OPTO ENGINEERING

Product user guide

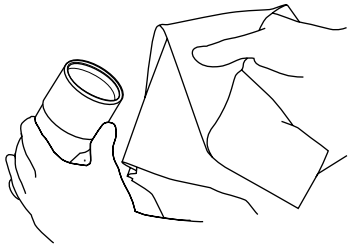
V 7.0

WWW.OPTO-E.COM

HOW TO CLEAN OPTICAL COMPONENTS

Clean the front and rear lenses of the objective with dry air.

If a lens gets dirty, clean it by blowing dry air on it or use a very soft, non abrasive dry cloth as shown in the picture. Softly wipe the lens from its center to the borders. If grease gets onto the lens surface, pure ethyl Alcool or Isopropyl Alcohol may be used by an experienced operator.



IMPORTANT INFORMATION
The wrong cleaning cloth may damage the lens coating

About delicate optical components

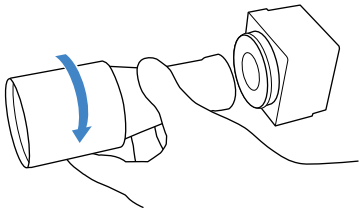
Some products contain fragile and delicate optical components such as mirrors or beam splitters. Their surface should never be touched by hands.

The optical surface of metallic mirrors/beamsplitters is sensitive and any physical contact may cause damage. Before cleaning the surface, take time to carefully inspect it and determine the type and severity of the contaminants. The only approved method for cleaning the optical surface of metallic mirrors/beamsplitters is blowing off the surface by means of a canister of inert dusting gas or a blower bulb. This is due to the non-contact and solvent-free nature of this cleaning method. However, if blowing off the surface is not sufficient, consider using moist wipes with an acceptable solvent, such as ethyl alcohol or Isopropyl Alcohol (never use dry wipes). Acceptable wipes should be as soft as possible (e.g. cotton balls). Whenever wiping the surface of such delicate components, always consider that such cleaning method may result in permanent scratches if particles of dust or other debris are present, due to friction. Always remember that deposition of debris, dust or other contaminants should be, whenever possible, prevented rather than handled by cleaning.

GENERAL USAGE INSTRUCTIONS

Optical products

Screw the objective clockwise with respect to the camera, as shown in the picture.



Refer to specific product datasheet or instructions manual (if available) for detailed instructions.
Further information available at www.opto-e.com

Electronic products

Always connect the power cables with the right polarity, according to the labels on the product wires (if present) without exceeding the indicated values.

Always refer to specific product datasheet or instruction manuals.

Before switching on the power supply, connect the product cables to the power supply.

Connect the cables of the product to your power supply cables by means of a connector. Avoid any risk of electric contacts!

Refer to specific product datasheet or instructions manual (if available) for detailed instructions.
Further information available at www.opto-e.com

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IMPORTANT INFORMATION
This page contains general warnings and precautions for the appropriate usage and storage of Opto Engineering® products

Always deploy and store Opto Engineering® products in the following conditions in order to ensure proper functioning: failing to comply with the following conditions of usage may shorten the product lifetime and/or result in malfunctioning, performance degradation or even failure.

UPON RECEIVING YOUR OPTO ENGINEERING® PRODUCT

- Visually examine the product for any damage during shipping
- if the product is damaged upon receipt, please notify Opto Engineering® immediately.

WORKING CONDITIONS

General safety precautions

Do not subject the lens surface to impacts. This may break the glass and cause serious injury.

Keep the product away from water or other liquids. This may cause malfunction and necessity for repair. If the product includes electrical components and water or other foreign liquids enter it, turn off the power and disconnect the power cable. Using the product in these conditions may cause fire or electric shock, possibly resulting in serious injury.

Do not look through the lens directly or indirectly. It may cause blindness.

Do not disassemble, modify or repair the product yourself. It may cause permanent malfunctioning or, in case of products including electrical components, even fire or electric shock, possibly resulting in serious injury.

Do not apply unnecessary force to mount the product onto the camera. It may damage the camera and the product.

Do not place the product in dusty, humid, hot places or near flames. These conditions may cause malfunctioning and damages or even fire or electric shock, possibly resulting in serious injury.

Do not point the lens directly towards the sun or other strong light sources. It may damage the camera sensor, resulting in poor image quality and also cause fire because of the light focused by the lens.

Do not spray insecticide or apply other volatile chemicals on or around the product. The surface colour may change and the external coating on the lens may be damaged.

Do not wire the product with the wrong polarity, as this could cause fire or electric shock, possibly resulting in serious injury.

Do not directly or indirectly stare into the LED beam or into the radiation cone, as this could cause eye injury or blindness. Avoid direct or indirect skin exposure to the LED source as this may cause severe injuries, especially if UV radiation is emitted by the product.

Do not cause foreign objects to enter the unit or drop into holes, terminals and other openings or gaps. It may cause fire or electric shock, possibly resulting in serious injury.

Disconnect the power cable before moving the product. Not respecting this precaution may damage the power cable, cause fire or electric shock, possibly resulting in serious injury.

Do not scratch, cut, open or twist the power cables. It may cause malfunctioning, fire or electric shock, possibly resulting in serious injury.

If the power cable is damaged or cracked, please contact our assistance service and do not use the product. Damaged cables may cause malfunctioning, fire or electric shock, possibly resulting in serious injury.

Do not plug in or plug out the power cable with wet hands. It may cause electric shock, possibly resulting in serious injury.

Pay attention when products including electrical components are operating since product surface could be very hot. Use a work glove to handle the product, or it could cause burns and serious injury.

Do not use the product in presence of inflammable gas. It may cause outbreaks and flames, possibly resulting in serious injury.

Should you notice any abnormality such as smell, smoke or overheating, turn off the power and disconnect the power cables. Continuing to use the product in these conditions may cause fire or electric shock, possibly resulting in serious injury.

If you have dropped the product or damaged the product case, turn off the power and disconnect the power cables. Continuing to use the product in these conditions may cause fire or electric shock, possibly resulting in serious injury.

Temperature

Operating environment between 0° - 40° C.

Extreme temperature affects the functionality of the product, especially for products that include moving parts and/or electronic components.

Avoid thermal shock by not exposing the product to sudden changes in temperature.

Products that include electronic components may generate heat when functioning. Always allow enough room to dissipate the appropriate amount of heat (if necessary, by forcing the air).

Humidity

Operating environment with relative humidity (RH) less than 85% (no condensation).

Vibrations and positioning

The product is a high precision instrument. Avoid mechanical shock and exposure to vibrations: lenses are made of fragile materials which can fracture.

Always handle the product with care and use appropriate clamping mechanics to position it.

NEVER use optical parts of the product as means of mechanical support.

Do not place the product on an unsteady stand, tripod, base or table and on uneven floors. If the lens were to fall down, it could cause personal injury and it may get damaged.

In case the lens is placed vertically, with the mechanical axis nearly perpendicular (+/-30°) to the floor, operators should never place their hands under the lens to avoid injuries due to the possible falling of mechanical or optical components.

STORAGE CONDITIONS

Temperature

Storage environment between 0° - 50° C.

Avoid thermal shock by not exposing the product to sudden changes in temperature

Humidity

Store the product in a dry place: storage environment with relative humidity (RH) less than 85% (no condensation).

Vibrations

Always handle the product with care

Store the product in a safe place inside its original packing material and out the reach of small children.