1. INTRODUCTION

Engineered for superior energy density, reliability, and efficiency, this advanced Li-Ion battery pack is built using the highest-grade 21700 cells available on the market. Assembled with rigorous Quality Guarantee (QG) standards by Nortelabs in Portugal, Europe, this battery pack delivers exceptional performance, longevity, and safety. Designed for demanding applications, it ensures optimal power output, stability, and durability in every use.

2. GENERAL INFORMATION

- **Manufacturer:** NLabs, Sistemas não Tripulados
- **Model:** B Range 3S 17,4 Ah
- **Product Code:** 3S3P174
- **Battery Type:** Li-ion
- **Intended Use:** UxV and ESS
- **Assembling** Portugal, EU
- **Model Release Date:** March 2025

3. ELECTRICAL SPECIFICATIONS

Cell Configuration	**3S3P**
Nominal Voltage	**10,8 V**
Nominal Capacity	**17,4 Ah**
Total Energy	**187,92 Wh**
Max. Charging Voltage	**12,6 V**
Max. Charging Current	**8,7 A**
Max. Discharge Voltage (Recommended)	**8,1 V**
Max. Discharge Voltage	**7,5 V**
Max. Continuous Discharge Current	**37,5 A**
Max. Peak Discharge Current (<90sec)	**45 A**
Estimated Cycle Life (to retain 80% capacity)	**500 Cycles**

4. MECHANICAL CHARACTERISTICS

Dimensions (detailed in figure 1)	**66,9x66,8x72,9 mm**
Weight	**739 g**
Enclosure Material	**Wrapped PVC with ABS Top Caps**
Power Connector	**AMASS XT60**
Balance Lead Connector	**JST-XH 3S Balance Lead**
Battery Management System (BMS)	**No, Upon request**

5. OPERATING CONDITIONS AND CONDITIONAL PERFORMANCE

Operating Temperature	**-20 to 60 °C**
Max. Continuous Discharge @ -20 - 0°C	**27 A**
Max. Continuous Discharge @ 0 - 35°C	**37,5 A**
Max. Continuous Discharge @ 35 - 45°C	**30 A**
Max. Continuous Discharge @ 45 - 60°C	**22,5 A**

6. STORAGE CONDITIONS

Up to 1 month	**-20 to 60 °C**
Up to 3 month	**-20 to 45 °C**
Up to 12 month	**-20 to 25 °C**
Recommended % capacity for storage	**30 %**
Recommended storage humidity	**25 to 50 %**

7. IDENTIFICATION AND MARKING

CE marking	**yes**
Selective collection symbol	**yes**
Chemical identification	**Li-ion**

QR Code	**25 to 50 %**

8. SAFETY AND CERTIFICATIONS

Over voltage (Permanent failure)	**12,75 V**
Under voltage (Permanent failure)	**6 V**
Battery pack compliant standards	**CE, RoHS**
International safety specification by cell manufacturer	**UN38.3 , IEC/UL62133-2:2017 and UL1642**

9. Risk Factors and Safety Measures

The chemical components within a lithium-ion battery cell are securely enclosed in a hermetically sealed metal casing, engineered to endure typical temperature and pressure variations during normal operation. Under regular usage, there is no risk of ignition, explosion, or leakage of hazardous substances. However, in the event of exposure to fire, excessive mechanical impact, decomposition, or electrical stress due to misuse, the gas release vent may activate, potentially releasing hazardous substances. Batteries should be handled carefully, as a damaged package may present a fire hazard. If a package is found to be compromised, special procedures must be followed, including inspection and repackaging if necessary. The shipment does not contain recalled or defective batteries.

- **Potential Health Risks:**

Cobalt and its compounds are classified as potential human carcinogens. Exposure may lead to skin allergies, irritation to the eyes, skin, nose, throat, and respiratory system.

As the electrolyte is a flammable liquid, it must be kept away from open flames. Contact with the electrolyte may cause moderate to severe eye irritation and skin dryness. Inhalation of its mist, vapor, or fumes can irritate the nose, throat, and lungs. If the electrolyte comes into contact with water, it may generate hydrofluoric acid, which can cause immediate skin burns and severe eye injuries. Ingesting the electrolyte can result in serious chemical burns to the mouth, esophagus, and gastrointestinal tract.

10. FIRE SAFETY & EMERGENCY RESPONSE

- **Hazardous Combustion Byproducts:**

In the event of combustion, this material can generate hazardous fumes, including carbon monoxide (CO), carbon dioxide (CO_2), and fluorine-containing gases.

- **Recommended Extinguishing Methods:**

Suitable extinguishing agents include water, carbon dioxide (CO_2), dry chemical extinguishers, or foam.

- **Firefighting Precautions & Protective Equipment:**

Firefighters should wear NIOSH/MSHA-approved self-contained breathing apparatus (SCBA) with positive pressure to prevent inhalation of toxic fumes. Additionally, full protective clothing should be worn to avoid skin and eye contact with hazardous combustion products.

- **Fire and Explosion Risks:**

This material does not pose an unusual fire or explosion risk under normal conditions.

11. FIRE SAFETY & EMERGENCY RESPONSE

Potential Hazardous Reactions:

Under certain conditions, hazardous reactions may occur, leading to heat buildup, fire, or structural failure.

Conditions to Avoid:

Batteries should be protected from external damage and extreme environments. Avoid:

- Short-circuiting the terminals.
- Crushing, puncturing, or modifying the battery.
- Exposure to temperatures exceeding 100°C, as excessive heat can trigger ignition.
- Direct sunlight or high humidity, which can compromise battery integrity.

Incompatible Materials:

- Keep the battery away from:
- Conductive materials, which may cause unintentional short circuits.
- Water or seawater, which may lead to unwanted reactions.
- Strong oxidizers and acids, as they can degrade or damage battery components.

Decomposition Hazards:

In case of combustion, the battery may release acrid, harmful gases, which pose inhalation risks. Proper fire safety measures should be in place to mitigate exposure.

12. WARRANTY AND DISCLAIMERS

Lifetime Warranty Against Defects

Our company offers a lifetime warranty against manufacturing defects in the battery pack, provided that it is used strictly within the parameters and guidelines outlined in this datasheet. This warranty applies only to the original purchaser and covers defects in materials or workmanship that arise under normal and recommended operating conditions.

Conditions That Void Warranty

- The warranty is immediately voided if the battery pack is subjected to any of the following conditions:
- Operating outside the specified parameters, including exceeding voltage, current, or temperature limits as stated in this datasheet.
- Modification, tampering, or disassembly of the pack or any of its protective circuits.
- Physical damage from crushing, puncturing, external short-circuiting, or mechanical stress.
- Exposure to moisture, water, or corrosive environments that compromise the integrity of the pack.
- Use of an incompatible charger or power source that leads to overvoltage, excessive current, or improper charge cycles.
- Utilization in applications not explicitly approved by the manufacturer.

Manufacturer Disclaimers

This battery pack is engineered exclusively for safe integration into battery-powered systems equipped with proper protective circuits. Any application outside of this scope is strictly prohibited and may result in severe injury, property damage, or fire hazards.

Limitation of Liability

Norte Labs assumes no liability for damages, injuries, or losses resulting from:

- Misuse, negligence, or failure to follow safety recommendations.
- Unauthorized modifications, repairs, or alterations.
- Use in environments or applications beyond the recommended specifications.

By purchasing and using this battery pack, the user acknowledges and agrees to adhere to all safety, handling, and operational requirements as outlined in this datasheet and in compliance with Norte Labs product specifications.

13. COMPANY CONTACT INFORMATION

- **Company Name:** NLabs, Sistemas não Tripulados
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