

IOT BASED THREE PHASE POWER FAILURE MONITORING WITH SMS ALERTS

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Abstract - The increasing dependence on uninterrupted power supply in industries and households has highlighted the need for a reliable power failure monitoring system. This report presents an IoT-based Three-Phase Power Failure Monitoring System that detects power outages in three-phase electrical systems and provides real-time notifications via SMS alerts to the user. The proposed system leverages an IoT platform, microcontroller (such as Arduino or ESP8266/ESP32), and a set of voltage sensors to continuously monitor the status of each phase in a three-phase supply. In the event of a power failure or phase imbalance, the system triggers an alert via SMS to the designated mobile

Key Words: IoT-based, power failure, three-phase electrical systems, SMS alerts, microcontroller, GSM module word.

1. INTRODUCTION (Size 11 , cambria font)

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1.1 BACKGROUND WORK

The IOT- based Three Phase Power Failure Checking with SMS Cautions is an inventive arrangement intended to upgrade the dependability and the executives of electrical frameworks. In modern and business settings, power disappointment can prompt critical disturbances, affecting tasks and efficiency. This framework uses IoT innovation to screen the situation with three-stage power

supply continuously. It identifies power disappointment or strange circumstances like stage misfortune, under-voltage, or stage lopsidedness and quickly sets off an alarm. The reconciliation of SMS makes empowers moment warning aware of clients or support faculty, guaranteeing quick reaction and limiting margin time.

1.2 MOTIVATION AND SCOPE OF THE PROPOSED WORK

In today's world, electrical power plays a critical role in almost every sector, from industrial operations to everyday household functions. The reliability of power systems, particularly three-phase electrical systems, is essential to ensure smooth operation and prevent costly downtimes, equipment failures, or safety hazards. However, power interruptions, phase imbalances, and phase losses are common challenges that can disrupt normal operations. In industries, even a short power outage can result in considerable financial losses, damage to sensitive machinery, or decreased productivity. Similarly, in residential areas, unmonitored power issues can lead to appliance damage or longer-term consequences on electrical devices

2. PROBLEM IDENTIFICATION

As Power failures, phase imbalances, and phase losses are frequent and critical issues in three-phase electrical systems, and commercial settings where a stable power supply is essential for smooth operations. Traditional power monitoring systems, such as circuit breakers or fuses, typically react only after a fault has occurred, leaving little room for early detection or preventive action. These systems are often limited in their ability to detect more subtle problems, such as phase imbalances, which can result in inefficiencies, equipment damage, and even complete system failure over time.



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