



EC-TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC

EC-Type Examination Certificate Number : BAS00ATEX2182U

Equipment or Protective System: TYPE 11MB ENCAPSULATED LED

Manufacturer: VICTOR PRODUCTS LIMITED

Address: New York Way, New York Industrial Park, Newcastle-upon-Tyne, NE27 0QF

This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

The Electrical Equipment Certification Service, notified body number 600 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report N°

00(C)0827 dated 1 November 2000

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014: 1997 + Amds 1 & 2

EN 50028: 1987 + Amd 1

except in respect of those requirements listed at item 18 of the Schedule.

If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

The marking of the equipment or protective system shall include the following:-

 II 2G EEx m II (maximum case temperature 70°C)

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 1186/03/050

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.



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I M CLEARE
DIRECTOR
3 November 2000



13

Schedule

14

EC-TYPE EXAMINATION CERTIFICATE N° BAS00ATEX2182U

15

Description of Equipment or Protective System

The Type 11MB Encapsulated LED comprises of a single, red, green, blue, white or yellow, LED and optional diode, encapsulated in an outer metal housing with a coloured plastic lens.

It is designed to operate with a nominal current of 20mA at 2 volts, and it should be noted that different colours require different voltages for a set current.

The flying leads may be supplied up to a maximum length of 3 metres.

An optional diode may be fitted to ensure correct polarity and is rated at 1000V minimum.

Two different encapsulants are used, to gain the advantages of each, these are:

- (a) A clear epoxy encapsulant around the LED - for visibility (STYCAST 1264);
- (b) A blue epoxy encapsulant to fill the remainder of the housing - this conducts the heat produced by the LED to the outside surface of the encapsulant/housing (STYCAST 2850 FT + 24L catalyst).

The LED housing takes the form of a nickel plated brass enclosure with a polycarbonate, flat or domed, lens at one end. It has a threaded body to allow it to be fitted into an enclosure, to which it is sealed using a sealing washer of Fluroelastomer or Neoprene and secured with a lock washer and half-nut.

The two external connections are made via single multi-stranded cable which has its ends stripped back before being soldered onto the "leg(s)" of the LED or optional diode. These cables are 0.22mm² silicone insulated or 0.22mm² zyrad 500 wire and exit the housing at the open end.

Earthing of the unit is achieved via the metal housing.

17

Schedule of Limitations

1. The LED shall be housed within a suitable protective enclosure (capable of withstanding an impact of 7 Joules) and which affords Ingress Protection of at least IP54.
2. The case temperature when mounted within an enclosure shall not exceed 70°C
3. The supply shall limit the power and therefore the temperature rise to be in line with the power graph - see Certification Report No. 96(C)1147 (held in EECS File No. 1186/03/026) but in any case the current is to be limited to a maximum of 55 mA even under fault conditions (i.e. LED or diode short circuit).
4. A protective fuse with a maximum breaking capacity of at least 4000A a.c. is to be provided in the supply line.
5. The flying leads to be suitably protected and secured within the enclosure and suitably terminated.



13

Schedule

14

EC-TYPE EXAMINATION CERTIFICATE N° BAS00ATEX2182U

18

Essential Health and Safety Requirements

Essential Health and Safety Requirements not covered by Standards listed at (9)		
Clause	Subject	Compliance
1.0	General requirements	see Report 00(C)0827 Clause 4.2
1.0.5	Marking	see Report 00(C)0827 Clause 4.1
1.0.6	Instructions	see Report 00(C)0827 Clause 4.2
1.1	Selection of materials	see Report 00(C)0827 Clause 4.2
1.2	Design and construction	see Report 00(C)0827 Clause 4.2
1.4	Hazards from external effects	see Report 00(C)0827 Clause 4.2
2.2	Requirements for cat. 2 group II	see Report 00(C)0827 Clause 4.2

19

DRAWINGS

Number	Sheet	Issue	Date	Description
LA326	1	1	6.10.00	General Assembly & Label Details
LV18	-	2	30.10.00	Potting Procedure

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BASEEFA List Keywords
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