

INTELLI-START LITHIUM EMERGENCY JUMPSTARTER

and Portable Power Bank



IMPORTANT SAFETY INFORMATION

Please read this manual thoroughly before use and store in a safe place for future reference.

WARNINGS

- This unit has been designed for 12V DC vehicles only.
- Explosive gases. Prevent flames and sparks. Provide adequate ventilation during charging. During charging, the battery must be placed in a well-ventilated area (for chargers for batteries that release gases into the atmosphere during normal charging).
- Working in the vicinity of car batteries can be dangerous. Batteries release explosive gases during normal operation, charging and while jumpstarting a battery. Before using this Jumpstarter, read and follow the instructions carefully. Follow all manufacturer's instructions and warnings of the vehicle's battery and other equipment being used.
- Jumpstart 12V DC automotive lead acid batteries only. Do not use to jumpstart dry cell batteries commonly found in household appliances. These batteries may burst and cause injury and/or property damage.
- Do not smoke, use matches, use a cigarette lighter, or allow a spark or flame near the battery.
- Do not allow metal to come in contact with the battery posts. It may spark or short-circuit the battery and cause an explosion/fire.
- Risk of terminals of the battery-operated appliance or battery being short-circuited by metal objects. Remove rings, bracelets, necklaces, and watches when working at the vehicle and/or jumpstarting a vehicle.
- The Jumpstarter contains a sealed non-spillable Lithium Iron Phosphate battery (LiFePO_4). This must be disposed of properly.
- This appliance contains batteries that are non-replaceable. When the battery is at end of life, the appliance shall be properly disposed of.
- Disconnect the supply before making or breaking the connections to the battery. Ensure correct polarity when connecting clamps to vehicle.
- The Jumpstarter is not designed to be left outside for extended periods of time or submerged in water.
- Do not store the Jumpstarter in temperatures above 60°C or below -10°C, as this can affect the health of the battery. Against exposing the appliance or battery to excessive temperatures.
- Always wear eye protection when operating the Jumpstarter.

- Although the Jumpstarter has been designed to protect the battery, do not drop the Jumpstarter or try and pierce it in anyway. This can result in an explosion/fire.
- If the Jumpstarter is physically damaged in any way, it should not be used.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised not to play with the appliance
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved
- Children shall not play with the appliance
- Cleaning and user maintenance shall not be made by children without supervision.
- This appliance contains batteries that are only replaceable by skilled persons.
- This appliance contains batteries that are non-replaceable.
- Do not try and charge via the USB output as this will damage the Jumpstarter and the USB output.
- The connection to the supply mains is to be in accordance with the national wiring rules.
- The appliance is only to be used with the unit provided. It must only be supplied at SELV. For the purposes of recharging the battery, only use the detachable supply unit provided with this appliance.
- For care and cleaning, turn off all power and wipe the surface with a dry cloth.

IMPORTANT CHARGING INFORMATION

- Charge the Jumpstarter prior to first use. This may take up to 4 to 8 hours depending on the model.
- Fully recharge the Jumpstarter after every use to ensure your Jumpstarter is ready for use in case of an emergency.
- The Jumpstarter has a micro-USB charging port. This allows the user to charge the Jumpstarter using a micro-USB cable.
- To extend the life of your Jumpstarter do not let the battery charge level fall below 20%.
- To extend the life of the Jumpstarter battery, do not charge in an environment above 45°C or below 0°C.

FEATURES

RAPID RECHARGE TECHNOLOGY (RRT)

- The Lithium Iron Phosphate (LiFePO₄) battery can rapidly recover charge from the vehicle's alternator following a successful jumpstart. Leaving the clamps connected to the vehicle's battery for 40 seconds will recharge the Jumpstarter to 100% of the original charge status. Once the Jumpstarter is fully charged, the RRT will shut off avoiding overcharging.

LITHIUM SAFE

- Intelli-Start Lithium Iron Phosphate (LiFePO₄) batteries are specifically designed for cranking therefore purpose built for jumpstarting and are safer than Lithium Cobalt (LiCoO₂) battery types. The LiFePO₄ batteries provide more starts and have an operational life of up to 1800 battery cycles.

JUMPSTARTING PERFORMANCE

IS920

- The IS920 is suitable for starting most 12V DC petrol vehicles up to 6.0 litres.
- A fully charged IS920 can do 14 petrol starts (with a flat vehicle battery).
- With 40 seconds of Rapid Recharge after each jumpstart, the IS920 will not need to be recharged during the working day.

IS1220

- The IS1220 is suitable for starting most 12V DC petrol vehicles up to 7.0 litres and diesel vehicles up to 4.5 litres.
- A fully charged IS1220 can do 68 petrol starts (with a flat vehicle battery) and 34 diesel starts (with a flat vehicle battery).
- With 40 seconds of Rapid Recharge after each jumpstart, the IS1220 will not need to be recharged during the working day.

INBUILT LED FLOOD LIGHT

- Provides illumination for safer and more convenient operation at night.
- The flood light is not on a timer and will continue to operate until the battery reaches 20% of its state of charge, then it will shut down.

POWER BANK WITH 2.1AMP USB PORT

- Allowing charging of phones, tablets, and other small portable devices.

12V DC USB CHARGING

- Allows the Jumpstarter to be charged from your vehicle USB socket or cigarette socket.

PREMIUM SPARK FREE CLAMPS

- Ensures safe jumpstarting.

EASY TO READ BATTERY STATUS INDICATOR

- Shows battery status and when recharge is required.

CONNECTION INDICATION

- Confirms clamp connectivity and status.

UNPARALLELED SAFETY AND RELIABILITY

REVERSE POLARITY PROTECTION & ALARM

- Prevents sparking from accidental reverse connection. The alarm sounds when the Jumpstarter clamps are connected incorrectly.

OVER-TEMPERATURE & UNDER-TEMPERATURE PROTECTION

- The Jumpstarter has different layers of temperature protection in respect to environmental conditions. The Jumpstarter will not allow:
 - Charging over 45°C
 - Jumpstarting over 60°C
 - Charging below 0°C
 - Jumpstarting below -20°C
- Should the unit overheat by continuous or numerous jumpstarts, the unit will shut off automatically and restart once the over-temperature condition subsides.

OVER-VOLTAGE & UNDER-VOLTAGE PROTECTION

- The Jumpstarter will deactivate and sound an alarm if connected to a vehicle battery which is higher than 14.6V DC, or if the internal battery is discharged to a level whereby the battery might be damaged.

SURGE PROTECTION

- Features built in surge protection so you can safely jumpstart vehicles with Electronic Fuel Injection (EFI) and computer management systems.

TOTAL SAFEGUARD PROTECTION

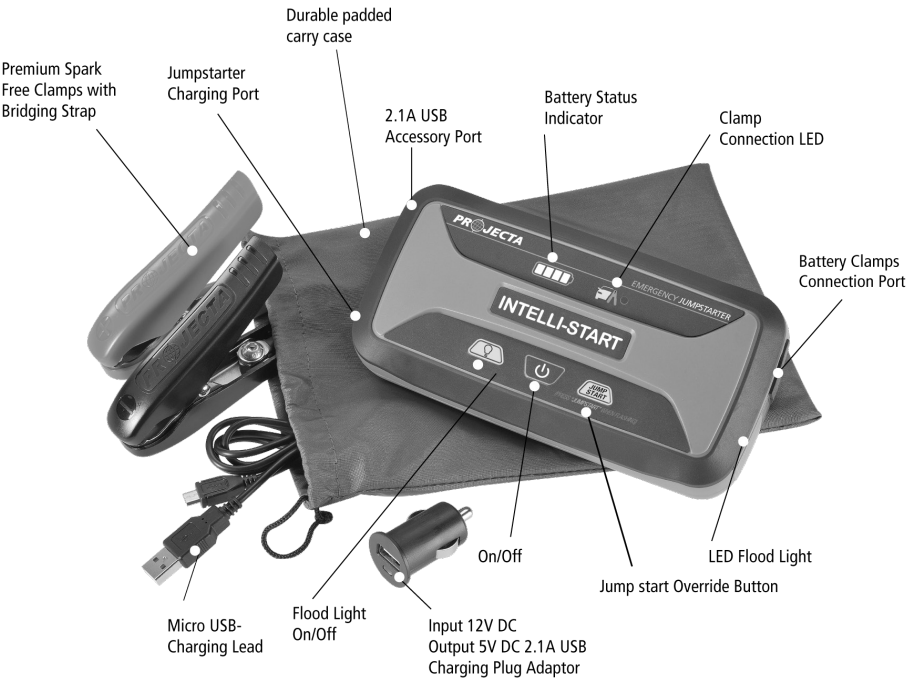
- The IS920 and IS1220 Jumpstarter offers total safeguard protection including additional protections like Battery & Switch Short Circuit Protection, Over Current Protection, Over Cranking Protection, Low Voltage Indication.

SPECIFICATIONS

P/No.	IS920	IS1220
Battery		
Battery Capacity	1.6Ah at 12.8V DC 6,400mAh at 3.2V DC 20.48Wh	3.0Ah at 12.8V DC 12,000mAh at 3.2V DC 38.4Wh
Battery Chemistry	Lithium Iron Phosphate (LiFePO ₄)	Lithium Iron Phosphate (LiFePO ₄)
Peak Amps	900A	1200A
Clamp Power	240A	400A
Voltage	12V only	12V only
Number of Emergency Jumpstart ¹ (with a vehicle flat battery)	14 Petrol	68 Petrol, 34 Diesel
Battery Cycles	1800	1800
Jumpstarter Leads		
Length	Positive: 310mm Negative: 270mm	Positive: 310mm Negative: 270mm
Cable	8mm ² – 8AWG	8mm ² – 8AWG
Polarity Protection	MCU controlled with electronic switch	MCU controlled with electronic switch
Overload Protection	MCU controlled with electronic switch	MCU controlled with electronic switch
Recharging		
Cable	1m long USB to micro-USB	1m long USB to micro-USB
Micro USB Charging port	2.1 Amp micro-USB charging port 3rd party 10W 220–240VAC USB adaptors can be used. (Not provided)	2.1 Amp micro-USB charging port 3rd party 10W 220–240VAC USB adaptors can be used. (Not provided)
12V DC Charging	12V DC to 5V DC 2.1 Amp USB charger (provided)	12V DC to 5V DC 2.1 Amp USB charger (provided)
DC Charging	4 hours	8 hours
Jumpstart Connection Voltages		
Vehicle Voltage Range	0V DC to 15V DC	0V DC to 15V DC
USB Output		
USB Output	2.1A, 5.0V DC	2.1A, 5.0V DC
USB Low Voltage Disconnect	Battery voltage at 10.5V DC	Battery voltage at 10.5V DC
Dimensions, Weight & Environmental		
Length	178mm	197mm
Width	91mm	95mm
Height	47mm	50mm
Weight	~ 0.61kg	~ 0.8kg
Operating Temperature	-20°C to 60°C	-20°C to 60°C
Operating Temperature (charging)	0°C to 45°C	0°C to 45°C
Storage Temperature (long term)	-10°C to 60°C	-10°C to 60°C
Ingress Protection	IP53 (Rain Proof) with covers over the ports	IP53 (Rain Proof) with covers over the ports

1. Tested on a Ford Ranger 3.2L Diesel and Ford Territory 4.0L Petrol with a flat battery in good condition

PRODUCT OVERVIEW



JUMPSTARTER INSTRUCTIONS

- Notes:
- Instructions for negatively earthed vehicles only. (Most vehicles after 1970 are negatively earthed).
 - Before jumpstarting a vehicle make sure that the Jumpstarter is fully charged
 - The battery terminal not connected to the chassis has to be connected first. The other connection is to be made to the chassis, remote from the battery and fuel line. The battery charger is then to be connected to the supply mains
 - After charging, disconnect the battery charger from the supply mains. Then remove the chassis connection and then the battery connection

JUMPSTARTING

Step	Instruction	Display												
1	Your Jumpstarter should be charged for around 8 hours prior to first use and as soon as possible after each use.													
2	Before making any connections, check the Jumpstarter battery status by turning the Jumpstarter ON. The Jumpstarter's battery capacity should be at least 50% charged (2 bars).	BATTERY STATUS INDICATOR When Jumpstarter is turned on battery gauge LEDs are displayed.<table><tr><th>State of Charge</th><th>Battery Gauge LED Display</th></tr><tr><td><20%</td><td> – Red flashing</td></tr><tr><td>20–25%</td><td> – Red</td></tr><tr><td>25–50%</td><td> – Yellow</td></tr><tr><td>50–75%</td><td> – Green</td></tr><tr><td>75–100%</td><td> – Green</td></tr></table>	State of Charge	Battery Gauge LED Display	<20%	 – Red flashing	20–25%	 – Red	25–50%	 – Yellow	50–75%	 – Green	75–100%	 – Green
State of Charge	Battery Gauge LED Display													
<20%	 – Red flashing													
20–25%	 – Red													
25–50%	 – Yellow													
50–75%	 – Green													
75–100%	 – Green													
3	Before connecting the Jumpstarter's clamps to the vehicle turn the vehicle's ignition to OFF.													
4	Connect the Red positive (+) clamp to the positive (+) terminal of the vehicle battery, then connect the Black negative (-) clamp to the negative (-) terminal of the battery or a non-moving metal part of the engine block. Ensure you have a good clamp connection; this will guarantee optimal jumpstarting. DO NOT CONNECT TO FUEL LINE. Always double check you have proper connections.													
5	The "JUMPSTART" button should begin to flash. Press the "JUMPSTART" button. The clamp LED should turn on to green.	 												
6	If the "JUMPSTART" button does not flash, it would indicate the battery is less than 3.0V DC. The user will need to press and hold the "JUMPSTART" button for 3 seconds. The JUMPSTART button will have a double flash. The clamp LED will now be illuminated and the Jumpstarter is ready to use. The override will timeout after 60 seconds.	 												

7	Turn the vehicle's ignition to ON and start the vehicle. After the engine has started, leave the Jumpstarter connected for a minimum of 40 seconds to allow the Jumpstarter to rapidly recover charge from the vehicle's alternator. Once the Jumpstarter is fully charged, the Rapid Recharge Technology (RRT) will shut off and avoid overcharging. If the Jumpstarter fails to start your vehicle refer to the clamp connection LED table on page 8 to review the error. Additionally, check that the clamps are connected correctly with good contact.	
8	Turn the Jumpstarter off using the power button.	
9	Disconnect the Black clamp and then the Red clamp.	

Note: In general, with the use of Rapid Recharge Technology (RRT) the Jumpstarter does not require charging. However, while not in use it is recommended to check the Jumpstarter's charge status via the **BATTERY STATUS INDICATOR**. If required, charge the Jumpstarter using the supplied 12V DC USB charger or a 3rd party 10W 220–240VAC USB adaptor (not provided). This will ensure the Jumpstarter is ready when required.

UNDERSTANDING YOUR JUMPSTARTER

CLAMP CONNECTION LED



Jumpstart Status	LED
Jumpstarter clamps connected to vehicle and ready to jumpstart	Green solid
Jumpstarting for more than 5 seconds	Yellow flash twice, pause & repeat
Battery or Jumpstarter switch, over-temperature	Red / Green alternate flashing
Battery charging temperatures >45°C or <0°C	Red / Green alternate flashing & siren
Short circuit	Red flashing & beeping siren
Clamps reverse connected to battery	Red solid & siren on
Jumpstarter input voltage (EC5 connector) > 15.0V DC	Red / Yellow alternate flashing & siren on
Low voltage indication	Red flashing, no beeping siren
Hardware failure	Red fast flash, steady siren on

BATTERY STATUS INDICATOR

When Jumpstarter is turned on the battery gauge LED's are displayed as follows:

State of Charge	Battery Gauge LED Display
<20%	 – Red flashing
20–25%	 – Red
25–50%	 – Yellow
50–75%	 – Green
75–100%	 – Green

When Jumpstarter is charging the battery gauge LED's are displayed as follows:

State of Charge	Battery Gauge LED Display
<20%	 – Scrolling
20–50%	 – Red with Yellow & Green scrolling
50–75%	 – Yellow with Green scrolling
75–99%	 – Green with Green flashing
100%	 – All solid Green

CHARGING

Your Jumpstarter is shipped partially charged. Therefore, you should charge the Jumpstarter before using it for the first time. It is recommended to fully charge the Jumpstarter after each use to ensure it is ready to use when required using one of the methods below:

Option	Detail	Method
1	Plug the 12V DC to 2.1A USB charge adaptor into a 12V DC socket. Use the provided USB to micro USB cable and connect the USB end into the 12V DC USB socket. Connect the micro-USB end to the Jumpstarter. (Note: Ensure you use the provided USB to micro-USB cable provided, using other cables does not guarantee charging performance.) The Jumpstarter will now turn ON and start charging. The BATTERY STATUS INDICATOR will now start to scroll in the following ways depending on its state of charge. See battery status indicator table on page 8. When the Jumpstarter is fully charged, after 4 hours for the IS920 and 8 hours for the IS1220. Simply disconnect the leads and put the Jumpstarter away.	12V DC to 2.1A USB charge adaptor
2	After a successful jumpstart, the Jumpstarter can rapidly recover charge from the vehicle's alternator. Leaving the clamps connected to the vehicle battery for at least 40 seconds (max. 10 min) after starting the vehicle will recharge the Jumpstarter to 100% of the original charge status. Once the Jumpstarter is fully charged the RRT will shut off and the user can disconnect the Black clamp and then the Red clamp. The clamps can also be disconnected before the RRT completes, should it be required.	Rapid Recharge Technology (RRT)
3	Plug the 3rd party charger into a mains 220–240VAC socket. Use the provided USB to micro-USB cable and connect the USB end into the charger. Connect the micro-USB end to the Jumpstarter. The Jumpstarter will now turn ON and start charging. The BATTERY STATUS INDICATOR will now start to scroll in the following ways depending on its state of charge. See battery status indicator table above on page 8. When the Jumpstarter is fully charged, after 4 hours for the IS920 and 8 hours for the IS1220. Simply disconnect the leads and put the Jumpstarter away.	3rd party 10-Watt USB 220–240VAC charger

Note: To prolong the life of your Jumpstarter battery it is recommended to charge the Jumpstarter after each use. If the Jumpstarter is not being used, it is recommended to leave the Jumpstarter permanently on charge. This ensures the battery is always maintained, fully charged, and ready for use. It is recommended to charge the Jumpstarter before the first use, as the Jumpstarter is shipped only partially charged.

The Jumpstarter will use an audible warning (beep) to indicate a low battery status. If the internal battery of the Jumpstarter falls below 10.5V DC, the Jumpstarter will automatically switch off and prevent further discharge which could damage the internal battery.

FLOOD LIGHT

Step	Detail	Display
1	Press the light button and the light will turn on. Press the light button again to turn the light off when you are finished. Note: If the Jumpstarter is off and the light button is pressed, the button will need to be pressed for at least half a second before the light will turn on.	

POWER BANK

The Jumpstarter has a 2.1A USB output. It is suitable to charge phones, tablets, cameras, and GPS devices. The Jumpstarter will turn off after 5 minutes of no activity or the USB device has been fully charged.

If the USB output becomes overloaded (stops working), remove the device, and check it. Turn the Jumpstarter off and back on again, the USB output should work again.

WARNING: Charging devices from the Jumpstarter will drain the battery. This can cause the Jumpstarter to fail in starting your vehicle in an emergency. Recharge the Jumpstarter as soon as possible.

FREQUENTLY ASKED QUESTIONS

Q. Why didn't my Jumpstarter start my vehicle?

- A. There could be a number of reasons why the Jumpstarter did not start your vehicle.

Check the following:

1. Ensure the Jumpstarter battery is fully charged. Refer to page 8 ('Battery Status Indicator') for further information.
2. Ensure you have followed the correct operating procedure. Refer to page 7 ('Jumpstarter Instructions').
3. Ensure the vehicle operates on 12V DC.
4. Ensure the vehicle being jumpstarted is in the specified vehicle engine size of the Jumpstarter. For IS920 up to most 6.0 litre petrol vehicles and for IS1220 up to most 7.0 litre petrol vehicles and 4.5 litre diesel vehicles.

Q. Can I leave my Jumpstarter connected to the car after it has started?

- A. Yes. The Jumpstarter is using Rapid Recharge Technology (RRT) that can rapidly recover charge from the vehicle's alternator. Leaving the clamps connected to the vehicle for at least 40 seconds after starting the vehicle will recharge the Jumpstarter to 100%² of the original charge status. Once the Jumpstarter is fully charged the RRT will shut off and the user can disconnect the Black clamp and then the Red clamp.

Q. How often should I charge my Jumpstarter?

- A. The Jumpstarter uses Lithium technology which self-discharges only a very small amount. To be safe the Jumpstarter should be charged at least every year to be sure it is ready in case of an emergency.

Q. Can I charge the Jumpstarter and use the USB output at the same?

- A. Yes, the USB output can be used at the same time as charging via the USB input. However, the USB output is disabled if the Jumpstarter is charging using RRT.

Q. What is Peak Amps?

- A. Peak amps is the maximum current the battery in the Jumpstarter can produce.

Q. What is Clamp Power?

- A. Clamp power is the maximum current available at the clamps to start the vehicle.

Q. Why isn't my Jumpstarter charging?

- A. The Jumpstarter will not charge or perform Rapid Recharge above 45°C. If the alternator is above 14.6V DC or faulty, Rapid Recharge will not work.

2. Tested on a Ford Ranger 3.2L Diesel and Ford Territory 4.0L Petrol with a flat battery in good condition

WARRANTY STATEMENT

Serenco Nederland BV of Positronweg 12, telephone +31 (0)30 - 2415011, email info@serenco.nl, warrants that all products described in its current catalogue will under normal use and service be free of failures in material and workmanship for a period of two years from the date of the original purchase by the customer as marked on the invoice (see elsewhere for specific warranty period). This warranty does not cover ordinary wear and tear, abuse, alteration of products or damage caused by the purchaser.

To make a warranty claim the consumer must deliver the product at their cost to the original place of purchase or to any other place which may be nominated by either Serenco or the retailer from where the product was bought in order that a warranty assessment may be performed. The consumer must also deliver the original invoice evidencing the date and place of purchase together with an explanation in writing as to the nature of the claim.

If the claim is determined to be for a minor failure of the product then Serenco reserves the right to repair or replace it at its discretion. If a major failure is determined the consumer will be entitled to a replacement or a refund.

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Serenco Nederland BV
Positronweg 12
3542 AZ Utrecht, Nederland
info@serenco.nl
www.serenco.com