

SUPPLEMENTARY INSTALLATION & OPERATION (/DST Versions)

**Disclaimers**

One-LUX DST products have been manufactured and designed to comply with the requirements of EN60598-2-22 and additional relevant 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. It is the users responsibility to ensure full compatibility of the One-LUX DST products product for the intended application and for compliance of the emergency conversion to relevant Standards. The specifier/ system designer should follow the product manufacturer's specifications and be aware of the environment to which the product and these components are used and ensure compatibility of One-LUX products with other components in the lighting/ DALI system. Installation should be in line with the following guides. Please contact our Technical department if you are in any doubt.

**Precautions**

One-LUX DST products should be installed as per the following guidelines, electric shock, malfunction or damage to the product may result if incorrectly installed.

The product should be installed by a qualified and competent electrician. If the product is to be mounted in an external location, consider the battery as temperatures below 0°C may be frequent in cold months. In this case, the design life of 4 years will be compromised and more frequent battery replacements may be needed. Likewise, if the product is situated in a hot environment where the temperature is maintained at 25°C or above, or sited next to large panes of glass in which case it may be exposed to thermal magnification.

It is recommended that IP65 products are avoided for use in internal applications as undue thermal stress may result.

**Installation notes**

Wire Preparation: Refer to main product data sheet for wire specification and connection details.

Best effort should be made to keep the One-LUX DST products and battery away from direct sources of heat, i.e. mains LED drivers and LED lamps. Avoid obstructing airflow around the sides of the One-LUX DST products and other electronic products. Allow a clearance of 10mm or more wherever possible.

The battery supplied is fitted with a non reversable plug to avoid reverse

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polarity connection and care should be taken when plugging it in. If it is anticipated that the un-switched supply may be interrupted, it is imperative that the battery is left disconnected and commissioning is delayed until the supply is stable.

Lamp Connections should be kept as short as possible and under no circumstances exceed 1m for self-contained products.

The One-LUX DST products should be secured using fixing points provided.

**Test Switch input (Optional accessory)**

The One-LUX DST products offers the facility for the user to perform multiple functions with a switch connected to the 'TEST SWITCH' input.

A non-latching push-to-make switch should be used as shown in the products wiring diagrams. Some products have a test switch built-in. Refer to main product data sheet. See details below for functions and modes of use.

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
Stop Identification	Press once during identification mode to exit.
Set Test Time of Day	Press and hold for longer than 10 seconds

Some One-LUX Omni-LED DST products are supplied with a small plastic selector fitted, which denotes 3 hour operation as standard. If 1 hour emergency operation is required with the correct battery, the selector should be removed before power on.

Warning! Only the LiFePO4 battery supplied with the Omni-LED™ module by One-LUX may be used. Permanent battery damage can occur if the 3 hour setting is used with the incorrect battery.

See main product data sheet for applicable battery information.

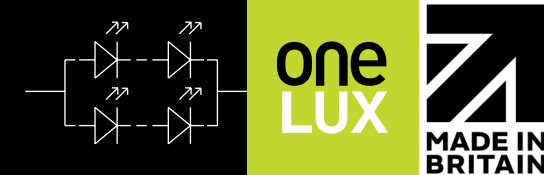
One-LUX DST products provide SELV reinforced insulation between the mains supply and battery charging circuit and employs self-resetting protection against short-circuit of battery terminals. Normal charging will resume automatically once a fault is removed. The mains supply should always be disconnected when servicing the product.

If other devices are connected to the un-switched supply, please be aware that to maintain compliance with EN60598-2-22 that in event of its failure it will not affect other devices on the same circuit. In this case we recommend the use of separate fused terminal blocks to each device.

Internal fuses used within One-LUX DST products are not user serviceable.

**CAUTION! Ensure the jumper setting located in some product lids is configured correctly for the intended application and the associated battery is of the correct capacity.**

Autonomy Selection Information	
Emergency Duration Required	Jumper Setting
3 Hours (Default Setting)	 <b>Omni-LED</b>
1 Hour	 <b>Omni-LED</b>



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**Commissioning:**

Once the product has been installed and availability of the un-switched supply is deemed stable, **connect the battery, then apply mains power.** After applying power, the One-LUX DST products will determine if there is a DALI bus present and or not. With **no** bus present, the indicator LED will flash red then green and the module will automatically carry out an initial 24 hour charge and a then a full Duration Test. Once this commissioning test is complete, a further 24 hours will be needed to recharge the battery before normal use. If a DALI bus **is** present, the module will begin standby/ charge mode and await further instruction from the DALI master. The duration of stand-alone self tests, and capability of the product recognised by a DALI master will be determined by the configuration link, which is accessible through the enclosure lid. (See previous page for details).

**Caution should be taken to ensure the battery charge current compatibility before adjusting configuration.**

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 mains is not applied after connecting the battery, the unit will continue to draw a minimal amount of power from the battery whilst in standby mode. **Continued use in this state in excess of several months can cause permanent damage to some batteries.**

It may be necessary to repeat the initial charge/discharge process several times to re-condition the battery and achieve full rated emergency duration.

This can be initiated by cycling the unswitched mains supply off and on, or activating the test switch twice within 5 seconds. After successful commissioning, the battery should be marked with the date of commission.

**Automatic Testing**

If Standalone Self-Test mode is detected, the module will establish randomised delay times to ensure the next scheduled tests do not coincide with the same test of adjacent products. (See table below for details of 'Test Delay Time' ranges). Subsequent routine testing will then take place according to the 'Test Interval' times detailed in the table below. When a scheduled test is due, the One-LUX DST products will check status of the 'Control Switch Live Lin' to try and determine if the lamp is already in use and avoid disruption to the user for up to 36 hours wherever possible.

If the One-LUX DST product has detected it is installed on a DALI network, it will configure itself according to the default DALI specification. (See table below). **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-LUX DST products can be returned to standalone 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 page 10 for details).

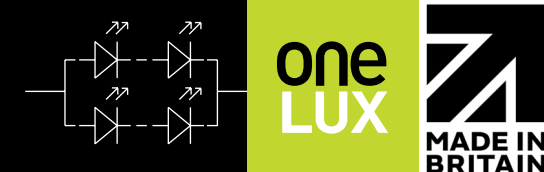
To fully reset all test times, disconnect the mains, battery power and DALI connections. Once power is restored, the commissioning cycle and randomisation process will be re-initiated.

Short discharge periods each month for the Function Test will not adversely affect 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 the table below.

The status of the One-LUX DST products can be determined at any time from the indicator LED. Details of the indicator LED status conditions and optional test switch functionality can be found on page 3.

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 Caution! An initial Duration Test must be initiated by the DALI Master to commission a new installation.
	DALI	1 or 3 Hours*	N/A	N/A	
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
	DALI	1 or 3 Hours*	0	Every 52 Weeks	Caution! Factory default of zero test delay time is set for DALI Mode



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Module LED Status Indicator Information								
LED Colour	LED Status	On Time (Seconds)	Off Time (Seconds)	Sounder	Purpose	Action required		
Green	Steady On, or Very Slow Flash	Permanent 10	0 0.5	-	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 or DALI bus present unit)	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

Module Status Information (Fault Conditions) \*A function test can also be initiated at anytime whilst mains power is present by shorting the test switch off-on, 2 times within 5 seconds. A push switch is also available.

LED Colour	LED Status	On Time (Seconds)	Off Time (Seconds)	Sounder	Cause	Suggested action required
Red	Slow Flash	0.5	1.5	Yes	1) Possible initial commissioning duration test failed:  2) Possible battery connection fault:  3) Possible open circuit or short circuit battery:  4) Possible battery capacity fault:	1) If it is a new installation, you can determine if the unit passed the initial commissioning duration test by cycling the mains power off then on, whilst observing the indicator LED.  a) If the indicator LED flashes red then green at power on, the unit did not pass its initial commissioning duration test and was awaiting further instruction. Cycling the power as per above has now reset the process and a new test will be attempted in 24hs time. (As long as the mains supply is not interrupted). This process may need to be repeated several times to re-condition new batteries to restore full capacity, especially if they have been in storage for some time.  b) If after cycling the mains power off then on, the red indicator remains, the unit has passed its commissioning test, but may have failed a routine function or duration test because of the causes below.  2) Whilst the mains supply remains on, check the battery connections and repair/ replace faulty parts if necessary. Initiate a function test to try and clear the fault indication. If the fault indication does not clear, proceed to 3).  3) Whilst the mains supply remains on, disconnect the battery and measure if its voltage is between 0.8 - 1.6V DC per cell. If its outside this range, the battery is faulty so it should be replaced. If a new one is installed, cycle the mains power off then on before reconnecting to initiate the commissioning process. If the voltage is within the range, proceed to next step.  4) To test the battery capacity, ensure it has had 24 hours uninterrupted charge, then turn off the mains power and observe if the rated emergency duration is achieved. If it exceeds the rated duration, you can reinstate power and initiate a function test to clear the fault indication. If the rated duration is not achieved, and it was a commissioned battery before, replace the battery and turn the mains power on to initiate a new commissioning test. (See page 2).
	Fast Flash	0.5	0.5	Yes	1) Possible lamp fault:  2) Possible internal circuit fault:	1) Check the lamp and wiring for faults or damage. Repair/replace as necessary. Initiate a function test to see if the fault has cleared. If the fault does not clear, proceed to step 2) <b>Caution, high voltages can be present at the lamp when the battery is connected even if the mains power is turned off!!</b>  2) If repairing/ replacing the lamp or wiring does not clear the fault, there may be a problem with the unit. Turn off mains power, replace the module and reinstate power to commission the new module.