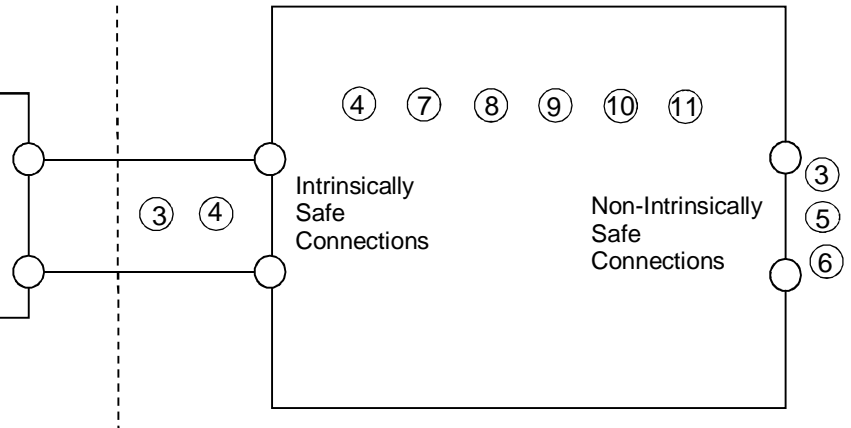


**Connections**

NON-HAZARDOUS 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  
CLASS I, ZONE 0 and 1, IIC

NON-HAZARDOUS LOCATION  
or  
CLASS I, DIVISION 2, GROUPS A,B,C,D  
or  
CLASS I, ZONE 2, GROUP IIC

Any simple apparatus (2) 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 below.



**Notes**

1. The Entity Concept allows interconnection of an apparatus (intrinsically safe or non-incendive) with an associated apparatus (intrinsically safe or non-incendive) 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 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 apparatus,  
Where  $C_{cable} = 60pF/ft$  ( $197pF/m$ ) if unknown  
Where  $L_{cable} = 0.20uH/ft$  ( $0.66uH/m$ ) if unknown
2. 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.
3. Wiring methods must be in accordance with all applicable installation requirements of the country 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. Use conductors with a rated temperature suitable for the application. If you use the device in an ambient temperature above 60°C, use conductors rated for a temperature of at least 80°C.
4. The permitted ambient temperature range is -20°C to 70°C.  
The permitted temperature classification for Div.2/Zone 2 is T4.
5. 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.
6. Barriers shall not be connected to any device which uses or generates internally any voltage in excess of 250V r.m.s. or DC unless the device has been determined to adequately isolate the voltage from the barrier.
7. All circuits connected to the device must comply with the overvoltage category II (or better) according to IEC/EN 60664-1. The device may only be used in an area of not more than pollution degree 2 (or better) according to IEC/EN 60664-1.
8. The barriers are rated “Non-incendive”. A temperature rating of T4 applies to all non-incendive rated barriers.
9. In Class I, Division 2 and Class I, Zone 2 installations live maintenance is not permitted.
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.


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	UL Control drawing KFD2-STC(V)5-Ex1..., KFD2-STC(V)5-Ex1(.20)... & KFD2-STC(V)5-Ex2...	116-0439 rev A
	Global	sheet 1 of 4

11. If the barrier 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 and EX certified IP54 enclosure unless the apparatus is intended to be afforded an equivalent degree of protection by location. The IP54 enclosure must meet the requirements of UL/CSA 60529 and UL/CSA 60079-0.

**Entity Parameters**


Model Number	Terminals	Uo (V)	Io (mA)	Uq (V)	Po (mW)	Co (uF)			Lo (mH)		
						A,B (IIC)	C,E (IIB)	D,F,G (IIA)	A,B (IIC)	C,E (IIB)	D,F,G (IIA)
KFD2-STC5-Ex1* (* = blank, -Y followed by up to 6 numbers or .NCL	1, 3	26.2	93	27.25	634	0.092	0.745	2.535	4.11	16.44	32.88
		Ci = 5nF									
	3, 2	2.0	8.5	-	4.3	100	1000	1000	492	1000	1000
		Ui = 30V	li = 115mA	-	Pi = 1000						
	1, 2, 3	26.2	115	27.25	784	0.092	0.745	2.535	2.68	10.75	21.50
		Ci = 5nF									
KFD2-STC5-Ex1.2O* (* = blank or -Y followed by up to 6 numbers or .NCL	1, 3	26.2	93	27.25	634	0.092	0.745	2.535	4.11	16.44	32.88
		Ci = 5nF									
	3, 2	2.0	8.5	-	4.3	100	1000	1000	492	1000	1000
		Ui = 30V	li = 115mA	-	Pi = 1000						
	1, 2, 3	26.2	115	27.25	784	0.092	0.745	2.535	2.68	10.75	21.50
		Ci = 5nF									
KFD2-STC5-Ex1.H	1, 3	27.2	93	-	633	0.084	0.685	2.295	4.11	16.44	32.88
		Ci = 5nF									
	3, 2	2.0	8.5	-	4.3	100	1000	1000	492	1000	1000
		Ui = 30V	li = 115mA	-	Pi = 1000						
	1, 2, 3	27.2	115	-	782	0.084	0.685	2.295	2.68	10.75	21.50
		Ci = 5nF									
KFD2-STC5-Ex1.2O.H	1, 3	27.2	93	-	633	0.084	0.685	2.295	4.11	16.44	32.88
		Ci = 5nF									
	3, 2	2.0	8.5	-	4.3	100	1000	1000	492	1000	1000
		Ui = 30V	li = 115mA	-	Pi = 1000						
	1, 2, 3	27.2	115	-	782	0.084	0.685	2.295	2.68	10.75	21.50
		Ci = 5nF									

Continued....

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 Global	UL Control drawing KFD2-STC(V)5-Ex1..., KFD2-STC(V)5-Ex1(.2O)... & KFD2-STC(V)5-Ex2...	116-0439 rev A
	sheet 2 of 4	

Model Number	Terminals	Uo (V)	Io (mA)	Uq (V)	Po (mW)	Co (uF)			Lo (mH)		
						A,B (IIC)	C,E (IIB)	D,F,G (IIA)	A,B (IIC)	C,E (IIB)	D,F,G (IIA)
KFD2-STC5-Ex2* (* = blank or -Y followed by up to 6 numbers or .NCL)	1, 3	26.2	93	27.25	634	0.092	0.745	2.535	4.11	16.44	32.88
		Ci = 5nF									
	3, 2	2.0	8.5	-	4.3	100	1000	1000	492	1000	1000
		Ui = 30V	li = 115mA	-	Pi = 1000						
	1, 2, 3	26.2	115	27.25	784	0.092	0.745	2.535	2.68	10.75	21.50
		Ci = 5nF									
	4, 6	26.2	93	27.25	634	0.092	0.745	2.535	4.11	16.44	32.88
		Ci = 5nF									
	6, 5	2.0	8.5	-	4.3	100	1000	1000	492	1000	1000
		Ui = 30V	li = 115mA	-	Pi = 1000						
	4, 5, 6	26.2	115	27.25	784	0.092	0.745	2.535	2.68	10.75	21.50
		Ci = 5nF									
KFD2-STV5-Ex1* (* = A combination of numbers and letters)	1, 3	26.2	93	27.25	634	0.092	0.745	2.535	4.11	16.44	32.88
		Ci = 5nF									
	3, 2	2.0	8.5	-	4.3	100	1000	1000	492	1000	1000
		Ui = 30V	li = 115mA	-	Pi = 1000						
	1, 2, 3	26.2	115	27.25	784	0.092	0.745	2.535	2.68	10.75	21.50
		Ci = 5nF									
KFD2-STV5-Ex1.20* (* = A combination of numbers and letters)	1, 3	26.2	93	27.25	634	0.092	0.745	2.535	4.11	16.44	32.88
		Ci = 5nF									
	3, 2	2.0	8.5	-	4.3	100	1000	1000	492	1000	1000
		Ui = 30V	li = 115mA	-	Pi = 1000						
	1, 2, 3	26.2	115	27.25	784	0.092	0.745	2.535	2.68	10.75	21.50
		Ci = 5nF									

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 Global	UL Control drawing KFD2-STC(V)5-Ex1..., KFD2-STC(V)5-Ex1(.20)... & KFD2-STC(V)5-Ex2...	116-0439 rev A
	sheet 3 of 4	

Model Number	Terminals	Uo (V)	Io (mA)	Uq (V)	Po (mW)	Co (uF)			Lo (mH)		
						A,B (IIC)	C,E (IIB)	D,F,G (IIA)	A,B (IIC)	C,E (IIB)	D,F,G (IIA)
KFD2-STV5-Ex2* (* = A combination of numbers and letters)	1, 3	26.2	93	27.25	634	0.092	0.745	2.535	4.11	16.44	32.88
		Ci = 5nF									
	3, 2	2.0	8.5	-	4.3	100	1000	1000	492	1000	1000
		Ui = 30V	li = 115mA	-	Pi = 1000						
	1, 2, 3	26.2	115	27.25	784	0.092	0.745	2.535	2.68	10.75	21.50
		Ci = 5nF									
	4, 6	26.2	93	27.25	634	0.092	0.745	2.535	4.11	16.44	32.88
		Ci = 5nF									
	6, 5	2.0	8.5	-	4.3	100	1000	1000	492	1000	1000
		Ui = 30V	li = 115mA	-	Pi = 1000						
	4, 5, 6	26.2	115	27.25	784	0.092	0.745	2.535	2.68	10.75	21.50
		Ci = 5nF									

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  $\geq$  1% of the Lo value and
- the total Ci of the external circuit (excluding the cable) is  $\geq$  1% of the Co value.


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

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 equipment when energized and an explosive atmosphere is present.

AVERTISSEMENT - Ne débranchez pas l'appareil si sous tension et en présence d'une atmosphère explosive.

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 Global	UL Control drawing KFD2-STC(V)5-Ex1..., KFD2-STC(V)5-Ex1(.20)... & KFD2-STC(V)5-Ex2...	116-0439 rev A
		sheet 4 of 4