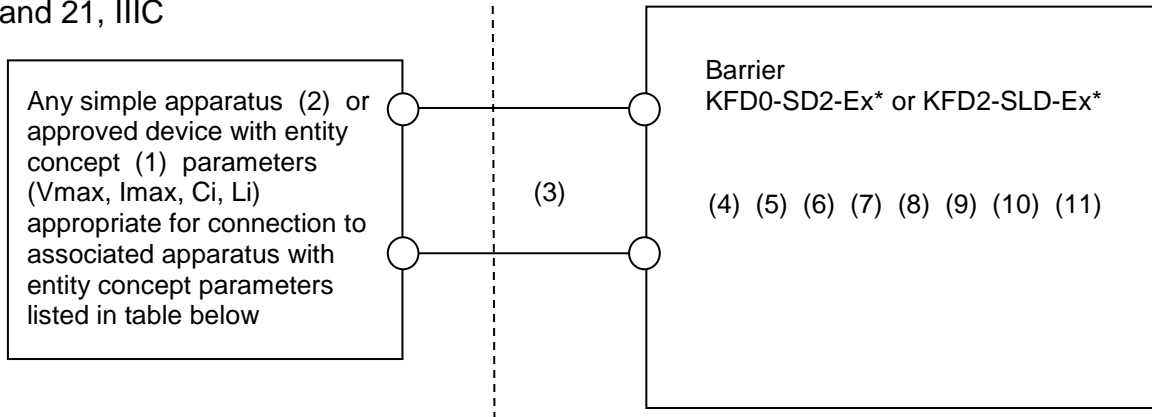


Connections

NON-HAZARDOUS LOCATION or
HAZARDOUS LOCATION
Class I, Division 1, Groups A, B, C, D
Class II, Division 1, Groups E, F, G
Class III, Division 1 or
Class I, Zone 0 and 1, IIC
Zone 20 and 21, IIIC


NON-HAZARDOUS LOCATION or
HAZARDOUS LOCATION
Class I, Division 2, Groups A, B, C, D or
Class I, Zone 2, IIC



Notes

- The Entity Concept allows interconnection of intrinsically safe apparatus with associated apparatus not specifically examined in combination as a system when the approved values of V_{oc} (or U_o) and I_{sc} (or I_o) for the associated apparatus are less than or equal to V_{max} (U_i) and I_{max} (I_i) for the intrinsically safe apparatus and the approved values of C_a (C_o) and L_a (L_o) for the associated apparatus are greater than $C_i + C_{cable}$ and $L_i + L_{cable}$, respectively, for the intrinsically safe apparatus, Where $C_{cable} = 60\text{pF/ft}$ if unknown
Where $L_{cable} = 0.20\text{uH/ft}$ if unknown
- Simple apparatus: an electrical component or combination of components of simple construction with well-defined electrical parameters that does not generate more than 1.5 V, 100mA, 25mW, or is a passive component that does not dissipate more than 1.3W and is compatible with the intrinsic safety of the circuit in which it is used.
- Wiring methods must be in accordance with all applicable installation requirements of the county in use. For US, this is NFPA 70 (NEC) article 504 with additional information in ANSI-ISA –RP12.06.01. For Canada this is CSA 22.1-12 (CEC) section 18 and appendix F.
- The intrinsically safe circuits are galvanically isolated from each other and from the non-intrinsically safe circuits in accordance with UL 60079-11.
- Barriers shall not be connected to any device which uses or generates internally any voltage in excess of 253 V unless the device has been determined to adequately isolate the voltage from the barrier.
- The device must be installed and operated only in an environment of overvoltage category II (or better) according to IEC/EN 60664-1.
The device must be installed and operated only in a controlled environment that ensures a pollution degree 2 (or better) according to IEC/EN 60664-1.
- Do not repair, modify, or manipulate the device.
- The supply voltage range is 18 – 30 V DC. The permitted ambient temperature range:
 - Single channel versions: - 40°C to + 70°C
 - Dual channel versions: - 40°C to + 60°C or - 40°C to + 70°C with mounting restrictions
 - KFD2-SLD-Ex2.1545 both switches set to bus powered: - 40°C to + 70°C

Dual channel versions can be used up to 60°C in any mounting condition. An extended ambient temperature range up to 70°C can be achieved, refer to manual for necessary mounting conditions.

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9. The barriers are rated `non-incendive` for use in Class I, Division 2 or Zone 2. A temperature rating of T4 applies to all non-incendive rated barriers.
10. If the barriers are intended to be mounted in a Division 2 location, they shall be mounted within a tool-secured enclosure which is capable of accepting one or more of the Class I, Division 2 wiring methods specified in the National Electrical Code (ANSI/NFPA 70) or Canadian Electrical Code (C22.1), as applicable. The equipment shall be installed in an enclosure with a minimum ingress protection of IP2X.
11. If the barriers are intended to be mounted in a Zone 2 location, they shall be mounted within a tool-secured enclosure which is capable of accepting one or more of the Class I, Zone 2 wiring methods specified in the National Electrical Code (ANSI/NFPA 70) or Canadian Electrical Code (C22.1), as applicable. The equipment shall be installed in an AEx or Ex certified IP54 enclosure unless the apparatus is intended to be afforded an equivalent degree of protection by location.

Entity Parameters

Model Number	Terminals	Charac- teristics	Uo / Voc (V)	Io / Isc (mA)	Po (mW)	Co / Ca			Lo / La		
						A,B IIC	C,E,F,G IIB, IIIC	D IIA	A,B IIC	C,E,F,G IIB	D IIA
KFD0-SD2-Ex1.1045 KFD2-SLD-Ex1.1045	1, 2, 3	Linear	25,2	93	586	106nF	820nF	2,86µF	4,11mH	16,44mH	32,88mH
KFD0-SD2-Ex2.1045 KFD2-SLD-Ex2.1045	1, 2, 3 or 4, 5, 6 per channel										
KFD0-SD2-Ex1.1245 KFD2-SLD-Ex1.1245	1, 2, 3	Linear	25,2	110	693	106nF	820nF	2,86µF	2,93mH	11,75mH	23,5mH
KFD0-SD2-Ex2.1245 KFD2-SLD-Ex2.1245	1, 2, 3 or 4, 5, 6 per channel										
KFD0-SD2-Ex1.1545 KFD2-SLD-Ex1.1545	1, 2, 3	Linear*	25,2	153	960	106nF	820nF	2,86µF	1,20mH	5,90mH	11,8mH
KFD0-SD2-Ex2.1545 KFD2-SLD-Ex2.1545	1, 2, 3 or 4, 5, 6 per channel										
KFD0-SD2-Ex1.1545 KFD2-SLD-Ex1.1545	1, 2, 3	Angular* Ri =167Ω	25,2	52	850	106nF	820nF	2,86µF	1,20mH	5,90mH	11,8mH
KFD0-SD2-Ex2.1545 KFD2-SLD-Ex2.1545	1, 2, 3 or 4, 5, 6 per channel										

* Note: The output of KFD0-SD2-Ex*.1545 and KFD2-SLD-Ex*.1545 can be considered either as a linear or angular characteristic.

The values of Lo and Co listed in the table above are allowed if one of the following conditions 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 values of Lo and Co listed in the table above shall be reduced to 50% when both of the following conditions are met:

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

Note: the reduced capacitance of the external circuit (including cable) shall not be greater than 1µF for IIA, resp. D.

WARNING - Substitution of components may impair intrinsic safety and suitability for use in Class I, Div. 2/Zone 2.


AVERTISSEMENT - La substitution de composants peut compromettre la sécurité intrinsèque et l'adéquation à une utilisation en Classe I, Div. 2/Zone 2.

WARNING - Do not disconnect the equipment or actuate switches when the equipment is energized and an explosive atmosphere is present.

AVERTISSEMENT - Ne pas débrancher l'équipement et ne pas actionner les commutateurs lorsque l'équipement est sous tension et exposé à une atmosphère explosive.

The corresponding datasheets and instruction manuals supplement this document. In order to access this documentation, scan the QR code on the device or enter the serial number in the serial number search at www.pepperl-fuchs.com.

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