ZEN-C98G / ZEN-C150G

Li-ion 3-Stud Mount Battery

Instruction Manual

Lithium Ion

Thank you for purchasing the ZEN-C98G / ZEN-C150G Li-ion 3-Stud Mount Battery. Prior to using the ZEN-C98G / ZEN-C150G, we strongly recommend reading this Instruction Manual on how to best use the ZEN-C98G / ZEN-C150G. Please keep this manual for your reference. If you have any additional questions, please contact your local IDX office listed at the end of this manual.

⚠ Important

- **Recharge immediately after purchase.**
- **Please make sure to remove the battery from the charger after charging.**
- **Do not use this battery in series or in parallel connection. It may cause significant damage to the battery and any equipment connected to.**
- **Do not charge while discharging or discharge during charging. It may cause the connected equipment to stop working, malfunction, or cause significant deterioration.**

Caution for safety use

Improper handling of this Li-ion battery may result in smoke, heat, fire, explosion or leakage as well as cause performance degradation or failure. Please be sure to observe the following precautions.

⚠DANGER

May cause sudden serious injury and death.

- Charge with IDX battery charger only.
- Use with professional video cameras or other video equipment. Please contact IDX for more information.
- Do not short the contact pins with any metal object. Do not carry or store with metal equipment.
- Do not expose to heat and never throw the battery in a fire.
- Do not immerse in water. Keep the battery dry and away from excessively dry or humid environments.
- Do not leave the battery exposed to excessive heat such as in a car or directly under the sun light. Do not use outside of specified temperature ranges.
- Do not solder on the contact pins directly.
- Do not attempt to open the outer casing or break apart the battery.
- Do not subject the unit to extreme physical impact or pressure, or place any object across the terminals that could cause it to short.
- Do not pierce or drill into the outer casing of the unit.
- Do not attempt to use the battery if damaged.
- Do not use the battery in a corrosive environment. Damages occur from salt water, seawater, acid, alkali, corrosive gas, etc.
- Risk of explosion if battery cells are replaced by an incorrect type.

⚠WARNING

May cause serious injury and death.

- Please note that the outside casing becomes hot when the battery is discharged in high temperatures or with high loads.
- Stop charging immediately if the battery fails to charge within the designated time. Refer to charger manuals for charge times.
- Do not use if the battery displays unusual characteristics (odd odor, discoloration, etc.) when in use, during charge or in storage.
- Keep away from fire if the battery leaks fluid or has an unusual smell.
- In case of leakage immediately wash your hands and face thoroughly with clean water and contact your IDX representative for further instructions.
- Immediately seek medical attention if battery fluid gets into contact with your eyes.

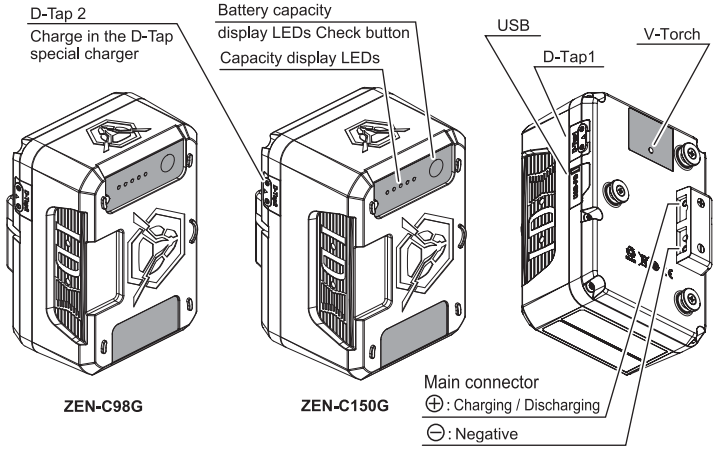
⚠CAUTION

May cause injury or damage other equipment.

- Follow instructions on charging and discharging.
- Store in cool and dry conditions.
- During long periods of inactivity, please remove the battery from the equipment.
- Do not use, store or place the battery in an electrostatic area.
- Always keep the connectors clean.

Features

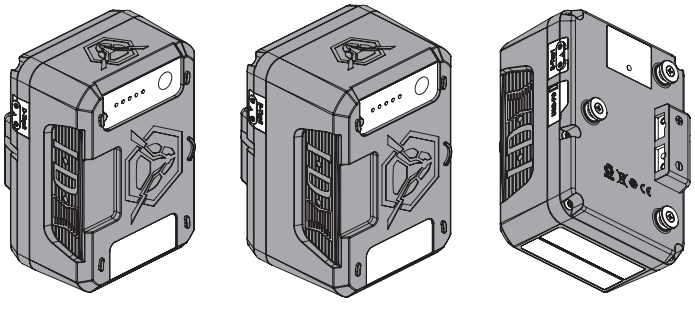
- Light weight, compact, high performance Li-ion battery with a durable design.
- Five power status LED indicators accurately display remaining power capacity. [Refer to Capacity display LEDs]
- It is antibacterial and antiviral processed and has the effect of suppressing the growth of bacteria and reducing viruses. [Antibacterial / antiviral processing]
- Two DC output connectors for powering additional equipment. [Refer to D-Tap] D-Tap 2 is compatible with charging.
- It comes with a USB-C port and supports input and output. It can be used for portable devices powered by USB. You can also charge it with USB PD charger. [Refer to USB]
- The battery is equipped with a V-Torch (LED Light) for universal purpose. (light for approx. ten seconds) [Refer to V-Torch]



Antivirus / Antibacterial

The majority of the exterior of this battery has been treated with antibacterial and antiviral which have the effect of suppressing the growth of bacteria and reducing viruses.If there is dust or dirt on the surface, wipe it gently with a soft cloth. Avoid the use of alcohol, hypochlorous acid water, solvent, or abrasives.
* Antibacterial and antiviral processing is applied to the colored area.

CAUTION This product is not a medical product. Nor does it guarantee infection prevention. Japanese standard antibacterial performance test (JIS Z 2801) and anti-virus performance test (ISO21702) have been conducted, but it is a verification test for special bacteria and viruses, not for all bacteria and viruses.



Discharging

- The maximum discharge power for the ZEN-C98G / ZEN-C150G is shown in the appropriate specification. This is the maximum for the combined output of the main terminal, USB and D-Taps. Please pay attention to the total power of the attached devices. If this exceeds the maximum, the safety protection function may be activated and it will stop discharging, also it could damage the battery. If the fuse is blown off due to an over load, the battery won't recover.
- The battery life may diminish if high loads are applied frequently.
- Battery run-time may reduce when used in extreme high and low temperatures. IDX highly recommends to use the battery in ambient temperatures of 50～104°F (10℃～40℃)
- The discharge characteristics of lithium ion batteries illustrate a steady curve until 13V. At 13V, the discharge curve sharply drops. For this reason, IDX recommends setting the camera's "Low Voltage" alarm settings to13～13.5V. Refer to battery settings on the camera's user manual.
- The battery will automatically stop discharging when the voltage reaches 11V. To extend battery life, IDX recommends to stop using before the battery reaches 12V.
- Microwave transmitters with 5W outputs or more should be kept as far away from the battery as possible. High power transmitters may disrupt or stop supplying power.
- Please be sure to remove the battery from the device after use. If a battery left mounted on the device that has large standby power, the battery's residual capacity will become lower and the over-discharge protection may be activated.
- Please do not use this batteries connected in series or in parallel. This may cause the damage.
- When the battery detectes high current, high power or internal high temperature, the capacity display LEDs show an alarm by blinking all LEDs continuously.

Charging

- When charging via the USB or the Advanced D-Tap outputs, we recommend using the following IDX Brand compatible charger models.
  ・USB：UC-PD1
  ・D-Tap2：VL-DT1
  Please refer to the charger manual for charging method information.
- Estimated charging times may vary depending on the charger and condition of the battery. Refer to our website for more details.
- The ambient temperature range for charging is 32～104°F (0～40℃); however, 50～86°F(10～30℃) is recommended for optimizing the charging performance. When the battery is charged in temperatures 32°F(0℃) or below, it may not fully charge, even if the designated charge time has elapsed.
- Charging outside of the recommended temperature range can accelerate cell deterioration.
- Please use IDX D-Tap charger when charging the battery through the D-Tap2 connector.
- Lithium ion batteries have a slight self discharge; therefore, IDX recommends to charge prior to use.

* Please refer to [USB] on this manual for charging with the USB-C terminal.

CAUTION When charging from the main connector, charging may not start depending on the model and battery status. In this case, press the Batery capacity display LEDs check button before mounting it to the charger, then charging may start.

CAUTION The policy of IDX is to value safety above all other considerations and for this reason, the ZEN batteries cannot be charged when the internal temperature of the batteries is below 32°F(0℃) or over 104°F(40℃). During use the internal temperature of all batteries rise. IDX monitor this temperature in the ZEN batteries and if it is found to exceed 104°F(40℃) a protection circuit will trigger an error message on an IDX charger should charging be attempted whilst the battery is in this over temperature state. The error sign will cease once the battery is back within the correct temperature range and charging will resume.

* If the internal temperature of the battery below 32°F(0℃) or exceeds 104°F(40℃), when the battery capacity display LEDs check button is pressed, the remaining capacity will be displayed with LEDs for 1 second. After that all LEDs will flash 2 times.

Reference time intervals for the internal temperature to drop below 104°F (40℃) following discharge. (Ambient Temperature : approx. 77°F(25℃))

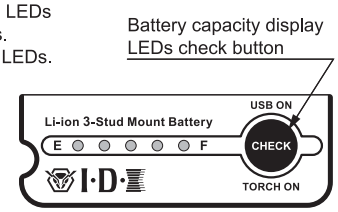
ZEN-C98G		ZEN-C150G	
Discharge load power	Approximate time	Discharge load power	Approximate time
80W Discharge	20 Minutes	85W Discharge	15 Minutes
110W Discharge	35 Minutes	125W Discharge	35 Minutes
140W Discharge	50 Minutes	168W Discharge	60 Minutes

Protection circuitry

- There are four types of protection circuits to ensure the battery is protected from Over-charge, Over-discharge, Over-current and Thermal protection. If the fuse is blown, the battery is no longer operable.
- When temperature of inside of the battery reaches 167°F (75℃), battery stops discharging automatically. Discharge will restart when the inside temperature becomes 140°F (60℃) or less.
- Please charge the battery quickly, if the over-discharge protection is activated. The battery may become unusable, if leave it without charging.
- If over-current protection is activated, the battery resume discharging by pressing the remaining capacity check button about one minute after removing the connected device.

Capacity display LEDs

- When the check button is pressed, the LEDs will light for approximately 2.5 seconds.
- Remaining capacity is shown with five LEDs. This is displayed as 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80% 90%, and 100%.



● : Solid / ☀ : Flashing

Capacity / Display	100% ≀ 90%	89% ≀ 80%	79% ≀ 70%	69% ≀ 60%	59% ≀ 50%	49% ≀ 40%	39% ≀ 30%	29% ≀ 20%	19% ≀ 10%	9% ≀ 0%
F	●	☀								
•	●	●	●	☀						
•	●	●	●	●	●	☀				
•	●	●	●	●	●	●	●	☀		
E	●	●	●	●	●	●	●	●	●	☀

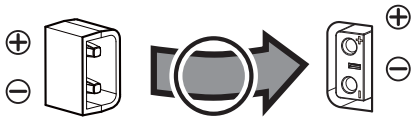
When charging with USB, the current capacity of the following 5 levels is displayed. 5LEDs light off after full charge.

Capacity / Display	100%	99% ≀ 60%	59% ≀ 40%	39% ≀ 20%	19% ≀ 0%
F	●				
•	●	●			
•	●	●	●		
•	●	●	●	●	
E	●	●	●	●	●

D-Tap

- Two D-Taps power output terminals are available.
- The maximum power output is 80W.
  *Upon usage, please be aware of the maximum discharge load value of the battery.
- The voltage output from the D-Tap is same as the battery connector output. (11～16.8V)
- Please do not use D-Tap connectors while charging the battery through the main connector & USB. If you use D-Tap connectors while charging the battery through the main connector, it may cause a charging error or damage on the charger.
- D-Tap output can be used for IDX portable lights and monitors.
- You can charge the battery through the D-Tap2 connector only by using the IDX D-Tap charger. Please do not charge the battery through the D-Tap2 connector while charging the battery through the main connector & USB. It may cause a charging error or damage on the charger.
- Please do not use the main, the D-Tap1 and the USB connectors while charging the battery through the D-Tap2 connector. It may cause a charging error or damage on the charger.

CAUTION Please make sure to check the ⊕ ⊖ polarity of D-Tap connector prior to plug-in.



Please confirm the shape of connector and ⊕ ⊖ polarity of plug side prior to connect with receptacle. Please do not force it when felt it is difficulty.

USB

- USB supports PD (Power Delivery), which is capable of max. 60W power supply and charging. Be sure to pay attention to the maximum discharging power when power is supplied in combination with battery main connector and D-Tap output.
- Please use the Type-C cable that supports PD(Power Delivery)with Max.3A.
- When drawing power from USB PD of the battery, connected device can select voltage and current as 5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/3A.
- When charging from a USB PD charger, the voltage and current that can be charged by this battery is 5V / 3A, 9V / 3A, 12V / 3A, 15V / 3A, and 20V / 3A.
- The current capacity is displayed while charging with USB PD. At 100%, 5LEDs light up and then turn off.
- When connecting a device that does not support USB PD, press down the battery capacity display LEDs check button for more than 3 seconds to activate USB power output. USB power output works automatically when connecting device that supports USB PD.
- When charging another ZEN-C150G/98G from the battery via USB PD, it is not possible to determine which battery will be charged. This also happens when using a power bank. IDX highly recommend using PD charger when charging the battery.
- USB power turns off automatically 30 seconds after the USB cable is removed.
- Do not draw power from USB while charging via main connector or D-Tap as it may interrupt charging, cause a charger error, or damage the charger or battery.

V-Torch (LED Light)

- Embeded LED (on rear side) will turn on the light by pressing the battery capacity display LEDs check button two times in a row. Ten seconds later, the LED will automatically turn off the light.
- It can also turn off manually by pressing the button two times in a row while lighting.
- Please do not stare into the light directly while lighting.

Life cycle

- Life may vary depending on frequency of use, storage and operational temperature environment.
- Life will be reduced if frequently used with high load applications.
- Life is also reduced if stored in fully charged and/or empty conditions for extended periods.

Compensation for recorded content

Recorded content cannot be compensated for if recording or playback is disabled due to a malfunction of the battery pack or other devices.

Battery recycle

This Li-ion battery can be recycled. Please follow the regulations in your country or contact your local IDX office for further details.

Li-ion Battery Air transport Compliance

The Air transport regulations for the lithium-ion batteries will be revised regularly, so please check our website before transporting the battery.
(https://idxtek.com/lithium-ion-transportation/)

Storing

- Store in cool and dry conditions.
- Do not store or leave in temperatures of 122°F(50℃) or above.
- For long-term storage, please store with about 30～40% of capacity (with 2 LEDs) and recommend for re-charging every five months.
- Deterioration of battery performance will be accelerated when the battery stored in a high ambient temperature and/or stored for long period without used.

Specifications

			ZEN-C98G	ZEN-C150G
Cell chemistry			Li-ion	
Nominal voltage			DC14.54V	
Capacity			6.62Ah/97Wh *1	9.93Ah/145Wh *1
Charge voltage			DC16.8V	
Standard Charge current			MAX 3.31A	MAX 4.965A
Main connector & D-Tap×2	Maximum discharge rate *2	≦77°F (25℃)	140W/8.3A (16.8V) ∫ 12.7A (11V)	168W/10.0A (16.8V) ∫ 15.2A (11V)
		≦95°F (35℃)	110W/6.5A (16.8V) ∫ 10.0A (11V)	125W/7.4A (16.8V) ∫ 11.3A (11V)
		≦113°F (45℃)	80W/4.7A (16.8V) ∫ 7.2A (11V)	85W/5.0A (16.8V) ∫ 7.7A (11V)
	Maximum discharge current *2	≦77°F (25℃)	11.2A	13.0A
		≦95°F (35℃)	8.4A	10.0A
		≦113°F (45℃)	5.8A	7.0A
USB PD + Main connector & D-Tap×2	Maximum discharge current *3	≦77°F (25℃)	PD60W(20V/3A)+0W	
		≦95°F (35℃)	PD45W(15V/3A)+50W	PD45W(15V/3A)+60W
			PD36W(12V/3A)+60W	PD36W(12V/3A)+70W
			PD27W(9V/3A)+75W	PD27W(9V/3A)+80W
			PD15W(5V/3A)+85W	PD15W(5V/3A)+90W
		≦113°F (45℃)	PD45W(15V/3A)+20W	PD45W(15V/3A)+30W
			PD36W(12V/3A)+30W	PD36W(12V/3A)+35W
			PD27W(9V/3A)+40W	PD27W(9V/3A)+50W
			PD15W(5V/3A)+50W	PD15W(5V/3A)+55W
D-Tap			Output voltage Same as the battery connector output (D-Tap1, D-Tap2)	
			Maximum load 80W / 4.7A (16.8V) ～ 7.2A (11V) (per D-Tap)	
USB			Input / Output : MAX 60W (5V/3A , 9V/3A , 12V/3A , 15V/3A , 20V/3A)	
			Connector type : USB Type-C (Receptacles)	
			USB OFF : 30 seconds after the USB cable is removed	
End voltage			11V	
Battery protection circuit			Over-charge, Over-discharge, Over-current, Thermal protection	
Ambient temperature			Charge 32～104°F (0～40℃) (50～86°F (10～30℃) recommended)	
			Discharge -4～113°F (-20～45℃) (50～104°F (10～40℃) recommended)	
			Storage -4～122°F (-20～50℃) (less than 1 month)	
Dimensions		mm	88(W)×126(H)×68.6(D)	88(W)×126(H)×83.6(D)
		Inches	3.46(W)×4.96(H)×2.7(D)	3.46(W)×4.96(H)×3.29(D)
Weight		g	approx, 700	approx, 930
		lbs	approx, 1.54	approx, 2.05

*1. Measured capacity of battery is a minimum rating at 68°F(20℃).
*2. Maximum load is the sum of D-Tap×2, and Camera loads.
*3. Maximum load is the sum of D-Tap×2, USB PD and Camera loads.

* Design and specifications are subject to change without notice.
* USB Type-C® and USB-C® are trademarks or registered trademark of USB Implementers Forum companies.

Manufacturer : **IDX Company,Ltd.** 6-28-11 Shukugawara, Tama-ku, Kawasaki-shi, Kanagawa-ken, 214-0021 Japan
Tel : +81-44-850-8801 Fax : +81-44-850-8838 URL : https://www.idx.tv/ E-mail : idx.japan@idx.tv
Importer for EU : **IDX Technology Europe,Ltd.** Unit 9, Langley Park, Waterside Drive, Langley, Berkshire SL3 6AD, England
Tel : +44-1753-547692 Fax : +44-1753-546660 URL : http://www.idx-europe.co.uk/ E-mail : idx.europe@idx.tv
Importer for USA : **IDX System Technology, Inc.** 2377 Crenshaw Blvd, Suite 154, Torrance CA 90501 USA
Tel : +1-310-328-2850 Fax : +1-310-328-8202 URL : http://www.idxtek.com/ E-mail : idx.usa@idx.tv

202204
BLMK220028-1