

	Techno commercial Proposal		Document Number:
Product Group: AGRICULTURE	Product Name: Battery pack	Customer: PEPPUL	Date: 23/6/2023

TECHNICAL PROPOSAL

Battery Pack: 51.2V 120 Ah-LFP – 6.14kwh



Proposal from : QMAX ION Pvt Ltd

Qmax Ion Pvt Ltd
 Elcot Avenue , Shollinganallur , Chennai, TN- India
 Contact Person : Mr. M.Prem Karthik
 Coordinates : ; +91-9715334415

Prepared By:	Checked By:	Approved By:
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Revision History

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1 General Introduction

At Qmax Ion, innovation and sustainability merge to create a perfect synergy.

"Qmax is a 30 year old company pioneering in the field of PCB diagnostic test equipments, wire harness testers, Semicon testers, robotic flying probe testers etc.

Being a core Research and Development oriented company, we strive to understand the future requirements of our customers and design and develop products strongly on the lines of these requirements.

Qmax has now diversified its business into a new vertical in the exciting space of Li-ion batteries, through the inception of Qmax Ion.

We at Qmax Ion are dedicated to transforming our future into an era of electrification through robust and safe mobility solutions and energy storage systems for a wide range of applications.

Qmax Ion is an one stop solution provider for your Lithium Ion battery requirements. Our products are carefully designed to be application and industry specific. A deep study is made on the client's requirement and Qmax puts together their expertise on making the choice of the right cell chemistry, to the thermal modelling of the battery pack.

Qmax Ion also excels in the design and manufacturing of advanced battery management systems. We are very focused on building state-of-the-art algorithms that improve the life and performance of lithium-ion batteries and more importantly, make them highly reliable and safe for usage in E-Mobility and Energy Storage Systems."

2 Objective

To deliver 51.2V 120Ah Lithium-Ion Battery Pack as given parameters in RFQ .

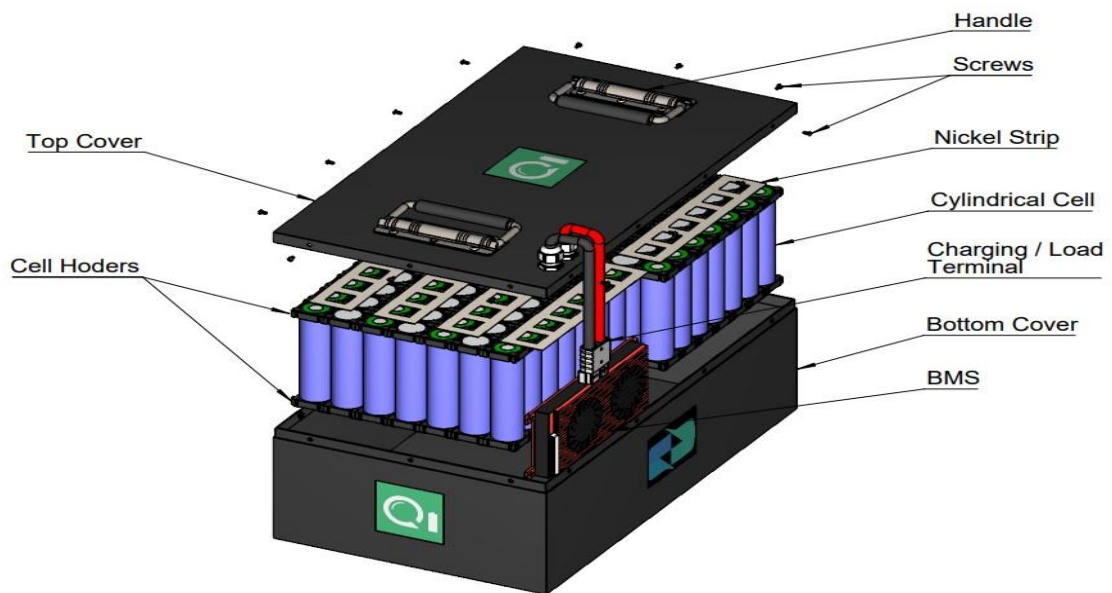
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3 Proposed Solution

3.1 Principle structure

The overall dimensions, weight and Schematic diagram are mentioned below.

S No	Item	Specification
1	Dimension	640(L) x 310(W) x 160(H) mm
2	Weight	Approx. 52kg



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3.2 System Description

The proposed battery system will be based on the standard modular architecture of QMAX ION including the full set of electronics and software. The solution is envisaged using LFP Cylindrical Cells (Premium cell from Tier 1). The system has CAN bus that is configurable depending on the application needs.

The modules are used to build a designated enclosure that will give the best value in terms of thermal management, structural stability and reliability.

S.No.	Item	Specification	Remark
1	Cell Model and Chemistry	Li Ion (LFP)	
2	Energy Capacity @ 100 % DOD	6.14kWh	Efficiency>97%
3	Cell Type	cylindrical	
4	Standard Charge	20A	
5	Charging Time	7Hours	
6	Standard continuous Discharge	70A	Peak current: 130A – Less than 10Sec
7	Operating temperature or surface temperature	Charge: 20 to 50°C Discharge: 0 to 50°C	
8	Storage temperature Recovery 90% after Storage	< 3 months 0~45°C < 1 Month 0~50°C	
9	Capacity After 1500 Cycles	≥70%	@ 100%DOD, 0.25C/0.5C,

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3.3 BMS Protection features

S. No	Description
1	Over voltage protection
2	Under voltage protection
3	Over discharge current protection
4	Short-circuit protection
5	Over charge current protection
6	Charge over temperature protection of cell
7	Discharge over temperature protection
8	Discharge under temperature Protection
9	Cell balancing
10	Charge under temperature protection

3.4 Warranty Terms

The battery Pack warranty is for over a period of 3Years or 1500 Cycles whichever is earlier during the usage of the product.

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4 Commercial Proposal

The Battery pack equipped with CAN based communication BMS and design compatible with Automotive standards. The below commercials are exclusive of GST,

The cost of the **cylindrical cell pack** is **₹110,592/pack** (3 years warranty or 1500 cycles)

PAYMENT TERMS: 50% in advance along with P.O and balance 50% before dispatch.