

## EC-Lyser

### Powerful EtherCAT diagnosis tool for bus verification, error detection and documentation

EC-Lyser is a diagnosis tool especially developed to analyze EtherCAT bus systems that are controlled by the acontis EC-Master EtherCAT Master Stack.

Automated control systems usually require high system availability. Due to the rough industrial environment this is often hardly to achieve. Possible reasons for failure are:

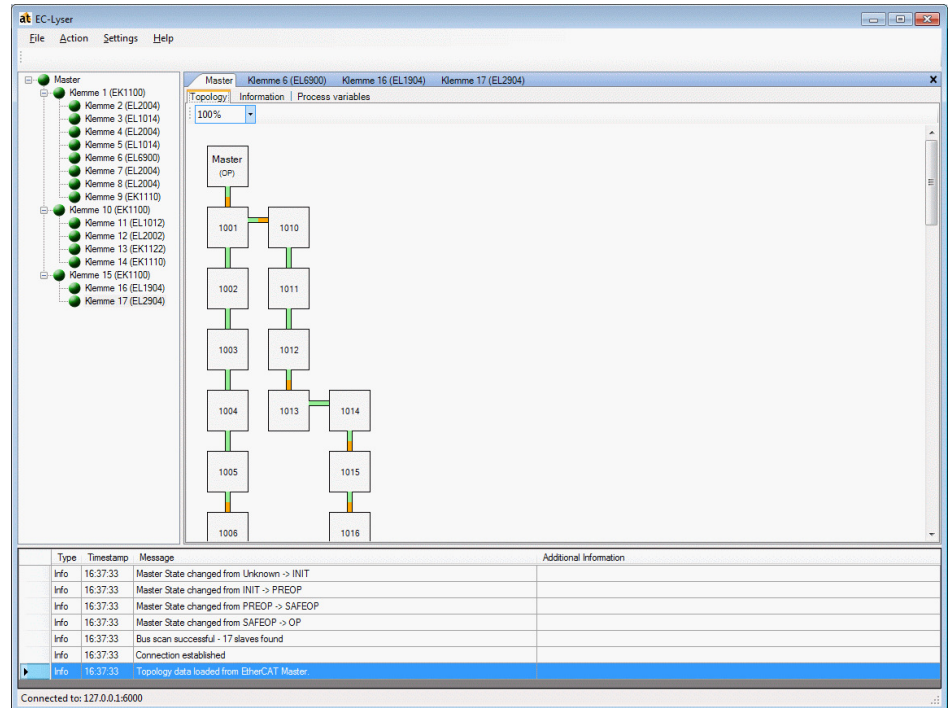
- bad cables and connectors
- vibrations that cause transmission interruptions
- system degradation caused by high temperatures, oxidation, mechanic failure
- electromagnetic fields
- electrostatic discharge

If high availability shall be guaranteed for an automated control system it is important to verify and maintain the functionality of the underlying field bus system. Using the EC-Lyser it is possible to take a look into the "health" of the EtherCAT system.

Detection of system degradation prior to running into a system failure will be a great benefit, because it is possible to change the weak components (cables, slave devices) before failure.

Many aspects of diagnosis are covered by the EC-Lyser:

- Useful for setting up the system
- System analysis and maintenance
- Error detection
- Documentation



## Highlights

- Graphical display of the bus topology.
- Monitor EtherCAT slave and master error counters and display the connection quality in the topology view.
- Define limits to determine connection quality (good, restricted or bad) that determine the behavior of the topology display view. Good connections will be displayed in green, restricted or bad connections in yellow or red, respectively.
- For documentation purposes it is possible to store all current data (e.g. topology, slave info) to a XML file.
- Error and status messages - which are normally only available in the control system - will be shown in a separate log area.
- Using a TCP/IP connection to a remote master it is possible to analyze a running system.
- EC-Lyser is shipped with an integrated EtherCAT Master that can be configured and controlled using a Control-Panel.

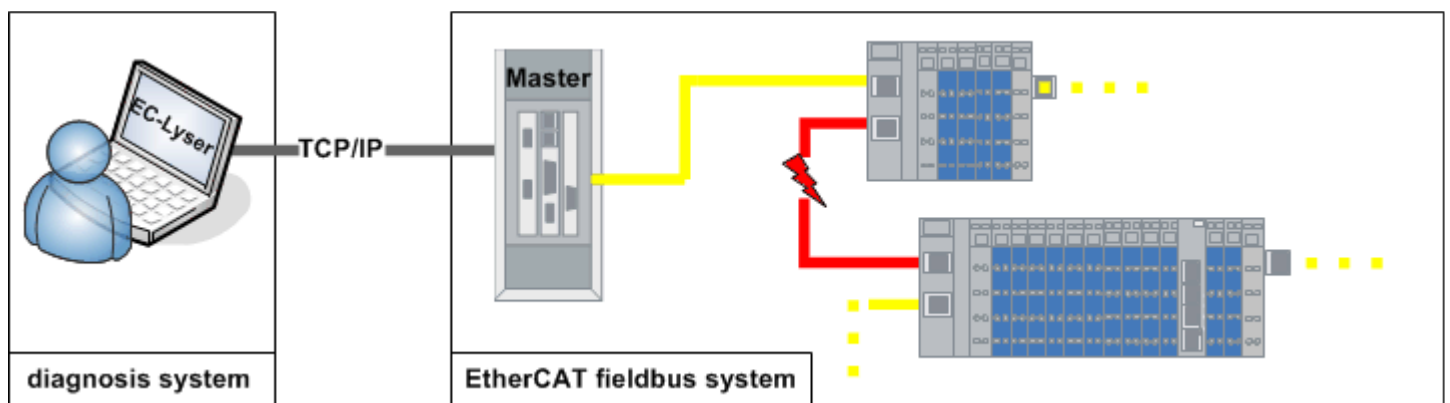
# EC Lyser EtherCAT diagnosis tool

## Ease of Use

With a simple click on the appropriate node in the topology view detailed information will be displayed:

- All available error counters (e.g. number of corruptly received Ethernet frames)
- General information like device name, EtherCAT address, Product Code, Revision etc. of the EtherCAT Slaves
- Additional information like Distributed Clocks and „Slave-State“
- Master information like „Master-State“, number of sent frames, number of lost frames

## Technology



All data that is required by the EC-Lyser to display the topology view and provide system diagnostics is directly transferred from the EtherCAT Master Stack (EC-Master) to the EC-Lyser diagnosis tool. As the EC-Master stack provides a TCP/IP remote interface this can be accomplished by simply connecting the EC-Lyser with this interface. System analysis therefore will not require additional traffic on the EtherCAT bus. All information is directly taken from the EtherCAT master.

## acontis technologies – EtherCAT and Real-time Ethernet Services

As a services company we offer both, the product as well as support and development services. Get your benefits using our knowledge on many different embedded operating systems as well as in implementing high-performance networking solutions. Well known companies rely on our knowledge in real-time Ethernet to get optimum solutions.