

Installation & Wiring Instructions

TNA/1S High Voltage DALI Self-test Emergency Conversion Kit

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

Description:

The Liteplan range of TNA/1S modules are designed to convert a wide range of high voltage LED types. The TNA/1S will convert most standard LED luminaires and arrays between 50V and 300V. This makes the TNA/1S suitable for linear luminaires, high voltage boards and even some mains voltage lamps (subject to testing). The modules are designed to generally be installed by breaking into the low voltage connection between the mains 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.

The unit will recharge the batteries after the test of clause 22.3 of BS EN 61347-2-7:2012.

The battery is fitted with a PCM to protect the supply voltage against reverse polarity.

Specification:

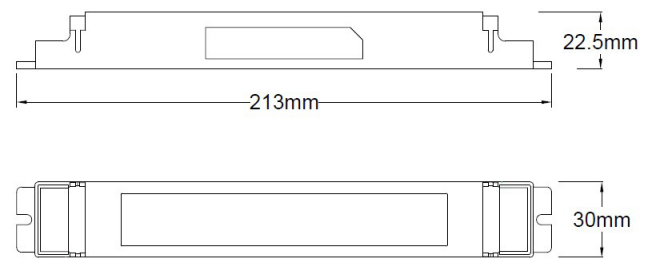
| | |
|-------------------------------------|----------------------------|
| Input Voltage | 230-240 Volts AC 50/60 Hz |
| Power Rating (Charging) | 2.5W 15mA $\lambda = 0.70$ |
| Power Rating (Standby) | 1.3W 9mA $\lambda = 0.60$ |
| Insulation between supply & battery | Double Reinforced |
| Duration | 3-hours |
| Ambient Temp. Ta | 0°C to + 50°C |
| Max Case Temp. Tc | 70°C |
| Max Battery Temperature | 55°C |
| Recharge Period | 24 Hours |
| Battery Type | 3.2V 4.8Ah LiFePO4 |
| Charge Current | 225mA nominal |
| Discharge Current | 900mA nominal |
| Charge Voltage Limit | 4.0 Volts |
| Discharge Voltage Limit | 2.4 Volts |
| Ingress Protection | IP20 |
| Recharge Period | 24 Hours |
| Module Size (L x W x H) | 213mm x 30mm x 22.5mm |
| Module Fixing Centers | 207mm |
| Module Weight | 0.11Kg |

Battery Details (mm)

Stick 230mm x 24mm x 22mm FC = 220mm

Remote 220mm x 32mm x 34mm

| | |
|------------------|---------------|
| Battery Weight | 0.14Kg |
| Cable Entry Size | 0.5mm - 1.5mm |



Fixing Centres 207mm

TNA/1S

Rated - 2.2W

Rated - 38-7mA

Voltage Range 50 - 300 Volts

Open Circuit Voltage (U-OUT) = 350 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:-

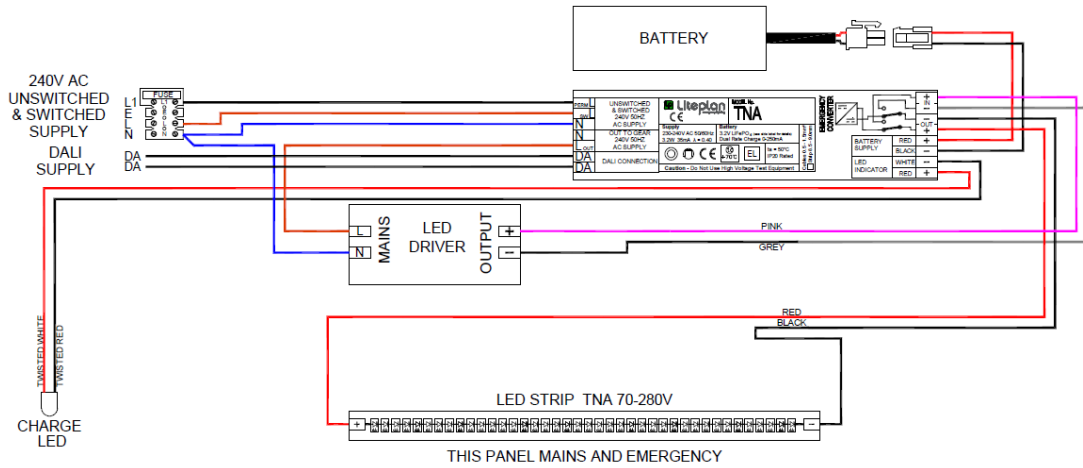
1. Fit the module & battery pack into the existing luminaire ensuring that they will operate within their temperature ratings.
2. If the module & battery pack do not fit integrally, then a remote conversion can be used. Ensure that the interconnecting loom is kept as short as possible.
3. Wire the module & 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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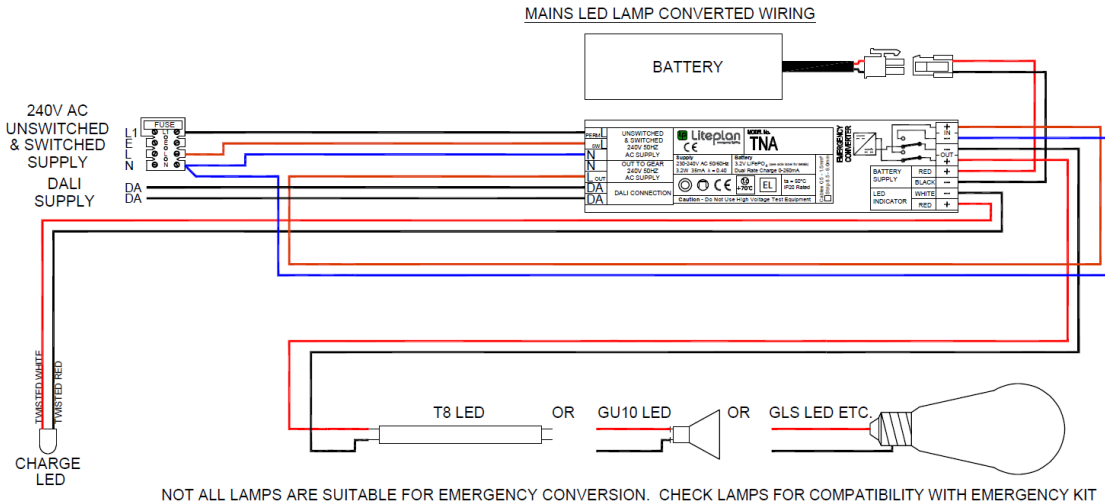
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General High Voltage Wiring Diagram



Mains Fed Lamp Wiring Diagrams



NOT ALL LAMPS ARE SUITABLE FOR EMERGENCY CONVERSION. CHECK LAMPS FOR COMPATIBILITY WITH EMERGENCY KIT

Device Status Indicator:

| | | | |
|-------------------------------------|------------------------------|--|---------------------|
| Green Solid | Battery connected & charging | Red Fast Flash 2 x 0.5 sec On, 2.5 sec Off | Lamp Fault |
| Green Flash 2.0 sec On, 0.2 sec Off | 48h Pre-Commissioning | Red Slow Flash 0.5 sec On, 3.5 sec Off | Battery Fault |
| Green Flash 0.2 sec On, 2.0 sec Off | Function Test in progress | Red / Green Alternating | Identification Mode |
| Green Flash 0.2 sec On, 2.0 sec Off | Duration Test in progress | Red & Green Off | In Emergency Mode |

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