



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 05.0004 Issue No: 1 Certificate history:
Status: **Current** Page 1 of 4 [Issue No. 2 \(2009-03-25\)](#)
Date of Issue: **2006-11-24** [Issue No. 1 \(2006-11-24\)](#)

Applicant: **Pepperl + Fuchs GB Limited**
77 Ripponden Road
Oldham
Lancashire
OL1 4EL
United Kingdom

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

Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: IECEx BAS 05.0004
[Ex ia] IIC
[Ex ia] I
-20°C ? Ta ? +60°C

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

R S Sinclair

Position:

Managing Director

*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](#).

Certificate issued by:

Baseefa (2001) Ltd.
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom





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Manufacturer: **Pepperl + Fuchs GmbH**
Königsberger Allee 87
68307 Mannheim
Germany

Additional Manufacturing
location(s):

Pepperl + Fuchs PTE Limited
P + F Building
18 Ayer Rajah Crescent
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 electrical 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 : 2000 Edition:3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition:4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'

*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:
UK/BAS/04/0786

File Reference:
04/0786



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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 apparatus and intrinsically safe circuits in the hazardous area.

The apparatus comprises of 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.

CONDITIONS OF CERTIFICATION: NO



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

Variation1.1

To permit the following: -

i) Minor changes to the PCB lacquering details.

ii) The changing of the listed Manufacturer to: -

Pepperl +Fuchs GmbH

Königsberger Allee 87

68307

Germany

BAS /ExTR06.0126/00

FileReference : 06/0779

Annex:

[IECEX BAS 05.0004 Annex.pdf](#)

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ANNEXE to IECEx BAS 05.0004

Issue 0

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

The following model options are available and covered by this certificate: -

	KFD0-CS-Ex	1 OR 2	.5	0, 1 OR 3	P	Specials
Single Channel Model		1				
Dual Channel Model		2				
Current Transfer Range 4-20mA ($U_o = 25.2V$)				0		
Current Transfer Range 0-40mA ($U_o = 25.2V$)				1		
Current Transfer Range 4-20mA ($U_o = 10.5V$)				3		
Reverse Polarity Protection Diodes Fitted					P	
Dual Channel Version with Current Transfer Range 0-32mA ($U_o = 25.2V, I_o = 46.5mA$)		2		1	P	-Y107439

e.g.

KFD0-CS-Ex1.51P – Single Channel Transformer Isolated Loop Powered Current Separator with 4-20mA Current Transfer Range ($U_o = 25.2V$).

KFD0-CS-Ex2.53P - Dual Channel Transformer Isolated Loop Powered Current Separator with 4-20mA Current Transfer Range ($U_o = 10.5V$).

Type KFD0-CS-Ex*.5* - All Models

Input Parameters: Terminals 7, 8, 9, 10, 11 & 12

$U_m = 253V$

The apparatus is designed to operate from a d.c. supply up to 35V on the above terminals.

Type KFD0-CS-Ex*.50(P) / KFD0-CS-Ex*.51(P) Transformer Isolated Loop Powered Current Separator

Output Parameters: Terminals 1 w.r.t. 2 & Terminals 4 w.r.t. 5:

$U_o = 25.2V$ $C_i = 0$
 $I_o = 93mA$ $L_i = 0$
 $P_o = 0.585W$

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

GROUP	CAPACITANCE in μF	INDUCTANCE in mH	OR	L/R RATIO in $\mu\text{H}/\Omega$
HC	0.107	4.3		60
IIB	0.82	18.0		242
IIA	2.9	33.0		485
I	4.2	51.3		796

Type KFD0-CS-Ex*.53(P) Transformer Isolated Loop Powered Current Separator

Output Parameters: Terminals 1 w.r.t. 2 & Terminals 4 w.r.t. 5

$$\begin{aligned} U_o &= 10.5\text{V} & C_i &= 0 \\ I_o &= 95\text{mA} & L_i &= 0 \\ P_o &= 0.249\text{W} \end{aligned}$$

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

GROUP	CAPACITANCE in μF	INDUCTANCE in mH	OR	L/R RATIO in $\mu\text{H}/\Omega$
HC	2.41	4.0		142
IIB	16.8	17.0		570
IIA	75	32.0		1,140
I	95	49.7		1,871

Type KFD0-CS-Ex*.51P-Y701439 Transformer Isolated Loop Powered Current Separator

Output Parameters: Terminals 1 w.r.t. 2 & Terminals 4 w.r.t. 5

$$\begin{aligned} U_o &= 25.2\text{V} & C_i &= 0 \\ I_o &= 46.5\text{mA} & L_i &= 0 \\ P_o &= 0.292\text{W} \end{aligned}$$

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

GROUP	CAPACITANCE in μF	INDUCTANCE in mH	OR	L/R RATIO in $\mu\text{H}/\Omega$
HC	0.107	16.8		121
IIB	0.82	63		485
IIA	2.9	133		970
I	4.2	201		1,592