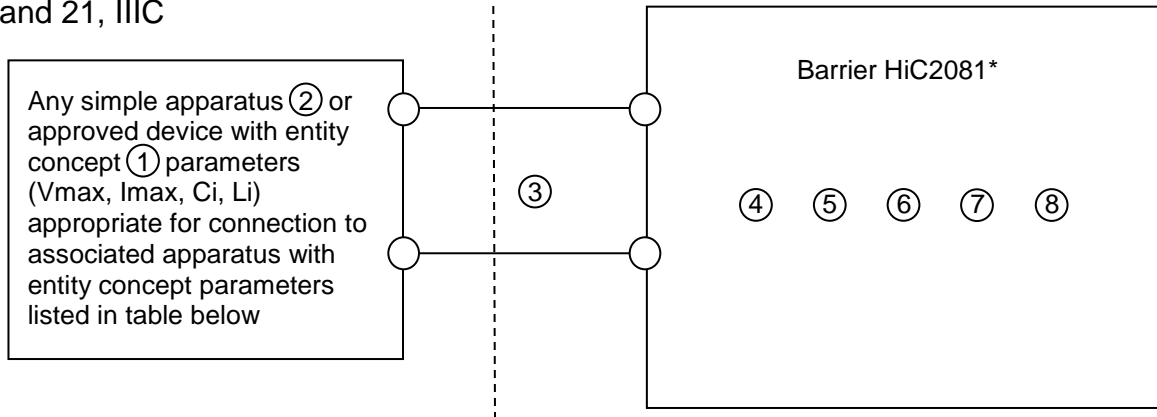


**Connections**

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, IIC

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



**Notes**

- ① 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  $C_{cable} = 60pF/ft$  if unknown  
Where  $L_{cable} = 0.20uH/ft$  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.
- ④ **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.
- ⑤ Barriers shall not be connected to any device which uses or generates internally any voltage in excess of 250V r.m.s. unless the device has been determined to adequately isolate the voltage from the barrier.
- ⑥ 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.

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The barriers are rated `non-incendive`. If the barriers are intended to be mounted in a Division 2 location, they must be mounted in an enclosure with a minimum ingress protection of IP2X. If the barrier are intended to be mounted in a Zone 2 location that is subject to contamination by water or dust, they must be mounted in an enclosure with a minimum ingress of protection of IP54. If the barriers are intended to be mounted in a Zone 2 indoor location that is not subject to contamination of water or dust, they must be mounted in an enclosure with a minimum ingress protection of IP4X. The enclosure must be able to accept Division 2 / Zone 2 wiring methods. A temperature rating of T4 applies to all non-incendive rated barriers.

- ⑦ For Zone 2 installations, ensure protection of supply terminals against transient voltages exceeding 140% of the rated supply voltage
- ⑧ The permitted ambient temperature range is -20°C to 60°C.

**Entity Parameters**

Model Number	Terminals	U <sub>o</sub> (V)	I <sub>o</sub> (mA)	P <sub>o</sub> (mW)	Co (µF)			Lo (mH)		
					A,B IIC	C,E,F,G IIB	D IIA	A,B IIC	C,E,F,G IIB	D IIA
HiC2081*	5a, 5b; 1a, 1b	9	13.1	30	4.9	40	500	207	828	1657


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.

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