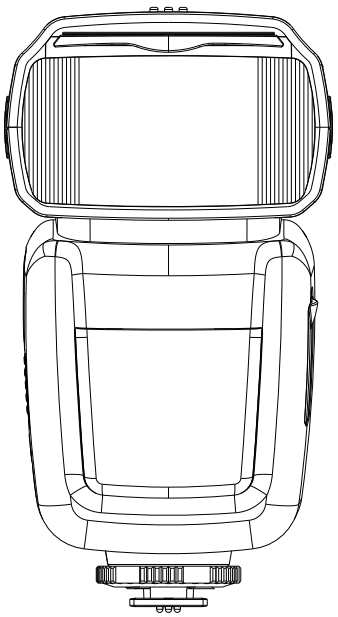
Camtraptions Z Pro Camera Trap Flash Manual



Index

Safety warnings

1. Only use external power sources and cables supplied by Camtraptions.
Only use Camtraptions-approved cables to connect an external 6V power source to the flash. DO NOT USE third-party power packs designed to accelerate flash recycle times; these may have the same connector type as Camtraptions cables but they are wired differently and, if used, could result in damage or fire.

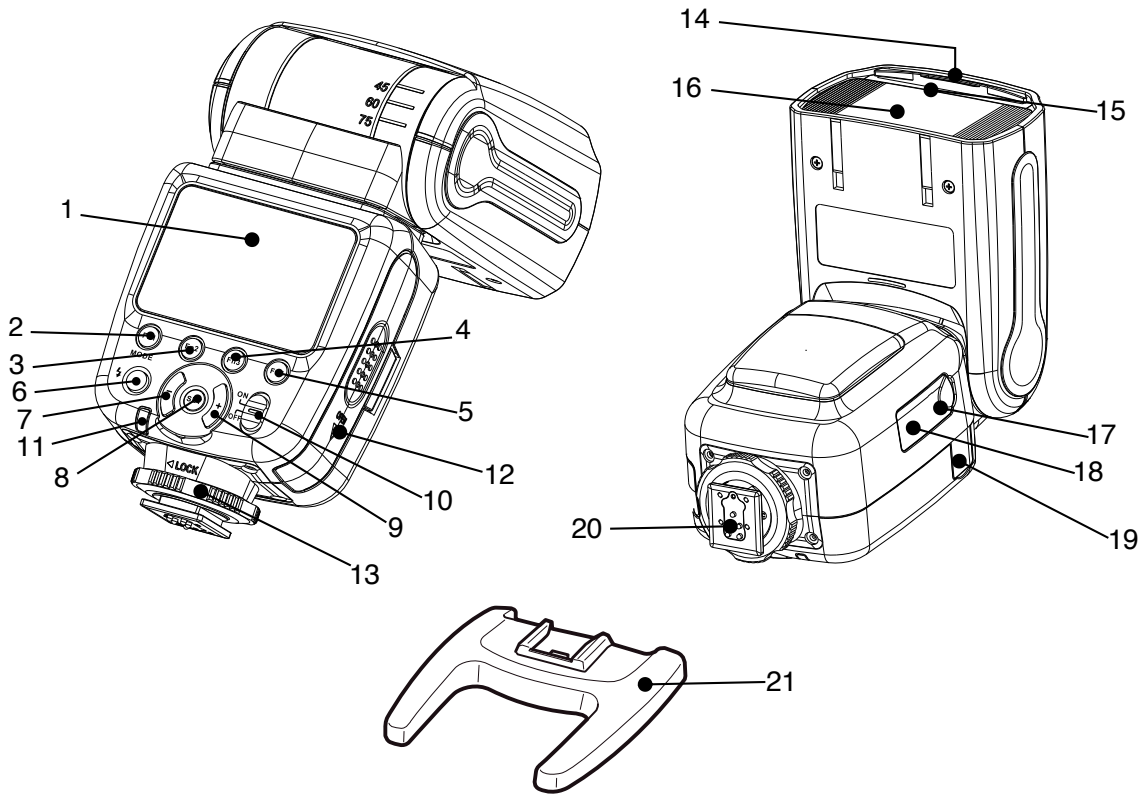
2. Remove the AA batteries inside the flash before connecting an external battery.
If there is a mismatch between the external battery and the internal AA cells then it is possible that the batteries or flash could be damaged, overheat or catch fire.

3. Avoid multiple high-power flashes in quick succession.
To avoid overheating, do not fire the flash at full 1/1 power more often than 20 times in 10 minutes or at 1/2 power more often than 40 times in 10 minutes. In a camera trap set-up, where you do not have control over how frequently the camera is triggered, it is advisable to keep the flash brightness setting below 1/4, or even better, below 1/8, to reduce the likelihood of damage.

4. Use a flash brightness setting below 1/4 to prolong the flash's lifespan.
The Z Pro Flash features a more powerful xenon bulb than previous Camtraptions flashes, so using lower power levels will result in similar performance. In general, lower power flashes will stress the flash’s components less and ultimately prolong the life of the flash.

5. Do not disassemble or attempt to repair this product yourself.
Touching some of the internal components of the flash could result in a powerful electric shock. If the flash requires repair, please contact support@camtraptions.com.

Flash overview



1. LCD Screen
2. Function Button 1
3. Function Button 2
4. Function Button 3
5. Function Button 4
6. Test
7. Decrease
8. Set
9. Increase
10. Power Switch
11. Charging Indicator
12. Battery Compartment Cover
13. Locking Collar
14. Reflector
15. Wide Diffuser
16. Flash Head
17. External Power Socket
18. Stereo Flash Sync Trigger Socket
19. Micro USB Socket
20. Hot Shoe Connections
21. Flash Stand

Powering the flash

The flash can be powered by four AA batteries or by an external power source. AA batteries must be removed from inside the flash if connecting an external power source. Only Camtraptions-approved external power sources should be used to avoid damaging the flash.

Because the Z Pro Flash is extremely power-efficient in standby, battery capacity should be considered based on the expected number of flashes required between battery changes.

For example, if the flash is only being triggered very infrequently on a medium power level, it may be able to last for a year or more on a single set of AA batteries. However, if the flash is triggered frequently at the same power level, battery life will decrease significantly, potentially running out after a couple of weeks.

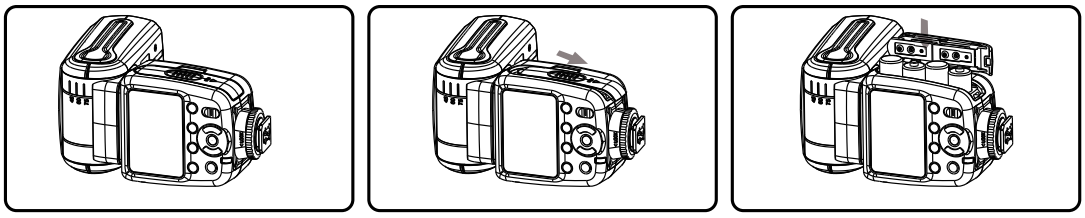
As a benchmark, at room temperature when powered by four alkaline AA batteries, the flash can fire more than 1,000 times at 1/4 power, 2,500 times at 1/16 power and 4,800 times at 1/64 power.

The total shot count of the flash (and indirectly the battery lifetime) can be increased substantially by using larger external batteries or by keeping four internal Ni-MH batteries fully charged with a Camtraptions 1W Solar Panel.

Internal Power

We recommend using alkaline AA or lithium iron disulfide (Li-FeS2) AA batteries for maximum battery life using internal power. NiMH AA rechargeable batteries can be used but will provide fewer shots than alkaline batteries, particularly in cold conditions. If connecting a Camtraptions Solar Panel then only Ni-MH AA rechargeable batteries should be used inside the flash.

To insert AA batteries, slide open the battery cover on the side of the flash. Insert the batteries, taking care to ensure the orientation of each cell matches the polarity symbols marked on the battery holder. Then close the battery door and slide it until it clicks shut.



Please note:
- The internal batteries may become very hot after repeated high-power flashing so take care when handling.
- When storing flashes for a prolonged period, remove the batteries to avoid leakage.

External Power

The flash has a 6V low-voltage power input socket on the side which allows the flash to be powered for prolonged periods using an external battery. External power sources should not exceed 6 Volts or supply more than 7 Amps of current.

It is recommended that you only use external batteries and connectors supplied by Camtraptions to avoid damaging the flash. Using an unapproved external battery or power supply will void the warranty. Camtraptions is not responsible for any resulting damage.

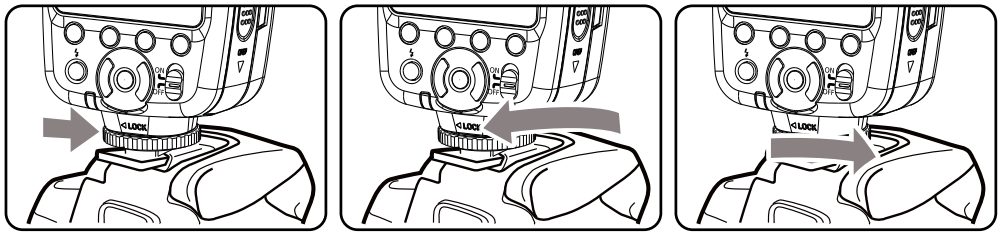
Please note that third party external battery packs for Canon flashes have a plug type that fits the socket on the side of the flash. However, these are not compatible with Camtraptions flashes as they provide a high-voltage aimed at boosting the flash recycle time instead of the continuous low-voltage that is required by the Camtraptions system.

A Camtraptions Solar Panel can be connected to the flash to charge Ni-MH AA batteries inside the flash. The solar panel is connected to the flash via a Solar Adapter Cable, available at Camtraptions.com.

A number of power sources and batteries compatible with Camtraptions Flashes can be found at Camtraptions.com.

Mounting the flash

Slide the flash into the hot shoe on top of a camera, Wireless Flash Receiver or Flash Stand. Lock the flash in position by twisting the Locking Collar in the direction indicated. To remove the flash, fully loosen the Locking Collar before sliding the flash out of the hot shoe.



Turning the flash on

Turn the flash on by sliding the Power Switch up.

If the battery level is low, the following symbol will appear on the flash's LCD Screen [].

To conserve power, the Z Pro becomes unresponsive to button presses when asleep. Therefore, it may be necessary to physically switch the flash off and on again using the Power Switch in order to regain the ability to change the flash settings.

Charging indicator

By default, the Z Pro Flash has the Charging Indicator light disabled to maximize power efficiency. The Charging Indicator can be re-enabled via custom function 2 (see "Custom functions" section]), but this is not generally desirable for camera trap systems. The behaviour of the flash remains unaltered regardless of whether the Charging Indicator light is enabled or disabled by custom function 2.

If the Charging Indicator is enabled (custom function 2 set to "OF"), then while the flash's capacitor is charging up after a shot, the red "Charging Indicator" will light up. As soon as the red light goes off, the flash is fully charged again.

Test button

The flash will fire when the "Test Button" is pressed. The brightness of the flash will reflect the power output setting.

Flash Sync Speed

To ensure proper flash synchronization, set your camera's shutter speed to its maximum sync speed or slower (typically 1/200s or 1/250s, depending on the camera model). Using a shutter speed faster than your camera's sync speed may result in black bands across your images, as the flash will not fully illuminate the entire frame.

The Z Pro Flash does not support High-Speed Sync (HSS), so it is necessary to check your camera's sync speed and adjust your shutter speed accordingly to avoid exposure issues.

Flash Mode Overview

The Z Pro Flash offers three different flash modes, each suited to a specific type of photography:

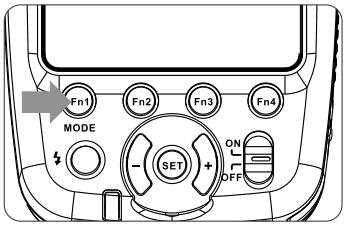
- **Manual Mode (M)** – The recommended mode for camera traps. In M mode, you set the flash power manually, ensuring consistent brightness for every shot.
- **TTL Mode** – In Through-The-Lens (TTL) mode, the flash power is automatically adjusted by the camera based on ambient light conditions. This mode is only useful when the flash is mounted directly in the camera's hot shoe. It is not recommended for camera traps. The Z Pro can only be used in TTL Mode with a Nikon camera.
- **Multi Mode** – This mode enables a strobe effect, where the flash fires multiple times during a single exposure. It is mainly used for creative photography to show movement.

For most camera trap setups, Manual Mode (M) is the best choice because it ensures consistent and predictable results.

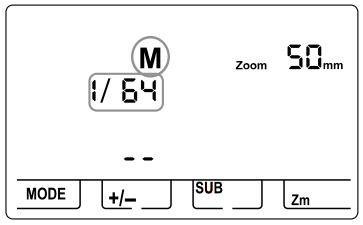
M mode

“M” stands for “Manual” mode. In this mode, the flash power (brightness) is set manually in 1/3rd stop increments. The power will remain fixed at this level and will not automatically adjust.

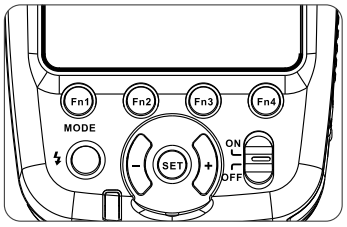
This is the recommended mode when the flash is being used in a camera trap system.



1. Press Function Button 1 until “M” is displayed on the LCD Screen.



2. Press Function Button 2 so that the power level value starts to flash. Adjust the value by pressing the Increase or Decrease buttons.



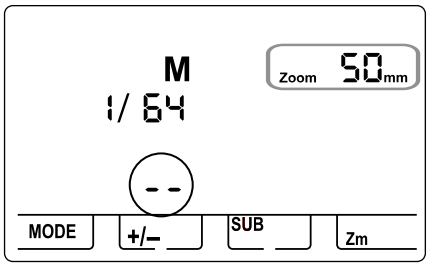
3. Press the Set button to save and set the power level to the value that is currently displayed on the LCD Screen.

Full power is designated as “1/1”. The power can be decreased incrementally and is expressed as a fraction of full power. Each increment represents 1/3 of a stop. Reducing power by three increments halves the flash brightness. The lowest power setting is 1/128.

When the flash is turned on, the last used flash power setting will be automatically recalled (even if the batteries were removed).

When a flash is left inactive in standby mode, it is normal for the capacitor to lose a small amount of charge over time. This means that if the flash suddenly receives a signal to fire, the flash may be at a slightly reduced brightness compared to the value set. However, it is possible to mitigate this using the periodic top up feature.

It is possible to configure the Z Pro to periodically wake itself up in order to top up the charge in the capacitor and keep the brightness consistent if it is likely to remain inactive for long periods of time. The capacitor top-up frequency can be adjusted to the following values by pressing the Decrease and Increase buttons:



01	05	10	20	30	45	01 H	03 H	06 H	12 H	24 H	--
1 minute	5 minutes	10 minutes	20 minutes	30 minutes	45 minutes	1 hour	3 hours	6 hours	12 hours	24 hours	No top-ups

← slightly more consistent brightness / less power efficient

→ slightly less consistent brightness between top-ups / more power efficient

If the capacitor top-up frequency is set to 1 minute, the flash will consume substantially more power during standby compared to a top-up frequency of 24 hours or “No top-ups”. Frequent top-ups should only be used if you can change the batteries regularly.

If the flash will be firing frequently in a camera trap anyway, then periodic top-ups are not usually necessary as the flash will automatically recharge after each shot.

If the flash is set to “No top-ups” (“--“) and it a) remains inactive for many days or weeks at a time between firing and b) is being used with a camera that wakes up and fires very quickly, then it is possible that it could miss the first shot in a trigger sequence due to not having enough time to recharge the capacitor. If the flash is expected to be firing infrequently (e.g. more than a day of inactivity between shots) then it is recommended to use a top-up frequency of 24 hours (“24H”) to avoid this possibility.

In most situations, “24H” is the most appropriate setting to use. Stated battery life figures such as “capable of lasting over a year with a single set of 4xAA alkaline batteries” assume a top-up frequency of 24 hours (“24H”).

TTL mode

In TTL mode, the flash power (brightness) level is automatically adjusted to correctly expose the image depending on the ambient light level and camera exposure settings. This mode is only suitable for general purpose photography with the flash mounted directly in a Nikon camera's hot shoe. It is not typically suitable for camera trap systems.

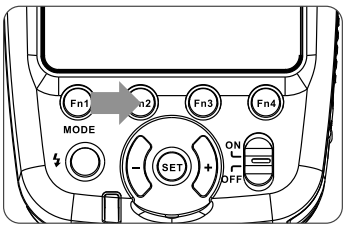
TTL mode only functions correctly when:

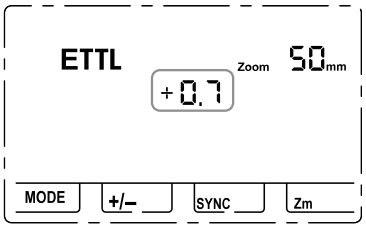
- A Nikon camera is being used.
- The flash is mounted directly in the Nikon camera's hot shoe, connected to the camera's hot shoe by an ETTL cable or via ETTL compatible wireless flash triggers.

Access TTL Mode by pressing Function Button 1 until "TTL" is displayed on the LCD Screen.

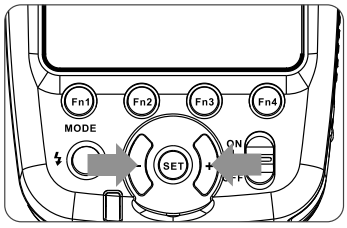
When TTL Mode is active, the zoom of the flash head will be automatically adjusted to match the zoom level of the camera lens.

Sometimes the power level may not be set to the optimal value automatically. In these cases, it can be helpful to decrease or increase the brightness by applying "exposure compensation". The exposure compensation can be adjusted by +3 stops to -3 stops in 1/3rd stop increments.





1. Press Function Button 2 so that the exposure compensation value flashes on the LCD Screen.



2. Press the Increase or Decrease buttons to make the power adjustment higher or lower. Press Set to save the value.

To cancel the exposure compensation, set the value to "+0".

Multi mode

This mode results in multiple flashes every time the camera is triggered, i.e. a strobe effect. It can be used to light a moving subject multiple times during a single exposure to illustrate motion.

Access Multi mode by pressing Function Button 1 until “Multi” is displayed on the LCD Screen.

The power of each flash is set the same way as in “M” mode.

By pressing the Set button, the number of flashes and the frequency of flashes can be adjusted. Tap Set once and then use the Increase and Decrease buttons to set the number of flashes.

Tap the Set button a second time and then use the Increase and Decrease buttons to set the frequency of the flashes. A setting of 1Hz means 1 flash per second while a setting of 20Hz would mean 20 flashes per second.

The maximum number of flashes you can set depends on your flash power setting and the frequency setting; at high flash powers or high frequencies, fewer flashes are possible.

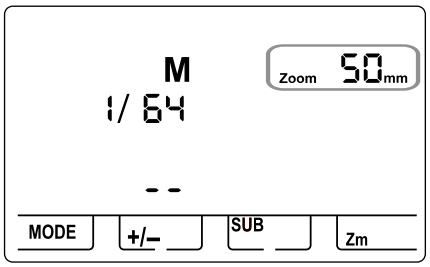
In order to prevent the flash head from overheating, do not fire more than 10 consecutive stroboscopic sequences in quick succession. After 10 triggers, let the flash cool before firing it again.

Overheating protection

The flash has a built-in thermal protection function which is activated if too many high-powered flashes are attempted in a short space of time. When thermal protection is active, the rate of fire is reduced.

Zoom

To set the flash's zoom level, press Function Button 4 so that the zoom value begins to flash.



Press the Increase or Decrease button to change the zoom level. Press Set to confirm.

The zoom can be set between 24mm and 200mm. At 24mm, the light from the flash spreads out to cover a wide area. At 200mm, the light from the flash is more focused in the centre which means the flash can be moved further from the subject.

When the flash is turned on, the last flash zoom setting will be automatically recalled (even if the batteries were removed).

Lock mode

Press and hold the Set button for 5 seconds to enable lock mode. "Lo" will be displayed on the LCD Screen to show that it has been activated.

With lock mode enabled, the flash will not respond to button presses, which can help prevent accidental setting changes when installing the flash inside a protective housing or when changing the batteries during a camera trap deployment.

If the flash falls asleep, it will be necessary to physically switch the flash off and on again using the Power Switch in order to regain access to the flash controls for changing the settings.

To disable lock mode, make sure the flash is powered on with the LCD Screen active and then hold the Set button for 5 seconds.

Wireless triggering

The Z Pro Flash can be triggered wirelessly by mounting it on top of a Camtraptions Receiver. A Camtraptions Wireless Transmitter should be placed in the hot shoe of the camera. The Receiver and Transmitter should both be set to the same wireless channel as each other. A single Transmitter mounted in the camera's hot shoe can be used to fire any number of flashes (each mounted on their own Receiver unit).

It should be noted that the Camtraptions Wireless Receiver and the Z Pro flash both require a "flash wake" signal immediately prior to a "flash shoot" signal so that they can trigger in-sync with the camera's shutter on the first shot after a period of inactivity.

For Canon and Nikon cameras, the Wireless Transmitter in the hot shoe automatically sends a "flash wake" signal. When using other camera brands, the "flash wake" signal may not be transmitted. In these cases, a Camtraptions Wireless PIR Sensor can instead be configured to send out the "flash wake" signal momentarily before triggering the camera to take a shot.

Wired triggering

Wired camera trap setups are capable of high triggering reliability and high power efficiency.

In a wired setup, the Z Pro Flash should be triggered via its Stereo Flash Sync Trigger Socket for optimal reliability. The cables used to trigger the Z Pro Flash must be 3.5mm stereo. Always use 3.5mm stereo (3-pole) cables; mono (2-pole) cables are incompatible.

The wired signals used to fire the Z Pro in a camera trap should always originate from a Camtraptions Wired Flash Adapter so that both "wake" and "shoot" signals are correctly transmitted to the flash.

Simply connecting the Z Pro to a Flash Hot Shoe Adapter on the camera via a stereo or mono cable will not work reliably and may cause the flash to become unresponsive after some time.

Custom functions

Access the custom functions menu by pressing and holding Function Button 3 and Function Button 4 together.

Use Function Button 2 to navigate through custom functions.

To adjust a custom function, press the Increase or Decrease button to change its value. Then press Set to save the current value.

Press Function Button 4 to exit the custom functions menu.

Function	Display	Values	Behaviour
Sound	01-Sd	oF	No beep sound
		on	Beep with button presses
Light Cancel (Charging Indicator)	02-LC	oF	Charging Indicator light enabled
		on	Charging Indicator light disabled
Backlight	03-bL	oF	Backlight disabled
		15	Backlight on for 15 sec from last button press
		on	Backlight always on while flash is active
Firmware version	04-Ur	X	Displays current firmware version number

Articulating head

The flash head can be rotated about the base of the flash; it can be rotated left up to 90 degrees or right up to 180 degrees (so that it points backwards). The flash head can also be tilted upwards by up to 90 degrees (so that it points straight up). This configuration is necessary for installing the Z Pro Flash inside a Camtraptions Flash Housing.

This range of motion makes it easy to bounce the flash off objects when using it on-camera. If using the flash off-camera then it provides flexibility for mounting and housing the flash.

Wide diffuser

The flash has a built-in “Wide Diffuser” which can be pulled out and flipped down over the front of the flash. This can be used to spread the light out over a wider area.

Reflector

The flash has a built-in “Reflector” panel which can be pulled out. This is useful for creating a catch light in the subject’s eyes which can add life to the picture. To achieve this, point the flash upwards so the surface of the reflector panel is clearly visible to the subject but so that no direct light shines on them.

Weather-proofing

The Z Pro Flash is not weatherproof. Accessories for weather-proofing your flash, including protective Flash Housings and Re-usable Silica Moisture-absorbing Packs can be found at Camtraptions.com.

The product warranty will be voided unless adequate measures are taken to protect your flash from moisture damage. To prevent moisture damage, always store the flash inside a Camtraptions Flash Housing with a fresh Silica Pack when used outdoors.

Legal notices

In no event shall Camtraptions Ltd be liable for any direct, indirect, punitive, incidental, special consequential damages, to property or life, whatsoever arising out of or connected with the use or misuse of our products.

This product should not be treated as household waste, but rather be brought to the appropriate collection point for recycling of electrical and electronic equipment. Please see www.camtraptions.com for details.

Support

For technical support, please email support@camtraptions.com.

Online resources

You can access this manual here:

camtraptions.com/manuals/

For camera trapping resources including tutorials, videos and our discussion group, visit:

camtraptions.com/learn/