

# **DESIGN OF 220VOLT 1 PHASE MOTOR SPEED CONTROL USING TRIAC TR BTA 41**

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## **ABSTRACT**

*An electric motor is a tool for converting electrical energy into mechanical energy. An AC motor is an electric motor that is driven by alternating current. In general, an electric motor consists of two main components, namely the stator and the rotor. Basically, an induction motor is operated at a constant speed, if the load changes, the motor speed will also change. Therefore, the right technology is needed to be able to regulate the rotation of a stable 1-phase motor. In this study, a tool will be designed that can regulate the speed of a 1-phase electric motor using Triac TR BTA 41. Motor speed can be regulated using a Triac circuit by regulating the voltage. From the results of testing the tool, it was concluded that the greater the voltage given to the motor, the faster it rotates, the amount of electric current is directly proportional to the voltage, the maximum motor speed power is at a voltage of 200 Volts, which produces 99 Watts of power at a speed of 2894 Rpm.*

**Keywords:** *Triac, Induction Motor, Alternating Current*