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## **Abstract**

Fault detection for induction motors is a wide subject of research. Several fault detection methods have been developed and effectively applied to detect machine faults at different stages by using different machine variables, such as current, voltage, speed, temperature, and vibration. Induction motors are now being used more as compared to before due to their advantages such as versatility, dependability and economy, good self-starting capability, simple, rugged construction, easy maintenance, low cost and reliability. The reliability of an induction motor is of great importance in industrial, commercial, aerospace and military applications. In this review paper different problems related to over-voltage, over-current, over-temperature, over-speed, in-rush current, vibration monitoring which are faced by an Induction Motor (IM) during its course of operation are discussed. The fault detection and protection of an Induction Motor against such possible problems is carried out using Programmable Logic Controller (PLC). Induction Motor can be protected by using some components such as contactors, timers, voltage and current relays and also by using Variable frequency drive (VFD) but Programmable

Logic Controller (PLC) is optimal, effective and reliable method as it does not contain any mechanical component.

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### Index Terms

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### Keywords

Programmable Logic Controller (PLC), Supervisory Control and Data Acquisition (SCADA), Variable Frequency Drive (VFD).