

# Smart IoT-based Electricity Power Theft Detection System

Jayesh Khairnar, Rushikesh Kandekar, Sandip Valvi, Prajwal kakade

Department of Electrical Engineering  
Guru Gobind Singh Polytechnic, Nashik, India

**Abstract:** *This project aims to develop a lot- based power theft detection system to identify unauthorized energy usage. Using smart energy meters, sensors, and a centralized control unit, the system monitors energy flow and compares consumption with billed usage. Discrepancies trigger real-time alerts, enabling authorities to take quick action. Smart meters installed at each lot send consumption data to the control unit, where an algorithm detects deviations. This helps reduce revenue losses, improve power quality and efficiency, and ensure reliable electricity distribution.*

**Keywords:** power theft detection system