

Smart, Scalable, and Efficient

Versatile Functionality | Dual Power Source | Advanced Overvoltage & Overcurrent Protection

NIEC Single & Three-Phase Meters for Next-Gen Energy Management!



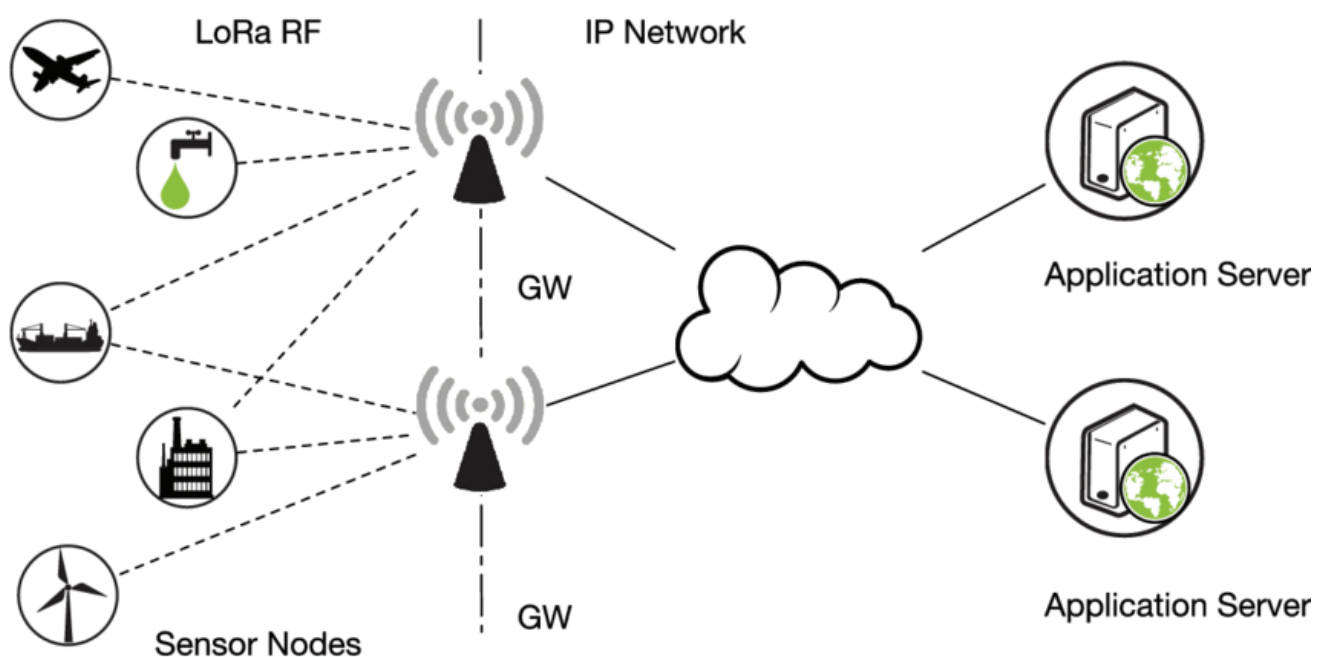
Key Features

- ✓ **Pay-as-You-Go:** Enables prepaid energy consumption for better budget control.
- ✓ **Overload Protection:** Automatic tripping for EB and DG to prevent excess load damage.
- ✓ **Overvoltage Protection:** Safeguards electrical systems from voltage spikes.
- ✓ **Dual Source Measurement:** Supports up to 80A whole current / CT operated (BIS compliant up to 60A).
- ✓ **Single & Three-Phase Options:** Available for diverse energy requirements.
- ✓ **Comprehensive Monitoring:** Displays balance, VLL, VLN, A, Hz, W, PF, VA, kWh (EB & DG), gas, and water usage.
- ✓ **TOU/TOD Profiling:** Allows time-based energy consumption analysis for optimized billing.
- ✓ **Anti-Tamper Protection:** Built-in security features comply with Indian standards.
- ✓ **Transparent Energy Insights:** Provides a clear view of usage patterns and tariff rates.

- ✓ **Prepaid Metering Solution:** Enables hassle-free electricity payments from anywhere, eliminating queues and bill-related inconveniences while ensuring better customer service.
- ✓ **Shopping Malls & Commercial Complexes:** Efficient energy management for high-consumption areas.
- ✓ **Gated Residential Societies & Apartments:** Smart metering for fair and transparent energy usage.
- ✓ **Industries & Government Sectors:** Reliable and scalable energy monitoring for large-scale operations.

PE with LoRa – Key Features

- ✓ **Independent Private Network:** No dependency on service providers.
- ✓ **QR Code-Based Auto Configuration:** Simplifies gateway setup for cloud connectivity via MQTT Lite protocol.
- ✓ **Mobile App for Prepaid Software (PPS):** Enables seamless prepaid energy management.
- ✓ **Extended Coverage:** External antenna ensures a long-range connection.
- ✓ **Optimized Data Transfer:** Ensures reliable and efficient data delivery with minimal bandwidth usage.
- ✓ **Secure Communication:** End-to-end encryption for data protection.
- ✓ **Optional 4G Connectivity:** Provides additional flexibility for network communication.
- ✓ **Scalable Network:** Enables multi-device MQTT data transfer to a single server.
- ✓ **Wide Coverage:** Offers up to a 1km communication radius.
- ✓ **Multi-Application Support:** Enables EB-DG broadcasting for diverse energy management needs.





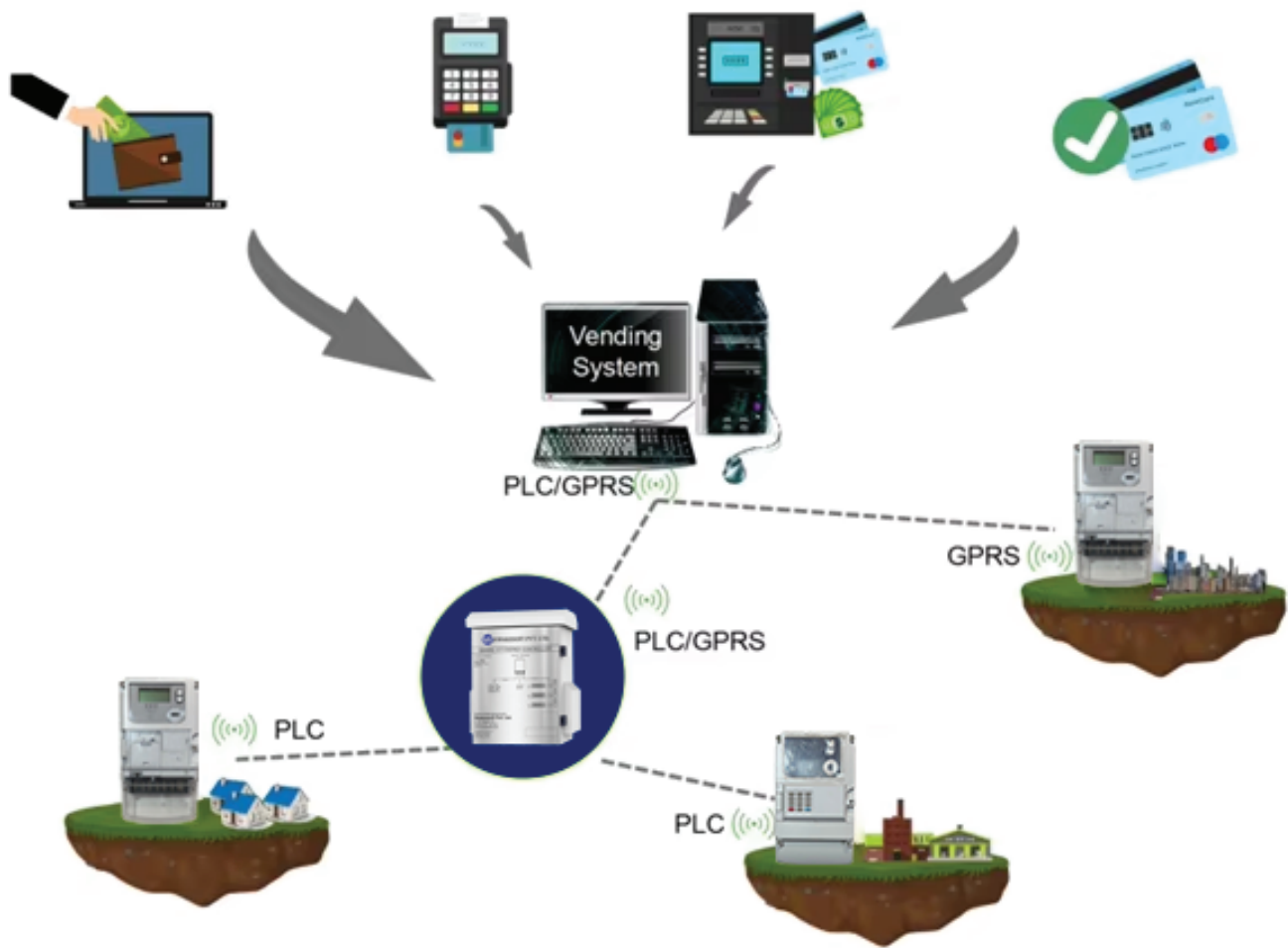
Specification	Specification
Accuracy	Class 1.0 (default) as per IS 13779/15884, Class 0.5 as per IS14697 (Optional).
Sensing/ Measurement	True RMS, 1 Sec update time. 2 Quadrant Power & Energy
Input Voltage	4 Voltage inputs (V1, V2, V3, VN) Programmable 110 or 415V LL Nominal (Range 80 to 550V LL). Primary programmable up to 999kV. Burden: 10VA Max
Input Frequency	45 - 65Hz
Input Current	Current inputs (A1, A2, A3) whole current 10/60A or CT operated 5A. Overload: 3 times for 3s. Burden: 0.5VA Max. per phase.
Whole Current CT Operated	5/30A or 10/60A or 20/80A ___ /5A
CT PT Ratio Max	2000 MVA Programmable for CT operated.
Display Resolution	1 row, 6 Digits, (Integrated 6 Digits) 10mm.
Communication	RS485, Ethernet, GPRS, RF & LoRa
Gas / Water Input Option	Factory configurable Digital input with Maximum Frequency 3 Hz for upto 4 channel.
Weight	3 phase: Unpacked - 1650 gms, Packed - 1850 gms Single phase: Unpacked - 670 gms, Packed - 750 gms
Torque	2 N-m
Wire Gauge	6 AWG



Models	Type	Whole Current	CT Operated	Communication				Single Source	Dual Source	Remote Display Unit	Digital Input	
				RS485	LoRa	Ethernet	GPRS				2	4
PE 5121 Single Phase, 10/60A	Prepaid	✓		✓	✓				✓	✓		
	Postpaid	✓		✓				✓	●	✓		
PE 5120 Three Phase, 10/60A	Prepaid	✓		✓	✓	✓			✓	✓	✓	✓
			✓	✓	✓	✓			✓	✓	✓	✓
									✓	✓	✓	
									✓	✓	✓	
	Postpaid	✓		✓		✓		✓	●	✓	✓	
			✓	✓		✓		✓	●	✓	✓	✓
								✓	●	✓	✓	
								✓	●	✓	✓	
PE 5120 Three Phase,10/60A	Prepaid or Postpaid	✓	✓	✓			✓	✓	✓	✓	✓	

- ✓ **Secure Access:** OTP-based authentication ensures safety.
- ✓ **Real-Time Monitoring:** View live data from your meters anytime.
- ✓ **Multi-Meter Support:** Manage multiple energy meters under a single account.
- ✓ **Easy Data Sharing:** Share meter data via a simple link.
- ✓ **Seamless Integration:** Public API available for third-party applications.
- ✓ **Cross-Platform Availability:** Download on iOS App Store & Android Play Store.
- ✓ **Cloud Storage:** Meter data securely stored on the server.
- ✓ **Remote Control:** Engage or disengage power to connected loads.
- ✓ **Advanced Analytics:** Track energy and power consumption for each meter.
- ✓ **Custom Tariff Settings:** Define personalized tariff rates per energy meter.





Benefits

- ✓ Eliminates Billing Disputes – No estimated bills, only pay for actual usage.
- ✓ Enhances Revenue Collection – Utilities receive payments upfront, reducing losses.
- ✓ Empowers Consumers – Provides transparency and control over energy usage.
- ✓ Reduces Operational Costs – No manual meter readings or paper bills required.
- ✓ Supports Renewable Integration – Works with solar, wind, and hybrid energy systems.
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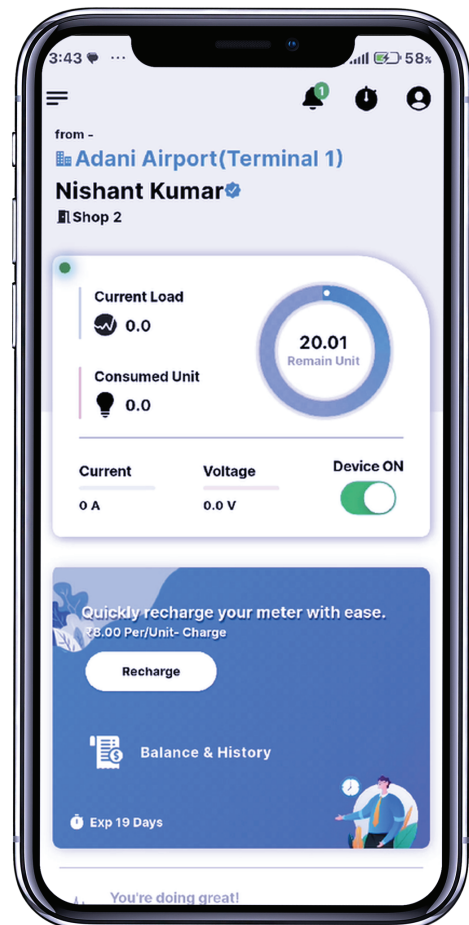
Remote Display Unit

- ✓ Allowing customer to monitor consumption.
- ✓ Elegant design & no separate power is required.
- ✓ Display all parameters including balance.
- ✓ Display blinks & buzzer beeps in frequent interval to indicate low balance.



Mobile APP

- ✓ Alarm notifications for low credit balance
- ✓ Recharge & monitor from anywhere
- ✓ Explicit view of energy usage and tariff rates
- ✓ ELNetPPS_API : ERP / SAP Integration





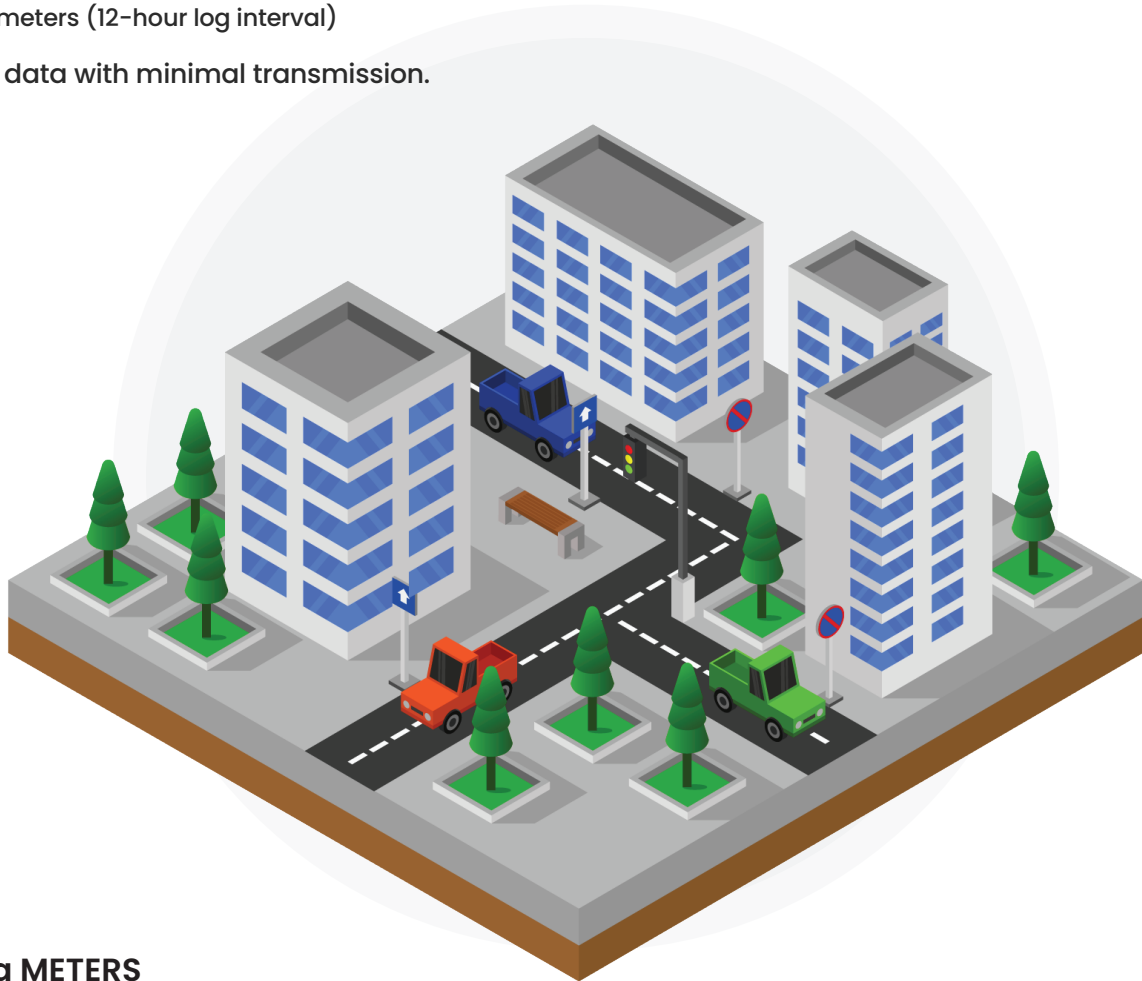
LoRa GATEWAY

- ✓ 4G Connectivity for seamless data transmission.
- ✓ 50% reduction in network operational costs.
- ✓ Scalable Meter Connectivity:
 - 256 meters (15-minute log interval)
 - 512 meters (1-hour log interval)
 - 1024 meters (12-hour log interval)
- ✓ Accurate data with minimal transmission.



NETWORK SERVER

- ✓ No service provider dependency.
- ✓ Network Server supports 5 Gateways.
- ✓ 2 Network Servers connect to 1 ELnet Server
- ✓ Network & ELnet Servers must be colocated.
- ✓ Scan QR code via ELConfig App



LoRa METERS

- ✓ QR-based installation via Elconfig App.
- ✓ Seamless configuration, no software lags.
- ✓ Supports grouped, gas & water meters.
- ✓ Direct top-up via smartphones.



SOURCE CHANGEOVER

DG Wireless Broadcasting– Outdoor Gateway communicates with each meter using a Point-to-Point system, unlike Zigbee (Mesh) networks.

Software Features

- ✓ **Smart Alerts** – Advance tripping alerts via 2 SMS/Email for low balance.
- ✓ **Cutoff Prevention** – Holiday & Nighttime cutoff protection.
- ✓ **Threshold Notifications** – SMS/Email alerts for negative balance & EB/DG grace threshold.
- ✓ **Energy Logging** – kW/kWh data logged every 15 minutes for profiling & future reference.
- ✓ **EB/DG Status Intimation** – ELNet prevents misuse by indicating EB/DG power source.
- ✓ **Real-time Display** – ELNet shows EB/DG kWh, kW, and balance.
- ✓ **Recharge Reversal** – Wrong recharge entries can be corrected.
- ✓ **Online Customer Portal** – Users can check balance & recharge via Mobile, Web, or App.
- ✓ **Branding & Support** – Displays service provider logo & access to grievance forum.
- ✓ **Smart Mobile App** – Eliminates the need for a remote display.
- ✓ **LoRa Connectivity** – Supports postpaid & prepaid with a 1KM range, 1000 meters, and 4-hour data logging.
- ✓ **Independent Network** – No service provider dependency.
- ✓ **Low Balance Alerts** – Alarm notifications for insufficient credit.
- ✓ **Reduced Manual Supervision** – Automates monitoring & notifications.
- ✓ **Live Energy Tracking** – Real-time updates on energy consumption.
- ✓ **Comprehensive Records** – Tracks recharge & consumption history efficiently.

Energy Billing Solution

Energy Bills, Consumption & Pricing

- ✓ Track live energy data.
- ✓ View recharge slips & history for a selected date range.
- ✓ Monthly bills with EB/DG energy & maintenance cost breakup.
- ✓ Monitor DG & Mains Supply running hours.
- ✓ Ensure accurate payment tracking.

