

We develop robust data processing and communication solutions that centralise low-voltage signals, apply local logic, aggregate information, and transmit it securely to your IT/OT systems using standard, cyber-secure protocols.

Converting distributed readings into reliable operational decisions, with easy integration into any existing architecture.

We transform measurements into useful, real-time information: remote terminal units (LV Edge Node and Multichannel LV Node), transformer monitoring (LVS), and service multimeters act as the field's brain—storing, synchronising, and transmitting data for diagnostics and operation.

We speak the language of the network: Ethernet/Modbus TCP, RS485 (DLMS/HDLC), XML/web services, and cellular connectivity via 4G (through router), ensuring compatibility with SCADA and IT/OT platforms.

02. Processing and communications

02.1 LV Edge Node

The LV Edge Node is the central device of the low-voltage monitoring system, located at the secondary substation. It acts as the communication and intelligence hub, collecting, storing, and transmitting electrical data from all feeder meters to higher-level platforms and systems.

Fully compatible with standard SCADA/DMS systems, it allows simultaneous data delivery through multiple communication protocols, enabling seamless integration across departments such as LV infrastructure, O&M, asset management, and loss detection.

FUNCTIONALITIES AND CHARACTERISTICS

Storage and management of feeder meter data.

Communication with software platforms via:

- XML reports and web services.
- Modbus TCP / IEC 60870-5-104 / DNP3.0.

RS485 bus master for feeder meters (DLMS / HDLC).

DC power supply to feeder meters through RS485 cable.

Advanced features:

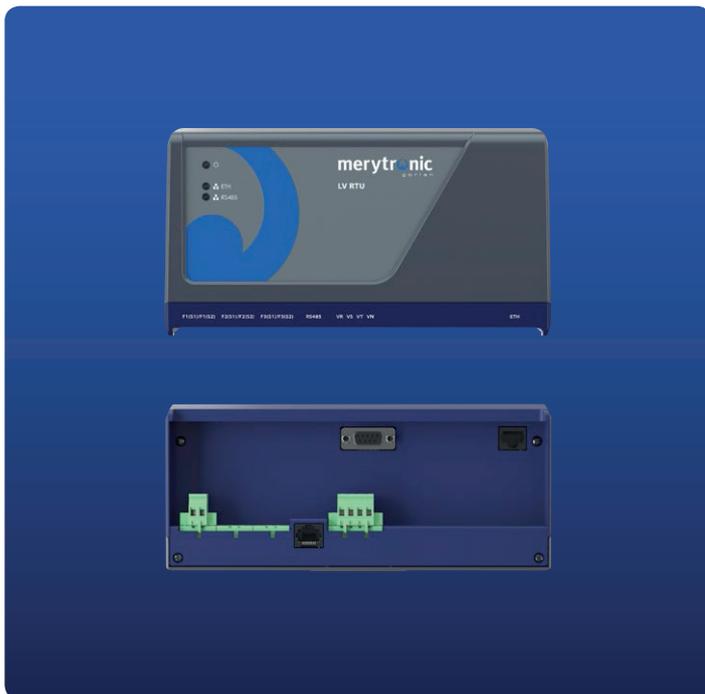
- Power quality monitoring.
- Oscillography.
- Earth leakage / service entrance current measurement.

Compact design with minimal cabling and simplified architecture.

KEY USE CASE

Main device of the modular LV monitoring system at the secondary substation.

Operates as a protocol gateway, enabling real-time data integration between SCADA/DMS environments for a unified, intelligent network view.



02. Processing and communications

02.2 Multichannel LV Node

The Multichannel LV Node is a simplified and cost-effective version of the LV Edge Node, designed to capture and digitalise electrical signals through current transformers or Rogowski coils.

It serves as a multichannel remote terminal unit that collects data from several feeders and transmits it directly to higher-level platforms and systems, ensuring accurate and synchronised measurements with minimal infrastructure.

FUNCTIONALITIES AND CHARACTERISTICS

Multichannel LV Node for current and voltage measurement.

Direct connection to fuse switch outgoing.

Electrical signals captured through Rogowski coils or traditional current transformers.

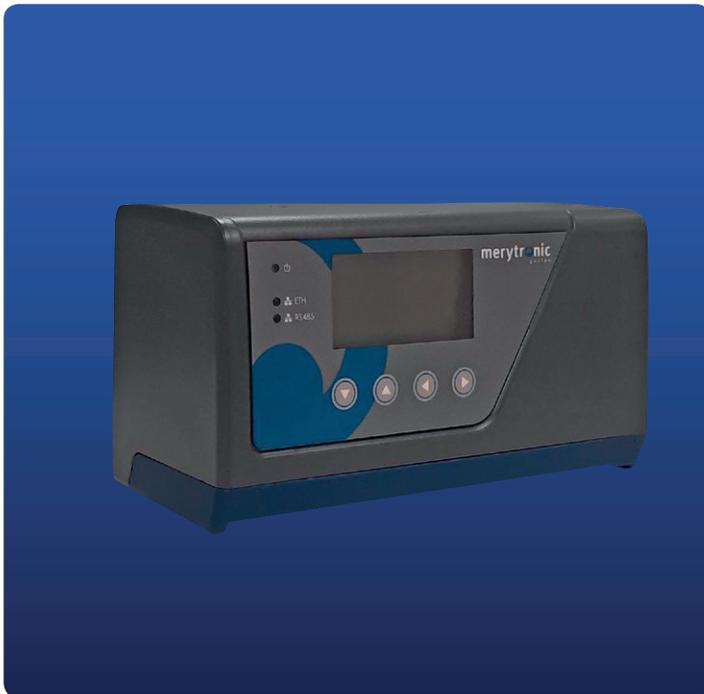
Compact, easy-to-install design.

Simplified integration into existing low-voltage panels.

KEY USE CASE

Ideal for secondary substations requiring cost-efficient feeder monitoring.

Acts as a centralised measurement element for multiple feeders, combining simplicity, flexibility, and reliable performance in one compact device.



02. Processing and communications

02.3 LVS – Transformer Supervisor

The LVS is a three-phase transformer supervisor designed to monitor the electrical and thermal condition of distribution transformers, whether installed in indoor transformer stations or outdoor pole-mounted enclosures. It provides accurate measurement of voltage, current, power, and harmonics, offering real-time data to SCADA systems to enhance asset management, reliability, and maintenance planning.

Its versatile configuration makes it suitable for both new installations and retrofits, ensuring continuous supervision and power quality analysis at the transformer level.

FUNCTIONALITIES AND CHARACTERISTICS

- Up to 6 current inputs and 4 voltage inputs.
- Alarm generation for abnormal operating conditions.
- RS232 / RS485 serial communication ports.
- Ethernet port supporting Modbus RTU / Modbus TCP protocols.
- PT100 input for transformer oil temperature measurement.
- Power quality monitoring, including voltage and current harmonics.
- Class 1 active and Class 2 reactive measurement accuracy.
- LCD display with buttons and visual indicators for local supervision.
- DIN-rail mounting for quick and easy installation.
- Multiple configuration options for indoor or outdoor transformer supervision.

KEY USE CASE

Ideal for monitoring distribution transformers in transformer stations or pole-mounted installations, enabling real-time supervision of electrical, thermal, and power quality parameters.

Provides secure and continuous data transmission to SCADA systems via Modbus TCP, ensuring effective transformer health management and early fault detection.



02. Processing and communications

02.4 Incoming supervisor – Multimeter

The Incoming Supervisor is a compact multimeter designed for supervision of the LV panel's incoming section. It measures and displays all key electrical parameters in real time through its large colour display, providing an intuitive interface for monitoring, diagnostics, and maintenance.

Its reduced size and front-panel format allow seamless integration into any low-voltage distribution panel, combining precision, visibility, and ease of use.

FUNCTIONALITIES AND CHARACTERISTICS

1 RS485 communication port (COM) for Modbus RTU protocol (slave mode).

Three-phase measurement of voltage, current, and other electrical parameters.

- 12-pole connector for power supply (Ub).
- 14-pole connector for voltage measurement (Um).
- 16-pole connector for current measurement (Im).

Colour LCD display with four-button navigation.

Firmware update via SD card or Modbus RTU connection.

Compact design for direct integration into LV panels.

Accurate and stable measurement of incoming transformer parameters.

KEY USE CASE

Ideal for real-time monitoring of transformer incomings and LV panel supervision, combining high measurement accuracy, colour visualisation, and easy installation.

Perfect for retrofit or new installations where space and visibility are key factors.



02. Processing and communications

02.5 SLVP – Smart LV Panel

The Smart LV Panel range combines protection, sensing, and communication in a single ready-to-install solution. Each panel is factory-equipped with intelligent fuse switches, advanced line supervision, and communications nodes, providing full visibility and control of the low-voltage network from the start.

Designed to simplify commissioning and integration, these panels transform traditional low-voltage distribution into an intelligent, connected system. The range is as extensive as Pronutec's LV panel catalogue, offering configurations that comply with different installation types, national standards, and international market requirements.

FUNCTIONALITIES AND CHARACTERISTICS

Factory-assembled panels with integrated protection, sensing, and communication devices.

Smart fuse switches (SFS) with current and voltage measurement per line and phase.

Embedded data concentrators ensuring communication with IT/OT and SCADA platforms.

Compact configurations adapted for both indoor and outdoor transformer substations.

Custom-built options tailored to each utility's technical and operational needs.

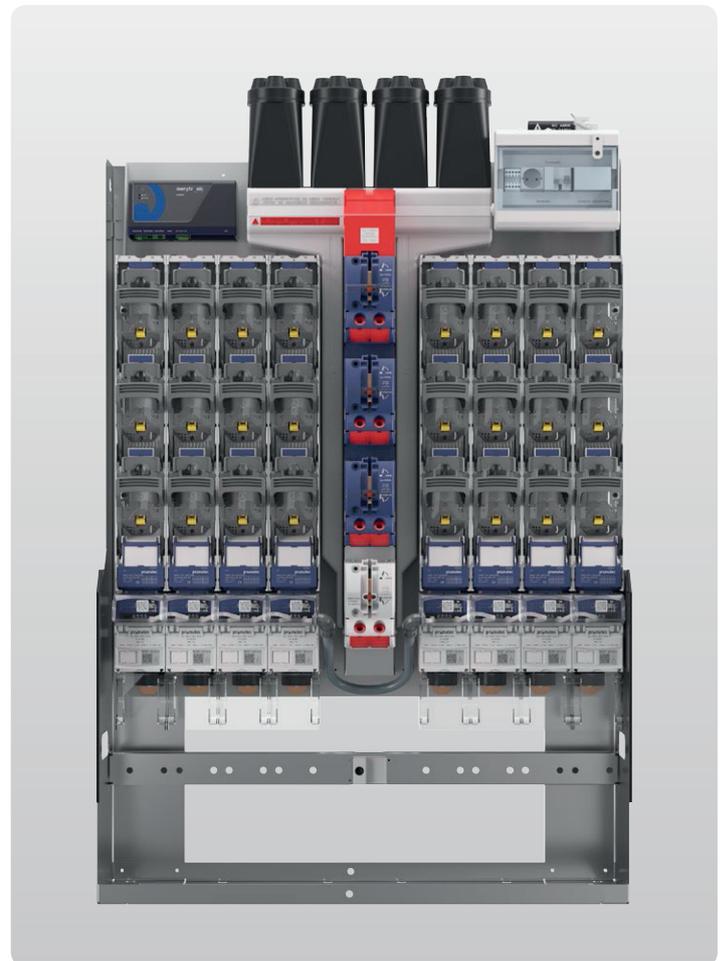
Reduced installation time – plug-and-play deployment and easy commissioning.

Compatible with any monitoring architecture within the Zillion ecosystem.

KEY USE CASE

Ideal for utilities seeking pre-engineered, intelligent LV panels that integrate protection, monitoring, and communication in one compact solution.

Designed to simplify field installation, ensure interoperability, and accelerate digitalisation of the low-voltage grid.





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GRIDS BY GORLAN

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