

INSTRUCTION MANUAL

Orion® Variable Universal Camera Adapter, 1.25"

#5339



The 1.25" Variable Universal Camera Adapter allows attachment of a DSLR camera body to reflector, refractor, or Schmidt-Cassegrain telescopes for either prime-focus or telescope eyepiece-projection, a.k.a. "afocal," photography. This accessory is useful for terrestrial and planetary and lunar photography, and even deep-space photography.

This universal adapter is composed of two detachable parts: a prime-focus adapter (or "T-adapter") for prime-focus photography, and a variable extension tube with a T-thread on the camera-attachment end for eyepiece-projection photography (see **Figure 1**). The adapter slides into the telescope focuser's eyepiece/accessory collar or visual back as an eyepiece or diagonal normally would. A T-ring for your specific camera model (sold separately) is required to couple your camera body to the T-threads (M42x0.75). A thumbscrew in the extension tube holds the telescope eyepiece in place.



Corporate Offices: 89 Hangar Way, Watsonville CA 95076 - USA
Toll Free USA & Canada: (800) 447-1001
International: +1(831) 763-7000
Customer Support: support@telescope.com

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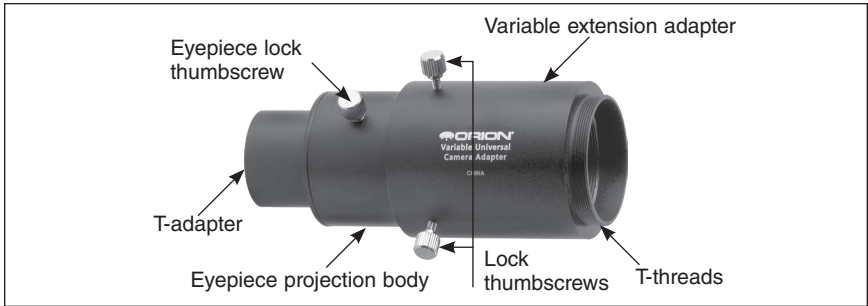


Figure 1. The parts of the Variable Universal Camera Adapter

This combination of prime-focus and eyepiece-projection camera adapter has a sliding barrel design that allows variable projection distances. That is, the camera can be slid forward or back relative to the eyepiece lens, which changes the size (magnification) of the projected image on the camera sensor. This allows you to vary the magnification and image scale without swapping telescope eyepieces when performing eyepiece-projection photography.

The Variable Universal Camera Adapter is compatible with 1.25" telescope focusers (or larger focusers equipped with a 1.25" adapter) and any 1.25" telescope eyepiece with a housing diameter up to 38.4mm. The barrel of the T-adapter is threaded for Orion 1.25" filters. The barrel of the variable extension adapter is internally glare threaded to ensure good contrast.

Assembling the Variable Universal Camera Adapter

The only assembly required is to install the two thumbscrews into the variable extension tube. Then make sure the thumbscrews line up with the two retaining grooves in the eyepiece projection body. There should already be a thumbscrew in the eyepiece projection body itself; this thumbscrew is used to hold the eyepiece in place inside the adapter.

Attaching the Variable Universal Camera Adapter

Refer to **Figure 2** to see how to attach the Variable Universal Camera Adapter to your telescope and camera.

T-Adapter (for Prime Focus Photography)

To use just the T-adapter, or nosepiece, unthread it from the eyepiece projection body. Then thread a T-ring for your particular camera (sold separately) onto the T-adapter. Attach your camera to the T-ring, then insert the T-adapter into the 1.25"

WARNING: *Never look directly at the Sun with the naked eye or with a telescope – unless you have a proper solar filter installed over the front of the telescope! Otherwise, permanent, irreversible eye damage may result.*

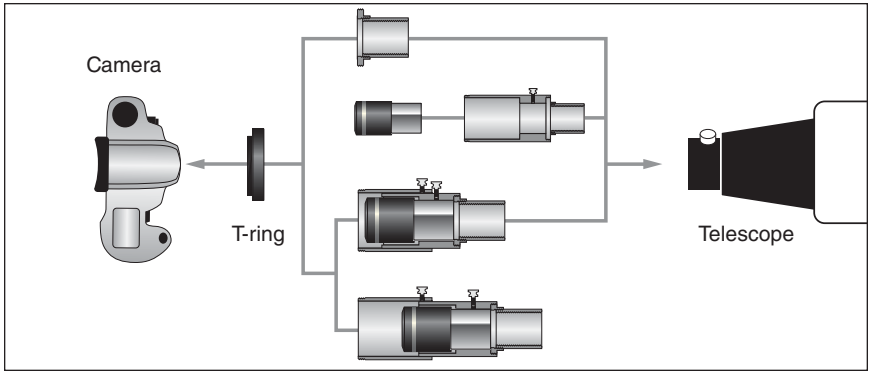


Figure 2. Schematic for connecting the Variable Universal Camera Adapter to a camera and telescope

eyepiece/accessory collar of your telescope and secure it with the thumbscrew(s) on the collar. *Be sure to secure it tightly to prevent the adapter (and your camera) from slipping out of the telescope during use!*

Variable Universal Camera Adapter (for Eyepiece-Projection Photography)

First install a 1.25" eyepiece in the adapter and secure it tightly with the thumbscrew on the eyepiece projection body. Removing the variable extension adapter first may make it easier to install the eyepiece; just loosen the two thumbscrews on the variable extension adapter housing until it can be slid off, then reattach it once the eyepiece is in place.

Caution: Loosening this thumbscrew while the camera is attached may cause the eyepiece to drop loose and damage the camera and the eyepiece!

Then attach your camera's T-ring onto the T-threads on the variable extension adapter. Now insert the T-adapter into the 1.25" eyepiece/accessory collar of your telescope and secure it with the thumbscrew(s) on the collar. *Be sure to secure it tightly to prevent the adapter (and your camera) from slipping out of the telescope during use!*

To adjust the magnification of the image, loosen the two thumbscrews *very slightly* on the variable extension adapter and slide the camera forward or backward while looking through the camera viewfinder (or the LCD in Live View) until the desired magnification is achieved. Slight refocusing of the telescope may be necessary. Then, tighten the thumbscrews and you are ready to take a picture.

Note that with the camera attached to the back of your telescope (or to the side for reflectors), you may need to adjust the balance of the telescope assembly on the mount.

Focusing

Use the following formula to calculate approximate apparent focal lengths and focal ratios when using eyepiece projection. All measurements are in millimeters.

$$EFL = \frac{TFL}{efl} \cdot (DF - efl) \quad EFR = \frac{EFL}{D}$$

- FL = Effective focal length
EFR = Effective focal ratio
TFL = Telescope focal length
D = Diameter of objective lens or mirror (Telescope aperture)
efl = Eyepiece focal length
DF = Distance between eyepiece lens and camera sensor plane

One-Year Limited Warranty

This Orion product is warranted against defects in materials or workmanship for a period of one year from the date of purchase. This warranty is for the benefit of the original retail purchaser only. During this warranty period Orion Telescopes & Binoculars will repair or replace, at Orion's option, any warranted instrument that proves to be defective, provided it is returned postage paid. Proof of purchase (such as a copy of the original receipt) is required. This warranty is only valid in the country of purchase.

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For further warranty information, please visit www.OrionTelescopes.com/warranty.



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International: +1(831) 763-7000
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