

TRANSFORMER HEALTH MONITORING SYSTEM

Krionix THMS

Transformer Health Monitoring System

Real-time oil, temperature, load and power-quality monitoring for distribution transformers — on the AutoStack™ cloud, with instant alerts before a failure happens.

Krionix™
CONNECTING THE DOTS OF TOMORROW.

PADMASHAKTI IOT TECHNOLOGIES PVT LTD

- Oil & Winding Temp
- Load & Power Quality
- Instant Alerts
- AutoStack™ Cloud

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~13 lakh
distribution transformer failures a year in India

~10%
national average failure rate

1 unit
per transformer is all THMS needs to see it coming

AT A GLANCE

An Indian OEM for smart utilities and industry

Padmashakti IoT Technologies Pvt. Ltd., trading as **Krionix**, is an Industrial IoT and smart-monitoring company headquartered in Harihar, Karnataka. We design and manufacture IoT hardware in-house and run it on our own AutoStack™ cloud — so existing meters, transformers and panels can report their condition in real time, without being replaced.

2025
Incorporated; headquartered in Harihar, Karnataka

DPIIT
Recognised Startup India company

2
Indian patent applications filed

100%
In-house R&D, hardware, firmware, cloud and manufacturing

What we do

Transformer health — Krionix THMS
Real-time electrical, thermal and physical monitoring of distribution transformers with early-warning alerts.

Smart metering — energy & water AMR
Retrofit kits that make existing energy and water meters smart and cloud-connected.

Industrial IoT — energy & plant monitoring
Department-wise energy, electrical health and machine condition monitoring for plants.

AutoStack™ cloud & Akiva™ AI
Our own IoT platform: automatic dashboards, alerts, reports and utility integration.

Who we serve

DISCOMs & utilities · Government departments & PSUs · Municipal corporations · Smart city projects · Rural water schemes · Sugar, power & process industries · Manufacturing plants · Commercial buildings · Housing societies · Campuses & institutions

Retrofit first
Upgrade the asset, keep the investment.

Built in India
Designed and manufactured end-to-end in Karnataka.

Government-ready
Multi-level access, audit trail, data stays in India.

Flexible commercials
Pilot-first, with hardware and subscription options.

Abbreviations: AMR automatic meter reading · **IoT** internet of Things · **OEM** original equipment manufacturer · **THMS** transformer health monitoring system

ABOUT US

Padmashakti IoT Technologies Pvt. Ltd.

A next-generation Industrial IoT company dedicated to transforming traditional utilities and industries into smart, data-driven and efficient enterprises — *connecting one device at a time.*

Mission

To develop IoT hardware and software end-to-end in-house, empowering utilities and industries with real-time insights that reduce downtime, optimise energy use and enable smarter decisions.

Vision

To become a leading IoT provider for smart utilities and infrastructure — an intelligent ecosystem where every machine, process and asset operates at peak efficiency, safety and sustainability.

Leadership



Shri Gulab Chand D. Jain
Managing Director
40+ years in electrical equipment and manufacturing.



Shri Kiran S. Kulkarni
Director
Hexitronics Automation LLP; formerly with BARC (Trombay). IoT and large-scale infrastructure.



Shri Basavaraj M. S.
Director
Founder, Universal Electricals; 30+ years in electrical supervision, LT panels and transformer yards.

Our partners: Krionix is a newly formed company in which we are all partners — together with Ashwin G Jain (Krionix), Ananth and Vaman (Hexitronics Automation LLP, ISO 9001:2015) and Nikhil M B (Universal Electricals · UEIOT).

Credentials & ecosystem

- DPIIT-recognised Startup India company
- Udyam-registered MSME
- Indian patent applications 202541076329, 202541062777 and 202541094317
- Make in India · Atmanirbhar Bharat aligned
- Hardware partner: Hexitronics Automation LLP (ISO 9001:2015)
- Industrial energy brand: UEIoT, Harihar
- CIN U62013KA2025PTC207648 · GSTIN 29AAQCP1438A1ZF

Abbreviations: HT / LT high tension / low tension (voltage) · **IoT** internet of Things

THE TRANSFORMER CHALLENGE

India loses over a million distribution transformers a year

Distribution transformers are the last link between the grid and every home, farm and business. Most are still checked only on periodic rounds — so the first sign of trouble is usually a failure.

~1.5 cr
distribution transformers in India (March 2024)[1]

42%
of them metered — the rest are largely unmonitored[1]

~13 lakh
distribution transformer failures every year[2]

~10%
national average failure rate — from 1.9% in the best state to over 20% in some[2]

Why they fail

Causes cited by the Government's distribution-transformer standardisation committee[2]:

- **Operational:** overloading, unbalanced loading, poor earthing, improper fuse coordination
- **Manufacturing:** moisture in insulation, poor brazing and clamping, inadequate insulation
- **External:** oil theft, tampering, poor repairs and weather

The committee also recommended **voltage monitoring** and power-quality audits — exactly what continuous monitoring provides.



With only 42% of transformers even metered, most utilities learn of a failing transformer only when it stops — and a consumer calls.

Sources: 1. Central Electricity Authority, Report on status of metering in the country (as on 31 March 2024). 2. Distribution Transformer Standardisation Cell minutes, reported by PTI / Business Standard, 17 Nov 2025.

FOCUS: KARNATAKA

Built in Karnataka, for Karnataka's ESCOMs

Karnataka's power distribution is served by five Electricity Supply Companies (ESCOMs). Krionix is headquartered in Harihar, Davanagere district — close to the field teams and assets it serves.

BESCOM
Bengaluru
Bengaluru Urban & Rural, Ramanagara, Kolar, Chikkaballapura, Tumakuru, Chitradurga, Davanagere

HESCOM
Hubballi
Belagavi, Dharwad, Bagalkot, Vijayapura, Gadag, Haveri, Uttara Kannada

GESCOM
Kalaburagi
Kalaburagi, Bidar, Raichur, Yadgir, Koppal, Ballari, Vijayanagara

MESCOM
Mangaluru
Dakshina Kannada, Udupi, Shivamogga, Chikkamagaluru

CESC
Mysuru
Mysuru, Mandya, Chamarajanagara, Hassan, Kodagu

What Karnataka's data shows

2 crore+
calls to the ESCOMs' 1912 helpline, Jan 2023–Mar 2026 — about 90% about power outages[1]

24–72 hrs
typical time to restore supply after a transformer failure[1]

~4.96 lakh
distribution transformers in the State's largest ESCOM alone (Feb 2024)[2]

7–8%
of them fail every year — over 35,000 failures a year, three years running[2]

~93%
of those failures occur in rural areas — farms and villages[2]

~₹75 crore
spent on transformer repairs a year — about ₹23,400 per repair[2]

What THMS offers Karnataka

- ✓ Earlier warning on rural and irrigation-feeder transformers
- ✓ Shorter outages — crews sent straight to the failed unit
- ✓ A single State view across all five ESCOMs

Why a Karnataka company

- ✓ Designed and manufactured in Harihar
- ✓ Local installation and service teams, Kannada-speaking support
- ✓ Quick response across all ESCOM regions

Sources: 1. Deccan Herald, 15 June 2026, on ESCOM helpline complaints. 2. Published transformer data of Karnataka's largest ESCOM (page updated May 2024); per-repair cost derived from the published annual figures.

Abbreviations: THMS transformer health monitoring system

NATIONAL CONTEXT

India is digitising its distribution network

Under the Government of India's Revamped Distribution Sector Scheme (RDSS), utilities are installing smart meters on consumers, feeders and distribution transformers. Monitoring the *health* of those transformers is the natural next step.

₹3.04 lakh cr
RDSS outlay for distribution reform[1]

20.3 crore
smart meters sanctioned — consumers, DTs and feeders[1]

52.5 lakh
distribution-transformer meters sanctioned[1]

18.5 lakh
DT meters installed by 30 June 2026[1]

Metering measures energy. THMS protects the asset.

Question	DT energy meter	Krionix THMS
How much energy flowed?	Yes — for energy accounting and loss reduction	Yes — kWh, kVArh, demand
Is it overloaded or unbalanced?	Partly, from interval data	Yes — live, with alerts
Is the oil hot or low?	No	Yes — oil and winding temperature, oil level
Is pressure or vibration abnormal?	No	Yes — body cavity pressure and vibration
Who needs to act, and when?	Not designed for field alerts	Yes — alerts to the responsible engineer

Complements existing investment

THMS works alongside meters already installed on the network and shares data through open APIs, so utilities add asset health without duplicating metering.

Aligned with national priorities

Indian-designed and manufactured by a DPIIT-recognised startup — in line with Make in India, Atmanirbhar Bharat and the push for reliable, data-driven distribution.

Source: 1. Ministry of Power, reply in Rajya Sabha, 27 July 2026 (data as on 30 June 2026). Figures rounded.

Abbreviations: kWh kilowatt-hour (one unit of energy) · **THMS** transformer health monitoring system

FLAGSHIP SOLUTION · KRIONIX THMS

A smart guardian on every transformer

A compact, weatherproof monitoring unit fitted beside each transformer measures its electrical and physical health around the clock and sends the data over 4G to the AutoStack™ cloud — where engineers see it live and are alerted the moment something drifts out of range.

Sensors	Edge unit	4G link	AutoStack™	People
CTs, voltage, temperature, oil level, vibration	Smart controller with edge logic & OTA updates	Built-in SIM — no utility network needed	Secure cloud: rules, analytics, history	Control-room dashboard & field mobile app

Electrical parameters

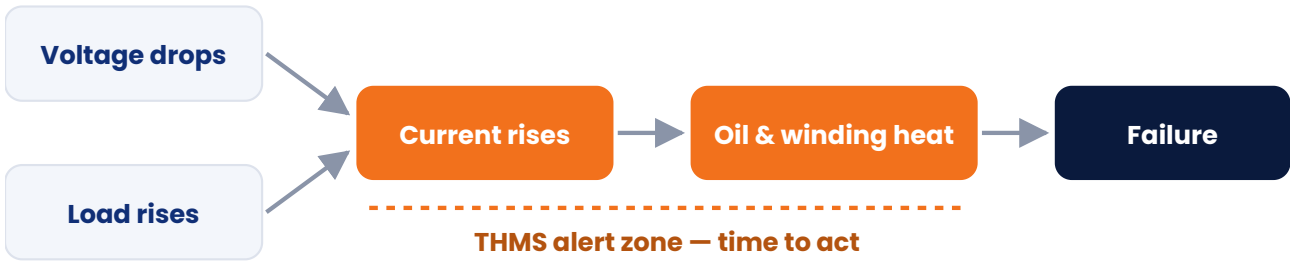
- Phase voltages V1–V3 and line voltages V12, V23, V31
- Phase currents I1–I3 and phase unbalance
- kW, kVA and kVAr per phase; demand load
- Energy (kWh, kVArh), power factor, frequency
- Harmonics

Physical parameters

- Oil and winding temperature
- Ambient temperature and humidity
- Oil level
- Transformer body cavity pressure
- Vibration and tap position

Parameters included depend on the transformer rating and the package selected.

How THMS sees a failure coming



Abbreviations: kVA kilovolt-ampere (apparent power) · **kVAr** kilovolt-ampere reactive · **kW** kilowatt (real power) · **kWh** kilowatt-hour (one unit of energy) · **THMS** transformer health monitoring system

What is installed, and what it watches for

One compact unit per transformer, mounted on the structure beside it. No change is made to the transformer itself.

Component	Description
Edge controller	Industrial microcontroller with on-device edge logic, local buffering and over-the-air (OTA) firmware updates
Electrical measurement	Three-phase energy measurement through CTs and an isolated RS485 / Modbus energy meter
Physical sensors	Oil and winding temperature, ambient temperature and humidity, oil level, body cavity pressure, vibration, tap position (by package)
Communication	Built-in 4G with M2M SIM, MQTT to the AutoStack™ cloud; no utility network or IT changes needed
Enclosure & power	Weatherproof outdoor enclosure; powered from the transformer's LT side with protected supply
Platform	AutoStack™ cloud or on-premise: dashboard, mobile app, alerts, reports, APIs

Alert matrix

Condition	Detected from	Typical action
Overload	Phase currents and kVA above rating	Shift load, plan augmentation
Phase unbalance	Difference between phase currents	Rebalance single-phase connections
Low / high voltage	Phase and line voltages	Check tap position, feeder voltage
Over-temperature	Oil and winding temperature trend	Reduce load, inspect cooling
Low oil / leakage	Oil level sensor	Top up oil, inspect for leaks or theft
Pressure rise	Body cavity pressure	Inspect for internal fault
Abnormal vibration	Vibration sensor	Inspect mountings and core
Supply or unit offline	Loss of data / supply	Dispatch crew; outage logged with time

Thresholds are configurable and agreed with the utility's engineers during commissioning.

Abbreviations: HT / LT high tension / low tension (voltage) · **kVA** kilovolt-ampere (apparent power) · **MQTT** message Queuing Telemetry Transport · **RS485 / Modbus** industrial serial link and protocol used by meters · **THMS** transformer health monitoring system

KRIONIX THMS · VALUE

What it delivers for utilities and the State

Fewer failures
Overload, oil loss and overheating are caught while there is time to act.

Shorter outages
Fault and unit-offline alerts send crews straight to the right transformer.

Lower repair spend
Each avoided failure saves repair, transport and replacement cost.

Condition-based maintenance
Field teams go where readings show a need, not on routine rounds.

Planning data
Actual loading of every transformer to plan upgrades and rebalancing.

Reliable rural supply
Steadier power for farmers, villages and small enterprises.

AN ILLUSTRATION ON PUBLIC FIGURES

For every 5,000 transformers monitored, cutting the failure rate by just one percentage point avoids ~50 failures and about ₹11.7 lakh in repair cost a year.

~500
failures a year at the ~10% national average

~₹1.2 cr
repair cost a year at ~₹23,400 per repair

Repair only
outage losses, lost sales and replacement units add more

Scalable deployment

STAGE 1 **Pilot** — 10–20 units · 90 days → STAGE 2 **Sub-division** — Failure-prone feeders → STAGE 3 **District / taluk** — With command centre → STAGE 4 **State-wide** — Integrated with utility IT

Transformer rating	Typical location	Monitoring package
25–100 kVA	Rural and agricultural feeders	Core electrical set, oil temperature, ambient, vibration
150–315 kVA	Urban and town distribution	Adds oil level and body cavity pressure
400–1250 kVA	Commercial, industrial and critical loads	Adds harmonics, winding temperature and tap position

Illustration: 5,000 × 10% = 500 failures; 500 × ₹23,437 ≈ ₹1.17 crore; 50 × ₹23,437 ≈ ₹11.7 lakh. Failure rate and repair cost from the public sources on pages 5–6.

Abbreviations: kVA kilovolt-ampere (apparent power) · **THMS** transformer health monitoring system

OPERATING MODEL

From alert to action, every time

THMS is designed around the way utility field teams already work. A single command centre can oversee several thousand transformers across divisions.

1. **Alert raised** — dashboard + phone
2. **Assigned** — supervisor → technician
3. **Attended** — site visit, action taken
4. **Verified** — readings back to normal
5. **Closed** — logged for reports

Command centre

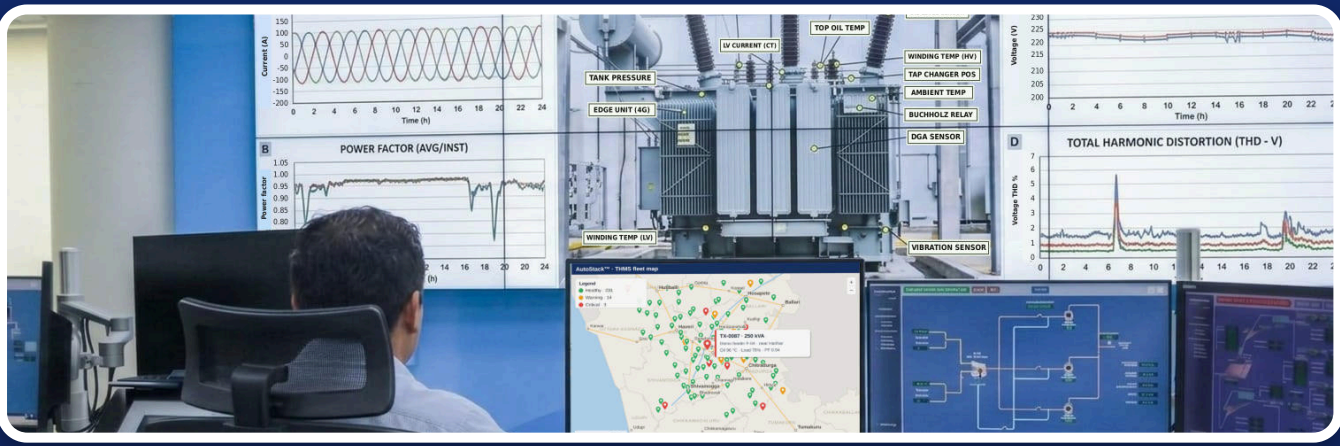
Control-room engineers watch the live fleet map, health scores and alert queue.

Division supervisors

Assign and track work for their area; review loading and failure trends.

Field technicians

Receive jobs on the mobile app, see live readings on site and close the job.



Flexible delivery: the command centre can be run by the utility's own staff, or offered as a managed service by Krionix — with the same dashboards and reports either way.

Abbreviations: THMS transformer health monitoring system

IMPLEMENTATION APPROACH

Start with a 90-day pilot

A short pilot on 10–20 transformers gives the utility its own evidence — which faults the system catches, how early, and what a wider rollout would involve.

Weeks	Stage	Activities
1–2	Survey & installation	Joint site survey, thresholds agreed, units installed and commissioned, logins issued
3–6	First readings	Live monitoring; thresholds tuned to reduce false alarms; fortnightly reviews
7–12	Steady-state monitoring	Alerts handled through the mobile app; every alert and action logged
13	Results review	Pilot report and recommendation on next-stage scope

Suggested site mix

- All three rating bands: 25–100, 150–315 and 400–1250 kVA
- Transformers with recent failure or repair history
- Units known to be heavily loaded in peak season
- Sites within reach of one field team, with 4G coverage

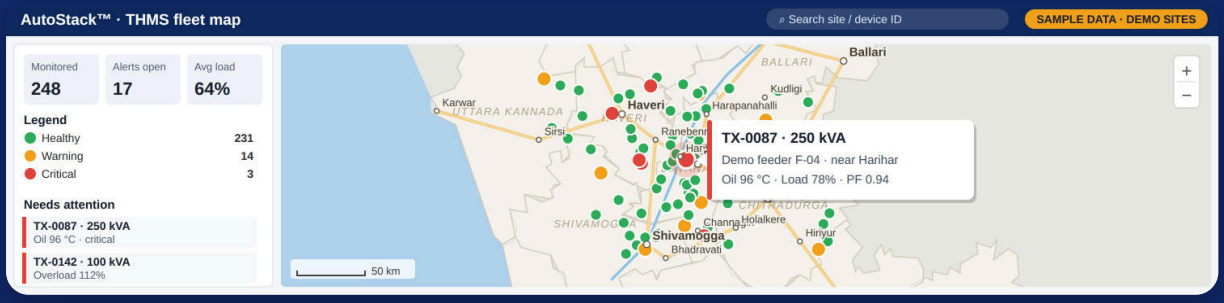
What is measured

- Data uptime of each unit
- Alerts raised and acted on
- Faults caught before failure, with readings
- Alert-to-attendance time and false-alarm rate

Shared responsibilities

Party	Responsible for
Krionix	Monitoring units, cloud platform, installation and commissioning, dashboard and mobile app, alert set-up, technical support and the pilot report
Utility	Selecting pilot transformers; site access and shutdown permission; confirming that each pilot structure has lightning arresters installed and in good condition, as per standard practice; a nominated engineer for alerts; joint review

All pilot data belongs to the utility. Commercial terms for pilots are agreed through mutual discussion.



Abbreviations: kVA kilovolt-ampere (apparent power)

THE PLATFORM

AutoStack™ — the dashboard is ready when the device powers on

Our in-house IoT cloud platform, common to every Krionix product. Each device is onboarded automatically with its own dashboard, storage and access rights — from the field technician to the state control room.



Illustrative dashboard view; figures are sample data.

Zero-touch onboarding

Unique device IDs, barcode capture, geotagging and bulk CSV import.

Multi-level access

Role-based views from field staff and operators up to government authorities.

Utility integration

REST/MQTT APIs, HES/MDMS adapters, standard data contract, audit trail.

Alerts & reports

Configurable alerts with escalation; scheduled PDF/Excel/CSV reports.

Secure by design

AES-256 encryption, multi-factor login, cloud or on-premise hosting.

Akiva™ AI agent

AI-assisted anomaly detection and plain-language insights.

Platform specification	Typical values
Data intervals	1 second to 60 seconds, configurable per device
Availability & retention	99.9% cloud uptime target; 5+ years of history for trends and audits
Scale	From a single device to 10,000+ data points; multi-site, multi-department

Abbreviations: AES-256 advanced Encryption Standard, 256-bit · **IoT** internet of Things · **MQTT** message Queuing Telemetry Transport · **THMS** transformer health monitoring system

SECURITY & DATA GOVERNANCE

Built for public infrastructure

Utility and government data needs to be secure, auditable and under the owner's control. AutoStack™ is designed with that in mind from the start.

Encryption

AES-256 encryption for data in transit and at rest.

Secure login

Multi-factor authentication and role-based access control.

Role-based views

Each user sees only their area — from technician to state authority.

Audit trail

Complete log of who viewed or changed data and settings.

Hosting choice

Hosted cloud, or on-premise inside the utility's own data centre.

Data in India

Indian-designed platform; data stays in India and belongs to the client.

Reliable in the field

Edge buffering
Data is stored on the device during network outages and synced automatically.

OTA updates
Firmware is updated remotely — no site visit for software fixes.

Device health
Unit-offline and communication alerts flag any monitoring gap.

Integration with utility systems

- REST and MQTT APIs, with a standard data contract
- Adapters for head-end (HES) and meter data management (MDMS) systems
- Scheduled PDF, Excel and CSV exports for audits and reviews
- Data retention of 5+ years for trend analysis and regulatory needs

Abbreviations: AES-256 advanced Encryption Standard, 256-bit · **MQTT** message Queuing Telemetry Transport

INDUSTRIAL IOT

Smart real-time energy & plant monitoring

For sugar, power, manufacturing and infrastructure plants: complete visibility of energy use, electrical health and machine condition — *from energy to efficiency, we monitor, you grow.*



Why monitoring matters

- **Unexpected breakdowns** of motors, transformers and panels halt production
- **High maintenance costs** from repair-after-failure
- **Energy wastage** from unmanaged and unbalanced loads
- **Production downtime** during critical seasons such as crushing

Real-time energy monitoring

kWh, kVA and power factor by department, machine and process.

Electrical health

Abnormal load, phase imbalance, voltage fluctuation and power-quality alerts.

Machine condition

Vibration and temperature on motors, bearings, pumps and gearboxes.

Department-wise load

Boiler, turbine, mill, processing, utilities and DG — compared and costed.

Predictive maintenance

Historical trends forecast failures so maintenance is planned, not forced.

Fits what you have

Works with existing LT/HT panels, CT/PT and most Class-1 energy meters.

Connectivity & integration

- Modbus RTU/TCP, MQTT, LoRa/LoRaWAN, Ethernet, Wi-Fi and 4G
- Edge gateway buffers data during network outages and syncs later
- REST/MQTT APIs for ERP, SCADA and maintenance systems

Benefits to industries

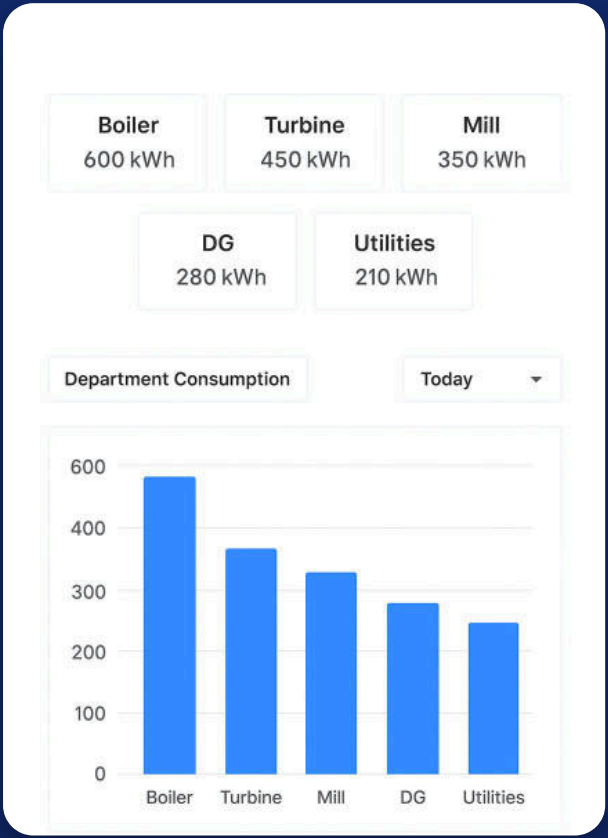
- Reduced downtime and smoother production
- Lower energy bills through department-wise control
- Longer life for motors, transformers and panels
- Data-driven operational and financial decisions

Abbreviations: CT current transformer · **DG** diesel generator · **ERP** enterprise resource planning · **HT / LT** high tension / low tension (voltage) · **IoT** internet of Things · **kVA** kilovolt-ampere (apparent power) · **kWh** kilowatt-hour (one unit of energy) · **LoRa** long-range low-power radio · **MQTT** message Queuing Telemetry Transport · **RS485 / Modbus** industrial serial link and protocol used by meters · **SCADA** supervisory control and data acquisition

INDUSTRIAL IOT · IN PRACTICE

Department-wise load monitoring

In a large plant such as a sugar mill, each department — boiler, turbine, mill, processing, utilities and DG — has its own energy demand. Without measurement, wastage stays hidden.



Illustrative dashboard view.

What you see

- **Real-time consumption** — kWh, kVA and PF for every department
- **Comparisons** — benchmark departments and spot high users
- **Cost allocation** — assign energy cost to each process
- **Load balancing** — find unbalanced distribution and correct it
- **History** — plan capacity and production cycles from past data

Management KPIs

Energy per unit produced · **Load per department** · **Efficiency index** · **Downtime** · **Power factor**

Start small, grow freely

Begin with a single machine (5–10 data points) or one section, then add devices by scan-and-discover — no changes to dashboards needed.

Abbreviations: **DG** diesel generator · **IoT** internet of Things · **kVA** kilovolt-ampere (apparent power) · **kWh** kilowatt-hour (one unit of energy) · **PF** power factor

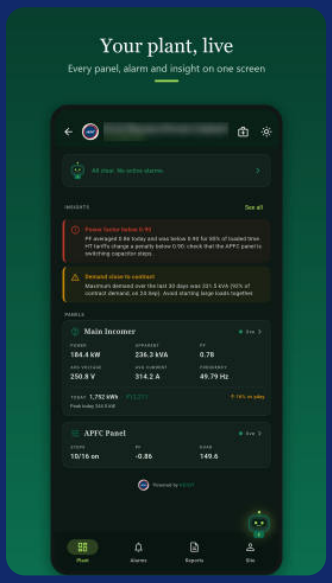
MOBILE APP · UEIOT LIVE

Every panel and alarm on your phone

UEIOT Live is our Android app for plant and site teams. Readings update in under 3 seconds, alarms arrive the moment a limit is crossed, and daily, weekly and monthly reports are one tap away.

UEIOT Live
Android app · same login as the web dashboard

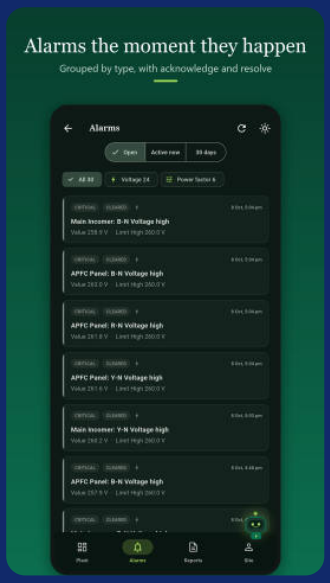
GET IT ON Google Play



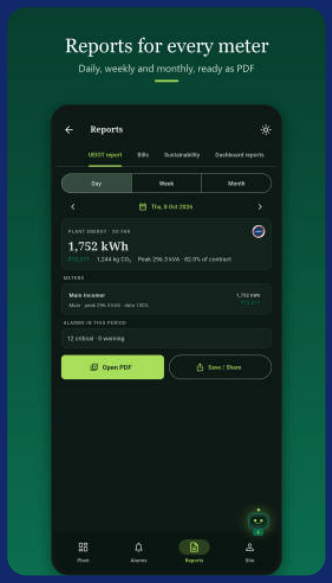
Plant overview — every panel live, with automatic insights.



Live — voltage, current, power, PF (power factor) and frequency.



Alarms — grouped by type; acknowledge and resolve.



Reports — daily, weekly and monthly PDF to share.

< 3 s live updates	**Instant** alarm notifications	**₹ and CO_2** with every reading	**PDF** reports on the go

Field & maintenance teams

Live readings and alarms at the panel or substation, without opening a laptop.

Plant & section managers

Demand, power factor and energy trends, with reports to share in one tap.

Owners & management

Today's cost, the month-end bill forecast and critical alarms at a glance.

App screens show sample data. Google Play and the Google Play logo are trademarks of Google LLC.

Abbreviations: CO_2 carbon dioxide · **PF** power factor

SMART METERING

Retrofit AMR: smart meters without replacing meters

Krionix retrofit devices turn the energy and water meters already in the field into smart, cloud-connected meters — protecting the existing investment and cutting rollout time and cost.

Energy AMR

- **Energy Meter AMR Retrofit** — tool-less, non-invasive upgrade; 4G LTE; 30 A relay for remote connect/disconnect
- **Energy AMR Meter** — single-phase static meter with built-in AMR (IS 13779, Class 1)
- **Energy AMR Device** — standalone RS485 unit with local display and external 4G antenna
- Real-time consumption, tamper detection and remote reading

Water AMR

- **OCR Water AMR Retrofit** — camera-based reading of mechanical meter registers, backed by images
- **Pulse AMR Retrofit** — LTE Cat 1 / GSM, MQTT, 9,000 mAh $LiFePO_4$ battery, IP67, multi-year life
- **DN65 Bulk Water Meter** — ultrasonic, ±1% accuracy, for water balance and non-revenue-water analysis
- Leak, tamper and low-battery alerts



Where it fits

- Urban and rural water supply schemes
- Municipal and smart-city metering projects
- DISCOM consumer and feeder metering
- Industrial, institutional and housing-society sub-metering

Same platform: every meter appears in AutoStack™ with consumer mapping, geotagging, alerts and scheduled reports.

Abbreviations: **AMR** automatic meter reading · **LTE** long-Term Evolution (4G mobile data) · **MQTT** message Queuing Telemetry Transport · **OCR** optical character recognition · **RS485 / Modbus** industrial serial link and protocol used by meters

SMART METERING · WATER

Krionix OCR water AMR retrofit

A camera-based reader that clips onto an existing mechanical water meter and reads its certified register digits by OCR (optical character recognition) — no pipe cutting, no meter replacement, with an image behind every reading.







Feature	Detail
Reading method	On-board camera with LED illumination; OCR of the meter's register digits; image stored with every reading
Connectivity	4G LTE (Cat 1) with SIM; readings sent to the AutoStack™ cloud
Power	$LiFePO_4$ (lithium iron phosphate) battery, multi-year life at typical reporting intervals
Fitting	Clamp-on bracket for multi-brand mechanical meters; tamper alerts
Used for	Jal Jeevan Mission schemes, municipal billing, housing societies, campuses and industry

Product images are design renders. Patent application 202541076329 (water meter retrofit).

Abbreviations: AMR automatic meter reading · **LTE** long-Term Evolution (4G mobile data) · **OCR** optical character recognition

SMART METERING · ENERGY

Krionix energy AMR retrofit & reader

AMR (automatic meter reading) units that make existing energy meters smart: live consumption, tamper alerts and remote connect/disconnect, for industrial estates, colonies, commercial buildings and utilities.







Energy AMR retrofit device

- Mounts with the existing meter — no meter replacement
- 4G LTE connectivity; secure cloud link
- 30 A relay for remote connect / disconnect
- Running, due-trip and overload indication

Energy AMR reader

- Pulse input from the meter's LED / pulse output
- Single-phase supply; relay output (NO / COM / NC)
- Status LEDs for power, communication and relay
- Readings, alarms and billing data on AutoStack™

Made in India | **4G LTE** | **30 A relay** | **Tamper detection**

Product images are design renders; final enclosure and labels may vary.

Abbreviations: AMR automatic meter reading · **LTE** long-Term Evolution (4G mobile data)

PRODUCT CATALOGUE

Products at a glance

Product	Brand	Description
Transformer Health Monitoring (THMS)	Krionix	Real-time electrical, thermal and physical monitoring of transformers with early-warning alerts
Energy Meter AMR Retrofit	Krionix	Non-invasive smart upgrade for existing energy meters; 4G LTE, 30 A relay
Energy AMR Meter	Krionix	Single-phase static meter with built-in AMR (IS 13779, Class 1)
Energy AMR Device	Krionix	Standalone RS485 AMR unit with local display and external 4G antenna
OCR Water AMR Retrofit	Krionix	Camera-based reading of mechanical water meters, backed by images
Smart Water Meter + IoT	Krionix	High-accuracy smart meter with leak detection for new connections and smart cities
Bulk Water Metering (DN65)	Krionix & Hexitronics	Ultrasonic bulk meter (±1%) feeding live water-balance analytics
4G MQTT / Industrial Cloud Gateways	Krionix × Hexitronics	Plug-and-play analog and sensor gateways, 1/2/4/8 channels, 2 kV ESD-protected inputs
Smart Energy Meter / Energy Monitoring Device	UEIoT	Real-time energy monitoring with RS485/Modbus for easy integration
Panel Energy Monitor & Power Analyser	UEIoT	Three-phase multi-feeder monitoring, power-quality analysis and reports
Electrical Data Recorder	UEIoT	High-precision recording of electrical parameters for analysis and troubleshooting
Cloud Data Logger	UEIoT	Remote logging with analog and digital inputs; historical trend analysis
APFC Monitoring	UEIoT	Real-time power factor and per-capacitor-step health in LT and HT panels
Motor Vibration Monitoring	UEIoT	Continuous vibration and temperature monitoring with predictive alerts
Induction Motor Testing Kit	UEIoT	Portable testing and diagnostics for induction motors
Custom IoT Development	Krionix	Custom hardware, firmware and cloud — BMS, ETP/STP/WTP, Edge-PLC and more
AutoStack™ Platform & Akiva™ AI	Krionix	IoT cloud with automatic dashboards, alerts, reports, integration and AI insights

Our services

Real-time energy monitoring · **Plant & equipment health monitoring** · **Predictive maintenance**

IoT dashboards & analytics · **System integration & automation** · **Custom IoT development & support**

Abbreviations: **AMR** automatic meter reading · **APFC** automatic power factor correction · **ESD** electrostatic discharge · **HT / LT** high tension / low tension (voltage) · **IoT** internet of Things · **kV** kilovolt · **LTE** long-Term Evolution (4G mobile data) · **MQTT** message Queuing Telemetry Transport · **OCR** optical character recognition · **RS485 / Modbus** industrial serial link and protocol used by meters · **THMS** transformer health monitoring system

WHY KRIONIX

Upgrade the asset. Keep the investment.

Today	Conventional approach	With Krionix
Finding problems	Periodic rounds and consumer complaints	Continuous monitoring with automatic alerts
Maintenance	Fixed schedule or after failure	Condition-based, guided by readings
Upgrading meters	Replace existing meters	Retrofit existing meters
Data	Paper logs, scattered spreadsheets	One platform with history, reports and APIs
Planning	Estimates of loading	Measured loading of every asset
Supply chain	Imported or assembled systems	Designed and manufactured in India

Engagement models

Pilot

10–20 units over 90 days to prove value on the client's own assets.

Purchase + subscription

One-time hardware cost with a small monthly platform subscription per unit.

Managed service

Krionix installs, monitors and reports, with the client paying for outcomes.

What sets us apart

- **Indian OEM, not a trader** — hardware, firmware and cloud built in-house
- **Retrofit-first** design that protects existing investment
- **Patent-pending** retrofit technology
- **One platform** for transformers, meters, water and plants
- **Government-ready** multi-level access and audit trail
- **Local support** from Karnataka for faster response

Abbreviations: OEM original equipment manufacturer

FREQUENTLY ASKED QUESTIONS

Questions we are often asked

Does THMS require changes to the transformer?

No. The unit is mounted beside the transformer and connects through CTs and external sensors. A short planned shutdown is needed for safe installation.

Does it need the utility's network?

No. Each unit has its own 4G M2M SIM and sends data directly to the platform.

What happens if the network drops?

The device buffers readings and uploads them automatically when the connection returns.

Who receives the alerts?

The engineers the utility nominates, by area and role, on the dashboard, mobile app and other configured channels.

Can it work with our existing systems?

Yes. AutoStack™ provides open APIs and adapters for utility systems, plus scheduled data exports.

Can the data be hosted on our servers?

Yes. The platform can run on Krionix cloud or on-premise in the client's data centre.

Which transformer sizes are covered?

Distribution transformers from 25 kVA to 1250 kVA, with packages matched to each rating band.

Who owns the data?

The client. Krionix uses it only to run the service and prepare reports.

How long does installation take?

A pilot of 10–20 units is typically surveyed and installed within the first two weeks.

Can you support all of Karnataka?

Yes. We are based in Harihar and can install and service units across all five ESCOM regions, with Kannada-speaking field support.

Can the State see all ESCOMs together?

Yes. AutoStack™ multi-level access gives each ESCOM its own view and a combined State-level dashboard.

Is it only for utilities?

No. Industries, campuses and commercial buildings use THMS for their own transformers, alongside our energy and plant monitoring.

Abbreviations: kVA kilovolt-ampere (apparent power) · **THMS** transformer health monitoring system



Krionix™

CONNECTING THE DOTS OF TOMORROW.

Let's work together

We would be glad to arrange a live demonstration and a pilot tailored to your network, plant or project.

GET IN TOUCH

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