

Universal Remote Emergency Pack

For use with LED Modules only

Product Specification

- > Mains voltage: 230V ± 10%
- > Mains frequency: 50 - 60Hz
- > Power Consumption
(Excluding external Driver): 4VA
- > Emergency output voltage range: (See product label)
- > Emergency Duration: (See product label)
- > Battery: (See product label)
- > Ambient temperature range: +5°C to +35°C
- > Min/Max Conductor sizes: 0.5 - 4mm²
- > Weight: 0.6kg
- > Charging time: 24 hours
- > Protection class: 1
- > Degree of protection: IP20
- > Material: UL94 V0 Polycarbonate
- > Emergency module complies with: EN 61347-2-7/2-13
EN62034/EN62386
- > Suitable for installation to EN50172 and BS7671

Features

- > Use with LED panels, arrays or down lights of compatible voltage.
- > 3-pole isolation of lamp & mains driver power during emergency
- > Contains non-replaceable 2 x 2.2Ah or 2 x 3.6Ah Lithium iron phosphate battery (LiFePO₄) (See product label)
- > Emergency output power (Typical) : 3W (2-cell LiFePO₄) and 4W (2-cell LiFePO₄)
- > 3-hour autonomy
- > Battery connectors are polarity protected
- > Optional Test Switch available

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 the enclosure 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 remote enclosure 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.

Installation

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.

Ensure the mains supply is isolated before attempting installation!

The emergency pack requires 2 live feeds, A permanent supply for charging the battery pack and 1 for switching of the lamp.

Wiring diagrams of various configurations for mains supply, driver and lamp connections are shown on page 2. Once wiring is complete, use both internal cable clamps to secure cables in place and to prevent unauthorised access, ensure the lid is fixed in place using the screw on the base.

If external plug and socket connectors are used without means to prevent accidental disconnection, the remote box should be sited so that it is protected from unauthorised disconnection.

Indicator LED

A recessed mount can be found inside the packaging carton to assist installation of the indicator LED. A 14-16mm hole should be drilled in the required location so it is visible during normal use.

Test Switch

If fitted, a test switch allows the user to perform various functions as detailed in table 4 on page 4.

EMC considerations:

Mains input connections should be as far from the lamp leads as possible and ideally not less than 10cm.

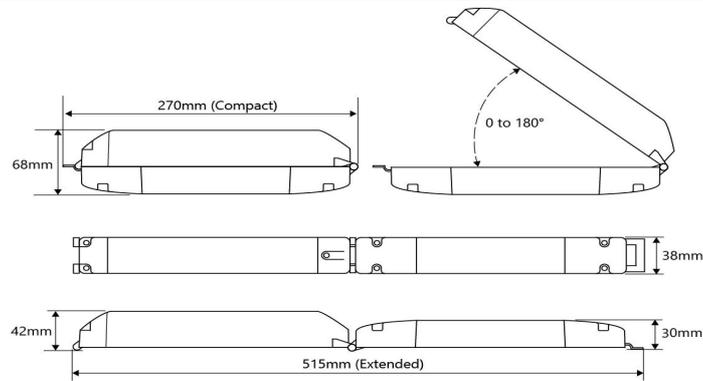
Mains input wires should be as short as possible and run direct to the remote emergency pack; they should not run alongside the case.

Keep the lamp wires raised off any earthed metalwork
Twist mains leads together when 'looping' or 'through wiring'
The switched and un-switched lives may be joined together for continuous operation (un-switched) applications.

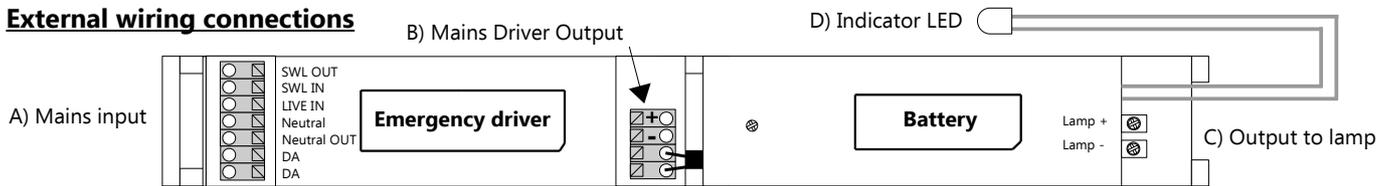
The remote emergency pack provides SELV reinforced insulation between the mains supply and battery charging circuit and employs self-resetting protection against short-circuit of battery terminals. Normal charging will resume automatically once a fault is removed. The mains supply should always be disconnected when servicing the remote emergency pack. 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.

Internal fuses used within remote emergency pack product are not user serviceable.

Dimensions



External wiring connections



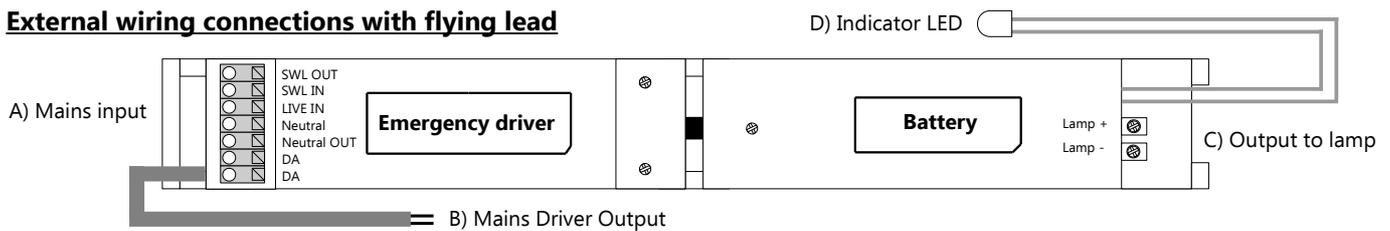
- A) Mains Supply Input** – Emergency driver mains input terminal is as follows -
 Control switched live OUT
 Control switched live IN
 Un-switched live IN
 Neutral IN
 Neutral OUT
 DALI connection
 DALI connection

B) Mains Driver Output – Connect existing mains driver lamp output to emergency driver input terminals. (ensure polarity is correct before operating emergency pack).

C) Output to Lamp – Connect existing lamp wires to emergency driver output terminal (ensure polarity is correct before operating emergency pack).

D) Indicator LED – Please see installation section of instructions (Page 1).

External wiring connections with flying lead



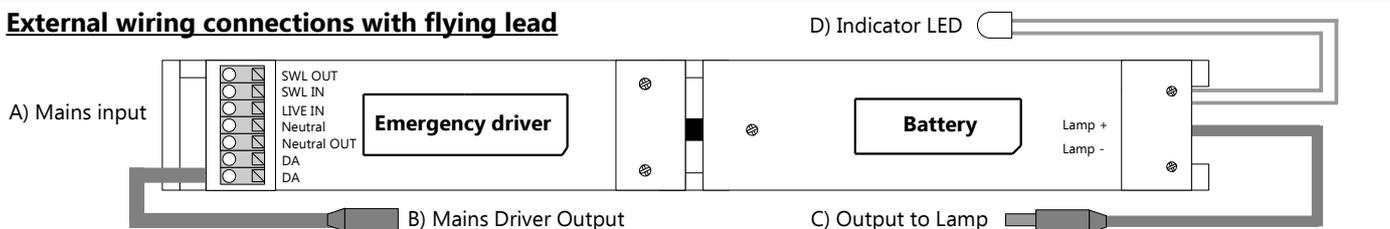
- A) Mains Supply Input** – Emergency driver mains input terminal is as follows -
 Control switched live OUT
 Control switched live IN
 Un-switched live IN
 Neutral IN
 Neutral OUT
 DALI connection
 DALI connection

B) Mains Driver Output – Connect red sleeved wires to mains driver output as follows -
 Red wire to positive (+)
 Black wire to negative (-)

C) Output to Lamp – Connect existing lamp wires to emergency driver output terminal (ensure polarity is correct before operating emergency pack).

D) Indicator LED – Please see installation section of instructions (Page 1).

External wiring connections with flying lead



- A) Mains Supply Input** – Emergency driver mains input terminal is as follows -
 Control switched live OUT
 Control switched live IN
 Un-switched live IN
 Neutral IN
 Neutral OUT
 DALI connection
 DALI connection

B) Mains Driver output – Connect jack plug to mains driver lamp output.

C) Output to Lamp – Connect jack plug to LED lamp.

D) Indicator LED – Please see installation section of instructions (Page 1).

*Note: Jack plug connectors appearance may change however connections will always be as follows:
 Mains driver lamp output from emergency driver side of enclosure.
 Output to lamp from battery side of enclosure.*

Commissioning:

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

After applying power, the LED module will enter commissioning mode where it will 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.

The duration of the test will be determined by the configuration link, which is accessible through the enclosure lid.

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.** If the remote emergency pack 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 the remote emergency pack 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.

Automatic Testing:

Once commissioned, the remote emergency pack 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.

When a scheduled test is due, the remote emergency pack will check to see if the lamp is already in use and avoid disruption to the user for up to 36 hours wherever possible.

If the remote emergency pack 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

The remote emergency pack 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 the 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

Table 1. 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-successful.
	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 defaults of zero randomisation and zero test interval are 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 24 hours
	DALI	1 or 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	10		0.5		No	Normal status with fully charged battery. (Commissioned unit)	None – In Standby mode and operating as normal
	Slow Flash	1.5		0.5		No	First 24 hour charge and Duration Test. (Non-Commissioned unit)	None – Await commissioning process to complete
	Fast Flash	0.5		0.5		No	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	No	Battery being charged (Commissioned unit)	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

Table 3. 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
Stop Identification	Press once during identification mode to exit
Set preferred automatic test time of day	Press and hold for longer than 10 seconds (Carries out function test for confirmation)

* A function test can also be initiated at anytime whilst mains power is present by cycling the un-switched mains supply off-on, off-on within 5 seconds.