

# Certificate of Conformity

## Ex EQUIPMENT

Certificate No.: **ANZEx 13.2005**

Current Issue: 1

Date of Issue: 2022-09-15

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

**Equipment:** Isolation amplifier Type KFD2-SRA-Ex2/Ex4

**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](http://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 isolation amplifier type KFD2-SRA-Ex2/Ex4 is used as associated apparatus for the transmission of electrical signals from the explosion hazardous area into the safe area. The isolation amplifier is built as 2-channel or 4-channel type. Fault signal is transferred to the power rail.

The maximum permissible ambient temperature is +60 °C.

**Electrical Ratings/Parameters**

Nil

**Specific Conditions of Use:**

None

**Conditions of Certification:**

None

**Additional Information:**

The following entity parameters shall be observed:

Safe area connections:

Power Supply (terminals 14 and 15 or PR1 and PR2):

- Rated voltage: 20-30 VDC
- Maximum voltage:  $U_m = 40 \text{ V}$

Fault signal output (contacts PR2 and PR4):

- Maximum voltage:  $U_m = 40 \text{ V}$

Relay Outputs (terminals 7 and 8, 9 and 8, 10 and 11, 12 and 11):

- 253VAC 2A, 500VA,  $\cos \phi 0.7$
- 125VAC, 4A, 500VA,  $\cos \phi 0.7$
- 40VDC, 2A

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Hazardous area connections:

Input Circuit (terminals 1 to 6):

Channel No.	Connecting Point	
	Terminal (+)	Terminal (-)
1	2	1
2	2	3
3	5	4
4	5	6
or		
1	1	3
2	4	6

Maximum values for each circuit:

- $U_o = 10\text{ V}$
- $I_o = 14\text{ mA}$
- $P_o = 35\text{ mW}$  (linear characteristic)
- $C_i = \text{negligible}$
- $L_i = \text{negligible}$

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

Group	Maximum permissible external capacitance $C_o$ ( $\mu\text{F}$ )	Maximum permissible external inductance $L_o$ (H)
I	83	1

The above parameters apply if one of the two conditions below is met:

- 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 must be reduced to 50% if both of the two conditions below are met:

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

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 2013-02-15

##### Standards relevant for this issue:

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

**IEC 60079-11:2006 Ed 5.0** Explosive atmospheres Part 11: Equipment protection by intrinsic safety “i”

##### Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: DE/TUN/04/551055-3, DE/TUN/ExTR07.0017/00, DE/TUN/ExTR07.0017/01; TUV Nord NI13/0001; Simtars

QAR No. & Issuing CB: DE/PTB/QAR06.0007/03, DE/PTB/QAR06.0008/05; PTB

File Reference: 12/0125

##### Manufacturer's Documents/Drawings associated with this issue:

Document Number	Pages / Sheets	Document Title	Revision	Date
16-568TV-00 (3 Sheets)	3	Description KFD2-SRA-Ex2 / Ex4	-	2007-May-21
16-568ZE-01 (2 Sheets)	2	Schematic KFD2-SRA-Ex2 / Ex4	-	2007-Mar-15
16-568ZE-03 (3 Sheets)	3	Set up KFD2-SRA-Ex2 / Ex4	-	2007-Apr-27
16-568ZE-05 (3 Sheets)	3	Layout KFD2-SRA-Ex2 / Ex4	-	2007-Mar-15
16-568ZE-06 (3 Sheets)	3	Transformer KFD2-SRA-Ex2 / Ex4	-	2007-Apr-25
16-568ZE-07 (2 Sheets)	2	Lacquering KFD2-SRA-Ex2 / Ex4	-	2007-Apr-27
16-568SI-10	1	Type Label KFD2-SRA-Ex*	-	2013-Feb-14

#### Issue 1 dated 2022-09-15

##### Variations Permitted by this Issue

- Update editions of the standards
- Addition of alternate optical isolator (IECEX PTB 11.0017U)

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- Addition of alternate relay (DE/PTB/ExTR11.0048)
- Modification of lacquering instruction
- 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. &amp; Issuing CBs: DE/TUN/ExTR07.0017/03; TUV Nord

QAR No. &amp; Issuing CB: DE/PTB/QAR06.0008/16; PTB

File Reference: 060041Audit

Manufacturer's Documents/Drawings associated with this issue:

Document Number	Pages / Sheets	Document Title	Revision	Date
16-0568TV_D	1	Summary KFD2-SRA-Ex2/Ex4	-	2012-Jan-27
16-0568TV-00D	2	Description KFD2-SRA-Ex2 / Ex4	-	2015-Jan-27
16-0568TV-04D	1	Mechanical parts KFD2-SRA-Ex2 / Ex4	-	2013-Oct-21
16-0568ZE-07D (Sheet 1 of 2)	2	Lacquering KFD2-SRA-Ex2/Ex4 PCB1 TOP	-	2012-Oct-09
16-0568ZE-07D (Sheet 2 of 2)	2	Lacquering KFD2-SRA-Ex2/Ex4 PCB1 BOT	-	2012-Oct-09
16-0568TV-09D	2	Instructions KFD2-SRA-Ex2/Ex4	-	2014-Jan-22
16-0568TV-10D	1	Type Label KFD2-SRA-Ex2/Ex4	-	2015-Jan-27