



## B90CineHS

**Dual-Native-Voltage 14,4V/28,8V - 86Wh**

**rechargeable Li-Ion stackable Battery - 20A/400W**

## USER MANUAL

**WE STRONGLY RECOMMEND THAT YOU READ THIS INSTRUCTION BEFORE USING YOUR BEBOB B90HSCINE BATTERY! PLEASE KEEP THIS MANUAL FOR FUTURE REFERENCE**

## Features

- A high capacity, Dual-Native-Voltage high load battery, which is compact and lightweight
- Direct fitting to a camera or device via B-Mount
- Enabling flight carry-on luggage transportation with a capacity of 86Wh
- Dual-Native-Voltage 14,4V/4s and 28,8V/8s
- 400W continuous power drain
- 20A continuous discharge current
- 14,4V/4s and 28,8V/8s Hotswap
- Five-step LED power indicator (100% - 80% - 60% - 40% - 20%)
- Full capacity status LED (green over 80%; yellow between 60% and 80%; red under 60%)
- Enhanced data communication (B-Mount protocol)

## Safety instructions

- Only for professional use!
- Keep batteries out of reach of children and personnel that has not been instructed in the use of high capacity Lithium-ion batteries!
- Use only with recommended charger.
- Keep the battery dry and do not immerse in water.
- Never open the case of the battery.
- Do not expose to temperature over 60°C.
- Do not expose the battery to fire! May explode if thrown into fire!
- The maximum discharge current shall not be exceeded (see Specifications).
- The maximum charge voltage shall not be exceeded (see Specifications).
- Do not put the battery on a device when the red charging LED flashes.
- Handle with care! Do not throw! Do not drop!

## Charging

- Never charge unattended
- Remove flammable material from the charging area and avoid high external thermal loads.
- Wait 30 Minutes after discharge before you put the battery on a charger.
- The bebob battery can be charged with an external bebob charger (or equivalent using the CC-CV method 16,8 V / 33,6V DC).
- The maximum voltage shall not be exceeded (see Specifications).
- Approximate charge time may vary depending on charger and temperature.
- Charge the battery only within the specified temperature range. bebob batteries can be charged in ambient temperature for optimum performance at 10°C - 30°C.
- bebob batteries can be recharged in any state of charge condition
- Fuel Gauge Flashing LED indicates State of Charge during Charging Process.

## Discharging

- The maximum discharge current shall not be exceeded (see Specifications).
- When using the battery with video or lighting equipment, power consumption of the equipment must be below specifications. For the protection of the battery, a load over or equal to the max discharge current may activate the internal protection circuit and stop supply of power. In this case the fuse will self-rest after a couple of minute.
- Remove flammable material from the discharging area. Avoid high external thermal loads.
- The end of discharge voltage shall not fall below the allowed Input Voltage (see Specifications).
- Charge the battery only within the specified temperature range. The battery can be used in ambient temperature of - 20°C - + 55°C.
- Do not use more than two batteries when a B90CineHS!
- Never connect several B-Mount batteries in series!

## Storage

- The battery shall be stored within the specified ranges for temperature, relative humidity and state of charge (see Specifications)
- Storage temperature range is - 20°C ~ + 35°C (<85% humidity).
- To store the battery for a long period (longer than 4 Weeks), the battery should be charged between 50% and 75%. The battery should be recharged every 4 Weeks.
- After storage some self-discharge will occur. Before re-use it is advisable to recharge the battery full.

## Stack able Hotswap

- **It is not recommended to stack more than two batteries in total together - a 3<sup>rd</sup> battery might not be identified by the system (in other words: Use only one B90CineHS).**
- If a B-Mount battery with **more than 5% capacity** (apprx. 24,1V/@100W) is stacked to the back of a B90CineHS, the B90CineHS will behave as a Hotswap adapter, passing through the power of the back battery, without discharging itself.
- Note: The B90CineHS is not recharged by the battery in the back!
- B90CineHS normal battery operation:
  - The status LED is **green** when the B90CineHS is used as a single battery.
  - **LED flushes red** when the B90CineHS is **below 10%** state of charge.
- B90CineHS during active hotswap operation:
  - If the back battery turns **under 5% of capacity** for 5sec (apprx. 24.1V@100W) the B90CineHS will switch on without any interruption and will power the device.
  - If the back **battery gets removed**, the B90CineHS provides the power without any interruption and will power the consumer device.

The status LED of the B90CineHS

  - **flushes orange** when the B90CineHS is **above 10%** state of charge.
  - **flushes red** when the B90CineHS is **below 10%** state of charge.

## Disposal

- The B90CineHS battery has to be disposed within a dedicated collection container for used device batteries. Please be aware that only empty batteries are allowed for disposal in collection containers. In case the battery is not completely discharged, precautions against a potential short-circuit have to be taken.

## Warranty

- The B90CineHS is covered by a 2 years unconditional warranty on all parts, except the cells.
- The cells are covered by a 2-year warranty, 80% of the original capacity.
- For warranty issues or if you have any additional questions, please contact the appropriate bebob distributor listed at [www.bebob.de](http://www.bebob.de).

## Specifications

Model	B90CineHS
Mount	B-Mount
Energy/Capacity	86Wh
Voltage (native nominal voltage)	14,4V/4s and 28,8V/8s DC (native)
Max. Continuous Discharge Current	20,0A
Continuous Power Drain	400W
Max. Charge/Output Voltage	16,8 V / 33,6V DC
End Voltage (discharge cut-off)	10,0 V / 20,0V DC
Cells	Lithium-Ion
Twist D-Tap	13,2V; 2,5A
USB-C Port	5,0V; 1,0A
Fuel Gauge	5-Step LED
Status	Green: Full Capacity over 80% Yellow: Full Capacity between 60 and 80% Red: Full Capacity under 60%
Weight	0,66 kg
Dimensions (WxHxD)	94x144x47mm
Chargers	Bebob B-Mount or Equivalent
Charging time (bebob BS2/BS4)	1 hour / 80% @5A/16,8V apprx. 1,9 hours / 100% @5A/16,8V
Operating Temp. Range	Charge: + 10°C ~ + 30°C recommended Discharge:- 20°C ~ + 55°C Storage:- 20°C ~ + 35°C (<85% RH )
Certification Conformity	Product Safety: IEC 62133-2 Transport Safety: UN38.3

## Transport as of October 1<sup>st</sup> 2020

- This Summary reflects our current Knowledge.

### 1. Transport by Commercial Airline / Carry-on Luggage

- You can transport in your **carry-on luggage** a battery <100 Wh attached to the camera or equipment it powers.
- You can transport in your **carry-on luggage** an unspecified number of spare batteries <100 Wh:
  - Put tape over the contacts.
  - Put each single battery in a plastic bag before packing it in your **carry-on luggage**.
- Batteries <100 Wh **do not need to be discharged to 30% SoC for transport as personal luggage, this is only a requirement of cargo shipments.**
- Carry a copy of the bebob UN Transport Documentation ([www.bebob.de](http://www.bebob.de))
- We recommend that you confirm with your carrier of choice, to determine any further restriction or local policies, before travelling.

### 2. Transport by Commercial Airline / Checked-in Luggage

- Batteries <100 Wh are forbidden in your **checked-in luggage**

### 3. Transport as air-, road- and sea-freight

- Li-Ion batteries, and so bebob batteries <100 Wh, when shipped by air, road or sea are classified as dangerous goods class 9 and subject to special UN certified packaging.
- Air transport authority training and authorisation are required for packing batteries <100 Wh, for an air cargo shipment.
- **Li-Ion batteries for air cargo must have a state-of-charge of no more than 30% for shipping, means only one out of the five-fuel gauge led lights up.**
- We recommend that you confirm with your carrier of choice, to determine any further restriction or local policies, before travelling.