

Inon Z-330 review

by Phil Rudin

Founded in 1994 Inon Inc. is a Japanese company which is well respected in the underwater photography world. I am sure many UWPMAG.com readers have already been using Inon strobes, wet lenses, LED lights or any the hundreds of other products Inon offers.

In May 2017 Inon announced the discontinuation of the renowned Inon Z-240 strobe in preparation for a new Inon Flagship strobe. The Z-240 was released in March of 2006 and underwent several upgrades over the years from the original type I to the now discontinued type 4. The Z-240 replaced Inon's first Flagship strobe the Z-220 which was also well received when it was released.

One of the main reasons Inon strobes have become so popular over the years is the very small size verses the power output, the robust design and build quality, the use of nonproprietary AA batteries and the exceptional S-TTL which is comparable with just about any camera and housing.

Many of the early release Z-220 strobes including my own are still being used in the field on a regular basis. Inon has taken a superbly designed light weight strobe platform and dramatically improved on its performance over the years.

The Inon Z-330 is the latest and most technologically advanced of the Inon Z-line of strobes. All of the excellent design features of the Z-220/Z-240 remain with a number of technical advances.

The same light weight Polycarbonate gray resin body for the electronics and batteries remains all



but unchanged. Inon's unique patented T-shape twin flash tube construction is unchanged but the guide number has been significantly increased from the Z-240's 24 meters to a guide number of 33 for the Z-330's.

A somewhat oval shaped plastic fresnel device has been placed in front of each flash tube and stand about 8mm above the flash tubes on four clear legs. The fresnel device helps disperse the light more evenly across the center of the frame while allowing the light heading to the corners of the frame to retain at a higher intensity while traveling over a greater distance.

Inon has replaced the flat acrylic port over the flash tubes and modeling light with a clear dome that widens the beam angle of the Z-330 to 110 degrees without reducing the 33 guide number.

The flash tubes retain the same 5500 kelvin color temperature as previous Z-strobes when not using a filter. The output of the modeling light has also been raised to 220 lm from 180 lm. More importantly the modeling light has been redirected to converge with the center of the lens. This means that if you are using two strobes the modeling lights will meet near the center of the frame rather than



Orange Encrusting Sponge, Olympus EM1 II, Olympus 8mm Fisheye F/2.8, Nauticam NA-EM1 II housing, two Inon Z-330 strobes in manual, ISO-320, F/9, 1/250th sec.

needing to be turned inward to illuminate a subject in the center of the frame.

Another addition to the Z-330 is the removable light shade which threads to the front of the strobe and rotates 360 degrees around the flash tubes. The light shade has click stops all 360 degrees so that it

remains in place once it is set.

The light shade which Inon calls a “light cutter” can be used to reduce light where needed by redirecting light away from areas within the frame. An example would be while shooting close to a light sandy bottom where you would want to prevent blowing out the highlights of the sand. By turning the shade to the bottom of the strobe light output over the sand would be reduced allowing a more even transition from the sand bottom to the strobe lit area in the frame. This is not a new idea many photographers have been using their hands or a slate for this purpose since the film days. The flat black dome shade and 360 rotation will certainly make this process much easier to control.

In early release photos of the Inon Z-330 you may have missed the high thermal conductivity heat dispersing metal ring that surrounds the light emitting section of the strobe. This metal ring is connected directly to the internal circuitry of the strobe unit and allows heat to be effectively released into the water.

While the new circuitry for the Z-330 has improved over past designs higher flash output in a small package will result in more heat. This new heat dispersion design mitigates this issue. Most often heat leads to failure of the flash tubes and several

comments have reached the internet regarding this issue. In many failures the cause was the result of using the strobes for sustained high speed shooting where the strobe is firing several times a second or when using the strobes to shoot high speed out of the water. These are things that are not recommended in most instruction manuals for any underwater strobe.

Missing from the front of the Z-330 is the thread mount used on past Inon Z-series strobes to mount diffusing filters and other Inon accessories. This has been replaced with a bayonet mount for the light softening dome filter which ships with the strobe. This soft dome filter with a color temperature of 5400K protects the dome with only a half stop reduction in power output. The bayonet mount has a positive locking device which allows you to removed and reinstalled the filter underwater.

The dome filter can also be interchanged with the optional 4900K and 4600K color correcting dome filters plus a -4EV ND dome filter for shooting wide open with fast lenses. This new bayonet design does not work with current Inon strobe accessories like snoots and flat color filters. The small red and blue color filters for the modeling light are also gone due to the dome design on the front of the strobe.

The ball mounting point on



the bottom of the Z-330 remains unchanged and will interface with existing Inon mounting balls. The optical cord connection and Nikonos 5-pin cord connections remain unchanged as well. The Z-330 battery compartment is also unchanged and independent from the electronics section of the strobe. It uses the same durable battery contacts, translucent threaded battery cap and yellow O-rings.

Inon's press release recommends Eneloop and Eneloop Pro AA batteries. At the time of writing this article Inon factory tests produced a minimum 1.8 seconds recycle time for Eneloop, 1.6 seconds for Eneloop Pro batteries with a 2.4 to

3.5 seconds recycle time when using disposable alkaline batteries. Keep in mind that these recycle times are approximate numbers reflecting at FULL POWER dump. Variations may occur depending on the condition and amount of charge on the batteries being used.

Recycle times using Eneloop Pro batteries is identical to the recycled times published for the Inon Z-240 type4 strobes. Total number of flashes from a set of Eneloop Pro batteries in the Inon tests of the Z-330 is 280 full power flashes. Flashes numbers and recycle times improve dramatically with lower flash output which is generally the case in most photography situations. The 220Lm

modeling light remains the same as the Z-240 at 2:30 to 4:00 hours depending on battery choice.

The Inon Z-330 has slightly larger outer dimensions at 102mm diameter, 131mm high and 125mm depth without dome accessories V. 99mm X 131mm X 100mm for the Z-240 including the slave sensor. Land weight for Z-240 is 583g (20.6oz) without filter V. 637g (22.47) for the Z-330 including the shade and soft dome filter.

Depth rating remains the same at 100m (328ft) and operating temperature in water remains the same at 0°C-30°C (32F-86F).

The rear of the Z-330 has also been updated with a phosphorescent control panel for better low light and night dive visibility for settings. Larger and longer flat control knobs replace the small round Z-240 main mode switch (left) and EV control switch (right) making adjustments easier while wearing heavy gloves.

The Inon EV control/S-TTL dimming function has been improved to deliver even more accurate illumination when using different dome filters. The system remains accurate even when the light emitted from the camera side is weak. The 13 stage manual light emitting function features 1/2 EV stops throughout the range allowing precise control of one or more lights. Lights fired off camera can also be easily controlled in manual flash.

Below the EV controller dial is a push switch which is used to disable ACC. Advanced Cancel Circuit also known as the camera pre-flash minimizes the flash from the cameras on-board strobe resulting in faster recycled times thus allowing for longer battery life. Pushing the switch down then rotating clockwise to lock will disable the ACC.

The Z-330's new mode control switch has

five positions, Off, S-TTL, S-TTL- Low, Full and Manual from -0.5 to -6 EV in half stops. The manual setting corresponds to the manual settings on the EV controller dial. The "Auto" setting from the Z-240 strobes was removed because it does about the same thing as the manual settings. Inon S-TTL-Low is used if you are constantly over exposing with S-TTL.

Below the mode control switch is a locking switch for controlling the modeling light. When the switch is depressed and released the modeling light remains on for around eight seconds. When the switch is depressed and turned right or left to the locked position it will remain on only turning off temporarily when the strobe is fired. The modeling light cutout function may not be 100% effective with some cameras so a test with your camera is suggested.

The ready light operates in the same way as past Inon strobes with a green conformation light for proper exposure in S-TTL and red ready to fire light. The sync cap below the Ready light is for connecting the Nikons V style hard wire sync cords.

Not All Strobes Are Created Equal

I want to take a moment to editorialize here and say that selecting a strobe based solely on it's specs many be disappointing. Many other factors should be taken into consideration such as the track record of the manufacture, build quality, warranty and repair history. Also consider your personal needs like deviations between different manufacture specs and testing methods, total system size for traveling, use of one strobe or more, accessories like filters, snoots, off camera triggering and more.

Regarding the issue of guide numbers/watt seconds and how this value is reached. My best



guess would be that most strobes are rated against each other by reviewers and some manufactures using a light/flash meter. At a given ISO setting (usually ISO-100) the flash meter is used to test output in meters and most often at the center point of the strobes flash pattern. As a result one strobe may have a guide number of say 32 meters while the second strobe has a GN of 24 all things being equal. The problem with this method is that the 32GN strobe may only have a beam angle of say 80 degrees (without a defuser) while the 24GN strobe may have a 100 degree beam angle.

With a 100 degree diffuser added to the 32GN strobe the GN is now reduced to 24. This is not exactly apples to apples for the purpose of a review. While the 32GN strobe may fit the needs of the photographer shooting both macro and wide angle it may not fit the needs of the dedicated hard core

super wide angle photographer. Variations can also be found in light meters some may read a 30 or 40 degree angle of the flash beam while others only read a few degrees.

Calculating recycle times and total number of flashes on a single set of batteries may tend to vary between manufacturers as well. My point here is that you not get too hung up on the numbers and concentrate on how the strobe will work for you in the field.

Field Testing The Inon Z-330

As I am finishing this article new Z-330's strobes are beginning to reach some retailers in the US and I had a very limited amount of time with my test unit. As a result I was not able to do near the number of dives I would normally hope to do with such an impressive new strobe. I hope to revisit the Z-330 in a future issue. My test strobes were shipped without any instruction manual and I assume the manual was still being translated at the time.

For my review I used a verity of strobe configurations including clamping the strobes directly to the balls on the tray handles all the way to dual strobe arms. I used an Olympus EM-1 MkII camera in the Nauticam NA-EM1 II housing with both macro and wide angle lenses. I used two Inon Z-330 strobes with fiber optic cables and the Olympus proprietary on-board flash for S-TTL and the Nauticam manual flash trigger to fire the strobes manually. Both systems worked very well but the on-board Olympus strobe does not recycle nearly as fast as the Nauticam flash trigger. This has noting to do with the Z-330 strobes it is a function of the camera. Set manually at around 1/4 power I can get excellent recycle times and very even illumination



Green Moray Eel, Olympus EM1 II, Olympus 8mm Fisheye F/2.8, Nauticam NA-EM1 II housing, two Inon Z-330 strobes in manual, ISO-320, F/11, 1/250th sec.

at ten frames per second on the EM1 II using the Nauticam flash trigger.

I used the shade for both macro and wide angle with positive results. This will require more testing before I can fully assess the benefits for both reducing backscatter and redirecting light. The additional power of the Z-330 strobes and the even light distribution when using the soft filter was immediately evident compared to my Z-240 type 4 strobes. Quality of light is somewhat subjective so for me the color and quality were excellent. I used new Eneloop Pro batteries for this review and noticed no difference in recycle times or battery life verses the Z-240's.

On the subject of be careful of what you wish for, while I found the new larger controls easier to use they were also easier to bump off the chosen settings if you are not paying attention. I also



Banded Jawfish, Olympus EM1 II, Olympus 60mm macro F/2.8, Nauticam NA-EM1 II housing, two Inon Z-330 strobes in S-TTL, ISO-64, F/22, 1/250th sec.

found that the soft filter was very easy to attach underwater and it remained totally secure. The filter was however harder to remove underwater and it does not have any attachment point to secure it to a clip.

The Inon Z-330 strobes are an excellent choice and a significant move up from the Z-240. The Z-330 will retail in the US for \$698.00 and Reef Photo now has them for pre-order at \$650.00.

I would like to thank Reef Photo and Video in Ft. Lauderdale, Florida for providing the strobes I used for this review.

Phil Rudin

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