

3-PHASE POWER INVERSION AND CONTROL FOR IRRIGATION MOTORS

A PROJECT REPORT

Submitted to

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ABSTRACT

Over the past decade the field of power electronics has passed through rapid development due to the advancement of many modern technologies. These technologies made power electronics projects and applications easier to implement and more accessible. At present with the increase in knowledge and the availability of reliable and high-power electronics devices-coupled with software or hardware combination. The concept of power generation is shifting towards synthesis of power using solid-state electronics devices.

There have not been any significant technological advancements being made in agricultural sector as compared to other sectors. In rural areas, farmers use 3-phase power supply to run the irrigational motors to water the field. The biggest advantage of 3-phase is smooth power. Also we know that the 3-phase supply system is now available worldwide, except perhaps in some rural areas where only a 1-phase power supply is available and for limited time duration 3-phase supply is made available for rural areas.

The aim of our project is to tackle this issue thereby enabling the operation of the motors even in the absence of 3-phase supply. In this project we are implementing a 3-phase power inversion technique (AC-DC-AC) to convert 1-phase power to 3-phase to control the speed of irrigational motors.