

Four Quadrant Operation of DC Motor using Microcontroller

Mr. Dhanraj D. Daphale¹, Harshal S. More², Nikhil A. Magar³, Kuldip R. Desai⁴, Dhuldev T. Shikare⁵

Assistant Professor, Department of Electrical Engineering¹

Student, Department of Electrical Engineering^{2,3,4,5}

SVERI's College of Engineering, Gopalpur, Pandharpur, Maharashtra, India

Abstract: *The purpose of the project is the development of four-quadrant control for DC motors. The motor works in her four quadrants, or clockwise. Turn counter clockwise for forward braking and reverse braking. The 4-quadrant operation of DC motors allows them to rotate clockwise and counter clockwise, with instant braking in both directions, making them ideal for industries that use motors on demand. Immediate braking in both directions is achieved by briefly applying a reverse voltage to the running motor. A push button is provided to operate the motor, it is connected to a circuit that provides an input signal to the motor and controls the motor through a driver IC.*

Keywords: DC Motor, Speed control, Four quadrant.

REFERENCES

- [1]. S. Arulselvi, R. Balamurugan, "Four Quadrant Operation of DC Motor Using Microcontroller," International Journal of Engineering Research and Applications(IJERA),vol.3,no.4,pp.1371-1376,2013.
- [2]. A. Deshmukh, A. Kawale, "Four Quadrant Operation of DC Motor using Microcontroller," International Journal of Scientific Research and Review (IJSRR), vol. 5, no. 1, pp. 177-183, 2016 “.
- [3]. “M. M. Gouda, H. T. Ali, M. H. Ahmed, "Four Quadrant Operation of DC Motor using Microcontroller," International Journal of Engineering Research and General Science (IJERGS), vol. 3, no. 3, pp. 1074-1082, 2015.
- [4]. The IEEE website. [Online]. Available: <http://www.ieee.org/>
- [5]. www.wikipedia.org