# APPLICATION NOTES

RISHABH

## Cam Switch for EV Two-Wheeler Battery Switching

## Introduction:

The electric vehicles industry is at a nascent stage in India. It is less than 1% of the total vehicle sales however has the potential to grow to more than 5% in a few years. At present there are more than 5 lac electric two-wheelers and few thousand electric cars on Indian roads. The industry volumes have been fluctuating, mostly depending on the incentives offered by the government. Many serious players (Hero Eco, Ather, Electrotherm, Avon, Lohia, Ampere, etc) are continuing with the mission and trying to enforce the positive change under the banner of SMEV. To boom this flow of EV many local players started entering into the market with new concept for longer drive (high battery capacity) and economical budget so each user can shift from petrol based 2 wheeler to a Electric vehicle.

## The Problem:

Usually a electric you wheeler has a single battery to operate and to get a run of around 100 km. We know the life of a battery with continuous charging and discharging use reduces 10% each year. So, with this speed an average user needs to change the battery at least in 4 years. Kyte Energy, one of our customers, were planning to eliminate this issue by building a system of 2 batteries which will help a user to take a Bike for at least 160-200 km (depending on the conditions) and reduces the frequent charging option of battery taking to a longer life. But they were in need of a device which can switch the supply between the batteries of high DC current and also be in a compact size, aesthetic wise should be better and performance wise should work for longer life.

## Our Solution:

We offer our Changeover (2 pole 1 way) to the customer that too for DC current. Initially we faced some challengers, but later on with proper fitment, and some modifications we were able to supply the switches to the customer. Customer did the trial with our switch. They have connected battery connections at the input side of the switch and from outside of the switches connections are given to the motor. So, when the knob is at B1 then supply to the motor is going to battery 1 and when battery 1 charging goes beyond one limit then the user switches the supply to battery 2. So, using this technique the user gets almost double the range and double the life of a battery.

The below image shows the switch connection in EV:

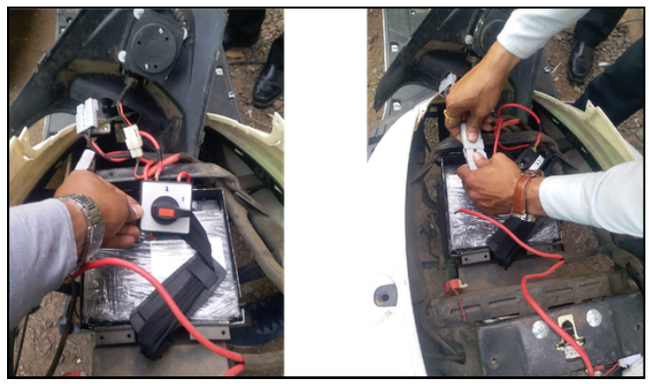

Fig:- Switch connection in Kyte Energy EV

## The Benefits:

- High Electrical and mechanical endurance
- Customize name plates
- Switch it inbuilt name plate
- Long distance visibility

## Contact:

For feedback, partnerships, or further information, please feel free to contact us at:

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PROVEN BY PERFORMANCE."**



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