

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: **Baseefa06ATEX0170 – Issue 2**

4 Equipment or Protective System: **Type KCD0-SD-Ex1.1245* Transformer Isolated Solenoid Driver**

5 Manufacturer: **Pepperl + Fuchs GmbH**

6 Address: **Lilienthalstrasse 200, 68307 Mannheim, Germany**

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, 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's. **See Certificate History**

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

EN 60079-0:2012+A11:2013 EN 60079-11:2012

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 [Ex ia Ga] IIC (-20°C ≤ Ta ≤ +60°C)

⊕ II (1) D [Ex ia Da] IIC (-20°C ≤ Ta ≤ +60°C)

⊕ I (M1) [Ex ia Ma] I (-20°C ≤ Ta ≤ +60°C)

Baseefa Customer Reference No. **0808**

Project File No. **15/0356**

This document is issued by the Company subject to its General Conditions for Certification Services accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and the Supplementary Terms and Conditions accessible at <http://www.baseefa.com/terms-and-conditions.asp>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. It does not necessarily indicate that the equipment may be used in particular industries or circumstances. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, schedule included, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Baseefa Limited

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ

Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601

e-mail info@baseefa.com web site www.baseefa.com

Registered in England No. 4305578.

Registered address: Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN



R S SINCLAIR
GENERAL MANAGER

On behalf of SGS Baseefa Limited

13

Schedule

14

Certificate Number Baseefa06ATEX0170 – Issue 2

15 Description of Equipment or Protective System

The Type KCD0-SD-Ex1.1245 Transformer Isolated Solenoid Driver is designed to transfer current from unspecified apparatus located in the non-hazardous area to the hazardous area. The voltage and current passed to the hazardous area is limited to intrinsically safe levels and have linear characteristics. The hazardous area circuit is galvanically isolated from the non-hazardous area using a transformer.

The Type KCD0-SD-Ex1.1245 Transformer Isolated Solenoid Driver comprise a number of electronic components, including an isolating transformer, fuses, zener diodes and resistors all mounted on a single printed circuit board and housed in a plastic enclosure with polarised plug-in terminals or optional spring terminals (.SP types only) for hazardous and non-hazardous area connections. LED indication is provided for channel status.

The variants covered by this certificate are as follows:

KCD0-SD-Ex1.1245

KCD0-SD-Ex1.1245.SP

KCD0-SD-Ex1.1245-Y*

KCD0-SD-Ex1.1245.SP-Y*

Input/Output Parameters

All variants

Non-Hazardous Area Terminals 5 & 6

$U_m = 253V$ r.m.s.

The circuit connected to non-hazardous area terminals 5 & 6 is designed to operate from a d.c. supply voltage up to 35V.

Hazardous Area Terminals 1 w.r.t. 2

$U_o = 25.2V$ $C_i = 0$
 $I_o = 110mA$ $L_i = 0$
 $P_o = 693mW$

The capacitance and either the inductance or inductance to resistance ratio (L/R) of the load connected to output terminals of either channel must not exceed the following values:

GROUP	CAPACITANCE (μF)	INDUCTANCE (mH)	OR	L/R RATIO ($\mu H/ohm$)
IIC	0.107	2.94		51
IIB	0.82	11.75		205
IIA	2.90	23.50		410
I	4.15	38.56		673

NOTE:

The above parameters apply when one of the two conditions below is given:

- the total L_i of the external circuit (excluding the cable) is < 1% of the L_o value or
- the total C_i of the external circuit (excluding the cable) is < 1% of the C_o value.

The above parameters are reduced to 50% when both of the two conditions below are given:

- the total L_i of the external circuit (excluding the cable) \geq 1% of the L_o value and
- the total C_i of the external circuit (excluding the cable) \geq 1% of the C_o value.

Note: the reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA & IIB and 600nF for Group IIC.

16 Report Number

GB/BAS/ExTR15.0178/00

17 Specific Conditions of 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




New drawings submitted for this issue of certificate.

Number	Sheet	Issue	Date	Description
266-020BS-B	1 of 1	B	2015-May-06	Summary (ATEX)
266-020BS-06A	1 – 4	A	2012-Feb-28	Transformer

Current drawings also associated with this certificate.

Number	Sheet	Issue	Date	Description
266-020BS	1	Original	2006-Jan-12	Summary
266-020BS-00	1 – 9	Original	2006-Jan-06	Description
266-020BS-01	1 – 3	Original	2006-Jan-12	Schematic
266-020BS-02	1	Original	2006-Jan-09	Description of Relevant Components
266-020BS-03	1 & 2	Original	2006-Jan-17	Component Overlay
16-533-04	1 & 2	Original	2005-Dec-05	Housing – KCD2
266-020BS-05	1 – 5	Original	2006-Jan-16	Printed Circuit Board
266-020BS-10A	1 & 2	A	2011-Nov-01	Type Label

20 Certificate History

Certificate No.	Date	Comments
Baseefa06ATEX0170	19 July 2006	The release of the prime certificate. The associated test and assessment is documented in Test Report No. 06(C)0106/1.
Baseefa06ATEX0170/1	1 March 2012	<p>To permit:</p> <ul style="list-style-type: none"> - The use of Phoenix spring terminal plugs as an alternative to the screw terminal plug. Units fitted with these plugs will have “.SP” added to the type name. i.e. KCD0-SD-Ex1.1245.SP - To confirm that the equipment covered by this certificate has been reviewed against the requirements of EN 60079-0:2009 & EN 60079-11:2007 in respect of the differences from EN 60079-0:2004 & EN 50020:2002 and that none of these differences, with the exception of marking, affect this equipment. The equipment is now marked: <p>  II (1)G [Ex ia Ga] IIC  II (1)D [Ex ia Da] IIIC  I (M1) [Ex ia Ma] I </p> <p>Report No. GB/BAS/ExTR12.0043/00. Project File No. 11/0857.</p>

Certificate No.	Date	Comments
Baseefa06ATEX0170 Issue 2	17 June 2015	This issue incorporates previously issued primary and supplementary certificates into one certificate, permits minor changes to the transformer and confirms that the equipment covered by this certificate has been reviewed against the requirements of EN 60079-0:2012+A11:2013 & EN 60079-11:2012 in respect of the differences from EN 60079-0:2009 & EN 60079-11:2007 and that none of these differences affect this equipment. Report No. GB/BAS/ExTR15.0178/00. Project File No. 15/0356.
For drawings applicable to each issue, see original of that issue.		