

Technical Bulletin 07/03 Dated: 28.02.07

Quality Complaint Log No 20070157

Subject: Potential for electric shock from live LED casing on Victor Excalibur Emergency luminaire (battery management version).

Background

SADIE Alert 942 (Contact with live LED casing on Victor Excalibur Emergency Light Fitting) was raised by Brian Sheriff of BOL on 11th January 2007.

Description of Incident

Whilst carrying out maintenance on a Victor Excalibur (VL24E) c/w battery management feature, an electrical technician received a minor electrical shock from a battery indication LED fitted on the gear housing cover.

The electrician had been re-lamping the fitting, he was re-attaching the removable envelope of the light fitting when his hand touched the casing of one of the battery indication LEDs fitted on the gear housing cover. It was from this LED casing that he received a shock.

Upon investigation the technician found that the LED casing was live at 254Vac with respect to Earth. At this point he adopted correct procedure and applied isolation to the circuit concerned.

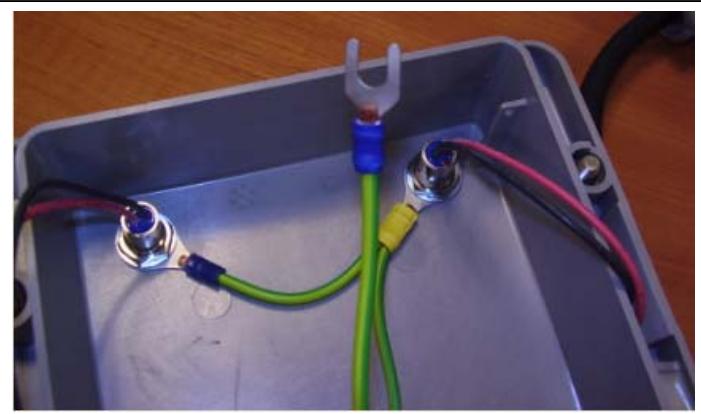
Root Cause

Having identified the possibility of incoming supply cables being located within the area that the Exm certified LED's are positioned, the LED casing may cause damage to the cable insulation, therefore causing the LED case to come into contact with the bare wire.

Victor Corrective Action

Victor have investigated and are now fitting an earth between the two LED's, using M12 ring terminals and 2.5mm² stranded earth wire, which is then connected to the gland plate earth connection. (See attached Picture)

As Victor regard this as a minor change which will not affect the performance or the Exe certification rating of the product, this change will be implemented immediately on all new Excalibur luminaires.





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Recommendations for Existing Installed Products

- **It should be highlighted that before any maintenance work is carried out inside the gear cover the luminaire should be isolated.**

1. During routine maintenance, with the supply isolated, the gear cover should be removed allowing inspection of the incoming cable cores.
 - a) If the incoming supply cable is sited close to the area of the LED casing it should be moved.
 - b) There is sufficient free space inside the gear chamber to route the incoming cable away from the LEDs.
 - c) If there is evidence that the incoming cable has come in contact with the LED casing, remedial action should be taken to remove the affected section of cable.
2. If users suspect that there are any installed products likely to pose safety issues to personnel, they should check for voltage at the LED casing. If any show this issue, the steps in item 1 should be taken.
3. If required the retro-fit earth assembly can be sourced from Victor Lighting under Ordering Code - SEXCE-00021.
4. It is acceptable for end users to create their own earthing kit, however, we do have the following recommendations:
 - a) Earth cable used should be 2.5mm² stranded PVC tri-rated insulated, 105°C rated, 600/1000V
 - b) Ring crimp terminals should be used to connect to the LED
 - c) Spade crimp terminal should be used to connect to the earth bar at cable entry point.
 - d) Care should be taken not to over tighten the nuts holding the earth and the LED into place, as this a M12 locknut

If any further information is required on this subject, please contact the undersigned or a member of the Technical Sales Support team at the Glasgow office.

Yours Sincerely

Ian MacLeod
Technical Manager



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