

TESTING FACILITIES

An automatic stand-alone wireless DALI self-contained emergency lighting testing and monitoring system shall be provided as part of the emergency lighting system.

This stand-alone system shall be capable of testing and monitoring self-contained emergency luminaires in compliance with the latest European Standards including IS3217 and EN62034.

The wireless DALI system shall be a PERC Type system as defined in the latest standard EN60234.

Each individual self-contained luminaire shall be capable of TYPE S “self-test” functionality when not connected to a respective DALI Controller.

The system shall provide a central interface which will provide control and monitoring for the entire emergency lighting system.

The central interface shall be hosted on a cloud platform to allow multi-access functionality and reduce dedicated control equipment.

No dedicated PC shall be provided and the head end software shall be capable of being accessed from any PC or mobile device.

This cloud platform shall in turn communicate to individual DALI Controllers via the MAC address of the DALI Controller via a private or public site network.

Each DALI controller shall be capable of supporting up to 128 individual wireless DALI devices and communicating with the cloud based front end software.

Each intelligent luminaire shall have a DALI emergency module with integrated wireless module.

Each intelligent luminaire shall have a bi-directional LED (RED/GREEN to charging, health and fault status).

Individual wireless compatible DALI luminaires shall communicate to their respective DALI controllers via a wireless network.



The wireless network shall be capable of transmitting upto 50m distance within a building environment.

The wireless network shall be a mesh network and repeaters shall not be used.

The system shall have built in redundancy so that if the head end cloud software is not operational, local control is provided by each DALI controller which will continue to test and monitor all the self-contained luminaires connected to that particular DALI controller. Upon reconnecting to the cloud, the system shall have the ability to upload all test data to the front-end software.

In turn if a DALI Controller was then to fail each individual DALI luminaire shall revert to a “self-test” or TYPE S functionality and continue to test locally in accordance with EN50172 testing parameters. Upon reconnecting to a wireless DALI controller, the individual luminaire shall have the ability to update the DALI controller with its individual health status.

Individual luminaires shall have at a minimum a location description and associated address to facilitate long term maintenance.

The default system shall test automatically the installation daily, monthly and annually in accordance with the latest requirements of EN50172.

Failure of any testing or monitoring function shall not impede the emergency lighting function of the self-contained luminaires.

The system shall allow up to 16 test groups across the entire site.

The system shall allow for a dedicated test group to inhibit or isolate self-contained luminaires from their test schedule.

The system shall allow for a night light function using maintained luminaires which can be switched on and off at scheduled times via DALI command.

The system shall allow reporting on individual luminaires, groups of luminaires or the entire site.



The system shall allow for these results to be downloaded from the cloud front end or sent via email.

The system shall allow for floor plans to be integrated into the cloud front end software.

The system shall allow for these floor plans to allow full functionality of the system showing luminaire location and health status of each individual luminaire and DALI Controllers.

The system shall have a BMS interface functionality. This interface shall be either MODBUS or BACNET compatible. This interface shall be accessible via the DALI Controllers ethernet port so that the BMS interface can determine DALI Controller, individual luminaire and individual fault status if required.

The individual DALI controllers and cloud-based system shall be password protected

The system shall allow for multiple users which can log into the system via any PC or mobile device.

The system shall identify a fault including details relating to the device which failed and the nature of that fault. A fault on a self-contained Emergency Luminaire shall be narrowed to one of the following four:

- Communications fault
- Lamp fault
- Battery fault
- Charger module fault

COMMISSIONING

The supplier of the automated testing system shall be responsible for commissioning the automated and emergency lighting testing system. Upon completion of commissioning the commissioning body will hand over a set of marked up drawings showing DALI Controller locations and identifier and individual luminaire locations and addresses. These will be replicated in the front-end software.

The commissioning body will also perform onsite training for end users once the project is completed.

