

PRESense

Earlier Insights.
Smarter Action.
Stronger Networks.



Low Voltage Networks are no longer passive infrastructure

As electrification accelerates through the adoption of **Low Carbon Technologies (LCTs)**, including electric vehicles, photovoltaic generation and heat pumps, together with the growth of distributed energy, LV networks are becoming more dynamic with risks emerging where networks lack visibility of LCT installations

Traditional approaches rely on reactive fault detection, typically triggered by customer impact such as flickering lights or fuse operations. By this stage, the opportunity to prevent disruption has already passed.

Historically, however, these networks have lacked the visibility needed to manage this change proactively.

PRESense unlocks the network of the future

By introducing continuous, high-resolution monitoring at the substation level, PRESense provides a real-time window into LV network behaviour, enabling operators to detect developing faults, prioritise interventions and move toward a proactive operating model.

Unlike other basic monitors, PRESense captures both routine load data and high-speed triggered events simultaneously, ensuring no critical activity is missed.



Our Approach

PRESense is designed to support a shift from reactive response towards more proactive network management by improving visibility of network conditions.

Installed at substations, each device monitors the bus voltage and the current on each of up to five LV feeders, capturing detailed electrical behaviour across the network.

Our approach is built on three core principles:

Capture Everything That Matters

- 1 Routine load and voltage data aligned to EN standards
- 2 High-speed waveform capture, triggered by fault events
- 3 Multiple independent trigger methods operate simultaneously

This ensures early-stage fault activity, often invisible to traditional monitors, is detected and recorded.

‘I installed the PRESense, and within 4 days we had it all wrapped up and customer back to normal supply!’

Dan Berwick,
Field Engineer,
UK Power Networks

ACTIVITY
Cable fault



ACTIVITY
Fuse Rupture

Identify Risk Before Impact

Using machine learning models trained on millions of LV fault events, PRESense:

- + Predicts time to fuse rupture
- + Identifies the likelihood of faults becoming permanent in the near future
- + Tracks fault trajectory based on models we have developed over decades of experience.

This enables operators to act days, weeks, or months before customers are impacted.

Enable Targeted Field Response

Rather than sending teams reactively into the network:

- + **Go-Locate alerts** are issued only when fault certainty is high, and pinpointing is likely
- + Fault location accuracy is significantly narrowed before site visit
- + Field teams arrive informed, reducing time, cost and disruption

The result is a **smarter, prioritised, and more efficient operational model.**

Real-world deployments demonstrate the shift from reactive maintenance to proactive intervention.




“PRESense enables proactive repairs, faster restoration and stronger network resilience.”

Chino Atako,
Senior Asset Engineer,
UK Power Networks




ACTIVITY
Harmonic excursion



ACTIVITY
Go-install

PRESense in Action

 **Colchester, UK**

- ↘ Fault identified within **days of installation** (Device ROI within 1 week of installation)
- ↘ Located and pinpointed within **5 hours**
- ↘ Enabled repair before peak Christmas trading period



Impact

- + £3,269 cost saving
- + 22 staff hours saved
- + Avoided transport disruption and unnecessary excavation






PRESense in Action

Braintree, UK





-  Fault detected on critical bus route and roundabout
-  Proactive repair enabled planned road closure

Impact

-  £6,490 cost saving
-  28 staff hours saved
-  Avoided multiple outages and repeat site visits






What This Demonstrates

-  Faults can be identified before customer impact
-  Location accuracy reduces pinpoint effort and eliminates unnecessary excavation
-  Repairs can be planned, not reactive
-  Significant savings in cost, time and disruption




Our Value

PRESense delivers value across the entire DNO organisation, from operations to planning and regulation.




Operational Efficiency

-  Reduced fault finding time
-  Fewer site visits and repeat interventions
-  Improved workforce utilisation




Data-Driven Decision Making

-  Feeder health scoring and risk ranking
-  Network-wide visibility of LV performance
-  Supports ED3-aligned investment planning

Cost Reduction

-  Lower CML and CI exposure
-  Avoided emergency response costs
-  Reduced excavation and reinstatement

Network Resilience

-  Early fault detection prevents escalation
-  Supports proactive maintenance strategies
-  Reduces risk of high-impact outages



The individual shown is a member of the Camlin Energy team and is featured for illustrative purposes only.



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