

ROBOVR

SRB CRICKET

About the game:

For Cricket at RoboVR, participants have to build 2 robots per team. One robot for balling and the other for batting as well as fielding.

Components and its Specifications:

Sr. No.	Components	Specifications
1.	Chassis	Aluminum Sheet (5mm thick)
2.	BO Motor(x2)	100 rpm
3.	Johnson Motors (x9)	100 rpm
4.	Wheels(x4)	-
5.	Battery	5A, 12V
6.	Remote	With 4 DPDT switches
7.	Wires	-

Robot Details:

Robot Dimensions: 20" x 20" x 20"

Robot Control: Wired

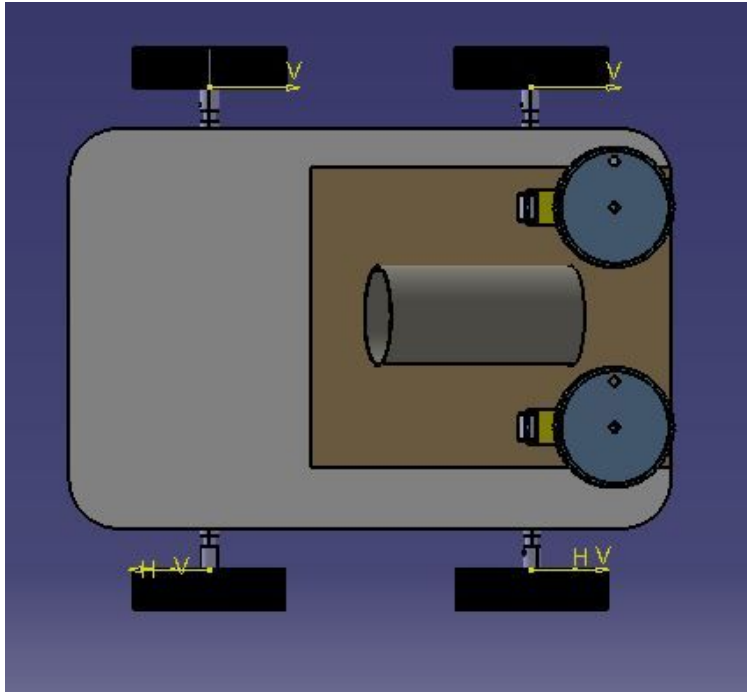
Robot Drive: 4 Wheel Drive

Bat Specification: 12" length x 2" wide

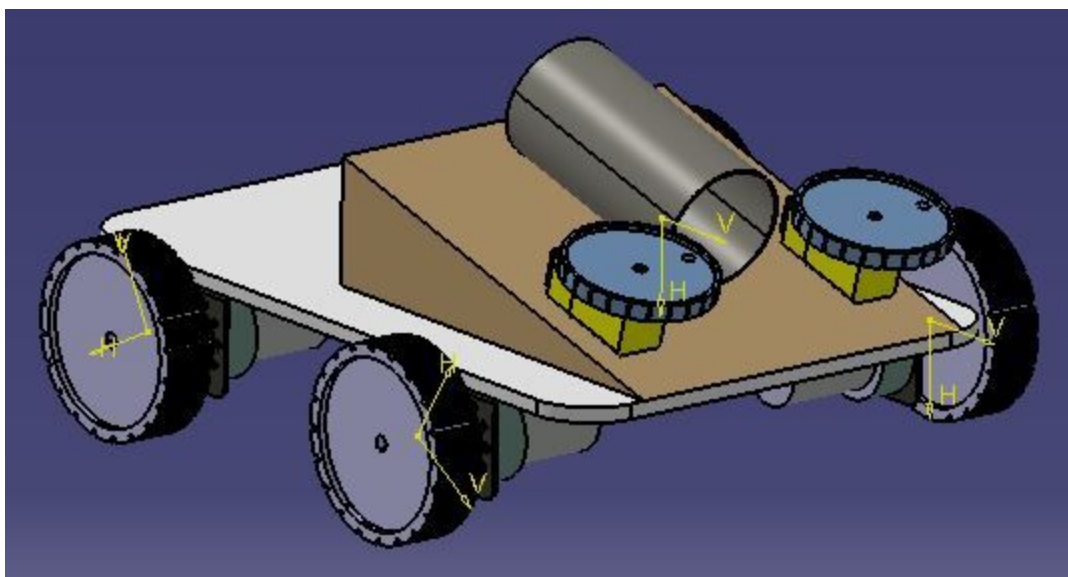
Bowling Robot:

Mechanical Design:

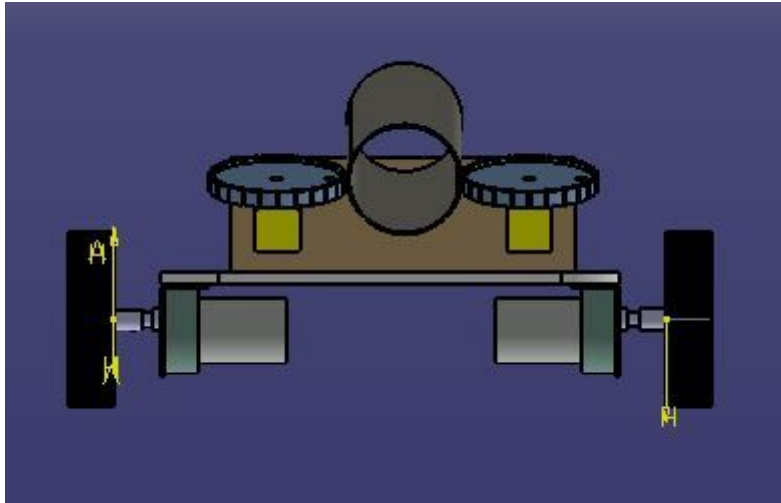
Top View



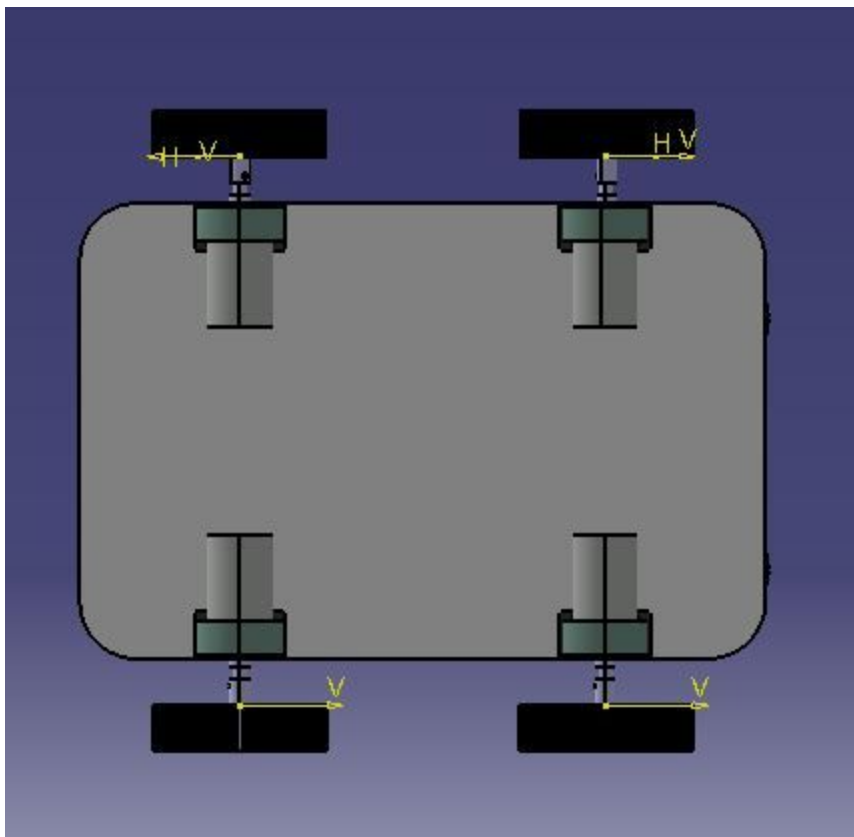
Isometric View



Front View



Bottom View



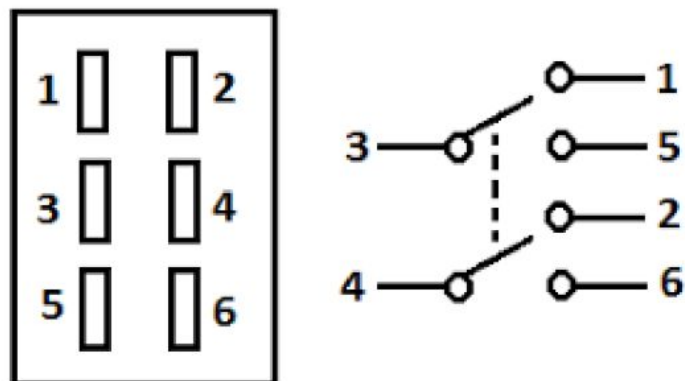
Remote Details:



A similar remote is needed to be built for this robot.

A Double Pole Double Throw (DPDT) switch is an electromechanical switch that has 2 inputs and 4 outputs and each input has 2 corresponding outputs that it can connect to.

Given below is the diagram of a DPDT switch.



Working:

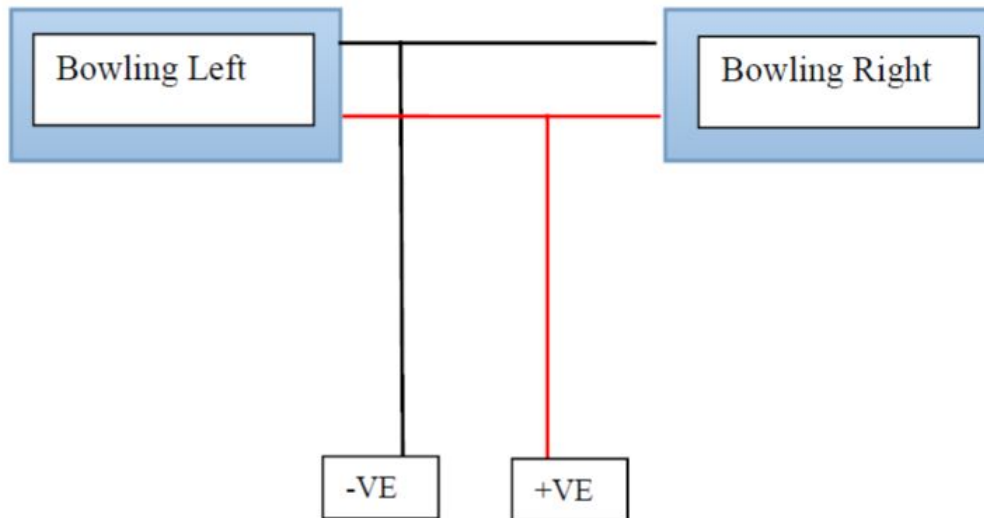
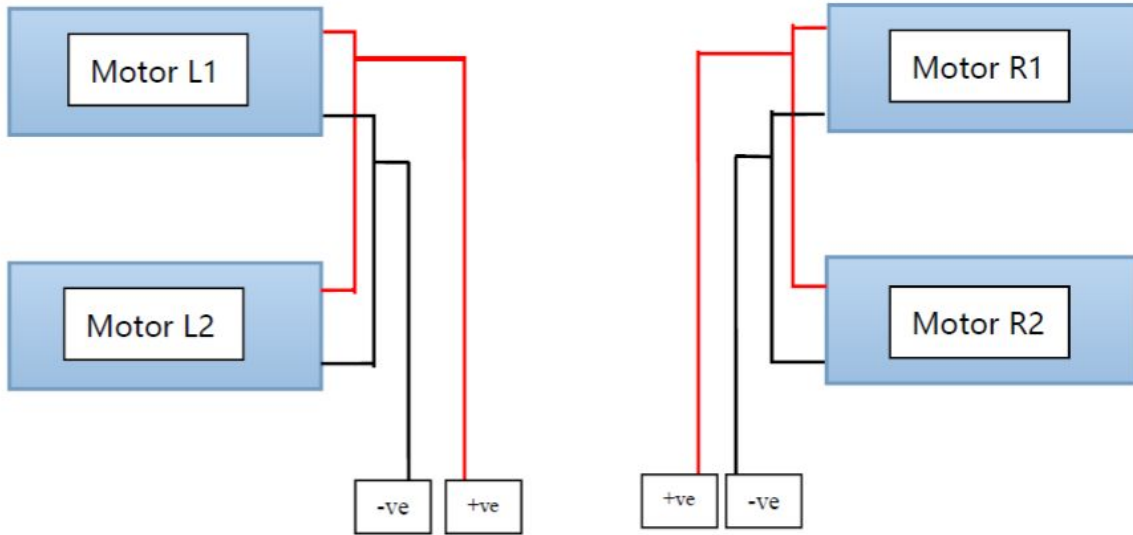
The movement of the robot with respect to the switch operation are given below in the table.

Movement of the Bot :

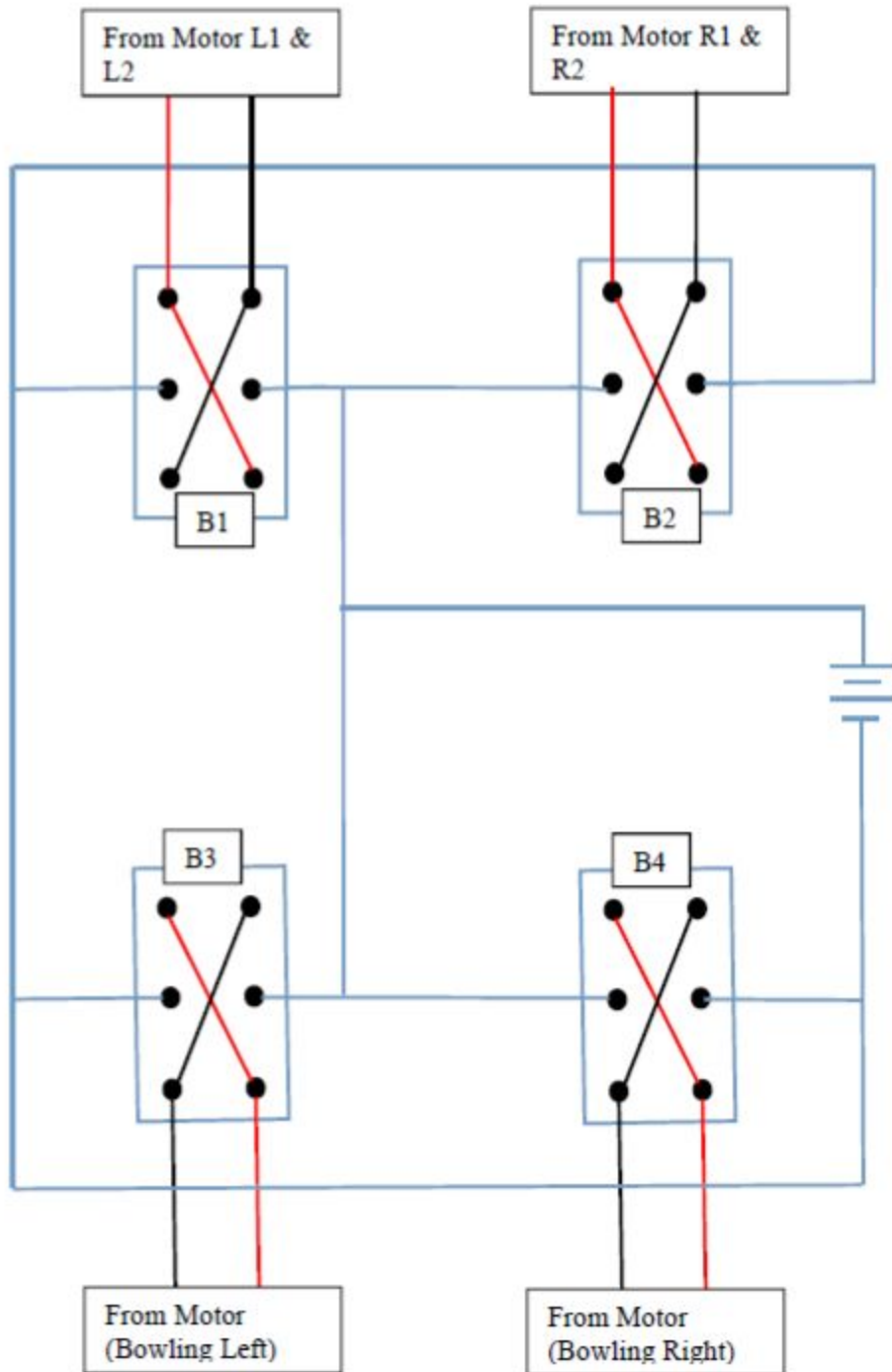
Motion	Switch s1	Switch s2
Forward	Forward	Forward
Backward	Backward	Backward
Left	n/c	Backward
Right	Backward	n/c
360° Right	Forward	Backward
360° Left	Backward	Forward

Bowling	Switch B3	Switch B4
Forward	Forward	Forward

Motor Connections:



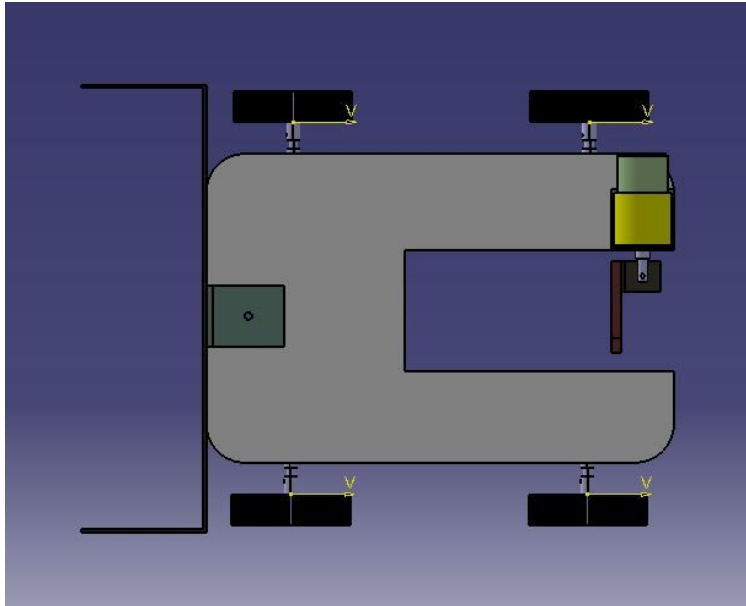
Remote Connections:



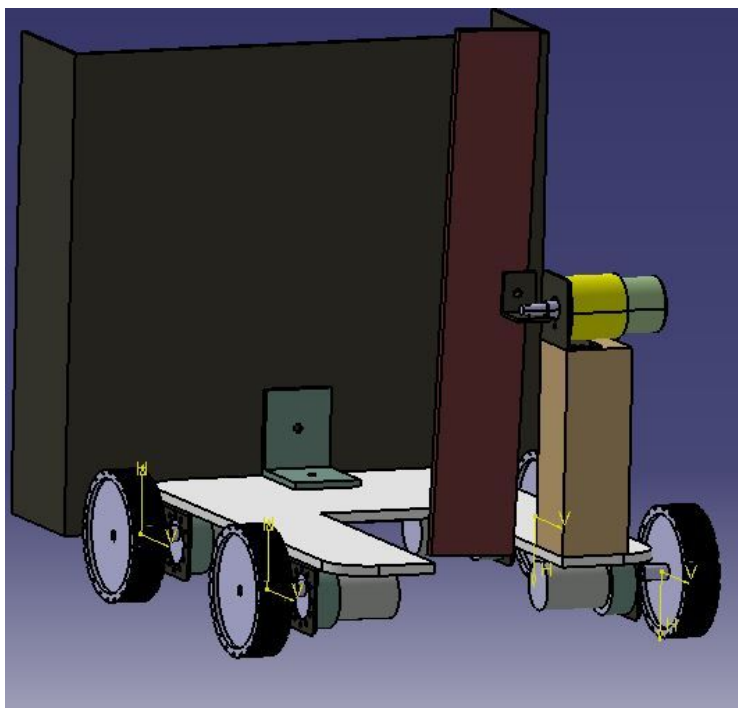
Batting Robot:

Mechanical Design:

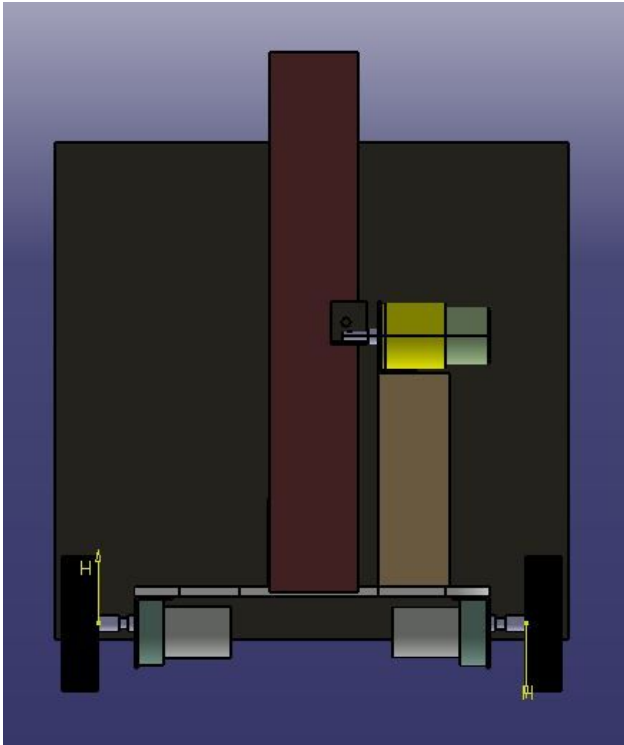
Top View



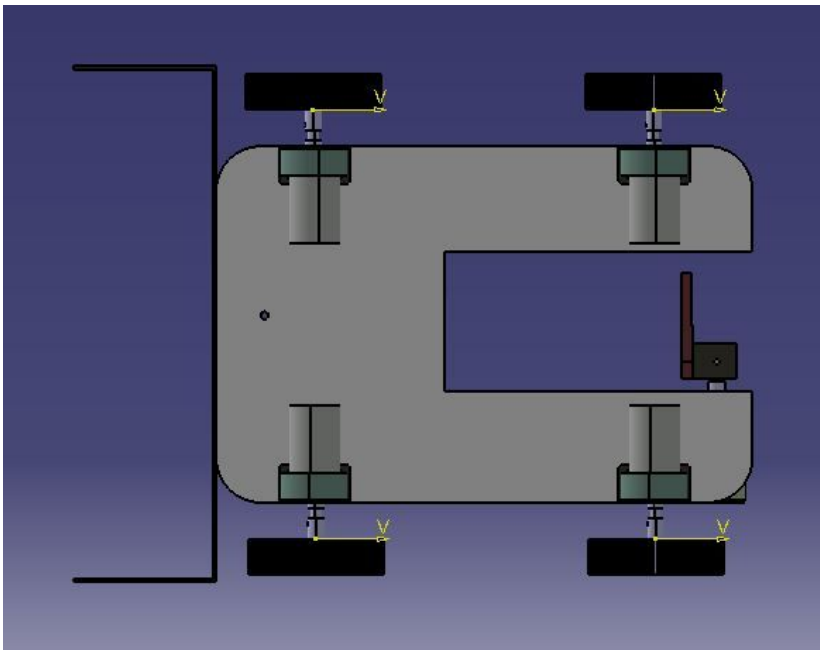
Isometric View



Front View



Bottom View



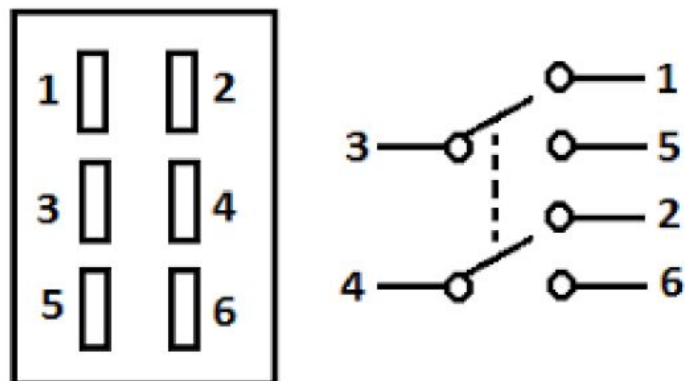
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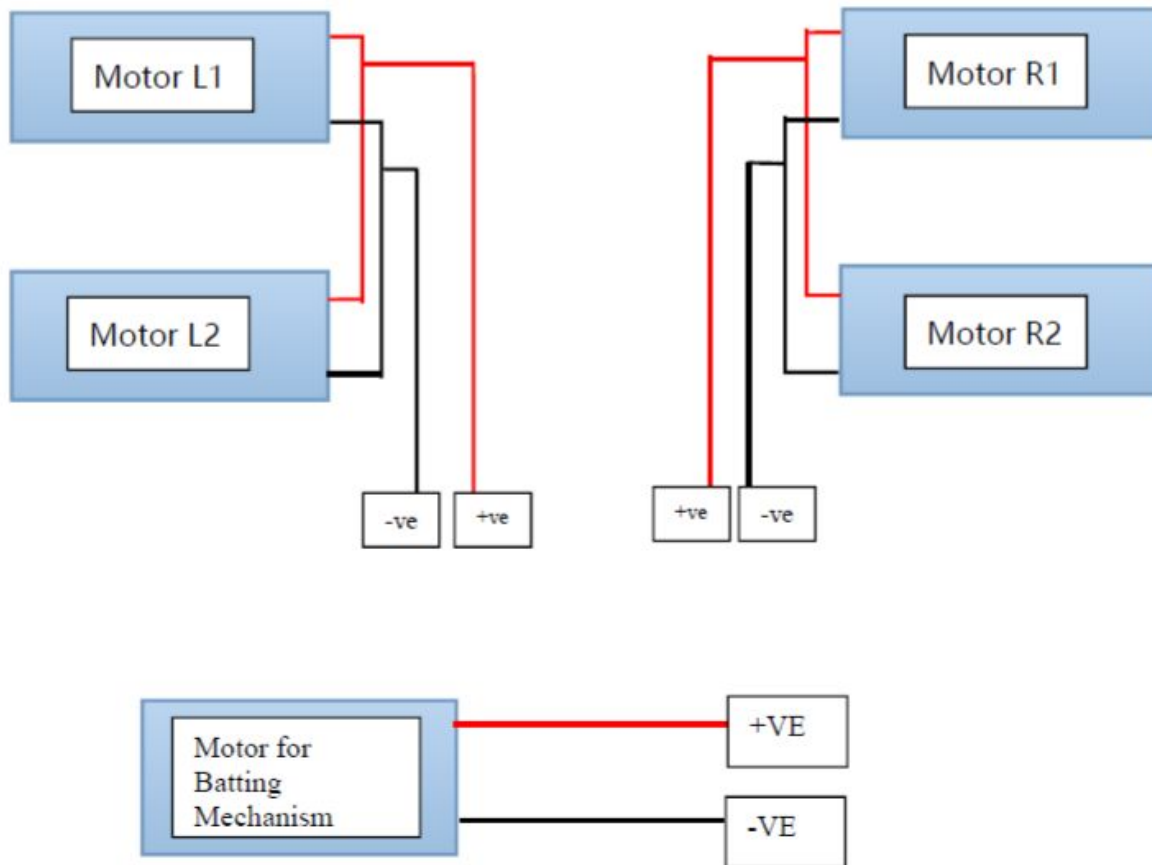
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Right	Backward	n/c
360° Right	Forward	Backward
360° Left	Backward	Forward

Movement of metal plate	Switch B3
Clockwise	Forward
Anticlockwise	Backward

Motor Connections:



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Remote Connections:

