

# (1) CERTIFICATE

(2) Equipment Intended for Use in Potentially Explosive Atmospheres - **Directive 2014/34/EU** 

(3) Certificate Number:

## **PF08CERT0803**

(4) Equipment: Switch Amplifier: KFD2-SR2-Ex.W

KFD2-SR2-Ex1.W.LB KFD2-SR2-Ex2.W

(5) Manufacturer: PepperI+Fuchs AG

Address: Lilienthalstraße 200

68307 Mannheim

Germany

- (7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The manufacturer listed under item 5, herewith declares in sole responsibility that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive 2014/34/EU.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN 60079-11:2012

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This CERTIFICATE relates only to the design and construction of the specified equipment. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:

Mannheim, 02.04.2020

ppa. Michael Kessler Executive Vice President

Components&Technology

i.V. Thomas Paul

Norm expert

Productgroup Interface



# (13) SCHEDULE

## (14) Certificate Number PF08CERT0803

### (15) Description of Equipment

The isolated barrier is used for intrinsic safety applications. It transfers digital signals from a hazardous area to a safe area. The proximity sensor or switch controls a form C change-over relay contact for the safe area load. Error conditions are signalized by LEDs or by collective error message output, if using the Power Rail System.

Ambient temperature range: -40°C to +70°C

#### Electrical data:

Supply voltage (Power Rail or terminals 14+,15-) Maximum safe voltage Um	1930 V I 253V AC o		
Maximum contact loading of relay outputs (terminals 7,8,9 resp. 10,11,12)	250V AC 2A 500VA cos φ ≥ 0.7	126.5V AC 4A 500VA	40V DC 2A 80W
Maximum safe voltage Um	253V AC		
Collective Error Messaging (Powerrail contact PR4)	401/ 50		
Maximum safe voltage Um	40V DC		
Input (terminals 1+,2+,3- or 4+, 5+, 6-)	$U_0 = 10.5V$ , $I_0 = 13mA$ , $P_0 = 34mW$ $C_i = 0$ , $L_i = 0$		

If both input circuits of the KFD2-SR2-Ex2.W are interconnected, the addition of the current has to be considered.

Maximal permissible external capacitance C<sub>0</sub> and inductance L<sub>0</sub>:

Group	Capacitance	Inductance
IIC	2.41µF	210mH
IIB	16.8µF	840mH
IIA	75µF	1H

The above parameters 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.

The above parameters 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.

Note: the reduced capacitance of the external circuit (including cable) shall not be greater than  $1\mu F$  for I, IIA, IIB and 600nF for IIC.

#### (16) Test report

The examination and test results are recorded in the confidential report: 16-0493PF-14B

# (17) Specific Conditions of Use None.

#### (18) Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.