

# Certificate of Conformity

## Ex EQUIPMENT

Certificate No.:	<b>ANZEx 09.2001</b>	Current Issue:	3	Date of Issue:	2022-09-15
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**Applicant:** **Pepperl+Fuchs SE**  
Lilienthalstrasse 200  
68307 Mannheim  
GERMANY

**Equipment:** Universal Temperature Module Type KFD2-UT2-Ex\*-\*


**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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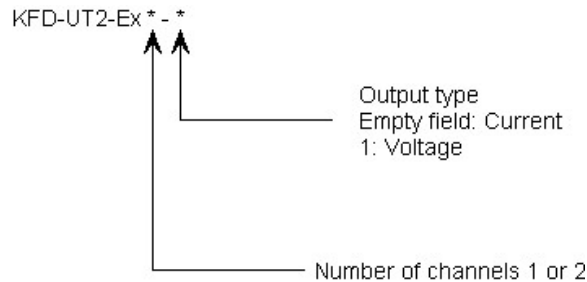
### Schedule

#### Equipment Description:

The equipment is designed as single (Ex1) and dual (Ex2) channel associated apparatus to accept input from thermocouples, RTDs (2, 3 or 4 wire) or potentiometers in hazardous area and provide isolated analogue signal at the output in a safe area.

The module is housed in a plastic (polycarbonate) case suitable for DIN rail mounting. Removable terminal blocks allow the connection of external circuits.

The model descriptor is as follows:



#### Electrical Ratings/Parameters

Nil

#### Specific Conditions of Use:

Entity parameters associated with the apparatus are as follows:

$U_m = 250 \text{ V ac}$

U <sub>o</sub> (V)	I <sub>o</sub> (mA)	P <sub>o</sub> (mW)	Group I		
			C <sub>o</sub> (μF)	L <sub>o</sub> (mH)	L <sub>o</sub> /R <sub>o</sub> (μH/Ω)
9	22	50	226	964	9125

Note:

The above parameters apply when one of the two conditions below is given:

- The total L<sub>i</sub> of the external circuit (excluding the cable) is < 1% of the L<sub>o</sub> value or
- The total C<sub>i</sub> of the external circuit (excluding the cable) is < 1% of the C<sub>o</sub> value.

The above parameters are reduced to 50% when both of the two conditions below are given:

- the total L<sub>i</sub> of the external circuit (excluding the cable) > 1% of the L<sub>o</sub> value and
- the total C<sub>i</sub> of the external circuit (excluding the cable) > 1% of the C<sub>o</sub> value .

The reduced capacitance of the external circuit (including cable) shall not be greater than 1μF.

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**Conditions of Certification:**

None

**Additional Information:**

None

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### Register of Issues and Variations

includes the current issue

**Issue 0 dated 2009-10-09**

Standards relevant for this issue:

- IEC 60079-0:2004 Ed 4.0** 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/ExTR07.0005/00, DE/TUN/ExTR07.0005/01; TUV Nord

QAR No. & Issuing CB: GB/PTB/QAR06.0007/02, GB/PTB/QAR06.0008/01; PTB

File Reference: 08/0226

Manufacturer's Documents/Drawings associated with this issue:

Document Number	Pages / Sheets	Document Title	Revision	Date
366-024-01A Sheet 1 of 3	1	Circuit Diagram – Power Supply & Microcontroller KFD2-UT2-Ex.-.	-	2007-Sep-27
366-024-01A Sheet 2 of 3	1	Circuit Diagram – Input circuit KFD2-UT2-Ex.-.	-	2007-Sep-27
366-024-01A Sheet 3 of 3	1	Circuit Diagram – Output circuits, channels 1 & 2 KFD2-UT2-Ex.-.	-	2007-Sep-27
366-024-02B	1	Relevant Components KFD2-UT2-Ex.-.	-	2008-Jun-30
366-024-03A Sheet 1 of 2	1	Component layout – top side KFD2-UT2-Ex.-.	-	2007-Sep-28
366-024-03A Sheet 2 of 2	1	Component layout – bottom side KFD2-UT2-Ex.-.	-	2007-Sep-28
366-024-04A Sheets 1 to 8 of 10	8	KF-Housing 15 Term. KFD2-UT2-Ex.-.	-	2007-Oct-09
366-024-04A Sheet 9 of 10	1	Mechanical drawing Inner housing TOC2	-	2007-Oct-09
366-024-04A Sheet 10 of 10	1	Mechanical drawing Outer housing TOC2	-	2007-Oct-09
366-024-05A Sheet 1 of 4	1	PCB layout – top KFD2-UT2-Ex.-.	-	2007-Sep-28
366-024-05A Sheet 2 of 4	1	PCB layout – middle top 1 KFD2-UT2-Ex.-.	-	2007-Sep-28

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Document Number	Pages / Sheets	Document Title	Revision	Date
366-024-05A Sheet 3 of 4	1	PCB layout – middle bottom 1 KFD2-UT2-Ex.-.	-	2007-Sep-28
366-024-05A Sheet 4 of 4	1	PCB layout – bottom KFD2-UT2-Ex.-.	-	2007-Sep-28
366-024-06A Sheets 1 to 4 of 4	4	Transformer for KFD2-UT2-EX.	-	2007-Oct-09
366-024-07B Sheet 1 of 2	1	Lacquering details – top side (PCB 366-024-05A) KFD2-UT2-Ex.-.	-	2008-Jan-30
366-024-07B Sheet 2 of 2	1	Lacquering details – bottom side (PCB 366-024-05A) KFD2-UT2-Ex.-.	-	2008-Jan-30
366-024SI-10A Sheets 1 to 3 of 3	3	Type Label KFD2-UT2-Ex.-.	-	2009-July-24

**Issue 1 dated 2011-01-28**Variations Permitted by this Issue

- Minor design changes
- Transformer wire thickness increased to 0.14 mm diameter
- Group I parameters (capacitance & inductance) changed
- Change of manufacturing address in Germany.

Standards relevant for this issue:**IEC 60079-0:2004 Ed 4.0** 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. &amp; Issuing CBs: DE/TUN/ExTR07.0005/02; TUV Nord

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

File Reference: 10/0183

Manufacturer's Documents/Drawings associated with this issue:

Document Number	Pages / Sheets	Document Title	Revision	Date
366-024-01C Sheet 1 of 3	1	Circuit Diagram – Power Supply & Microcontroller KFD2-UT2-Ex.-.	-	2009-Jan-15
366-024-01C Sheet 2 of 3	1	Circuit Diagram – Input circuit KFD2-UT2-Ex.-.	-	2009-Jan-15

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Document Number	Pages / Sheets	Document Title	Revision	Date
366-024-01C Sheet 3 of 3	1	Circuit Diagram – Output circuits, channels 1 & 2 KFD2-UT2-Ex.-.	-	2009-Jan-15
366-024-02C	1	Relevant Components KFD2-UT2-Ex.-.	-	2009-Jan-15
366-024-03C Sheet 1 of 2	1	Component layout – top side KFD2-UT2-Ex.-.	-	2009-Jan-19
366-024-03C Sheet 2 of 2	1	Component layout – bottom side KFD2-UT2-Ex.-.	-	2009-Jan-19
366-024-05C Sheet 1 of 5	1	PCB layout – top KFD2-UT2-Ex.-.	-	2009-May-12
366-024-05C Sheet 2 of 5	1	PCB layout – middle top 1 KFD2-UT2-Ex.-.	-	2009-May-12
366-024-05C Sheet 3 of 5	1	PCB layout – middle bottom 1 KFD2-UT2-Ex.-.	-	2009-May-12
366-024-05C Sheet 4 of 5	1	PCB layout – bottom KFD2-UT2-Ex.-.	-	2009-May-12
366-024-05C Sheet 5 of 5	1	PCB layout – PCB dimensions KFD2-UT2-Ex.-.	-	2009-May-12
366-024-06C Sheets 1 to 4 of 4	4	Transformer for KFD2-UT2-EX.	-	2009-Jan-19
366-024-07C Sheet 1 of 2	1	Lacquering details – top side (PCB 366-024-05C) KFD2-UT2-Ex.-.	-	2009-Jan-20
366-024-07C Sheet 2 of 2	1	Lacquering details – bottom side (PCB 366-024-05C) KFD2-UT2-Ex.-.	-	2009-Jan-20

### **Issue 2 dated 2019-01-03**

#### Variations Permitted by this Issue

- Amended referenced QARs

#### Standards relevant for this issue:

**IEC 60079-0:2004 Ed 4.0** 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: N/A  
 QAR No. & Issuing CB: DE/PTB/QAR06.0008/09 - PTB  
 File Reference: 06/0041

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Manufacturer's Documents/Drawings associated with this issue:

None

**Issue 3 dated 2022-09-15**Variations Permitted by this Issue

- Update editions of the standards
- Addition of alternate optical isolator (IECEX PTB 11.0017U)
- Addition of alternate lacquer
- Addition of alternate transformer base
- Correction of PCB details
- Small update of the housing
- 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/ExTR07.0005/03; 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
366-0024TV C	1	Summary KFD2-UT2-Ex*-*	-	2015-Jun-30
366-0024TV-00C	2	Description KFD2-UT2-Ex*-*	-	2015-Jun-30
366-0024TV-02C	1	Relevant Components KFD2-UT2-Ex**	-	2015-Apr-22
366-0024TV-04C	1	Assembly / Housing KFD2-UT2-Ex*-*	-	2015-Apr-22
366-0024TV-06C	6	Transformer KFD2-UT2-Ex*-*	-	2015-Apr-22
366-0024TV-09C	2	Instructions KFD2-UT2-Ex*-*	-	2014-Jan-22



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Document Number	Pages / Sheets	Document Title	Revision	Date
366-0024SI-10B	1	Type Label KFD2-UT2-Ex*-*	-	2022-Apr-27
366-0024TV-47	10	Description Type: KFD2-UT2-Ex*-* Certificate number: IECEX TUN 07.0003	-	2015-Jun-30