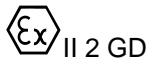




## EU Type Examination Certificate CML 16ATEX3345 Issue 2

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **Exodus Bulkhead Emergency Luminaires**
- 3 Manufacturer **Abtech Limited**
- 4 Address **199 Newhall Road,  
Lower Don Valley,  
Sheffield,  
S9 2QJ, UK**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 CML B.V., Chamber of Commerce No 6738671, Hoogoorddreef 15, Amsterdam, 1101 BA, The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.  
  
The examination and test results are recorded in the confidential reports listed in Section 12.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:  
  
EN 60079-0:2012+A11:2013    EN 60079-5:2015    EN 60079-7:2015  
EN 60079-11:2012    EN 60079-28:2015    EN 60079-31:2014
- 10 The equipment shall be marked with the following:



II 2 GD

Ex eb ib op is q IIB T4 Gb

Ex tb op is IIIC T135°C Db

Ta= -20°C to +55°C



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## 11 Description

The Exodus Bulkhead Emergency is an LED luminaire containing LED arrays supplied by an intrinsically safe supply from an integrated driver unit, which is also capable of emergency operation from the self-contained batteries which are also charged from the driver unit.

The Exodus LED Driver is designed to be supplied from a source voltage of between 90 Vac and 250 Vac 50/60 Hz. The luminaire contains a sand filled enclosure which in turn contains a switch mode power supply and an LED driver/charging circuit. It also contains a terminal block to permit the connection of both the mains and the intrinsically safe output, as well as housing the LED array, battery pack and glass lens. Sealing of the enclosure is by means of a closed cell silicone gasket.

Intrinsic safety is provided by duplicated voltage and current trips that provide the following outputs:

Um	=	250 Vac
Uo	=	13.5 V
Io	=	2 A
Co	=	0
Lo	=	0

Intrinsic safety of the LED driver is achieved by limiting energy storage and discharge, and by connecting to the non-hazardous area via the intrinsically safe LED driver.

The equipment incorporates the use of the Abtech Zag enclosure which is previously certified under Sira 99ATEX3174U. The equipment also includes suitably certified increased safety terminals.

The Exodus has an alternative housing of tubular shape known as NIMO. The alternative arrangement is comprising of the same driver or electronic with electrical characteristics but housed inside a different enclosure. The driver enclosure is fabricated from metallic sheet bend in U-shape. Two plates as end wall are welded inside the U-shaped body at a distance apart from each other to form the driver enclosure. Two holes on each end wall and one threaded entry on one of the end walls are constructed as cable entry. The driver enclosure is quartz filled and a cover is glued by silicon 153 RTV paste to seal and permanently riveted at 6 locations. The back side of the U-shaped body is fitted with LED board.

The driver and LED board assembly are fitted inside a glass tube. The glass tube is sealed and supported by silicon gaskets and metallic end caps at each end retained by tie rods together. The luminaire is provided with appropriately dimensioned terminal compartment and threaded entry at one end fitted with suitable terminal block. The terminal compartment is closed by a threaded cover and linked to the LED compartment by suitably certified increased safety cable gland. The luminaire assembly is fitted to a reflector which also is used as mounting fixture for the luminaire.

### Variation 1

This variation introduces the following changes:

- i. Amendment to equipment description to distinguish the emergency version from standard type as a separate design option.
- ii. The introduction of alternative luminaire arrangement, with changes to the description and conditions of manufacture.



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## Variation 2

This variation introduces the following changes:

- i. To transfer the CML UK ATEX Certificate to CML BV
- ii. Correction of typographical errors.

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	25 Sep 2017	R1685A/00	Issue of Prime Certificate.
1	09 Apr 2019	R11995A/00	Introduction of Variation 1
2	13 Sep 2019	R12524A/00	Introduction of Variation 2

Note: Drawings that describe the equipment or component are listed in the Annex.

## 13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components, the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.
- ii. Each powder filled enclosure shall be subjected to a routine overpressure test at 50 kPa (0.5 bar) in accordance with EN 60079-5:2015, clause 5.2.1. for a minimum of 10 seconds. There shall be no permanent deformation exceeding 0.5 mm in any of its dimensions. Alternatively, batch testing in accordance with clause EN 60079-5:2015, clause 5.2.1 may be conducted.
- iii. Each unit manufactured shall be subjected to an electric strength test in accordance with EN 60079-7:2015 clause 7.1. It shall be carried out either at 1000 V + 2U for 60 seconds or at 1.2 times this test voltage for at least 100 ms. No flashover or breakdown shall occur.
- iv. Each batch of the filling material shall be subjected to a dielectric strength test in accordance with EN 60079-5:2015 clause 5.2.2 for a minimum of 60 seconds.
- v. The driver enclosure cover shall be sealed using Silicone 153 on sealing edges with a continuous bead. The cover shall be permanently closed and any excess silicone to be wiped and cleaned.
- vi. The NIMO luminaire shall not be used without the reflector.

## 14 Specific Conditions of Use (Special Conditions)

None.

## Certificate Annex

**Certificate Number** CML 16ATEX3345  
**Equipment** Exodus Bulkhead Emergency Luminaire  
**Manufacturer** Abtech Limited



The following documents describe the equipment or component defined in this certificate:

### Issue 0

Drawing No	Sheets	Rev	Approved date	Title
ABT31505	1 of 1	A	25 Sep 2017	Exodus Emergency Driver GA Certification Drawing
ABT30365	1 of 1	A	25 Sep 2017	Exodus Emergency Label Drawing (Z1)
ABT303641	1 of 1	A	25 Sep 2017	Exodus GA Certification Drawing - Emergency

### Issue 1

Drawing No	Sheets	Rev	Approved date	Title
ABT35016	1 of 1	A	09 Apr 2019	NIMO Certification Label
ABT34975	1 of 1	A	09 Apr 2019	NIMO Gear Tray GA
ABT34963	1 of 1	A	09 Apr 2019	NIMO Submersible GA

### Issue 2

None.