ABSTRACT

PROTOTYPE PROTECTION OVER CURRENT USING CURRENT TRANSFORMER BASED MICROCONTROLLER ATMEGA32

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Protection systems in electric power equipment is needed to maintain reliability and power quality, The good protection system capable to alocate overload and short circuit. System control of the protection system must be fast and sensitive in responding of fault thus directly ordered protection system to work. In this research a prototype overcurrent protection consists of components such as transformers Flow, ATmega32 microcontroller, signal conditioning, lcd 2x16, ULN 2003, relays, and other supporting components.

In this thesis required calibration system, so that won't give error occurs in the process of securing the channel, the sensor reading error of 0.01553% when the current transformer testing 1, when the current transformer testing tool 2 reading errors by 0.019495% and then testing error voltage sensor reading is 0.001459%. For each of the current transformers is limitedmaximum current 4 amperes.

The process that led to the termination of the channel to load, because the amount of current consumption of the load has exceeded the maximum limit specified flow and also due to short circuit. If there is more current than the maximum current limit isspecified, the protection system will be disconnected and reconnected when the channel below the current maximum limit.

Key words : Current transformer, Microcontroller ATmega32, ULN 2003 and Relay.