

# Industrial Visit Report

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## PALIS ECO VEHICLES PVT. LTD

### About the Industry :

Palis Eco Vehicles Pvt Ltd is a majorly Electric Buggy manufacturing company located in Bommasandra, Bengaluru. They import the battery from ANIKO Tech Pvt Ltd. Except battery they manufacture all the remaining parts and then join them to make the EV's.



**About the Battery :** The LiFePO<sub>4</sub> Battery pack used in the Palis E – Buggies. Which have nominal voltage 51.2 V and capacity 105 Ah. This battery pack is the combination of 16 LFP cells which have connected in series

Configuration and make 16S1P configuration. Each cell has 3.3 V of nominal voltage. **The simulation had done for the 16S1P configuration battery pack .**



Nominal cell voltage: 3.3V

Capacity per cell: 105 Ah

Configuration: 16S1P (16 cells in series, no parallel cells)

### Battery Pack Electrical Specifications

Specification	Value
Nominal Cell Voltage	3.3 V
Number of Cells (Series)	16
Pack Nominal Voltage	$16 \times 3.3 \text{ V} = \mathbf{52.8 \text{ V}}$
Fully Charged Voltage	$16 \times 3.65 \text{ V} = \mathbf{58.4 \text{ V}}$
Cutoff Voltage (Discharged)	$16 \times 2.5 \text{ V} = \mathbf{40.0 \text{ V}}$
Capacity (Ah)	<b>105 Ah</b>
Energy (Nominal)	$52.8 \text{ V} \times 105 \text{ Ah} = \mathbf{5.544 \text{ kWh}}$

### Advantages of This Pack :

1. **High Capacity** (105Ah) – can support heavy or long-duration loads.
2. **Ideal for 48V Systems** – 52.8V nominal is compatible with most 48V inverters and motors.
3. **High Safety** – LiFePO<sub>4</sub> is thermally and chemically stable.
4. **Long Life** – up to 7000 cycles at 80% DoD (depth of discharge).
5. **Good Thermal Tolerance** – -20°C to 60°C operating range.