



1 **EC - TYPE EXAMINATION CERTIFICATE**

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

3 EC - Type Examination Certificate Number: **Baseefa03ATEX0669**

4 Equipment or Protective System: **DA\*135\* LED Beacon**

5 Manufacturer: **RTK Engineering Ltd**

6 Address: **Harrogate, North Yorkshire, HG2 0NP**

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

8 Baseefa (2001) Ltd. Notified body number 1180, 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 No. **03(C)0824**

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

**EN 50014: 1997 + A1 & A2**      **EN 50020: 2002**      **EN 50284: 1999**

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

10 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.

11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

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

**⊕ II 1G    EEx ia IIC T6 (-20°C ≤ Ta ≤ +55°C)**

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

Baseefa (2001) Ltd. Customer Reference No. **2308**

Project File No. **03/0824**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

**Baseefa (2001) Ltd.**

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**R S SINCLAIR**  
**DIRECTOR**  
On behalf of  
Baseefa (2001) Ltd.



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## Schedule

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Certificate Number Baseefa03ATEX0669

### 15 Description of Equipment or Protective System

The DA\*135\* LED Beacon is designed to be mounted within a hazardous area and to provide a local visual indication. The beacon can flash at a number of different flash rates or different colours depending upon opto isolated input voltages to the unit. The beacon can also power and switch an external audible alarm and the alarm signal can be acknowledged with an external switch. The \* in the type number may be replaced by letters denoting variations of colour not affecting the safety assessment.

The apparatus comprises three printed circuit boards (pcb), an interface pcb, the main control pcb and the LED pcb, each containing a mixture of conventional and surface mounted components. Both the main control pcb and the LED pcb are fully encapsulated either in a clear or opaque hard setting epoxy compound. A variable resistor, two DIL switches and the field terminals are mounted on the interface pcb.

The assembly is mounted within an antistatic glass reinforced polyester DMC enclosure which has a separate field terminal chamber and a clear acrylic dome.

Intrinsically Safe Supply - Terminals (SK1, SK2 & 14)

$$\begin{aligned}U_i &= 28V \\I_i &= 110mA \\P_i &= 0.8W \\C_i &= 0 \\L_i &= 0\end{aligned}$$

External circuits – Terminals (SK3 & SK4), Terminals (SK5 & SK6)  
and Sounder Supply- Terminal (SK13)

$$\begin{aligned}U_o &= U_i \text{ (SK1, SK2 & 14)} \\I_o &= I_i \text{ (SK1, SK2 & 14)} \\P_o &= P_i \text{ (SK1, SK2 & 14)} \\C_i &= 0 \\L_i &= 0\end{aligned}$$

Acknowledge - Terminals (SK11 & SK12)

$$\begin{aligned}U_o &= U_i \text{ (SK1, SK2 & 14)} \\I_o &= 6mA \\P_o &= 40mW \\C_i &= 0 \\L_i &= 0\end{aligned}$$

All of the above circuits must form part of the same intrinsically safe circuit with SK2, SK4, SK6 and SK12 providing a common connection. The intrinsically safe source used for the input at Terminal (SK14) Sounder must be derived from the same source that is connected to the Supply Terminals (SK1 & SK2).



Opto coupled Terminals (SK7 & SK8) and (SK9 & SK10) - each may be a separate Intrinsically Safe circuit  
External voltage input for different flash rates or colour.

$U_i = 40V$        $U_o = 0$   
 $I_i = 450mA$      $I_o = 0$   
 $P_i = 1.3W$       $P_o = 0$   
 $C_i = 0$   
 $L_i = 0$

Although the Terminals (SK7 & SK8) and (SK9 & SK10) do not comply with the requirements of Clause 5.4 of EN 50020:2002, when connected in an intrinsically safe circuit the internal stored energy, voltage and current of the DA\*135\* LED Beacon will not add more than the values specified in Clause 5.4 of EN 50020: 2002 to the parameters of the circuit into which it is connected.

**16 Report Number**

03/0824

**17 Special Conditions for Safe Use**

None

**18 Essential Health and Safety Requirements**

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

**19 Drawings and Documents**

Number	Sheet	Issue	Date	Description
CE5960	1	0	22/04/2004	Main Circuit
CE5964	1	0	05/02/2004	LED Circuit
CE5965	1	0	05/02/2004	Interface Circuit
CE5966	1	0	06/04/2004	Opto Detail
CE5996	1	0	06/04/2004	General Assembly
CE5997	1	0	05/02/2004	LED Assembly
CE5998	1	0	06/04/2004	Certification Label
CE5999	1	0	23/04/2004	Main pcb Track Layout
CE6000	1	0	17/02/2004	Interface pcb Track Layout
CE6001	1	0	05/02/2004	LED pcb Track Layout



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

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

3 Supplementary EC - Type Examination Certificate Number: **Baseefa03ATEX0669/1**

4 Equipment or Protective System: **The DA\*135\* LED Beacon**

5 Manufacturer: **RTK Engineering Limited**

6 Address: **Knaresborough, North Yorkshire, HG5 8PJ**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa03ATEX0669 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

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

Baseefa Customer Reference No. **2308**

Project File No. **07/0710**

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DIRECTOR  
On behalf of  
Baseefa (2001) Ltd.



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### Schedule

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Certificate Number Baseefa03ATEX0669/1

15 **Description of the variation to the Equipment or Protective System**

**Variation 1.1**

To permit the use of an alternative encapsulant.

16 **Report Number**

None

17 **Special Conditions for Safe Use**

None

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Issue	Date	Description
CE5996	1	24-08-07	DA135 LED Beacon General Arrangement