



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: **Baseefa03ATEX0625X**

4 Equipment or Protective System: **The DAB149 Repeat Relay**

5 Manufacturer: **RTK Engineering Limited**

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)0509/1**

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 T4 (-20°C ≤ T_a ≤ +40°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. **03/0509**

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.**



13

Schedule

14

Certificate Number Baseefa03ATEX0625X

15 Description of Equipment or Protective System

The DAB149 Repeat Relay is designed to enable the control of one intrinsically safe circuit ("Contact" Terminals TM1 and TM2) from a separate intrinsically safe circuit ("Coil" Terminals TM3 and TM4). The Relay provides galvanic isolation between the two circuits and limits the transfer of energy in either direction, to less than any of the following parameters, 1.2V, 0.1A, 20 μ J and 25mW. The DAB149 Repeat Relay may be mounted within a Hazardous Area.

Although the DAB149 Repeat Relay Terminals TM1 and TM2 or TM3 and TM4 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 Repeat Relay 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.

"Contact" Terminals TM1 and TM2

$U_i = 40V$	$U_o = <1.2V$
$C_i = 0$	$I_o = <100mA$
$L_i = 0$	$P_o = <25mW$

"Coil" Terminals TM3 and TM4

$U_i = 40V$	$U_o = <1.2V$
$C_i = 0$	$I_o = <100mA$
$L_i = 0$	$P_o = <25mW$

Variation 0.1

To permit the circuit to be redesigned and the relay to be designated a DAD149 Repeat Relay. The DAD149 Repeat Relay is designed to enable the control of one intrinsically safe circuit ("Contact" Terminals TM1 and TM2) from a separate intrinsically safe circuit ("Coil" Terminals TM3 and TM4). The Relay provides galvanic isolation between the two circuits and limits the transfer of energy in either direction to less than any of the following parameters, 1.2V, 0.1A, 20 μ J and 25mW. The DAD149 Repeat Relay may be mounted within a Hazardous Area.

Although the DAD149 Repeat Relay Terminals TM1 and TM2 or TM3 and TM4 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 Repeat Relay 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.

The DAD149 Repeat Relay is coded EEx ia IIC T5 $(-20^{\circ}C \leq T_a \leq +70^{\circ}C)$

"Contact" Terminals TM1 and TM2

$U_i = 30V$	$U_o = <1.2V$
$C_i = 0$	$I_o = <100mA$
$L_i = 0$	$P_o = <25mW$



“Coil” Terminals TM3 and TM4

$U_i = 30V$ $U_o = <1.2V$
 $C_i = 0$ $I_o = <100mA$
 $L_i = 0$ $P_o = <25mW$

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17 Special Conditions for Safe Use

1. The enclosure is considered to present an electrostatic risk and is provided with a warning label:- “Warning electrostatic hazard - Do not rub”

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	Issue	Date	Description
CE5929	0	07APR04	DAB Circuit Diagram
CE5923	0	07APR04	DAB Board Assembly
CE5917	0	05MAY04	DAB Certification Label
CE5922	0	07APR04	DAB General Assembly
CE5930	0	07APR04	DAD Circuit Diagram
CE5925	0	07APR04	DAD Board Assembly
CE5918	0	05MAY04	DAD Certification Label
CE5924	0	07APR04	DAD General Assembly
*CE5934	0	30APR04	Electronic Parts List
*CE5932	0	02SEPT03	Toroidal Isolation Transformer
*CE5915	0	07APR04	PCB Track Layout
*CE6293	0	07APR04	PCB Specification
*CE6302	0	04MAY04	EG3 Enclosure
*CE5933	0	07APR04	Mounting Components
*CE6187	0	16FEB04	Marking Methods

* These drawings are held with Baseefa03ATEX0624



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: Baseefa03ATEX0625X/1

4 Equipment or Protective System: The DAB149 Repeat Relay

5 Manufacturer: RTK Engineering Limited

6 Address: Knaresborough, North Yorkshire, HG5 8PJ

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa03ATEX0625X 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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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.



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Schedule

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Certificate Number Baseefa03ATEX0625X/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 additional to those listed previously.

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
CE5933	1	24/08/07	DA*149 Series Solid State IS Relay Relevant Info

This drawing is also associated with Baseefa03ATEX0624/1