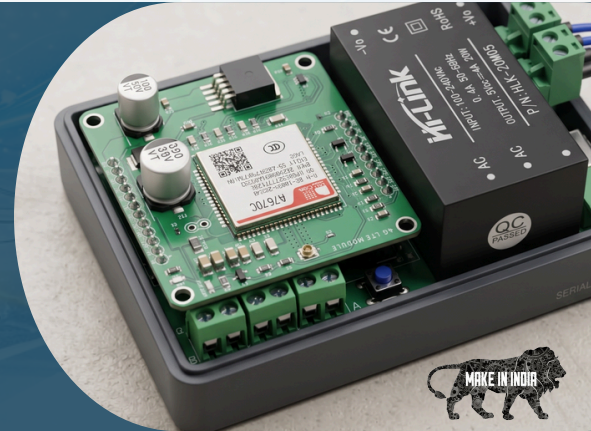




FEEDER MONITORING SYSTEM

Communication Module (CM) enables remote monitoring of electrical parameters from three-phase multifunction energy meters using RS-485 (Modbus communication) and transmits the data to a remote server via MQTT over a 4G network.



Smart Monitoring



Theft and fault Detection



Analytics



PROBLEM

- No real-time visibility of feeder-level data
- Manual monitoring leads to delays and errors
- Difficulty in tracking voltage, current, and energy parameters
- Lack of centralized data access for analysis
- Inefficient fault detection and response



SOLUTION

The Feeder Monitoring System uses a **Communication Module (CM)** integrated with MFMs via RS-485 (Modbus).

- Collects real-time electrical data
- Processes data using embedded MCU
- Sends data via 4G GSM
- Displays insights on cloud dashboard



APPLICATION AREAS



Remote Asset Monitoring

Access and control systems from anywhere



Feeder Monitoring

Monitor feeder data with accuracy



Transformer Monitoring

Performs transformer data monitoring in real time



Smart Grid Applications

Enable intelligent power distribution





KEY FEATURES



Real-time monitoring



Multiple MFMs connectivity



4G communication support



OTA (Over-The-Air) firmware updates



Backup during power failure



BENEFITS



Reduced downtime



Real-time decision making



Improved operational efficiency



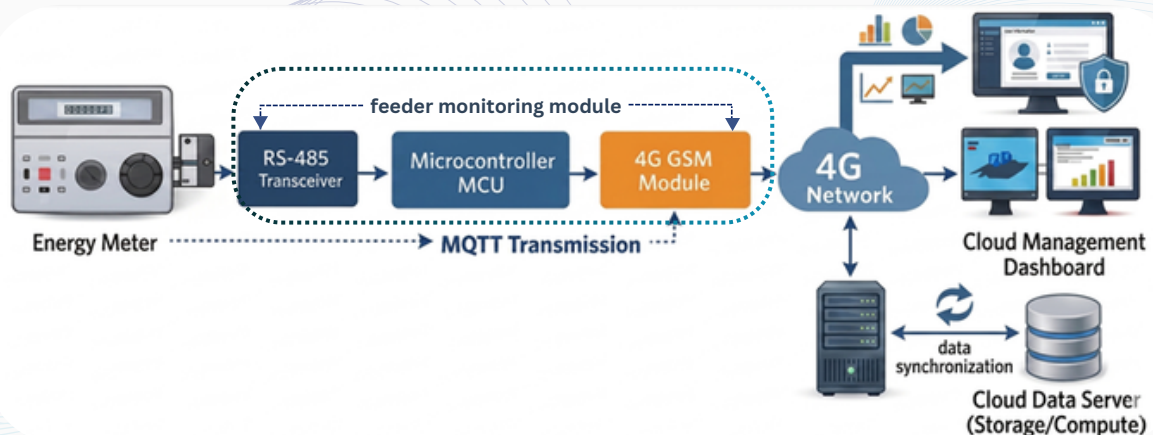
Better energy management



Scalable and cost-effective solution



SYSTEM ARCHITECTURE



OPERATIONS



Tracks feeder performance and energy flow



Processes and transmits data to server



Device polls meters every 15 minutes



Stores backup locally if network fails



MEASURED PARAMETERS

- Voltage (Phase-wise)
- Current (Phase-wise)
- Power (Active / Reactive / Apparent)

- Power Factor
- Frequency
- Energy (kWh, kVAh)

