

INON

UWL-105 AD

Wide 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

INON

INON UWL-105 AD Wide Conversion Lens

Thank you for purchasing INON product.

INON Wide Conversion Lens UWL series is an attachment lens for compatible digital camera housing to attach by simply screwing on the lens port directly or via INON AD Mount Base to acquire extreme wide angle photography. The lens can be easily attach/detach underwater giving greater flexibility.

Optional INON AD Mount Base is necessary to attach UWL-105AD onto housing. UWL-105AD can not be used for 28AD Mount Base/28AD Port 28AD Mount series attachment lens is used for 28AD Mount Base/28AD Port.

Main features

- **Designed to be used both underwater and on land.** The lens performs as an **ultra wide converter** underwater and as a **fish-eye converter** in air (view angle underwater 105.6°/ air 179.0°[4] : with Canon S40/S30+WP-DC300).
- In addition to enabling ultra wide angle of view, the optical design of the UWL-105AD allows closer focusing distance (focus range : $\infty \sim 18.9\text{cm}(7.44\text{in.})$ [S40/S30 standard mode: $\infty \sim 0.8\text{m}(31.5\text{in.})$ without UWL-105AD][5]) $18.9\text{cm} \sim 0.4\text{cm}(7.44\text{in.} \sim 0.16\text{in.})$ [S40/S30 macro mode $80\text{cm} \sim 10\text{cm}(31.5\text{in.} \sim 3.94\text{in.})$ without UWL-105AD][5]) which benefits **wide macro** shooting.
- Optical construction is coated optical glass of 4 groups 4 elements which effectively suppress optical aberrations and elicit master lens performance.
- **INON AD Mount** gives greater flexibility of handling underwater.

Package includes:

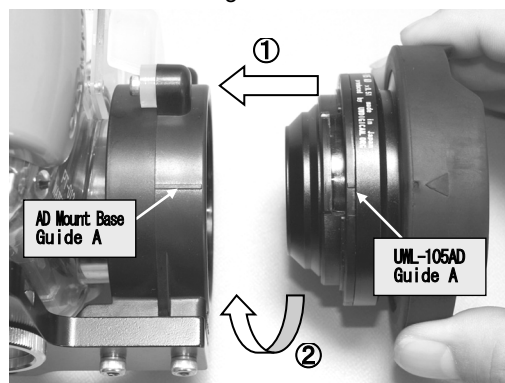
- UWL-105AD Wide Conversion Lens
- Lens Protector(rubber, attached on UWL-105AD)
- Lens Cap(subject side×1/camera side×1)
- Anti Ghost Sticker
- This user manual

Compatible camera/ AD Mount Base
(as of June 2005)

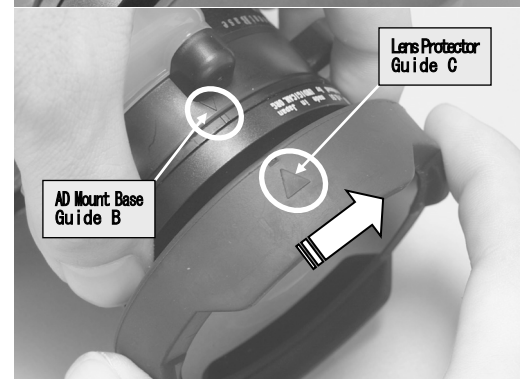
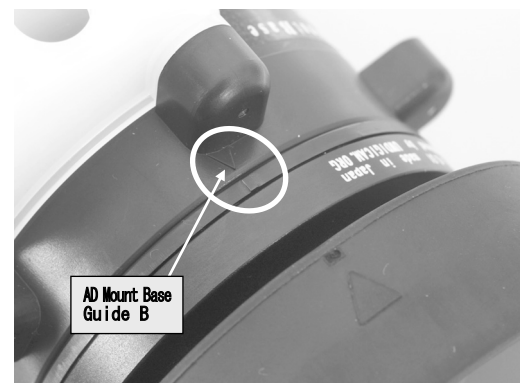
• Canon WP-DC900/ WP-DC50	+ INON AD Mount Base·DC900/50
• Canon WP-DC800	+ INON AD Mount Base·DC800
• Canon WP-DC700/WP-DC30	+ INON AD Mount Base·DC700/30
• Canon WP-DC300	+ INON AD Mount Base·DC300
• Canon WP-DC200/WP-DC200s	+ INON AD Mount Base·DC200/200s
• Canon WP-DC100/WP-DC500	+ INON AD Mount Base·DC100/500
• 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 UWL-105AD [Guide A] with AD Mount Base [Guide A] and put UWL-105AD in the AD Mount Base.
- Rotate UWL-105AD clockwise until UWL-105AD [Guide A] match with AD Mount Base [Guide B] where you should here clicking sound.



- **Rotate the rubber Lens Protector clockwise** so the Lens Protector [Guide C] aligns with AD Mount Base [Guide B] .



- It is necessary to fill the space between UWL-105AD and housing port with water, so attach UWL-105AD underwater or partially unscrew the lens allowing inside air to escape then retighten.

- 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 lens surface) gets short comparing to camera's focusing position. Refer to the chart in next page for detail.
 - **Built-in flash setting**
Depending on housing or shooting conditions (like subject distance / angle of view), the lens may block the camera's built-in strobe from illuminating the entire image. In such cases we recommend 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 Colum for detail.
 - **「Anti Ghost Sticker」**
Included 「Anti Ghost Sticker」 could suppress flare/ghost causing by reflection around peripheral part of the lens front.
- Maintenance** :
- After using, **always remove UWL-105AD from AD Mount Base.** Soak the UWL-105AD 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 completely dry, attach lens caps** 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.
- Handling precautions:**
- **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.
 - **Do not disassemble.** Disassembling lens could cause damage and subsequent flooding, and will void warranty.
 - Also, when removing the lens from AD Mount Base, **grasp the middle area of the lens barrel, where there is a lanyard groove in the body instead of grasping and twisting the rubber lens protector.** Grasp this middle area and rotate to remove lens. Applying excessive torque to the rubber lens protector could cause loosening of internal parts supporting the lens elements, causing damage and subsequent flooding.
 - 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.
 - There is a lateral groove in the middle of the lens barrel, useful for attaching a lanyard. To prevent loosing/damaging the lens when attaching/removing it, we recommend to band the lens with housing, AD Mount Base etc.
 - Do not remove the pre-installed lens protector except maintenance.

※ 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.**

Optional Accessory: • Neoprene Carry Pouch S

Neoprene carry pouch to be used underwater. Protect lens from shock and abrasion while in transport and storage, as well as while carrying underwater.



• 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 Specifications [①]	UWL series
Model	UWL-105AD
Outer diameter [②]	φ 78mm (3.07in.)
Length[②]	49mm (1.93in.)
Mount	INON AD Mount
Weight[②]	Air : 267g(8.62oz) UW: approx. 142g (4.58oz)
Depth rating	60m (196.9ft)
Body material / finishing	Corrosion resistant aluminum alloy / black hard alumite, PC
Glass material / finishing	Optical glass / both side coating
Construction / magnification[③]	4 elements 4 groups /0.510 (afocal system)
Max. angle of view[④]	105.6° (u/w)

UWL-105AD Compatible Housing/Camera and Focus Range Chart (at wide end)

Housing	Camera	Focus range (without lens) [⑤]		Vignetting [⑥]	
		Normal mode	Macro mode	Underwater	Air
PT-026	μ-40	∞~10.8cm (∞~50cm)	∞~3.0cm (∞~20cm)	No vignetting	[⑦]
PT-024	X-3	∞~10.8cm (∞~50cm)	10.8cm~3.0cm (50cm~20cm)	No vignetting	[⑦]
PT-016	μ-20/μ-10	∞~10.8cm (∞~50cm)	∞~3.0cm (∞~20cm)	No vignetting	[⑦]
PT-014	X-2	∞~10.8cm (∞~50cm)	10.8cm~3.0cm (50cm~20cm)	No vignetting	[⑦]
	X-1	∞~10.8cm (∞~50cm)	10.8cm~3.0cm (50cm~20cm)	No vignetting	[⑩]
PT-012	C-40Z	∞~18.9cm (∞~80cm)	18.9cm~0.4cm (80cm~10cm)	No vignetting	[⑦]
WP-DC50	A95	∞~9.7cm (∞~45cm)	9.7cm~0cm (45cm~5cm)	No vignetting	[⑧]
WP-DC30	A85/A75	∞~9.9cm (∞~46cm)	9.9cm~0cm (46cm~5cm)	[⑧]	[⑦]
WP-DC900	A80	∞~9.7cm (∞~45cm)	9.7cm~0cm (45cm~5cm)	No vignetting	[⑧]
WP-DC800	IXYD500/450/400	∞~9.9cm (∞~46cm)	9.9cm~0cm (46cm~5cm)	No vignetting	[⑦]
WP-DC700	A70/A60	∞~9.9cm (∞~46cm)	9.9cm~0cm (46cm~5cm)	[⑧]	[⑦]
WP-DC500	IXY D300a	∞~17.6cm (∞~76cm)	17.6cm~2.0cm (76cm~16cm)	No vignetting	[⑦]
WP-DC300	S50/S45	∞~10.8cm (∞~50cm)	10.8cm~0.4cm (50cm~10cm)	No vignetting	[⑦]
	S40/S30	∞~18.9cm (∞~80cm)	18.9cm~0.4cm (80cm~10cm)	No vignetting	[⑦]
WP-DC200s	A40/A30	∞~17.6cm (∞~76cm)	17.6cm~2.0cm (76cm~16cm)	No vignetting	[⑦]
WP-DC200	A20/A10	∞~17.6cm (∞~76cm)	17.6cm~2.0cm (76cm~16cm)	No vignetting	[⑦]
WP-DC100	IXY D300	∞~17.6cm (∞~76cm)	17.6cm~2.0cm (76cm~16cm)	No vignetting	[⑦]
WP-CP4	E7900/E5900	∞~5.6cm (∞~30cm)	∞~0cm (∞~4cm)	No vignetting	[⑦]
WP-CP2	E5200/E4200	∞~5.6cm (∞~30cm)	∞~0cm (∞~4cm)	No vignetting	[⑦]
WP-CP1	E4100	∞~5.6cm (∞~31cm)	∞~0cm (∞~4cm)	No vignetting	[⑦]
	E3200/E2200	∞~5.6cm (∞~32cm)	∞~0cm (∞~4cm)	No vignetting	[⑦]
WP-FX701	F710/F810	∞~13.5cm (∞~60cm)	18.9cm~0cm (80cm~7.5cm)	WIDE mode:	[⑦]
				No vignetting	
				STD mode: [⑨]	[⑦]
MPK-PHB	P100/P150	∞~13.5cm (∞~60cm)	∞~0cm (∞~6cm)	No vignetting	No vignetting

[①] Specification is subject to change without prior notice.

[②] Including lens protector

[③] Performance of UWL-105 itself (telescopic magnification : \tilde{v})

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

[⑤] Measured distance on land and visua distance underwater. Divide by 1.33 for actual distance underwater.

[⑥] Angle of view/vignetting may vary depending on housing even using same camera.

[⑦] Slight vignetting on four corners. Zoom little bit to telephoto side as necessary or crop the image after shooting.

[⑧] Slight vignetting on one corner may be observed.

[⑨] No vignetting. When using open aperture or near to open aperture, light amount may be insufficient at image circumference which can be suppressed by stepping down camera's aperture.

[⑩] Untested. No vignetting or slight vignetting is expected.

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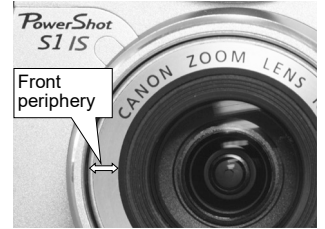
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Anti Ghost Sticker

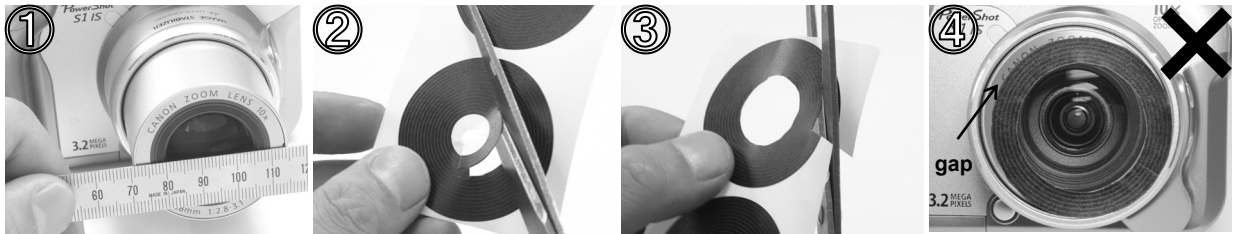
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By sticking "Anti Ghost Sticker" around the camera master lens (NOT on the lens but on its lens barrel), reflection of lens specification print or flare/ghost could be reduced especially when attachment lens being used.

- 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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