

Installation Instructions

One-LED SOLO DST

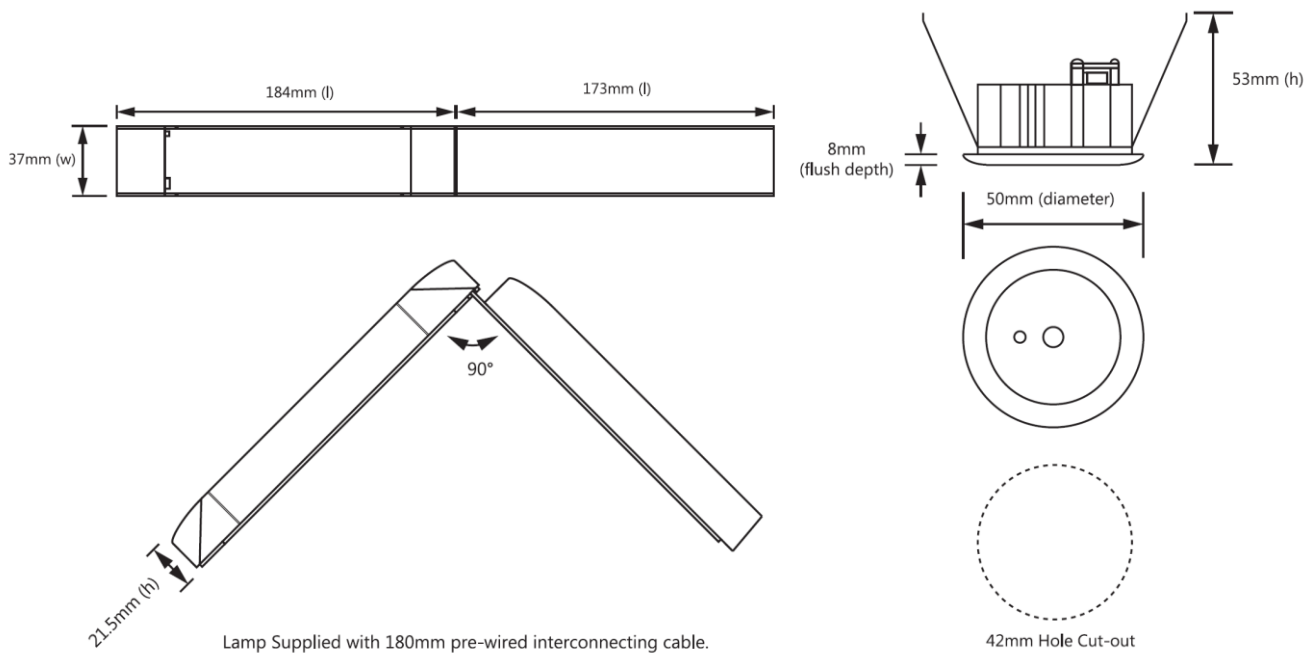


Product Description:



One-LED SOLO DST is a user-friendly non-maintained emergency luminaire with pre-assembled emergency LED driver and battery pack. The battery pack is rated for 3-hour back-up operation. The control gear section is hinged to assist with installation whilst the luminaire incorporates a test switch to allow various function tests.

Dimensions:



Installation:

One-LED SOLO DST must be installed by a qualified person and in accordance with the current wiring and building regulations. It is recommended that a 42mm cut-out is provided to insert the luminaire. The mains connections should be made to the 3-pole grey terminals marked "LIVE", "EARTH" and "NEUTRAL". Please note the cable size range for the terminal block is 0.2mm² - 1.5mm². This product requires a permanent supply (via test key switch where required) as per the adjacent specifications table. Restrain and protect the terminations by affixing the cord restraint and terminal cover provided.

Common Technical Data	
Input Supply Voltage	230V +/- 10%
Supply Frequency	50/60 Hz
Maximum Spacing (1 lux)	8m @2.5m mounting height
Battery Type	2.4V 4Ah 18700 NiMH
Changeover Threshold (Vrms)	Falling >144V Rising <204V
Maximum Ambient Temperature	35°C
Battery Charge Time	24 Hours
Earth Leakage Current	<0.5mA
IP Rating	IP20
Recommended Cut-out Size	42mm



Installation Instructions

One-LED SOLO DST



Spacing:

The following table is a guide to spacing the luminaires to achieve 1 lux along a defined escape route. Please be aware that these are a minimum guide in accordance with BS EN 1838. Local risk assessment by a competent person should be carried out to ensure the emergency lighting system meets the requirements of the building and its occupants. Photometric data files can be obtained from our website or by contacting our technical department.

Distance table for even escape routes

Mounting Height [m]					
2.00	2.97	7.47	7.36	7.50	2.97
2.50	2.98	8.20	8.07	8.24	3.09
3.00	3.00	8.64	8.53	8.56	3.11
3.50	2.83	8.80	8.71	8.82	3.04
4.00	2.91	8.88	8.83	9.00	2.91

The spacing table is based on the following parameters:

- Maintenance factor: 0.90
- Emergency lighting factor: 1.00
- Minimum illuminance on centre line: 1.00 lx
- Minimum illuminance on half of escape route width: 0.50 lx
- Diversity on the centre line max. 40 : 1
- Width of escape route: 2.00 m

Commissioning:

Once One-LED SOLO DST has been installed and availability of the un-switched supply is deemed stable, connect the battery, and then apply mains power to begin the commissioning process.

After applying power, One-LED SOLO DST will stay in commissioning mode for a minimum of 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.

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, as continued use in this state can cause permanent damage to the battery. If One-LED SOLO DST 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.

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

LED Status:

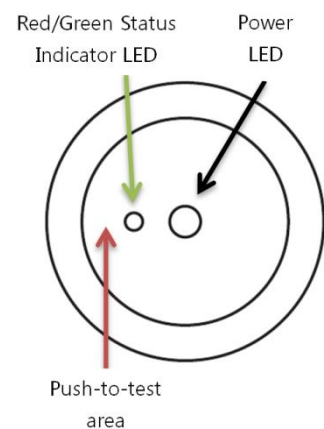
The status of One-LED SOLO DST can be determined at any time from the indicator LED. Details of the indicator LED status conditions in both normal and fault conditions are shown in tables 2 and 3 respectively on page 4.

Test Switch:

An integral test switch is located under the fascia in the "push to test area" as shown in diagram. This allows the user to perform various functions as detailed in table 4 on page 4.

Please take care to avoid looking directly at the Power LED when under test.

Finger contact with the power LED should also be avoided.



Installation Instructions

One-LED SOLO DST



Automatic Testing:

Once commissioned, One-LED SOLO DST 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, it will establish randomised delay times to ensure the next scheduled tests do not coincide with the same test of adjacent remote emergency packs. (See table 1 on page 4 for details of 'Test Delay Time' ranges).

Subsequent routine testing will then take place according to the 'Test Interval' times shown in table 1 on page 4.

If One-LED SOLO DST detects it is installed on a DALI network, it will configure itself according to the default DALI specification as shown in table 1 on page 4. 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

One-LED SOLO DST 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.

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 One-LUX batteries and should be considered as a maintenance exercise for the battery. Regular full discharge cycles will 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 table 1 on page 4

Maintenance:

There are no user serviceable parts within One-LED SOLO DST. 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. If in any doubt, please contact our technical department.



Installation Instructions

One-LED SOLO DST



Table 1. Automatic Testing Information

Test Type	Mode	Duration	Test Delay time	Test Interval/Occurrence	Notes
Commissioning Test	Self-Test	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-successful.
	DALI	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-successful.
Function Test	Self-Test		1 – 15 Days	Every 28 days	
	DALI		0	Every 7 days	Caution! Factory defaults of zero randomisation and zero test interval are set for DALI Mode
Duration Test	Self-Test	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 24 hours
	DALI	3 Hours	0	Every 52 Weeks	Caution! Factory defaults of zero randomisation and zero test interval are set for DALI Mode

Table 2. Module Status Information

LED Colour	LED Status	On Time (Seconds)		Off Time (Seconds)		Sounder Activated	Purpose	Action Required
Green	Very Slow Flash					No	Normal status with fully charged battery. (Commissioned unit)	None – In Standby mode and operating as normal
	Slow Flash					No	First 24 hour charge and Duration Test. (Non-Commissioned unit)	None – Await commissioning process to complete
	Fast Flash					No	Function Test or Duration Test in progress. (Commissioned unit)	None – Await current test to complete
Varied		On	Off	On	Off	No		None – Await current test to complete
Green	Long On then flash	10	0.5	0.5	0.5	No	Battery being charged (Commissioned unit)	None – Await battery to charge (Normally 24 Hours)
	Long Off then flash	0.5	10	0.5	0.5	No	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	No	Physical select enabled by DALI system only	Confirm Physical select with optional Test Switch

Table3. Module Status Information Fault Mode

LED Colour	LED Status	On Time (Seconds)	Off Time (Seconds)	Sounder Activated	Purpose	Action Required
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

Table 4. 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 once 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

