

Instruction Manual



Congratulations on the purchase of **Omegon® variable projection and focal adapter 1.25"**. Also known as tele-extender, it is used for afocal photography with an eyepiece and a camera.

1. How does it work? A 1.25" eyepiece – with a maximum of body diameter of 38mm - is inserted (eyepiece lens facing out) in the system through the aperture on the back (#5 – figure 1). Then it slides all the way in so that it is fixed by the Eyepiece fixation thumbscrew (#6 – figure 1). Usually one wants to start using an eyepiece of high focal length (say 25mm). The camera can be attached to the T-Threads (#5 – figure 1) if it has T-Threads (M42x0.75).

DSLR Cameras usually use bayonet systems that allow to change objectives. Remove the objective from the camera and attached a compatible T-ring (list of compatibility at the end of this document) – not supplied.

In theory, any camera with T-Threads or with a T-ring can be used for projection photography. The performance depends on the combination of distance between the eyepiece and camera sensor, eyepiece optical design and camera sensor (size).

2.1. Attaching the tele-extender to the telescope. The assembled system (as described in 1) should now be attached to a telescope. There are two options. If the telescope's focuser has T-Threads we suggest removing the 1.25" nosepiece from the telextender and directly attach it to the telescope. It provides more stability. If the telescope focuser, on the other hand, only accepts 1.25" eyepiece barrels use the supplied 1.25" nosepiece.

2.2. Focusing. Before using the tele-extender make sure to first focus the eyepiece. This gives you a rough focus point when using the tele-extender.

2.3. Focusing with the camera. Release the two Extender fixing rings (#3 – figure 1). So that the T-threads body (#4 – figure 1) slides freely in and out. Slide all the way in so that the camera is at its closest position to the eyepiece. Now start by racking in (or out) the focuser to get a sharp image (focused) as seen by the camera screen. The light from the eyepiece is being projected to the camera. Depending on the camera's sensor distance to the eyepiece so is magnification different.

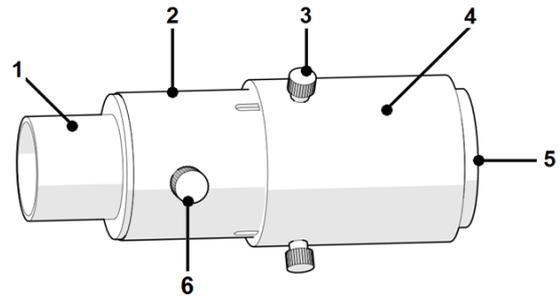


Figure 1. Features.

- 1- Nosepiece adapter 1.25";
- 2- Eyepiece body;
- 3- Extender fixing thumbscrews;
- 4- T-Thread body;
- 5- T-Threads;
- 6- Eyepiece fixation thumbscrew.

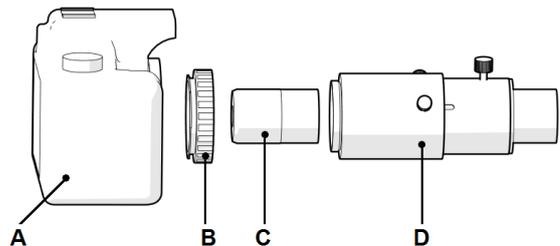


Figure 2.

- A – Camera (DSLR);
- B – T adapter;
- C – Eyepiece;
- D – Tele-extender.

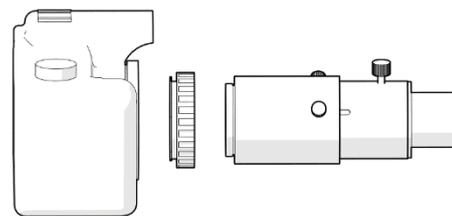


Figure 3. Eyepiece is fixed inside the tele-extender.

3.1. Magnification and how it works. Using a long focal length eyepiece provides less magnification than using a short one. The longest the distance between the camera and the eyepiece the biggest the magnification.

3.2. Illuminated Field. Camera sensors vary in size. Photography using eyepiece projection usually deliver an illuminated circle with the image and the surrounding image is rendered black. This effect is technically impossible to solve. The performance however is very good for planets and the Moon. Therefore we recommend testing several setups with different eyepieces and distances to find the best setup.



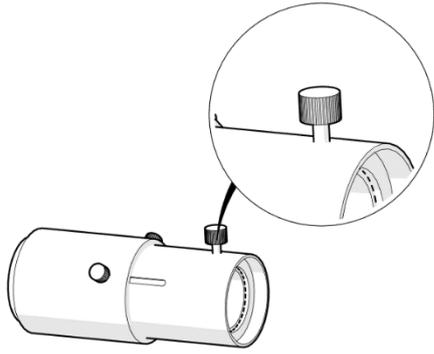


Figure 4. Release the Eyepiece fixation thumbscrew before fixing the eyepiece.

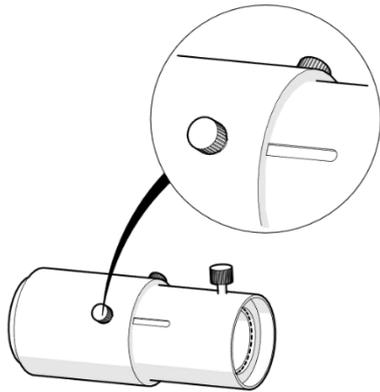


Figure 5. Release the extender fixing thumbscrews to slide in and out the T-threads body.

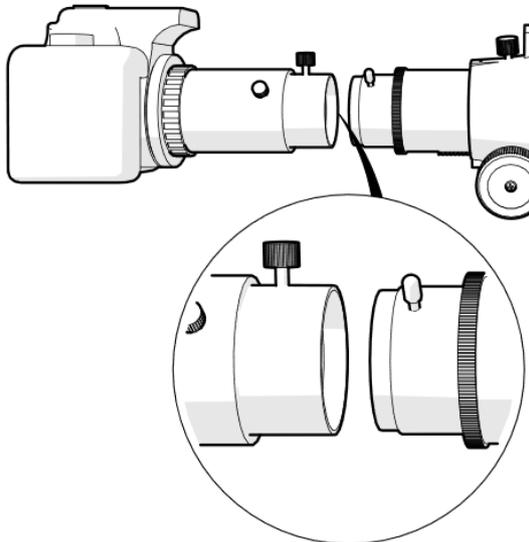


Figure 6. If the telescope has T-Threads remove the 1.25" nosepiece and attached directly.

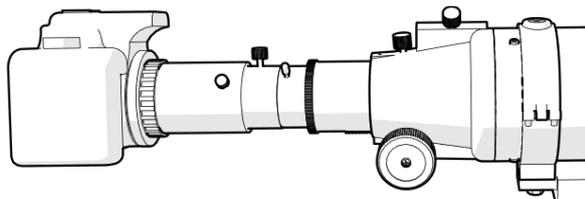
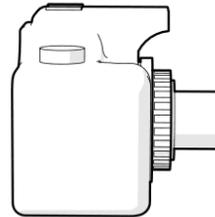
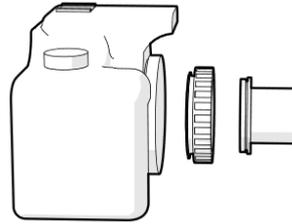


Figure 1. Example of the attached system.

4. Direct photos with a T-ring and the 1.25" nosepiece adapter. Direct photography can be done using the T-ring (not included and the supplied nosepiece adapter 1.25". The focal plane from the telescope will be captured as it is by the sensor. This usually renders low magnifications when compared to projection astrophotography.



5. Existing T-Rings (not included).

- #2416 Omegon T2 Ring Canon EOS
- #2760 Omegon T2 Ring Nikon
- #33222 Omegon T2 Ring, Minolta AF und Sony A-Mount

6. Specifications.

- Weight 210g
- Extension 89 – 120mm
- Size (without nosepiece 1.25"): L 89mm x 50mm diam.
- Materials: all metal, aluminium and brass (chromed)