

**Certificate Number**  
**BAS99ATEX7025X**  
**Issue 13**



**Issued 15 November 2016**  
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## 1 EU - TYPE EXAMINATION CERTIFICATE

2 **Safety Device, Controlling Device or Regulating Device intended for use outside a potentially explosive atmosphere but required for or contributing to the safe functioning of Equipment and Protective Systems with respect to the risks of explosion**  
**Directive 2014/34/EU**

3 EU - Type Examination Certificate Number: **BAS99ATEX7025X – Issue 13**

3.1 In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

4 Product: **Dual Channel Smart Transmitter Isolator Type K\*D2-STC(V)4-Ex2(.P)**

5 Manufacturer: **Pepperl + Fuchs GmbH**

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

7 This re-issued certificate extends EC Type Examination Certificate No. BAS99ATEX7025 to apply to product 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.

8 The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. SGS Baseefa, Notified Body Number 1180, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, is responsible only for the additional work relating to this re-issued certificate and any other supplementary certificate it has issued.

The examination and test results are recorded in confidential Report No. 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 product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

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

12 The marking of the product shall include the following :

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

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

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

SGS Baseefa Customer Reference No. **0808**

Project File No. **16/0310**

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### SGS Baseefa Limited

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

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

e-mail [baseefa@sgs.com](mailto:baseefa@sgs.com) web site [www.sgs.co.uk/baseefa](http://www.sgs.co.uk/baseefa)

Registered in England No. 4305578.

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

  
 R S SINCLAIR  
 TECHNICAL MANAGER

On behalf of SGS Baseefa Limited

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### 13 **Schedule**

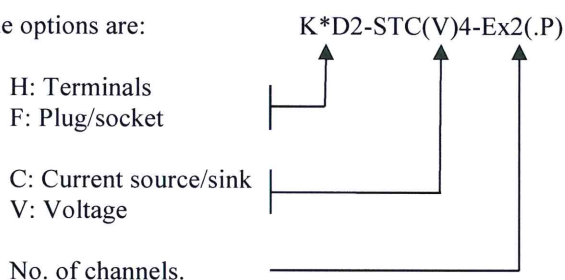
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### 15 **Description of Product**

The Dual Channel Smart Transmitter Isolator Type K\*D2-STC(V)4-Ex2(.P) is designed to provide an interface between unspecified non-hazardous area equipment and intrinsically safe circuits in the hazardous area.

The equipment comprises two identical channels, each channel comprising a number of fuses, transformers, zener diodes and other electronic components mounted on a printed circuit board and housed within a plastic enclosure fitted with terminals for external connections.

The ordering code options are:



The following variants are covered by this certificate:

KFD2-STC4-Ex1-Y72186  
KFD2-STC4-Ex2  
KFD2-STC4-Ex2-Y132953  
KFD2-STC4-Ex2-Y229428  
KFD2-STC4-Ex2-Y1...n  
KFD2-STV4-Ex2-1  
KFD2-STV4-Ex2-2  
KFD2-STV4-Ex2-1-Y1...n  
KFD2-STV4-Ex2-2-Y1...n  
KFD2-CR4-Ex2  
KFD2-CR4-Ex2-Y1...n

The segregation of the hazardous area circuits meets the requirements for 375Vpk.

#### Input / Output Parameters

$$U_m = 250V \text{ dc or rms}$$

The equipment is designed to operate from a d.c. supply of up to 40V.

#### For Terminals 1 w.r.t 3 and/or 4 w.r.t. 6:

$$U_o = 25.2V \quad I_o = 93mA \quad P_o = 0.586W \quad C_i = 12nF \quad L_i = 0$$

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The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the hazardous area load must not exceed the following values:

<b>GROUP</b>	<b>CAPACITANCE (<math>\mu</math>F)</b>	<b>INDUCTANCE (mH)</b>	<b>OR</b>	<b>L/R RATIO (<math>\mu</math>H/ohm)</b>
IIC	0.095	4.2		60
IIB	0.808	17		243
IIA	2.888	33		486
I	4.300	26		787

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 $\mu$ F for Groups I, IIA & IIB and 600nF for Group IIC.

## 16 Report Number

GB/BAS/ExTR16.0291/00

## 17 Specific Conditions of Use

1. The safety device must be installed in a controlled environment with suitably reduced pollution.

## 18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product:

<b>Clause</b>	<b>Subject</b>
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

## 19 Drawings and Documents

New drawings submitted for this issue of certificate:

<b>Number</b>	<b>Sheet</b>	<b>Issue</b>	<b>Date</b>	<b>Description</b>
266-007BS-N	1 of 1	N	2016-Sep-15	Summary
266-007BS-01N	1 – 4	N	2016-Mar-29	Schematic
266-007BS-02N	1 of 1	N	2016-Mar-29	Components
266-007BS-03N	1 & 2	N	2016-Apr-04	Assembly
266-010BS-04F	1 – 15	F	2016-Mar-23	Mechanical Parts
266-007BS-05N	1 – 7	N	2016-Apr-04	Main Printed Circuit Board
266-007BS-06N	1 – 4	N	2016-Apr-15	Transformer Details for T101 & T201
266-007BS-10N	1 – 3	N	2016-Apr-04	Type Label

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Current drawings which remain unaffected by this issue:

None. The above drawings replace previous drawings.

All drawings are common to, and held with, IECEx BAS 04.0015X.




## 20 Certificate History

Certificate No.	Date	Comments
BAS99ATEX7025	8 July 1999	The release of the prime certificate. The associated test and assessment is documented in Test Report 99(C)0011.
BAS99ATEX7025/1	18 August 1999	To permit minor electrical and mechanical changes.
BAS99ATEX7025/2	18 August 1999	To permit minor electrical and mechanical changes.
BAS99ATEX7025/3	20 June 2000	To permit the addition of D in the apparatus marking $\text{Ex II (1)GD}$ .
BAS99ATEX7025/4	31 July 2000	To permit minor changes to component value changes.
BAS99ATEX7025/5	14 February 2001	To permit changes to the PCB to introduce: R50 into the safe area circuitry, to rearrange FS1, TSV1, D6 & ZD7, an alternative transformer toroidal core, and changes to the PCB coating area.
BAS99ATEX7025/6	27 November 2001	To permit minor changes.
BAS99ATEX7025/7	23 July 2002	To permit removal of non-essential information from the parts list.
BAS99ATEX7025/8	9 December 2003	To permit the transformers T1/1, T1/2, T2/1 & T2/2 to be replaced by moulded transformer housing transformers under certificate Baseefa03ATEX0467U. The turns ratios are identical to the originals or those introduced at BAS99ATEX7025/5. Project File No. 03/0856
BAS99ATEX7025/9	16 April 2004	To permit electrical changes. Report No. 04(C)0215. Project File No. 04/0215.
BAS99ATEX7025/10	21 December 2010	To permit: <ul style="list-style-type: none"> <li>- Minor drawing changes</li> <li>- To confirm that the equipment covered by this certificate has been reviewed against the requirements of EN 60079-0:2006, and EN 60079-11:2007 in respect of the differences from EN 50014:1997 + Amds 1 &amp; 2 and EN 50020:1994 and that none of these differences affect this equipment.</li> <li>- The equipment is also considered suitable for Group I applications and has additionally been assessed against the relevant requirements of EN 61241-11:2006 and the following additional marking may be applied: <ul style="list-style-type: none"> <li><math>\text{Ex I (M1) [Ex ia] I}</math></li> <li><math>\text{Ex II (1)D [Ex iaD]}</math></li> </ul> </li> <li>- Confirmation of the type numbers covered by this certificate.</li> <li>- Minor electrical changes and the use of an alternative PCB design.</li> </ul> Project File No. 10/0696

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Certificate No.	Date	Comments
<p>BAS99ATEX7025 Issue 11</p>	<p>31 October 2014</p>	<p>This issue incorporates previously issued primary and supplementary certificates into one certificate, permits changes to the transformer and confirms that the equipment covered by this certificate has been reviewed against the requirements of EN 60079-0:2012 and EN 60079-11:2012 in respect of the differences from EN 60079-0:2006 and EN 60079-11:2007 and that none of these differences, with the exception of marking, affect this equipment. The equipment is now marked:</p> <p>  II (1)G [Ex ia Ga] IIC   II (1)D [Ex ia Da] IIIC   I (M1) [Ex ia Ma] I </p> <p>Test Report No. GB/BAS/ExTR14.0292/00  Project File No. 14/0400.</p>
<p>BAS99ATEX7025 Issue 12</p>	<p>16 October 2015</p>	<p>To permit the use of alternative fuses and to confirm that the equipment covered by this certificate has been reviewed against the requirements of EN 60079-0:2012+A11:2013 in respect of the differences from EN 60079-0:2012 and that none of the difference affected this equipment.</p> <p>Test Report No. GB/BAS/ExTR15.0306/00.  Project File No. 15/0759.</p>
<p>BAS99ATEX7025X Issue 13</p>	<p>15 November 2016</p>	<p>To permit the use of an alternative circuit and PCB layout, replacing the original design; a specific condition of use has been added to refer to the requirement for installation in an environment with suitably reduced pollution levels.</p> <p>Test Report No. GB/BAS/ExTR16.0291/00.  Project File No. 16/0310.</p>
<p>For drawings applicable to each issue, see original of that issue.</p>		



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