

# INON UCL-G100 ZD

## Underwater 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.

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**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.

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**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

## INON UCL-G100 ZD Underwater Close-up Lens

Thank you for purchasing INON product.

The INON **UCL-G100 ZD** Underwater Close-up Lens is dedicated wet lens designed for action cameras enabling super close-up/high magnification imaging which would not be possible with camera standalone.

※This is ZD Mount version of the “UCL-G100 SD”

### Compatible Product

Besides your camera, this lens **requires INON ZD Front Mask** and **genuine housing**. Check below table to prepare necessary item(s).

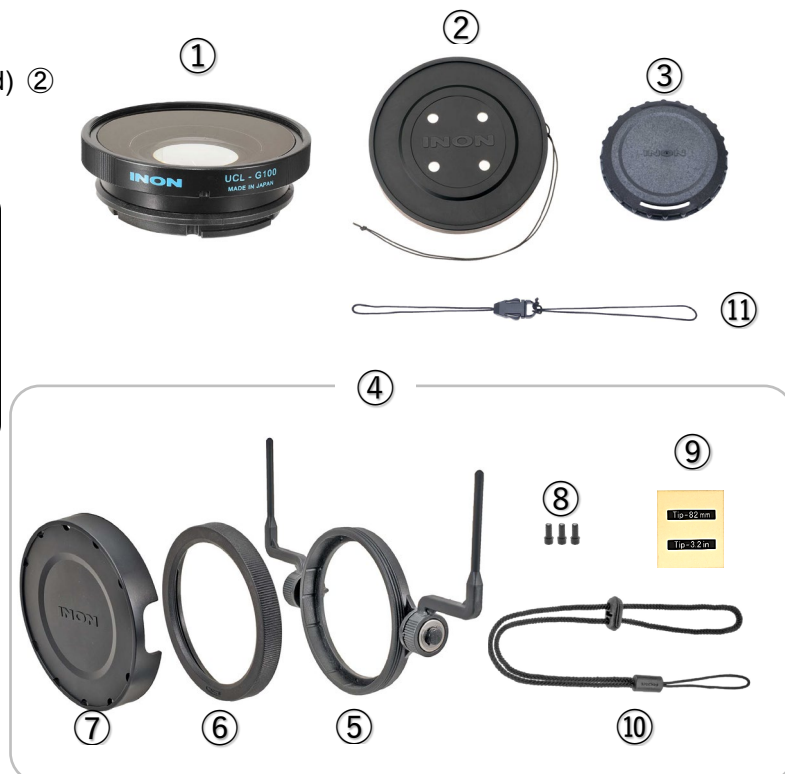
Manufacture	Camera	Genuine housing	INON Front Mask
GoPro	HERO13/12/11/10 /9 Black	Dive Housing (for HERO13/12/11/10 /9 Black)	ZD Front Mask for HERO12

### Features

- This lens shortens **minimum focus distance underwater to 7cm/2.8in** supporting high magnification/ close-up image.
- Using the lens **drastically brings Depth of Field (DoF) to camera side: 7cm/2.8in – 15.2cm/6.0in with nearly the same underwater angle of view as the camera without the lens** to help you enjoy filming a macro subject. (\*U/W angle of view without the lens is 94 degrees and DoF is from 60cm/2.0ft to infinity)
- Packaged **Focus Stick (PAT.P)** greatly reduces blur clips as it provides visual reference of the minimum focus distance.
- Bayonet **INON ZD Mount** compatible to support friendly and speedy lens exchange underwater.
- Optional **INON ZD Lens Holder** can hold the **UCL-G100 ZD** 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-G100 ZD ①
- Front Lens Cap (rubber/with lanyard) ②
- Rear Lens Cap (PC) ③
- Focus Stick package ④
- Focus Stick ⑤
- Focus Stick Retainer ⑥
- Focus Stick Front Cap ⑦
- Anti-rotation Pin ⑧×3 (incl. a spare)
- DoF Sticker ⑨
- Strap ⑩
- Detachable Strap ⑪
- Pouch



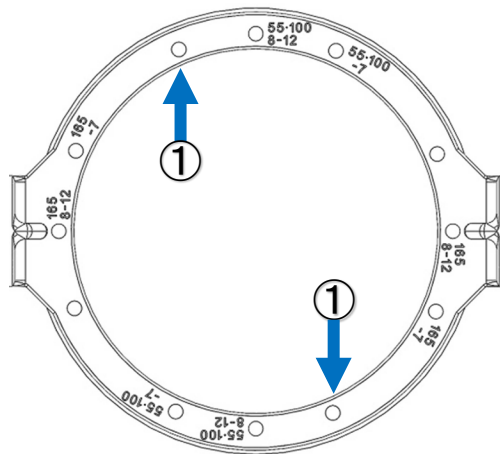
## Focus Stick Installation

**It is recommended to use *Focus Stick* to ensure proper focusing without blur.**

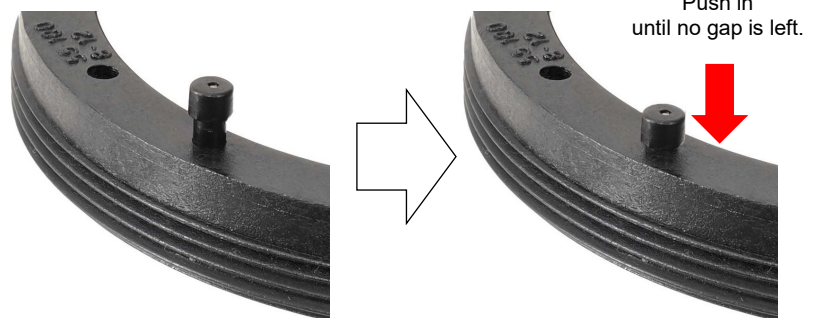
- ① Insert the "Anti-rotation Pin" into the two designated holes from the **back** of *Focus Stick* as show in the below image.

The designated holes vary depending on the "ZD Front Mask" to use. Insert the anti-rotation pin according to the below figure/table, and push in firmly all the way by using a hard object such as a hex wrench or a coin.

Back of Focus Stick



ZD Front Mask	Holes to use for anti-rotation pin
ZD Front Mask for HERO12 (for HERO13/12/11/10/9)	①



※When using holes ①

- ② Place the *Focus Stick* facing up and align either of the two protruding "anti-rotation pins" with the grooves.

Depending on the grooves to use, *Focus Stick* can be installed either horizontally or vertically. Below shows when installing *Focus Stick* for horizontal orientation. When installing vertically, use other two grooves.



※When installing *Focus Stick* vertically

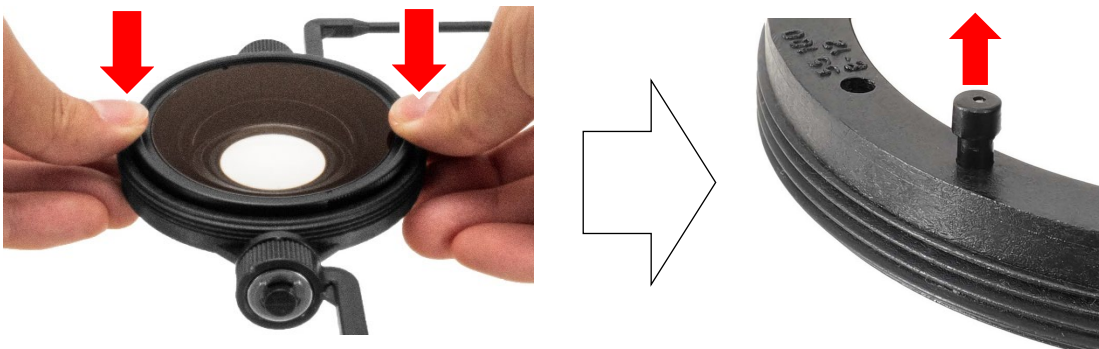
③ **Secure the *Focus Stick* and the lens with the *Focus Stick* retainer.**

Screw the *Focus Stick* retainer onto the *Focus Stick* threads with holding the *Focus Stick* and lens not to slip out of the groove of the lens barrel. Be careful not to over-tighten the *Focus Stick* retainer.



**How to remove anti-rotation pin**

Remove the *Focus Stick* retainer. Pull up the lens a bit to ***disengage the pin heads from the grooves*** and turn the lens slightly. Push the lens with holding the *Focus Stick* from the back until you hear crackling sound and pull out pins from the back. If the pin is stuck, use pliers or the like to gently grasp it and pull it out.



**DoF Sticker**

Attach the supplied "DoF sticker" on the *Focus Stick* retainer as per below image (underneath of INON logo).



**Focus Stick Front Cap/Strap**

A lens cap when the lens is attached with the *Focus Stick*. Packaged strap can be attached.



## Installing on ZD Front Mask

- Match **Guide A [Lens]** with **Guide A [Mask]** as in below left image and put the male bayonet mount of the lens in the ZD 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 (Lock Button)**, rotate the lens counterclockwise.
- **Remove the lens underwater and shake it well to drop trapped bubbles from the rear lens surface** then install the lens on the ZD Front Mask.

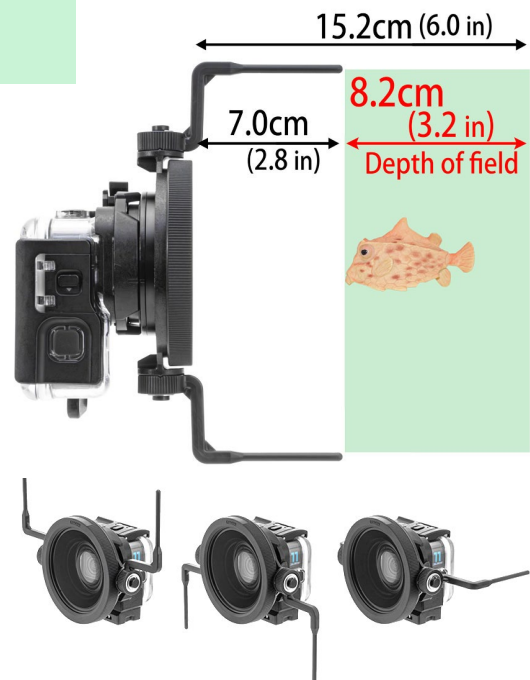


## Focusing

The **UCL-G100 ZD** focuses a subject within a range of **7.0cm/2.8in to 15.2cm/6.0in from the lens**. Using the **Focus Stick** as a guide, you can capture the subject in focus easily.

- Tip of Focus Stick - Minimum focusing distance
- 8.2cm/3.2in. from the tip - Far end of the depth of field

\*The Focus Stick is designed not to expose on a clip when using GoPro with F.O.V [WIDE] setting. The **Focus Stick** can be rotated 360 degree with 90 degree stops making it easy to flip up instantly if necessary.



## 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 quality-oriented 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.

## 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 or *Focus Stick* 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

### [Lens]

- After using, ***always remove the lens from the Front Mask*** and separate the *Focus Stick*. 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).

### [Focus Stick]

- After using, ***always remove from the lens*** and soak in fresh water (below 30°C/ 86°F) and leave at shaded and well-ventilated area to dry. ***DO NOT*** dry with heat or flame to avoid deformation or damage.
- DO NOT*** clean with organic solvent like alcohol, benzene or thinner and oil and fat containing / chemical material like rust inhibitor, lubricant, polish, detergent (especially polyoxymethylene) to avoid damage/deformation/degradation of this product.

## Storage

- 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.
- Keep the product out of reach of children. They may swallow parts of this product. See a doctor ***immediately*** if a child swallow parts.

## Specifications

### INON UCL-G100 ZD Underwater Close-up Lens Specifications (\*1)

Model	UCL-G100 ZD
Size	[Lens] $\phi 77\text{mm}/3.0\text{in} \times 26.8\text{mm}/1.1\text{in}$ [With Focus Stick] W172x H91 x D95mm/W6.8 x H3.6 x D3.7in [With Focus Stick *retracted] W172x H125 x D29mm/W6.8 x H4.9 x D1.1in
Weight	180g/6.3oz [lens standalone/air] 49.6g/1.7oz [Focus Stick/air] 106g/3.7oz [lens attached with Focus Stick/underwater]
Lens mount	INON ZD Mount
Depth rating	60m/197ft
Body material/finishing	Corrosion-resistant aluminum alloy/rigid black almite, PC etc.
Lens material/finishing	Optical glass/both side coating
Optical construction	2 groups 2 elements
Depth of field (*2)	7.0cm/2.8in – 15.2cm/6.0in
Underwater angle of view	Approx 90 degree (underwater use only)

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

(\*2) Measured DoF from foreground of the lens surface. Divide by 1.33 for visual distance underwater.

(\*3) All brand name, product name and function name in this manual are trademarks or registered trademarks of respective manufactures

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