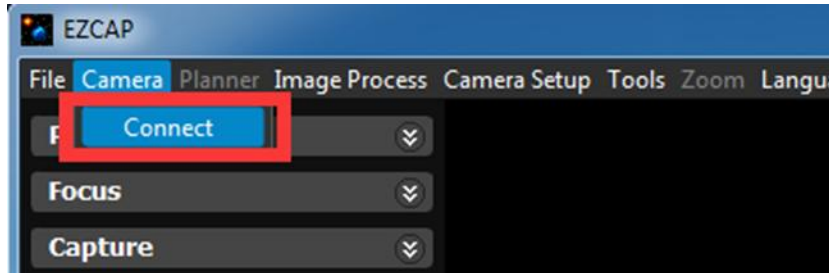
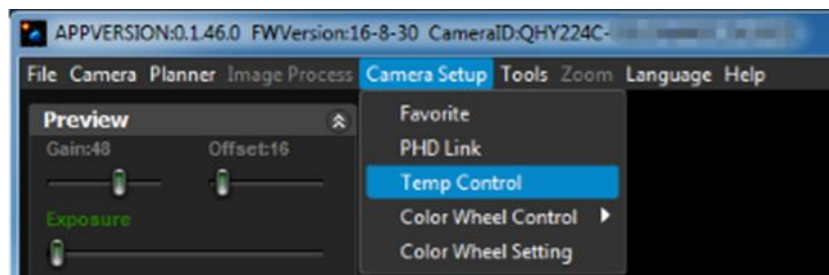


1. How to test if the camera can achieve the ideal environmental temperature difference?

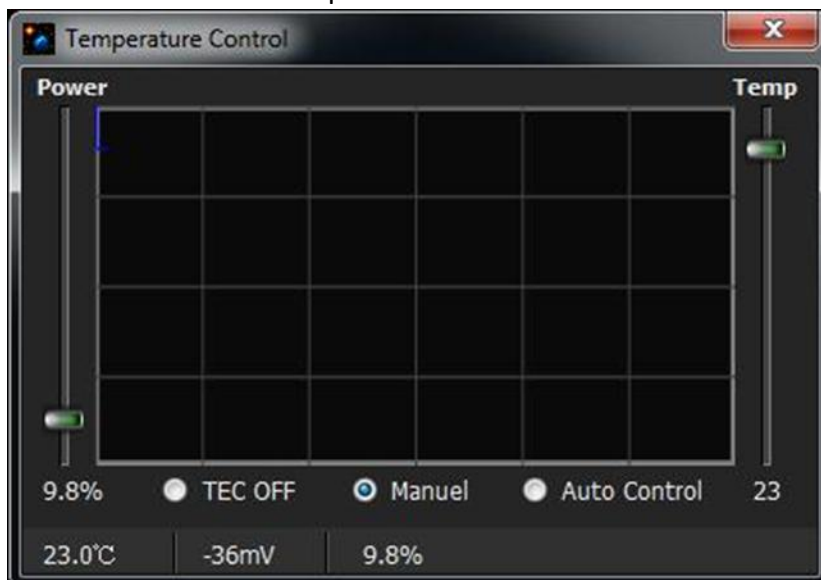
1. Download and install EZCap_QT. For cameras that can support SharpCap, you can also run the test on SharpCap. But with the temperature graph, EZCap_QT makes the change of temperature more intuitive.
2. Connect the camera to your PC with USB cable and DON'T connect it with 12V power supply.
3. Run EZCap_QT, wait for half of a minute so that the firmware can be loaded. Click "Connect" in the "Camera" tab.



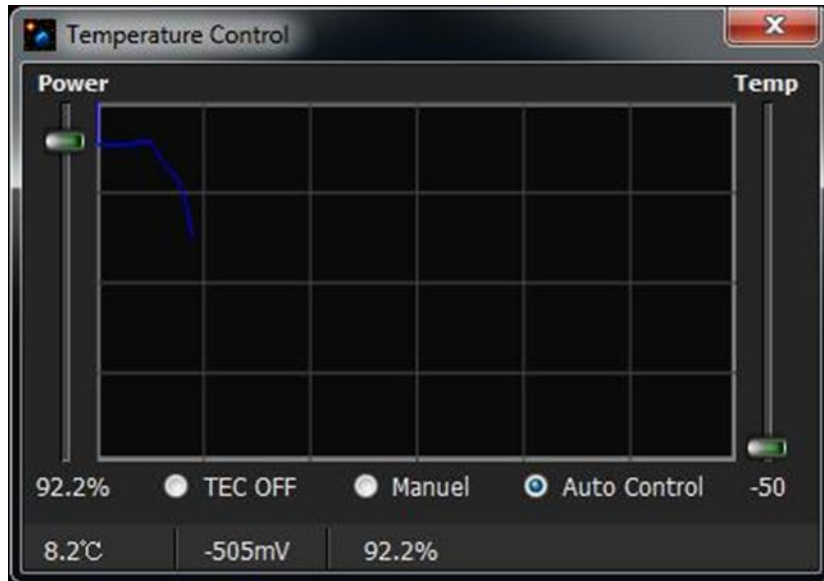
4. Click "Temp Control" in the "Camera Setup" tab.



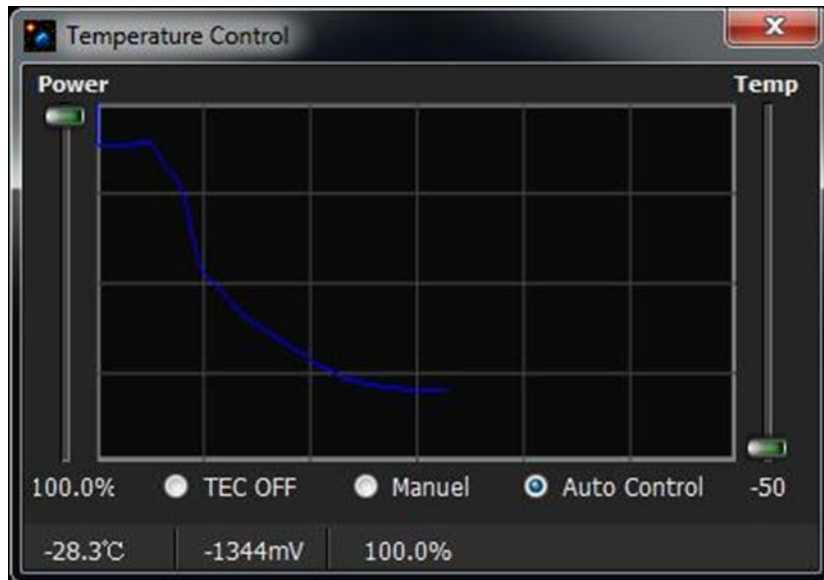
5. You can see the current environmental temperature is 23°C in the popup window as shown in the picture below.



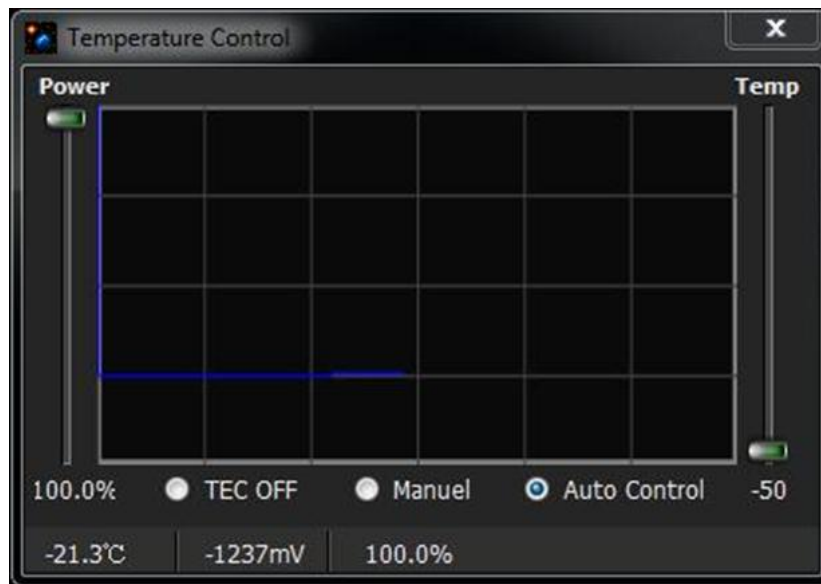
6. Connect the camera with 12V power supply. Click "Auto Control" and drag the temp bar on the right side down to -50. Then the cooler will try to cool the CMOS down to the lowest temperature possible.



7. Soon, you can see the temperature is falling quickly as shown in the picture below;



8. Finally the temperature will be pretty steady at some temperature(-21°C in this case). So the temperature difference is $23 - (-21) = 44^{\circ}\text{C}$ and it meets our need. Note that the biggest temperature differences vary with different models of cameras, for detailed information about the biggest temperature difference, please see its corresponding webpage.



9. You may notice that the power of the cooler is almost always 100%, don't worry about the issue of thermal shock since it works in Auto Control mode. The camera won't be damaged.