Installation & Operating Instructions

Recessed DALI/ Self-Test Emergency Luminaire

Product Specification

- Mains voltage:	230V +/- 10%
- Mains frequency:	50 - 60Hz
- Power Consumption	4VA
- No user-serviceable fuses internal fuses:	
- Emergency output:	155 -188lm
- Emergency Duration:	3 Hours
- Battery:	3.6V 3.0Ah LiFePO4
- Ambient temperature range:	+10°C to +35°C
- Min/Max Conductor sizes:	0.5-2.5mm²
- Weight	400g
- Charging time:	24 hours
- Protection class:	II
- Degree of protection:	IP20
- Material:	UL94 V0 PC
- Em module complies with:	BS EN 61347-2-7/2-13 EN62034/EN62386

- Suitable for installation to EN50172 and BS7671

The unit provides reinforced insulation between the mains supply and battery charging circuit and employs self-resetting protection against short-circuit of battery terminals. Normal charging will resume automatically once a fault is removed.

Features

- DALI/ Self-Test emergency luminaire
- Optional lensed versions for corridor applications
- Intelligent, automatic self-test scheduling for non-DALI applications
- Integral status/ identification sounder with user-override
- Built-in charge indicator LED and 'push to test' switch on lamp head
- Incorporates a high temperature LiFePO4 battery as standard
- Emergency spacing (2.5m ceiling) : 8m open area/ 19m escape route
- Battery Deep discharge protection (DDP)

NOTE – To comply with regulations, installation must be carried out by suitably qualified competent person and in accordance with the current IEE wiring regulations (BS7671) and building regulations. This luminaire requires a permanent supply for charging the battery pack.

Installation

Ensure the mains supply is isolated before attempting installation! Please refer to the diagrams on page 2 for wiring and fixing details.

It should not be mounted in an external location or in areas where temperatures below 10°C may be frequent in cold months and likewise, do not use the luminaire in a hot environment where the temperature is maintained at 35°C or above. In either case, the battery's design life of 4 years will be compromised and provision of three hour emergency duration may not be possible when needed.

Prepare supply cables with a strip length of 6mm (10mm maximum). Min/max Conductor sizes: 0.2 - 1.5 mm^2.
It is recommended that a 42mm diameter hole is provided to insert the recessed ceiling lamp head and luminaire. The mains connections should be made to the terminals marked 'LIVE' and 'NEUTRAL'. This product requires a permanent supply (via test key switch where required). See illustrations and wiring diagram on page 2. Restrain and protect the terminations by affixing the cord restraint and terminal cover provided.

Function test and commissioning

Note: This luminaire will only operate the white LED upon mains supply failure from the internal battery supply; it cannot be operated as a standard light source.

If it is anticipated that the un-switched supply may be interrupted before normal use, we advise that the battery is left disconnected and commissioning is delayed until the supply is stable.

If the luminaire has been stored for a number of months, it may be necessary to repeat the initial charge/discharge process several times to re-condition the battery and achieve full rated emergency duration.

When ready for commissioning, the battery lead should be connected to the emergency driver PCB and then the mains supply turned on.

The indicator LED should now be visible on the lamp head's front bezel, showing the battery is connected and being charged. Also, when the mains is powered on (after a battery disconnect), the luminaire will automatically determine if it is being used in Stand alone Self-Test mode or connected to a DALI network.
If Stand alone Self-Test is detected, the luminaire will enter into a commissioning mode, where it will remain for a period of up to 48 hours + the Duration Test period. The first 24 hours is to fully charge the battery before its Duration Test and second 24 hours to recharge the battery for normal use.

Once commissioned, it will establish randomised delay times to ensure the next scheduled tests do not coincide with the same test of adjacent luminaires. (See table on page 3 for details of 'Test Delay Time' ranges).
Subsequent routine testing will then take place according to the 'Test Interval' times detailed in the table on page 3.

If the luminaire detects it is installed on a DALI network, it will configure itself according to the default DALI specification. (See table on page 3). It is important to note that in DALI mode, randomisation will not be set and it will await test delay times to be configured by the DALI master.

In the event of loss of communication with the DALI master, automatic testing will revert back to the Self-Test 'Test Intervals', but 'Test Delay Times' will remain as configured by the DALI master.

After successful commissioning, the battery should be marked with the date of commission.

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Function test and commissioning continued...

The luminaire can be returned to stand alone self test at any time by disconnecting it from the DALI network and forcing a Function Test from the test switch or by cycling the un-switched mains supply. (See information tables on page 3 for details).

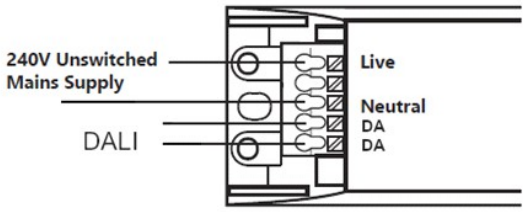
To fully reset all test times, disconnect the mains, battery power and DALI connections. Once power is restored, the commissioning cycle and randomisation process will be re-initiated.

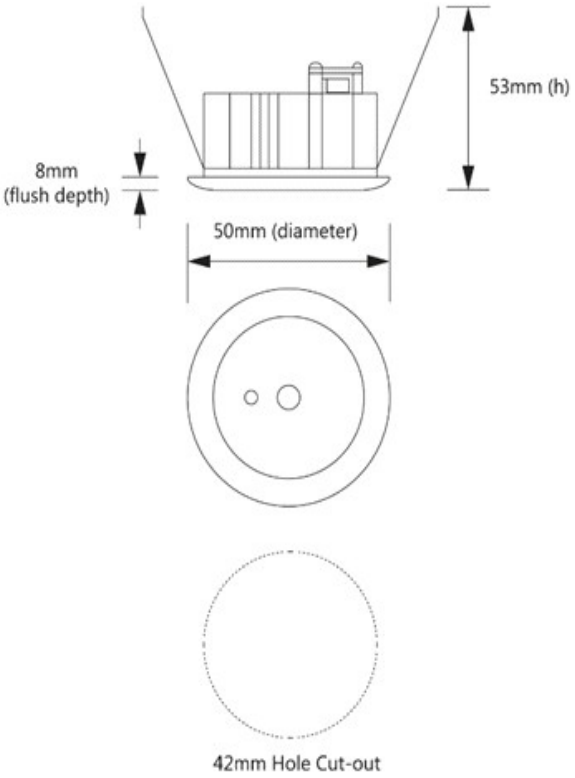
Short discharge periods each month for the Function Test will not adversely affect the battery and should be considered as a maintenance exercise. Regular full discharge cycles could however adversely affect the design life of the battery, so excessive testing should be avoided wherever possible.

A full summary of automatic test timings can be seen in the tables on page 3.

The status of the luminaire can be determined at any time from the indicator LED. Details of the indicator LED status conditions and integral test switch functionality can be found on page 3.

Wiring illustration





Emergency Lighting 'standard' or 'manual' Test

In addition to automatic testing, the following manual inspections may be carried out:

Monthly

Switch off the mains power supply to the luminaire. Inspect the emergency light for satisfactory operation. Any defects should be noted and actioned by a competent person as soon as possible.

Yearly

Switch off the mains power supply to the luminaire. Leave the unit to run for the rated period (e.g. three hours). The light should remain operable from the battery for the whole period.

Please be aware that further inspection / testing may be required, e.g. by risk assessment / local legislation.

Maintenance

There are no user serviceable parts within the product. The battery pack must be replaced when the 3 hour duration is no longer achieved.

The battery is not considered user-replaceable and must be referred to a competent engineer. Please contact the luminaire manufacturer suitable replacement parts.

Batteries and Disposal

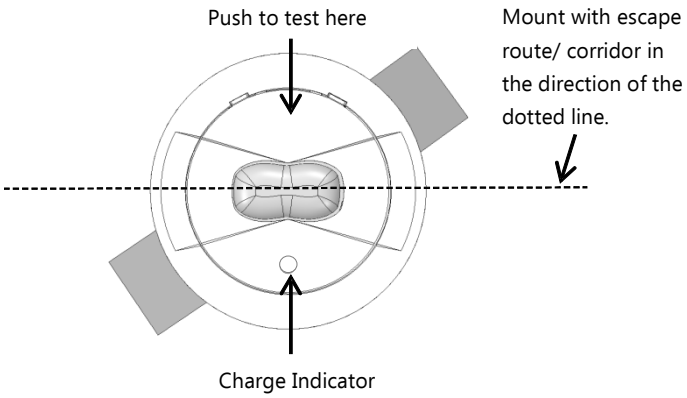
The battery has a designed service life of 4 years and must be replaced in a timely manner to ensure the integrity of the emergency lighting system is maintained. In any case, the battery should be replaced with when it no longer provides the rated duration (3 hours).

The manufacturer of this luminaire is committed to fulfil its obligations as a producer of batteries used in emergency lighting applications. End-of-life batteries may either be returned to the manufacturer at the customers cost and arrangements will be made to ensure their correct disposal. Alternatively it may be more convenient for the customer to deliver end-of-life batteries to site(s) of authorized treatment facilities at their cost and it will be ensured that they are accepted back and subsequently treated to the standard required by the regulations.

Disclaimers

This product and its associated accessories have been designed and manufactured to comply with the requirements of EN60598-2-22 and required additional standards. Operation beyond the parameters specified in this document and the associated standards may result in reduced performance and ultimate premature failure, with the warranty made void. The specifier should be aware of the environment to which this luminaire and components are used and adhere to its specifications. Please contact our Technical department if you are in any doubt

Corridor Lens Lamp Head "/CL" Option



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Automatic Testing Information					
Test Type	**Mode**	**Duration**	**Test Delay time**	**Test Interval / Occurrence**	**Notes**
Commissioning Test	Self-Test	1 or 3 Hours*	24 Hours	Once*	The module will carry out a Duration Test 24 hours after initial power up. *This test cycle will be repeated if un-successfull
	DALI	1 or 3 Hours*	N/A	N/A	Caution! An initial Duration Test must be initiated by the DALI Master to commission a new installation.
Function Test	Self-Test	20 Seconds	1-15 Days	Every 28 Days	-
	DALI	20 Seconds	0	Every 7 Days	Caution! Factory default of zero test delay time is set for DALI Mode
Duration Test	Self-Test	1 or 3 Hours*	1-51 Weeks	Every 51 Weeks	The module checks if the lamp is in use before initiating a test to avoid disruption. Maximum test delay is 36 hours

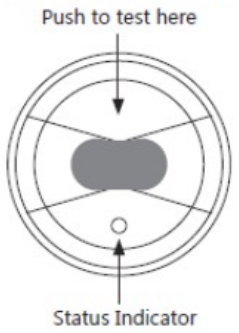
Luminaire Status Information						
LED Colour	**LED Status**	**On Time (Seconds)**	**Off Time (Seconds)**	**Sounder Activated**	**Purpose**	**Action required**
Green	Steady On.	Permanent	0	-	Normal status with fully charged battery (Commissioned unit)	None - In standby mode and operating as normal
	Slow Flash	1.5	0.5	-	First 24 hour charge and Duration Test. (Non-Commissioned unit)	None - Await commissioning process to complete
	Fast Flash	0.5	0.5	-	Function Test or Duration Test in progress. (Commissioned unit)	None - Await current test to complete

Varied		On	Off	On	Off		Purpose	Action required
Green	Long 'On' then flash	10	0.5	0.5	0.5	-	Battery being charged (Commissioned unit)	None - Await battery to charge (Normally 24 Hours)
	Long 'Off' then flash	0.5	10	0.5	0.5	-	Second battery charge after Commissioning Duration Test	None - Await battery to charge (Normally 24 Hours)
Red & Green (alternate)	Fast Flash	0.5	0.5	0.5	0.5	-	Physical select enabled by DALI system only	Confirm Physical select with optional Test Switch

Luminaire Status Information (Fault Conditions)						
LED Colour	**LED Status**	**On Time (Seconds)**	**Off Time (Seconds)**	**Sounder Activated**		
Red	Slow Flash	0.5	1.5	Yes	Battery fault	Check battery & connections, repair/ replace as necessary
	Fast Flash	0.5	0.5	Yes	Lamp or internal circuit fault	Check Lamp & connections, repair/ replace as necessary

Test Switch Information	
Function	**Test Switch Action**
Disable Sounder	Press and hold for longer than 5 seconds (Sounder bleeps once for confirmation)
Enable Sounder	Press and hold for longer than 5 seconds (Sounder bleeps twice for confirmation)
Start a Function Test	Press and release 2 times within 5 seconds
Confirm physical selection	Press once during physical selection mode initiated by DALI system
Set preferred automatic test time of day	Press and hold for longer than 10 seconds (Carries out function test for confirmation)

Corridor Lens Option/ CL



Open Area Option