

Universal Combined Camera Adapter

#5264 (1.25")

#5268 (.965")

#5262 (1.25")

For terrestrial, deep-space and planetary photography through reflector and refractor telescopes that accept standard slip-fit eyepieces.



A T-ring (sold separately) is used to match the universal adapter to your particular brand and type of 35mm camera. The adapter attaches to the telescope focuser or eyepiece holder where the eyepiece or diagonal prism would normally be placed. The adapter includes two separate pieces which may be threaded together, the Prime Focus Adapter and the Eyepiece Projection Body.

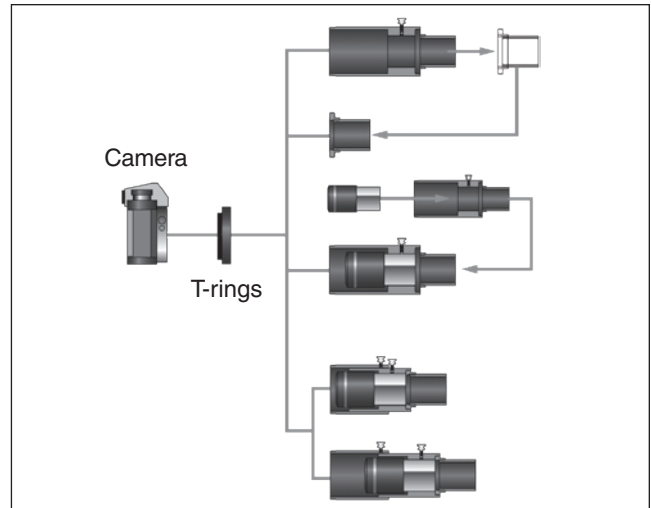
Prime Focus

Prime Focus (or direct focus) is photography using the telescope objective as a replacement for the camera's lens, without additional magnification. In this configuration, you use only the Prime Focus Adapter and your T-ring; the Eyepiece Projection Body is not used. Prime focus is the method nearly always used for long-exposure deep-sky photography and for most terrestrial photography. Photographic focal length and f/ratio are identical to the specifications of your telescope.

Eyepiece Projection

This method is used for very-high-power photography. It is popular for planetary and lunar photography, and for daytime terrestrial photography of extremely small or distant objects under favorable atmospheric conditions. It is rarely used for long-exposure deep-sky photography.

Insert an eyepiece in the adapter before attaching the camera. The eyepiece must be secured tightly with the thumbscrew. Caution: Loosening the thumbscrew while the



camera is attached may cause the eyepiece to drop loose and damage the camera and the eyepiece! The use of low-to-medium power eyepieces (32mm–1.2mm) is recommended, as the magnification effect of eyepiece projection is very pronounced.

Focusing

It can be quite difficult to focus the telescope, especially when using eyepiece projection. In fact, with most cameras, the image in the viewfinder can be so dim that it may be difficult to find the focal point at all. Use a bright object such as the moon or a bright star for focusing; find and center this object in the telescope's field before installing the camera adapter.

We recommend the use of a special replacement camera viewing screen to increase the image brightness and to ease focusing, as standard viewing screens are not designed for the long focal lengths obtained during eyepiece projection telephotography.

If You Can't Reach Focus

Some telescopes have insufficient focus travel to reach focus using the camera adapter. With these telescopes, using a barlow lens between the telescope and the camera adapter may extend the focal plane sufficiently to allow focusing. Alternately, it is sometimes possible to move the primary mirror on some reflector telescopes forward an inch or two to extend the focal plane.

Filter Photography

The 1.25" model tubes are threaded to accept Orion 1.25" color filters eyepiece and Orion light-pollution filters.

.965" Universal Camera Adapter

The internal eyepiece projection tube adjusts with a separate thumbscrew to accommodate various lengths of .965" eyepiece barrels. Be sure you do not confuse the eyepiece securing thumbscrew with the sliding eyepiece holder thumbscrew. Where the size of the eyepiece allows, the eyepiece

position may be varied to change the effective magnifying power of the eyepiece.

Variable Model

The Variable Universal Combined Camera Adapter works just like the standard model, but with one added feature. The distance between the eyepiece and the camera film plane can be adjusted, which changes the effective magnification, without having to change eyepieces. Simply loosen the larger two chrome set screws on the upper part of the adapter body. Slide the camera forward or backward until desired magnification is achieved when looking through the camera focusing screen. Slight refocusing of the telescope may be necessary. Then, tighten the set screws and you are ready to take a picture.

Calculating Magnification

Use the following formula to calculate approximate apparent focal lengths and focal ratios when using eyepiece projection with either the #5264 or the #5268 camera adapters. 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 or mirror (Telescope aperture)

efl = Eyepiece focal length

DF = Distance between eyepiece lens and camera film plane

One-Year Limited Warranty

The Orion 1.25" Universal Camera Adapter and Orion 1.25" Variable Universal Camera Adapter are 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 to: Orion Warranty Repair, 89 Hangar Way, Watsonville, CA 95076. If the product is not registered, proof of purchase (such as a copy of the original invoice) is required.

This warranty does not apply if, in Orion's judgment, the instrument has been abused, mishandled, or modified, nor does it apply to normal wear and tear. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. For further warranty service information, contact: Customer Service Department, Orion Telescopes & Binoculars, 89 Hangar Way, Watsonville, CA 95076; (800) 676-1343.



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