

Solar Powered Agritech Plant Monitoring System

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Abstract: *The agriculture sector faces numerous challenges such as unpredictable weather patterns, resource scarcity, and the need for efficient resource management. To address these challenges, there is a growing interest in integrating Internet of Things (IoT) technology into agriculture to create smart farming solutions. This paper presents a Smart Agriculture Monitoring and Control System (SAMCS) leveraging IoT technology to enhance agricultural practices. The primary objectives of the AMCS are to optimize resource utilization, enhance crop yield and quality, and promote sustainable farming practices. By continuously monitoring soil moisture levels, nutrient concentrations, weather patterns, and crop health indicators, the system provides farmers with actionable insights to make informed decisions regarding irrigation scheduling, fertilization regimes, and pest management strategies. The primary objective of the Plant Health Monitoring System is to enhance crop yield and quality while minimizing resource consumption and environmental impact. Through a network of sensors deployed in the field, the system continuously monitors key parameters such as soil moisture, nutrient levels, temperature, humidity, and plant physiological indicators. The primary goal of the IoT-based PMS is to optimize crop productivity while conserving resources and minimizing environmental impact. Through a network of sensors deployed in the field, the system continuously collects data on key parameters such as soil moisture, temperature, humidity, light intensity, and nutrient levels.*

Keywords: Internet of Things