

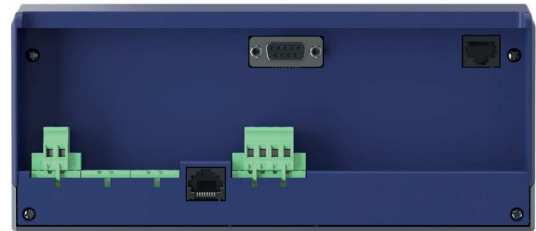
## ▶ 04.2 LV EDGE NODE

LV Edge Node is the central device of the LV monitoring system at the Distribution substation. Main functions:

- Storage of feeder meters data
- Communication with software platform by:
  - › XML reports - web services
  - › Modbus TCP
- Head of serial bus RS485 connection with feeder meters (DLMS – HDLC)
- DC power supply for feeder meters through RS485 cable
- Additional features:
  - › Power quality
  - › Oscillography
  - › Leakage current / incoming measurement



Front view

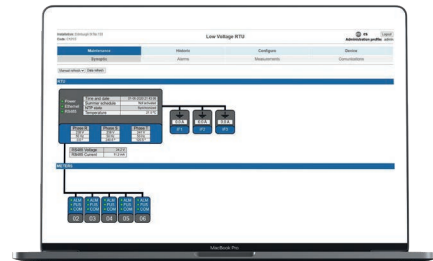


Rear view

### RS485 BUS Connections

Each feeder meter has two RJ45 connectors that implement the RS485 serial bus between one feeder meter and the next one with one single UTP cable.

Last feeder meter is connected to the LV Edge node with another UTP cable.



LV Edge Node management web access



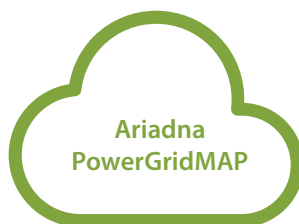
Daisy chain connections

## PROTOCOLS

LV Edge Node can send data to Ariadna PowerGridMAP and SCADA simultaneously using different protocols.



WEB SERVICES



MODBUS TCP



More and more LV monitoring information is interesting for different departments of the utilities such as LV infrastructure, O&M, Assets management, losses, etc. That's why LV Edge Node can send information simultaneously to Ariadna Powergrid LV platform by web services/XML files and to a general SCADA system using an standard telecontrol protocol.

Thereby, the LV supervision hardware can deliver all information needed for an specialized LV analysis tool, and, at the same time, be easily integrated in existing SCADA system for real time monitoring.