

**POWER FACTOR CORRECTION TECHNIQUE FOR INDUCTION MOTORS BASED ON
ARTIFICIAL NEURAL NETWORK.**



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1. Letter of Report Submission

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Tuan,

LAPORAN AKHIR PENYELIDIKAN 'POWER FACTOR CORRECTION TECHNIQUE FOR INDUCTION MOTORS BASED ON ARTIFICIAL NEURAL NETWORK'

Merujuk kepada perkara di atas, bersama-sama dengan ini disertakan 3 (tiga) naskah Laporan Akhir Penyelidikan bertajuk 'Power Factor Correction Technique for Induction Motors Based on Artificial Neural Network' dari Fakulti Kejuruteraan Elektrik, Pulau Pinang untuk makluman pihak tuan.

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5.2 Enhanced Executive Summary

Energy conservation is a hot topic these days and everybody knows that low power factor can mean waste of electrical energy. For that reason, many questions are asked about the power factor of induction motors. Induction motors are only one of the kinds of electrical equipment that tend to reduce a plant's power factor. And it's the overall plant system's power factor that counts. There are ways of correcting a low system power factor, so maximum motor power factor isn't vital. System power factor correction is often the better way. Therefore, the need to correct the power factor to approach unity for an induction motor is required. This means correct sizing of power factor capacitors for that motor. If we size the power factor capacitors correctly, the voltage stability and efficiency will be increased while energy losses and electrical cost will be reduced. If the power factor capacitors are undersized or oversized, it can cause adverse effects on voltage stability and system efficiency. To overcome this problem, the new method of power factor correction is introduced. In this research, an artificial neural network will be used as a method to solve it. This is because the artificial neural network can give almost accurate result with the minimum error.