

GSM Based Transformer Healthcare Monitoring with Overload Alert and Protection

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Abstract: The "Transformer Health Monitoring System" project presents a proactive and cost-effective solution for monitoring power transformers in electrical distribution networks, addressing the critical need for reliable maintenance. Leveraging the ATmega328P microcontroller, the system continuously monitors vital parameters such as oil level, quality, voltage, current, and temperature. With real-time data visualization through a user-friendly display module and advanced fault detection algorithms, the system ensures prompt identification of issues. Integration of a GSM module enables instant alerts to designated recipients, facilitating swift response to faults. Scalability across multiple transformers streamlines monitoring and maintenance, enhancing grid stability, reducing downtime, and supporting environmental conservation efforts. This project underscores a commitment to reliability, safety, and sustainability in power distribution networks..

Keywords: Health Monitoring, ATmega328P, Real-time data, fault detection, GSM.