

Certificate of Conformity

Ex EQUIPMENT

Certificate No.:	ANZEx 11.2009	Current Issue:	2	Date of Issue:	2022-09-15
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Applicant: **Pepperl+Fuchs SE**
Lilienthalstrasse 200
68307 Mannheim
GERMANY

Equipment: Isolation Switching Amplifier Type K*A*-SR*-Ex*.W.*


Type of Explosion Protection: Intrinsic Safety "i"

Explosion Protection Marking: [Ex ia Ma] I
-20 °C ≤ Ta ≤ +60 °C

*This certificate is granted subject to the requirements as set out in
Joint Accreditation System of Australia and New Zealand Publications
ANZEx System Rules 2020 & ANZEx Certified Equipment Scheme Rules 2021*

Signed for and on behalf of issuing body

Name & Position


Geoff Barnier
Principal Engineer - Certification

This certificate is not transferable and remains the property of the issuing body.

The status of this certificate can be confirmed through the database located at www.anzex.com.au

Certificate issued by:

Safety in Mines, Testing and Research Station
2 Robert Smith Street, REDBANK QLD 4301

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Manufacturer : **Pepperl+Fuchs SE**
Lilienthalstrasse 200
68307 Mannheim
GERMANY

Additional Manufacturing Location(s): **Pepperl+Fuchs Asia Pte Ltd**
18 Ayer Rajah Crescent
Singapore 139942
SINGAPORE

STANDARDS:

The equipment 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 Ed 6.0 Explosive atmospheres Part 0: Equipment—General requirements

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

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

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Schedule

Equipment Description:

The equipment is designed to restrict the transfer of energy from unspecified non-hazardous area apparatus to intrinsically safe circuits located in a hazardous area. It also provided galvanic isolation between the hazardous area and non-hazardous area circuits.

The following models are covered by this certificate:

KFA4-SR2-Ex1.W*, KFA4-SR2-Ex1.W.LB*, KFA4-SR2-Ex2.W*, KFA4-SR2-Ex2.W.IR*

KFA5-SR2-Ex1.W*, KFA5-SR2-Ex1.W.LB*, KFA5-SR2-Ex2.W*, KFA5-SR2-Ex2.W.IR*

KFA6-SR2-Ex1.W*, KFA6-SR2-Ex1.W.LB*, KFA6-SR2-Ex2.W*, KFA6-SR2-Ex2.W.IR*

“*” represents alpha numeric signs (e.g.-Y1). These signs are used to describe different versions of a module. These differences do not affect intrinsic safety.

Electrical Ratings/Parameters

Nil

Specific Conditions of Use:

None

Conditions of Certification:

None

Additional Information:

Output circuit terminals 7, 8, 9 or 10, 11, 12:

$U_m \leq 253V$ AC

Power supply terminals 14 and 15:

230V AC \pm 10% $U_m = 253V$ AC (KFA6-...)

115V AC \pm 10% $U_m = 126.5V$ AC (KFA5-...)

100V AC \pm 10% $U_m = 110V$ AC (KFA4-...)

Hazardous area terminals 1, 2, 3 or 4, 5, 6:

1. Maximum values for each circuit (linear characteristic):

U _o (V)	I _o (mA)	P _o (mW)	C _i (nF)	L _i (mH)
10.6	19.1	51	negligible	negligible

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The capacitance and the inductance of the load connected to the output terminals of the equipment must not exceed the following values.

Co (μ F)	Lo (mH)
90	1000

In the presence of lumped capacitances and inductances greater than 1% of above value (excluding the cable) in the intrinsically safe input circuits, the maximum permissible external capacitances and inductances are to be taken from the following table.

Co (μ F)	Lo (mH)
5.1	20

2. Maximum values when both intrinsically safe circuits are connected in parallel (linear characteristic):

Uo (V)	Io (mA)	Po (mW)	Ci (nF)	Li (mH)
10.6	38.2	102	negligible	negligible

The capacitance and the inductance of the load connected to the output terminals of the equipment must not exceed the following values.

Co (μ F)	Lo (mH)
90	320

In the presence of lumped capacitances and inductances greater than 1% of above value (excluding the cable) in the intrinsically safe input circuits, the maximum permissible external capacitances and inductances are to be taken from the following table.

Co (μ F)	Lo (mH)
4.8	20

Routine testing of the transformer shall be carried out in accordance with clause 11.2 of IEC 60079-11: 2006.

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Register of Issues and Variations

includes the current issue

Issue 0 dated 2011-12-16

Standards relevant for this issue:

IEC 60079-0:2007 Ed 5.0 Explosive atmospheres Part 0: Equipment—General requirements

IEC 60079-11:2006 Ed 4.0 Explosive atmospheres Part 11: Equipment protection by intrinsic safety "i"

Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: DE/PTB/ExTR11.0048/00; PTB

QAR No. & Issuing CB: DE/PTB/QAR06.0007/02, DE/PTB/QAR06.0008/02; PTB

File Reference: 11/0120

Manufacturer's Documents/Drawings associated with this issue:

Document Number	Pages / Sheets	Document Title	Revision	Date
16-316PT-01A (Sheets 7 to 9 of 14)	2	PTB-ATEX Umschreibung K*A*-SR*-Ex*.W.*	-	-
16-316PT-08	1	ATEX – Antragszeichnung KFA*-SR2-EX*.* IS-block diagram	-	07.02.01
16-316PT-09 (2 Sheets)	2	ATEX – Antragszeichnung KFA*-SR2-EX*.* Schematics	-	07.02.01
16-316PT-10	1	ATEX – Antragszeichnung KFA*-SR2-EX*.* Assembly drawing side B	-	9/2/01
16-316PT-11 (Sheet 1 of 2)	1	ATEX – Antragszeichnung KFA*-SR2-EX*.* Copper layout side B	-	9/2/01
16-316PT-11 (Sheet 2 of 2)	1	ATEX – Antragszeichnung KFA*-SR2-EX*.* Copper layout side A	-	-
16-503PT-04 (10 Sheets)	10	Mechanical parts 2nd Supplement to PTB 00 ATEX 2081	-	2011-Apr-12
16-503PT-06 (2 Sheets)	2	Transformer 2nd Supplement to PTB 00 ATEX 2081	-	2011-Apr-12
16-503PT-09 (4 Sheets)	4	Instructions 2nd Supplement to PTB 00 ATEX 2081	-	2011-Apr-12

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Document Number	Pages / Sheets	Document Title	Revision	Date
16-0503SI-10 (2 Sheets)	2	Type Label KFA*-SR2-EX*.W*	-	2011-Dec-14

Issue 1 dated 2019-01-03

Variations Permitted by this Issue

- Amended referenced QARs

Standards relevant for this issue:

IEC 60079-0:2007 Ed 5.0 Explosive atmospheres Part 0: Equipment—General requirements

IEC 60079-11:2006 Ed 4.0 Explosive atmospheres Part 11: Equipment protection by intrinsic safety "i"

Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: N/A
 QAR No. & Issuing CB: DE/PTB/QAR06.0008/09 - PTB
 File Reference: 06/0041

Manufacturer's Documents/Drawings associated with this issue:

None

Issue 2 dated 2022-09-15

Variations Permitted by this Issue

- Update editions of the standards
- Update marking
- Minor modification of a relay type
- Addition of alternative transformer for KFA5-SR*-Ex*.W.* (115 V AC)
- Amend entity parameters (Co)
- Modification of Applicant and Manufacturer names to show current legal form

Standards relevant for this issue:

IEC 60079-0:2011 Ed 6.0 Explosive atmospheres Part 0: Equipment—General requirements

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

Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: DE/PTB/ExTR11.0048/01, DE/PTB/ExTR11.0048/02, DE/PTB/ExTR11.0048/03; PTB
 QAR No. & Issuing CB: DE/PTB/QAR06.0008/16; PTB

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File Reference: 060041Audit

Manufacturer's Documents/Drawings associated with this issue:

Document Number	Pages / Sheets	Document Title	Revision	Date
16-316PT-01A	14	PTB-ATEX Umschreibung K*A*-SR*-Ex*.W.*	-	12.05.00
16-316PT-07	5	PTB-Erganzung K*A*-SR*-Ex*.W.*	-	23.05.01
16-316PT-09	2	ATEX – Antragszeichnung KFA*-SR2-EX*. * Schematics	-	07.02.01
16-316PT-10	1	ATEX – Antragszeichnung KFA*-SR2-EX*. * Assembly drawing side B	-	9/2/01
16-316PT-11 (Sheet 1 of 2)	1	ATEX – Antragszeichnung KFA*-SR2-EX*. * Copper layout side B	-	9/2/01
16-316PT-11 (Sheet 2 of 2)	1	ATEX – Antragszeichnung KFA*-SR2-EX*. * Copper layout side A	-	-
16-503PT-00	1	Description 2nd Supplement to PTB 00 ATEX 2081	-	2011-Apr-12
16-0503PT-00C	1	Description K*A*-SR*-Ex*.W.*	-	2014-Feb-20
16-0503PT-04	10	Mechanical parts 2nd Supplement to PTB 00 ATEX 2081	-	2011-Apr-12
16-0503PT-04C	1	Mechanical parts K*A*-SR*-Ex*.W.*	-	2014-Feb-20
16-503PT-06	2	Transformer 2nd Supplement to PTB 00 ATEX 2081	-	2011-Apr-12
16-0503PT-06C	2	Transformer K*A*-SR*-Ex*.W.*	-	2014-Feb-20
16-0503PT-09C	2	Instructions 3rd Supplement to PTB 00 ATEX 2081	-	2014-Mar-27

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Document Number	Pages / Sheets	Document Title	Revision	Date
16-0503SI-10A	1	Type Label (ANZEx) KFA*-SR2-EX*.W*	-	2022-Apr-29
16-503PT-13	16	Test Reports 2nd Supplement to PTB 00 ATEX 2081	-	2011-Apr-12