PROJECTA

P/No. IS3000, IS5000

# INTELLI-START
# 12/24V LITHIUM JUMP STARTER

## ⚠ WARNING

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

- This jump starter has been designed for vehicles with 12V DC and 24V DC electrical systems only.
- This jump starter contains batteries that are non-replaceable – 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).
- Risk of explosive gas. Working in the vicinity of car batteries can be dangerous. Batteries release explosive gases during normal operation, charging and jump starting. Before using this jump starter, read and follow the instructions carefully. Follow all manufacturer's instructions and warnings of the vehicle's battery and other equipment being used.
- Jump start 12V DC or 24V DC automotive lead acid batteries ONLY. Do not use to jump start dry cell batteries commonly found in household appliances. These batteries may burst and cause serious 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 terminals. It may spark or short-circuit the battery and cause an explosion/fire.
- Remove rings, bracelets, necklaces, and watches when working at the vehicle and/or jump starting a vehicle.
- The jump starter contains a sealed non-spillable Lithium Iron Phosphate battery ($LiFePO_4$). This must be disposed of properly.
- Ensure correct polarity when connecting clamps to vehicle.
- The jump starter is not designed to be left outside for extended periods of time or submerged in water.
- Do not store the jump starter in temperatures above 45˚C or below -10˚C as this can affect the health of the internal battery.
- Always wear eye protection when operating the jump starter.
- Although the jump starter has been designed to protect the battery, do not drop the jump starter or attempt to pierce it in anyway. This can result in an explosion and or fire.
- If the jump starter is physically damaged in any way, it should not be used.
- Not to be used 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 – children being supervised not to play with the appliance – only to be used with the power supply unit provided and it must only be supplied at SELV (safety extra low voltage, less than 60V DC).
- Do not allow the positive (red) clamp and the negative (black) clamp to touch each other when in override mode, or 12/24V DC mode.
- When in manual override, pay careful attention not to reverse-connect clamp or short-circuit.
- Make sure to have strong clamp connection to starting battery to maximise jump starting current.
- The EMF (electromagnetic field) during jump starting might interfere with medical devices. For example, implanted pacemakers and defibrillators might contain sensors that respond to magnets and radios when in close contact. To avoid any potential interactions with these types of medical devices, please keep a safe distance away from the jump starter. Consult with a physician and the medical device manufacturer for specific guidelines.
- The clamps may get hot during jump starting, it is recommended to wear gloves to prevent burns.

# IMPORTANT CHARGING INFORMATION

- Charge the jump starter prior to use, using the supplied 240V AC/DC charging dock ISCD3500 and 15VDC 3A AC charging adapter ISCA3500. This may take up to 8 to 12 hours depending on the model.
- Fully recharge the jump starter after every use to ensure the jump starter is ready for use in case of an emergency.
- Do not allow the jump starter battery to become very flat. If the display shows 'Low Battery' ensure the jump starter is charged immediately to ensure the maximum battery life. Refer to "ERROR AND ALARM MESSAGES" section.
- To extend the life of the jump starter, do not let the battery charge level fall below 1 bar.
- To extend the life of the jump starter battery, do not charge in an environment above 45°C or below 0°C.

# KEY FEATURES

**RAPID RECHARGE TECHNOLOGY (RRT)**

- The Lithium Iron Phosphate ($LiFePO_4$) battery can rapidly recover charge from the vehicle's alternator following a successful jump start. Leaving the clamps connected to the vehicle's battery for 40 seconds will recharge the jump starter to 100% of the original charge status. Once the jump starter is fully charged, the RRT will shut off to avoid overcharging.

**LITHIUM SAFE**

- Intelli-Start Lithium Iron Phosphate ($LiFePO_4$) batteries are specifically designed for cranking therefore purpose built for jump starting and are safer than Lithium Cobalt ($LiCoO_2$) battery types. The $LiFePO_4$ batteries provide more starts and have an operational life of up to 2000 battery cycles.

**JUMP STARTING PERFORMANCE**

- The IS3000 is suitable for starting most 12V DC vehicles up to 12 litre petrol and diesel as well as all 24V petrol and diesel vehicles.
- The IS5000 is suitable for starting most 12V DC vehicles up to 16 litre petrol and diesel as well as all 24V petrol and diesel vehicles.
- With 40 seconds of rapid recharge after each jump start, the jump starter will not need to be recharged during the working day.
- It is recommended that the jump starter is charged via the supplied 240V AC/DC charging dock ISCD3500 and 15VDC 3A AC charging adapter ISCA3500 to maximise the jump starter performance.

**INTUITIVE COLOUR DISPLAY**

- The intuitive colour display makes the jump starter easy for anyone to use with step-by-step instructions.

**PREMIUM SPARK FREE CLAMPS**

- Ensures safe jump starting.

**DESIGN FOR EASY TRANSPORTATION**

- With an ergonomically designed handle, the jump starter is portable and compact compared to a conventional bulky lead acid jump starter.

**HIGH PERFORMANCE BATTERY**

- The high-quality Lithium Iron Phosphate ($LiFePO_4$) battery delivers instant starting power to petrol and diesel vehicles. The battery offers longer life, better power density and is inherently safer (compared to lead acid batteries and other lithium batteries e.g., Lithium Cobalt ($LiCoO_2$)). It is certified to meet International Standard UN 38.3.

**ULTRA LONG SHELF LIFE**

- The jump starter features a special circuit designed to prevent the internal battery from consuming current over extended period.

**AUTOMATIC CELL-BALANCED CHARGE CONTROL**

- Automatically stops charging when the battery is fully charged. This initiates maintenance mode, keeping the battery fully charged and ready for use. You can leave the unit on charge indefinitely without the risk of overcharging.

**DOCKING STATION FOR 240V AC**

- A slim and stable docking station is provided to allow the jump starter to be charged from a 240V AC outlet.

**SOLDERED HIGH CURRENT CONNECTIONS**

- All wired connections within jump starter are crimped and bolted to ensure maximum reliability and current output.

**REVERSE POLARITY PROTECTION & ALARM**

- Prevents sparking from accidental reverse connection.
- The jump starter displays and sounds an alarm when the jump starters clamps are connected incorrectly. Refer to "ERROR AND ALARM MESSAGES" section.

**OVER-TEMPERATURE PROTECTION**

- The jump starter has different layers of temperature protection. Should the unit overheat by continuous or numerous jump starts, the unit will shut off automatically.

**OVER-VOLTAGE PROTECTION**

- Before the jump starter activates the jump start function, it will sound an alarm if the vehicle battery is higher than 30V DC.

**SURGE PROTECTION**

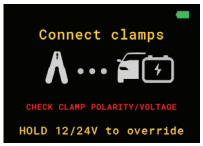
- The jump starter features built-in surge protection so you can safely jump start vehicles with EFI (electronic fuel injection) and computer management systems.

## PRODUCT OVERVIEW


**ISCD3500** AC/DC Charging Dock

**ISCA3500** 15VDC 3A AC Charging Adapter

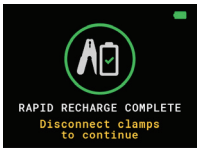
## LCD DISPLAY SCREEN LAYOUT




Jump starter battery status

Message overview icon

Jump starter suggested action




Battery full | Battery depleted | Battery low

The LCD display shows the jump starter status and supports its operation. In addition to the primary function the LCD display shows the following icons:

- Jump starter battery status icon FULL/DEPLETED/LOW

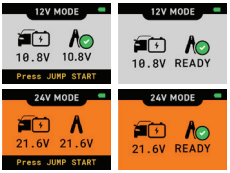
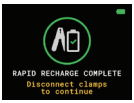
## SPECIFICATIONS

| P/NO. | IS3000 | IS5000 |
|---|---|---|
| **BATTERY** | | |
| BATTERY CAPACITY | 2 x 6.0Ah at 12.8V (153.6Wh) | 2 x 12.0Ah at 12.8V (307.2Wh) |
| BATTERY CHEMISTRY | Lithium Iron Phosphate ($LiFePO_4$) | |
| PEAK AMPS | 3000A | 4500A |
| CLAMP POWER | 12V DC Vehicle: 1000A, 24V DC Vehicle: 850A | 12V DC Vehicle: 1500A, 24V DC Vehicle: 1000A |
| BATTERY CYCLES | 2000 | |
| **JUMP STARTER LEADS** | | |
| LENGTH | 1500mm Positive & Negative | |
| CABLE | 50mm² / AWG 0 | 75mm² / AWG 00 |
| CLAMP POLARITY PROTECTION | MCU controlled with mechanical relay | |
| OVERLOAD PROTECTION | MCU controlled with mechanical relay | |
| **RECHARGING** | | |
| VIA | Charging docking station | |
| SOURCE | AC/DC charger 15V DC 3A max output | |
| MAIN CHARGE | Internally cell-balanced constant current | |
| MAINTENANCE CHARGE | Recharging if battery voltage drops to 13.2V DC | |
| SOURCE | RRT via vehicle starting battery | |
| DC CHARGING | Up to 8 hours | Up to 12 hours |
| **JUMP START CONNECTION VOLTAGES** | | |
| VEHICLE VOLTAGE RANGE | 1 – 14.6V DC (12V DC Vehicle), 14.7 – 30V DC (24V DC Vehicle) | |
| **DIMENSIONS, WEIGHT & ENVIRONMENTAL** | | |
| HEIGHT | 326mm | |
| LENGTH | 366mm | |
| WIDTH | 170mm | |
| WEIGHT | 10.6kg | 13.5kg |
| OPERATING TEMPERATURE | -20˚C to 60˚C | |
| OPERATING TEMPERATURE (CHARGING) | 0˚C to 45˚C | |
| STORAGE TEMPERATURE (LONG TERM) | -10˚C to 45˚C | |

# JUMP STARTING INSTRUCTIONS

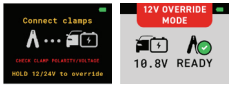
- Instructions for negatively earthed vehicles only (most vehicles after 1970 are negatively earthed).
- Before jump starting a vehicle, it is recommended to ensure the jump starter is fully charged.

## JUMP STARTING

| STEP | INSTRUCTION | DISPLAY |
|---|---|---|
| 1 | The jump starter should be charged for around 8 to 12 hours depending on the model prior to first use and as soon as possible after each use. |  |
| 2 | If the jump starter has been fully charged, skip to step 4 | |
| 3 | Before connecting the jump starter to a battery/vehicle, check the jump starter battery status by pressing the ⏻ button.<br>If the jump starter starts up and shows the welcome screen momentarily following with "Connect clamps" screen, you can proceed to next step.<br>**The small battery icon should be in green or at least yellow.** |  |
| 4 | Before connecting the jump starter clamps to the vehicle, turn the vehicle's ignition to OFF. | |
| 5 | 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.<br>Make sure to connect clamps firmly to battery terminals to maximise jump start current and the battery terminals are clean from grease and dust build-up.<br>DO NOT CONNECT TO FUEL LINE. Always double check you have proper connections. | |
| 6 | The jump starter automatically detects the vehicle battery voltage and selects the required voltage source.<br>Note:<br>• Given the correct clamp voltage, the user can manually select the operating voltage by pushing and holding for 3 seconds 12V or 24V button. Upon manual selection of the voltage, the button will flash and needs to be pressed again for confirmation, then the jump start can commence. |  |
| 7 | Turn the vehicle's ignition to ON and start the vehicle. ⏻ | |
| 8 | After the engine has started, leave the clamps connected for a minimum of 40 seconds to allow the jump starter RRT to charge the unit. Once the jump starter is fully charged, the RRT will shut off to avoid overcharging.<br>Note:<br>• The jump starter will not switch OFF as long the clamps are connected to the vehicle battery.<br>• RRT (Rapid Recharge Technology) may take more than 40 seconds depending how depleted the jump starter battery is. |  <br>  |
| 9 | To turn off the jump starter, press the power button | |
| 10a | To disconnect the jump starter from the battery/vehicle, disconnect the black negative (-) clamp from the negative battery pole of the battery. Disconnect the red positive (+) clamp from the positive battery pole of the battery. |  |
| 10b | If clamps are left connected after vehicle has been jump started for an extended period, the jump starter will ask user to disconnect clamps. |  |

## OVERRIDE MODE

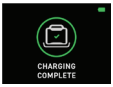
- Under normal conditions, the jump starter automatically selects the jump start voltage.
- However, the user is required to manually select output voltage when the vehicle battery voltage is between 0 to 1V DC.

| VEHICLE BATTERY VOLTAGE BETWEEN 0 TO 1V DC | | |
|---|---|---|
| **STEP** | **INSTRUCTION** | **DISPLAY** |
| 1 | Press and hold the 12V button for a 12V DC vehicle system |  |
| 2 | Press and hold the 24V button for a 24V DC vehicle system |  |

**WARNING**

- Do not allow positive (+)/red and negative (-)/black clamps to touch each other whilst jump starter is in override mode.
- Pay careful attention when enabling manual override; reverse-connection and short-circuit protections are disabled.

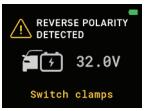
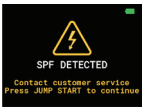
## CHARGING

| STEP | DETAIL | DISPLAY |
|---|---|---|
| 1 | Plug the output of the AC charging dock into a 240V AC socket. Once the AC dock is plugged into a 240V AC source, you can place the jump starter onto the charging dock. | |
| 2 | The battery charging screen will be shown when the jump starter is being charged by the 240V AC dock. |  |
| 3 | When the jump starter is fully charged, it will display "CHARGING COMPLETE". |  |
| 4 | The jump starter will display the "CHARGER TIMEOUT" screen if the charging cycle cannot be completed in 24 hours. The typical charging time is 4 to 6 hours depending on the model if the battery is at 50% state of charge. |  |

**Note: It is recommended to fully charge the jump starter before the first use, as the jump starter is shipped only partially charged.**

# UNDERSTANDING THE JUMP STARTER

## ERROR AND ALARM MESSAGES

| ERROR TYPE | ERROR DETAIL | ERROR DISPLAY |
|---|---|---|
| LOW BATTERY | The internal battery voltage of the jump starter is too low for a jump start. Please charge the jump starter via dock charging immediately. |  |
| REVERSE POLARITY | The clamps are reverse connected to the vehicle battery. The clamps should be disconnected and reconnected in the correct polarity. |  |
| OVERVOLTAGE | The vehicle battery voltage is above 30V. Please disconnect the clamp and ask a qualified mechanic to check the vehicle's alternator. |  |
| JUMP STARTER TIMEOUT | The jump starter will display the "JUMP STARTER TIMEOUT" screen if in jump start mode for more than 10 minutes. |  |
| SHORT CIRCUIT | The jump starter detected the clamps are short-circuited. The jump starter will not jump start until the short circuit is resolved. Please disconnect the clamps and check the vehicle electrical system. |  |
| OVERLOAD | The jump starter detected excess current occurred (more than the solenoid and internal battery can handle). Jump starting will be disabled. Please disconnect the clamps and check the vehicle electrical system. |  |
| FAILURE | The jump starter detected a malfunction of internal contactors or abnormal internal battery voltage. |  |
| LOW TEMPERATURE | The operating temperature is too low for the jump starter to perform its required functions. |  |
| HIGH TEMPERATURE | The operating temperature is too high for the jump starter to perform its required functions. |  |
| SURGE PROTECTION FAILURE | The jump starter has detected surge protection system failed. User is advised to contact customer service. |  |

# FREQUENTLY ASKED QUESTIONS

**Q. Why does my jump starter take so long to charge on the dock?**
A. Lower charging rate extends the battery life. The built-in charging circuit provides gentle charge with cell-balancing for the internal Lithium Iron Phosphate ($LiFePO_4$) battery.

**Q. Can the jump starter jump start vehicles at temperature lower than 0°C?**
A. If the jump starter operates at temperatures below 0°C, its jump start rated performance will be reduced but it will start vehicles with lower clamp output requirements.

**Q. Why didn't my jump starter start my vehicle?**
A. There could be a number of reasons why the jump starter did not start the vehicle.
Check the following:

- Ensure you have firm clamp connection to battery posts and the battery posts are clean from grease and dust build-up.
- Ensure the jump starter is fully charged. Press the POWER button to check the battery state of charge.
- Ensure you have followed the correct operating procedure. Refer to JUMP STARTING INSTRUCTIONS.
- Ensure the vehicle operates at 12V DC or 24V DC.
- If the ambient temperature is low (<15˚C), the jump starter performance will be reduced. Repeat the jump start routine 1–3 times as the battery performance will improve with each concurrent jump start.
- Ensure the vehicle being jump started does not require a clamp output of greater than 1000A for 12V DC batteries and 850A for 24V DC batteries for IS3000 or 1500A for 12V DC batteries and 1000A for 24V DC batteries for IS5000 in order to jump start the vehicle.
- If possible, connect clamps as close as possible to the starter motor without going through long cables.

**Q. What is Peak Amps?**
A. Peak amps is the maximum current the battery in the jump starter can produce.

**Q. What is Clamp Power?**
A. Clamp power is the maximum current available at the clamps.

**WARRANTY STATEMENT**

Brown & Watson International Pty Ltd ("BWI") of 1500 Ferntree Gully Road, Knoxfield, Vic., telephone (03) 9730 6000, fax (03) 9730 6050, 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 (2) years from the date of the original purchase by the customer as marked on the invoice. 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 BWI or the retailer from where the product was bought in order that the 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.

In the event that the claim is determined to be for a minor failure of the product then BWI reserves the right to repair or replace it at its discretion. In the event that a major failure is determined the consumer will be entitled to a replacement or a refund as well as compensation for any other reasonably foreseeable loss or damage.

This warranty is in addition to any other rights or remedies that the consumer may have under State or Federal legislation.

**IMPORTANT NOTE**

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

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