INSTRUCTIONS FOR LOW VOLTAGE EMERGENCY LIGHTING UNITS

WARNING: BEFORE INSTALLING OR REPAIRING THIS FITTING, ISOLATE THE SUPPLY FROM THE AC MAINS

THIS FITTING MUST BE ELECTRICALLY EARTHED

1. INTRODUCTION

a) These instructions are issued to provide relevant information concerning the handling, installation, use, maintenance, and disposal of emergency lighting equipment.

b) It is important that these instructions are read thoroughly before any installation work commences. They must also be retained on file to provide information on use, maintenance and disposal at a later date by the end user

2. GENERAL

a) All emergency lighting equipment supplied is designed and manufactured to conform with relevant British Standard specifications.

b) It is important that the user does not modify the equipment or use it for a purpose, or in an environment for which it was not designed. Any unauthorised modifications may render the equipment unsafe and will invalidate the warranty and CE compliance of the product.

c) The equipment has an enclosure rating of IP20 and is designed to operate in a maximum ambient temperature of 25'C.

d) The equipment is designed for direct connection to a standard mains supply as so indicated on the equipment. All switching etc. shall comply with BS5266 part 1 & the latest IEE regulations. Unless specifically permitted the equipment shall NOT be connected to, or be controlled by an energy management system.

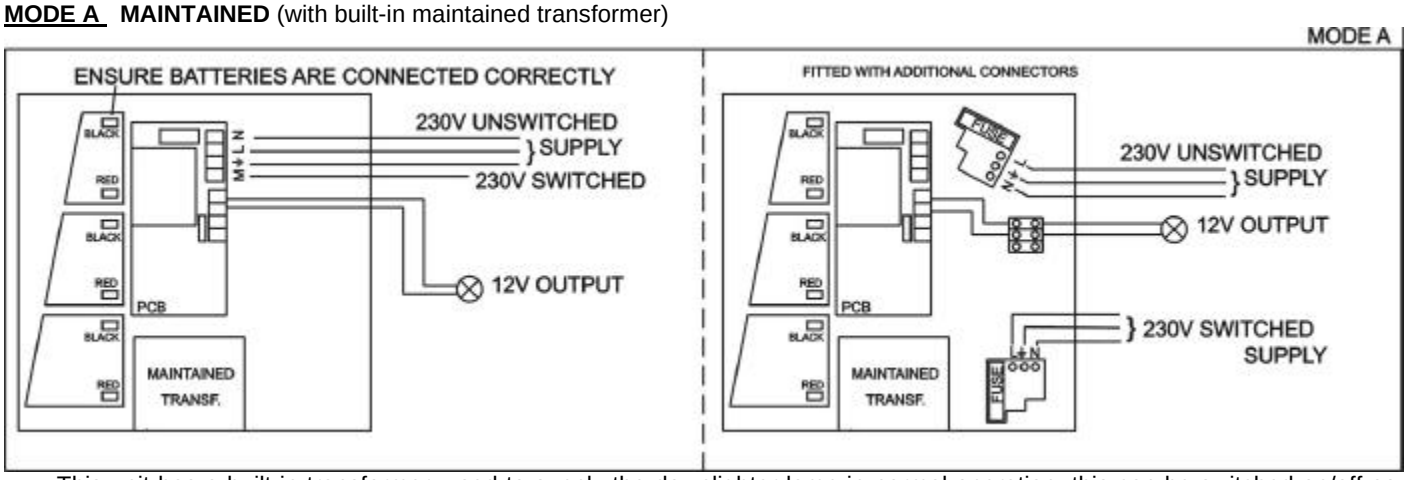
3. DESCRIPTION / MODES OF OPERATION (See relevant drawing)

The product range has been designed to provide 12 volt L.V. Tungsten halogen lighting systems with emergency lighting back-up. The unit has a maximum rating of 50W which can be made up of one lamp, e.g. 1 x 50W, or several lamps, e.g. 2 x 20W which is not greater than the maximum rating. A blade type fuse is fitted to the lamp output. It is important that the unit and lamp are as close as possible to reduce the cable volt drop (see chart below)

ALL TYPES of unit require the following connections;-

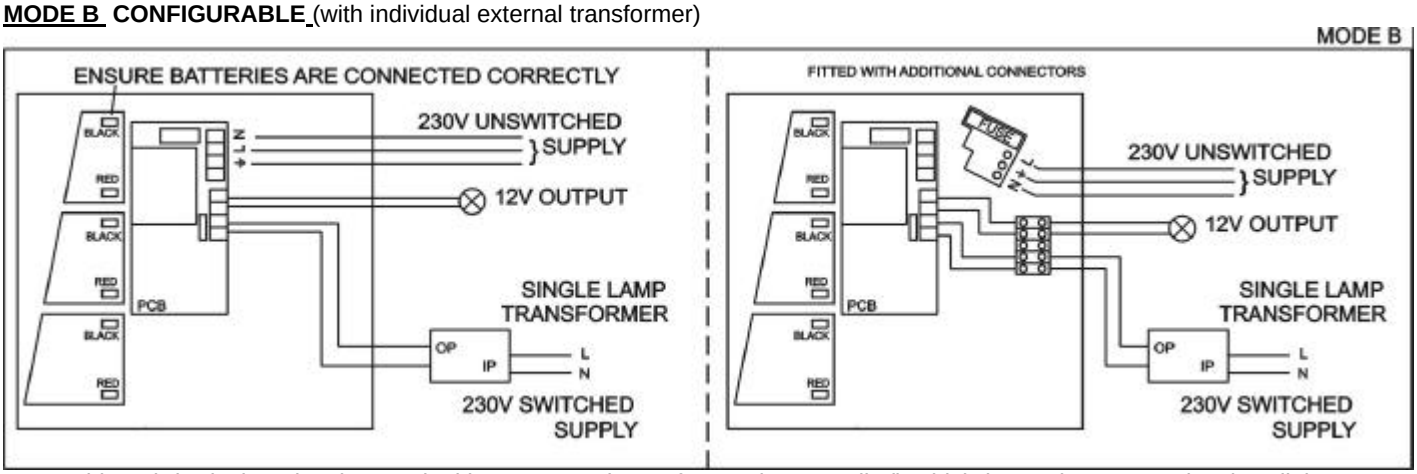
1) An unswitched 230-240V mains supply to charge the batteries and monitor the mains for failure. This should be connected to terminals marked - **E L N** on the pcb or to terminals **N E L** if a fused terminal block is fitted.

MODE A MAINTAINED (with built-in maintained transformer)



This unit has a built-in transformer, used to supply the downlighter lamp in normal operation, this can be switched on/off as required. This is achieved by connecting a switched 230-240v mains supply to terminal marked:-**M** on the pcb, or to terminal **L** of the fused terminal block (if fitted). This should be from the same supply that powers the other mains only downlighters, and be on the same phase as the unswitched supply.This supply may come from a dimmer provided it is suitable for use with inductive loads. The neutral can be linked to the other fused terminal block. The lamp will light whenever there is a mains failure, even when the switched supply is off, and will light at full brightness irespective of the mains light level when a dimmer is used. Connect the lamp wires to terminals - **12V OUTPUT TO REMOTE DOWNLIGHTER** (See chart for cable size/length).

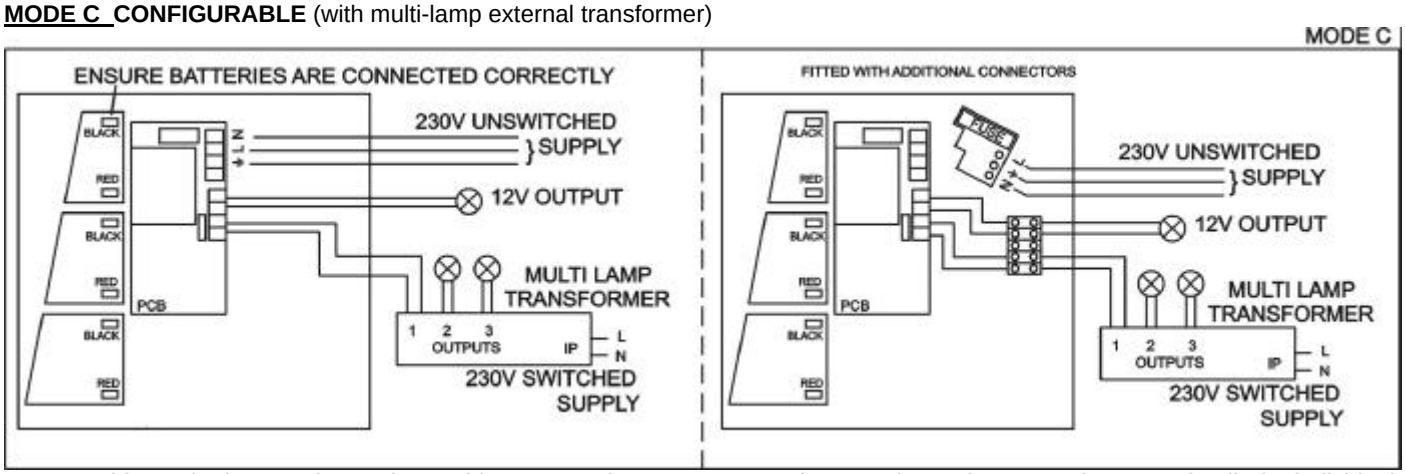
MODE B CONFIGURABLE (with individual external transformer)



This unit is designed to be used with an external transformer (not supplied) which is used to power the downlighter as a normal lamp. This transformer may be separate from the downlighter fitting, or enclosed within it, in which case it is usually possible to cut the wiring from the output to the lamp and extend them to the unit.

Connect the lamp wires to terminals - **12V OUTPUT TO REMOTE DOWNLIGHTER**
Connect the transformer output wires to terminals - **12V AC INPUT FROM DOWNLIGHTER TRANSFORMER**
(See chart for cable size/length). Connect the switched mains supply directly to the transformer. This should come from the same supply as the other mains only downlighters in the room. Any dimmer used should be compatible with the transformer. The lamp will light whenever there is a mains failure, even when the switched supply is off, and will light at full brightness irespective of the mains light level when a dimmer is used.

MODE C CONFIGURABLE (with multi-lamp external transformer)



In this mode the transformer is rated large enough to power more than one lamp, (see manufacturers details for individual output terminals). One of these will be used as an emergency lamp. When the switched supply is ON all lamps will light, but only the EL lamp will light when there is a mains failure.
Connect the lamp wires to terminals - **12V OUTPUT TO REMOTE DOWNLIGHTER**
Connect the transformer output wires (from one pair of terminals) to terminals - **12V AC INPUT FROM DOWNLIGHTER TRANSFORMER**

4. INSTALLATION.

The Installation must only be carried out by a competent electrician and in accordance with
i) Regulations for Electrical Installations, Published by the Institute of Electrical Engineers.
ii) Requirements of BS 5266 part 1.

a) Remove the front panel by removing the fixing screws on each side of the fitting.
b) Mount the fitting in position using the two keyholes provided. NOTE: Ensure that the fixing surface is capable of holding the weight of the fitting (Remember the weight of the batteries).The unit should not be fastened to a false ceiling. Ensure that the air vents on the top and left side are not obstructed.
c) Connect the mains, lamp, and transformer supply as described is the appropriate mode above
d) Surge suppressers may be required at the point of connection to the supply wiring when installing luminaires to MICC.
e) The LED is fitted with 2 metre of cable so that it can be removed from the box and fitted to the bezel of the downlighter fitting. To remove :- unclip the LED and remove from inside, then remove the bezel from outside. The LED connector can be fitted to the LED pins either way round, but will only operate one way round. Please ensure that the correct polarity is maintained else the LED will not light when the battery is charging.
e) Connect the red and black battery leads to the corresponding terminals on the battery. Ensure correct polarity throughout or else serious **DAMAGE MAY OCCUR.** The battery should be marked with the date of installation/commissioning. Remove the packing material between the batteries. The lamp will not light up as the circuit requires a mains supply to activate it.
f) Insulation testing should be carried out in accordance with the latest IEE regulations and should not exceed 500V DC between Live and Neutral connected together and Earth.
g) Refit the front panel ensuring that no wires are trapped and that the fasteners are tight.

5. COMMISSIONING/TESTING.

After connecting the mains supply check that :-

a) The RED LED is illuminated. This indicates that the mains supply is present and that the charger is working correctly.
b) The lamp will energise under emergency conditions, by removing the unswitched supply.
c) The lamp will light in normal mode by switching on the switched supply.

The unit should be left on charge for a minimum of 24 hours before being tested for the rated duration. Routine testing should be carried out in accordance with the instructions as indicated on the Test Record card. (A Test card is supplied with each product.)

6. CABLE SIZES/MAX. LENGTH. The cable lengths shown below are to include all wiring from the remote transformer, via the emergency pack to the lamp. This will achieve a maximum volt drop of 0.42V to the lamp.

LAMP WATTAGE	CABLE SIZE (cross sectional area) mm	
	1.5 mm	2.5mm
20W	8.7 Mtr	14.3 Mtr
50W	3.4 Mtr	5.7 Mtr

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