

# INON

## INON Underwater Micro Semi-Fisheye Relay Lens UFL-MR130 EFS60

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INON Underwater Micro Semi-Fisheye Relay Lens UFL-MR130 EFS60 is a super compact underwater semi-fisheye conversion lens with relay system lens, optically designed exclusively for 「Canon EF-S60mm F2.8 Macro USM」. The UFL-MR130 EFS60 is dedicated option for INON 「MRS60 Port II」.

### Product features

- Attached on the front surface of the MRS60 Port II to use EF-S60mm macro lens as **ultra wide/super compact semi-fisheye lens**. The subject side lens is  $\phi 24\text{mm}$  yet provides ultra wide (underwater view angle  $130.172^\circ$ ) enabling capture unique underwater world which is not possible with conventional fisheye lens carrying standard lens aperture.
- Ultra wide angle and 0cm minimum focusing distance makes it possible to shoot a tiny subject in entire image and underwater landscape as background.
- Unique relay lens system lengthens shooting distance benefiting you to shoot close image of a shy subject.
- 14 elements in 11 groups lens construction including three achromat lenses (achromatic doublet) effectively suppresses aberrations to enhance master lens performance.
- Multi coating on 21 optical lens surfaces and magenta water-shedding coating on the front surface of the subject side lens helps to keep inner diffused reflection to a minimum together with reflection-free coating on the inner surface of the lens barrel.
- Optional port arm is directly attached on this product to hold strobe/LED flashlight without extending lighting arm from a housing.

### Remarks and Shooting Tips

- **S-TTL Auto and other auto exposure mode is not usable due to optical characteristic (overexposed)**  
When using an external strobe, use "External Auto" where a strobe controls exposure or "Manual" mode.
- **Camera's exposure level indicator will show approximately +2~3 E.V. overexposed than it actually is due to optical characteristic.**
- **Stop down aperture as much as possible to accommodate with the optical characteristic of ultra wide/super compact fisheye lens and 0cm focusing distance.** We would recommend shooting F13 or smaller aperture. In case of underexposure, use higher ISO setting to compensate it. The more you open the aperture, the more you have significant aberration on image periphery part. Especially when shooting a subject at a few mm away, stop down as much as possible.
- **The fixing screw may get loosen during usage when directly installing heavy strobe arm on this product (via dedicated port arm etc.).** When you directly attach heavy equipment on this product, make sure that the lens is firmly attached on the compatible port all time and re-tighten it whenever necessary. Especially be careful when using heavy strobe or long arm attached on this product.
- This product is optically designed for underwater use. You will observe vignetting on land which will be not observed underwater. Make sure to set a camera in compatible housing properly to avoid vignetting due to misalignment of the camera.

**Compatible port:** • INON 「MRS60 Port II」  
(as of November 2009)

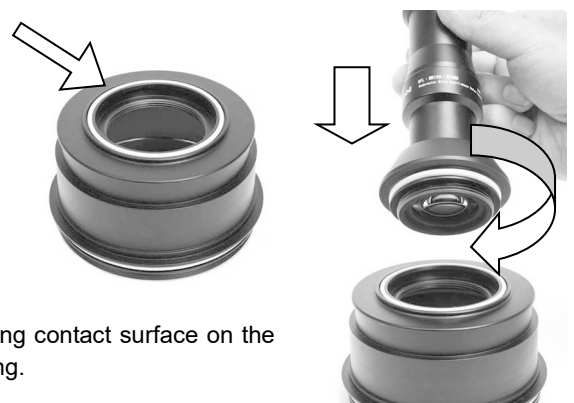
**Package contents :**

- Underwater Micro Semi-fisheye Relay Lens UFL-MR130 ①
- Front Lens Cap (PE) ②
- Rear Cap (~~Non~~ **water-proof** aluminum) ③
- Carry Case ④
- INON Grease ⑤
- Spare O-ring ⑥
- This User Manual



**Installation method :**  
**Usage**

- Refer to 「MRS60 Port II」 user manual and dismount the pre-installed "water-proof glass unit" from the MRS60 Port II. Make sure that the thin O-ring ("O-ring B" as in the user manual) properly seats in the O-ring groove on the MRS60 Port II. Re-install the O-ring B if it has been dropped off or you observe any irregularity.
- Remove the Rear Cap and screw this product on the front of the MRS60 Port II. Before installation, make sure that there is no damage/dust on the O-ring, O-ring groove and O-ring contact surface on the MRS60 Port II, which could cause accidental flooding.



- Handling precautions:**
- **Do not hold this product when transporting camera/housing** instead hold housing to avoid damage on this product or accidental separation of the housing.
  - **After use, do not leave this product with water(sea water/fresh water) on the lens surface, attach lens cap with water remaining on the lens surface nor store in the Carry Case without drying it.** Remaining water could cause weathering due to degradation of lens coating or glass material resulting necessity of lens replacement which will not covered by warranty.
  - **Supplied /Rear Cap/ is NOT watertight.** The Cap is to protect O-ring/threaded part and NOT for water-proof property. Never immerse this product only in water regardless of this cap.
  - **Do not disassemble this product** to prevent accidental damage or flooding. **Make sure to hold base part of this product (housing side below white product name print) to remove this product from a housing (right image).** Applying excessive torque on the middle part or nose part could cause accidental loosening of component parts resulting in flooding.
  - Do not apply thumping vibration (like on boat deck) or excessive shock on this product to prevent accidental damage/flooding.
  - Do not leave the lens under direct sunlight. The lens may collect the sunlight and cause fire. Never attempt to see the sun through the lens to avoid serious damage to eyes.
  - DO NOT leave the lens under direct sunlight like beach or boat deck and in area of high temperature like in sun-heated car to avoid malfunction or flooding.



- Maintenance :**
- After use, immerse the product **assembled with compatible port/housing** in clean fresh water (below 30°C/86°F) for several hours to dissolve salt etc. Then **blow off remaining water** on the combined products by an air blower etc. **Make sure that there is no water on the lens surface**, then remove this product from the lens port.
  - Dry this product in **shaded** and well-ventilated area. (It may take several days to completely dry.)
  - **After completely dry, attach caps** and store the product in shaded and well-ventilated area. Avoid storing near chemicals, high ozone, large temperature and humidity fluctuations to avoid malfunction/flooding, alteration of the lens surface or mold.
  - Periodically apply thin film of INON grease on O-rings for protection, smooth installation without twisted. Make sure to use supplied INON grease only. Other grease will damage O-rings.

- Options :**
- **Spare O-ring (for UFL-MR130 EFS60)**  
Spare yellow O-ring
  - **Port Arm for UFL-MR130 EFS60**  
Dedicated port arm for this product to attach INON 「Z Joint」 「Z Adapter」 「Multi Direct Base II (Long)」 「Single Light Holder・LE」 . The Port Arm can be attached on tip,, center or base part of the lens barrel (mount diameter φ 34mm)



Specifications	
Subject to change without prior notice.	
Compatible port	INON MRS60 Port II
Size	φ 63.5mm/2.5" x 312mm/1.2"
Weight	500g /17.6oz
Practical depth rating	75m / 246'
Material / Surface Finishing	Corrosion-resistant aluminum alloy / Rigid black alumite / Inner reflection-free coating
Glass material / Surface Finishing	Optical glass / double face coating
Lens Construction	14 elements in 11 groups
Max. Incident angle	130.172° (underwater)

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### **How to maximize performance of this product**

This product is a special underwater conversion lens to shoot quite differently from ordinary lens and some knacks are required to obtain vigorous image.

- **Stop down to F13~32 with higher ISO sensitivity (ISO400 or more) to compensate for underexposure.**
- **Shoot with MF (manual focus) since AF (auto focus) is not practicable due to extremely shallow depth of field.**
- **Use INON LED flashlight or similar to assist focusing dark underwater**
- **Approach to a subject as close as possible. At least 1cm away or a few mm ~ 0 if possible to capture tiny subject in entire image.**
- **Use fast shutter speed (1/100 ~) when shooting moving subject.**
- **Stabilize yourself to avoid camera shake.**
- **Practice with less moving subject like a sea slug etc.**
- **Consider lighting position not to stimulate shy subject.**