

# G3-PLC Network Analyser

Communication analysis on a power-line network



[www.trialog.com](http://www.trialog.com)

Founding Member of **G3-PLC Alliance**

## Product overview

The G3-PLC Network Analyser is an analysis tool provided by TRIALOG to analyse G3-PLC frames circulating on a power-line network. G3 PLC frames are captured in real-time, decoded and analysed to display the detailed content of each frame, visible nodes and a graphical representation of the network topology including the real-time traffic. The G3-PLC Network Analyser allows to store the captured frames for further analysis. In option, the G3-PLC Network Analyser may also capture G3-RF frames.

## Features

The G3-PLC Network Analyser is an all-in-one tool providing several analysers. It allows the user to study different aspects of the G3-PLC communication. Three types of analyser are available:

### ■ Frames analyser

Displays frames captured on the G3 PLC network. Frames are chronologically displayed and the protocol level is clearly indicated. Decoded frames can be displayed as a user-friendly tree detailing each field of the frame. Three frame analysers are available: All frames, Applicative frames and Real frames.

### ■ Nodes analyser

Displays the devices identified on the G3 PLC network. The equipments, Concentrators or Electric Meters for example, are organised as a list where you can get details of all their properties. The list is refreshed in real time according to the G3 network traffic.

### ■ Graphical nodes analyser

Displays a graphical representation of all equipments identified on a G3 PLC network. The G3 PLC network traffic between the equipments is displayed in real time.

The screenshot displays the G3-PLC Network Analyser software interface. It is divided into three main sections:

- Frames analyser:** Located on the left, it shows a list of captured frames with columns for time, source MAC, and destination MAC. A detailed view of a selected frame is shown below, including fields like 'EAP-PSK #2 from device', 'Phy Data Frame', and 'EAP Message PDU'.
- Nodes analyser:** Located in the top right, it displays a table of identified nodes with columns for PAN ID, Address MAC Short, Address MAC Extended, and System Title.
- Graphical Nodes analyser:** Located in the bottom right, it shows a network topology diagram with nodes represented as colored circles and connections between them. A detailed view of a selected node is shown to its right, listing various characteristics like System Title, Extended Address, PSK Key, Short MAC Address, PAN Id, UC session key, CC LAN, Authentication key, and Tonemap negotiated.

Arrows point from the text labels 'Frames analyser', 'Nodes analyser', and 'Graphical Nodes analyser' to their respective windows in the screenshot.

### ■ Common features

Most analysers provide filters allowing to choose the data you want to monitor. Export tools are also available to save contents to CSV (Comma Separated Value) format for further usage.

## Contact us

For further information about this tool, please contact: [olivier.genest@trialog.com](mailto:olivier.genest@trialog.com)