Automatic Power Factor Compensation

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Abstract: *Paper present the project designed to correcting power factor for domestic, Commercial, Industrial. Which with hope to make the cost and energy usage efficient, because the energy source is depleting due to increase in population. Power factor is the ratio of real power and apparent power. This definition is mathematically represented as kW/kVA where kW is active power and kVA is apparent power (active + reactive). Reactive power is the non-working power generated by the magnetic and inductive load to generate magnetic flux. The increase in reactive power increase the apparent power so the power factor will decrease. Low pF will cause the industry to meet high demand thus making it less efficient. The main aim of this project is to increasing the current power factor of industries from 0.85 to 0.90. Power factor compensation contribute to reduction in current-dependent losses and increase energy efficiency while expanding the reliability of planning for future energy network. As technology develops, the gradual cost and efficiency penalty should reduce. Therefore, automatic power factor compensation device should become cost-effective and smaller device over time. That is the reason this project is using programmable device as it is a miniature architecture device.*

Keywords: Power Factor

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