

Certificate of Conformity

Ex EQUIPMENT

Certificate No.:	ANZEx 24.3002X	Current Issue:	0	Date of Issue:	2024-06-11
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Applicant: **Pepperl+Fuchs (Australia) Pty Ltd**
131-149 Link Drive
Campbellfield
Melbourne VIC 3061
Australia

Equipment: Solenoid Drivers type KCD2-SLD-Ex1.* and type KCD0-SD3-Ex1*

Type of Explosion Protection: Intrinsic safety "ia"

Explosion Protection Marking: [Ex ia Ma] I
-20°C ≤ Ta ≤ +60°C for KCD2-SLD-Ex1*
-20°C ≤ Ta ≤ +70°C for KCD0-SD3-Ex1*

*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

TestSafe Australia

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 Co. Ltd.**
Lot S 12-16a, Street 20 Tan Thuan EPZ
Ward Tan Thuan Dong, District 7
Ho Chi Minh City
Vietnam

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: Equipment—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 device is designed to supply power to the solenoids, LEDs, and audible alarms located in a hazardous area. The device is controlled with a loop-powered signal or a logic signal.

Apparatus is housed in a plastic enclosure with polarized plug-in terminals or optional spring terminals for hazardous and non-hazardous area connections.

The Solenoid Drivers KCD2-SLD-Ex1.* and KCD0-SD3-Ex1* are associated apparatuses that can be installed in the non-hazardous area.

Electrical Ratings/Parameters

Safe Area connections:

KCD2-SLD-Ex1.1045*, KCD2-SLD-Ex1.1245*, KCD2-SLD-Ex1.1065*:

Power Supply:

Connection: 2 pole removable terminals (9+,10-) or Power Rail (PR1[+], PR2[-])

Rated Voltage: 19...30 V DC

Maximum Voltage Um: 60 V

Input:

Connection: 2 pole removable terminals (5+,6-)

Rated Voltage: 0...30 V DC

Maximum Voltage Um: 60 V

Fault relay:

Connection: 2 pole removable terminals (7, 8)

Contact load: 30 V DC 0.5A

Maximum Voltage Um: 60 V

Fault bus:

Connection: Power Rail (PR4)

Rated Voltage: 19...30 V DC

Maximum Voltage Um: 60 V

KCD0-SD3-Ex1.1045*, KCD0-SD3-Ex1.1245*, KCD0-SD3-Ex1.1065*:

Input:

Connection: 2 pole removable terminals (5+,6-)

Rated Voltage: 0...30 V DC

Maximum Voltage Um: 60 V

Hazardous Area connections:

Output:

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Connection: 2 pole removable terminals (1+,2-)

KCD2-SLD-Ex1.1045*, KCD0-SD3-Ex1.1045*:

Uo = 26 V

Io = 93 mA

Po = 605 mW

Ci = negligible

Li = negligible

Co = 2.25uF

Lo : 53.9 mH

Lo/Ro= 775.9uH/Ohm

KCD2-SLD-Ex1.1245*, KCD0-SD3-Ex1.1245*:

Uo = 26 V

Io = 110 mA

Po = 715 mW

Ci = negligible

Li = negligible

Co = 2.25 uF

Lo : 38.5 mH

Lo/Ro= 648 uH/Ohm

KCD2-SLD-Ex1.1065*, KCD0-SD3-Ex1.1065*:

Uo = 17.3 V

Io = 220 mA

Po = 947 mW

Ci = negligible

Li = negligible

Co = 5.9 uF

Lo : 9.6 mH

Lo/Ro= 493.3 uH/Ohm

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

- The total Li of the external circuit (excluding the cable) is < 1% of the Lo value or
- The total Ci of the external circuit (excluding the cable) is < 1% of the Co value.

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

- the total Li of the external circuit (excluding the cable) > 1% of the Lo value and
- the total Ci of the external circuit (excluding the cable) > 1% of the Co value.

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

Specific Conditions of Use:

1. The device must be installed and operated only in an environment of overvoltage category II (or better) according to IEC 60664-1.
2. The device must be installed and operated only in a controlled environment that ensures a pollution degree 2 (or better) according to IEC 60664-1.

Additional Information:

Type designations

- KCD2-SLD-Ex1.1045*(.SP)*
- KCD2-SLD-Ex1.1245*(.SP)*
- KCD2-SLD-Ex1.1065*(.SP)*
- KCD0-SD3-Ex1.1045*(.SP)*
- KCD0-SD3-Ex1.1245*(.SP)*
- KCD0-SD3-Ex1.1065*(.SP)*

“.SP” at the end is optional. It indicates Spring clamp terminals, without this option screw terminals are Used.

The asterisks shown in the type code can be replaced by a combination of tokens, indicating different versions that have no influence on the approval.

Routine test

Manufacturer Routine Test for infallible transformer: Dielectric strength test between input and output windings of transformers T100 and T101 with a voltage of ≥1500 VAC for 60 s or ≥1800 VAC for at least 1 s.

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Register of Issues and Variations

includes the current issue

Issue 0 dated 2024-06-11

Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: HR/EXA/ExTR17.0002/00; Fiditas
 QAR No. & Issuing CB: DE/PTB/QAR06.0008/20
 File Reference: 2024/002866
 Quality Report associated with this issue of the certificate.

Manufacturer's Documents/Drawings associated with this issue:

Document/Drawing Number	Pages/Sheets	Document/Drawing Title	Revision	Date
16-1346EX-00	31	Description, Calculations	-	2017-02-20
16-1346EX-01	7	Schematics	-	2017-03-07
16-1346EX-02	4	Relevant Components	-	2017-03-07
16-1346EX-03	2	Component Set-Up	-	2016-12-20
16-1346UL-03	2	Component Set-Up	-	2017-02-01
16-1346EX-04	1	Mechanical Parts	-	2017-01-10
16-1346EX-05	6	Layouts, Multilayer	-	2016-12-20
16-1346UL-05	6	Layouts, Multilayer	-	2017-02-01
16-1346EX-06	3	Transformer	-	2017-01-10
16-1346TE-09	2	Instruction	-	2024-05-02
16-1346TE-10	1	Type Label	-	2024-05-02