Thank you very much for purchasing the ZWO ASI camera. This instruction is a brief summary of the installation procedure to get you up and running with your new camera. Please be sure to read it before use.

Please head over to the ZWO website if you want more detailed information on the camera.
How to connect to the computer? (For Windows users)


2. Go to [Native Drivers] – [ASI Cameras] then download the driver (Only Windows system require this step). Then go [Software] and download [ASISTudio]. Be aware of the different versions for x64 and x32 systems.
3. Double click the files to install the ASI camera driver and ASIStudio.

4. Open ASIStudio, start with ASIIImg.

5. Plug the 12v power supply cable into the DC connector on the camera (Connector type 5.5*2.1mm, center positive, 12V 3A required), then connect the camera to computer via the USB 3.0 cable that is included in the box. Click Play icon to start imaging. Please notice that the camera needs to be powered by 12v power supply, just connecting it to computer with a USB cable will lead to a recognition failure issue.
6. Adjust the settings for the camera.

7. A Help function is available from within the application by clicking the help button. This document will provide a more detailed guide should you require it. Hovering over an icon will also pop up a brief explanation of that function.
8. For 3rd party software ASCOM drivers should be installed before use.

8.1 Download the main ASCOM platform and the ZWO camera ASCOM driver.

8.2 ZWO ASCOM drivers allows the use of your camera for imaging in 3rd party software such as MaximDL, N.I.N.A, Sequencer Generator Pro and for guiding using PHD2.

8.3. ASCOM configuration

There are two camera options in the ASCOM configuration window “ASCOM Camera Chooser”, if you plan to use two cameras simultaneously for both imaging and guiding, then please choose “ASI Camera (1)” as the main camera and choose “ASI Camera (2)” as the guide camera.
If you only plan to use one camera, then just choose “ASI Camera (1)”.
Click [Properties] to configure the camera.

Three common settings for DSO imaging are available.

[Low Gain]: Suitable for targets with high dynamic range, such as M42. It provides maximum dynamic range.

[Mid Gain]: Can be used in most cases. If you are not sure which kind of gain to set, then it is recommended to choose this.

[High Gain]: Suitable for lucky imaging or other imaging methods with short exposure time. It provides lowest readout noise, also low dynamic range.

Or you can also choose [manual] mode to configure these settings to your own liking.

Choose the camera setup as you need, click [OK] to complete the configuration.
How to connect your cooled camera to telescope?

Please refer to the telescope manual to understand what extension tubes or adapters maybe required to connect your ZWO camera. The use of an accessory such as a field flattener or reducer may require a specific back focus distance.

Many of these accessories use a common back focus distance of 55mm. You can visit the ZWO website and find instructions on how to configure your camera for this: https://astronomy-imaging-camera.com/tutorials/best-back-focus-length-solutions-55mm.html

(Scan the QR Code for the tutorial.)
1. M43-T2 adapter (optional)
2. EOS-T2 adapter (optional)
3. 2" filter (optional)
4. 1.25" T-mount
5. 1.25" filter (optional)
6. M42-1.25" adapter
7. 11mm T2 extender
8. M42-M48 16.5mm extender
9. T2-T2 adapter
10. 1.25"/2"/36mm/31mm EFW
11. EOS-EFW adapter
12. 21mm T2 extender
13. OAG-L
14. Sensor tilt plate
15. M48-M42 adapter (optional)
16. M42 filter drawer
17. 2" EFW
Camera ports

- USB 2.0 OUT
- USB 3.0 IN
- LED indicator
- DC 12V
- Cooling fan

USB2.0 cable: Connects to guide camera, EFW and other accessories
USB 3.0/USB 2.0 cable: Connects to USB 3.0/USB 2.0 ports on computer
DC 12V power supply cable: 12V power adapter (Not included in the box)

FAQs

1. Is it normal to have uneven areas in my images?
Yes, there are many factors that may lead to uneven images, such as poorly configured reducer/flatteners, incorrectly mounted filters, focuser tilt, dust on the sensor surface etc. Defects in the form of hot/cold pixels, vignetting or background gradient or other phenomenon, can be removed by the use of calibration frames in processing.
2. Will the camera work without an external power supply?
The power consumption of cooled cameras is significant and cannot be met with USB power alone, so you will need to use a 12V power supply to power your cooled camera. Later model cameras produced after the year of 2022 will encounter recognition failure issue if no power applied.

3. Why does the cooler not work?
3.1 Check if the power supply is working.
Make sure the camera is using DC 12v power, and the red LED power indicator is on. You can use the official ZWO AC-DC 12V power adapter, or 12V portable power source. The interface standard: 5.5*2.1mm; center positive.

3.2 Check if the cooling function is turned on in your imaging software.
The cooling fan will only spin when the cooling function is turned on in the software.
4. Why can’t I find the camera in PHD2 even drivers have already been installed?

Please check the Device Manager -> Image Device to see whether it has the ZWO camera in the list. A question mark or exclamation mark normally indicates the driver is not installed properly. Please uninstall it and close your antivirus software or firewall. Re-install the driver, then restart your computer.