

DALIcontrol Application Note

Emergency Lighting

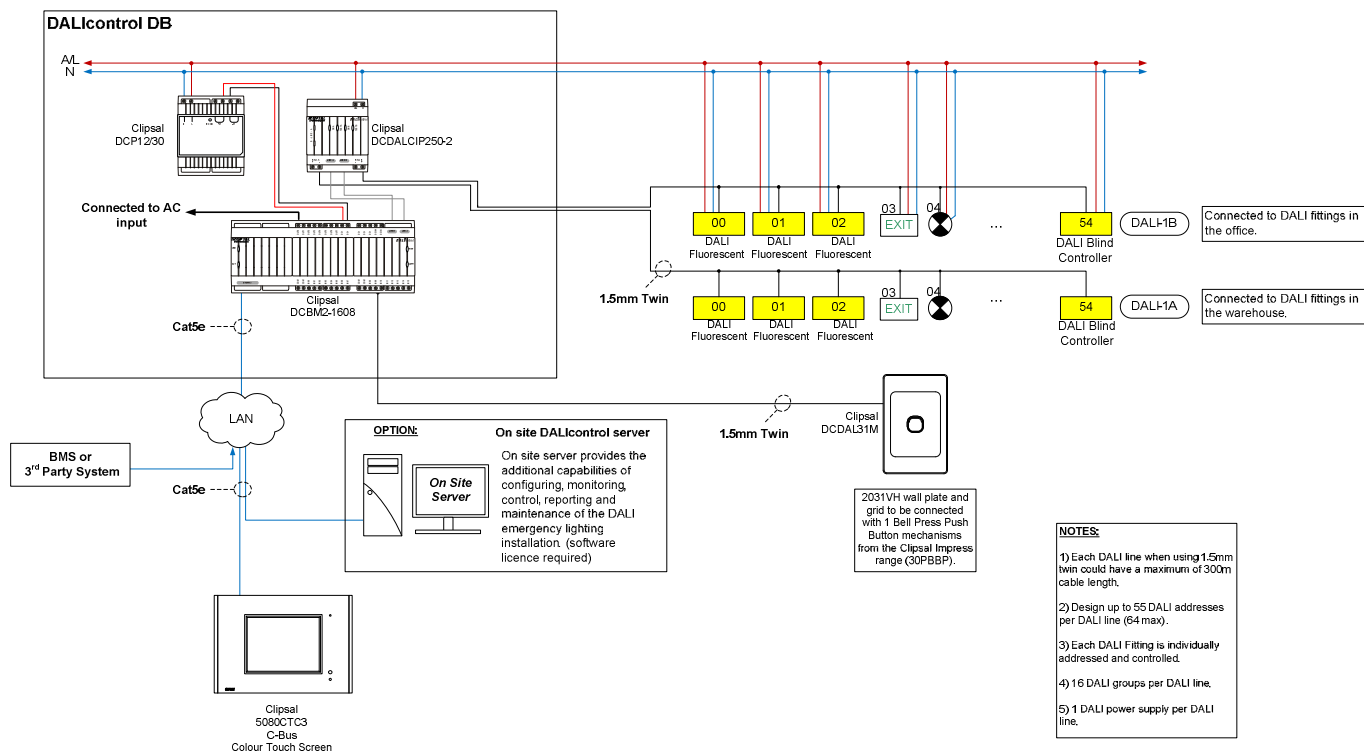
Overview

The DALI International Standard enables emergency fittings to be incorporated onto DALI networks. This has allowed for DALIcontrol to collect status information from individual ballasts, emergency and evacuation lighting, eliminating the need for a separate monitored emergency system.

DALIcontrol is capable of controlling many aspects of lighting, as well as automatic testing of DALI emergency fittings. Legislation requires that emergency lights are regularly tested and maintained in full working order to ensure they function effectively in an emergency situation. Emergency tests conducted by DALIcontrol software are carried out in accordance with worldwide standards. Reports can be generated at the end of these tests to meet the associated legislative requirements.

The following application note describes how emergency fittings can be connected into the DALI system; the various DALI enabled emergency fittings that Clipsal offers and also a brief overview on the DALIcontrol Emergency monitoring software.

Typical DALI Single Line Diagram



Features:

- DALI Fluorescent Luminaire and Emergency Lighting connected on the same system
- Emergency Test can be initiated on DALI line without interrupting the functionality of the Non Emergency Fittings
- Up to 64 fittings can be connected onto each DALI Line
- Multiple options to initiate Emergency Test
- Central DALIcontrol Monitoring Server

Emergency Testing

There are two kinds of emergency tests that can be initiated by DALIcontrol. These are Function Test and Duration Test.

Function Test

A Function Test is used to quickly check an emergency fitting, and is usually used after a site has just been commissioned. A Function Test will run a quick check on emergency fittings to detect any possible errors (eg. battery, ballast and lamp) and report them.

Duration Test

A Duration Test is used to test the durability of the battery in an emergency fitting, as well as the functionality of the fitting. This test is performed at regular intervals, to ensure fittings are in working order. Running this test will report any reasons for failure from the emergency lighting as predetermined by the DALI emergency standard. The result of the test and its validity will remain unchanged and stored in each emergency fitting until a new test is performed.

Emergency Tests can be initiated using various methods:

- **Key Switch / 6.4" Colour Touch Screen**

Key switches connected to an input on the DALIcontrol line controller can be programmed to initiate both kinds of emergency tests stated above. However, reports can only be generated with an onsite computer using the DCBMReporter software (Refer to DALIcontrol Emergency Monitor Software section).

- **Scheduled in DALIcontrol Line Controller**

Emergency tests can also be initiated via a programmable schedule within the DALIcontrol line controller. Reports from the test can only be retrieved with an onsite computer using the DCBMReporter software (Refer to DALIcontrol Emergency Monitor Software section).

- **Onsite Computer**

The DALIcontrol Emergency Monitor software package provides tools to monitor, maintain and report on DALI emergency lights. It is used in conjunction with the DCBM range of controllers. This emergency monitor software can be used to initiate Function and Duration Test on emergency fittings, monitor and records the results. (Refer to DALIcontrol Emergency Monitor Software section for an overview on the functionality of this software)

DALI Emergency Light Fittings Offer from Clipsal

Clipsal's DALI exit and emergency lighting range is the best option to safely guide people out of buildings, office spaces or department stores.

These fixtures use advanced LED lamp technology that provides superior energy conservation with extended lamp life. Clipsal's DALI exit and emergency lights are easy to install and offer a modern design, which sets them apart from any other exit and emergency lighting on the market.

DALI exit and emergency systems are available as a more advanced and cost effective means of monitoring the evacuation in today's modern building environment. Clipsal's DALI exit and emergency lights are fully compatible with Clipsal's DALIcontrol system.

- **Quicksmart – EXITSM DALI**



Some of the features are:

- Easy to install
- 1.2W LED tube which provides longer life and lower power consumption
- Wall or ceiling mounting, single or double sided and complete with all "running man" decals in one box
- Viewing distance 24m
- High temperature nickel metal hydride batteries
- LED strip light technology included
- Complies with AS/NZS2293

Suitable for all exit applications, the Quicksmart range is suitable for wall, ceiling, single and double sided installations. It is environmental friendly with the latest technology batteries that do not contain the usual harmful heavy metals.

- **Wafer (LED) – EXITRECDALI**



Some of the features are:

- Slim edgelite design flush with mounting
- Supplied with flex and plug fitted
- Easy to install
- 2.3W LED tube provides longer lamp life and lower power consumption
- Electronic continuous current charging system 3.6V 60mA
- Viewing distance 24m
- High temperature nickel metal hydride batteries
- Complies with AS/NZS2293

This fitting is suitable for architectural exit applications. The contemporary design is also environmentally friendly with long LED life and the latest battery technology. It reduces carbon emissions and eliminates heavy metal contamination from the batteries.

- **Sentinel – EMG DALI**



Some of the features are:

- Non maintained model
- Two size reflector dishes in one box (85mm and 140mm)
- Dual rate constant current and charger and high temperature nickel metal hydride batteries
- Complete with flex and plug supplied and fitted
- High output lamp included with vandal resistant dome
- Complies with AS/NZS2293
- LED Emergency light
- Recessed unit
- Vandal Resistance cover
- Highly efficient switch mode power supply for minimum energy use
- D40 Australian Emergency Classification

With a D40 spacing classification, this emergency fitting is the ideal choice in all commercial projects. It uses the latest battery technology with no heavy metals and a switch mode power supply. A D40 classification will allow the greatest spacing and therefore fewer fittings in projects.

DALIcontrol Emergency Monitor Software

The DALIcontrol Emergency monitor software is known as DCBMReporter. It reports on the health and performance of ballasts and lamps. This software is capable of producing reports on the status of DALI devices such as ballast. Where ballasts are indicated as emergency lighting, the DCBMReporter can generate a list of controllers and DALI addresses where devices are not working.

The DCBMReporter is a tool used by building management at regular intervals, for tasks such as the production of monthly reports. These reports can be converted to PDF or CSV (Excel) to be incorporated into building management reporting databases.

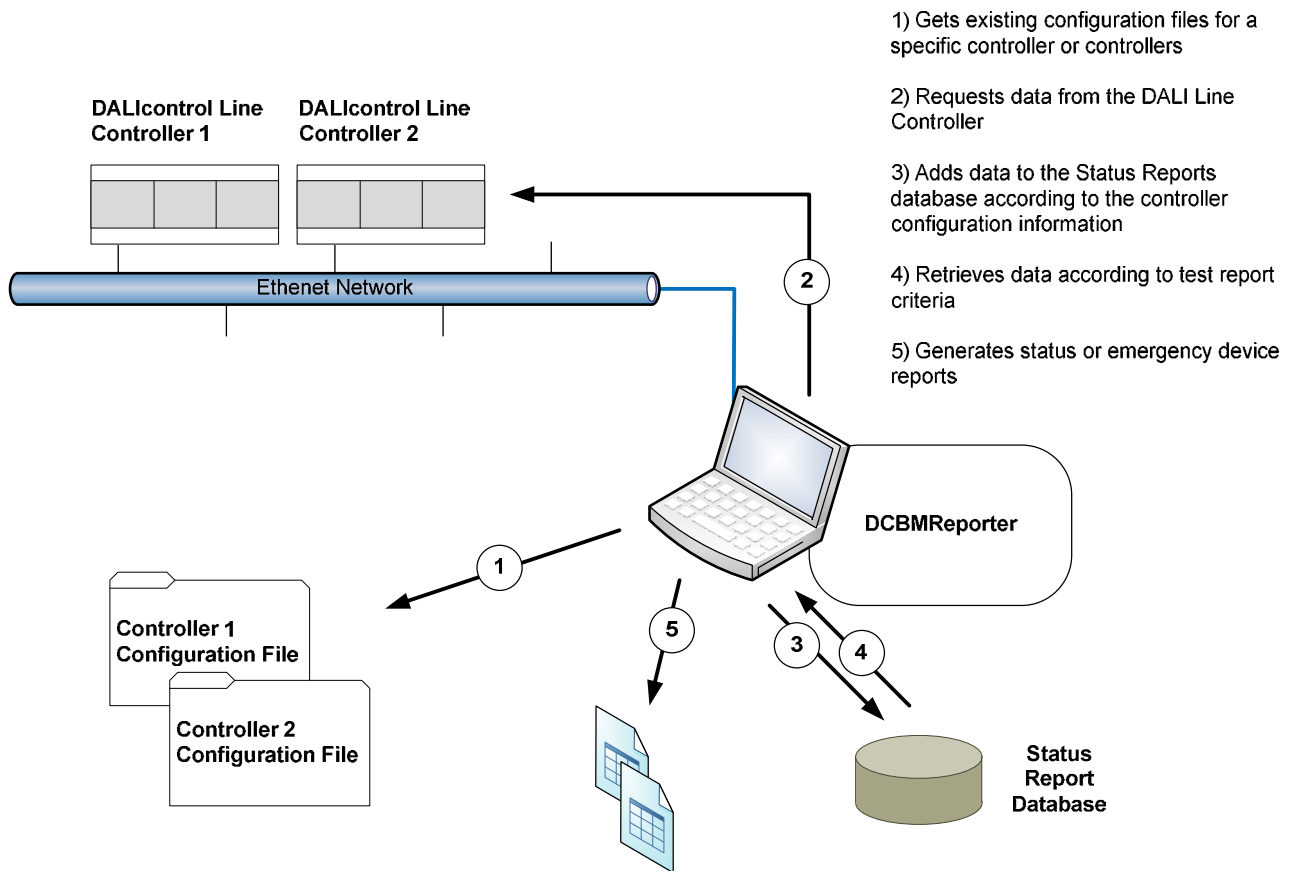
- **How the DCBMReporter works**

The DCBMReporter connects to DALIcontrol line controllers via the Ethernet to access ballast information. It also relies on access to DALIcontrol line controller configuration files in order to perform filtering of records for the generation of reports. The filtering is accomplished using report templates which specify what information will go into a given report.

The diagram on the following page describes how the DCBMReporter is linked to the Ethernet network and configured to interrogate DALI network ballasts controlled by DALIcontrol line controllers. The DCBMReporter utilises report templates which are based on information retrieved from the DALIcontrol line controller configuration files. These files have been filled previously with ballast information by using the DCBMMonitor software.

The report templates are defined to extract specific information from the ballasts and place this information into test records within the Status Report database. In addition, tests are defined according to the report template configuration information. After a test is run, the Status Report database stores all the test data collected into new records. Test reports can then be generated on individual records when needed.

- DCBMReporter Activity Diagram



Resource Links

For information including Product Datasheets, Installation Instructions and Downloads visit

<http://www.clipsal.com/dalicontrol>

It is recommended that a Clipsal DALIcontrol System Partner be engaged on projects involving integration for design, programming and commissioning.

Clipsal DALIcontrol System Partners have undertaken specialist training so they are equipped to provide the technical services and support to help you successfully implement a DALIcontrol lighting system.

In addition, a Clipsal DALIcontrol System Partner will provide professional detailed documentation and specifications for projects including handover training to the client.

Engaging a Clipsal DALIcontrol System Partner provides key benefits to the contractor, consultant and the end user including the manufacturers support from project design through to completion. A Clipsal DALIcontrol System Partner will also be able to educate the Building manager on how to run reports on the fittings for an installation.

A major advantage of the DALIcontrol system is the ease of installation and commissioning. The five-pin 'soft-wiring' system reduced labour costs and the distributed architecture enabled sections to be tested and commissioned ready for the tenant as each area is installed.

For further information:

Clipsal DALIcontrol M3 Soft Wiring Solutions:

www.clipsal.com/cablemanagement

DALIcontrol:

www.clipsal.com/dalicontrol

Schneider Electric (Australia) Pty Ltd

33-37 Port Wakefield Road, Gepps Cross,
South Australia 5094

PO Box 132, Enfield Plaza,
South Australia 5085

National Customer Care Enquiries:
1300 2025 25

clipsal.com

Website: clipsal.com
Contact us: clipsal.com/feedback

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