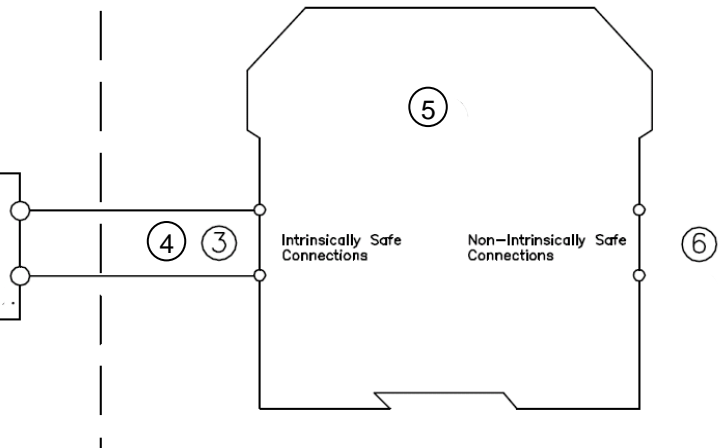


NONHAZARDOUS LOCATION
or
HAZARDOUS (CLASSIFIED) LOCATION
CLASS I, DIVISION 1, GROUPS A,B,C,D
CLASS II, DIVISION 1, GROUPS E,F,G
CLASS III, DIVISION 1
or
CLASS I, ZONE 0 and 1, IIC

NONHAZARDOUS 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



NOTES:

- ① The output current of this associated apparatus is limited by a resistor such that the output voltage-current plot is a straight line drawn between open-circuit voltage and short-circuit current. 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. 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. 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: $C_{cable} = 60 \text{ pF/ft.}$, $L_{cable} = 0.2 \text{ } \mu\text{H/ft.}$
- ② This associated apparatus may also be connected to simple apparatus as defined in Article 504.2 and installed and temperature classified in accordance with Article 504.10(B) of the National Electrical Code (ANSI/NFPA 70), or other local codes, as applicable.
- ③ Where multiple circuits extend from the same piece of associated apparatus, they must be installed in separate cables or in one cable having suitable insulation. Refer to Article 504.30(B) of the National Electrical Code (ANSI/NFPA 70) and Instrument Society of America Recommended Practice ISA RP12.6 for installing intrinsically safe equipment.
- ④ Intrinsically safe circuits must be wired and separated in accordance with Article 504.20 of the National Electrical Code (ANSI/NFPA 70) or other local codes, as applicable.
- ⑤ Associated apparatus must be installed in an enclosure suitable for the application in accordance with the National Electrical Code (ANSI/NFPA 70) for installation in the United States, the Canadian Electrical Code for installations in Canada, or other local codes, as applicable.
- 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 resp. 126.5V r.m.s. or DC unless the device has been determined to adequately isolate the voltage from the barrier.

Dieses Dokument enthält sicherheitsrelevante Angaben. Es darf nicht ohne Absprache mit dem Normenfachmann geändert werden!			
This document contains safety-relevant information. It must not be altered without the authorization of the norm expert!			
CONFIDENTIAL acc. to ISO 16016			date: 2016-Feb-19
	Control Drawing	respons.	116-0145E
	Transformer Isolated Barriers	approved	
			norm

Table 1 – ENTITY PARAMETERS for barriers with Um = 250 V								
MODEL NUMBER	TERMINALS	V _{oc} (V ₀) [V]	I _{sc} (I ₀) [mA]	V _t [V]	I _t [mA]	GROUPS	C _a (C ₀) [uF]	L _a (L ₀) [mH]
KFA6-SR2-Ex1.W*	1, 2, 3	10.6	19.5	--	--	A,B IIC	1.273	84.88
KFA6-SR2-Ex2.W* KFA6-SOT2-Ex2*	1, 2, 3; 4, 5, 6					C,E,F,G IIB	3.820	298.7
						D IIA	10.18	744.4

Table 2 – ENTITY PARAMETERS for barriers with Um = 250V resp Um = 40V for supply terminals and power rail contacts								
MODEL NUMBER	TERMINALS	V _{oc} (V ₀) [V]	I _{sc} (I ₀) [mA]	V _t [V]	I _t [mA]	GROUPS	C _a (C ₀) [uF]	L _a (L ₀) [mH]
KFD2-SRA-Ex4*	1, 2; 2, 3; 4, 5; 5, 6	10.6	19.5	--	--	A,B IIC	1.273	84.88
						C,E,F,G IIB	3.820	298.7
						D IIA	10.18	744.4
KFD2-SR2-Ex1.W*	1,2,3	10.5	13	--	--	A,B IIC	2.41	210
KFD2-SR2-Ex2.W*	1,2,3; 4,5,6					C,E,F,G IIB	16.8	840
						D IIA	75	1000

Table 3 – ENTITY PARAMETERS for barriers with Um = 250V resp. Um = 126.5 V for supply terminals								
MODEL NUMBER	TERMINALS	V _{oc} (V ₀) [V]	I _{sc} (I ₀) [mA]	V _t [V]	I _t [mA]	GROUPS	C _a (C ₀) [uF]	L _a (L ₀) [mH]
KFA5-SR2-Ex1.W*	1, 2, 3	10.6	19.5	--	--	A,B IIC	1.273	84.88
KFA5-SR2-Ex2.W* KFA5-SOT2-Ex2*	1, 2, 3; 4, 5, 6					C,E,F,G IIB	3.820	298.7
						D IIA	10.18	744.4

The values of Lo and Co listed in the tables 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 tables 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 1uF for IIB and 600nF for IIC.

WARNING: Explosion Hazard. Do not disconnect equipment unless power has been switched off or the area is known to be free of ignitable concentrations.

WARNING: Substitution of components may impair intrinsic safety and suitability for Division 2/ Zone 2 hazardous (classified) Locations.

AVERTISSEMENT: La substitution de composants peut compromettre la sécurité intrinsèque.

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CONFIDENTIAL acc. to ISO 16016			date: 2016-Feb-19	
	Control Drawing	respons.	116-0145E	
	Transformer Isolated Barriers	approved		
		norm		sheet 2 of 2
Worldwide				