Advanced analytics

zillion

We bring intelligence directly to the point in the network where it is needed.

We capture electrical measurements, power quality data, and oscillography to make the invisible visible.

Deployment is fast and safe, no de-energisation or supply interruptions required, allowing action precisely when and where it matters.

With the advanced analytics of the **Ariadna Smart IoT platform**, we transform data into operational insights: detecting anomalies, losses, and meter tampering while prioritizing actions based on operational criteria.

It is the ideal solution for diagnostic campaigns, targeted audits, and incident support.

03.1 LV-DNA: Low Voltage Distribution Network Analyzer

A portable data-logger for Advanced Monitoring of Low Voltage Networks. Designed to analyse transformer and feeder load, detect electrical losses and identify power quality issues, LV DNA offers a complete diagnostic solution for network performance assessment; all in a robust, compact, and portable device.

FUNCTIONALITIES AND CHARACTERISTICS

Measurement of transformer and feeder load to determine saturation levels and optimise load distribution.

Detection and quantification of technical and non-technical losses, including energy theft.

Power quality analysis to identify and prevent supply disturbances.

Fully portable design, ideal for temporary installations and field diagnostics without fixed mounting.

Suitable for rapid deployment in substations or for temporary monitoring of suspicious network areas.

TECHNICAL FEATURES

5 voltage connectors (3 phases, neutral, MV ground).

8 current connectors (3 phases + neutral).

Display and LED indicators for real-time data visualisation.

Ethernet RJ45.

Integrated Bluetooth and GPS.

Cellular modem 2G/3G/4G with external GSM/GPS antennas.

USB port for data export and firmware updates.

Internal battery.

Protection class CAT IV 600V/1000V and IP67.

KEY USE CASE

Versatile and portable solution that integrates advanced monitoring hardware with the Ariadna Smart IoT Platform for complete low-voltage network analysis.

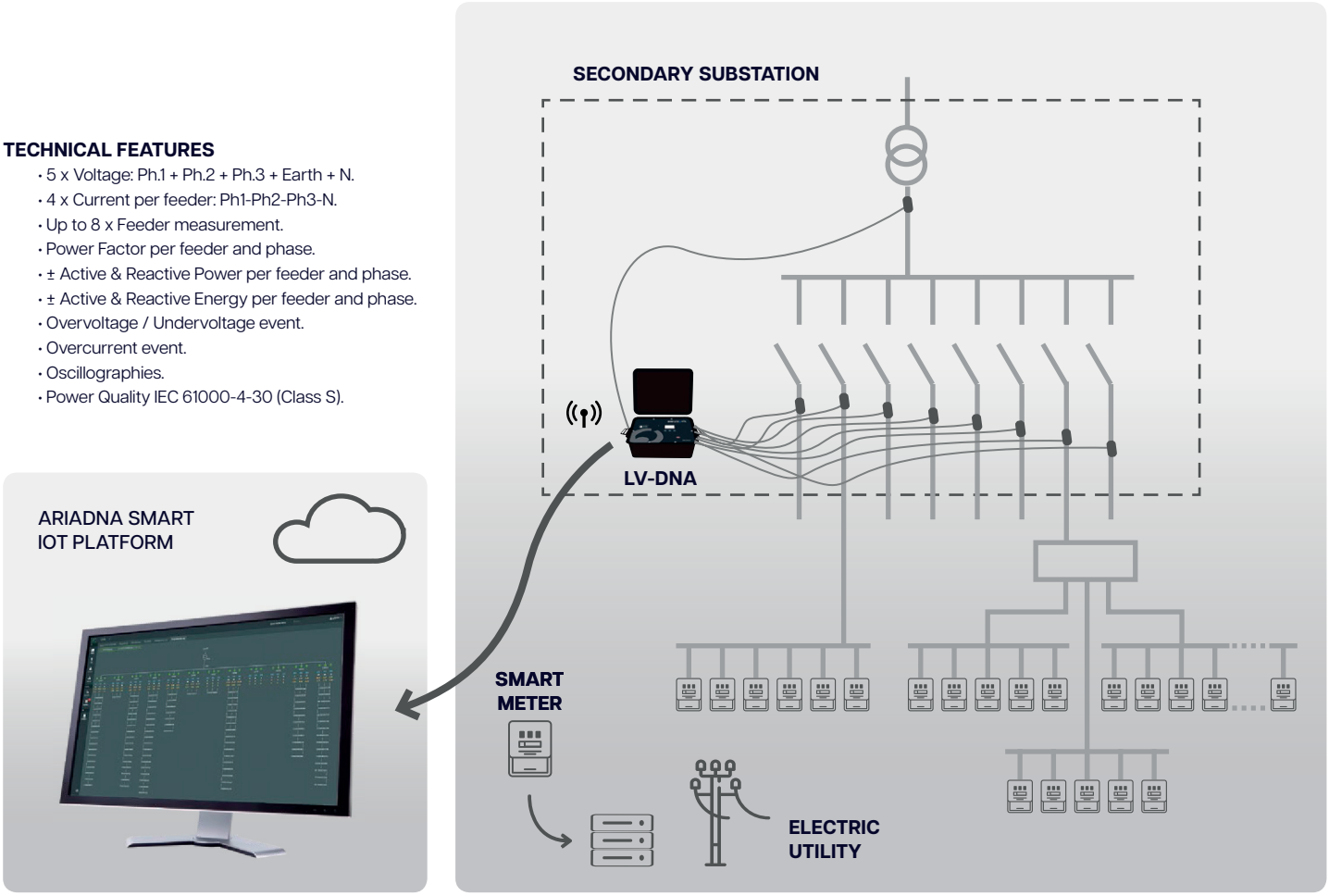
Ideal for utilities conducting pilot projects, field tests, or temporary monitoring, as well as for complementing existing fixed supervision systems.

Provides full visibility of transformer and feeder performance, power quality, and energy balance—enhancing network coverage, flexibility, and operational insight without requiring complex installations.

03.1 LV-DNA: Low Voltage Distribution Network Analyzer

TECHNICAL FEATURES

- 5 x Voltage: Ph.1 + Ph.2 + Ph.3 + Earth + N.
- 4 x Current per feeder: Ph1-Ph2-Ph3-N.
- Up to 8 x Feeder measurement.
- Power Factor per feeder and phase.
- ± Active & Reactive Power per feeder and phase.
- ± Active & Reactive Energy per feeder and phase.
- Overvoltage / Undervoltage event.
- Overcurrent event.
- Oscillographies.
- Power Quality IEC 61000-4-30 (Class S).



Ariadna Smart IoT platform

The most comprehensive software solution for Low Voltage grid management in Distribution System Operators (DSOs). With a 360° view of the network, it integrates monitoring, analysis, and management capabilities in a single environment, enabling utilities to optimise supervision, maintenance, and planning of their LV assets.

FUNCTIONALITIES AND CHARACTERISTICS

Real-time communication with field devices.

Long-term data logging for transformer and feeder outputs (over one year).

Energy balance analysis across transformers and feeders.

Detection of tampered or malfunctioning meters.

Alarm management with configurable thresholds.

Power Quality analysis compliant with IEC 61000-4-30 and EN 50160.

Oscillographic visualisation for detailed event diagnostics.

Identification of the LV network topology at feeder and phase level.

KEY USE CASE

Enables utilities to perform comprehensive energy balance analysis across multiple levels of the low-voltage network—from transformers to feeders—within a single platform.

Ideal for detecting losses, monitoring power quality, and identifying tampered meters, helping optimise operations and improve network efficiency.

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GRIDS BY GORLAN

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