SMART ELECTRICITY ENERGY METER

Empowering Tomorrow: Smart Meters for Sustainable Energy Today!

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Agenda

1. Problem Statement

2. Scale of the Problem

3. Solution

4. Architecture

5. Components and Specifications

6. Imapacts

Problem Statement

Traditional electricity meters lack real-time monitoring capabilities, leading to inefficient resource allocation and increased energy wastage.
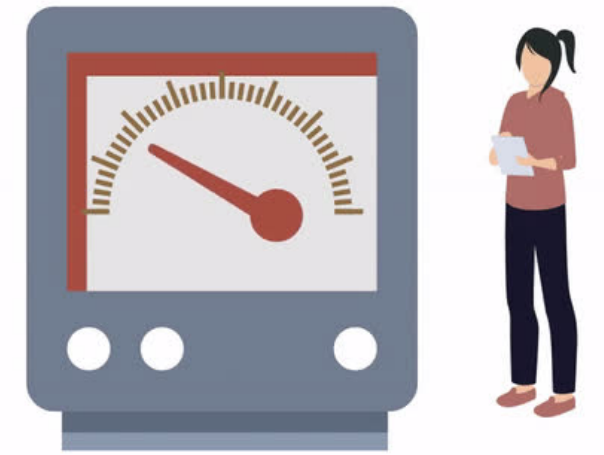
Scale of the Problem

- **Blind consumption**: Traditional meters lack real-time data, leaving consumers unaware of their usage patterns and hindering efforts to save energy.
- **Resource mismanagement:** Utilities struggle to predict and meet peak demand, potentially leading to blackouts and increased reliance on polluting fossil fuels.
- **Financial burden**: Consumers end up paying for wasted energy they might not be aware of, impacting their wallets and the environment.

SOLUTION

To address this issue, Our aim is to automate the process of monitoring electricity consumption and make it a more streamlined experience.

Key Features of the Solution:

- **<u>Real-time Monitoring</u>**: The ability to track electricity usage in real-time enables users to gain immediate insights into their consumption patterns.

- **<u>Remote Access</u>**: Users can access and manage the smart meter remotely through mobile apps or web portals, providing convenience and accessibility.
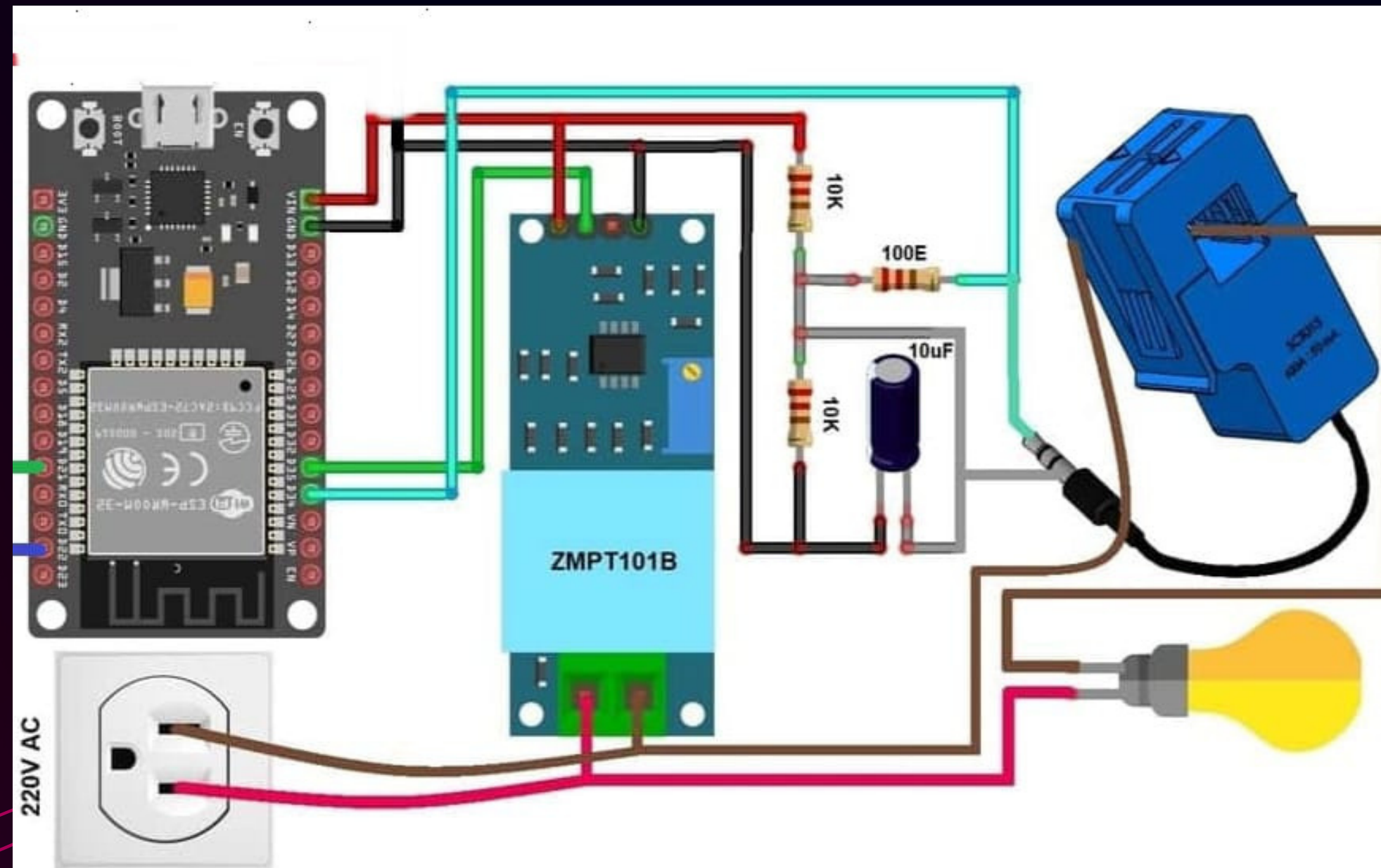
Components and Specifications

- SCT-013 Current Sensor
- ZMPT101B Voltage Sensor
- esp32 microcontroller
- Resistor 10k
- Resistor 100ohm
- bulb
- Capacitor 10uF
- Breadboard
- Connecting Wires

Architecture

Impacts

- **Energy Efficiency:** Real-time monitoring and insights empower users to identify and reduce energy wastage, leading to improved energy efficiency and cost savings.

- **Environmental Conservation:** By promoting sustainable energy practices and reducing carbon emissions associated with electricity generation, smart metering contributes to environmental conservation efforts.

- **Consumer Empowerment:** Access to personalized energy consumption data empowers consumers to make informed decisions about their energy usage, fostering a sense of ownership and responsibility towards sustainability.

Thank you!

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