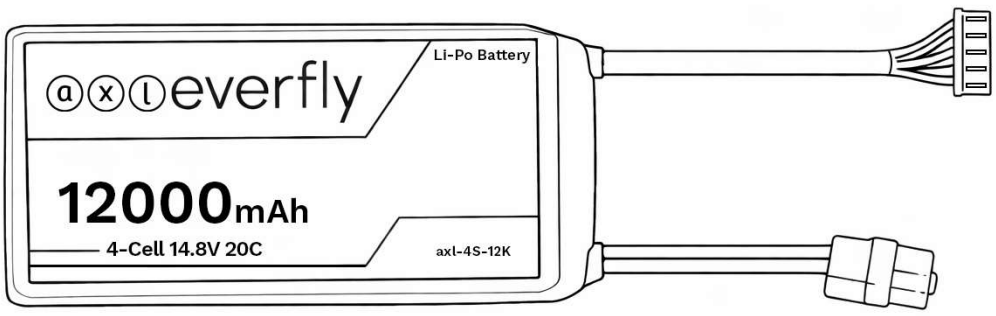
axldrone
your world from above

axl everfly
4S 12000mAh

User Manual

V1.0 | 26.01



This document is the intellectual property of axldrone India Pvt. Ltd. and is protected under applicable copyright laws. Unless expressly authorized by axldrone, you may not reproduce, distribute, transmit, or sell this document or any portion of its contents in any form.

This document is intended solely for the purpose of guiding users in the proper operation of axldrone products. It must not be used for any other purposes, commercial or otherwise, without prior written consent from axldrone India Pvt. Ltd.

Table of Contents

Introduction 1
What Exactly Is a 4S LiPo Battery? 1
Understanding the Voltage 1
Applications of 4S LiPo Batteries 2
Charging Your 4S LiPo axl everfly Battery: Critical Safety Guidelines 2
Selecting the Correct Charger 2
Safe Charging Procedure 3
Connector Type 3
Technical Specifications 4
Storage and Handling of axl everfly 4S LiPo Battery 5
Spotting and Dealing with Damage 5
How Long Should My 4S LiPo Battery Last? 6

Introduction

axl everfly 12000mAh 4S LiPo battery is engineered to meet the demands of professional & industrial drones, RC vehicles, robotics, research platforms. Combining high voltage output, substantial current capacity, and a lightweight form factor, this battery is designed to deliver reliable, consistent power while maintaining optimal efficiency for demanding applications.
Understanding the operational characteristics, charging procedures, and maintenance requirements of the axl everfly battery is critical to maximizing performance, ensuring safety, and extending its lifespan. Improper handling or charging can compromise efficiency, reduce longevity, and create safety risks.
This guide will walk you through everything a beginner needs to know.

What Exactly Is a 4S LiPo Battery?

“4S” Means Four Cells in Series: A 4S LiPo battery consists of four individual cells connected end-to-end (in series) within a single battery package. Each cell contributes to the total voltage of the battery.

Voltage Overview: Each LiPo cell has a nominal voltage of approximately 3.7 volts (V). When four cells are connected in series, the voltages add together, producing a nominal voltage of 14.8 V (4 × 3.7 V).

Why Higher Voltage Matters: Higher voltage allows the battery to deliver more power to motors, enabling faster acceleration, higher top speeds, and improved overall performance in drones and RC vehicles. Compared to lower-voltage configurations, such as 2S or 3S a 4S LiPo battery provides a significant boost in energy delivery and efficiency.

Understanding the Voltage

- Fully Charged: 16.8 V (Each cell is at 4.2 V)
- Nominal Voltage: 14.8 V (Each cell is at 3.7 V)
- Storage Voltage: 15.2 V (Each cell is around 3.8 V): The safest voltage for storing your battery when not in use for more than a day or two.

axldrone– Proprietary and Confidential

- Danger Zone / Minimum Safe Voltage: This is the lowest voltage you should let your battery reach per cell, 3.2V.

Applications of 4S LiPo Batteries

The high voltage and capacity of axl everfly 4S 12000 mAh LiPo battery make it suitable for a variety of applications, including:

- Professional & Industrial Drones (UAVs): Provides the high capacity and stable voltage necessary for long-endurance flight missions and heavy-lift industrial operations.
- Large-Scale RC Vehicles: Well-suited for RC cars, trucks, and ground platforms, offering smooth power delivery and extended run times under varying load conditions.
- Robotics and Development Platforms: Ideal for prototyping and testing environments that require a high-voltage power source for motors, controllers, sensors, and embedded systems.

Charging Your 4S LiPo axl everfly Battery: Critical Safety Guidelines

Warning: Improper charging is the leading cause of LiPo battery incidents. Adhering to safe charging procedures is essential for both personal safety and battery longevity.

Selecting the Correct Charger

Use a balance charger specifically designed for LiPo batteries and rated for at least 4 cells (4S).
Choose reputable brands to ensure reliability and safety. Avoid low-quality or unverified chargers.
Verify that your charger's power supply (AC adapter or DC source) can provide sufficient wattage for your desired charge rate: (Volts × Amps = Watts).
Smart Chargers: Modern chargers can detect battery type and set appropriate charging parameters. Despite automation, understanding basic charging principles and verifying settings remains essential.

axldrone– Proprietary and Confidential

Safe Charging Procedure

Follow these steps every time to ensure safe operation:

1. Cool Down First: Allow the battery to reach ambient temperature before charging. Charging a hot battery can increase risk and degrade lifespan.
2. Safe Location: Charge on a fire-resistant surface (concrete or metal), away from flammable materials such as paper, curtains, or wood.
3. Use a LiPo Bag or Box: Always place the battery in a fire-resistant charging bag during charging.
4. Connect Balance Lead First: Insert the small balance connector JST-XH into the correct 4S port on your charger before connecting the main power lead.
5. Connect Main Power Lead: Connect the main battery connector XT60H to the charger.
6. Configure Charger Settings
7. Start Charging & Supervise: Begin the charging cycle. Never leave a LiPo battery unattended. Monitor periodically; the battery should only become slightly warm. If it becomes hot or begins puffing, immediately stop charging.
8. Completion: When the charger signals the end of the cycle, disconnect the main lead first, followed by the balance lead.

Connector Type

The axl everfly 12000mAh 4S LiPo battery comes with standard connectors to ensure safe and reliable operation with compatible systems.

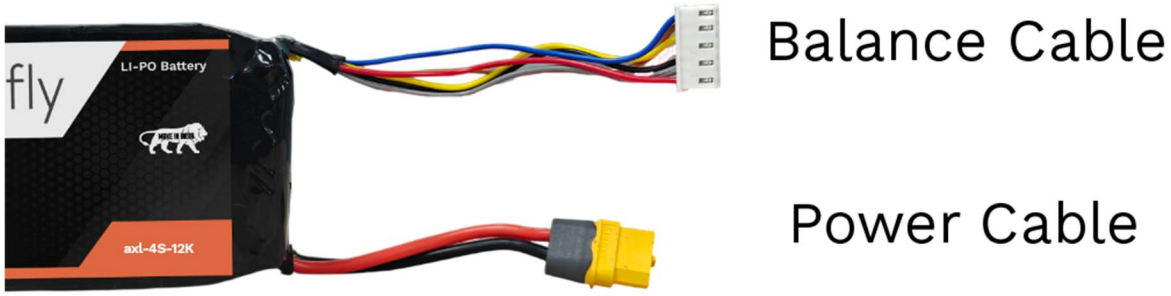
1. Power Cable

Type: XT60H Female
Wire Gauge: 10 AWG
Length: 140 mm
Purpose: Supplies high-current power from the battery to your power distribution board.

axldrone– Proprietary and Confidential

2. Balance Cable

Type: 5 Pin JST-XH Female
Wire Gauge: 22 AWG
Length: 140 mm
Purpose: Monitors and balances the voltage of individual cells during charging to ensure safe and uniform charge cycles.



User Notes:

- Always connect the balance cable first when charging.
- Connect the main power cable only after the balance lead is securely attached.
- Inspect connectors regularly for damage, dirt, or corrosion before each use.

Technical Specifications

Specification	Details
Capacity	12,000 mAh
Voltage	14.8 V (4S)
Discharge Rate	20C
Configuration	4S1P
Connector Type	XT60H and JST-XH
Dimensions (L×W×H)	177mm x 77mm x 40mm
Weight	925g

axldrone– Proprietary and Confidential

Storage and Handling of axl everfly 4S LiPo Battery

Storage Charge: If you won't use your 4S LiPo battery for more than 2-3 days, use your charger's "Storage" function. This brings each cell to ~3.8-3.85V (totally 15.2~ 15.4v), the ideal voltage for long-term health. Never store LiPos fully charged or fully empty!

Storage Location: Store batteries in a cool, dry place (around room temperature is fine). Keep them inside a LiPo bag, away from flammable materials.

Inspect Regularly: Before and after each use, check for:

- Puffing/Swelling: Any puffiness means the battery is damaged. Retire it safely.
- Physical Damage: Dents, deep scratches, torn wrapping, damaged wires/connectors.
- Heat: Excessive heat after use can indicate a problem or that the battery is working too hard (C-rating might be too low).

Handling: Don't drop them. Never let loose metal objects touch the connectors (risk of short circuit!).

Spotting and Dealing with Damage

Swelling/Puffing: If the battery swells up (puffs), it's internally damaged, likely due to over-discharge, over-charging, overheating, or physical impact. Do NOT attempt to charge or use a puffed LiPo. It's a fire hazard.
Over-Discharge: If you accidentally run a battery below the recommended minimum voltage per cell 3.2 V, it might be permanently damaged. It may not hold a full charge, have reduced capacity, or be unsafe to use. Some chargers might refuse to charge a severely over-discharged pack.
Disposal: Damaged or dead LiPos need careful disposal.
Discharge them FULLY.
Take them to a battery recycling center or hazardous waste facility. Do NOT put them in regular trash.

axldrone– Proprietary and Confidential

How Long Should My 4S LiPo Battery Last?

Cycle Life: A well-cared-for LiPo might last anywhere from 150 to 300+ charge/discharge cycles.

Factors Affecting Lifespan:

- Heat: Avoiding excessive heat during use, charging, and storage is key. Never charge a hot battery.
- Over-Discharge: Repeatedly running below the recommended minimum voltage/cell shortens life significantly.
- Storage: Storing fully charged or empty degrades them faster. Always use storage voltage!
- Physical Damage: Impacts shorten life.

axldrone– Proprietary and Confidential

Visit Our website

Feel free to connect

Kalamassery, Kochi,
Kerala, India – 682030
P : +91 484 299 3399,
+91 949 771 7654
E : info@axldrone.com

C5 UL Cyber Park,
Special Economic Zone
Calicut, India – 673016
P : +91 9645 426 414
E : info@axldrone.com

1441 Broadway,
#5, New York, NY 10018
P : +(646) 260-6311
E : info@axldrone.com