

SB-U50/SB-U98

PD



14.4V Lithium Ion Battery for SONY U type mount

Instruction Manual

Lithium Ion

Thank you for purchasing the SB-U50 / SB-U98 Li-ion Battery. Prior to using the SB-U50 / SB-U98, we strongly recommend reading this Instruction Manual on how to best use the SB-U50 / SB-U98. 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 remove the cable after using the USB.
- Do not charge while discharging or discharge during charging. It may cause the connected equipment to stop working, malfunction, or cause significant deterioration.
- 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.

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.
- Fore power status LED indicators accurately displays remaining power capacity. [Refer to Capacity display LEDs]
- D-Tap power output terminal available. [D-Tap]*
- USB-C connection for power output as well as USB-PD charging. [USB]*

* There is no guarantee that this battery works normally with SONY camera.

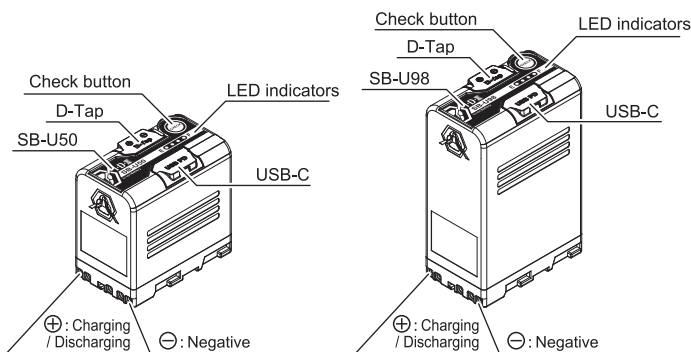
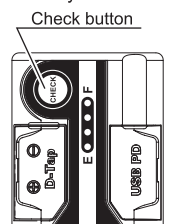
Discharging

- Since the maximum discharging power is specified in the specifications for each of the main connector, D-tap & USB be sure to pay attention to the power consumption of the connected device. 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.
- 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 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.
- Do not use the batteries connected in series. This may cause the damage.
- 4 LED lights flash when the internal temperature of the battery gets high.

Capacity display LEDs

- When the check button is pressed, the LEDs will light for approximately 3 seconds.
 - < ●●●● Solid : Fully charged >
 - < * Flashing : Charging required >
- The LED lights turn off when charging is complete.
 - < ● Solid : not much left >
 - < ●●●● Solid : fully charged >

* Please be aware that LED indicates approximate amount of capacity when not providing power, and this varies by age and condition of battery.



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.

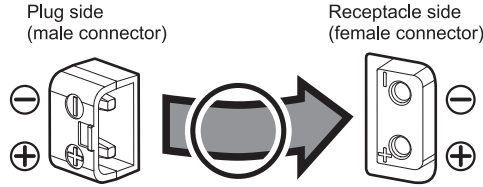
Protection circuitry

- There are four types of protection circuits to ensure the battery is protected from Over-charge, Over-discharge, Over-current, and Thermal protection.
- Please charge the battery immediately when the over-discharge protection is activated. The battery may become unusable if the battery is not charged at that moment.

D-Tap

- D-Tap power output terminal available.
- The maximum D-Tap outputs per port : SB-U50 @35W / SB-U98 @70W
- *Upon usage, please make sure for the maximum discharge load value of the battery.
- The output voltage is a battery through. (11~16.8V)
- D-Tap output can be used for IDX portable lights and monitors.
- Please do not use D-Tap connectors while charging the battery through the main connector. If you use D-Tap connectors while charging the battery through the main connector, it may cause a charging error or the damage on the charger.

 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 maximum 30W for SB-U50 and 45W power supply and charging for SB-U98. 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
- USB PD output mode automatically initiates when a USB PD cable is connected. Once connected LEDs will flash to confirm PD output and will then display remaining capacity.
- When drawing power from USB PD of the battery, connected device can select voltage and current as below.
SB-U50 : 5V/3A, 9V/3A, 12V/2.5A, 15V/2A
SB-U98 : 5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/2.25A
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.
SB-U50 : 5V/3A, 9V/3A, 12V/2.5A, 15V/2A
SB-U98 : 5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/2.25A
- The current capacity is displayed while charging with USB PD. At 100%, 4LEDs light up and then turn off.
- When charging another battery from the SB-U50/98 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 power turns off automatically 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.

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.
- Do not store or leave in temperatures of 122°F(50°C) 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

| | | SB-U50 | SB-U98 |
|--|--|---|--|
| Cell chemistry | | Li-ion | |
| Nominal voltage | | DC14.4V | |
| Capacity | | 3.3Ah / 48Wh *1 | 6.6Ah / 96Wh *1 |
| Charge voltage | | DC16.8V | |
| Standard Charge current (Main connector) | | MAX 1.65A | MAX 3.3A |
| D-Tap | Output voltage | Battery through voltage | |
| | Maximum load | 35W/2.1A(16.8V)~3.2A(11V) | 70W/4.2A(16.8V)~6.4A(11V) |
| USB PD | Input / Output : MAX30W (5V/3A, 9V/3A, 12V/2.5A, 15V/2A) | Input / Output : MAX45W (5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/2.25A) | |
| | Connector type : USB Type-C (Receptacles) | | |
| | USB OFF : After the USB cable is removed | | |
| Maximum discharge rate | Main connector | 35W/2.1A(16.8V)~3.2A(11V) | 70W/4.2A(16.8V)~6.4A(11V) |
| | D-Tap | 35W/2.1A(16.8V)~3.2A(11V) | 70W/4.2A(16.8V)~6.4A(11V) |
| Maximum discharge rate | USB PD | MAX 30W(5V/3A, 9V/3A, 12V/2.5A, 15V/2A) | MAX 45W (5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/2.25A) |
| | Main connector + D-Tap | 35W/2.1A(16.8V)~3.2A(11V) | 70W/4.2A(16.8V)~6.4A(11V) |
| Maximum discharge rate | USB PD + Main connector & D-Tap | ≤35°C | PD30W(15V/2A) + 25W PD30W(12V/2.5A) + 25W PD27W(9V/3A) + 30W PD15W(5V/3A) + 35W |
| | | ≤45°C | PD45W(20V/2.25A) + 50W PD45W(15V/3A) + 50W PD36W(12V/3A) + 60W PD27W(9V/3A) + 70W PD15W(5V/3A) + 70W |
| End voltage | | 11V | |
| Battery protection circuit | | 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 | 41.5(W)×65.9(H)×69.5(D) | 41.5(W)×104.8(H)×69.5(D) |
| | Inches | 1.63(W)×2.59(H)×2.73(D) | 1.63(W)×4.12(H)×2.73(D) |
| Weight | g | approx. 270g | approx. 490g |
| | lbs | approx. 0.59lbs | approx. 1.08lbs |

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

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.
(<http://idxtek.com/lithium-ion-transportation/>)

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.

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.

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