

PRODUCT HIGHLIGHTS

- Professional outdoor headlamp with complete waterproof ability at IPX8. Capable of diving down to 40 meters.
- Designed for water sports, diving, caving, camping, canyoning, mountaineering, rock climbing, ice climbing, trekking, etc.
- Riding and outdoor two-in-one headlamp, 40cm short DC cable version and 100cm long DC cable version for options.
- Aircraft grade hard anodized aluminum is used for light body and batteries casing as our products are designed for durability.
- Reflectors are manufactured with aluminum alloy and coated to produce best results in concentrating and reflecting lights for maximum efficiency.
- Glass Lens is dual sides coated for highest light transmission.
- Using high brightness Cree LED. Lifespan up to 100,000 hours.
- The special switch locking design to avoid the headlamp torch turn on or off accidentally.
- Elastic bungee headband capable of length adjustment, providing best fit and comfort for user.
- Smart IC motherboard provides multiple brightness settings, memory levels of brightness and prevents overheat, over discharge or damages caused by polar reversing.
- Quick release design for batteries casing makes installing and removing easy to do. 4 batteries of 18650 rechargeable type will suffice.
- 150 degrees range for up and down adjustment of lighting direction.
- Dual light source allowing both flood light and spot light setting, allowing both near and far distance lights whenever needed.
- Three customized setting modes: flood light only — spot + flood — spot only. Brightness ranging from 5% to 100% in 9 intervals are adjustable in each of the lighting modes.
- An 0.1% emergency (Moonlight) Power saving mode + Two types of blinking modes: SOS & quick blinking.
- Battery level indicating approx. 20% capacity.

USAGE AND OPERATION

1 Discoverer headlamp is used with four 18650 lithium batteries in casing BA4851. Please fully charge up the batteries before first time operation.

- **To install:** Open batteries casing BA4851, put four 18650 batteries into the casing with +/- terminals matching the marks, then close the casing.
- **To charge the batteries:** Connect the 5.5DC end of Ferei AC007 adapter/charger into BA4851, battery casing to get batteries charged. When in a charging state, the LED indicator on the adapter will illuminate red and when charging is complete the LED indicator will illuminate green.

2 Lighting modes:

- ① Flood lights only
- ② Flood light + spot (simultaneous)
- ③ Spot only
- ④ An 0.1% emergency (Moonlight) mode on Flood light.

⑤ Sport only two types of flash (blinking) mode: SOS & quick blinking.

3 Customized brightness settings: Customized brightness setting from 5% → 10% → 15% → 25% → 30% → 40% → 55% → 70% → 100%, 9 levels brightness available in ①②③ lighting modes.

4 Brightness memory: In either ①②③ lighting mode or ④ emergency (Moonlight) mode & ⑤ 2 x blinking modes, the customized brightness could be memorized if staying for over 3 seconds.

5 Button switch lock and unlock:

- a) Turn the button switch to unlock (☐), the switch can be press to turn on or off the headlamp torch.
- b) Turn the button switch to lock (Ⓛ), the switch can be locked up to avoid the headlamp torch to turn on or off accidentally.

6 To operate:

- Unlock the button switch, to turn on or off ①②③ lighting modes: press the button on/off switch rapidly or continuously to active or convert between ①②③ lighting modes. When headlamp off, Rapidly press the button switch press first: Flood light on only, Second button switch press rapidly: Flood light and Spot light on together, Third button switch press rapidly: Spot light on only. Fourth button switch press rapidly to turn off all light of the headlamp.
- Customized brightness settings at ①②③ lighting modes: When the headlamp already on at ① or ② or ③ lighting modes, press and hold button on/off switch to cycle through the customized brightness settings from 5% to 100%. When a desired brightness appears, simply release the switch. To turn off the headlamp, just press the switch again after staying at this customized brightness for over 3 seconds; But if less than 2 seconds, press the switch will be to get conversion between ①②③ lighting modes.
- To turn on or off 0.1% emergency (Moonlight) mode: When all lights of headlamp off. Long time to press and hold button switch, the 0.1% emergency mode (Moonlight) turn on (at Flood light), to turn off this moonlight, just rapidly press the button switch again.
- To turn on or off 2 x blinking modes: When 0.1% emergency mode on, Longtime to press and hold button switch, 2 blinking modes turn on and convert between SOS & quick blinking. When a desired blinking appears, simply release the switch. To turn off the headlamp, just press the switch rapidly.

7 Brightness and mode memory: In either any lighting or emergency and blinking mode, the lighting mode or brightness could be memorized if staying for over 3 seconds. Next time you turn on each mode again, the brightness or mode starts from the memorized lighting mode or brightness. If staying less than 2 seconds at any level brightness or mode, press the switch to get conversion to next brightness level. (Remark: the memory function available: the connector of battery pack and headlamp which no separate and the battery no change).

8 Restore to factory settings: To rapidly get original brightness or modes, just separate the connector of battery pack and headlamp over 10 seconds.

9 Low battery warning:

When the battery capacity gets very low (approx. 20%), the headlamp will emit 10 successive blinks in 8 seconds. This is a reminder that the battery should be recharged or replaced.

Note: over discharging lithium batteries might cause the battery body to swell up and produce harmful gases. In order to avoid this, our product is equipped with low voltage circuit break to switch off the headlamp when voltage is too low.

INTELLIGENT TEMPERATURE CONTROL AND RUNTIME INSTRUCTION

This product is designed with a temperature control circuit. The LED is a heating device that is sensitive to temperatures, especially high levels of power and brightness. High temperatures will easily damage or shorten the life of the LED. Ferei designs its products with an intelligent temperature-control circuit. It measures the temperature within the LED filament. As the structure of the light differs, the thermal conductivity of the entire light is not the same. In general, the constant surface temperature of the light is 50°C to 60°C. When it exceeds its programmed temperature, it will automatically reduce its power to cool down, and the brightness decreases by small steps. After cooling-down (provided that battery voltage is sufficient) the power with brightness increases again. The process of improving its brightness is relatively discrete and will not produce a flashing effect.

This stepping goes cyclically to maintain the user's safety and the light's functionality. In conditions of good air-cooling the light delivers light without stepping down even in high levels brightness mode. There are no preset timers for stepping, but real-time active temperature measurements, So the actual runtime of the light base on active temperature control to faster or slower battery discharge, may be slightly longer or shorter runtime than the light of data provided.

MAINTENANCE

- 1 Please clean the lens with microfiber cloth or other soft fabric regularly to achieve best translucency.
- 2 Please keep the Battery casing BA4851 as clean and dry as possible, as water and dusts can cause malfunction.
- 3 Every time use in non-fresh water such as seawater or salt water, make sure to rinse the light thoroughly immediately with fresh water, so as not to corrode the headlamp and battery casing kits.
- 4 For prolonged period of storage, please take off the battery power pack from headlamp.

CAUTION

To avoid unnecessary incidents, please take notice of the following precaution points:

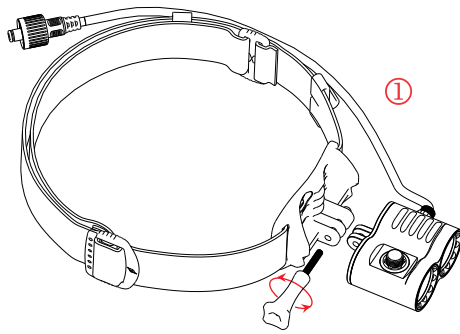
- 1 Do not use damaged batteries or batteries suspected to be damaged.
- 2 Do not use batteries with damaged +/- terminals.
- 3 Please use certified 18650 lithium batteries.
- 4 Please avoid storing batteries inside headlamp for over 30 days.
- 5 Please do not disassemble any parts of headlamp nor attempt to "fix" a malfunctioned headlamp.
- 6 Before under-water or diving use, must check the O-ring rubber still inside of battery casing, and also must make sure the connector and battery pack cover is tighten.

WARNINGS

- 1 Do NOT allow children to use LED light unless under the supervision of an adult.
- 2 Do NOT look directly into the LED light.
- 3 Please avoid placing the lens directly on top of a surface when the light is on.
- 4 Slight warming is normal when the light is in use.
- 5 You must not disassemble the headlamp, especially the sealed parts.
- 6 Please wipe the headlamp dry immediately after it is placed in water or put into contact with corrosive matters.
- 7 When the headlamp is not used for long period, full charging batteries every 3 months and discharge 20 minutes before storage.
- 8 FEREI has final rights to explain the instructions of the user manual.

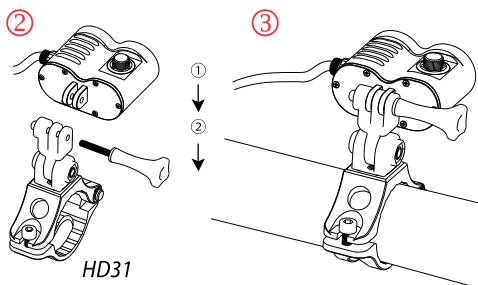
DISCOVERER CONVERSION

- 1 Twist the pin shown in picture ① below in anti-clockwise direction to remove the headlamp body from headband.
- 2 By removing the headband and reassemble the light body with other parts, you could make discoverer a bike-light as shown in picture ③ or a helmet-light as shown in picture ⑤.



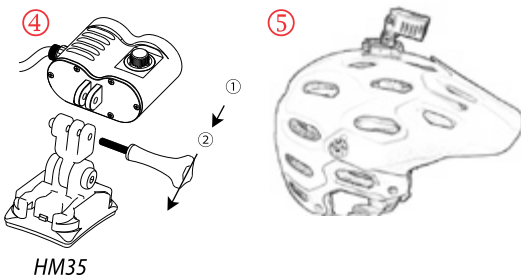
INSTRUCTION FOR BIKE-LAMP CONVERSION

- 1 Attach discoverer light body to HD31 bike mount as shown in picture ②.
- 2 Place rubber pads inside of bike mount HD31 for better fit, tighten the bolts as shown in picture ③ to fasten.



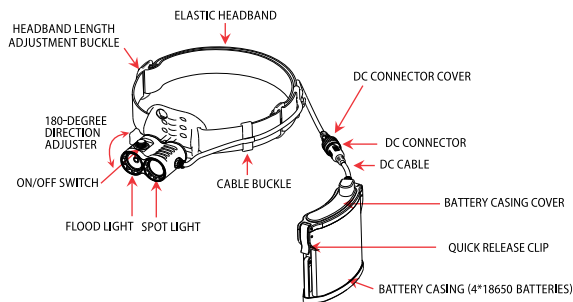
INSTRUCTION FOR HELMET-LAMP CONVERSION

- 1 Attach discoverer light body to HM35 helmet mount as shown in picture ④.
- 2 Stick the base of HM35 helmet mount onto a helmet with 3M sticker as you see fit. As shown in picture ⑤.



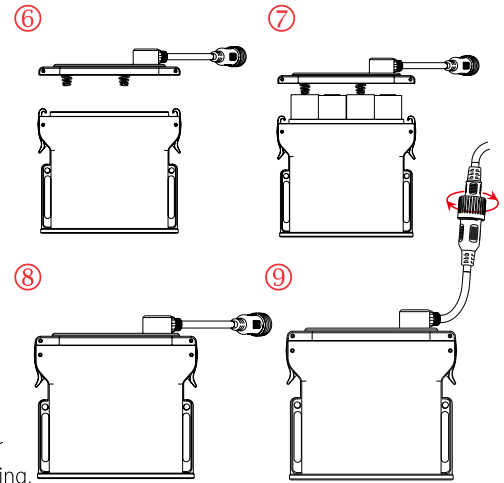
DIAGRAM

NAME OF PARTS *PICTURE NOT DRAWN TO SCALE



INSTALLATION AND REMOVAL OF BATTERIES

- 1 Open the lid of BA4851 battery casing as shown in picture ⑥, please pay attention not to lose the O-ring which is for water proofing the case.
- 2 Install four 18650 lithium batteries with attention to match the terminals accordingly, as shown in picture ⑦.
- 3 Check the O-ring rubber still inside of battery casing, and seal up the battery casing with the two snap clips on the side, as shown in picture ⑧.
- 4 Connect the wires of battery casing BA4851 and discoverer lamp body, tighten the DC sleeve by spinning it in clockwise direction, as shown in picture ⑨.



INSTALLATION OF BATTERY CASING BA4816

- 1 Attach discoverer light body to HM35 helmet mount (top part) and stick the base of HM35 helmet mount onto a helmet with 3M sticker as you see fit.
- 2 Connect battery case BA4851 and discoverer light body. The battery casing could be fastened onto helmet with two M4 x 20mm bolts to the holes on helmet. As shown in picture ⑩.



40CM SHORT DC CABLE VERSION

100CM LONG DC CABLE VERSION



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Patented product, counterfeiting not allowed.

SPECIFICATION	
MODEL NAME	DISCOVERER
LED	CREE XHP35 HI
LIGHT INTENSITY	103684 CANDELA
RANGE (M)	322 METERS
WATERPROOF RATING	IP68
DROP PROOF	1 M
DIMENSION	35.7 X 49 X 25 MM (LIGHT BODY)
BATTERY TYPE	4 X 18650 BATTERY
WEIGHT	257 G (BATTERIES NOT INCLUDED)
NOTE: THE ABOVE PARAMETER WERE TESTED BY USING 4PCS 3400MAH 18650 LI-ION BATTERIES.	

SPECIFICATION		CUSTOMIZED SETTING										SOS	QUICK BLINKING
ANSI/FSC	HIGH POWER	100%	5%	10%	15%	25%	30%	40%	55%	70%	SAME AS SPOT SETTING		
OUTPUT LUMEN	COOL WHITE FLOOD OR SPOT	1400	70	140	210	350	420	560	770	980			
	COOL WHITE FLOOD + SPOT SIMULTANEOUS	2800	140	280	420	700	840	1120	1540	1960			
	NEUTRAL WHITE FLOOD OR SPOT	1300	65	130	195	325	390	520	715	910			
	NEUTRAL WHITE FLOOD + SPOT SIMULTANEOUS	2600	130	260	390	650	780	1040	1430	1820			
RUNTIME H - TESTED IN 28°C INDOOR SETTING	COOL WHITE FLOOD OR SPOT	14	280	140	93	56	47	35	25	20	>14		
	COOL WHITE FLOOD + SPOT SIMULTANEOUS	7	140	70	47	28	23	18	13	10			
	NEUTRAL WHITE FLOOD OR SPOT	14	280	140	93	56	47	35	25	20			
	NEUTRAL WHITE FLOOD + SPOT SIMULTANEOUS	7	140	70	47	28	23	18	13	10			

Runtime declaration: The data-based on the test that is done in the land at room and not in the water.If the light used in underwater or cool condition, the runtime about 1 to 5 times less than instruction.