AMR-BASED

PREPAID
METERING
SOLUTION

Prepaid Electric Metering

The State of art Prepaid Smart Metering Solution from Radius is a boon to Developers, Maintenance Agencies, RWAs and End Consumers. It is an orchestration of BIS-certified Dual Source Dual Registry energy meters, reliable and ruggedized field devices, security-compliant backend server platform, intuitive dashboards and mobile apps. All this, coupled with our vast domain expertise helps you precisely measure, monitor and manage electricity supply from Utility and Grid in real time. Apart from new installations, it can equally be adapted to existing installations by making them smart through our innovative Over The Top (OTT) approach.

We specialize in AMR, AMI & Smart Grid solution and hold many firsts to our credit. We have implemented several such solutions for various State Utilities (e.g., UPPCL, PVVNL, PuVVNL etc.) and major real estate developers. With over 18 years of experience, Radius has delivered 325+ successful projects with 2.5Lakh+ installations and is proud of its unparalleled product and customer support. Radius' also has a dedicated team, with expertise, experience, and attitude to deliver and fix any issue.

Across the real estate landscape in India, Radius is the brand in resonance to address the challenges faced by today's energy management services. Forged by long experience and domain expertise with innovation in the DNA, gives Radius the edge and a unique perspective to enable Machine to Machine (M2M) solutions needed to sustainably manage the entire ecosystem.

Machine to Machine (M2M) refers to technologies that allow both wireless and wired systems to communicate with other devices of the same ability. M2M uses a device like energy meter to capture an event such as reading which is relayed through a network (wireless, wired or hybrid) to an application (software program), that translates the captured event into mteaningful information. For example, use wireless technology to monitor utility meters in near real time. This would allow the owner of the meter to know if certain elements have been tampered with, which serves as quality method to stop fraud.

About
Radius Synergies International Private Limited

We believe in making lives better by 'Humanizing Machines' with a vision of smart living and connected world.

We have a dedicated team, with expertise, experience and attitude to deliver and fix any issue. One can be assured of unparalleled product and customer support. For fast and proactive resolution, we have 24×7 NOC Support. Our 250+ committed employees continuously monitor the health of local devices and back-end resources ensuring a flawless experience for our customers.

A dedicated facility for the prepaid metering system at Noida, Sector 63 combined with a 50+ strong in-house R&D team. Our commitment to service our customers with highly skilled technical support, high precision, and quality products set us apart from the rest.

We uphold the highest standards of integrity, and honor the promise of transparency to our customers. The products and services we offer are fully compliant with various industry standards and adhere to the guidelines set forth by competent authorities for an IoT/M2M Solution.

Future Ready

- Integration with IHEMS, IBMS

- Online payment integration

- Interoperability

- Customizable Solution

Key Features

All our prepaid energy meters are compliant against IS:13779 specifications from BIS. This ensures that all prepaid Electricity Meters meet the required quality and precision standards. All XENIUS devices installed as a part of solution are made from industrial grade specifications components, thereby ensuring an installation that works reliably under all weather conditions for several years.

Xenius Dashboard – Dual Source Consumption history on prepaid meters, payment history, coupon generation, extensive reports, location of faulty sites and all other data points for smooth execution and proactive control is available on access controlled single XENIUS dashboard

Alerts and Notification – Consumers get daily alerts on their consumption and balance of their Prepaid meters. Consumers may monitor their usage in near real time on XENIUS mobile app (iOS and Android) and can also setup custom alerts/notifications

Bill Generation – Software module available helps visualize and analyse usage of electricity via prepaid electric meter, and generate bills as per the defined billing cycles and tariff plans. The billing engine handles accounting of common area maintenance & other charges also

Near Real Time Monitoring – 100% contactless prepaid metering providing near real-time updates for homeowners and real-estate developer/estate management agencies through web and apps helps visualize and optimize usage at respective levels

Online Recharge – You can recharge your XENIUS Prepaid Meter using XENIUS mobile app, Net Banking, Credit Card or mobile wallets. For any isolated needs, the legacy mode of manual coupon generation and recharge is also supported

Protect Revenue Loss – Unmetered energy is equivalent to revenue loss. Mostly it happens due to system malfunction. XENIUS Network Operation Center (NOC) monitors the near real-time health of devices to prevent such losses

Overview

Leveraging on its IoT/M2M platform, the prepaid solution is one of the most technologically advanced systems on offer in this segment. A typical installation comprises the following field devices:

- **Smart Meter –** BIS approved dual sense energy meters

- **XENIUS Adaptor –** For communicating and controlling a set of smart meters on a single distribution panel and interconnected on a Modbus architecture. Adaptor helps achieve fetching of periodic energy-related data or performing any control functions on the smart meter. Adaptors communicate with XENIUS Gateway on a secure RF neighborhood area network

- **XENIUS Gateway –** Monitors and collects data, from the individual adaptors monitoring the equipment/appliances through appropriate sensors (Probe)/interfaces, supported by desired rule engines. The gateway directly communicates with the cloud-based backend Xenia IoT platform using a GPRS based secured private APN

- **Xenia Backend Platform –** Receives data from various field Gateways and processes, persists, analyses and presents to various stakeholders through the web and mobile apps. The backend platform also serves as a revenue management system for all accounting purposes

How it Works

At the installation site, multiple network configurations operate for reading the meter data from each individual meters and passing it on to the backend platform.

- A wired RS485 protocol helps fetch data from all the energy meters installed on a single panel. Usually, the number ranges of meters vary from four to twelve depending on a number of dwelling units per floor. The data from each such RS485 network is collected by the adaptor on a pre-defined time frequency. Several such wired RS485 networks operate in a tower/premises. The adaptors operate on RF network for further communication

- Several such adaptors form a network mesh operating on RF 865 Mhz free bands. Depending on the premises layout and number of end meters to be managed, there could be one or more such RF networks configured and implemented per premises and communicate independently amongst themselves without any interference. Each such RF network gets controlled by a Gateway. All data for an RF network gets aggregated on the Gateway managing that network and subsequently communicated to the backend platform on a secure GPRS private APN

- The data is processed to calculate consumption from each meter and goes about reducing individual prepaid balance against that consumer. The moment a consumer's balance goes below a stipulated minimum, the consumer is informed for recharge using offline or online methods. If threshold goes below cut-off, the supply gets disconnected and gets restored once the balance is replenished. At any time, all data is transparently available to all stake- holders
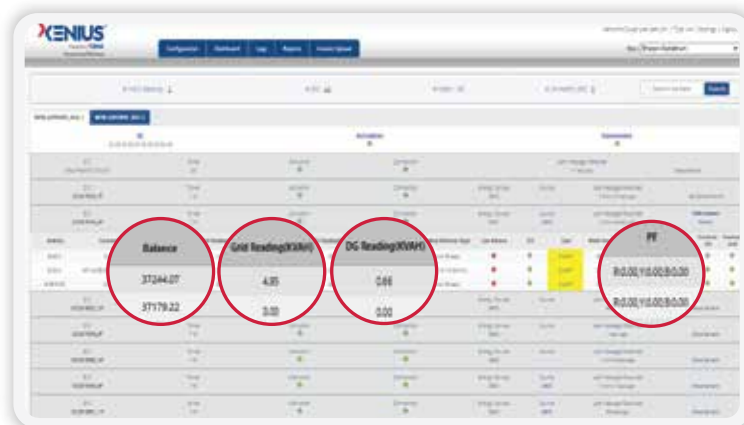
Benefits - End Consumers

- User-friendly mobile apps
- **Meter in your pocket -** get real time energy Consumption (kWh) and Balance (Rs.) amount
- Convenience of safe and secure online payments and recharge
- Real time alerts for energy source switch (Utility to DG and vice versa)
- Personalized demand management to optimize consumption through alerts
- Transparency in Tariff slabs, Consumption and Billing

Smartphone App Interface for End Consumers

Advantages - Builders/RWAs

- BIS approved 13779 & 15959 meters, VAPT, Cert-In, MEITY approved backend platform as per Govt. of India guidelines and revenue realization in T+2 as per RBI Guidelines
- Real time and accurate energy parameters (kWh, kVAh, PF, voltage, current) capture and reporting
- Detailed MIS reports (Utility, Grid, CAM etc.) with 24*7 backend support
- Tariff and peak load management and Energy auditing for ease of day-to-day operations
- Quantifiable data analysis for dispute management

Backend Management Dashboard

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