Dali-e64-Management Tool

The Dali-e64-Management tool is an optional module which needs an additional license in order to run.

The intention of this module is to have a simple user interface which displays the states of IPAS Dali e64 devices. Considering the number of data points which has to be observed this tool discharges the communication over KNX bus exhaustive because it uses an web-interface for communication purposes. Nevertheless it is recommended to limit the number of observed dali devices to 30 devices per Evolution-Box because dependent on the configuration this can lead up to 30,000 observed data values.

In order to use the Dali-e64-Management tool, you have to configure a menu item which opens the Dali-e64-Management UI. Therefore assign the CBSE Function "12:Dali e64 Management" to a menu item of your choice (see image below).


Bind Dali-e64-Management-Menu

In order to use the Dali-e64-Management tool, now login as appropriate user and open the configured menu item. The next step is to configure the DALI-e64 devices you want to observe.
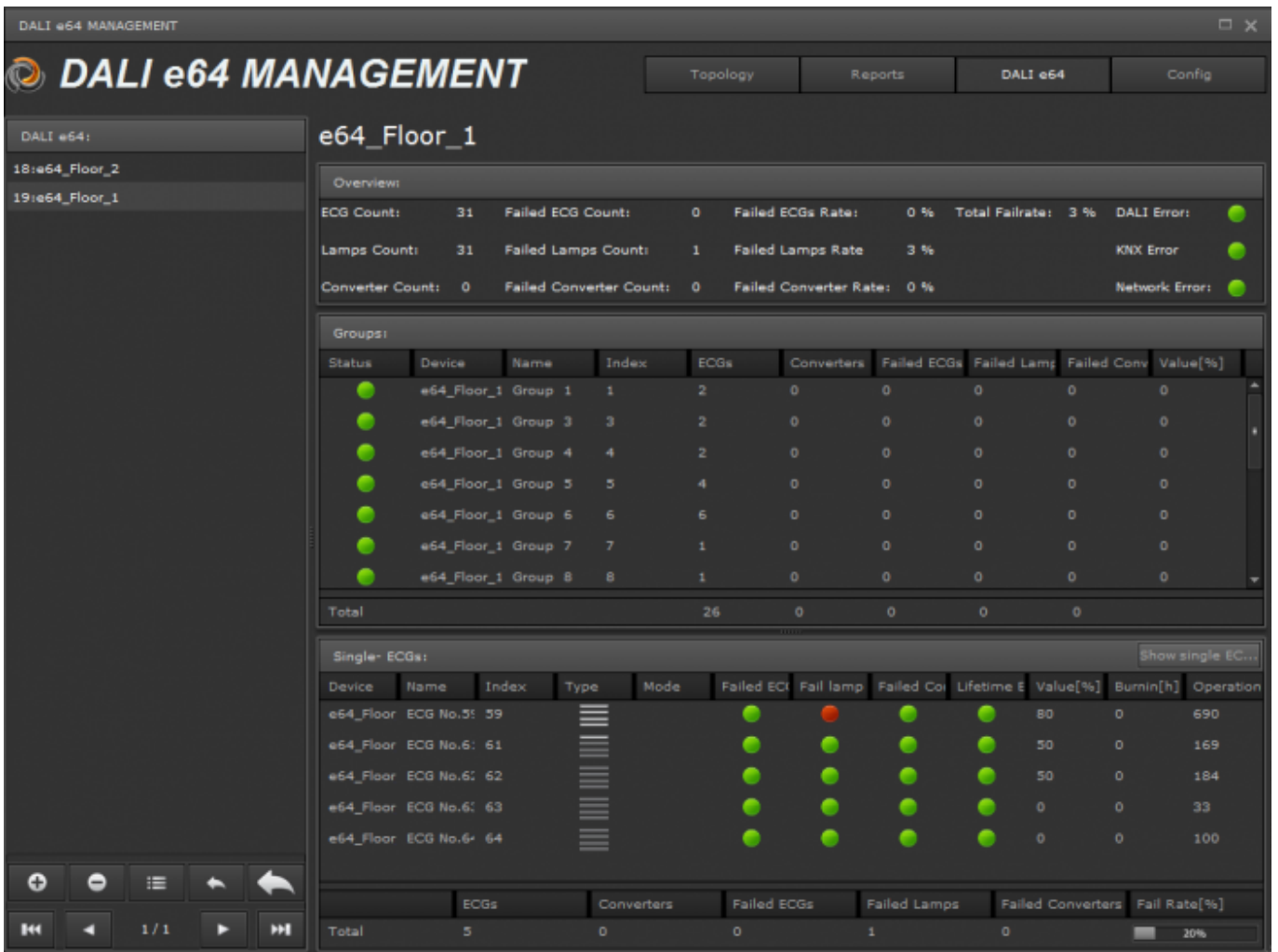
Configuration of Dali e64 Devices

First of all you have to define the Dali e64 devices you want to observe. For this press the "DALI e64" button on top of the UI and afterwards the "+"-button in the navigation panel on left hand side. The following dialog appears on top
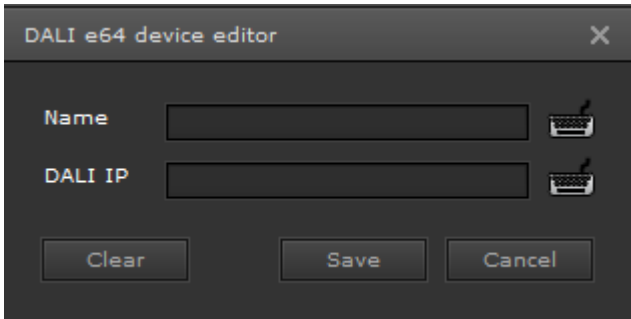
Add New DALI Device

Define the device name and ip address of the device and afterwards press the "Save"-button. Repeat this action for each observable DALI-e64 device. As soon as you press the "Save"-button a visualization panel like that shown below will appear.

Dali e64 Device View

The device information panel is devided into three sections. The top section is the "Overview" section

and displays the summeries of the device:

- ECG-Count: the total number of ecgs configured with this device.
- Lamps-Count: the total number of lamps connected to this device.
- Converter-Count: the total number of converters configured with this device.
- Failed ECG-Count: the total number of failed ecgs.
- Failed Lamps-Count: the total number of failed lamps.
- Failed Converter-Count: the total number of failed converters.
- Failed ECG Rate: ecg failing rate calculated by: *Failed ECG-Count / ECG-Count * 100* [%]
- Failed Lamps Rate: lamps failing rate.
- Failed Converter Rate: converter failing rate.
- Total Failrate: calculated by *(Failed-ECG-Rate + Failed-Lamps-Rate + Failed-Converter-Rate)* [%]
- DALI Error: green/red signal displays DALI communication bus status.
- KNX Error: green/red signal displays KNX communication bus status.
- Network Error: green/red signal displays network communication status.

Dali e64 Device Overview

The "Groups" section displays the DALI group configuration of the device. For each group you will get following information:

- Status: a green/red signal which displays if any error (red sign) occurs within this group.
- Device: the device name the group belongs to.
- Name: the group name.
- Index: the dali-group-index (1-16).
- ECGs: number of ecgs assigned to this group.
- Converters: number of converters assigned to this group.
- Failed ECGs: number of failed ecgs.
- Failed Lamps: number of failed lamps.
- Failed Converters: number of failed converter.
- Value: group lighting value (0-100[%]).

The third section displays information about ecgs, that are not assigned to a group (so called single ecg). Following information are available for "Single ECG":

- Device: the device name the ecg belongs to.
- Name: the ecg name.
- Index: the dali-ecg-number (1-64).
- Type: displays an icon which represents the ecg-type.
- Mode: displays an icon which represents the current operation mode of the ecg.
- Failed ECG: green/red signal displays the failure status of the ecg (red on error).
- Failed Lamp: green/red signal displays the failure statuis of the lamp (red on error).
- Failed Converter: green/red signal displays the failure status of the converter (red on error).
- Lifetime Exceeded: green/yellow signal displays the lifetime status (yellow if exceeded).

- Value: current lighting value (0-100[%])
- Burnin: this value shows the amount of hours the lamp is already in burnin mode.
- Operation Hours: the amount of hours a lamp is "ON" (value > 0).

Dali e64 Device Group/ECG View

Please note that some of the above features has to be configured with the dali device itself (e.g. lifetime, burnin, operation hours).
If you want a detail view of a dali-group, select the group in the "Group"-panel and the ecg-data belonging to this group are listed in the "ECGs"-panel. To switch back to "Single-ECGs" view press the "Show single ECGs" button located in the header of the "Single-ECGs" view panel.

Apart from the simple device view, you can also define a topology view of your dali installation.

Configuration of a Topology View

The topology view enables you to combine different dali-groups and/or single ecgs in order to reflect the status of your entire dali installation. You have the possibility to define several topology levels like building→floor→flat→room or whatever you like. The topology configuration begins with the definition of the single levels. Therefore open the topology configuration panel by click on the "Config"-button. Use the "+" button in the navigation panel on left hand side to add new topology levels. A topology level simply consists of his name. If you want to create a sublevel, select first the **parent node** and do a right-mouse-click on that item to open the context-menu. Click on the **New Sublevel** menu item and a dialog appears in order to enter the new (sub-)level name. In the deepest level of a topology

view (so called leaf node), you can add dali-group and/or dali-ecg items. To accomplish that, press the "+" button on the bottom of the right side. Following dialog appears:
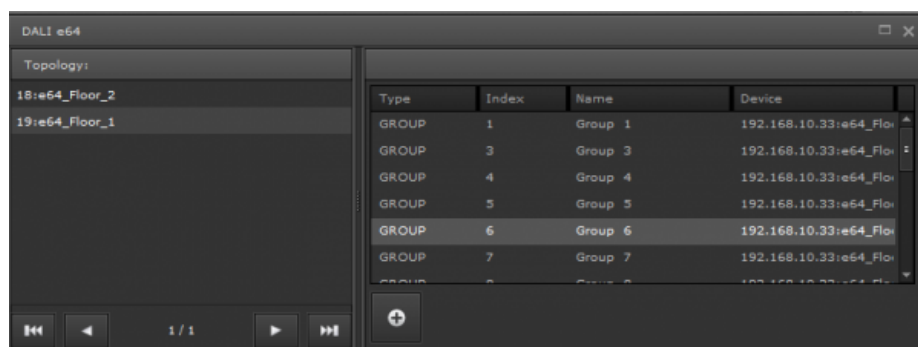

Assign Dali Items To Topology

Once you have added dali items (either groups or ecgs) to a level you cannot create sublevels within this level anymore.

Topology Related Information

One of the major advantage of the Dalie64-Management tool is, you get all information in a compact and visual attractive design, even for complex dali installations. On the left hand is the navigation panel which clearly represents the level you are observing. A click on a topology item in the navigation panel brings up all information related to this topology-level on the right hand panel. The level information on the right panel are devided into two sections "Emergency Lights" and "Normal Lights" (see image: Topology Level View). Emergency light errors are propagated as a binary (green/red) signal from the level they occur up to the toplevel due to their importance. So you can simply find the source of the error tracing back the error path.

Normal lights have a failure rate instead which will be propagated and summerized from level to level. So you can define a failure rate value which needs to be handled. E.g. you can combine the normal lights failure rate with the alarm system and get notification whenever a rate exceeds a tolerable value. Of course alarm notification is also possible with the binary status of emergency lthe Dali-ECG-Index -1ights.
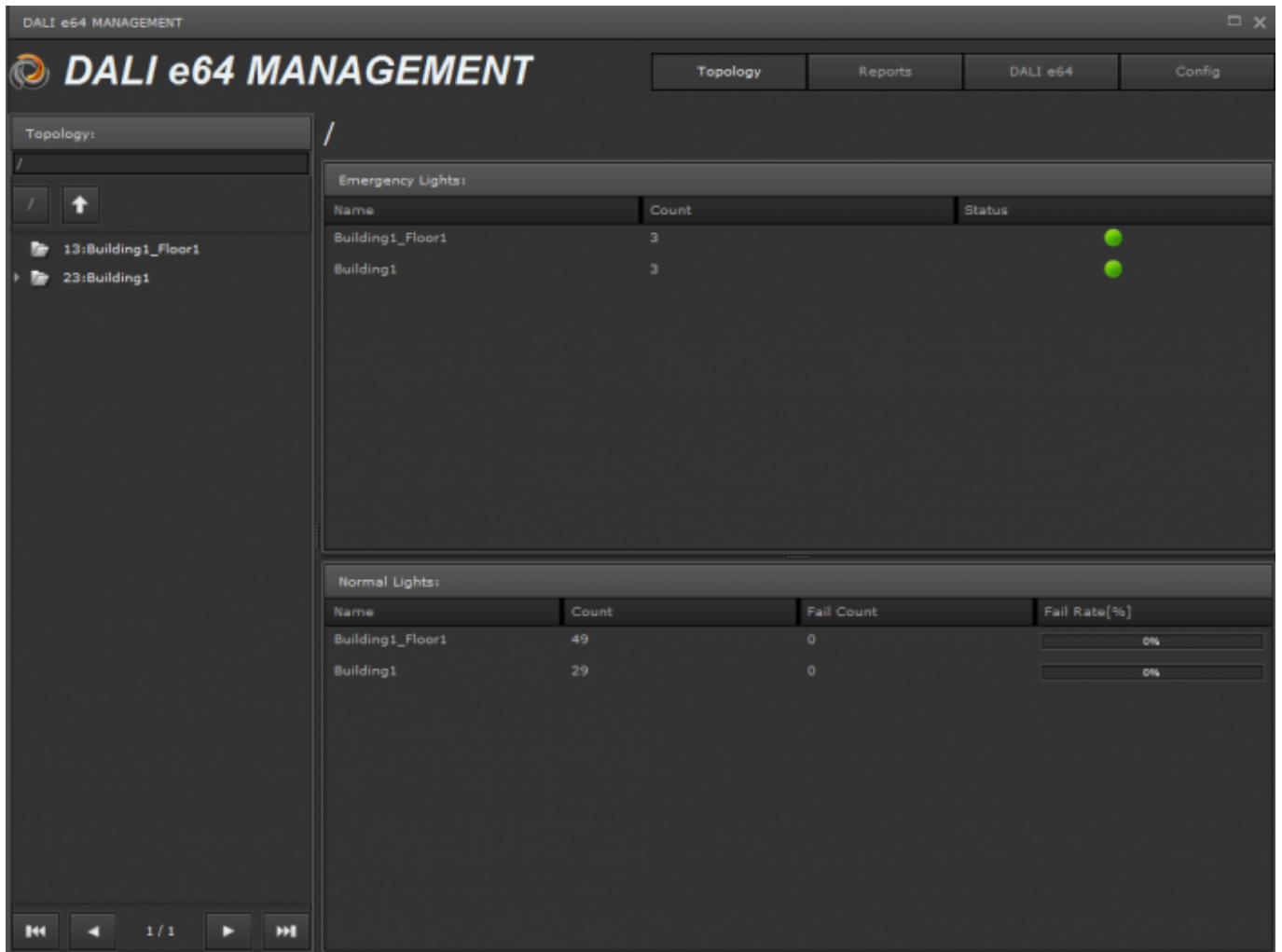
Topology Level View

If the topology level you select in the navigation panel is a *leaf-node-level*, the information panel view on right hand differs (see image: Leaf-Node Topology View). A leaf-node-level displays the status of all dali-device items (ecgs, groups) configured for this level. The view layout is the same as the "DALI e64" panel view, except the "Overview"-section provides information regarding the "Emergency-" and "Normal-Light" philosophy.
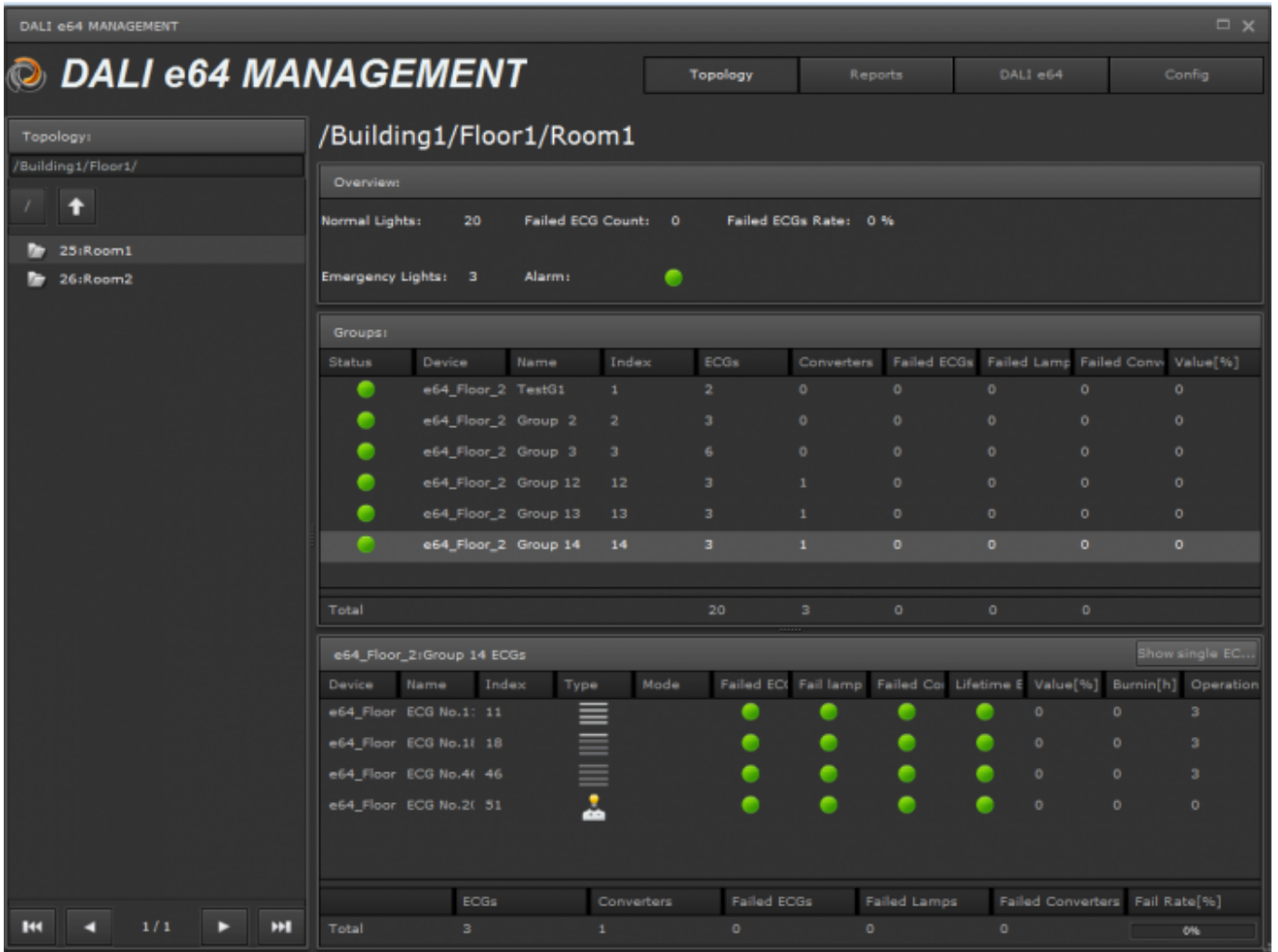
Leaf-Node Topology View

All data values displayed within the Dali-e64-Management tool are also available for the normal visualization. All these process points are automatically configured and you can pick them up in the CBSE editor ProcessPoint→dali folder. You will find subfolders for each dali device and one subfolder *topology* for all topology related process points (see following image).
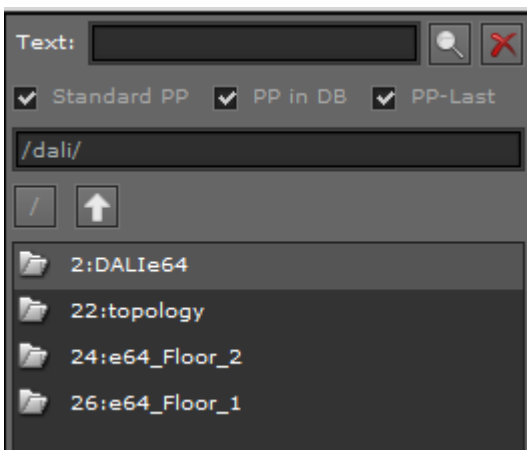
Process Points related to Dali-e64-Management

There is a naming convention for all these process points.
Following device related items are available (where *<device-name>* has to be replaced by the real device name):

- **Dali.<device-name>.EcgCount** - The number of configured ecg in dali device
- **Dali.<device-name>.LampsCount** - The number of lamps the device detected
- **Dali.<device-name>.ConverterCount** - The number of converters
- **Dali.<device-name>.EcgErrCount** - The number of failed ecgs
- **Dali.<device-name>.LampsErrCount** - The number of failed lamps
- **Dali.<device-name>.ConverterErrCount** - The number of converters
- **Dali.<device-name>.LampFailRate** - Calculated lamp failure rate
- **Dali.<device-name>.EcgFailRate** - Calculated ecg failure rate
- **Dali.<device-name>.ConverterFailRate** - Calculated converter failure rate
- **Dali.<device-name>.TotalFailRate** - Calculated total failure rate
- **Dali.<device-name>.KnxError** - KNX error flag (e.g. if knx bus connected is not plugged)
- **Dali.<device-name>.DaliError** - Dali error flag
- **Dali.<device-name>.NetError** - Network error flag (e.g. cannot establish communication to dali device)

For each ecg following process points are available (*<n>* is the internal ecg index):

- **Dali.<device-name>.ECG-<n>.Value** - ecg lighting value
- **Dali.<device-name>.ECG-<n>.Mode** - ecg mode (consult Dali e64 documentation)
- **Dali.<device-name>.ECG-<n>.Alarm** - ecg alarm status
- **Dali.<device-name>.ECG-<n>.BurninTime** - amount of hours the ecg is in burnin mode
- **Dali.<device-name>.ECG-<n>.RunHours** - operation hours

Note: the internal ecg numbering is from 0-63. It differs from DALI numbering convention (1-64).

For each dali-group following process points are available (*<n>* is the internal group index):

- **Dali.<device-name>.GROUP-<n>.Value** - group lighting value
- **Dali.<device-name>.GROUP-<n>.Mode** - group mode
- **Dali.<device-name>.GROUP-<n>.EcgErrorCount** - number of failed ecgs in group
- **Dali.<device-name>.GROUP-<n>.ConverterErrorCount** - number of failed converters in group
- **Dali.<device-name>.GROUP-<n>.LampErrorCount** - number of failed lamps in group

Note: the internal group numbering is from 0-15. It differs from DALI group numbering convention (1-16).

For each topology level following process points are available (where *level-hierarchy* is a dot-separated list of level names):

- **LightControl.<level-hierarchy>.NormalCount** - number of normal-light ecgs
- **LightControl.<level-hierarchy>.EmCount** - number of emergency-light ecgs
- **LightControl.<level-hierarchy>.FailCount** - number of failed normal-light ecgs
- **LightControl.<level-hierarchy>.FailRate** - Calculated failing rate of normal-light ecgs
- **LightControl.<level-hierarchy>.EmAlarm** - emergency-light status

DALI e64 Test Report

The Dali e64 device has a builtin test execution engine, which allows the execution of functional-, long duration- and battery tests. The test results are stored in device properties. Due to the limited device resources, only one test result per tested item (ecg/converter) can be stored in the device. In order to have a chronological report of test executions the Dali e64 Management tool reads the test result properties from device and stores them in the database. Thus test result report is a matter of a button click.
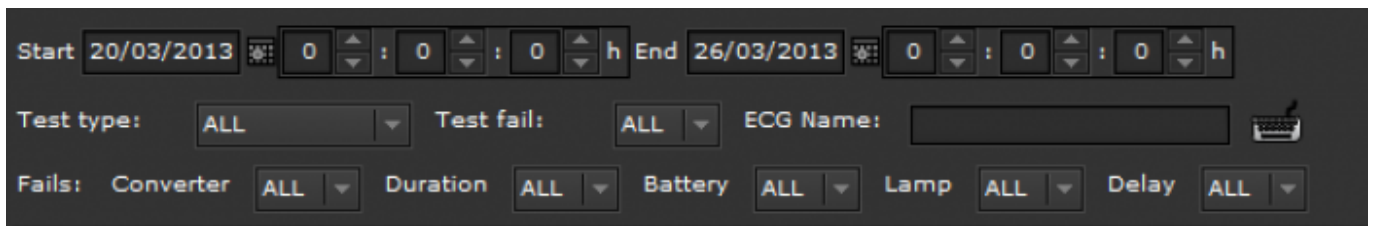

Dali Test Report Overview

As you can see on the image above, each test result is listed in one row. The fields have following meaning (please consult the Dali e64 documentation, for detail information):

- TEST: the all over test result flag green=no error, red=error occured
- TIMESTAMP: test execution time
- CONTROLLER: Dali e64 device name
- ECG NAME: name of ecg under test
- ID ECG: dali index (1-64) of ecg under test
- TEST TYPE: type of test executed (functional, long-duration or battery test)
- RESULT: test result value dependent on test type either percent value or time value
- CONVERTER: test result flag, green=no converter error, red=converter error
- DURATION: test result flag, green=no duration error, red=duration error
- BATTERY: test result flag, green=no battery error, red=battery error
- LAMP: test result flag, green=no lamp error, red=lamp error
- DELAY: test result flag, green=no delay error, red=delay error

The report tool has a filter engine available which let you combine several options in order to select

only those items you want to see. Following filter options are available (see image):

- Start datetime: define the begin of a time range of test execution time
- End datetime: define the end of a time range of test execution time
- Test Type: select ALL, functional, long duration or battery test
- Test Result: select ALL, True or False
- ECG Name: filter for a specific ecg
- Converter: filter items where Converter Failure is either True, False or Any (ALL)
- Duration: filter items where Duartion Failure is either True, False or Any (ALL)
- Battery: filter items where Battery Failure is either True, False or Any (ALL)
- Lamp: filter items where Lamp Failure is either True, False or Any (ALL)
- Delay: filter items where Delay Failure is either True, False or Any (ALL)

Dali Test Report Filter