

INON UCL-G165 II SD

Underwater Wide Close-up Lens

User Manual

Safety Precautions

- Before using your lens, please ensure that you have read and understood the safety precautions described below and user manuals. Please retain user manuals handy for easy reference.
- The safety precautions are intended to instruct you in the safe and correct operation of the strobe to prevent injuries or damage to yourself, other persons and equipment.



WARNING

Failure to observe the precautions described below may lead to possibility of serious injury or death.

Never attempt to see the sun or strong light source through the lens or camera to avoid irreparable injury to the eyes, or temporary visual impairment which may affect your performance requiring safety aspects.

Do not leave the lens in a place subject to direct sunlight to prevent fire which may be caused by the lens collecting sunlight

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INON UCL-G165 II SD Underwater Close-up Lens

Thank you for purchasing INON product.

The INON **UCL-G165 II SD** Underwater Wide Close-up Lens is dedicated wet lens designed for action cameras enabling super close-up/high magnification imaging which would not be possible with action camera standalone.

Compatible Product

Besides your camera, this lens requires INON SD Mount Cage, SD Front Mask or SD Mount Base and genuine camera housing (for particular camera). Check below table to prepare necessary item(s) according to your camera.

Manufacture	Camera	Genuine housing	INON SD Front Mask
GoPro	HERO13/12/11/10/9 Black	Dive Housing (for HERO13/12/11/10/9 Black)	SD Front Mask for HERO9
	HERO8 Black	Dive Housing (for HERO8 Black)	SD Front Mask for HERO8
	HERO7/6/5 Black	Dive Housing (for HERO7/6/5 Black)	SD Front Mask for HERO5/6/7
	HERO4, HERO3+, HERO3	Dive Housing (depth rating: 60m/197 ft.)	SD Mount Cage for HERO3/3+/4
		Standard Housing (depth rating: 40m/131 ft.)	
	HERO, HERO+, HERO+LCD	---	SD Front Mask STD
Insta360	GO 3S	Dive Case (for Insta360 GO 3S)	SD Front Mask for GO 3S
Olympus	TG-Tracker	---	SD Mount Base for TG-Tracker
Sony	FDR-X3000 / X3000R, HDR-AS300 / AS300R	MPK-UWH1	SD Mount Base UWH1

Features

- This lens **drastically shortens minimum focus distance underwater to 10cm/3.9in** supporting high magnification/close-up image.
- Maximum angle of view of action camera will narrow down underwater due to different refraction index. The INON UCL-G165 II SD is a unique close-up lens providing slightly wide angle of view **underwater 110°** to have deeper depth of field (DoF) benefitting you with less out-of-focus close range clip which is not possible with standard close-up lens.
- Optional **Focus Stick (PAT.P)** greatly reduces blur clips as it provides visual reference of the minimum focus distance.
- Bayonet **INON SD Mount** compatible to support friendly and speedy lens exchange underwater.
- Optional INON **AD Lens Holder** can hold the UCL-G165II SD when the lens is not in use.
- Optics is constructed of 2 elements in 2 groups. All elements are made from high refractive index glass lens to minimize whole size dramatically without sacrificing performance.
- Both lens elements have anti-reflection coating on all surfaces to elicit combined master lens performance.

Package Contents

- UCL-G165 II SD ①
- Front Lens Cap (rubber/with lanyard) ②
- Rear Lens Cap (PC) ③
- Detachable Strap ④
- Pouch



Installation on SD Front Mask

*Please note context below refers to “Front Mask” but also it applies to installation procedure on “SD Mount Cage”, “SD Mount Base” as well.

- Match **Guide A [Lens]** with **Guide A [Mask]** as in below left image and put the male bayonet mount of the lens in the SD bayonet mount.
- Rotate the lens clockwise until **Guide A [Lens]** is coupled with **Guide B [Mask]** where you should feel and hear clicking.
- When removing the lens, with pressing the Lock Lever, rotate the lens counterclockwise.
- **Once submerged, remove the lens underwater and shake it well** to drop trapped bubbles especially from the rear lens surface then install the lens on the SD Front Mask again following same procedure..



Attaching Strap

The lens mount has a strap eyelet.

Attach the supplied detachable strap to prevent accidental falling of the lens.



Usage

[Notes]

- **This lens is designed only for underwater use.**

[When using for GoPro]

- Set FOV/Digital Lenses to **[Wide]** for wide-angle macro shooting that prioritizes angle of view, or **[Linear]** for magnification-oriented imaging.
- Shoot in **4:3** or **16:9** aspect ratio as **vignetting will occur in 8:7 or [HyperView™] mode** which compresses footage in 16:9 aspect ratio by using the full 8:7 sensor.
- **[SuperView™] mode is not recommended.**
The SuperView™ mode stretches both ends of the image inside the camera to fit into a 16:9 aspect ratio from originally obtained 4:3 aspect ratio image by the camera sensor. Since the edges of the frame are stretched horizontally, using an attachment lens further stretches the edges of the frame, resulting in an unnatural image.
- Set the camera's image stabilization (HyperSmooth) to **[Standard], [High], or [On]**.
Setting to [Off] will cause vignetting in image corners, and [Boost] will crop the image significantly.
- The FOV/Digital Lenses setting **[Wide]** in Photo mode causes vignetting in image corners.

[When using for GO 3S]

- Recommended Field of View settings are: **[Narrow]** for magnification-oriented imaging, or **[ActionView]** for wide-angle macro shooting that prioritizes angle of view.

[When using for TG-Tracker]

- Enable image stabilization function of the camera to avoid vignetting.
- Usable range of DoF (depth of field) with this lens is “2cm/0.8in~15cm/5.9in” and distant subject beyond this range gets blur.
- **DO NOT** use this lens when taking still image to avoid significant vignetting.

[When using for FDR-X3000 / HDR-AS300]

- Select SteadyShot (Movie) “Act” when shooting video as “Std” and “OFF” cause slight vignetting
- Excessive camera movement may result vignetting even SteadyShot(Movie) “Act” is selected.
- Select SteadyShot (Still) “ON” when shooting still image.
- Set FOV/Digital Lenses to [W: Wide] for wide-angle macro shooting that prioritizes angle of view, or [N: Narrow] for magnification-oriented imaging.

Handling Precaution

- Follow instruction/procedure in this manual to properly install the lens on the *Front Mask* and make sure to check if the lens is properly installed. The lens may be dropped when hitting on a rock etc. When using underwater, periodically check if the lens is firmly attached on the housing.
- **DO NOT** hold this product only to transport whole system to avoid accidental damage on this product or separation of combined Front mask. Hold the *camera system* during transportation.
- After using, never put the lens caps on or place the lens in a wet carry pouch with any water (salt or fresh) remaining on the lens surfaces. Doing so may degrade the glass coatings or the glass itself, or cause spotting or discoloration. Heavy surface degradation would necessitate replacing the damaged lens element(s) which is **NOT** covered by warranty.
- **DO NOT** *disassemble*. Disassembling lens could cause damage and subsequent flooding, and will void warranty.
- **DO NOT** subject lens to large shocks or vibrations, which can lead to damage and possible flooding.
- **DO NOT** leave lens exposed to strong sunlight as the lens will collect and concentrate the sunlight, creating a fire hazard. Never attempt to see the sun or strong light source through the lens or camera to avoid irreparable injury to the eyes.
- **DO NOT** leave lens exposed to strong sunlight such as a boat deck or to high temperatures like in sun-heated car etc. to prevent damage and subsequent flooding.
- **DO NOT** use the lens if you observe any damage on the lens surface to avoid possible flooding.

Maintenance

- After using, **always remove the lens from the Front Mask**. Then soak the lens in fresh water (below 30°C/ 86°F) for several hours to dissolve any remaining salt and **blow off water droplets** by compressed air etc. Leave the lens at shaded and well-ventilated area to dry **with no water drops on the both lens surfaces** (it may take several days to completely dry).
- **After completely dry, put lens caps on**, and store out of direct sunlight and well-ventilated area. **DO NOT** store the lens in area with chemical fumes, high humidity or extreme temperature fluctuations. Storage in such area may lead to damage, water leakage, lens surface degradation or mold.

Option

• **Focus Stick for UCL-G165II**

A focus assisting device designed for this product. The tip of the stick indicates the minimum focusing distance of the UCL-G165 II, providing an easy visual reference of the minimum focusing distance. The **Focus Stick** can be set either at the top or bottom and rotates 360° from the base with a click every 90°, making it easy to instantly swivel the Focus Stick when not needed.



Specifications

INON UCL-G165 II SD Underwater Wide Close-up Lens Specifications (*1)

Model	UCL-G165 II SD
Size	φ77mm/3.0in × 25.2mm/1.0in
Weight	air: 205g/7.2oz, underwater: 125g/4.4oz
Lens mount	INON SD Mount
Depth rating	60m/197ft
Body material/finishing	Corrosion-resistant aluminum alloy/rigid black almite, PC
Lens material/finishing	Optical glass/both side coating
Optical construction	2 groups 2 elements
Focal length (*2)	165mm(underwater use only)

Depth of field (DoF) with UCL-G165 II SD (*3)

Mfr.	Camera	DoF	Remarks
GoPro	HERO13 Black / HERO12 Black / HERO11 Black / HERO10 Black / HERO9 Black / HERO8 Black / HERO7 Black / HERO6 Black / HERO5 Black / HERO4 / HERO3+ Black / HERO /HERO+ / HERO+LCD	10cm/3.9in~35cm/13.8in (*4)	(*5)
	HERO3 Black	7cm/2.8in~∞	
Insta360	GO 3S	10cm/3.9in~35cm/13.8in	
Olympus	TG-Tracker	2cm/0.8in~15cm/5.9in	
Sony	FDR-X3000 / HDR-AS300	5cm/2in~35cm/13.8in	

(*1) Specification is subject to change without prior notice

(*2) Focal length of UCL-G165II alone and not the combined focal length with the master lens.

(*3) Measured DoF from foreground of the lens surface. Divide by 1.33 for visual distance underwater.

(*4) Measured distance underwater for GoPro® HERO13 Black/HERO12 Black/HERO11 Black/HERO10 Black/HERO9 Black
Other Edition has not been tested.

(*5) The lens specifications are the same as the previous model, UCL-G165, but the depth of field has been re-evaluated to reflect high-resolution image sensors on recent cameras.

(*5) All brand name, product name and function name in this manual are trademarks or registered trademarks of respective manufactures

INON Inc.

2-18-9, Dai, Kamakura
Kanagawa 247-0061

E-mail support@inon.co.jp

Fax. +81(0)467-48-2178

URL <http://www.inon.jp/>

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