

Thank you for purchasing the HV-160B / HV-320B Li-ion B-Mount Battery. Prior to using the HV-160B / HV-320B, we strongly recommend reading this Instruction Manual on how to best use the HV-160B / HV-320B. 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

- If the battery pack is left unused for more than 2 hours, the battery becomes shut-down mode. Please press the "POWER" button to activate before charging/ discharging.
- Recharge immediately after purchase.
- Please remove the cable after using the USB.
- Do not use this battery in series or in parallel connection. It may cause significant damage to the battery and any equipment connected to.
- When charging is completed, remove the battery from the charger immediately to avoid discharge.
- Do not charge while discharging or discharge during charging. It may cause the connected equipment to stop working, malfunction, or cause significant deterioration.
- During or after using the USB-C, USB-A or D-Tap, the surface of the battery pack may become warm but please note that this is not a malfunction of the battery pack.

#### 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

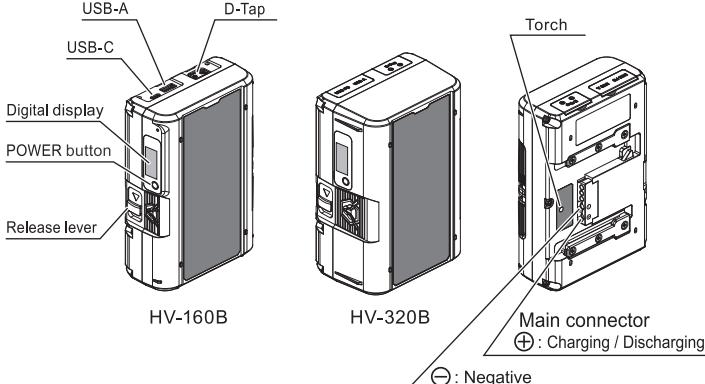
##### May cause injury or damage other equipment.

- 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

- Thin body and high capacity
- High performance Li-ion battery with a durable design.
- Various information such as the remaining capacity and the voltage is displayed on the digital display. [Digital display]\*
- D-Tap DC 14.4V output connectors for peripheral equipment. [D-Tap]\*
- USB-A power output for charging portable devices. USB-C power output for charging portable devices as well as power input by USB PD charger. [USB-A]\*[USB-C]\*
- Equipped with Torch(LED Light) for universal purpose. (Light for approx. ten seconds)[Torch]\*
- This battery has a digital communication function, depending on the devices, it can read battery capacity/ remaining time.[Communication Function]\*

\*:Please refer to each item.



#### Discharging

- The maximum discharge power is specified below for the main connector, D-Tap, USB-A and USB-C, checking prior to connecting to equipment the requirements. If it exceeds the maximum discharge power, the safety protection function may be activated and it will stop discharging and may cause the damage on the battery. If the fuse is blown 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°C~40°C).
- The discharge characteristics of lithium ion batteries illustrate a steady curve until 26V. At 26V, the discharge curve sharply drops. For this reason, IDX recommends setting the camera's "Low Voltage" alarm settings to 26~27V. Refer to battery settings on the camera's user manual.
- The battery will automatically stop discharging when the voltage reaches 22V. To extend battery life, IDX recommends to stop using before the battery reaches 24V.
- 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.
- Do not use this battery in series or in parallel connection. It may cause significant damage to the battery and any equipment connected to.

## Charging

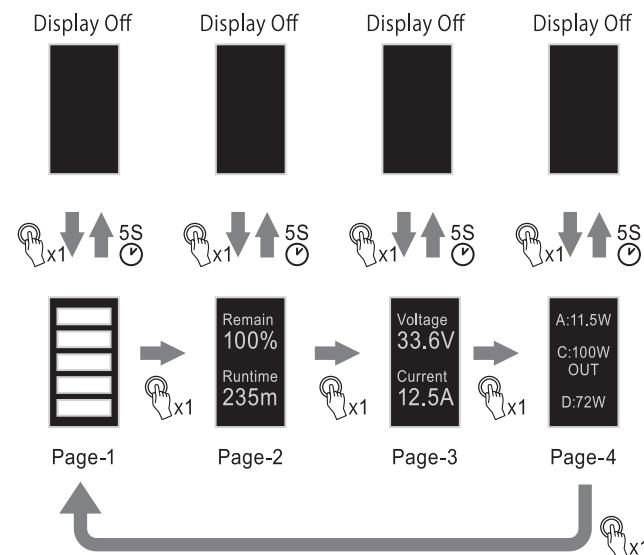
- Only charge with an IDX lithium ion charger and refrain from charging with third party chargers. Please refer to the charger manual for charging method information.
- Estimated charging times may vary depending on the charger and condition of the battery. Refer to our website for more details.
- The ambient temperature range for charging is 32~104°F(0~40°C); however, 50~86°F(10~30°C) is recommended for optimizing the charging performance. When the battery is charged in temperatures 32°F(0°C) 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.
- Lithium ion batteries have a slight self discharge; therefore, IDX recommends to charge prior to use.  
\* Refer to [USB] on this manual for charging with the USB-C terminal.

### ! CAUTION

- To ensure safety, this battery has a protection function that prevents charging if the internal temperature of the battery is too low or high. It is not abnormal for the internal temperature to rise during the battery is in use, but if you start charging immediately after use, the internal temperature may be so high that a protection system will be activated, and the charger may display an error message.  
Wait for a certain period and charge the battery after the internal temperature of the battery has reached 0°C to 40°C.
- This product is capable of supplying power and charging via USB PD. Please note that the surface of the main unit may become hot depending on temperature and the rating of the attached device.

## Digital display

- This battery has a digital display that allows to check the battery status.
- Pressing the POWER button once displays the information for 5 seconds, and pressing the POWER button during the time displays the next page. There are four pages.  
Page-1: A five-step progress bar lights up or flashes to indicate capacity in 10% increments.  
Page-2: Displays capacity % and remaining time.  
Page-3: Displays voltage and current.  
Page-4: Displays the output power of the USB-A/D-Tap and the input/output power of the USB-C.
- While charging with Main connector or USB PD, the remaining capacity can be checked by setting the digital display to Page-2.



## 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.
- If the internal temperature of the battery becomes too high, the battery will automatically stop discharging. Discharge will resume when the internal temperature drops.
- Please charge the battery quickly, if the over-discharge protection is activated. The battery may become unusable, if left without charging.
- If over-current protection is activated, the battery will resume discharging by pressing the POWER button about one minute after removing the connected device.

### ! CAUTION

- This product is equipped with a temperature protection function, which may be activated depending on the temperature.

## D-Tap

- D-Tap power output terminal available. The maximum power output is 72W(DC14.4V/5A). Upon usage, please make sure for the maximum discharge load value of the battery.
- D-Tap output can be used for IDX portable lights and monitors.
- Do not draw power from D-Tap while charging.
- D-Tap is only for 14.4V output. Do not apply voltage from the outside.
- No output during shut-down mode, please press the POWER button before use.

**! CAUTION** Please make sure to check the  $\oplus$   $\ominus$  polarity of D-Tap connector prior to plug-in.



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

## USB-A

- USB-A connector for power supply(DC5V / 2.3A).
- USB-A connector is A-Type(USB Cable should be A type as well).
- Do not draw power from USB-A while charging.
- This terminal does not provide data, only power.
- USB-A is only for 5V output. Do not apply voltage from the outside.
- No output during shut-down mode, please press the POWER button before use.

## USB-C

- USB supports PD (Power Delivery), which is capable of maximum charge 100W and discharge 60W. Be sure to pay attention to the maximum discharging power when power is supplied in combination with battery main connector, D-Tap and USB-A output.
- Please use the Type-C cable that supports PD(Power Delivery) with Max.5A
- USB PD output mode automatically initiates when a USB PD cable is connected.
- When drawing power from USB PD of the battery, connected device can select voltage and current as below.  
5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/3A  
USB power output works automatically when connecting a device that supports USB PD.
- When charging from USB PD charger, following current and voltage are applicable.  
5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/5A
- While charging with USB PD, the remaining capacity can be checked by setting the digital display to Page-2.
- When charging another battery from the HV-160B/HV-320B via USB PD, it does charge but is unable to determine which battery to be charged. This also appears when using a power bank.  
IDX highly recommend using PD charger when charging the battery.
- USB-C power turns off automatically after the USB cable is removed.
- USB-C cannot be used while charging via the main connector.
- If the battery's internal temperature rises during PD charging, the PD power will be reduced to continue charging, but if the temperature still rises, PD charging will be suspended to prevent danger.

\*Please note that PD charging at high power, such as 100 W, tends to increase the internal temperature, making the above protection more likely to occur.

## Torch(LED Light)

- Embedded LED (on rear side) will turn on the light by pressing the POWER button two times in a low. 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 low while lighting.
- Please do not stare into the light directly while lighting.

## Communication Function

- This battery has SMBus communication, and the remaining capacity can be displayed on the connected device such as a camera.
- When charging with IDX B-Mount charger, the charger also displays the remaining capacity and other information.

## Shutdown

- If the battery pack is left unused for more than 2 hours, the battery becomes shut-down mode, and its self-consumption will be extremely low.
- Press the POWER button and wait approximately 3 seconds to return the battery from shutdown mode and turn on the digital display.
- Please press the POWER button to activate before use.

## Specification

	HV-160B	HV-320B			
Cell chemistry	Li-ion				
Nominal voltage	DC28.72V				
Capacity *1	5.35Ah/154Wh	10.7Ah/308Wh			
Charge voltage	DC33.6V				
Standard Charge current (Main connector)	2.675A	5.35A			
USB PD (USB-C)	Output:60W(5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/3A) Input:100W(5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/5A) Connector type : USB Type-C (Receptacles) USB PD OFF : After the USB cable is removed				
USB-A	11.5W(5V/2.3A) Connector type : USB Type-A (Receptacles)				
Maximum discharge rate (using each terminal individually)	≤77°F (25°C)	200W	350W		
	≤95°F (35°C)	150W	250W		
	≤113°F (45°C)	110W	175W		
	D-Tap *2	72W(14.4V/5A)			
	USB PD *2	Output:60W(5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/3A)			
USB-A *2		11.5W(5V/2.3A)			
		22V			
Battery protection function	Over-charge, Over-discharge, Over-current, Thermal protection				
Ambient temperature	Charge 32~104°F (0~40°C) (50~86°F (10~30°C) recommended)				
	Discharge -4~113°F (-20~45°C) (50~104°F (10~40°C) recommended)				
	Storage -4~122°F (-20~50°C) (less than 1 month)				
Dimensions	mm	105(W)×156(H)×48(D)	105(W)×156(H)×68(D)		
	Inches	4.13(W) × 6.14(H) × 1.89(D)	4.13(W) × 6.14(H) × 2.68(D)		
Weight	g	approx, 1030	approx, 1670		
	lbs	approx, 2.27	approx, 3.68		

\*1: Measured capacity of battery is a minimum rating at 20°C.

\*2: Please make sure that the maximum discharge power of the main connector, D-Tap, USB-A, and USB-C power supply combined is within the maximum discharge power of the main connector alone.

## 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.

## Storing

- Store in cool and dry conditions.
- Deterioration of battery performance will be accelerated when the battery stored in a high ambient temperature and/or stored for long period without used.
- Do not store or leave in temperatures of 122°F (50°C) or above.
- For long-term storage of more than six months, periodically check the charge status on the digital display and keep the charge level at around 30%.

## 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/li-ion-transportation/> )

## 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.

\* 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.

\* Please check our website for the latest contact information.

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