

**PLEASE READ** THESE INSTRUCTIONS BEFORE COMMENCING INSTALLATION & LEAVE WITH END USER

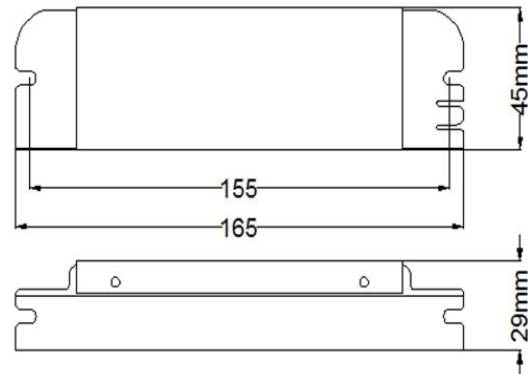
### Description:

The Liteplan NDA/3 DALI self-test emergency lighting modules are designed to convert a wide range of LED types with two versions. The NDA/3 is the popular choice for converting most standard LED luminaires and arrays containing from 2 to 20 LEDs in series, whilst the NDA/3/80 extends the range by converting from 2 to 30 LED's in series. The modules are designed to be installed by breaking into the low voltage connection between the mains LED Driver and the LEDs and allows the LEDs to be operated as normal under mains healthy conditions and operated at reduced light output in an emergency.

The module automatically adjusts the output LED current to provide the best match between the battery and the load, providing maximum illumination whilst ensuring full battery duration and are compatible with a wide range of lighting.

### Specification:

Input Voltage	230-240 Volts AC 50/60 Hz
Input Current & PF	26mA - $\lambda = 0.88$
Duration	3 hours
Ambient Temp.	0°C to + 50°C
Max Case Temperature	70°C
Max Battery Temperature	55°C
Terminal Blocks	0.5-1.5mm <sup>2</sup> Screw
Battery Fuse	Internal
Battery Discharge Current	1000mA $\pm$ 150mA
Discharge Voltage Limit	2.5V
Ingress Protection	IP20
Battery Pack	3.6V 4.5Ah NiCd
Charge Current	200mA $\pm$ 50mA
Recharge Period	24 Hours
Module Size (L x W x H)	165mm x 45mm x 29mm
Module Fixing Centers	155mm
Module Weight	0.29Kg
Battery Weight	0.40Kg
Battery Dimensions	220mm x 38mm diameter
Insulation between Supply & Battery	Double Reinforced



#### NDA/3

3W to 80W LEDs that operate in Voltage Range 6 - 55 Volts  
Open Circuit Voltage (U-OUT) = 60 Volts

#### NDA/3/80

3W to 80W LEDs that operate in Voltage Range 15 - 80 Volts  
Open Circuit Voltage (U-OUT) = 90 Volts

#### Warning

**Avoid running the LED mains driver and emergency pack without the load connected. Failure to do so may result in damage to the LED array**

#### Important

It is recommended that the module is installed by a competent person ensuring the installation complies with the necessary standards. Liteplan accept no responsibility for injury, damage or loss, which may arise as a result of incorrect installation, operation or maintenance.

The conversion requires an unswitched supply for charging the battery and a switched supply if the unit is being used for maintained operation.

**ISOLATE BOTH MAINS SUPPLIES AND DISCONNECT THE BATTERY BEFORE INSTALLATION OR MAINTENANCE.**

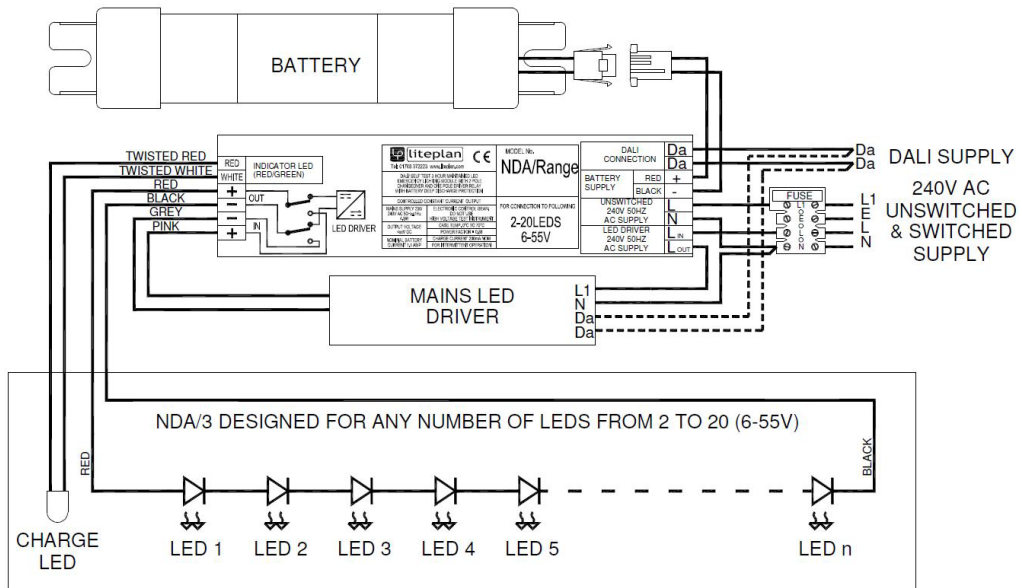
#### Installation

When converting a luminaire observe the following points:-

1. Fit the module & battery pack into the existing luminaire ensuring that they will operate within their temperature ratings.
2. If the module & battery pack do not fit integrally, then a remote conversion can be used. Ensure that the interconnecting loom is kept as short as possible.
3. Wire the module & battery into the luminaire as per wiring diagram on Pg2.
4. Ensure that the Permanent Live & Switched Live feeds are connected correctly.
5. Ensure that the DALI pair is connected to the DALI operating system
6. Arrange the wiring to avoid running the 240 Volt cables next to the modules output to the LED to obtain the best EMC results.
7. Requirements for 'F' markings must be observed.
8. Identify clearly the NEW Un-switched supply.
9. Ensure the LED Charge Indicator is clearly visible.
10. If fitted within a metal enclosure, connect earth terminal to metal gear tray for improved EMC.
11. This module is not intended for use in luminaires for high-risk task area lighting.
12. This module is protected against battery polarity reversal.

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Typical Conversion Wiring Diagram



Device Status Indicator:

Green Solid	Battery connected & charging	Red Fast Flash 2 x 0.5 sec On, 2.5 sec Off	Lamp Fault
Green Fast Flash 2.0 sec On, 0.2 sec Off	Function Test in progress	Red Slow Flash 0.5 sec On, 3.5 sec Off	Battery Fault
Green Slow Flash 2.0 sec On, 0.2 sec Off	Duration Test in progress	Red / Green Alternating	Identification Mode
		Red & Green Off	In Emergency Mode

Luminaire Ref/Location		In Case of difficulty, contact the Installation Engineers:- Tel: _____								
Full Recharge Time 24 Hours		Duration 3 Hours			Lamp Type - LED					
ROUTINE TEST RECORD										
	Year 1		Year 2		Year 3		Year 4		Year 5	
Monthly Test	Signed	Date	Signed	Date	Signed	Date	Signed	Date	Signed	Date
Functional										
Functional										
Functional										
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Functional										
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Functional										
Functional										
Three Hour										