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(57) Abstract :

ADAPTIVE PHASOR MEASUREMENT UNITS WITH INTELLIGENT CONTROL FOR ENHANCED POWER GRID SYNCHRONIZATION

ABSTRACT The present invention discloses a power grid synchronization system and a method for enhancing power grid synchronization. The system comprises Adaptive Phasor Measurement Units (PMUs) distributed across the power grid, equipped with sensors for real-time measurement of electrical parameters. A central processing unit receives and processes phasor data from the PMUs, while an adaptive control module within each PMU dynamically adjusts measurement parameters based on real-time grid conditions. The method involves receiving real-time phasor data from grid-associated sensors, analyzing the data to determine grid conditions, and dynamically adjusting measurement parameters of a Phasor Measurement Unit (PMU) accordingly. This invention enables improved synchronization by adaptively responding to dynamic grid conditions, ensuring enhanced reliability and efficiency in power grid operations.

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