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(57) Abstract :
ABSTRACT A SMART DRIP ANALYSIS SYSTEM FOR REMOTE MONITORING AND ITS METHOD THEREOF The present invention relates to a smart drip analysis system for remote monitoring and its method thereof for fluid process control and remote monitoring. The system utilizes an ESP32 microcontroller for executing PID (Proportional-Integral-Derivative) control to adjust heating and cooling elements based on real-time temperature errors. It integrates an IR sensor for drop detection, an OLED display for real-time data visualization, and a buzzer for low fluid level alerts. The system also features a Wi-Fi module for remote monitoring and control via a web page or mobile application. Additionally, a cloud-based database ensures data synchronization and supports scalability. This intelligent system provides precise control over fluid processes, optimizing performance and enabling remote management. Fig 1

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