Patent Search

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Abstract:

The present disclosure relates to water monitoring and safety systems, and provides a Water Flow Alarm System (100) for monitoring water levels in a water storage t and preventing overflow conditions. The Water Flow Alarm System (100) includes silver overflow detection probes (106) installed at the overflow level of the water sto (124), a control circuit unit (108) configured to process conductivity signals from the silver overflow detection probes (106), and a miniature circuit breaker (102) config automatically upon overflow detection, thereby cutting off power supply to a pump motor (104) and preventing further water flow. A LED indicator (120) and buzzer (simultaneous visual and audible alerts. The Water Flow Alarm System (100) achieves automatic alert and protection mechanisms, preventing water overflow and was power supply energisation.

Complete Specification

Description:TECHNICAL FIELD

[001] The present invention relates to the field of water monitoring and safety systems, and more particularly to a Water Flow Alarm System with enhanced circuit protection and reliability, designed for domestic and small-scale water storage applications, enabling detection of overflow conditions and providing automatic alert protection mechanisms.

BACKGROUND

[002] The field of water monitoring and safety systems has seen considerable development in recent years, driven by the growing need to conserve water resources protect residential and small-scale infrastructure from damage caused by uncontrolled water overflow. Water storage tanks are widely used in residential buildings, apartments, housing societies, small industries, and agricultural establishments. Monitoring the water level within such tanks and ensuring timely intervention whe overflow is imminent represents a practical challenge that conventional systems have addressed with varying degrees of success.

[003] Conventional water level monitoring systems typically employ float-based or conductivity-based sensing mechanisms to detect rising water levels within a sto tank. Float-based systems may rely on mechanical linkages that are susceptible to corrosion, jamming, and wear over extended periods of use. Conductivity-based s while generally more compact, have in many cases been implemented using low-quality metallic electrodes that are prone to oxidation and electrochemical degrad thereby reducing sensor accuracy and operational lifespan. The choice of electrode material is therefore a significant factor in determining the long-term reliability detection systems.

[004] Beyond sensing, the reliability of the electronic control circuitry in existing water level alarm systems presents a further area of concern. Commercially availab

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