CYANCONNODE
Delivering IoT Excellence

Omnimesh In-Meter Gateway

Transforming Smart Metering with Seamless Connectivity & Efficiency

The Omnimesh In-Meter Gateway is a revolutionary communication solution designed to integrate RF mesh networking and dual-SIM cellular connectivity directly within smart meters, eliminating the need for external gateways. This hybrid connectivity approach ensures seamless, uninterrupted data transmission, making it an ideal solution for smart metering deployments across diverse geographic landscapes.

By enabling self-forming, self-healing RF mesh networks with long-range Omnimesh RF communication and intelligent cellular fallback, the Omnimesh In-Meter Gateway ensures high reliability, cost efficiency, and scalability, delivering future-proof smart metering infrastructure for utilities and Advanced Metering Infrastructure Service Providers (AMISPs).

Key Features

Hybrid Connectivity

Integrates RF mesh networking (865-868 MHz) with dual-SIM LTE cellular fallback, ensuring continuous communication even in challenging network conditions. The dual-SIM feature allows automatic network switching between two cellular providers, ensuring redundancy and uninterrupted data transmission in areas with fluctuating connectivity.

Long-Range Omnimesh RF Communication

Supports 10 km line-of-sight (LoS) RF connectivity, making it ideal for rural and low-density areas where traditional RF networks are economically unviable.

Self-Forming, Self-Healing Mesh Network

Ensures resilient and adaptive connectivity by dynamically re-routing data paths in case of network disturbances.

Edge Computing for Optimized Data Transmission

Reduces bandwidth consumption and enhances network efficiency by locally aggregating and processing data before transmission.

Energy Efficient & Low Opex

Eliminates the need for external RF gateways and SIM cards for each meter, significantly reducing capital and operational expenses (CapEx & OpEx).

Scalable & Future-Ready

Designed with a modular architecture, enabling easy deployment in urban, semi-urban, and rural environments without additional infrastructure investments.

Integrated & Secure

Ensures seamless integration with Head-End Systems (HES) for real-time monitoring, analytics, and grid optimization.

Benefits for Utilities & AMISPs

Enhanced Grid Reliability

Ensures consistent and accurate meter data transmission, minimizing revenue losses due to meter communication failures.

Cost-Effective Smart Metering Deployment

Eliminates the need for external gateways, reducing hardware dependencies and maintenance efforts.

Ideal for Low-Density & Remote Areas

Overcomes the challenge of rural deployments by enabling localized RF mesh clusters with long-range connectivity.

Ensures Carbon Reduction & Sustainability

Supports energy-efficient transmission, optimizing grid performance and reducing carbon emissions.

Flexible Deployment for Smart City Initiatives

Can be deployed across urban centers, industrial zones, and remote locations, making it ideal for next-gen smart metering and IoT energy solutions.

How It Works

RF Mesh Network Formation

Smart meters within a location create a self-healing RF mesh, transmitting data to the nearest In-Meter Gateway.

RF Communication & Adaptation

The In-Meter Gateway aggregates data and transmits it over RF to a central gateway up to 10 km away in LoS conditions, or over shorter distances depending on environmental factors.

Intelligent Cellular Fallback

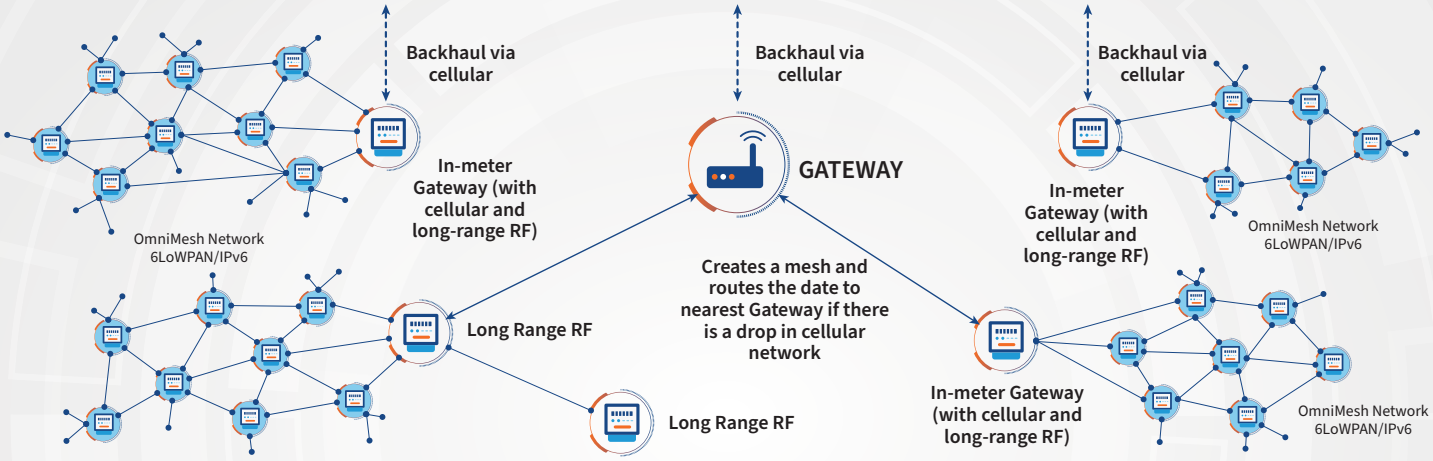
If cellular connectivity is weak, the dual-SIM feature ensures connectivity by switching between two independent cellular networks, maintaining uninterrupted data flow.

Seamless Integration with HES

The aggregated data is relayed to the Head-End System (HES) via secure cellular backhaul, ensuring real-time monitoring and analytics.

In-meter Gateway Architecture

Superlative connectivity at fraction of today's costs



Why Choose CyanConnode's Omnimesh In-Meter Gateway?

Industry-Leading Smart Metering Communication Solutions
Proven expertise in RF-based smart grid infrastructure.

Flexible & Scalable for Any Environment
Suitable for urban, semi-urban, and rural deployments.

Proven Cost Savings
Reduces overall deployment costs by optimizing installation, maintenance, and operational expenses.

Supports Green & Sustainable Energy Management
Drives energy efficiency and carbon reduction, aligning with global sustainability goals.

Unlock the future of smart metering with CyanConnode's Omnimesh In-Meter Gateway!

For enquiries, please mail to
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For more information visit
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Or scan QR code