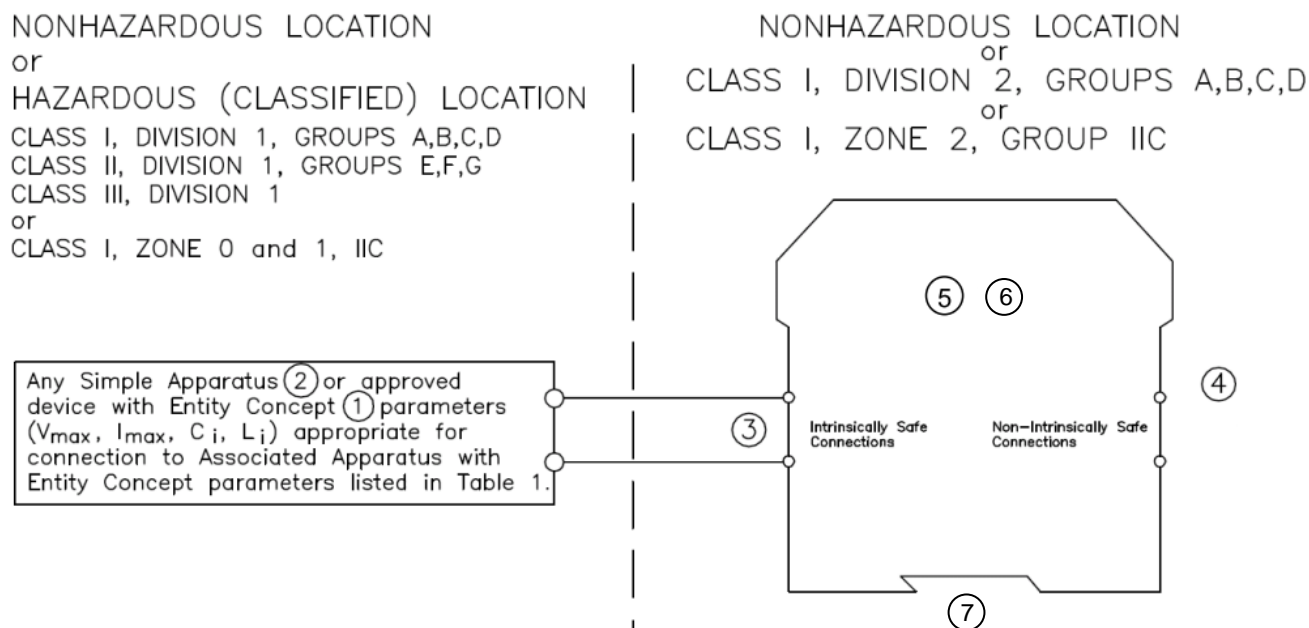


UL / cUL Installations

Connections



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 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_0) and L_a (L_0) 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 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 is used.
- 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.
Modules with multiple intrinsically safe field wiring pairs shall be installed as separate intrinsically safe circuits.
- Barriers shall not be connected to any device which uses or generate 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.
- The barriers are rated `non-incendive` for use in Class I, Division 2 or Zone 2 or non-hazardous location. A temperature rating of T4 applies to all non-incendive rated barriers.
- 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 / 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 enclosure with a minimum ingress protection of IP2X. If the barrier is intended to be mounted in a Division 2 / Zone 2 location that is subject to contamination by water or dust, it must be mounted in an enclosure with a minimum ingress protection of IP54. If the barrier is intended to be mounted in a Division 2 / Zone 2 indoor location that is not subject to contamination by water or dust, they must be mounted in an enclosure with a minimum ingress protection of IP4X
- Power feed modules KFD2-EB2* maybe used in conjunction with power rail to energize P+F isolated barriers (KCD2 Series).

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Entity Parameters

Table 1:

Model Numbers	Terminals	ENTITY											
		Uo Voc	Io Isc	Po	Co(μF) GRPS			Lo(mH) GRPS			Lo / Ro (μH/Ω) GRPS		
					IIC A,B	IIB C,E,F,G	IIA D	IIC A,B	IIB C,E,F,G	IIA D	IIC A,B	IIB C,E,F,G	IIA D
KCD2-SR-Ex1.LB KCD2-SR-Ex1.LB.SP KCD2-SR-Ex2 KCD2-SR-Ex2.SP	1,2 3,4	10.5 V	17.1 mA	45 mW	2.41	16.8	75	121.5	486.3	972.7	792	3167	6334
KCD2-STC-Ex1 KCD2-STC-Ex1.SP	1+, 2-	25.2 V	100 mA	630 mW	0.1	0.81	2.8	3.5	14	28	n.a.	227	453
		Ci = 5.7 nF											
	3+, 4-	7.2 V	100 mA	25 mW	13.49	239	1000	3.5	14	28	1437	5746	11493
Ui = 30V		li = 128 mA	n.a.										
KCD2-SCD-Ex1 KCD2-SCD-Ex1.SP	1+, 2-	25.2 V	100 mA	630 mW	0.1	0.81	2.8	3.5	14	28	n.a.	227	453
		Ci = 5.7 nF											
KCD0-SD-Ex1.1245 KCD0-SD-Ex1.1245.SP	1, 2	25.2 V	110 mA	693 mW	0.107	0.82	2.9	2.94	11.75	30	51	205	411

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, IIB and 600nF for IIC.


Enclosure temperature may exceed 70°C at operating ambient temperatures exceeding 56°C. Select field wiring with an insulation temperature rating that is suitable for the application.

WARNING: Substitution of components may impair intrinsic safety and suitability for use in Class I, Division 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.

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