

# LB Remote I/O type LB 21xx \*\*\*

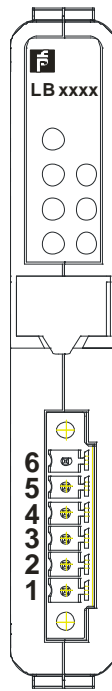
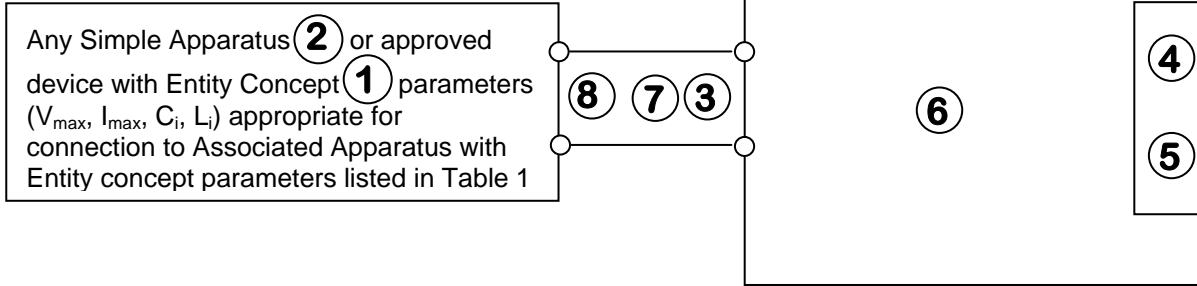
UL-File Number E106378

## 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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Type	Terminals				GP A, B, IIC		GP C, D, E, F,G IIB / IIA	
		U <sub>0</sub> [V]	I <sub>0</sub> [mA]	P <sub>0</sub> [mW]	C <sub>0</sub> [μF]	L <sub>0</sub> [mH]	C <sub>0</sub> [μF]	L <sub>0</sub> [mH]
LB 2101	1(+), 4(-)	24.9	91	558	0.11	4	0.848	16
	2(+), 5(-)	14	16	55	0.73	100	4.60	450
	3(+), 6(-)	14	16	55	0.73	100	4.60	450
LB 2102	1(+), 4(-)	27.8	183	1270	N/A	N/A	0.657	4
	2(+), 5(-)	14	16	55	N/A	N/A	4.60	450
	3(+), 6(-)	14	16	55	N/A	N/A	4.60	450
LB 2103	1(+), 4(-)	27.8	91.5	636	0.082	4	0.657	16
	2(+), 5(-)	14	16	55	0.73	100	4.60	450
	3(+), 6(-)	14	16	55	0.73	100	4.60	450
LB 2104	1(+), 4(-)	24.2	145	872	0.12	1.6	0.9	6.5
	2(+), 5(-)	14	16	55	0.73	100	4.60	450
	3(+), 6(-)	14	16	55	0.73	100	4.60	450
LB 2105	1(+), 4(-)	25.2	108	681	0.105	3	0.81	12
	2(+), 5(-)	14	16	55	0.73	100	4.60	450
	3(+), 6(-)	14	16	55	0.73	100	4.60	450
LB 2112	1(+), 4(-)	27.8	108	751	0.082	3	0.657	12
	2(+), 5(-)	14	16	55	0.73	100	4.60	450
	3(+), 6(-)	14	16	55	0.73	100	4.60	450
LB 2113	1(+), 4(-)	28.7	68	485	0.075	7.5	0.616	30
	2(+), 5(-)	14	16	55	0.73	100	4.60	450
	3(+), 6(-)	14	16	55	0.73	100	4.60	450

**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<sub>oc</sub> (or U<sub>0</sub>) and I<sub>sc</sub> (or I<sub>0</sub>) for the associated apparatus are less than or equal to V<sub>max</sub>(U<sub>i</sub>) and I<sub>max</sub>(I<sub>i</sub>) for the intrinsically safe apparatus and the approved values of C<sub>a</sub>(C<sub>0</sub>) and L<sub>a</sub>(L<sub>0</sub>) for the associated apparatus are greater than C<sub>i</sub> + C<sub>cable</sub> and L<sub>i</sub> + L<sub>cable</sub>, 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 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 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<sub>m</sub> that can be applied is:
  - 60V for power supply and shut down 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.

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7. Modules with multiple intrinsically safe field wiring pairs shall be installed as separate intrinsically safe circuits.
8. 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 resp. 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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