



B90cineML

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

Rechargeable Li-Ion Battery – 20A/450W

USER MANUAL

WE STRONGLY RECOMMEND READING THIS INSTRUCTION CAREFULLY BEFORE USING!

- **FOR YOUR PERSONAL SAFETY, PLEASE OBSERVE THE SAFETY INSTRUCTIONS AND WARNINGS**
- **OBSERVE ALL COMMON AND LOCAL SAFETY REGULATIONS**
- **PLEASE KEEP THIS MANUAL FOR FUTURE REFERENCE**

Features

- High capacity, Dual-Voltage - High Power ML-buffer battery with hotswap function
- B-Mount is directly fitting to a compatible camera or device
- Dual-Voltage 14,4V/4s or 28,8V/8s
- 86Wh Energy
- 450W continuous power drain
- 20A continuous discharge current
- 23A peak discharge current
- Enhanced data communication (B-Mount protocol) – eg. Arri, Blackmagic, Red, Sony
- Twist D-Tap (max. 13,2V unreg.; 2,5A)
- USB-A (5,0V; max.1,0A)
- Five-step LED Fuel Gauge (100% - 80% - 60% - 40% - 20% SoC – State of Charge)
- Health Condition Status LED (green over 80%; yellow between 60% and 80%; red under 60% of new battery)

Safety Instructions

- For professional use only!
- Operate only with recommended batteries!
- Charge only with recommended chargers!
- Risk of explosion when exposed to fire or heat!
- Do not expose the battery to water!
- Do not cause short circuits between the battery's terminals!
- Do not open or try to repair the device!
- Handle with care! Do not throw or drop the device!
- Do not operate in overhead or hanging applications!
- Do not expose to temperatures above 60°C (140°F) or below -20°C (-4°F).
- Do not overload the device (see Specifications)!
- Do not supply more charging voltage than specified (see Specifications)!

Storage

- The battery shall be stored within the specified temperature; humidity and state of charge ranges (see specifications).
- Storage ambient temperature range is (see specifications).
- For storage the battery should have a charge between 50% and 75%. The battery should be recharged every 4 weeks.
In storage, some self-discharge will occur. It is advised to fully recharge the battery before reusing it.

Warranty

- The battery is covered by a 2-year unconditional warranty on all parts, except for the cells.
- The cells are covered by a 1-year warranty at 80% of the original capacity.
- If you have any additional questions or warranty issues, please contact the appropriate bebob distributor listed at www.bebob.tv.

Disposal

- Users are legally obliged to appropriate disposal of used batteries.
- Batteries must not be disposed of in household waste - see crossed-out dustbin symbol on the battery label.
- You can return any batteries of our battery range (old and current models) to our warehouse for free-of-charge disposal.
- If the battery is not completely discharged, precautions against a potential short-circuit must be taken.

Operation

Fuel Gauge – State of Charge (SoC)

LEDs indicate the State of Charge (SoC) in blue



Capacity during operation:

- <100%
- < 80%
- < 60%
- < 40%
- < 20%

Status LED (Conditional Life Status - Status compared to a new battery capacity*)

Status LED lighting **Green:**



Full-charge capacity:
More than 80% of a new battery

Status LED lighting **Orange:**



Full-charge capacity:
between 60 – 80% of a new battery

Status LED lighting **Red:**



Full-charge capacity:
under 60% of a new battery

*it might be also called “State of Health”

Integrated Flashlight

To toggle the LED flashlight quickly press the **Status button** twice.

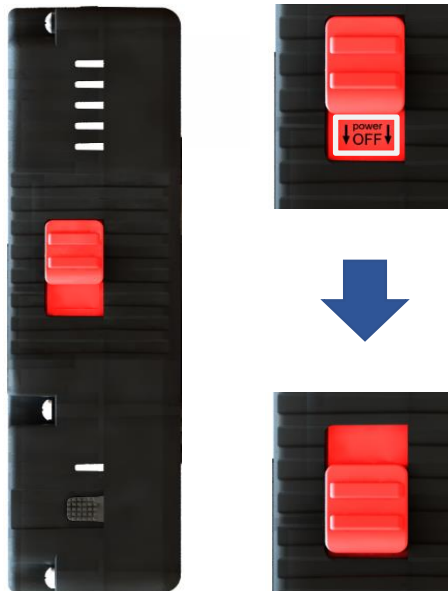


Main Release Switch - Operational Safety

Note: The red main release button switches the battery and the system off!

bebob has to ensure quality, product and operational safety.

The **switch prevents** the risk of **arcing** between the **pins** on the battery and those on the plate during battery disconnection or connection



The elevated voltage (up to 33.6V) and amperage exceeding 10A generate an arc (with over 300W), causing significant damage to the connectors on both ends—both the camera and the battery. This results in a substantial increase in connection resistance, potentially leading to improper functionality of the camera.

The bebob B-Mount ensures that a camera won't experience any damage during a shoot.

Note:

bebob's suggestion to overcome the described situation is to work in general with a Hotswap battery, in order to ensure operational safety at its maximum (e.g. to avoid operational failures when a release button is switched accidentally).

The whole system which works with a Hotswap battery and an additional battery will NEITHER switch off the camera NOR the accessories if the release switch would be activated (either accidentally or on purpose - as long as ML battery or last battery are not fully out of energy).

Hotswap

- The **BcineML** will take over powering the camera when the back mounted battery falls below approx. 12V/22V.
- The LEDs will display the remaining capacity until its remaining charge falls below 20%. Then the **BcineML** will switch over to a warning pattern, signalling its imminent depletion.
- If the back mounted empty battery is replaced with a sufficiently charged alternative (approx >14V/25V) then the new battery will take over powering the camera/device and the additional outputs without interruption.
- If the back mounted empty battery is not replaced until the **BcineML** capacity is depleted, then the camera/device will switch off.
- The **BcineML** is capable of performing hot swaps with only 20% of its capacity remaining. In combination with its self-charging function this results in a potentially unlimited number of hotswaps.
- Only batteries with sufficient charge will be detected by the **BcineML**.

Discharging

- You can use the **BcineML** as standalone battery; at 10% capacity left, the **BcineML** will switch over to a warning pattern, signalling its imminent depletion.
- The maximum discharge current shall not be exceeded (see Specifications).
- When using the battery with video or lighting equipment, the total 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 stops supply of power. In this case the fuse will self-rest after a couple of minutes.
- The device features separate self-resetting overload protections for each of its supply sockets.
- Do not discharge near flammable materials and avoid high thermal loads.
- Discharge the battery only within the specified temperature range (see Specifications).
- Do not stack more than two batteries in combination with a hotswap battery. In case of using a B480cine: use only one hotswap battery in addition.
- Never connect several B-Mount batteries in series to achieve higher voltages!

In-Operation Charging (via stacked Battery - Automatic Charge)

- The **BcineML** can be charged by any bebob B-Mount or standard B-Mount battery mounted on its back or any compatible charger (see. specifications).
- While charging the Status LED turns blue, symbolising "Charging".
- The **BcineML** automatically performs in operation charging if required.
- During in operation charging the **BcineML** is still capable of executing its hotswap function.

Charging

- Do not charge batteries unattended!
- Do not charge near flammable object.
- Disconnect all external loads before the charging process.
- Wait 30 minutes since the last discharge before charging.
- The battery can be charged via any bebob B-Mount charger.
(or equivalent charger using the CC-CV method).
- Do not supply more charging voltage than specified (see Specifications).
- Charge time will depend on charging power and ambient temperature.
- The optimal charging ambient temperature is (see Specifications).
- bebob batteries can be recharged with any amount of remaining charge.
- The gauge LEDs will indicate the state of charge during the charging process.

Specifications

Model	B90cineML
Mount	B-Mount
Cells	Lithium-Ion (Sony)
Energy	86Wh
Voltage (nominal Voltage) DC	
12 V Mode	14,4V/4s
24V Mode	28,8V/8s
Capacity	
12 V Mode	6,0Ah
24V Mode	3,0Ah
Continuous Discharge Current	20,0A
Max. Peak Discharge Current	23,0A
Continuous Power Drain	450W
Max. Charge/Output Voltage DC	
12 V Mode	16,8V
24V Mode	33,6V
End Voltage (discharge cut-off) DC	
12 V Mode	10,0V
24V Mode	20,0V
Outputs	
Twist D-Tap	Max. 13,2V unreg.; 2,5A
USB-C Port	5,0V; 1,0A Type-C
Fuel Gauge	5-Step LED
Status LED (compared to a new battery)	Green: Full Capacity over 80% Orange: Full Capacity between 60 and 80% Red: Full Capacity under 60%
Chargers	B-Mount Charger Via mounted battery
Charge Mode Time	bebob B-Mount or Equivalent (CC-CV) Approx.: 1 hour / 80% @5A/16,8V 1,9 hours / 100% @5A/16,8V
Ambient Temperature Operation Range	
Charge	0°C to +60°C (32°F to 140°F)
Discharge	-20°C to +60°C (-4°F to 140°F)
Storage	-20°C to +20°C (-4°F to 104°F) (less than 70%RH)
Weight	662g
Dimensions (WxHxD)	94x144x47 mm