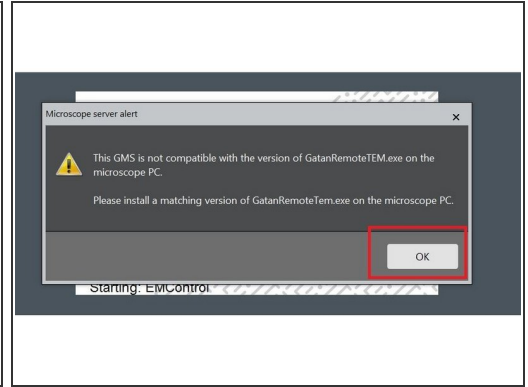
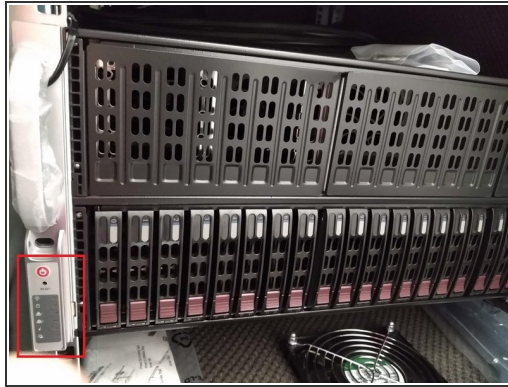


**i** Go back to the K3 rack, The green lights are off, but the blue G is should be pulsating.

- Switch on the K3 power supply pushing the blue G for few seconds.
- Now the led lights will switch on with the following order: CTR → camera power → camera → tec.

**⚠** Only when also TEC is on can you proceed with the following step. This might take few minutes.

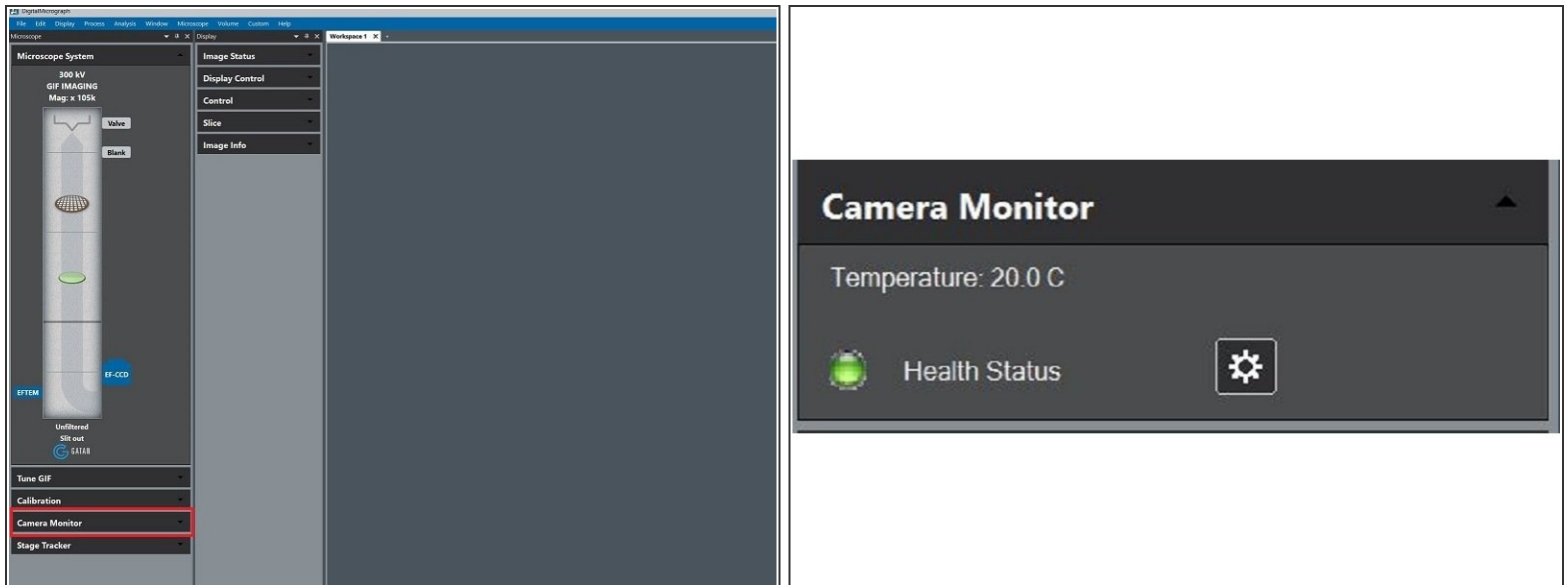
## Step 8 — Computer ON



 Just below the K3 computer, in the K3 rack, you will find the K3 power supply.

- Switch on the K3 computer by pushing the little red button.
- The K3 computer is really noisy, close the K3 rack again.
- Go back to the computer, and log in using the password that you will find written in the paper below the screen.
- Launch DM.
- When DM is started, an error message about the compatibility of gatanRemoteTEM.exe will appear. Please, ignore the message.

## Step 9 — Check the camera status



 The camera is now at 20 °C, check if it is healthy and bring the temperature back to -20 °C.

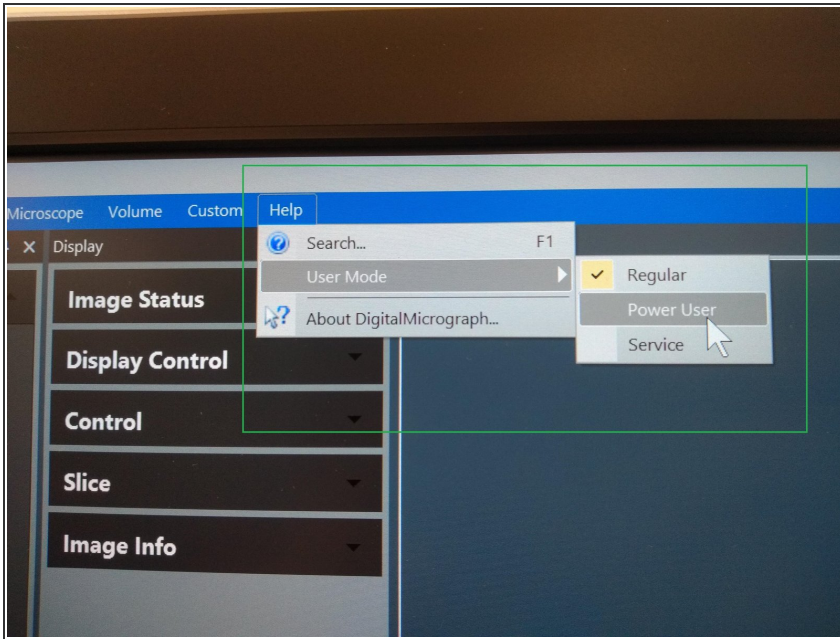
- In DM locate and open the "Camera Monitor" panel.
- Check the camera status. In the image, the camera is healthy (green color). If the camera would be unhealthy, it will display a red color.

 If the camera is unhealthy, inform/call the ZMB staff.

- If the camera is healthy, proceed to change the temperature.

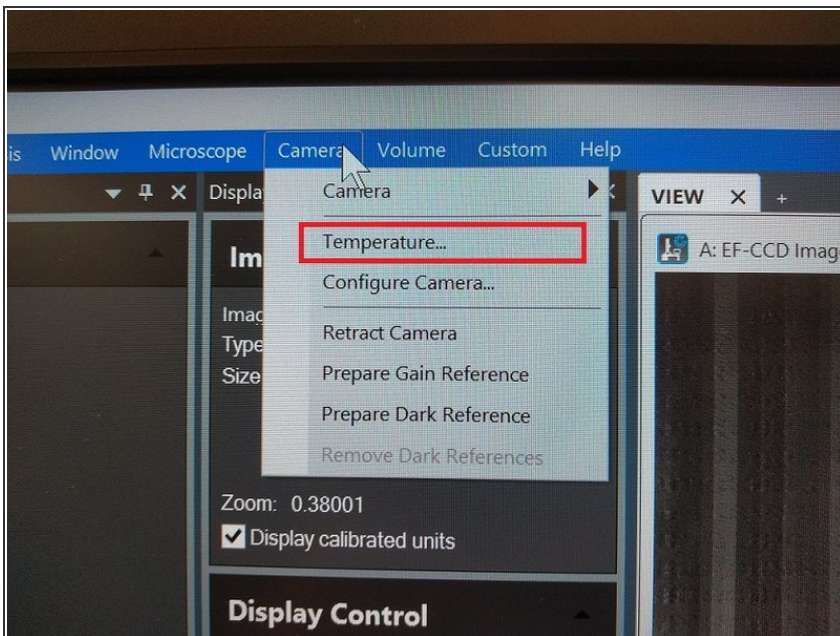


## Step 10 — Select the Power User Option



- ❗ To be able to select the imaging mode, and control the energy filter you must be in Power User mode
- In Help -> User Mode -> Check your user mode. If the Power User is not activated, do so by simply clicking on it

## Step 11 — Bring the camera temperature back to -20 °C



- On the Dm Menu, select "Camera" -> "Temperature.."
- Set -20 ° C as target temperature.
- Set the camera to be at - 20 ° C also when DM is launched again.