

EMERGENCY LUMINAIRE COMMISSIONING

Battery activation

- For new NiCd, NiMH & LiFePO4 batteries activation of the cell is required to ensure specified design life.
- If the emergency luminaire does not pass the initial 3hr duration test a further full charge and discharge cycle may be required to activate the battery chemistry.

PROCEDURE

STANDARD EMERGENCY

1. Connect the battery once a stable mains supply is present
2. Allow the battery to charge for a period of 24hrs
3. Perform a full manual discharge test (minimum 3 hrs.)
4. If the emergency luminaire does not pass the initial 3hr duration test a further full charge and duration test (this test can be used as the scheduled EM test)
5. If the luminaire does not pass 3 hour test contact Whitecroft Technical for assistance.

EASY-TEST/SELF-TEST

1. Connect the battery once a stable mains supply is present
2. Allow the emergency luminaire to complete its self-commissioning phase which charges the battery for 24hrs, followed by a 3hr duration test. If the luminaire successfully completes this test, the indicator LED will be solid green
3. If the emergency luminaire does not pass the initial 3hr duration test, allow the battery to charge a further 24hrs and then do a manual 3hr duration test
4. If the luminaire fails this duration test then contact Whitecroft Technical for assistance

DALI TEST

1. Connect the battery once a stable mains supply is present
2. Allow the emergency luminaire to complete its self-commissioning phase which charges the battery for 24hrs, followed by a 3hr duration test. If the luminaire successfully completes this test, the indicator LED will be solid green OR if a DALI bus is connected and the luminaire has been commissioned the self-commissioning duration test can be stopped and a scheduled duration test can be performed using DALI commands.
3. If the emergency luminaire does not pass the 3hr duration test, allow the battery to charge a further 24hrs and then do a manual 3hr duration test
4. If the luminaire fails this duration test then contact Whitecroft Technical for assistance

Whitecroft
lighting

Emergency Luminaire

Maintenance, Commissioning & Fault Finding Guide

PK/LEAFLETEMGUIDE

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GENERAL INFORMATION

- 1) Connection to mains wiring should be carried out by a qualified electrician in accordance with IEE wiring regulations.
- 2) All luminaires apart from Class II luminaires must be earthed
- 3) Ensure that the rated luminaire voltage and frequency requirements are compatible with the available mains supply.
- 4) Do not use high voltage insulation testing equipment. Such testing can cause irreparable damage to the electronic components.
- 5) Ensure there is a stable permanent supply to the luminaire before connecting the batteries
- 6) Ensure the luminaire is isolated before carrying out maintenance
- 7) The batteries are have a design life of 4 years when installed, conditioned and operated in accordance with this instruction. When the batteries no longer meet their rated duration they should be replaced

BATTERY STORAGE/CARE DETAILS

Optimal storage conditions (when not in service and batteries disconnected)

- NiCd +5°C to 25°C (6 months onsite maximum)
- NiMh +5°C to 25°C (3 months onsite maximum)
- LiFEP04 +5°C to 25°C (6 months onsite maximum)

Old batteries must be handled and disposed of by specialist disposal experts. Under no circumstances should they be pierced or incinerated.

Do not put the luminaire into emergency mode until the batteries are fully charged

MAIN CAUSES FOR PREMATURE BATTERY FAILURE:

- 1) Over cycling of batteries for example caused by an unstable mains supply. Batteries are designed to carry out 3 – 4 full discharges per year. Over cycling will reduce the capacity and hence life.
- 2) Leaving connected batteries in a discharged state (maximum 2 weeks).
- 3) High ambient temperatures (greater than the ambient specified by Whitecroft lighting)
- 4) Repeated partial discharging and recharging of batteries (memory effect)

EMERGENCY SUPPLIES

Power to energise emergency luminaires can come from integral batteries within the luminaire (self-contained) or from a remote Central Battery system or Static Inverter. This power supply is intended to energise the emergency circuit within any emergency luminaire upon failure of the normal supply.

Integral battery emergency luminaires indicate 'batteries are charging' generally by use of an indicator LED mounted in a visible location on the luminaire. When the indicator LED is solid green, the batteries are charging

Emergency luminaires generally have internal supply connections: Permanent Live (orange), Switched Live (brown), Neutral (blue), and Earth (green/yellow).

TESTING REGIME

As detailed in BSEN50172:2004 (BS5266-8:2004)

- Monthly function test (30s) to check luminaires are functioning correctly (unless detailed differently in commissioning procedure)
- Annually full duration test to check the luminaires are functioning correctly and meet their full duration
- Emergency testing results must be documented and be available for inspection.

FAULT FINDING

Inspection / fault finding work must be carried out by a suitably electrically qualified person.

Initial checks must include continuity of fuses and integrity of internal/external wiring.

Please read BATTERY STORAGE/CARE details in this leaflet before continuing.

CAUTION: Even if the power supply to the emergency luminaire may be disconnected, there may still be high voltages inside the fitting. Disconnect batteries when maintaining internal wiring.

- A. LED indicator non-operational and does not work in Emergency mode.
 1. Check that the permanent 230v supply is present in the luminaire.
 2. Check the batteries are properly connected.
 3. Replace the batteries with known working units.
 4. Replace the inverter ensuring you change it 'wire for wire'.
 5. If the luminaire still does not function please call Whitecroft Technical.
- B. Luminaire functions in Emergency mode but will not function in Standard mode.
 1. Check that the Switched Live is present.
 2. Check that the Switched and Permanent Supplies are correctly connected.
 3. Check that there is 230v at the 'Live Out' terminal of the emergency inverter.
 4. If the luminaire still does not function please call Whitecroft Technical.
- C. LED indicator illuminated but luminaire does not work in Emergency mode.
 1. Check light engines in emergency circuit are working
 2. Replace the batteries with known working units.
 3. Replace the inverter ensuring you change it 'wire for wire'.
 4. If the luminaire still does not function please call Whitecroft Technical.
- D. LED indicator not illuminated but luminaire functions in all other respects.
 1. Check the cable to the LED indicator; make sure it is properly terminated and has not been trapped or cut.
 2. Replace the LED indicator with a known working one.
 3. Replace the inverter ensuring you change it 'wire for wire'.
 4. If the luminaire still does not function please call Whitecroft Technical.
- E. Luminaire will not last 3 hour duration test.
 1. Check that the batteries have been charged for at least 24 to fully charge
 2. Check that the Switched and Permanent Supplies are correctly connected.
 3. Replace the batteries with known working units.
 4. Replace the inverter ensuring you change it 'wire for wire'.
 5. If the luminaire still does not function please call Whitecroft Technical.