

LB Remote I/O type LB 510x ***

UL-File Number E106378

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

or

Class I, Zone 0 and 1, Groups IIA,IIB,IIC

Non Hazardous Location

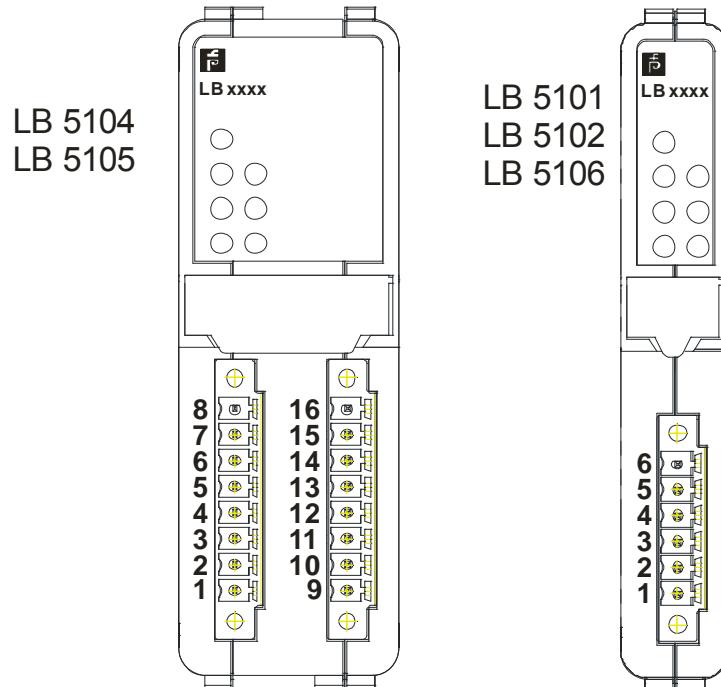
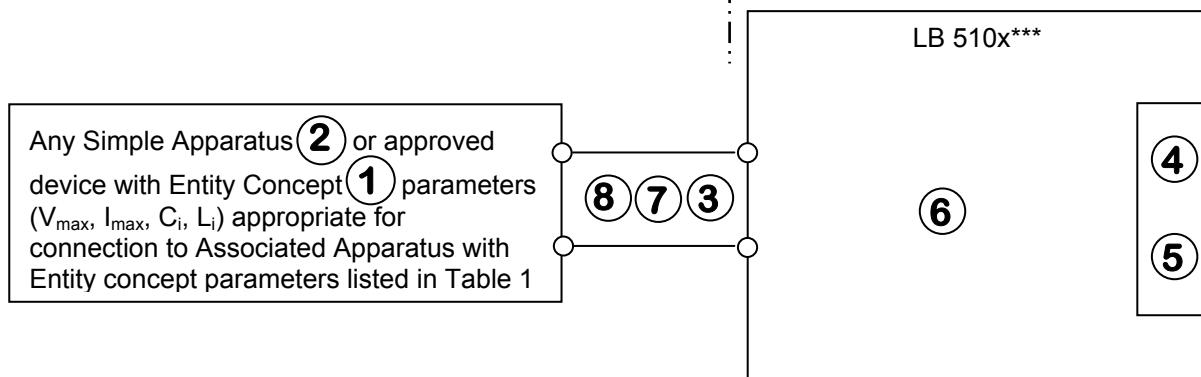
or

Hazardous (Classified) Location

Class I, Division 2, Groups A,B,C,D

or

Class I, Zone 2, Group IIC



1 8 see notes next sides !

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Worldwide

Control Drawing

LB 510x ***

116-0322

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Type	Terminals				GP A, B, IIC		GP C, D, E, F,G IIB / IIA	
		U ₀ [V]	I ₀ [mA]	P ₀ [mW]	C ₀ [μ F]	L ₀ [mH]	C ₀ [μ F]	L ₀ [mH]
LB 5101	↓ Input with trapezoidal characteristic ($R_S = 330\Omega$) ↓							
	5, 6	2.7	43	93	2.25	10	11.25	50
	5, 1, 6	2.7	43	93	2.25	10	11.25	50
	2, 5, 1, 6	2.7	43	93	2.25	10	11.25	50
LB 5102	↓ Input with trapezoidal characteristic ($R_S = 330\Omega$) ↓							
	5(+), 6(-)	1.8	43	67	8.7	10	30	50
	1, 2	1.8	43	67	8.7	10	30	50
LB 5104	↓ Input with linear characteristic (see note 8) ↓							
	1, 2, 3, 4	7.14	70	123	13.4	7.0	240	29
	5, 6, 7, 8	7.14	70	123	13.4	7.0	240	29
	9, 10, 11, 12	7.14	70	123	13.4	7.0	240	29
LB 5105	↓ Input with trapezoidal characteristic ($R_S = 500\Omega$) ↓							
	1(+), 2(-)	1.0	71	62	33	5.0	140	20
	5(+), 6(-)	1.0	71	62	33	5.0	140	20
	9(+), 10(-)	1.0	71	62	33	5.0	140	20
LB 5106	↓ Input with linear characteristic (see note 8) ↓							
	1(+), 2(-)	0.9	0.2	0.2	100	100	1000	1000

Table 1 - Intrinsically Safe Entity Parameter

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 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(C₀) and L_a(L₀) for the associated apparatus are greater than C_i + C_{cable} and L_i + L_{cable}, respectively, for the intrinsically safe apparatus.
- 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 millamps, 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.
- Wiring methods must be in accordance with National Electrical Code (NEC) for US, and Canadian Electrical Code (CEC) for Canada.
- The maximum rms or dc U_m that can be applied is:
 - 60V for power supply input
 - 30V for bus signal input (communication input).
- Connection only to certified Backplane Type LB9xxx
- The LB Remote I/O are rated 'Nonincendive'. If the LB Remote I/O is 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 LB Remote I/O is 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 protection of IP54. If the LB Remote I/O is intended to be mounted in a 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. The enclosure must be able to accept Division 2 / Zone 2 wiring methods. A temperature rating of T4 applies to all nonincendive rated LB Remote I/O.
- Modules with multiple intrinsically safe field wiring pairs shall be installed as separate intrinsically safe circuits.

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8. Applicable for output channels with linear characteristic only:

For installations in which both the Ci and Li of the intrinsically safe apparatus exceeds 1% of the Co and Lo parameters of the associated apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded.

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 the equipment when it is energized and an explosive atmosphere is present.

AVERTISSEMENT – RISQUE D'EXPLOSION – Ne pas débrancher l'équipement lorsqu'il est sous tension et exposé à une atmosphère explosive.

WARNING – EXPLOSION HAZARD – Substitution of components may impair intrinsic safety and suitability for use in Class I, Division 2 / Zone 2

AVERTISSEMENT – RISQUE D'EXPLOSION – Le remplacement des composants peut altérer la sécurité intrinsèque et l'adéquation à une utilisation en Classe I, Division 2 / Zone 2.

UL Notes:

- LB Remote I/O must be installed in an enclosure that meets the requirements of ANSI/ISA S82.01 and NEC esp. ANSI/ISA 12.12.01-2007
- Installation should be in accordance with ANSI RP 12.6 „Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations“ and the National Electrical Code (ANSI/NFPA 70). Where multiple intrinsically safe circuits extend from an associated apparatus, they must be installed in separate cables or in one cable having suitable insulation.

c-UL Notes:

- LB Remote I/O must be installed in an enclosure that meets the requirements of the Canadian Electrical Code, CSA C 22.1; Part 1 Appendix F.
- Wiring methods must be in accordance with the Canadian Electrical Code CSA C22.1 Part 1 Appendix F.

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