

SWIT®

BIVO-98/160/200/290

Rechargeable Li-ion Battery

Ver:A

USER MANUAL

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Thank you for choosing SWIT products, please read this user manual before using and keep it properly for future reference.

⚠ Warning

Remember the following precautions to avoid fire and other safety hazards!

- Do not use the battery in a place where there is fire or heat to prevent overheating and rupture.
- Do not pierce the battery case or attempt to open the case or disassemble the battery.
- Do not use the battery outside the ambient temperature for charging, discharging, and storage.
- Do not charge the battery in the car or in direct sunlight.
- Do not use the damaged battery.
- Do not squeeze the shell which may cause physical impact.
- Make sure the power-consuming equipment(s) meet the battery specifications.
- Please use SWIT charger or SWIT recommended charger to prevent overheating, rupture and other dangers.
- Keep out of the reach of children.

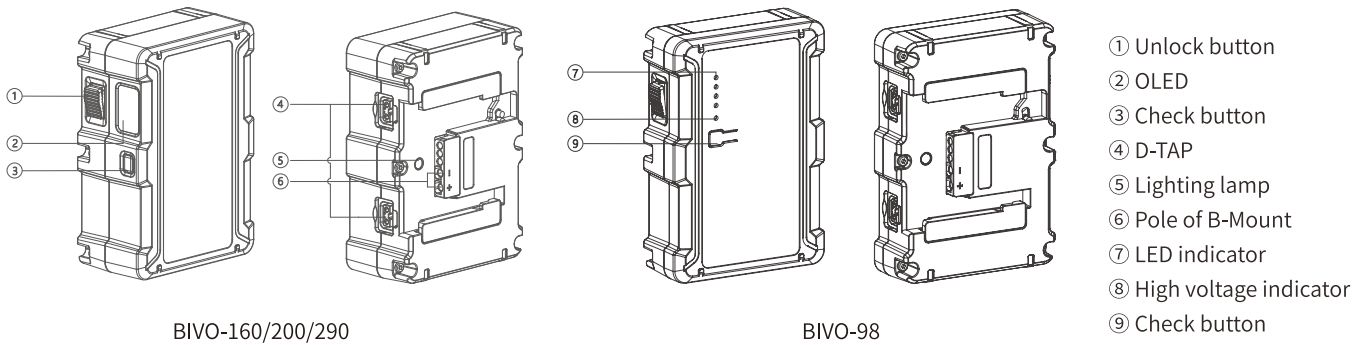
Attention

- It is normal for batteries getting hot during charging and using.
- Do not pierce the battery in a high temperature environment above 60°C.
- Keep the electrodes clean to ensure a better use experience
- Keep the battery in a cool and dry place for long-term storage. It is recommended to keep the battery power between 25%-50%.

Product feature

- Unique Bi-voltage design makes the battery intelligently switch to low voltage 14.4V or high voltage 28.8V output when the device is mounted on the main output port. When the device is unplugged from the main output port, the main output will automatically shut off.
- Dual D-TAP port, 16V constant voltage output when the main output port is high voltage, 10.8-16.8 V output when the main output port is low voltage or no device is mounted. Dual D-TAP port can supply power to two low-voltage devices at the same time when the main output port is used.
- Ultra-low quiescent current design: the battery automatically enters the low-power sleep mode when standing without any operation, and can automatically wake up in use. After standing for a long time, it will automatically enter the deep sleep mode, which can effectively prevent the battery cells from starvation or exhaust due to self-consumption. Press the button to restore.
- BIVO-160/200/290 has OLED, which can intelligently display battery power, voltage and remaining time.
- Built-in multiple protection circuit, high temperature, low temperature, over voltage, under voltage, over current, short circuit and other all-round protection, effectively prevent the safety hidden danger caused by improper use.
- Triple overcurrent protection design, meet the high start power requirements of the equipment and improve the safety performance of the battery.
- LED light for easy use at night.
- Unlock button structure based on human factor engineering, making it more convenient for users to plug and remove batteries.
- The internal support is fully fastened to the core group, the core and the circuit board are completely isolated, more safe and reliable.
- Shell with high impact resistance flame retardant material, coupled with strong structural design, all aspects to meet the safety requirements.
- Simple and intergrated design inside, no wire welding, reduce internal resistance, stable and reliable.
- High performance rechargeable lithium ion battery, no memory effect.

Appearance



BIVO-160/200/290

BIVO-98

Charging Instruction

- Battery can be charged with B-Mount and D-TAP interface.
- After the BIVO-160/200/290 is inserted into the charger, the OLED lightning icon appears, indicating that it enters the charging state, and the lightning icon disappears after the charging ends.
- After the BIVO-98 is inserted into the charger, the LED indicator blinks, showing the battery charging capacity. After the charging is complete, the indicator is off.
- The battery can be charged in a temperature range of 0~40°C, but we recommend charging within the range of 10~30°C for the best performance.

Discharging Instruction

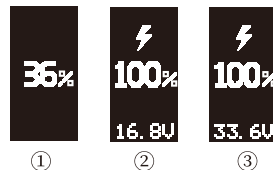
- During BIVO-160/200/290 discharge, OLED displays battery voltage and remaining time by default.
- During BIVO-98 discharge, please change the battery when the LED blinks red, indicating that the remaining capacity is lower than 10%.
- D-TAP output can be turned on after button pressed when no device is mounted on the main output port. It is turned off after standing for 20 seconds.
- At low temperature, the internal resistance of the battery increases, and the discharge time is shortened. When the load is heavy, the battery may be automatically shut off.
- The battery can discharge at a temperature range of -20°C ~50°C, but we recommend discharging within the range of -10~40°C for the best performance.

OLED Display Instruction

BIVO-160/200/290:

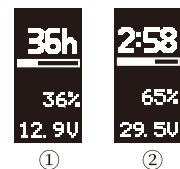
1. The battery is standing and charging

- ① Show capacity percentage.
- ②③ Show the thunder logo and voltage when charging.



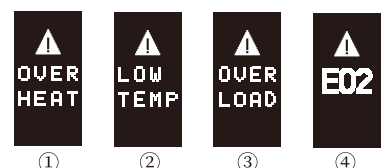
2. Discharging

- ① Display the remaining hours, voltage and capacity percentage.
- ② Remaining time below 10h is displayed as 0:00 ~ 9:59.



3. OLED Warning Code

- ① Over temperature protection. Please remove the battery, place at room temperature and wait for self-recovery.
- ② Low temperature protection, please remove the battery, place at room temperature and wait for self-recovery.
- ③ These are three possibilities of OVER LOAD display:
 - a. Discharge over current, please take off the battery and put aside for 30s.
 - b. Charge over current, please take off the battery and put aside for 30s.
 - c. Short circuit, please make sure there is no foreign body between the electrodes or remove the battery. Put aside for 20s.
- ④ E01 ~ E06: The battery has an unrecoverable error. Contact the manufacturer for repair. Do not disassemble the battery by yourself.



BIVO-98:

- Blue LED Indicator light for high-voltage.
- Red LED light indicator for capacity from E to F 25%、50%、75%、90%.

Remaining power	F ← E
≥90%	●●●●
75% ~ 89%	☀●●●
50% ~ 74%	○☀●●
25% ~ 49%	○○☀●
<25%	○○○☀
0%	○○○○

- Trouble shooting

F ← E ☀☀○○	The battery is in discharge protection. Wait for a period of time and check the indicator status. If the indicator is restored to the percentage indicating, the battery recovers.
F ← E ○○☀☀	The battery is in charge protection. Wait for a period of time and check the indicator status. If the indicator is restored to the percentage indicating, the battery recovers.
F ← E ☀☀☀☀	The battery cannot be charged or discharged. Keep the battery in a cool place until the cell temperature decreases (recommended > 30 minutes), and check the indicator status. If the indicator is restored to the percentage indicating, the battery recovers.

Specification

Model		BIVO-98	BIVO-160	BIVO-200	BIVO-290		
Type		B-MOUNT					
Nominal Voltage		28.8V/14.4V					
Capacity		High voltage28.8V	3.4Ah	5.6Ah	6.8Ah	10.1Ah	
		Low voltage14.4V	6.8Ah	11.1Ah	13.6Ah	20.1Ah	
Interface	B-MOUNT pole	Output	High voltage21.6-33.6V	150W, 6A	200W, 8A	250W, 10A	
			Low voltage10.8-16.8V	150W, 12A	200W, 16A	250W, 20A	
		Charging	High voltage	33.6V--- 3A	33.6V--- 3A		
			Low voltage	16.8V--- 3A	16.8V--- 6A		
	D-TAP *2	Output	High voltage16V	50W,3A	50W,3A		
			Low voltage10.8-16.8V	150W,12A	200W,16A	250W,20A	
		Charging	High voltage	X			
			Low voltage	16.8V--- 3A	16.8V--- 6A		
Total output power		150W	200W	250W			
Other performance Parameters		Electromagnetic compatibility	Accord with EN55032,EN55035				
		Safety	Accord with IEC62368, UN38.8				
		Dropping test	Meet 1.2 free drop of bare metal				
Dimension		144 × 100 × 38	144 × 100 × 54	144 × 100 × 70			
Weight		0.668kg	1.097kg	1.527kg			
Charging temperature		0 ~ 40°C (Suggest 10 ~ 30°C)					
Discharging temperature		-20°C ~ 50°C (Suggest -10 ~ 40°C)					