

Certificate of Conformity

Ex EQUIPMENT

| | | | | | |
|------------------|----------------------|----------------|---|----------------|------------|
| Certificate No.: | ANZEx 22.3001 | Current Issue: | 0 | Date of Issue: | 2022-06-24 |
|------------------|----------------------|----------------|---|----------------|------------|

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

Equipment: **Isolated Switch Amplifier type: KFD2-ST3/SOT3-Ex***

Type of Explosion Protection: Intrinsic safety "[ia]"

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

Ujen Singh, Quality & Certification Manager

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:

TestSafe Australia
919 Londonderry Road, Londonderry NSW 2753 Australia

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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 Explosive atmospheres - Part 0: General requirements

IEC 60079-11:2011 Ed 6 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 isolated switch amplifier KFD2-ST3/SOT3-Ex* is an associated apparatus.

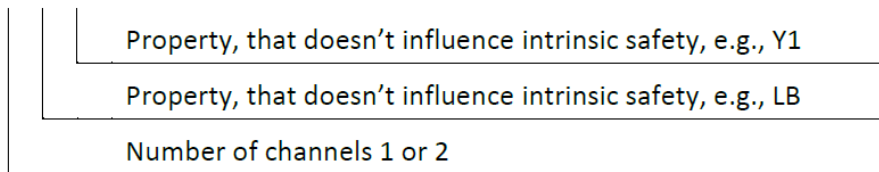
It transfers digital signals from the hazardous area to the safe area. Via switches the mode of operation can be reversed, and the line fault detection can be switched off.

The switching amplifier is suitable for mounting on a 35mm DIN mounting rail. The power supply is provided via a power rail or using removable terminals on the narrow side of the barrier. The area of application for the amplifier is limited to closed (locked) electrical locations.

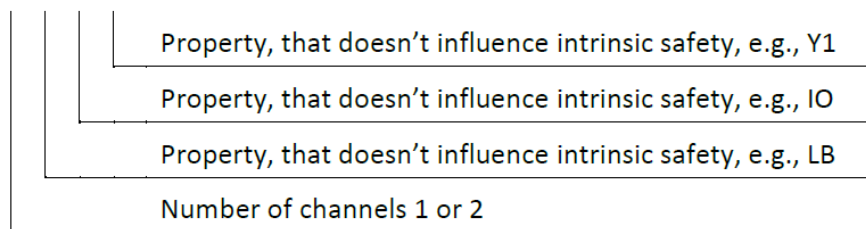
Ambient temperature: Tamb = -20°C to +60°C

Type designation:

KFD2-ST3-Ex * * *



KFD2-SOT3-Ex * * * *



The positions under asterisk “*” may be separated with symbols “.” resp. “-” or written together.

Electrical Ratings/Parameters

Non-intrinsically safe circuits:

Maximum Voltage Um: 253V AC

Power supply (terminals 14+, 15- or PR1[+], PR2[-]):

Rated Voltage Un: 19...30V DC

Fault Signal (fault bus) (PR4):

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Rated Voltage Un: 30V DC

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

Rated voltage: 30 V DC

Rated current: 100 mA

Intrinsically safe circuits (terminals 1+, 2+, 3- and 4+, 5+, 6-): $U_0 = 10.5 \text{ V}$ $I_0 = 17.1 \text{ mA}$ $P_0 = 45 \text{ mW}$ (linear characteristic) $C_i = \text{negligible}$ $L_i = \text{negligible}$

The capacitance and either the inductance of the load connected to the intrinsically safe input terminals must not exceed the following values:

| Group | I |
|---|-------------------|
| Capacitance (C_0), [μF] | 95 |
| Inductance (L_0), [mH] or Lo/Ro , [mH/Ω] | 1000 10.39 |

The above parameters for capacitance and inductance apply when one of the two conditions below is met:

- The total L_i of the external circuit (excluding the cable) is $< 1\%$ of the L_0 value or
- The total C_i of the external circuit (excluding the cable) is $< 1\%$ of the C_0 value.

The above parameters for capacitance and inductance are reduced to 50% when both of the two conditions below are met:

- the total L_i of the external circuit (excluding the cable) $> 1\%$ of the L_0 value and
- the total C_i of the external circuit (excluding the cable) $> 1\%$ of the C_0 value.

Note: the reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Group I.

Specific Conditions of Use:

None.

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Register of Issues and Variations

includes the current issue

Issue 0 (current issue)

Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: HR/EXA/ExTR16.0008/00, Fiditas
 QAR No. & Issuing CB: DE/PTB/QAR06.0008/17, PTB
 File Reference: 2022/003759

Manufacturer's Documents/Drawings associated with this issue:

| Document/Drawing Number | Pages / Sheets | Document/Drawing Title | Revision | Date |
|-------------------------|----------------|-----------------------------------|----------|------------|
| 16-1225EX | 1 | KFD2-ST3/SOT3-Ex* (Document list) | - | 2015-10-01 |
| 16-1225EX-00 | 9 | Description calculations | - | 2015-10-01 |
| 16-1225EX-01 | 2 | Schematic | - | 2015-10-01 |
| 16-1225EX-02 | 8 | Safety relevant components | - | 2015-10-01 |
| 16-1225EX-03 | 2 | Component set-up | - | 2015-10-01 |
| 16-1224EX-04 | 2 | Assembly of KFD2 device | - | 2015-09-28 |
| 16-1225EX-05 | 4 | PCB Layouts, Multilayer | - | 2015-10-01 |
| 16-1224EX-06 | 2 | Transformer T1 resp. T2 Assembly | - | 2015-09-28 |
| 16-1225TE-09 | 2 | Instructions KFD2-ST3/SOT3-Ex* | - | 2022-05-20 |
| 16-1225TE-10 | 1 | Type label KFD2-ST3/SOT3-Ex* | - | 2022-05-20 |