

EasyLT

powered by **novald** 

Modular and Scalable OLED Lifetime Test System

Key Features

Modular

- Rack with 8 ports
- each port addresses 4 individual drivers

Scalability

- bus-system with hot-plug capability
- 1 ... 32 racks
- up to 256 panels or 1024 individual cells

Software

- SimpleLifetime – to run measurements
- LifetimeViewer – for evaluation
- LifetimeManager – managing and planning

Parameter

- Voltage range* +/- 15 V (standard)
- Current range* +/- 20 mA (standard)
- Time resolution 8 μ s (24 μ s shortest pulse length)
- Optical sensor 3-color-photodiode, calibrated for RGB measurements
- Resolution

Voltage	0.5 mV
Current	1.2 μ A
- Max. errors

voltage/current	<3%
color	<10%
brightness	<5%

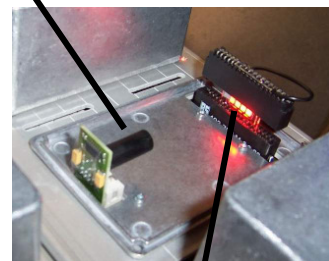
* may be adapted to customer specifications



Hardware

EasyLT is a modular, scalable and easy-to-handle OLED lifetime test system. It is based on a central control PC and up to 32 racks with 8 aging ports. Each port is equipped with 4 drivers to address 4 independent OLEDs. The individual drivers allow to set individual operational parameters for each driver of each port. The OLED can be operated in DC or pulsed mode. The forward operation in DC or pulsed mode can be constant current (CC) or constant voltage (CV). The backward operation in pulsed mode is constant voltage. The ports are equipped with a calibrated 3-color-photo-sensor to monitor color shifts.

Optical sensor with tubus



Device under Test (OLED)

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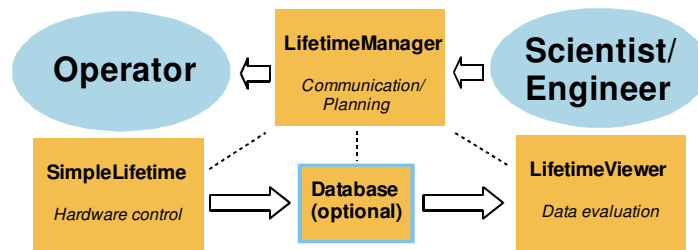
The Racks are connected via a bus-system to a common Desktop-PC. The smallest system consists of a single rack. The maximum number of racks connected to one bus-system is 32. To expand an existing system additional racks can be connected to the bus very easily without interrupting running measurements.

In the standard layout the ports for connecting the OLED are placed directly on the housing of the rack. If the measurements need to be carried out under defined ambient conditions (e.g. high temperature and/or humidity), it is possible to separate the connectors for the OLEDs and the 3-color-photo-sensor from the rack. The electronics will then remain at room conditions and only the OLED is exposed to the desired stressing method.

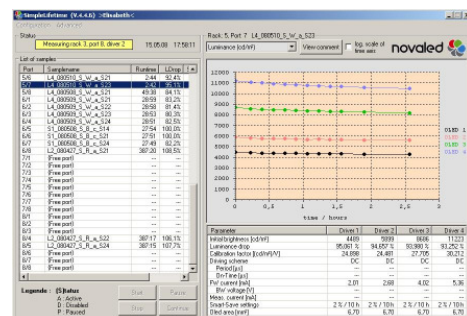
Software

The software has been developed by Novaled and has been improved over several years of operation at Novaled. It offers a user friendly interface, adapted to the needs of the daily use. The customer can directly benefit from the practical knowledge of Novaled concerning lifetime measurements.

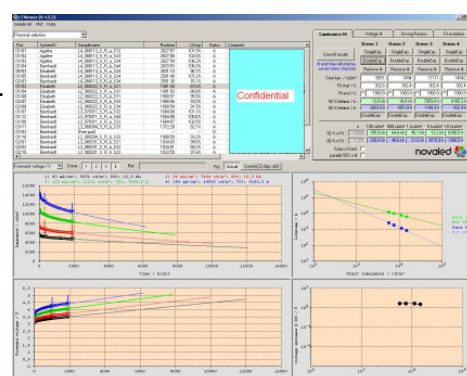
The software package is modular and consists of three different tools:



- **SimpleLifetime** – hardware control to operate the measurements and viewing the data of the ongoing measurement.



- **LifetimeViewer (optional)** – evaluation program. Allows to have direct data access at the scientist desk from the ongoing measurements via network. The tool features different fitting and extrapolation models to get an up-to-date estimation of the lifetime, as well as advanced tools that help to judge the quality of a fit. Furthermore, it gives the ability to sort and select data for viewing and to save fits to be compared with future fits. The datasets can be exported to ASCII-file or optionally into a user-defined database.



- **LifetimeManager (optional)** – communication and planning tool to closely connect the operator and scientist work. It further creates a history of the usage of the SimpleLifetime system.