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(57) Abstract :
The invention discloses an IoT-enabled device for real-time water quality monitoring comprising sensor unit (101), microcontroller unit (102), communication module (103), power management system (104), and cloud server (105). The device measures parameters including pH, turbidity, dissolved oxygen, conductivity, and temperature, transmitting processed data wirelessly for storage, analytics, and visualization. Energy-efficient operation with solar compatibility ensures long-term deployment. Cloud-based dashboards provide remote access and predictive alerts, making the invention suitable for environmental monitoring, industrial compliance, and domestic water safety applications.

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