



# OCEAN SONICS

## 100 Wh Subsea Power Bank – 200 m: User Guide

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Version 2



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## 1: Introduction

The 100 Wh Subsea Power Bank provides a rechargeable underwater power solution for longer deployments of iListen hydrophones, or other instruments. Previously, autonomous deployments of the iListen were limited by the 8-hour capacity of the internal battery. Now, paired with the 100 Wh Subsea Power Bank, deployment durations can be extended by up to 2 days. The Subsea Power Bank gives users a low cost, compact, and easy to deploy option to integrate with their hydrophone system.

## 2: Features

- Nominal Voltage 22.2 V
- Maximum Continuous Discharge Current 1.5 A
- Charging and Error Indicator LED
- 200 m Depth Rating
- Protection Circuitry
- 8 Hour Charge Time
- Permissible to be shipped by air (100 Wh or less)

## 3: Case Contents:

- Nanuk Case
- Subsea Power Bank
- Test Cable
- 30 V Power Adapter (1.2 A, 36 W)
- Power Cord
- Dummy Plug
- Molykote Lubricant

## 4: Assembly and Usage:

### 4.1: Charging:

1. Recommended: Remove hydrophone or other instrument connected to the **female** connector on the *Subsea Power Bank*.
  - a. If a hydrophone or other instrument is left connected to **female** connector on the *Subsea Power Bank*, charge time will increase
2. Apply the *Molykote Lubricant* to the **female** connector of the *Test Cable*.
  - a. See <https://www.macartney.com/what-we-offer/support/subconn-handling-instructions/> for lubricant application instructions.
3. Connect the *Test Cable* to the **male** connector on the *Subsea Power Bank*.
4. Connect the *Power Cord* to the *Power Adapter* to create the *Power Supply*.
  - a. **Disclaimer: Only use the correct 30 V Power Supply provided by Ocean Sonics Ltd.**
5. Plug the *Power Supply* into an electrical socket.
6. Plug the *Power Supply* into the barrel jack of the *Test Cable*
7. The LED should briefly flash **red** before flashing **green** at 1 s intervals.
  - a. Lithium batteries have a narrow temperature range that is recommended when charging. For improved longevity of your *Subsea Power Bank* charge in a cool area.
8. When the *Subsea Power Bank* is fully charged the LED should be solid **green**.

## 4.2: Discharging:

1. Plug the *Dummy Plug* into the **male** connector on the *Subsea Power Bank*.
2. Apply the *Molykote Lubricant* to the **female** connector of the *Subsea Power Bank*.
  - a. See <https://www.macartney.com/what-we-offer/support/subconn-handling-instructions/> for lubricant application instructions.
3. Connect the instrument to the **female** connector on the *Subsea Power Bank*.
4. The instrument should receive power upon connection to the *Power Bank*.

## 4.3: Turn off, Storage, and Reverse Bias:

1. Rinse the equipment with fresh water and then dry it.
2. Disconnect the instrument from the *Power Bank*.
  - a. For icListen hydrophones, reverse biasing is not supported. To turn off the hydrophone, reverse bias it independently, after it has been disconnected from the *Subsea Power Bank*.
3. Store the clean and dry equipment in the *Nanuk Case*.

## 5: LED Indicators

LED	Meaning
Solid Green	Charge complete
Flashing Green (1 s)	Power bank Charging
Flashing Red (0.25 s)	Error (See Appendix A)

## 6: icListen Hydrophone Synchronization and Ethernet

The icListen hydrophone synchronization and ethernet signals remain functional as they pass through the Power Bank. These signals require more power so deployment duration may be reduced.

### A: Error Signals and Troubleshooting

The flashing red LED is a general error indicator which could be triggered by several different circumstances. Please follow these troubleshooting steps when the LED indicator is flashing red:

1. Ensure the *Power Adapter* and *Power Cord* are the exact ones provided by Ocean Sonics Ltd.
2. Disconnect the *Power Supply* from the *Power Bank*, wait 10 seconds, reconnect the *Power Supply*.
3. Disconnect hydrophone or other instrument from the female connector of the *Subsea Power Bank* when attempting to charge the *Subsea Power Bank*.
4. Ensure the instrument load is not too large. The maximum continuous discharge current is 1.5 A.
5. Ensure the ambient temperature around the *Subsea Power Bank* is between 0°C and 25°C.

Contact Ocean Sonics Ltd. if the troubleshooting steps above do not resolve the problem. The *Power Bank* may need to be returned to Ocean Sonics Ltd. for servicing.