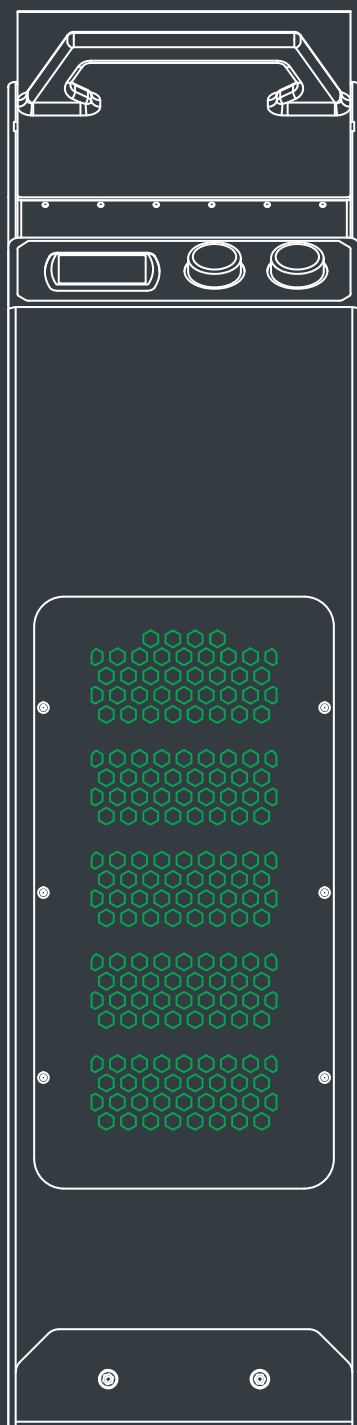




# DCD1600

## BSR BATTERY CHARGING STATION USER MANUAL



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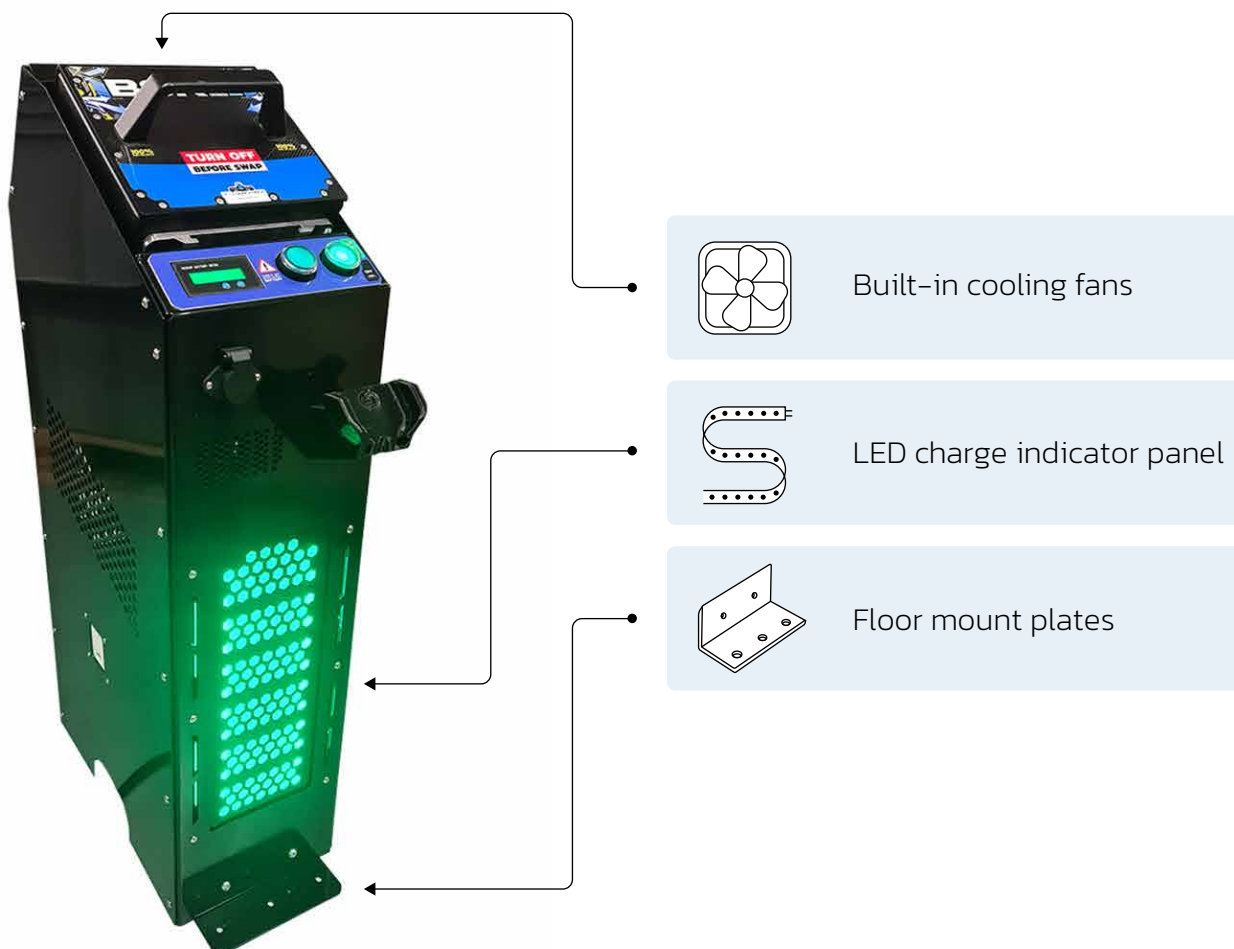
# 1. Introduction

## PURPOSE OF THE MANUAL

This manual provides comprehensive instructions for the safe and effective use of the BSR Battery Charging Station. It ensures optimal operation, troubleshooting, and maintenance for the Double Charging Dock.

## PRODUCT OVERVIEW

The BSR Double Charging Dock is designed to efficiently charge BSR B1600 batteries while ensuring safe, stable, and optimal performance. It features dual charging capabilities with a 40A internal charging capacity or 20A each when split between two batteries. The dock includes built-in cooling fans and a real-time LED charge indicator panel to monitor voltage levels during the charging process. Securely mounted with included floor mount plates, this charging station prevents tipping and ensures safety during use.



## 2. Specifications

- **Model:** DCD 1600 (Double Charging Dock)
- **Product Number:** 10-01-54002
- **Input Voltage Range:** 90–260V AC
- **Output Voltage:** 54.6V DC
- **Output Current:** 20A/20A or 40A
- **Rated power:** 2.4kW
- **Dimensions:**
  - **Height:** 770 mm
  - **Width:** 195 mm
  - **Length:** 427 mm (with floor mount plates), 331 mm (without mount plates)
- **Weight:** 15kg (33 lbs)

## ADDITIONAL FEATURES

- **LED Charge Indicator:** Displays current battery charge level with color indicators (red, yellow, green, blue) based on voltage.
- **Residual Current Circuit Breaker (RCCB):** Ensures electrical safety by automatically disconnecting in case of fault current.
- **Cooling System:** Two cooling fans.

## 3. Safety Instructions

### GENERAL SAFETY PRECAUTIONS

- **Read Instructions Carefully:** Familiarize yourself with the manual and the charging dock's safety features.
- **Prevent Unauthorized Access:** Limit access to authorized personnel only.

### HANDLING AND STORAGE

- **Proper Storage:** Place the charging dock in a secure, well-ventilated area, away from moisture or dust.
- **Avoid Overheating:** Keep the dock away from heat sources and direct sunlight.

### ELECTRICAL SAFETY

- **Use Ground Connection:** Ensure the dock is properly grounded when connected to an AC power source for maximum safety.
- **Residual Current Circuit Breaker (RCCB):** Check the RCCB before use to ensure it's in the "on" position, especially during troubleshooting.

## 4. Before First Use

### UNBOXING AND INITIAL INSPECTION

- Carefully inspect the dock and its components.
- Ensure all parts are free from visible damage.
- Verify that all packaged items are included:
  - Floor mount plates for securing the dock to the ground.
  - Charging plug mount for the external cable.
- Contact BSR support: [support@blueshockrace.com](mailto:support@blueshockrace.com) if you notice any issues.

### SETUP AND INITIAL TEST PROCEDURES

#### MOUNTING THE CHARGING DOCK

##### 1. Fix the Dock to the Floor:

- Use the provided mount plates to secure the charging dock to the floor. This ensures stability during operation, especially when inserting or removing batteries.
- **Spacing Requirements:**
  - Maintain a minimum spacing of **20 cm** from walls.
  - Maintain a minimum spacing of **15 cm** between adjacent charging stations.
- Ensure the room has adequate ventilation to prevent overheating.

#### CONNECTING TO POWER

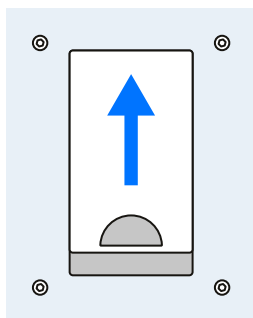
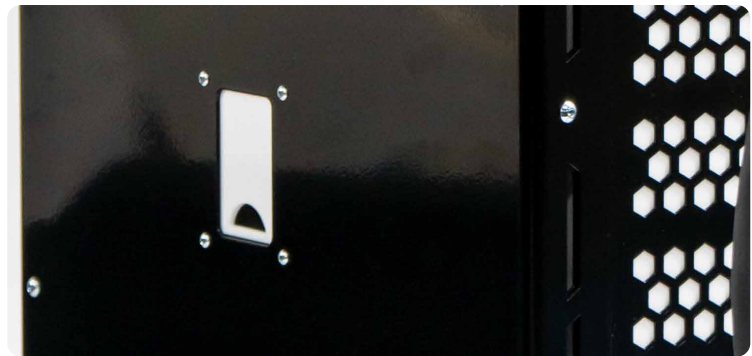
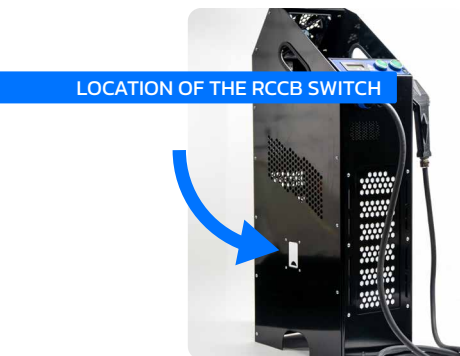
##### 2. Electrical Connection:

- **Power Consumption:** Each charging station requires up to 2 kW of power during operation.
- **Wiring Requirements:** Use cables with a minimum cross-section of 2.5 mm<sup>2</sup> (14 AWG) to ensure safe and efficient power delivery.
- **Grounding:** Connect the charging dock to a properly grounded AC power source to ensure operational safety and compliance with electrical standards.

## ACTIVATING THE DOCK FOR THE FIRST TIME

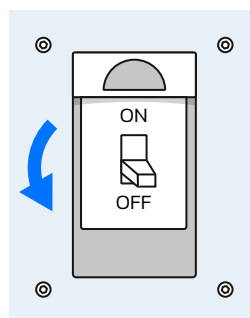
### 3. Check the RCCB (Residual Current Circuit Breaker):

- Locate the RCCB on the dock and ensure it is in the "off" position before proceeding.
- Once the AC connection is secure, toggle the RCCB to the "on" position.



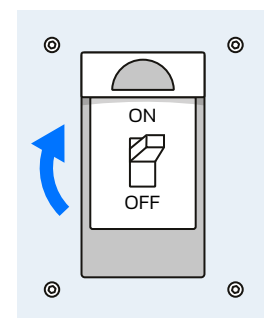
#### Protective Lid:

Slide up the cover to reveal the RCCB switch.



#### RCCB in OFF Position:

Ensure the switch is in the "OFF" position before proceeding.



#### RCCB in ON Position:

Once the AC connection is secure, toggle the RCCB to the "ON" position.

### 4. Perform an Initial Test:

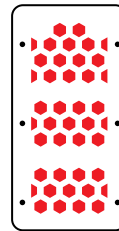
- Insert a battery into the dock and check the voltage reading on the voltmeter to confirm the battery is inserted correctly.
- Press the **right button** to activate the charging station, which should:
  - Illuminate the LED charge indicator panel.
  - Start the cooling fans.

By following these steps, you ensure the dock is set up correctly and ready for safe and effective use.

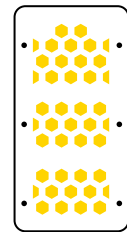
## 5. Charge Indicator Panel Instructions



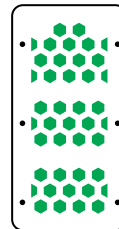
The **LED indicator** provides a quick, at-a-glance view of the **battery's charge status**:



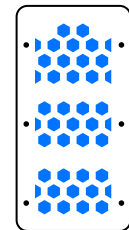
● **Red: 0%–30%**  
(Below 46V)



● **Yellow: 30%–85%**  
(46V – 52V)



● **Green: 85%–99%**  
(52V – 54V, battery ready for use)



● **Blue: 100%**  
(54.6V, fully charged)

If the LED blinks, charging has stopped. Operators should check the RCCB, reset the dock by turning it off/on, and ensure that all fans are functioning.



## 6. Usage Tips and Notes

### CHARGING OPTIONS AND GUIDELINES

LEFT AND RIGHT BUTTON



#### FAST CHARGING (DEFAULT MODE, 40A)

- **Starting Charge:**
  - Ensure the battery is **inserted** into the dock.
  - Press the **right button** to turn on charging.
- **Ending Charge:**
  - Check the LED indicator—charging can be stopped once it shows **green or blue**.
  - Turn off the charging station by pressing the right button.
  - Remove the battery.
- **Pros:**
  - Quickest charging option, minimizing downtime.
  - Ideal for fast turnarounds during race events.
- **Cons:**
  - Generates more heat, which may slightly reduce long-term battery lifespan.

#### SLOW CHARGING (20A, SINGLE BATTERY)

- **Starting Charge:**
  - Ensure the battery is **inserted** into the dock.
  - Press the **left button** to activate split mode.
  - Press the **right button** to begin charging.
- **Ending Charge:**
  - Check the LED indicator—charging can be stopped once it shows **green or blue**.
  - Turn off the charging station.
  - Remove the battery.
- **Pros:**
  - Reduces heat buildup, prolonging battery lifespan.
- **Cons:**
  - Takes twice as long compared to fast charging.
  - Not ideal for high-demand situations requiring quick battery swaps.

## DUAL BATTERY CHARGING (20A EACH, TWO BATTERIES SIMULTANEOUSLY)

- **Starting Charge:**
  - Ensure both batteries are **inserted** (one in the dock, one connected to the external charging cable).
  - Press the **left button** to activate split mode.
  - Press the **right button** to begin charging both batteries.
- **Ending Charge:**
  - Check the charge status:
    - **Internal battery:** Charging can be stopped once the LED indicator shows **green or blue**.
    - **External battery:** Check the **battery's SOC panel**—at least **4 or 5 LEDs** should be lit.
  - Press the **right button first** to turn off the charging station.
  - Press the left button to disable split mode.
  - Disconnect/remove the batteries.
- **Pros:**
  - Efficiently charges two batteries at once, maximizing downtime use.
  - Helps maintain consistent battery rotation during races.
- **Cons:**
  - Each battery charges at only **20A**, doubling the charge time compared to a single 40A charge.

## BEFORE BATTERY INSERTION OR REMOVAL

Always ensure the right button on the charging dock is off before inserting or removing any battery.

## RECOMMENDED CHARGE LEVELS

The battery is ready for use once the indicator panel shows green (85%+), but it is not necessary to reach blue (100%).

## 7. Maintenance Tips

### CLEANING AND CARE

- Wipe down the charging dock periodically with a soft, dry cloth.
- Ensure the fans remain dust-free to avoid overheating.

### PERIODIC INSPECTIONS

- **Inspect RCCB:** Check the RCCB for proper operation at least once a month.
- **Fan Functionality:** Test both fans regularly to ensure adequate cooling.

## 8. Troubleshooting

If you experience any issues with your battery, refer to the common problems and solutions below. For further assistance, contact us at [support@blueshockrace.com](mailto:support@blueshockrace.com).

### COMMON PROBLEMS AND SOLUTIONS

#### 1. LED Indicator Blinking

- Meaning: Battery is not charging.
- Cause: Possible connection issue.
- Solution: Reset the charging dock by turning it off and on. If unresolved, check the RCCB.

#### 2. Cooling Fans Not Operating

- Cause: Blockage or malfunction.
- Solution: Clear any dust around the fan openings. Contact support: [support@blueshockrace.com](mailto:support@blueshockrace.com) if the fans are still nonfunctional.

#### 3. Charging Station Not Powering On

- Cause: Potential issue with RCCB or power connection.
- Solution: Verify the RCCB is in the "on" position and ensure all power cables are connected securely.

## 9. Blue Shock Race

### Warranty and Repair Policy

#### MANUFACTURER'S LIMITED WARRANTY

Blue Shock Race (BSR) provides a one-year limited warranty on power units and related components, covering defects in materials and workmanship under normal use.

#### WARRANTY ELIGIBILITY

To qualify for warranty service, customers must provide:

- A valid proof of purchase showing the original date of purchase and the authorized retailer.

#### EXCLUSIONS FROM WARRANTY

The warranty is voided under any of the following conditions:

- 1. Mechanical Damage:** Evidence of physical damage, including impact, falls, or improper handling of the charging station.
- 2. Alterations or Unauthorized Repairs:** Modifications or repairs performed by anyone other than BSR or an authorized service provider.
- 3. Tampering with Warranty Seals:** Removal or damage of warranty seals, serial numbers, or other identifiers.
- 4. Environmental Damage:** Exposure to moisture, extreme temperatures, or environmental contaminants such as dust, soot, or smoke.
- 5. Improper Electrical Setup:** Use of incorrect wiring, failure to ground the station as required, or connection to power supplies not meeting specified standards.
- 6. Improper Use or Purpose:** Using the charging station outside of its intended application or inconsistent with the instructions provided in this manual.
- 7. Lack of Required Maintenance:** Failure to perform necessary maintenance, such as cleaning ventilation fans or checking the RCCB as described in the manual.



**Please note:** Adhering to installation, spacing, ventilation, and operational requirements as outlined in this manual is critical to maintaining warranty coverage.

## EXCLUSIONS FROM WARRANTY

- 1. Customer Support:** Customers experiencing issues should first contact BSR support at [support@blueshockrace.com](mailto:support@blueshockrace.com). BSR will attempt to diagnose and resolve the issue remotely.
- 2. Return for Inspection:** If remote assistance cannot resolve the problem, customers may be required to return the unit to BSR for inspection.
- 3. Customer's Responsibility for Shipping:** Customers are responsible for shipping costs to BSR's service center. BSR covers return shipping for items under warranty.

## REPAIR SERVICE (OUT-OF-WARRANTY REPAIRS)

For products not covered under warranty, BSR offers repair services for a fee. Customers will be provided with repair options and associated costs before proceeding. Repairs will only be conducted with customer approval.

## WARRANTY ON NATURAL WEAR COMPONENTS

The warranty does not cover components subject to natural wear and tear, such as cooling fans or buttons.

For further assistance, please contact our service team at [info@blueshockrace.com](mailto:info@blueshockrace.com).

# 11. Appendix I

## DO'S

- **Use a Grounded AC Connection:** Always connect the charging station to a properly grounded power source to ensure safe operation.
- **Inspect RCCB Monthly:** Regularly check the Residual Current Circuit Breaker to ensure it is functioning correctly.
- **Ensure Proper Ventilation:** Place the dock in a well-ventilated area to prevent overheating during operation.
- **Follow Spacing Guidelines:** Maintain recommended spacing from walls and between stations to ensure safe and efficient operation.

## DON'TS

- **Do Not Allow Unauthorized Access:** Restrict access to the charging dock to authorized personnel only to ensure proper use and safety.
- **Do Not Expose to Moisture:** Keep the dock in a dry area, away from water or excessive humidity.
- **Do Not Modify or Disassemble:** Never attempt to open, repair, or modify the charging station, as this may void the warranty and pose safety risks.
- **Do Not Block Cooling Fans:** Ensure the fan openings remain unobstructed to maintain proper cooling during operation.
- **Do Not Use Improper Wiring:** Avoid using cables that do not meet the specified cross-section requirements, as this could cause overheating or inefficiencies.