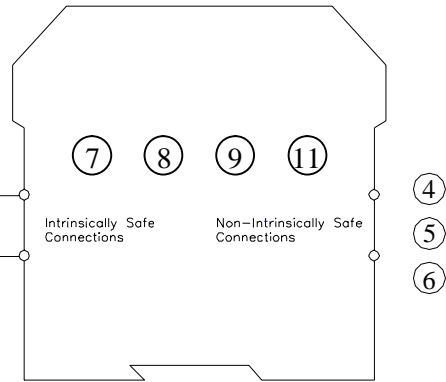


NONHAZARDOUS LOCATION
or
HAZARDOUS (CLASSIFIED) LOCATION
CLASS I, DIVISION 1, GROUPS A,B,C,D
CLASS II, DIVISION 1, GROUPS E,F,G
CLASS III, DIVISION 1

NONHAZARDOUS LOCATION or
CLASS I, DIVISION 2, GROUPS A,B,C,D

Any Simple Apparatus (3) or approved device with Entity Concept (1) parameters (V_{max} , I_{max} , C_i , L_i) appropriate for connection to Associated Apparatus with Entity Concept parameters listed in Table 1.



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), I_{sc} (or I_o) and P_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.

The parameters in Table 1 apply when one of the two conditions below is given:

- The total L_i of the external circuit (excluding the cable) is $< 1\%$ of the L_o value or
- The total C_i of the external circuit (excluding the cable) is $< 1\%$ of the C_o value.

The parameters in Table 1 are reduced to 50% when both of the two conditions below are given:


- The total L_i of the external circuit (excluding the cable) $> 1\%$ of the L_o and
- The total C_i of the external circuit (excluding the cable) $> 1\%$ of the C_o .

Note: the reduced capacitance of the external circuit (including cable) shall not be greater than 1uF for C, D (IIB) and 600nF for A, B (IIC).

- Capacitance and inductance of the field wiring from the intrinsically safe equipment to the associated apparatus shall be calculated and must be included in the system calculations as shown in Note 1. Cable capacitance, C_{cable} , plus intrinsically safe equipment capacitance, C_i must be less than the marked capacitance, C_a (or C_o), shown on any associated apparatus used. The same applies for inductance (L_{cable} , L_i and L_a or L_o , respectively). Where the cable capacitance and inductance per foot are not known, the following values shall be used: $C_{cable} = 60 \text{ pF/ft.}$, $L_{cable} = 0.2 \text{ } \mu\text{H/ft.}$
- 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 volts, 100 milliamps, and 25 milliwatts, or a passive component that does not dissipate more than 1.3 watts and is compatible with the intrinsic safety of the circuit in which it is used (USA). A switch non-inductive resistive device or thermocouple (Canada)

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PF PEPPERL+FUCHS	Control Drawing KFD2-STC(V)4-Ex1(.20)... & KFD2-STC(V)4-Ex2...	change notice	respons. GB.PAW	116-0428
			approved GB.TC	
			norm GB.PT	
Oldham				sheet 1 of 4

4. Wiring methods must be in accordance with the electrical code of the country in use.
5. Power, inputs and outputs must be in accordance with Class I, Division 2 wiring methods of National Electrical Code ANSI/NFPA 70, Canadian Electrical Code C22.1 or in accordance with the authority having jurisdiction.
6. Intrinsically safe circuits must be wired and separated in accordance with Article 504.20 or other local codes, as applicable.
7. Equipment must be connected to a power supply where the primary and secondary windings of the supply transformer must not be connected to each other.
8. The Barrier shall not be connected to any device which uses or generates internally any voltage in excess of 250V Rms or DC unless the device has been determined to adequately isolate the voltage from the barrier.
9. The barrier is rated “Nonincendive”. If the barrier is intended to be mounted in a Division 2 location, it must be installed in an enclosure meeting the requirements of ANSI/ISA-12.12.2013, C22.2 NO. 213-M1987. The enclosure may be installed in a Class I, Division 2, Group A, B, C, or D hazardous location. If the barrier is intended to be mounted in a Zone 2 location, it must be installed in an enclosure meeting the requirements of UL 60079-15, CAN/CSA 60079-15. The enclosure may be installed in a Class I, Zone 2, Group IIC hazardous location. See also Note 10.
10. For both Class I, Division 2, Group A, B, C, D or Class 1, Zone 2, Group IIC hazardous locations, the enclosure must be an AEx certified or Ex certified for Canada with a minimum ingress protection of IP54 and in a controlled pollution degree 2 environment. A temperature rating of T4 applies to all nonincendive rated barriers. For non-hazardous locations, the enclosure must be AEx certified or Ex certified with a minimum ingress protection of IP54 or in a controlled pollution degree 2 environment. The IP54 enclosure must meet the requirements of UL/CSA 60529 and UL/CSA 60079-0.
11. In Class I, Division 2 installations, the subject equipment 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. See also Note 10.
12. In Class I, Zone 2 installations, the subject equipment 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. See also Note 10.

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13. Connection of the barrier to ground is not required.
14. WARNING: Substitution of components may impair intrinsic safety.
 AVERTISSEMENT: La substitution de composants peut compromettre la sécurité intrinsèque.
 For Zone 2 installations, ensure protection of supply terminals against transient voltages exceeding 140% of the rated supply voltage.

Table 1 - Entity Parameters

Model Number	Terminals	Voc (Uo) [V]	Isc (Io) [mA]	Po [mW]	Vmax [V]	Imax [mA]	Groups Ca (Co) [uF]			Groups La (Lo) [mH]		
							A,B (IIC)	C,E (IIB)	D,F,G (IIA)	A,B (IIC)	C,E (IIB)	D,F,G (IIA)
KFD2-STC4-Ex1* (* = blank, .2O, .2O-Y followed by up to 6 numbers or -Y followed by up to 6 numbers)	1, 3	25.4	86.8	551	-	-	0.093	0.798	2.808	4.6	18	36
	3, 2	3.5	74.0	64	-	-	99.9	99.9	99.9	6.4	25	50
	1, 2, 3	-	-	-	25.4	115	0.093	0.798	2.808	2.7	11	22
KFD2-STC4-Ex1-Y1	1, 3	25.4	86.8	551	-	-	0.093	0.798	2.808	4.6	18	36
KFD2-STC4-Ex2* (* = blank or -Y followed by up to 6 numbers)	1, 3	25.2	93	586	-	-	0.095	0.808	2.888	4.2	17	33
	4, 6	25.2	93	586	-	-	0.095	0.808	2.888	4.2	17	33
KFD2-STC4-Ex1.H	1, 3	27.2	93	632	-	-	0.077	0.678	2.288	4.1	16.4	32.8
	3, 2	3.5	73	64	-	-	100	100	100	6.4	25	50
	1, 2, 3	27.2	117	639	-	-	0.077	0.678	2.288	2.2	10	20
KFD2-STC4-Ex1.2O.H	1, 3	27.2	93	632	-	-	0.077	0.678	2.288	4.1	16.4	32.8
	3, 2	3.5	73	64	-	-	100	100	100	6.4	25	50
	1, 2, 3	27.2	117	639	-	-	0.077	0.678	2.288	2.2	10	20

Continued...


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Table 1 - Entity Parameters continued..

Model Number	Terminals	Voc (Uo) [V]	Isc (Io) [mA]	Po [mW]	Vmax [V]	Imax [mA]	Groups Ca (Co) [uF]			Groups La (Lo) [mH]		
							A,B (IIC)	C,E (IIB)	D,F,G (IIA)	A,B (IIC)	C,E (IIB)	D,F,G (IIA)
KFD2-STV4-Ex1* (* = A combination of numbers and letters)	1, 3	25.4	86.8	551	-	-	0.093	0.798	2.808	4.6	18	36
	3, 2	3.5	74.0	64	-	-	99.9	99.9	99.9	6.4	25	50
	1, 2, 3	-	-	-	25.4	115	0.093	0.798	2.808	2.7	11	22
KFD2-STV4-Ex2* (* = A combination of numbers and letters)	1, 3	25.2	93	586	-	-	0.095	0.808	2.888	4.2	17	33
	4, 6	25.2	93	586	-	-	0.095	0.808	2.888	4.2	17	33

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