

LB PLUS busbar trunking systems

technical data

■ LB PLUS - Type A

Type		252	254	256	258	404	408	634
Number of live conductors		2	4	6	8	4	8	4
Casing overall dimensions	LxH [mm]	35 x 46	35 x 46	35 x 46	35 x 46	35 x 46	35 x 46	35 x 46
Rated current	I _n [A]	25	25	25	25	40	40	63
Operating voltage	U _e [V]	400	400	400	400	400	400	400
Insulation voltage	U _i [V]	500	500	500	500	500	500	500
Frequency	f [Hz]	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Rated short-time current (0.1 s)	I _{cw} [kArms]	–	2.2	2.2	2.2	2.7	2.7	2.7
Peak current	I _{pk} [kA]	–	3.3	3.3	3.3	4.1	4.1	4.1
Single phase rated short-time current (0.1 s)	I _{cw} [kArms]	1.3	1.3	1.3	1.3	1.6	1.6	1.6
Single phase peak current	I _{pk} [kA]	2.0	2.0	2.0	2.0	2.4	2.4	2.4
Thermal limit	I ² t [A ² s x 10 ⁶]	0.174	0.484	0.484	0.484	0.729	0.729	0.729
20° C phase resistance	R ₂₀ [mΩ/m]	4.761	4.761	4.761	4.761	3.190	3.190	1.595
Phase resistance at thermal conditions	R _t [mΩ/m]	5.656	5.656	5.656	5.656	3.802	3.802	1.901
Phase reactance (50Hz)	X [mΩ/m]	0.229	0.229	0.229	0.229	0.236	0.236	0.118
Phase impedance	Z [mΩ/m]	4.767	4.767	4.767	4.767	3.199	3.199	1.599
Resistance of the protective conductor ¹	R _{PE} [mΩ/m]	1.695	1.695	1.695	1.695	1.695	1.695	1.695
Reactance of the protective conductor ¹ (50Hz)	X _{PE} [mΩ/m]	0.222	0.222	0.222	0.222	0.222	0.222	0.222
Resistance of the fault loop	R _o [mΩ/m]	6.456	6.456	6.456	6.456	4.885	4.885	3.290
Reactance of the fault loop (50Hz)	X _o [mΩ/m]	0.451	0.451	0.451	0.451	0.458	0.458	0.340
Impedance of the fault loop	Z _o [mΩ/m]	6.472	6.472	6.472	6.472	4.906	4.906	3.308
Voltage drop with distributed load referred to V3f ³	ΔV 10 ⁻³ cosφ = 0.70 [V/m/A]	4.123 ²	3.570	3.570	3.570	2.830	2.451	1.225
	ΔV 10 ⁻³ cosφ = 0.75 [V/m/A]	4.393 ²	3.805	3.805	3.805	3.008	2.605	1.302
	ΔV 10 ⁻³ cosφ = 0.80 [V/m/A]	4.662 ²	4.038	4.038	4.038	3.183	2.757	1.378
	ΔV 10 ⁻³ cosφ = 0.85 [V/m/A]	4.928 ²	4.268	4.268	4.268	3.356	2.906	1.453
	ΔV 10 ⁻³ cosφ = 0.90 [V/m/A]	5.190 ²	4.495	4.495	4.495	3.525	3.052	1.526
	ΔV 10 ⁻³ cosφ = 0.95 [V/m/A]	5.445 ²	4.715	4.715	4.715	3.686	3.192	1.596
	ΔV 10 ⁻³ cosφ = 1.00 [V/m/A]	5.656 ²	4.898	4.898	4.898	3.802	3.293	1.646
Weight	p [kg/m]	1.00	1.04	1.25	1.28	1.19	1.56	1.56
Fire load	[kWh/m]	1.0	1.0	1.9	1.9	1.0	1.9	1.9
Protection index	IP	55	55	55	55	55	55	55
Degree of impact-resistance	IK	07	07	07	07	07	07	07
Joule effect losses at rated current	P [W/m]	10.6	10.6	10.6	10.6	18.2	18.2	22.6
Ambient temperature min / MAX	t [°C]	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50

1 : Metal casing

2 : Single phase values with distributed load

3 : Three phase

$$\Delta V_{3f} = \sqrt{3}/2 \times (R_t \cos\phi + X \sin\phi)$$

$$\Delta V_{3f}(I_n) = I \times L \times \Delta V_{3f} : (\text{knowing the current and length of the line})$$

$$\Delta V_{3f}(I_n)\% = (\Delta V_{3f}(I_n) / U_e) \times 100 (\%)$$

To calculate the ΔV1f (Single phase) on distributed load:

$$\Delta V_{1f} = 1/2 \times (2R_t \cos\phi + 2X \sin\phi)$$

$$\Delta V_{1f}(I_n) = I \times L \times \Delta V_{1f} : (\text{knowing the current and length of the line})$$

$$\Delta V_{1f}(I_n)\% = (\Delta V_{1f}(I_n) / U_e) \times 100 (\%)$$

I = operating current (A)

L = length (m)

Short circuit protection for Zucchini's product ranges (I_n ≤ 100A)

Zucchini busbar trunking systems with a rated current lower than or equal to 100A (LB PLUS-MS 63 and 100) are properly protected through an MCB (Miniature Circuit Breaker) with a rated current lower than or equal to that of the busbar. This protection is guaranteed up to the MCB breaking capacity

Product fully in compliance with IEC 61439-6