



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: **Baseefa03ATEX0568**

4 Equipment or Protective System: **Reed Relay Types RLSH** & RLHS****

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)0680**

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

EN 50014: 1997 + A1 & A2 EN 50020: 2002

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 (1)G [EEEx ia] IIC (-20°C ≤ Ta ≤ +60°C)

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

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

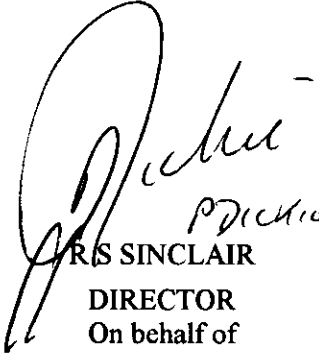
Project File No. **03/0680**

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.

Health and Safety Laboratory Site, Harpur Hill,
Buxton, Derbyshire SK17 9JN

Telephone +44 (0) 1298 28255 Fax +44 (0) 1298 28216
e-mail info@baseefa2001.biz web site www.baseefa2001.biz
Registered in England No. 4305578 at 13 Dovedale Crescent, Buxton,
Derbyshire, SK17 9BJ


P. SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.



13

Schedule

14

Certificate Number Baseefa03ATEX0568

15 Description of Equipment or Protective System

The Reed Relay Types RLSH** & RLHS** are designed as isolation relays for mounting within a safe area, as an interface between unspecified safe area apparatus and hazardous area apparatus.

The Reed Relay Types RLSH** are designed to have the coil circuit connected to the unspecified safe area apparatus, with the contact circuit connected to hazardous area apparatus. Whereas the Reed Relay Types RLHS** are designed to have the contact circuit connected to the unspecified safe area apparatus with the coil inductance suppressed by diodes and connected to hazardous area apparatus.

Four contact configurations are covered denoted by the ** in the type number. (viz. 1A single contact, on/off; 1C single contact, change over; 2A dual contact, on/off and 2C dual contact, change over.) All of the types considered are intended to provide isolation between unspecified safe area apparatus and hazardous area apparatus.

In the case of the dual contact types, isolation is maintained between the separate contact circuits such that they can be connected to separate intrinsically safe circuits, with either or both circuits having voltages of up to 45V. (i.e. Segregation for 90V.)

The nominal coil voltage for both Types RLSH** & RLHS** is either 12V or 24V and is shown following the type number. The Reed Relay Types RLSH** coil circuit, is protected against excessive power dissipation by a fuse and duplicated zener diodes.

The Relays are either a Single or Dual contact, encapsulated reed relay, which incorporates freewheel diodes in the coil circuit, mounted on a glass fibre p.c.b., fitted with coil and contact terminals and housed within a moulded plastic outer enclosure which incorporates a universal mounting foot. The assembly affords a degree of protection of at least IP20.

The above Reed Relay units are supplied with a universal mounting foot oriented such that the safe area terminals are always on the same side of the mounting rail when either the RLSH** & RLHS** units are mounted on a "G" rail. This provision will not be met if the units are mounted on a Standard rail, since both the units and the rail are symmetrical, however the hazardous area terminals are light blue. During installation, care should be taken to ensure that the segregation requirements of EN50020 between the safe area terminals and the hazardous area terminals are met.

The Reed Relay Type number is constructed as follows e.g. :- RL S H 1 A - 12

RL	S	H	1	A	- 12	
					Nominal Coil Voltage 12V (12) or 24V (24)	
					Style - On/Off (A) or Change over (C)	
					Number of separate contacts (1 or 2)	
					Contacts to Hazardous Area (H) or Safe Area (S)	
					Coil to Safe Area (S) or Hazardous Area (H)	
Reed Relay (RL)						



RLSH** Coil Terminals

$U_m = 250V$

The circuit connected to the coil is designed to operate at a nominal voltage of either 12V or 24V.

RLSH** Contact Terminals either 1* (or 2* for the dual contact arrangements)

$U_i = 45V$
 $P_i = 1.3W$
 $C_i = 0$
 $L_i = 0$

The contacts (1*or 2*) of the Reed Relay Types RLSH** do not generate or store more than the values of energy, voltage or current specified in Clause 5.4 of EN 50020: 2002

RLHS** Coil Terminals

$U_i = 45V$ $U_o = 1.1V$
 $I_i = 0.5A$ $I_o = 5mA$
 $P_i = 1.3W$
 $C_i = 0$
 $L_i = 0$

The circuit connected to the coil is designed to operate at a nominal voltage of either 12V or 24V.

RLHS** Contact Terminals either 1* (or 2* for the dual contact arrangements)

$U_m = 250V$

The Currents and voltages switched by these contacts shall not exceed 250V r.m.s. 1A r.m.s. and 20VA

16 Report Number

03(C)0680

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	Issue	Date	Description
CE5803	0	03 Sept 2003	Reed Relay RLSH1A-12
CE5804	0	03 Sept 2003	Reed Relay RLSH1C-12
CE5805	0	03 Sept 2003	Reed Relay RLSH2A-12
CE5806	0	29 Aug 2003	Reed Relay RLSH2C-12
CE5807	0	29 Aug 2003	Reed Relay RLSH1A-24
CE5808	0	29 May 2003	Reed Relay RLSH1C-24



Number	Issue	Date	Description
CE5809	0	29 Aug 2003	Reed Relay RLSH2A-24
CE5810	0	03 Sept 2003	Reed Relay RLSH2C-24
CE5811	0	29 Aug 2003	Reed Relay RLHS1A
CE5812	0	29 Aug 2003	Reed Relay RLHS1C
CE5813	0	29 Aug 2003	Reed Relay RLHS1A
CE5814	0	29 Aug 2003	Reed Relay RLHS2C
*CE5819	0	20 May 2003	p.c.b. Single contact
*CE5820	0	20 May 2003	p.c.b. Dual contact
**CE5205	3	18 March 2002	Marking Methods
*CE5821	0	20 May 2003	PM40 Cover and Base Plate
*CE5822	0	20 May 2003	PM40 Relay 12V-2A/3
*CE5823	0	20 May 2003	PM40 Relay 12V-2C/4
CE5824	0	20 May 2003	PM40 Relay 24V-2A/5
CE5825	0	20 May 2003	PM40 Relay 24V-2C/6
*CE5826	0	20 May 2003	Coil Winding Dual /3 /4 /5 /6
*CE5827	0	20 May 2003	Magnetic Screen Assembly Dual
*CE5828	0	20 May 2003	Bobbin and Cap Dual Contact
*CE5829	0	20 May 2003	PM40 Relay 12V-1A/4
*CE5830	0	20 May 2003	PM40 Relay 12V-1C/3
CE5831	0	20 May 2003	PM40 Relay 24V-1A/6
CE5832	0	20 May 2003	PM40 Relay 24V-1C/5
*CE5833	0	20 May 2003	Coil Winding Single/3 /4 /5 /6
*CE5834	0	20 May 2003	Bobbin and Cap Single Contact
*CE5835	0	20 May 2003	Magnetic Screen Assembly Single
*CE5836	0	20 May 2003	Relay Coil Freewheel Diode
*CE5837	0	20 May 2003	Single Contact 1A/1C General Assembly
*CE5838	0	20 May 2003	Dual Contact 2A/2C General Assembly
*CE5839	0	20 May 2003	Encapsulation Resins

*These drawings are also associated with Certificate No. Baseefa03ATEX0569.

**This drawings is held with Certificate No. Baseefa02ATEX0062.