



ELECTRICAL TEAM TRAINING

TASK 6

Task 6: Batmobile Motor Control

About

Gotham City is under threat, and the Justice League needs your help! Batman's iconic Batmobile, a crucial asset in the fight against crime, requires a new motor control system to enhance its agility and speed. Your mission is to design an H-bridge circuit that will enable the Batmobile to maneuver swiftly and safely through the dark alleys and streets of Gotham.



Components

- 4 Data header to represent the microcontroller signals
- 2 rosetta (screw terminals block) one for the battery and one for the motor
- 2 n-channels mosfets
- 2 p-channel mosfets
- Resistors + Consider Safety considerations

Requirements

Design an H-bridge circuit in Altium to control the direction and speed of a 12V, 3A DC motor. Consider including features that can help protect the circuit and the motor from potential issues.

- Do you need flyback diodes for the motors? (Like we used with the transistor).
- If you do, how would you connect flyback diodes to a bi-directional load like a motor?

Submission

- You will submit your schematic and board as a zip file using a drive link
- Answer the questions proposed in the task in the form.
- The Task's deadline is 7/8 11:59 PM.
- Q&A Sheet (if you have any question regarding the sessions or the task) : [Q&A Sheet](#)
- Submission form: <https://forms.gle/MxjUXcMj3txJk6ah6>
- Cheating is severely penalized