

INON UFL-165 AD

Underwater Fisheye Conversion 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 UFL-165 AD Fish-eye Conversion Lens

Thank you for purchasing INON product.

INON UFL-165AD Fish-eye Conversion Lens is an attachment lens to easily acquire ultra wide fisheye image by simply screwing on housing port of compatible digital camera via optional INON 「AD Mount Base」. The lens can be attached/detached underwater.

Optional INON AD Mount Base is necessary to attach UFL-165AD onto housing. UFL-165AD can not install on 28AD Mount Base/28AD Port 28AD Mount series attachment lens is used for 28AD Mount Base/28AD Port.

Main features

- **As a dedicated underwater use only fisheye converter**, angle of view is increased to a maximum of 165° (when used with Canon S50/S45/S40/S30 cameras and WP-DC300 housing).
- While enabling extreme wide angle, the close focusing distance ranges from the very edge of the front dome itself [comparing to 10cm(3.94in.) of S50/S45/S40/S30 with Macro mode ON without UFL-165AD] which is effective for **ultra wide macro imaging**.
- For easy and practicable fish-eye shooting underwater, UFL-165AD has extremely light weight and compact body as an underwater fish-eye converter. Attached 「Lens Hood」 prevents ghost/flare and 「hard coating」 of the lens surface helps not to make scratch on the lens surface.
- **INON AD Mount** gives greater flexibility of handling underwater.

Package includes:

- UFL-165AD Fish-eye Conversion Lens
- Lens Hood (resin, pre-installed on lens)
- Lens Cap (subject side×1/camera side×1)
- Anti Ghost Sticker
- This User Manual

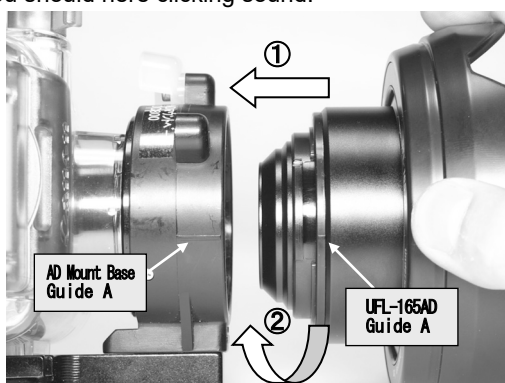
Compatible housing:

AD Mount Base (as of June 2005)

- | | |
|----------------------------|---------------------------------|
| • Canon WP-DC900/50 | + INON AD Mount Base·DC900/50 |
| • Canon WP-DC800 | + INON AD Mount Base·DC800 |
| • Canon WP-DC700/WP-DC30 | + INON AD Mount Base·DC700/30 |
| • Canon WP-DC300 | + INON AD Mount Base·DC300 |
| • Canon WP-DC200/WP-DC200s | + INON AD Mount Base·DC200/200s |
| • Canon WP-DC100/WP-DC500 | + INON AD Mount Base·DC100/500 |
| • Olympus PT-026 | + INON AD Mount Base·PT-026 |
| • Olympus PT-024 | + INON AD Mount Base·PT-024 |
| • Olympus PT-016 | + INON AD Mount Base·PT-016 |
| • Olympus PT-014 | + INON AD Mount Base·PT-014 |
| • Olympus PT-012 | + INON AD Mount Base·PT-012 |
| • Nikon WP-CP4/2 | + INON AD Mount Base·CP4/2 |
| • Nikon WP-CP1 | + INON AD Mount Base·CP1 |
| • FUJIFILM WP-FX701 | + INON AD Mount Base·FX701 |
| • Sony MPK-PHB | + INON AD Mount Base·PHB |

Installation Method :

- Match UFL-165AD『Guide A』 with AD Mount Base『Guide A』 and put UFL-165AD in the AD Mount Base.
- Rotate UFL-165AD clockwise until UFL-165AD『Guide A』 match with AD Mount Base『Guide B』 where you should here clicking sound.



- It is necessary to fill the space between UFL-165AD and housing port with water, so attach UFL-165AD underwater or partially unscrew the lens allowing inside air to escape then retighten.

Maintenance :

- After using, always dismount UFL-165AD from AD Mount Base. Soak the UFL-165AD in fresh water (below 30 deg C / 86 deg F) for several hours to dissolve any remaining salt, then blow off water on the both lens surface. Leave the lens at shaded and well-ventilated area to dry with no water drops on the both lens surface (it may take several days to completely dry).
- After using, never put the lens caps on or place the lens in the 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.
- After completely dry, attach the lens caps 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.

How to use

• **Zoom setting on camera**

Set the camera to wide end. Zoom to telephoto side minimum necessary if you observe vignetting at wide end or crop the image after taking image. The lens is designed to get optimum performance at above setting.

• **Focusing range**

You can use all focusing range of the camera. As a nature of this product, actual shooting distance (distance between a subject and dome edge of the UFL-165AD) gets short comparing to camera's focusing position. Refer to the chart in next page for detail.

• **Built-in flash setting**

The lens blocks the camera's built-in strobe from illuminating the entire image. So deactivate built-in strobe light to shoot with ambient natural light only or use an external strobe, such as the INON D-2000 connecting via INON 「Clear Photo System」.

Without using Clear Photo System may cause limitation on shooting situations or problem on an image. Refer to the boxed column on the last page for detail.

Included 「Anti Ghost Sticker」 could suppress flare/ghost causing by reflection around peripheral part of the lens front.

How to suppress flare/ghost

As a nature of ultra wide (fish-eye) conversion lens, there may be flare/ghost depending on position of light source (the sun/strobe etc.) or shooting condition.

If flare/ghost is caused by this product, it is possible to suppress by following countermeasures. If flare/ghost is caused by reflection of camera's lens circumference part, supplied 「Anti Ghost Sticker」 may effectively suppress the flare/ghost.

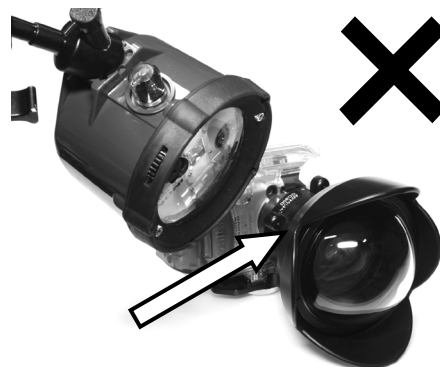
1) **Shooting with ambient light**

Select shooting area not to have high intensity light source or block the light source by other subject. If you have to shoot together with the high intensity light source, check preview image on camera and select appropriate shooting angle to minimize flare/ghost.

2) **Shooting with strobe**

As same as above, it is important not to have high intensity light source in shooting area.

By setting strobe position outside of gray zone in below image (left) [subject side beyond the extended line between edge of the lens surface and edge of the lens hood], strobe light can not get into the lens directly. This zone will vary depending on strobe position and it may be hard to set strobe outside the zone in the case of image below (right).



※ **When using built-in flash with attachment lens without Clear Photo System** • •

When using built-in flash with attachment lens being mounted and Clear Photo System is not used, **there may be possibility to have ghost/flare in an image** depending on shooting condition/camera housing/Mount Base being used.

This is because built-in flash light gets into the attachment lens from its mounting part. In the case, **it is recommended to use External Strobe with Clear Photo System.** If you have to use built-in flash only by necessity, ghost/flare could be reduced by preventing built-in flash light from being get into attachment lens from its mounting part. **INON Inc. assume no responsibility whatsoever for any direct/indirect damage resulting from user's modification on camera system.**

- Handling precautions:**
- **UFL-165AD is designed to use underwater only.** When using on land, it may be hard to get focus on distant subject and view angle will lessen.
 - **Do not disassemble.** Disassembling lens could cause damage and subsequent flooding, and will void warranty. When dismounting this product from AD Mount Base, **make sure to grasp lens barrel to unscrew the lens instead to grasp lens hood.** Excess pressure on the lens hood may damage on the lens hood.
 - 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, especially on such surfaces as a boat deck, car dashboard etc. 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, especially on such surfaces as a boat deck, car dashboard etc. to prevent damage and subsequent flooding.
 - It is recommended to attach supplied lens cap to protect the lens surface when you carry the lens on land etc. *Make sure the lens surface is dry before putting the lens cap on it.

- Optional Accessory:**
- **Dome Unit Cover**
Neoprene lens cover to be used underwater. It is recommended to use this cover except using lens to protect lens surface.
 - **AD Lens Holder**
Attaches to INON Arm System to hold AD Mount series lenses to help easy handling of multiple lenses underwater



INON Wide Conversion Lens UFL series

Specifications ^①	
Model	UFL-165AD
Outer diameter ^②	φ 114mm (4.49in.)
Length ^②	86.5mm (3.41in.)
Mount	INON AD Mount
Weight ^②	Air: 440g (14.2oz) / U/W: approx. 85g (2.74oz)
Depth rating	60m (196.9ft)
Body material /finishing	Corrosion resistant aluminum alloy / Black hard alumite PC, ABS
Lens material / finishing	Optical glass / both side coating Optical plastic / outer surface hard coating (※)
Construction /magnification	4 elements 4 groups / 0.405 (underwater afocal system)
View angle ^④	165.5° (underwater)

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June 2005

UFL-165AD Focus range chart (zoom at wide end)

Housing ⑦	Camera ⑦	Focus range ^⑤ (without lens ^⑥)		Vignetting ⑦
		Normal mode	Macro mode	
PT-026	μ-40	∞~5.1cm (∞~50cm)	∞~0cm (∞~20cm)	No vignetting
PT-024	X-3	∞~5.1cm (∞~50cm)	5.1cm~0cm (50cm~20cm)	No vignetting
PT-016	μ-20/μ-10	∞~5.1cm (∞~50cm)	∞~0cm (∞~20cm)	No vignetting
PT-014	X-2	∞~5.1cm (∞~50cm)	5.1cm~0cm (50cm~20cm)	No vignetting
	X-1	∞~5.1cm (∞~50cm)	5.1cm~0cm (50cm~20cm)	No vignetting
PT-012	C-40Z	∞~11.7cm (∞~80cm)	11.7cm~0cm (80cm~10cm)	No vignetting
WP-DC50	A95	∞~4.0cm (∞~45cm)	4.0cm~0cm (45cm~5cm)	No vignetting
WP-DC30	A85/A75	∞~4.3cm (∞~46cm)	4.3cm~0cm (46cm~5cm)	⑧
WP-DC900	A80	∞~4.0cm (∞~45cm)	4.0cm~0cm (45cm~5cm)	No vignetting
WP-DC800	IXYD500/450/400	∞~4.3cm (∞~46cm)	4.3cm~0cm (46cm~5cm)	No vignetting
WP-DC700	A70/A60	∞~4.3cm (∞~46cm)	4.3cm~0cm (46cm~5cm)	⑧
WP-DC500	IXY D300a	∞~10.6cm (∞~76cm)	10.6cm~0cm (76cm~16cm)	No vignetting
WP-DC300	S50/S45	∞~5.1cm (∞~50cm)	5.1cm~0cm (50cm~10cm)	No vignetting
	S40/S30	∞~11.7cm (∞~80cm)	11.7cm~0cm (80cm~10cm)	No vignetting
WP-DC200s	A40/A30	∞~10.6cm (∞~76cm)	10.6cm~0cm (76cm~16cm)	No vignetting
WP-DC200	A20/A10	∞~10.6cm (∞~76cm)	10.6cm~0cm (76cm~16cm)	No vignetting
WP-DC100	IXY D300	∞~10.6cm (∞~76cm)	10.6cm~0cm (76cm~16cm)	No vignetting
WP-CP4	E7900/E5900	∞~0.7cm (∞~30cm)	∞~0cm (∞~4cm)	No vignetting
WP-CP2	E5200/E4200	∞~0.7cm (∞~30cm)	∞~0cm (∞~4cm)	No vignetting
WP-CP1	E4100	∞~0.7cm (∞~30cm)	∞~0cm (∞~4cm)	No vignetting
	E3200/E2200	∞~0.7cm (∞~30cm)	∞~0cm (∞~4cm)	No vignetting
WP-FX701	F710/F810	∞~7.3cm (∞~60cm)	11.7cm~0cm (80cm~7.5cm)	WIDE mode: No vignetting
				STD mode: slight vignetting
MPK-PHB	P100/P150	∞~7.3cm (∞~60cm)	∞~0cm (∞~6cm)	No vignetting

① Specification is subject to change without prior notice.

② Including lens hood

③ Performance of UFL-165AD itself (telescopic magnification : $\sim v$)

④ Actual angle of view is vary depending on camera/housing.

⑤ Measured distance underwater. Divide by 1.33 for visual distance underwater.

⑥ Actual distance or visual distance underwater. Multiply by 1.33 for measured distance underwater.

⑦ Angle of view/vignetting may vary depending on housing even using same camera.

⑧ Slight vignetting on one corner may be observed.

※ Though unevenness of the surface may be observed on land, this is a feature and not affect on an image.

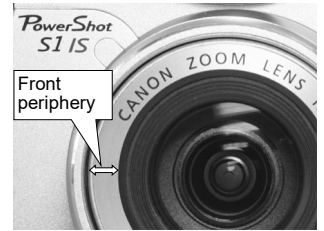
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Anti Ghost Sticker

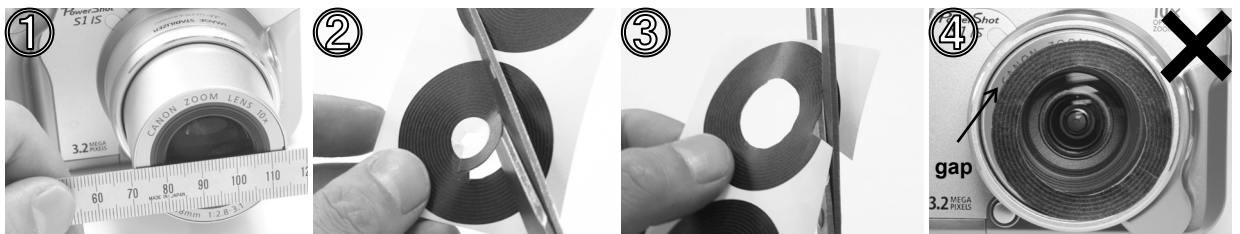
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By sticking "Anti Ghost Sticker" around the camera master lens (NOT on the lens but on its lens barrel), reflection of lens specification print or flare/ghost could be reduced especially when attachment lens being used.

Compatible digital camera: · Outer diameter of 「Camera Lens Front Periphery (*1)」 is less or equal to 44mm (1.732in.) and inner diameter is greater or equal to 12mm (0.4724in.) and satisfy following conditions:
A) 「Camera Lens Front Periphery (*1)」 does not have any coating/painting for antireflection.
B) 「Camera Lens Front Periphery (*1)」 does have some characters in print or punch mark.
(*1) A metal/plastic doughnut shape part which wrap around a camera lens. (see picture above)



How to apply : · Accurately measure outer / inner diameter of 「Camera Lens Front Periphery (*1)」 (see ①).
· Cut Anti Ghost Sticker out to measured size from inner side(②) then after cut out outer side (③) .
Do not cut inner side too much. Otherwise you may have vignetting.
· Attach the sticker on the 「Camera Lens Front Periphery (*1)」 so that the sticker covers all part of the 「Camera Lens Front Periphery (*1)」 and NOT to cover camera master lens. (④).



Flare/Ghost : Please note that effect of "Anti Ghost Sticker" is depending on camera/housing/shooting condition and "Anti Ghost Sticker" is not universally effective in every situation. Also flare/ghost could be caused by built-in strobe / external strobe / ambient light being through back of camera lens, where "Anti Ghost Sticker" does not work.

Using built-in strobe without "Clear Photo System"

When using only built-in strobe without "Clear Photo System", ghost/flare could be observed. The light from built-in strobe coming through transparent housing/housing lens port may get into attachment lens and reflect inside of attachment lens. This type of flare/ghost can be prevented by using external strobe and "Clear Photo System".

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Aug. 2004