

Ecolite

Jump Starter

E88

User Guide

WARNING



PRIOR TO USE, READ AND UNDERSTAND PRODUCT SAFETY INFORMATION.

Failure to follow the instructions may result in ELECTRICAL SHOCK, EXPLOSION, or FIRE, which may result in SERIOUS INJURY, DEATH, DAMAGE TO DEVICE or PROPERTY. Do not discard this information.

Welcome. Thank you for purchasing Ecolite E88.

Please read and understand the user guide before operating the product.

What's In The Box.

- E88 Jump starter
- HD battery clip
- 18W travel charger
- Car charger
- Type C to type C USB cable
- DC to cigarette lighter (female) cable
- Storage bag
- Operation manual

About E88. E88 is a mini portable Lithium Ion starter, suitable for cars, trucks, ships and other high displacement Petrol and diesel engines. It can be safely used in any size engine. It's very safe for anyone to use it. It has fireproof flower technology and reverse polarity protection. E88 can jump start most single battery applications immediately, with a single charge of up to 40 times. The E88 is also equipped with USB, 12V output port and LED flashlight, making it the ultimate emergency tool.

Getting Started. E88 is partially charged when leaving the factory and needs to be fully charged before use. Read and understand the owner's manual on specific precautions and recommendations for jump starting vehicles. Before using this product, please refer to your battery user manual to determine the voltage and chemical composition of the battery. E88 is only suitable for 12V lead-acid battery with jump start.

Connecting to the Battery.

Before connecting to the battery, make sure you have a 12 volt lead-acid battery. E88 is not suitable for any other type of battery. Identify the correct polarity terminals on the battery. The positive terminal is usually marked with these letters or symbols (POS, P, +). The negative terminal of the battery is usually marked with these letters or symbols (NEG, N, -).

Do not make any connections to carburetors, fuel lines or sheet metal parts. The following instructions apply to negative grounding systems (most common). If your vehicle has a positive ground system (very rare), please execute the following instructions in reverse order.

- 1.) Connect the positive (red) HD battery clip to the positive (POS, P, +) battery terminal.
- 2.) Connect the negative (black) HD battery clip to the negative (NEG, N, -) battery terminal or vehicle chassis.
- 3.) When disconnecting, disconnect in reverse order and remove the negative pole first (for positive grounding system, remove the positive pole first).

Jump Starting.

1.) Check the chemical composition of the battery.

2.) Verify that the HD battery clip is connected to correct polarity on the battery terminal.

3.) Before attempting to jump start the vehicle, make sure that all power loads (headlamps, radio, air conditioning, etc.) of the vehicle are switched off.

4.) Press the battery clamp button to start the jump start. If you are properly connected to the battery, the green LED will light up. If the battery clamp is connected in the inversion, the red error led will light up.

5.) Try to start the vehicle. Most vehicles will start immediately. Some vehicles may need to be connected to the E88 for up to 30 seconds before starting. If the vehicle does not start immediately, wait 20-30 seconds and try again. Do not attempt more than five (5) consecutive jumps (15) minutes in 15 minutes. Let E88 rest for 15 minutes (15) a few minutes before attempting to jump start the vehicle again.

6.) After starting the vehicle, disconnect the battery clamp and remove E88.

Understanding Power LED.

The E88 has four (4) charge leds-25% 50% 75% and 100%. These charging LEDs indicate the state of charge (SOC) of the internal battery. See below:

LED	Explanation
25% Green LED 25% 50% 75% 100% ● ○ ○ ○	When the internal battery level is 25% or less, the 25% power LED will be on.
50% Green LED 25% 50% 75% 100% ● ● ○ ○	When the internal battery power is more than 25% but less than 50%, the 50% and 25% power LEDs will be always on.
75% Green LED 25% 50% 75% 100% ● ● ● ○	When the internal battery power is more than 50% but less than 75%, the 75%, 50% and 25% power LEDs will be on.
100% Green LED 25% 50% 75% 100% ● ● ● ●	All four (100%, 75%, 50% and 25%) charging LEDs will remain on when the internal battery charge exceeds 75% to 100%.

When E88 is not connected to the power supply and charged, the above state of charge is applicable.

When Recharging the E88.

LED	Explanation
25% Green LED 25% 50% 75% 100%	When the battery charge is less than 25%, the 25% charging LED will pulse slowly "on" and "off" charging. When the battery is 25% charged, the power LED will be on continuously.
50% Green LED 25% 50% 75% 100%	When the battery charge is less than 50%, the 50% charging LED will pulse slowly "on" and "off" charging. When the battery is 50% charged, the battery LED will be on continuously.
75% Green LED 25% 50% 75% 100%	When the battery charge is less than 75%, the 75% charging LED will pulse slowly "on" and "off" charging. When the battery is 75% charged, the charging LED will remain on.
100% Green LED 25% 50% 75% 100%	When the battery charge is less than 100%, the 100% charge led will pulse slowly "on" and "off" charging. When the battery is 100% charged, the power LED will be on continuously.

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Understanding Error Conditions.

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Error	Reason/Solution
Input high voltage protection	The red light is always on, the green light is not on, and the buzzer does not sound.
Input low voltage protection	The red light is always on, the green light is not on, and the buzzer does not sound.
Reverse polarity protection	The red light is always on, the green light is not on, and the buzzer interval is short.
Reverse charging protection	The red light is always on, the green light is not on, and the buzzer sounds slowly and short.
Short circuit protection	Red light is always on, green light is not on, buzzer 1 long 2 short sound.
High temperature protection	The red light is always on, the green light is not on, and the buzzer rings quickly.
Start timeout protection	The red light is always on, the green light is always on, and the buzzer does not sound.

Error	Reason/Solution
Starting low voltage protection	Red light is always on, green light is not on, buzzer 1 long 2 short sound.
Relay adhesion alarm	The red light is always on, and the buzzer is continuous and fast.
Position in readiness	The red and green lights flash alternately, and the buzzer doesn't sound.

Charging the E88.

E88 PD interface: supports 5V3A, 9V3A, 12V3A, 15V3A, 20V3A, 60WMAX (PD3.0, PD2.0, FCP, AFC, APPLE, BC1.2). The E88 can be charged using a charger with the above charging protocol. It can also be charged using the 18W charger configured with E88, or using the configured 18W car charger.

We recommend that you do not charge and discharge the device at the same time.

Charging Times.

The charging time of the E88 will vary depending on the discharge level and the power supply used. Actual results may vary depending on battery conditions.

5V2A	9V2A	12V3A	20V3A
10hr	6hr	3hr-4hr	2hr-3hr

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USB interface.

Two USB-A output interfaces (automatic output): maximum 18W, supporting 5V3A, 9V2A, 12V1.5A (QC3.0, QC2.0, FCP, AFC, APPLE, BC1.2) output. Turn on E88 and start to power the equipment.

Note: if two USB outputs at the same time, a total of 5V3.1A output is used to charge the electronic device.

DC interface.

Connect the DC to cigarette lighter cable to the DC port on the E88, plug in any standard 12V device (maximum 10A) with a 12V plug, and turn on the E88 to start supplying power to the device.

Note: when PD interface has output (USB A interface output does not affect DC output), DC port will automatically drop to 12V4A.

Type-C interface.

With PD60W output, it supports 5V3A, 9V3A, 12V3A, 15V3A, 20V3A, 60WMAX (PD3.0, PD2.0, QC3.0, QC2.0, FCP, SCP, AFC, APPLE, BC1.2 protocol). Connect the JS80 to the device using the configured Type C to Type C, and you can power the device.

LED Flashlight.

Use the power button with the bulb symbol to turn the flashlight on and off.

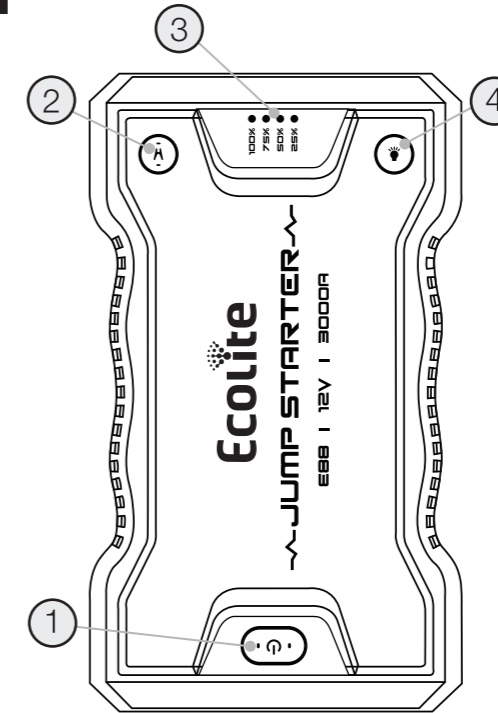
Technical Specifications.

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Built in battery:	Lithium Ion
Peak Current Rating:	3000A
Joules 3S:	15700+
Working temperature:	-20°C to +50°C
Charging Temperature:	0°C to +40°C
Storage Temperature:	-20°C to +50°C (Avg Temp.)
PD (Input):	MAX60W (5V3A, 9V3A, 12V3A, 15V3A, 20V3A)
USB (Output):	MAX18W (5V3A, 9V2A, 12V1.5A)
PD (Output):	MAX60W (5V3A, 9V3A, 12V3A, 15V3A, 20V3A)
DC (Output):	12V, 10A
Shell protection:	IP65 (w/Ports Closed)
Cooling:	Natural Convection
Dimensions (L x W x H):	240x140x60mm
Weight:	4kg

Energy saving automatic shutdown.

When two USB-A with load < 80mA, after 30 seconds the battery lights off and turn off the output. If any USB-A with load > 80mA, after 30 seconds, the power light is off, and the output is always on. Long press the power switch to turn off the output.
When DC12V with load < 170mA, after 30 minutes the battery lights off and turn off the output. If DC12V with load > 170mA, after 30 minutes, the power light goes out, and the output is always on. Long press the power switch to turn off the output.



User Interface.

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1. Power button and power indicator

Short press the battery indicator will turn on or off. Long press to open or close the DC interface.

2. HD clip button and indicator

It is used to control the opening and closing of the clamp, and the red and green LED indicator shows the status, fault and alarm of the clamp.

3. Power indicator

Displays the remaining battery power of the device.

4. Flashlight switch

Long press to control LED flashlight on and off.