



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx BAS 05.0004X

Issue No: 5

Certificate history:

Issue No. 5 (2018-06-26)

Issue No. 4 (2017-04-24)

Issue No. 3 (2016-04-19)

Issue No. 2 (2009-03-25)

Issue No. 1 (2006-11-24)

Status: **Current**

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Date of Issue: **2018-06-26**

Applicant: **Pepperl + Fuchs GmbH**
Lilienthalstrasse 200
68307 Mannheim
Germany

Equipment: **Type KFD0-CS-Ex*.5* Transformer Isolated Loop Powered Current Separator**

Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking:

**[Ex ia Ga] IIC
[Ex ia Da] IIIC
[Ex ia Ma] I
(-20°C ≤ Ta ≤ +60°C / +70°C)**

*Approved for issue on behalf of the IECEx
Certification Body:*

R S Sinclair

Position:

Technical Manager

*Signature:
(for printed version)*

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

SGS Baseefa Limited
Rockhead Business Park
Staden Lane
Buxton, Derbyshire, SK17 9RZ
United Kingdom





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Manufacturer: **Pepperl + Fuchs GmbH**
Lilienthalstrasse 200
68307 Mannheim
Germany

Additional Manufacturing location(s):

Pepperl + Fuchs Asia Pte. Ltd.
18 Ayer Rajah Crescent
Singapore 139942
Singapore

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

IECEX ATR:	File Reference:
GB/BAS/ExTR16.0090/00	15/0684
GB/BAS/ExTR17.0061/00	17/0047
GB/BAS/ExTR17.0320/00	17/0684



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Type KFD0-CS-Ex*.5* Transformer Isolated Loop Powered Current Separator is designed to provide an interface between unspecified non-hazardous area equipment and intrinsically safe circuits in the hazardous area.

The equipment comprises a maximum of 2 identical channels; each channel contains a fuse, transformer, zener diodes and other electronic components mounted on a printed circuit board and housed within a plastic enclosure fitted with colour-coded plug-in terminals for external connections.

For models covered by the certificate and their parameters, see data in the Annexe.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The safety device must be installed in a controlled environment with a pollution level limited to pollution degree 2 (or better) or be installed within an enclosure providing a degree of protection of at least IP54 according to IEC 60529 & IEC 60079-0; provision shall be made to ensure that the non-hazardous area connections is limited to overvoltage category I / II as defined in IEC 60664-1.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Variation 5.1

To permit minor drawing changes not affecting the original assessment.

Variation 5.2

Group IIIC has been added alongside Group IIB to the parameter tables.

Variation 5.3

The specific condition of use has been amended to make specific reference to pollution degree 2, IEC 60664-1 and overvoltage category I/II.

ExTR: GB/BAS/ExTR17.0320/00	File Reference: 17/0684
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Annex:

[IECEX BAS 05.0004X Annex Iss 2.pdf](#)

Input / Output Parameters

Terminals 8, 9, 10, 11 & 12

$U_m = 250V$ dc or rms

The equipment is designed to operate from a dc supply of up to 40V on terminals 9 & 10/8 and 11 & 12. The segregation of the hazardous area circuits meets the requirements for 375V_{pk}.

Terminals 1 w.r.t. 2 and 4 w.r.t. 5

$U_o = 25.2V$ $I_o = 93mA$ $P_o = 585mW$ $C_i = 0$ $L_i = 0$

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:

GROUP	CAPACITANCE (μF)	INDUCTANCE (mH)	OR	L/R RATIO ($\mu H/ohm$)
IIC	0.107	4.3		60
IIB / IIIC	0.820	18		243
IIA	2.900	33		486
I	4.800	51		797

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 / IIIC and 600nF for Group IIC.