

IoT Enabled Single-Phase Load Monitoring

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Abstract: *In recent years, the proliferation of Internet of Things (IoT) technology has revolutionized various aspects of daily life, including the management and monitoring of electrical systems. In this context, this paper proposes an IoT-enabled single-phase load monitoring system aimed at enhancing the efficiency and reliability of electricity usage in residential and small-scale commercial settings. The proposed system employs IoT devices equipped with sensors to collect real-time data on electrical parameters such as voltage, current, power factor, and frequency. These sensors are installed at strategic points within the electrical network to capture comprehensive information about individual loads and overall consumption patterns.*

Keywords: Internet of Things (IoT), Load Monitoring, Single Phase, Energy Efficiency, Real-time Monitoring, Data Analytics, Remote Accessibility, Alerts and Notifications, Scalability