

# ENDURANCE LED

## Installation Instructions Please Read and Retain



NOODVERLICHTING  
EMERGENCY LIGHTING  
ECLAIRAGE DE SECURITE  
VEILIGHEIDSVERICHTING

### WARNING: BEFORE ATTEMPTING TO INSTALL OR REPAIR THIS FITTING, ISOLATE THE SUPPLY

Please read these instructions prior to installation

Confirm the installation requirements by checking the data provided on the fitting. Installation should be carried out by competent personnel.

#### INTRODUCTION

These instructions are issued to provide relevant information concerning the handling, installation, use, maintenance, and disposal of emergency luminaires. It is important that these instructions are read thoroughly before any installation work commences. They must also be retained to provide information on use, maintenance and disposal.

This product contains 18 Light-Emitting Diodes (LEDs) which are a special light source capable of providing a very long life (typically 6 years). The battery charger within this product is also special and will ensure extended battery life.

These features combined will give a long period between user intervention. The luminaire should only be repaired by trained personnel and it is recommended that the main unit be returned for replacement to the address below.

#### GENERAL

- It is important that the user does not modify this luminaire or use it for a purpose, or in an environment for which the luminaire is not designed. Any modifications may render the luminaires unsafe and will invalidate the warranty and CE compliance of the product.
- The warranty will be void if the anti-tamper seal is disturbed on the rear of this product.
- Refer to the specification table to confirm that the specification of the luminaire meets the intended application.

#### INSTALLATION

- Installation must only be carried out by a competent electrician
- Installation must be carried out in accordance with :
  - Regulations for Electrical Installations, Published by the Institute of Electrical Engineers.
  - Requirements of BS 5266 part 1 & 7
- Surge suppressors may be required at the point of connection to the supply wiring when installing luminaires to MICC.
- Insulation testing should be in accordance with the latest IEE regulations. The wiring should be tested without the main unit connected.
- Follow the installation procedure detailed overleaf. Additional details may be contained within supplementary instructions provided with accessories.
- Note that this unit is Class 2, earthing is not required.

#### REMOTE SWITCHING

- Connections to 'P' and 'P1' **MUST** be from the same phase.
- This facility enables the tube to be switched off when the maintained light is not required.
- This facility does not affect the operation of the unit in emergency mode should a mains failure occur. When the switched live is energised, the unit will operate in the maintained mode with the tube energised via the mains supply. When the live is de-energised, the luminaire will operate in the non-maintained mode. If this facility is not required, simply linking the switched and unswitched terminals together will cause the luminaire to operate in maintained/sustained mode at all times.

Non-Maintained A luminaire in which the lamp is lit only under emergency conditions.  
Maintained A luminaire in which the lamp is lit either via a separate switched supply or under emergency conditions.

### Fault Indicators The fault indicators have the following significance

Normal 'Healthy' Conditions--No action Required			
Amber LED	Green LED	Emergency Lamp	Meaning
Off	On	On or Off	Unit healthy
Off	Flashing	On	Luminaire in test or maintained luminaire awaiting commissioning test
Off	Flashing	Off	Non-Maintained luminaire awaiting commissioning test

Fault Conditions--All of these conditions require action				
Amber LED	Green LED	Emergency Lamp	Meaning	Action
On	Flashing	On or Off	Unreliable supply to luminaire or incorrect wiring. The luminaire has detected that the supply is often failing. This will reduce effectiveness of the emergency lighting system	Check Supply, particularly that the switched and unswitched supplies are not reversed.
Off	Off	Off	Battery discharged or unit in rest mode. There is no supply to the luminaire.	Check Supply
Off	Off	On	Emergency Mode: mains supply absent.	Check Supply

The following condition indicates that the luminaire is faulty				
On	Off	On or Off	General Fault indication. The luminaire is faulty and needs to be repaired.	Repair Luminaire

#### COMMISSIONING/TESTING

All luminaires include self-test. The test system continuously monitors the luminaire and indicates any faults immediately. There are several different monitoring conditions:

##### Continuous Monitoring

The luminaire continuously monitors that the battery is being properly charged and that the lamp is operating correctly. It will indicate if a fault develops.

##### Commissioning Test

The unit automatically performs a full rated discharge 36hours after being initially connected to a reliable supply. This test is automatically postponed if the supply fails for a long period of time during this period. Repeated postponement of this test will result in the luminaire being unable to commission itself and this will be indicated as an 'unreliable supply fault'.

##### Functional Test

The luminaire will automatically perform a brief test each week. This test causes the luminaire to be illuminated from the battery for about 1 minute. Any faults will be indicated.

##### Duration Test

The luminaire will automatically perform a full duration test annually. This test is automatically postponed if the mains is absent for a long period of time immediately before this test is due. Repeated postponement of this test will result in the luminaire being unable to commission itself and this will be indicated as an 'unreliable supply fault'.

If the luminaire fails to make duration it should be replaced.

In order to minimise the risk of adjacent luminaires passing into test it is possible to specify luminaires as 'ODD' or 'EVEN'. 'ODD' luminaires will test at least 7 days later than 'EVEN' luminaires.

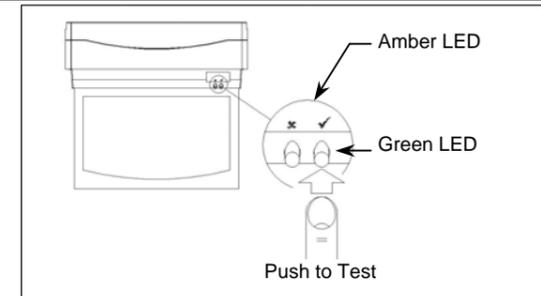
##### Luminaire Set-up to enable alternate fittings to be tested

Provision has been made to identify alternate units as 'Odd' or 'Even'. This can be set manually by using the 'Test' Button. Rapidly double-clicking the test button will cause both LED's to flash. Alternate flashing identifies the unit as 'Odd', whilst an 'Even' unit is identified by then LED's flashing in phase.

If whilst in this mode the button is pressed once the state will be toggled between Even and Odd.

##### Rest Mode operation

This luminaire incorporates a system to stop unwanted discharges. It is very uncommon to need to implement such a system, and it is



recommended that anyone intending to use this feature seek further advice. The rest-mode terminals are marked + & - within the first-fix base. Rest mode is to prevent any unwanted battery discharge when the mains supply is removed. A signal on the rest-mode lines of -12V will cause any discharge to be inhibited. In this mode the battery current will be reduced to virtually zero. The discharge is re-initiated (i.e. the lamp will re-illuminate) by applying a voltage of

+12V on the lines. Rest mode is automatically reset by re-application of the supply.

Specification	
Rest Mode	Active
Duration (Hours)	3
Light Output (With Signplate)	Not Specified
Battery	5 cell 1.5Ah High temperature NiCd subC
Supply Voltage Range	220-240V (Labelled 240V)
Operating temperature range	5°C - 25°C
Charger	Dual rate constant current
IP Rating	IP20
'F' Marking	Suitable for mounting on normally flammable surfaces
Standards	Complies with: BSEN60598-2-22
Test Frequencies:	
Functional	Every 7 days for 1 min.
Duration	Every 52 Weeks for 3hrs

Cautionary Note: Lighting levels are only provided to allow checking of correct operation. Determination of correct lighting levels on an escape route can only be made with full photometric data.



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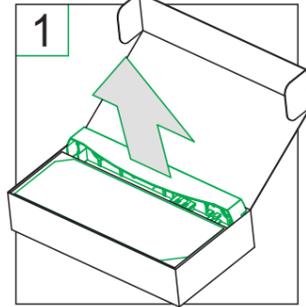


# Main product & surface mounting user instructions

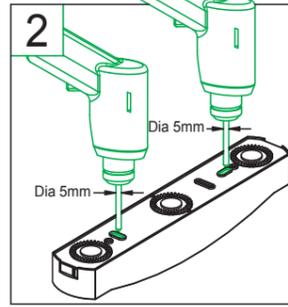
Endurance LED is based on a two phase installation system. There is a first fix compartment where all of the electrical connections are made. It is intended that the first phase installation is tested prior to installing and commissioning the light fitting. Please remember to leave the main unit in its packaging until it is ready for use. You may be interested to know that this product has many accessories for other mounting options. These include wall mounted, recessed, horizontal, rigid suspension and adjustable wire suspension. All accessories fit onto the light fitting you have now.

- You will require the following:
- \* Qualified electrician
  - \* Pencil or marking implement
  - \* Drill
  - \* 5mm drill bit
  - \* Wall fixing hole plugs (if required)
  - \* Fixing screws
  - \* Terminal driver
  - \* Single terminal block (if required for earth continuity)
  - \* Cable not exceeding a diameter of 7.5mm

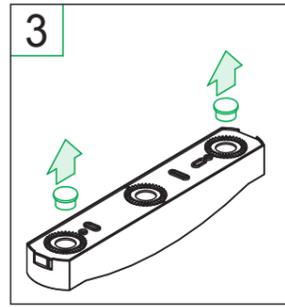
## Phase 1 (1-14)



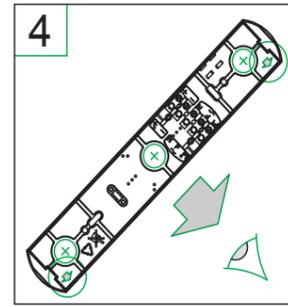
1 Remove first fix from packaging.



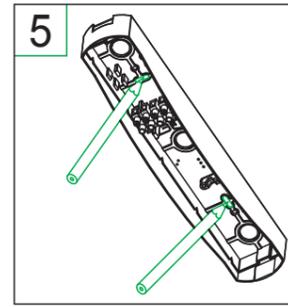
2 Drill out the slots as indicated.



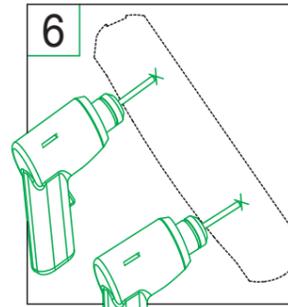
3 Remove the hole plugs to coincide with the intended cable entry position. Replace the hole plug(s) in the hole(s) which will not be used.



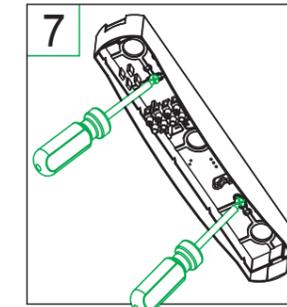
4 Line up the first fix cable entry hole(s) with the cable in the mounting surface. Make sure that the arrows are facing the front.



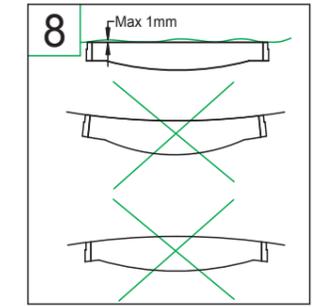
5 Mark through the slots onto the mounting surface and remove the first fix.



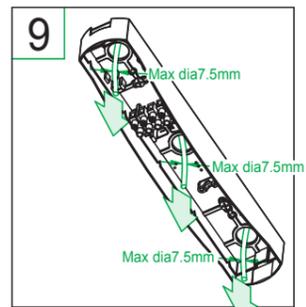
6 Drill the holes in the mounting surface to accept the fixing screws (not supplied). Use wall fixing hole plugs if required.



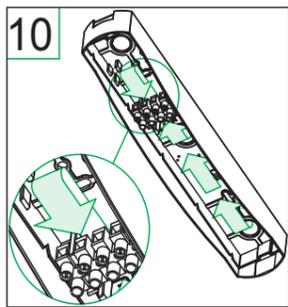
7 Put the first fix into position. Screw the first fix to the mounting surface.



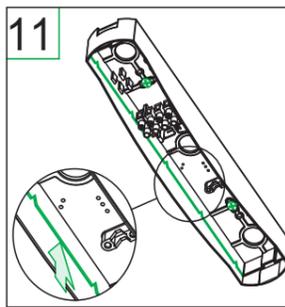
8 Do not over-tighten the first fix onto the mounting surface. Any deviations must not exceed 1mm.



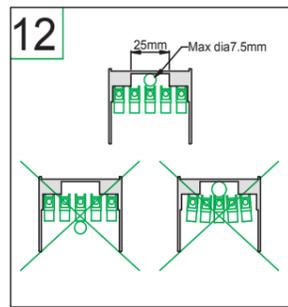
9 Pull the cable through into the first fix. The cable diameter must not exceed 7.5mm. You may not need to use all of the cable entries.



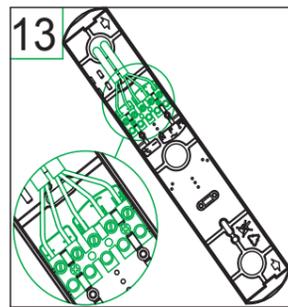
10 If required, incoming cables must go under the terminal block.



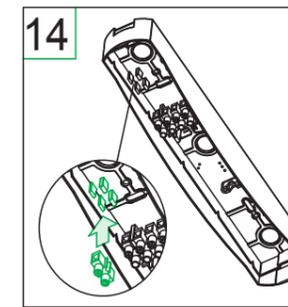
11 Make sure that the cable wires go below the indication mark, otherwise the finished product will not fit together properly.



12 The maximum diameter cable to go under the indication mark is 7.5mm. Cable(s) must not pass over the terminal block. The terminal block must not be removed, deformed or loosened off.

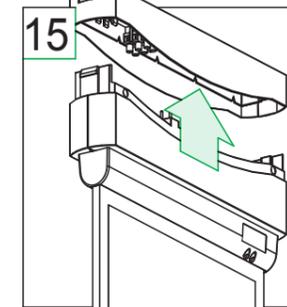


13 Wire into the terminal block.  
P=unswitched live  
P1=switched live  
N=Neutral  
+=Rest mode positive (if required)  
-=Rest mode negative (if required)

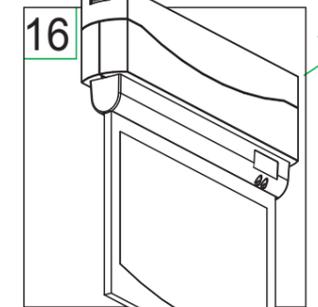


14 There is a facility for a single terminal block (not supplied) if earth continuity is required.

## Phase 2 (15-16)



15 When the light fitting is ready to be commissioned, simply push the main body into the first fix. Make sure that it is orientated correctly.

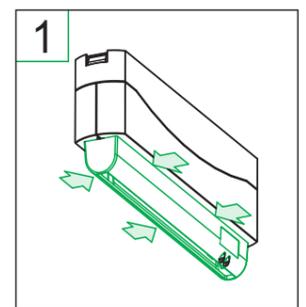


16 Ensure that the clips on the main body fully engage into the first fix by making a visual inspection.

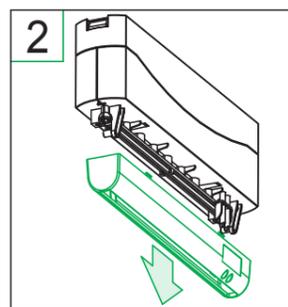
# Signplate mounting user instructions

- You will require the following:
- \* Competent person
  - \* Pozzi screw driver (if securing screws are fitted)
  - \* Lint free cloth (in case the signplate requires cleaning)

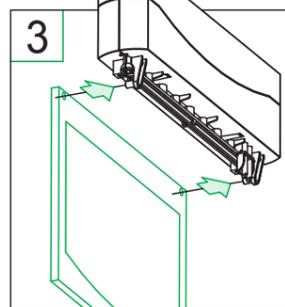
There are a wide variety of signplates available for the Endurance product. NB If you will be using the horizontal mounting accessory please ignore the following instructions.



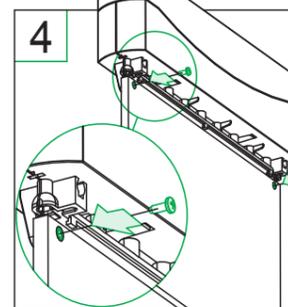
1 Remove the signplate cover by squeezing in the positions indicated.



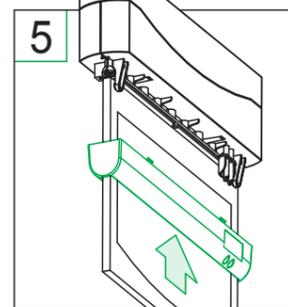
2 Whilst maintaining pressure on the signplate cover, pull it away from the light fitting.



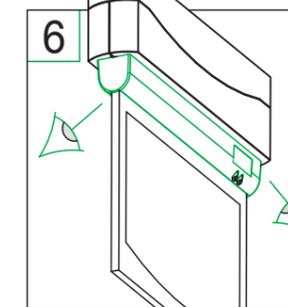
3 Remove the signplate from the packaging. Making sure that the signplate is facing in the correct direction, align the holes over the lugs indicated.



4 It is optional to fit the signplate securing screws. However, we recommend that they are fitted in environments where the signplate may suffer impact. To secure the signplate in position use the two screws provided to make a thread in the two holes indicated.



5 Re-attach the signplate cover by sliding it over the signplate. Make sure that it is orientated correctly.

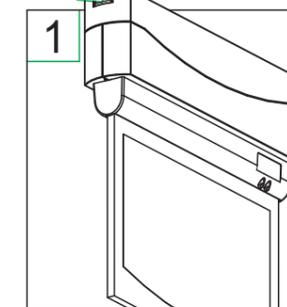


6 Ensure that the clips on the signplate cover fully engaged into the light fitting by making a visual inspection.

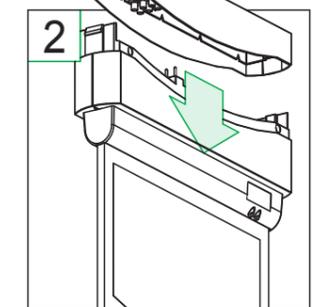
# Light fitting release procedure

The light fitting can be released from the first fix for general maintenance or complete removal. This does not apply to the recessed version which has a different release procedure.

- You will require the following:
- \* Qualified electrician



1 To release the light fitting from the first fix, simply push in the clips at either end as indicated.



2 Pull the light fitting away from the first fix whilst maintaining pressure. Remember that the terminal block in the first fix may be live.