



Low Voltage Network Monitoring & Fraud Detection Portable Device

LV DNA

Low Voltage Distribution Network Analyzer

LV-DNA

LV-DNA is a complete portable data-logger for Advanced Monitoring of Low Voltage networks. This solution offers several advantages, including robustness, ease of use, and cost-effectiveness compared to fixed installations of monitoring systems, apart from a very important one, it's portability.

Measurement of Transformer and Feeder Load

Determine the saturation degree and balance of transformers, feeders, and phases, optimizing load distribution and identifying potential issues.

Electrical Losses

Quantify fraud per transformer and feeder and identify tampered meters.

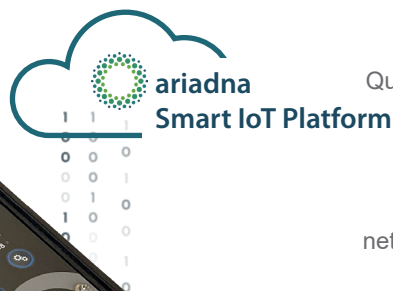
Solving Supply Quality Problems

Proactively address power quality issues in the network and identify their origin, ensuring a stable and reliable power supply to end-users.

Portable network analyser

Portability allows for flexibility in deployment and monitoring at various locations without the need for fixed installations. This can be particularly beneficial for temporary supervision of suspicious areas.

The LV-DNA solution is a versatile tool for managing and optimizing Low Voltage networks, addressing issues related to load distribution, electrical losses, and power quality. Additionally, the portable nature of the solution enhances its flexibility and usability in various scenarios.

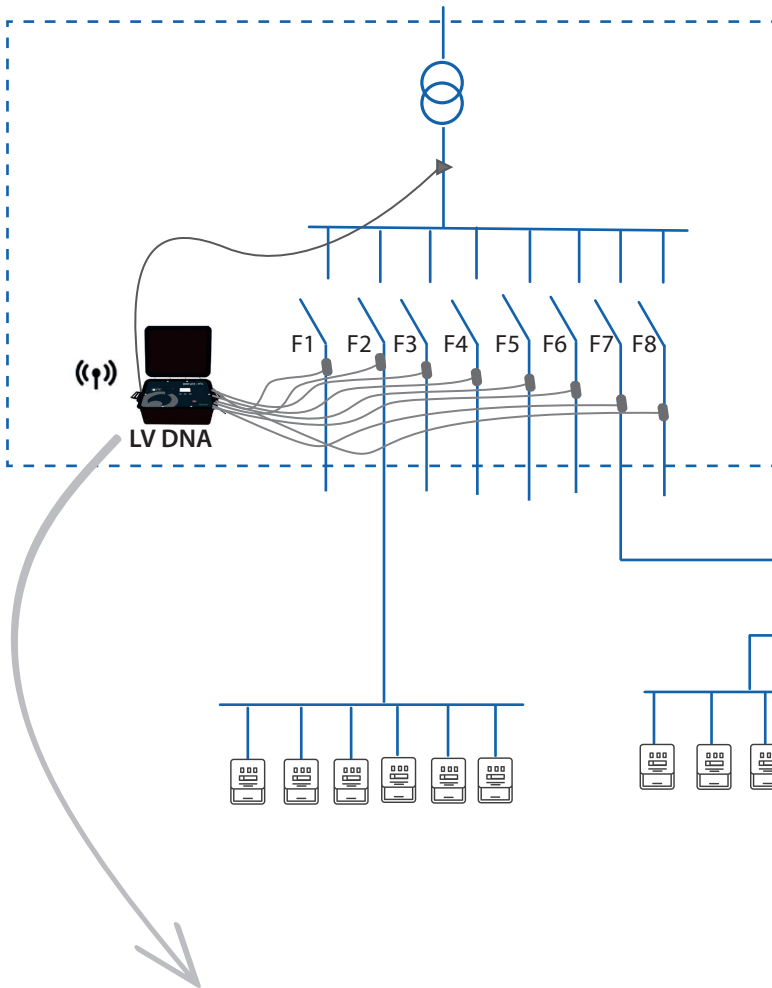


Main Features

- 5 connectors for voltages: 3 phases, Neutral, MV ground
- 8 current connectors (3 phases + neutral) each
- Visual information: display and LEDs
- Ethernet communications RJ45
- Integrated **Bluetooth**
- Internal GPS
- Cellular communication module 2G/3G/4G
- External antennas for GSM and GPS
- USB input
- Internal battery
- Cat IV 600/1000V
- IP67

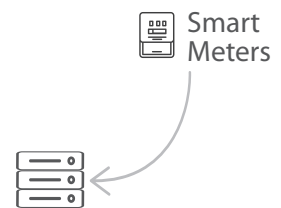
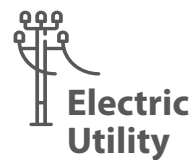
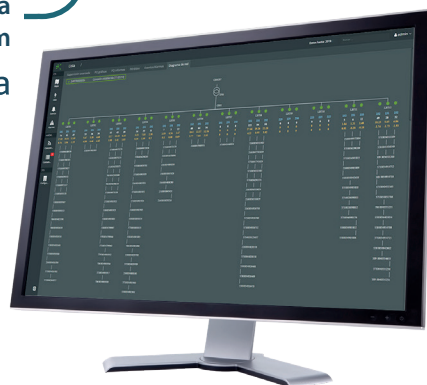
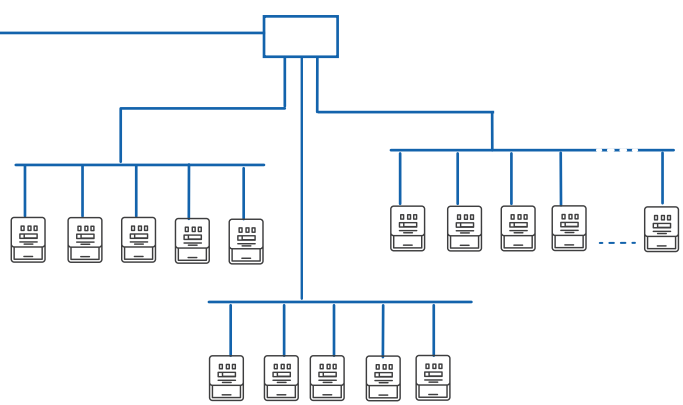


Secondary Substation



On-line monitoring & data logger

- 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)



Software platform that enables a global management of Low Voltage electrical distribution networks.

The platform can be located on the company's servers or in the cloud.

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Advanced analytics solution applied to LV networks

ariadna smart IoT platform



ariadna Smart IoT Platform is the most comprehensive solution for Low Voltage grid management in Distribution System Operators (DSOs). With a 360-degree view, it incorporates all the necessary elements to monitor Low Voltage grids in a single platform, supporting network management, supervision, maintenance, and planning operations.



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- Real-time connection with devices
- Transformer and Feeder output data logger (more than 1 year)
- Power loss analysis based on the energy balance
- Tampered meters detection
- Alarm management, threshold settings
- Oscillographs visualization
- Power Quality analysis according to IEC 61000-4-30 and EN 50160
- Identification of the network topology, at feeder and phase level



Scalable



Modular



Full-Integration



Hardware Agnostic



Open Data



Cloud/On-premise

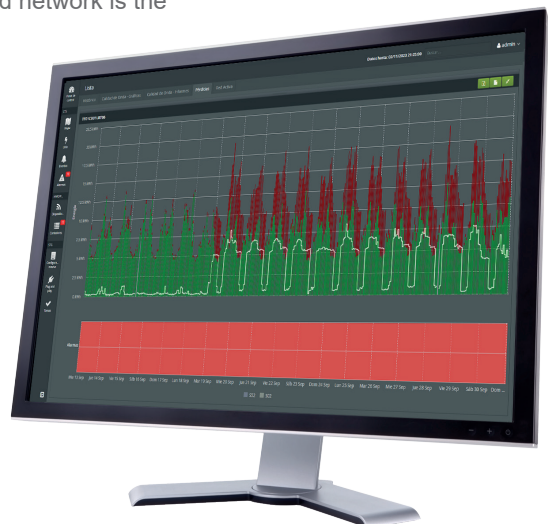
Fraud detection in electric distribution networks

In the current context of energy transition, operators have the need to manage their networks more efficiently through effective system digitalization, instead of relying on traditional grid reinforcement methods. One of the main objectives of a modern, digitalized network is the efficient detection and reduction of non-technical losses.

ariadna has developed a solution that allows energy balance calculations at various network levels from a single environment:

- Transformer and feeder balance
- Energy balance at feeder level
- Power Loss analysis: kWh per Transformer and feeder
- Shunt tampered meter detection

This solution contributes to enhancing DSO by increasing grid efficiency, minimizing energy wastage, and reducing CO2 emissions. It also works to decrease the overall costs of the system and enhance safety.



[Contact us for more information:](#)

