

Certification of

EXPLOSION PROTECTED ELECTRICAL EQUIPMENT

ANZEx Scheme

Certificate of Conformity

Certificate No: ANZEx 08.2009X Issue: 0 2 December 2008 Original Issue

Manufactured by: **Pepperl+Fuchs GmbH**
Königsberger Allee 87
68307 Mannheim
GERMANY

Pepperl+Fuchs Pte Ltd
18 Ayer Rajah Crescent
P+F Building
Singapore 139942

Electrical Equipment: **Galvanically Isolated Barrier**
Types KCD2-STC-Ex1 and KCD2-SCD-Ex1

Type of Protection and Marking Code: **[Ex ia] I -20°C ≤ Ta ≤ 60°C**
ANZEx 08.2009X

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

The certification database located at <http://www.anzex.com.au> shows the currency of this certificate.

Issued by:



Engineering, Testing and Certification Centre
2 Smith Street, REDBANK QLD 4301, Australia
Postal Address: PO Box 467, GOODNA QLD 4300, Australia
Phone: + 61 7 3810 6381 Fax: + 61 7 3810 6366



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This certificate is granted subject to the conditions as set out in Standards Australia/Standards New Zealand P-008 Ex Mark Management Committee Publication MP87.

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: 2004 **Electrical equipment for explosive gas atmospheres
Part 0: General requirements**

IEC 60079-11: 1999 **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.

The equipment listed has successfully met the examination and test requirements as recorded in

Test Report No. and Issuing Body: **IT/CES/ExTR08.0002/00 – CESI**

Quality Assessment Report No.: **DE/PTB/QAR06.0007/01, DE/PTB/QAR06.0008/01 - PTB**

File Reference: **08/0156**



Signed for and on behalf of issuing authority

**Principal Engineer - Certification
Engineering, Testing and Certification Centre**

Position

2 December 2008

Date of issue

This certificate and schedule may not be reproduced except in full.

This certificate is not transferable, remains the property of the issuing body and must be returned in the event of its being revoked or not renewed.

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Queensland Government
A business unit of the Department of
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Schedule

Equipment:

The Safety Barrier Type KCD2-STC-Ex1 provides power and transfers 4 – 20 mA (or optionally 1 – 5 V) analogue signal inputs from equipment located in a hazardous area to equipment in a non-hazardous area. An alternative use of the barrier is to passively sense a 4 – 20 mA signal from equipment located in a hazardous area and transfer the signal to equipment in a non-hazardous area. A single input must be used at any one time.

The Safety Barrier Type KCD2-SCD-Ex1 is used as a repeater for 4 -20 mA analogue signals from equipment located in a non-hazardous area to equipment in a hazardous area and may be transferred in both directions.

Digital signals can be superimposed on the analogue values in the hazardous or non-hazardous areas. The hazardous area circuit is galvanically separated from the non-hazardous area circuit using a Type 2a transformer.

The equipment comprises a number of electronic components, including isolating transformers, fuses, zener diodes and current limiting resistors all mounted on a single printed circuit board (multi-layer two-sided) and housed in a plastic enclosure with polarised plug-in terminals for hazardous and non-hazardous area connections. Wire connections to the plugs are made via screw terminals. The hazardous area terminals are 1 to 4 for the KCD2-STC-Ex1, 1 & 2 for the KCD2-SCD-Ex1 and the non-hazardous area terminals are 5 to 10.

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Drawings:

Drawing No.	Drawing Title	Revision No.	Drawn/ Revision Date
366-028-00 (15 sheets)	Description KCD2-STC-Ex1 / KCD2-SCD-Ex1	-	2006-Feb-20
366-028-01 (2 sheets)	Schematic KCD2-STC-Ex1 / KCD2-SCD-Ex1	-	2006-Feb-20
366-028-03 (3 sheets)	Assembly drawing wired TOP KCD2-STC-Ex1 / KCD2-SCD-Ex1	-	2006-Feb-20
366-028-04 (4 sheets)	Housing KCD2-STC-Ex1 / KCD2-SCD-Ex1	-	2006-Feb-20
366-028-05 (2 sheets)	PCB layout TOP KCD2-STC-Ex1 / KCD2-SCD-Ex1	-	2006-Feb-20
366-028-06 (4 sheets)	transformer KCD2-STC-Ex1 / KCD2-SCD-Ex1	-	2006-Feb-20
366-028-07	Lacquering TOP KCD2-STC-Ex1 / KCD2-SCD-Ex1	-	2006-Feb-20
366-028SI-09 (6 sheets)	Instructions KCD2-STC-Ex1 / KCD2-SCD-Ex1	-	2008-Nov-25
366-028SI-10 (4 sheets)	Type Label KCD2-STC-Ex1 / KCD2-SCD-Ex1	-	2008-Nov-25

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Conditions of Certification:

Non-hazardous area terminals 5 to 10 and Power rails connections (PR1, PR2):

Um = 253 V rms

Hazardous area output parameters:

Models	Terminals	U ₀ (V)	I ₀ (mA)	P ₀ (mW)	C ₀ (μF)	L ₀ (mH)	L ₀ /R ₀ (μH/Ω)
KCD2-STC-Ex1 KCD2-SCD-Ex1	1, 2	25.2	100	630	2.8	28	440
KCD2-STC-Ex1	3, 4	7.2	100	25	1000	28	216

Hazardous area input parameters:

Models	Terminals	U _i (V)	I _i (mA)	P _i (mW)	C _i (nF)	L _i (mH)
KCD2-STC-Ex1 KCD2-SCD-Ex1	1, 2	N/A	N/A	N/A	5.7	0
KCD2-STC-Ex1	3, 4	30	128	101	5.7	0

Additional Information:

The circuit connected to non-hazardous area terminals (9, 10) or power rail connections (PR1, PR2) is designed to operate from a d.c. supply voltage of up to 30 V.

The circuit connected to non-hazardous area terminals 5, 6 and 7, 8 are designed to operate from a d.c. supply voltage of up to 26 V.

Power rail PR4 (Fault Bus) is not connected.

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