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Prefabricated Busbar System
LB+ 40 A

Cat.No(s): 75200101/75200102/75200111
75220101/75220102/75220111
75400102H/75400103H/75400111H
75420101H/75420102H/75420111H

CONTENTS **Page**

1. TECHNICAL FEATURES

LB+ is the range of busbars for power distribution and lighting from 25 to 63 A.
The range complies with the current IEC/EN 61439-1 and IEC/EN 61439-6 standards (replacing IEC/EN 60439-1 and -2).
The degree of protection is IP55 in accordance with EN 60529

The range is available in two versions with different profiles to meet the customer's installation needs :
- type A (LBA) version, allowing up to 3 meters of mounting distances;
- type B (LBB) version, allowing up to 7 meters of mounting distances.

LB+ offers a busbar trunking system with 10, 16, and 25 A tap-off plugs, reducing the number of codes that make up the range and increasing functionality thanks to accessories common to all versions. LB+ is extremely flexible, allowing the system to be adapted to any changes in the environment.

The construction characteristics of this busbar trunking system make it suitable for various installation solutions, from small/medium-sized commercial environments (offices, hotels, sports facilities, shopping centers, etc.) to industrial applications (warehouses, workshops, production plants, etc.).

The LB+ system is designed to be installed in a horizontal position and to be used with the LB+ lighting system.

All drawings are for illustrative purposes only and do not represent the actual dimensions of the product.

1.1 Range

Type A

Cat.No	Type	In (A)	Length (m)	N° of conduc-tors	N° of outlets	Weight (kg)
75200101	LBA404	40	3	4	2	3.6
75200102					4	3.7
75200111			1.5		2	2.0
75220101	LBA408		3	8	2+2	4.7
75220102					4+4	4.8
75220111			1.5		1+1	2.5

Type B

Cat.No.	Type	In (A)	Length (m)	N° of conduc-tors	N° of outlets	Weight (kg)
75400102H	LBB404	40	3	4	4	6.0
75400103H					6	6.1
75400111H			1.5		2	3.2
75420101H	LBB408		3	8	4+4	7.1
75420102H					6+6	7.3
75420111H			1.5		1+1	3.7

1.2 Thermal correction factor for ambient temperatures

Ambient temperatures	KT factor
15°C	1.15
20°C	1.12
25°C	1.08
30°C	1.05
35°C	1.025
40°C	**1**
45°C	0.975
50°C	0.95
55°C	0.93
60°C	0.89

- Designed to operate at an average ambient temperature of 40°C, it guarantees a higher level of performance compared to the minimum 35°C required by the standard.

- Self-extinguishing sheath thanks to circuit separation.

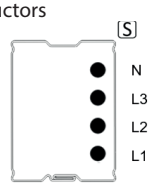
1.TECHNICAL FEATURES *(CONTINUED)*

■ 1.3 Conductors

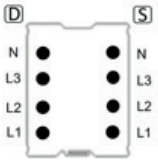
The conductors for LB+ are made of :
Tin-plated aluminum for LB+ 25A and copper for LB+ 40A and LB+ 63A

Two combinations of conductors are available :

4 Conductors



8 Conductors



■ 1.4 Degree of protection

Once installed with all accessories, the protection rating is IP55.

This allows LB+ to be used in environments with a high level of dust and water resistance and to be used even in particularly harsh environments.

■ 1.5 Installation modes

Horizontale position.

1.TECHNICAL FEATURES *(CONTINUED)*

■ 1.6 Technical data by conductors configuration

The datas in this section correspond to a 50 Hz frequency. For 60 Hz frequency, please contact Legrand.

		LB PLUS TYPE A		LB PLUS TYPE B	
		404	**408**	**404**	**408**
Number of active conductors		**4**	**8**	**4**	**8**
Overall dimension of the busbars	L x H [mm]	35 x 46		35 x 77	
Nominal current	In [A]	40			
Rated operational voltage	Ue [V]	400			
Rated insulation voltage	Ui [V]	690			
Frequency	f [Hz]	50			
Rated short time current (1 s)	ICW [kA] eff	2.7			
Peak current	Ipk [kA]	4.1			
Rated short-time current of the neutral bar (1 s)	ICW [kA] eff	1.6			
Peak current of the neutral bar (1 s)	Ipk [kA]	2.4			
Temperature limit	$I^2 t$ [$A^2s \times 10^6$]	0.729			
Phase resistance at 20°C	R20 [mΩ/m]	3.190			
Phase reactance (50 Hz)	X [mΩ/m]	0.236			
Phase impedance	Z [mΩ/m]	3.199			
Phase resistance to thermal conditions	Rt [mΩ/m]	3.802			
Resistance of the protective	RPE [mΩ/m]	1.695		1.195	
Reactance of the protective bar	XPE [mΩ/m]	0.222		0.274	
Resistance of the fault loop (PE 1)	Ro [mΩ/m]	4.885		4.385	
Reactance of the fault loop (50 Hz)	Xo [mΩ/m]	0.458		0.510	
Impedance of the fault loop (PE 1)	Zo [mΩ/m]	4.906		4.415	
Voltage drop with distributed load ΔV3f [AV/(m*A)]10^{-3} (**)	cos (ø) = 0.70	2.451			
	cos (ø) = 0.75	2.605			
	cos (ø) = 0.80	2.757			
	cos (ø) = 0.85	2.906			
	cos (ø) = 0.90	3.052			
	cos (ø) = 0.95	3.192			
	cos (ø) = 1.00	3.293			
Weight	p [kg/m]	1.19	1.56	1.80	1.83
Fire load	[kWh/m]	1.0	1.9	1.1	1.1
Degree of protection	IP	55			
Insulation material thermal resistance	IK	07			
Losses for the Joule effect at nominal current	P [W/m]	18.2			
Ambient temperature min/max (daily average) **	[°C]	-5/50			

(*) Single-phase values with distributed load
(**) Three-phase: ΔV3f= √3/2 x (Rt cosφ+ X sinφ)
ΔV3f(In)=I x L x ΔV3f: (knowing the current and the length of the line)
ΔV3f(In)%=(ΔV3f(In) / Ue) x 100 (%)

Single-phase: ΔV1f on distributed load
ΔV1f= 1/2 x (2Rt cosφ+ 2X sinφ)
ΔV1f(In)=I x L x ΔV1f: (knowing the current and the length of the line)
ΔV1f(In)%=(ΔV1f(In) / Ue) x 100 (%)

I = Operating current (A)
L = Length (m)

1.TECHNICAL FEATURES *(CONTINUED)*

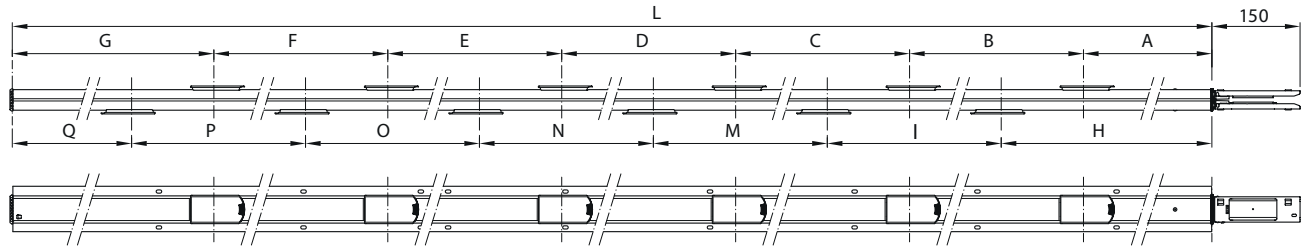
■ 1.7 Authorized mechanical load

The lengh and the heights vary according to the the type of busbar (type A or type B) and according to the number of conductors. The standard lenght is L= 3000 mm.

		Bracket centre distance	Concentrated load	Uniformly distributed load	
LB PLUS TYPE B	LB PLUS TYPE A	1,5 m	40 kg	50 kg/m	(75 kg)**
		2 m	30 kg	30 kg/m	(60 kg)**
		3 m	20 kg	13 kg/m	(39 kg)**
		5 m	13 kg	5 kg/m	(25 kg) **
		7 m	7 kg	2 kg/m	(14 kg) **

** Distributed load total weight

■ 1.8 Dimensions (mm)



	Type A (LBA)					
	Dérivations (on 1 side)			Dérivations (on 2 sides)		
	2	2	4	1+1	2+2	4+4
L	1500	3000	3000	1500	3000	3000
A	255	1155	705	255	1155	705
B	900	1350	450	-	1350	450
C	-	-	900	-	-	900
D	-	-	450	-	-	450
E	-	-	-	-	-	-
F	-	-	-	-	-	-
G	345	495	495	1245	495	495
H	-	-	-	1145	1295	845
I	-	-	-	-	1350	450
M	-	-	-	-	-	900
N	-	-	-	-	-	450
O	-	-	-	-	-	-
P	-	-	-	-	-	-
Q	-	-	-	355	355	355
R	41	41	41	47	47	47

	Type B (LBB)					
	Dérivations (on 1 side)			Dérivations (on 2 sides)		
	2	4	6	1+1	4+4	6+6
L	1500	3000	3000	1500	3000	3000
A	255	705	255	255	705	255
B	900	450	450	-	450	450
C	-	900	450	-	900	450
D	-	450	450	-	450	450
E	-	-	450	-	-	450
F	-	-	450	-	-	450
G	345	495	495	1245	495	495
H	-	-	-	1145	845	395
I	-	-	-	-	450	450
M	-	-	-	-	900	450
N	-	-	-	-	450	450
O	-	-	-	-	-	450
P	-	-	-	-	-	450
Q	-	-	-	355	355	355
R	41	41	41	47	47	47

The lengh and the heights vary according to the the type of busbar (type A or type B) and according to the number of conductors. The standard lenght is L= 3000 mm.

2. COMPOSITION

Images are for illustrative purposes only and do not represent the actual product dimensions.

■ 2.1 Straight elements

Rated current In	25-40-63 A
Reference temperature	40°C
Protection rating	IP55
Impact resistance	IK07
Length (min/max)	1500/3000 mm
Standard length	3000 mm
Thickness	Type A 0.45 mm / Type B 0.65 mm
Number of conductors	4 or 8
Paint	It is made of natural galvanized steel. It can be ordered in any RAL colour, but this is considered a special request
Conduit material	Type A in galvanized steel, Type B reinforced galvanized steel

Straight elements are availble in :
- TYPE A (LBA) version, allowing up to 3 meters of mounting distances;

They are made with hot-dip galvanized steel casing in accordance with EN 10142, which acts as the protective conductor and provides good mechanical resistance. The conductor support inside type A conduits is made of PVC.

Cat.No	Type	In (A)	Length (m)	N° of conduc-tors	N° of outlets	Weight (kg)
75200101	LBA404	40	3	4	2	3.6
75200102					4	3.7
75200111			1.5		2	2.0
75220101	LBA408		3	8	2+2	4.7
75220102					4+4	4.8
75220111			1.5		1+1	2.5

- TYPE B (LBB) version, allowing up to 7 meters of mounting distances.

They are made with hot-dip galvanized steel sheath in accordance with EN 10142, which acts as the protective conductor and provides excellent mechanical resistance.

The conductor support inside type B conduits is made of PC-ABS (halogen-free) material.

Type B versions are equipped with metal separation along the length of the conduit.

Cat.No.	Type	In (A)	Length (m)	N° of conduc-tors	N° of outlets	Weight (kg)
75400102H	LBB404	40	3	4	4	6.0
75400103H					6	6.1
75400111H			1.5		2	3.2
75420101H	LBB408		3	8	4+4	7.1
75420102H					6+6	7.3
75420111H			1.5		1+1	3.7

■ 2.2 Power supply

They allow the LB+ line to be powered electrically from a cable line and are equipped with terminals for connection with rigid or flexible copper cables and with cap plugs.
The head power supplies already include the respective plugs (right power supply + right plug and left power supply + left plug).

The intermediate power supply allows the busbar to be powered from an intermediate point on the line, reducing the voltage drop at the end of the line and/or facilitating installation when the power supply point is close to the middle of the line.

Power supply DX + Closure DX (4 conductors) Cat.No 75161001
Compliant with EN 61439-1 and 6 standards. Supplied with end caps ensuring IP 55 protection.

Power supply SX + Closure SX (4 conductors) Cat.No 75161002
Compliant with EN 61439-1 and 6 standards. Supplied with end caps ensuring IP 55 protection.

■ 2.3 Flexible Elbow

The flexible elbows can be used to connect two busbar lines or to operate a change in direction.

They are available in :
- 25/40 A version with 4 conductors Cat.No 75201263
- 25/40 A version with 8 conductors Cat.No 75221263

■ 2.4 Plugs

Single-phase plugs with fixed phase :
The plugs are identified by color and equipped with clamp contacts. They help reaching an error-proof plug installation thanks to the consent pin.

Self-extinguishing plastic material: IEC 60695-2-12 glow wire test and V0 according to UL94.
Rated currents: In 10-16-25 A.

2. COMPOSITION *(CONTINUED)*

■ 2.4 Plugs *(continued)*

Color code :

L1-N

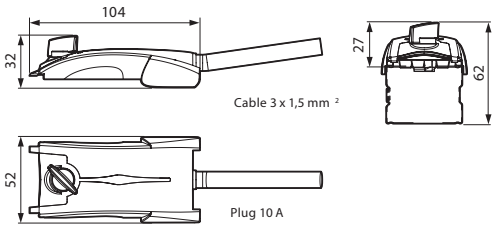
L2-N

L3-N

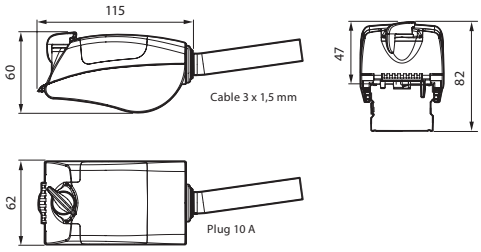
L-N2

Dimensions :

- 10 A plug with cable H05VVF



- 10 A plug with cable FG16OM16



Available versions :

L1-N	10 A plug with 1 m cable H05VVF	Cat No 75005011
	10 A plug with 1 m cable FG16OM16	Cat No 75005031
	10 A plug with 3 m cable H05VVF	Cat No 75005021
	10 A plug with 3 m cable FG16OM16	Cat No 75005041
L2-N	10 A plug with 1 m cable H05VVF	Cat No 75005012
	10 A plug with 1 m cable FG16OM16	Cat No 75005032
	10 A plug with 3 m cable H05VVF	Cat No 75005022
	10 A plug with 3 m cable FG16OM16	Cat No 75005042
L3-N	10 A plug with 1 m cable H05VVF	Cat No 75005013
	10 A plug with 1 m cable FG16OM16	Cat No 75005033
	10 A plug with 3 m cable H05VVF	Cat No 75005023
	10 A plug with 3 m cable FG16OM16	Cat No 75005043
L-N2	10 A plug with 1 m cable H05VVF	Cat No 75005014
	10 A plug with 1 m cable FG16OM16	Cat No 75005034
	10 A plug with 3 m cable H05VVF	Cat No 75005024
	10 A plug with 3 m cable FG16OM16	Cat No 75005044

Phase selection plugs

Available versions :

16 A phase selection plug	Cat No 75005000
16 A phase selection plug + 1x(5x20 - 6.3 A) fuse included	Cat No 75005100
16 A phase selection plug + 1x(CH8)*	Cat No 75005200
16 A phase selection plug + 1x(CH8) + 3 m cable H05VVF*	Cat No 75005220
16 A phase selection plug + 1x(CH8) + 3 m cable H05VVF	Cat No 75005270

* Fuses not included

Note : When associated with 2 mobile contacts (Cat.No 75105000), the 16 A phase selection plug Cat.No 75005000 becomes the equivalent of the three-phase plug Cat.No 75005005.

Three-Phase plugs

Available versions:

16 A three-phase plug	Cat No 75005005
25 A three-phase plug	Cat No 75007005
25 A three-phase plug for CH8 fuses*	Cat No 75007205
25 A three-phase plug for CH8 fuses* + 4 DIN modules	Cat No 75007206
25 A three-phase plug + 8 DIN modules	Cat No 75007207
25 A three-phase plug with 4 DIN modules	Cat No 75007006

*Fuses not included

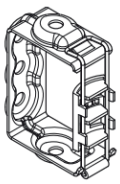
Accessories

16 A Mobile contact	Cat No 75105000
Pin coding kit (10 black codes for right-side pins + 10 grey codes for left-side pins + identification stickers).	Cat No 75105001

3. ACCESSORIES

Find below the compatible accessories :

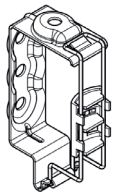
- Suspension bracket 60 kg (for Type A busbar) Cat.No 75003000



This accessory can be used to suspend both the line and the lighting system.

3. ACCESSORIES *(CONTINUED)*

- Suspension bracket 60 kg (for Type B busbar) Cat.No 75003004



This accessory is used to suspend either the line or the lighting system (not both).

- Lamp hook Cat.No 75003001

This accessory must always be used with the brackets Cat.No 75003000 or Cat.No 75003004 according to the type (A or B) of busbar.

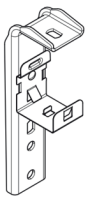
- Ring Cat.No 75003002

This accessory must always be used with the brackets Cat.No 75003000 or Cat.No 75003004 according to the type (A or B) of busbar.

- Pigtail chain Cat.No 75003005

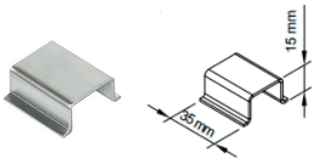
This accessory must always be used with the brackets Cat.No 75003000 or Cat.No 75003004 according to the type (A or B) of busbar.

- Channel rack Cat.No 75003006

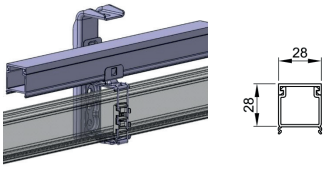


This accessory must always be used with the brackets Cat.No 75003000 or Cat.No 75003004 according to the type (A or B) of busbar, and PVC cable duct with cover Cat.No 71000104.

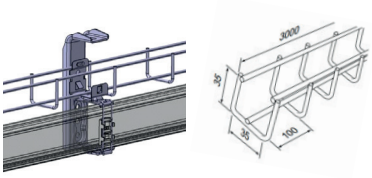
- Spacer for brackets installed on the floor Cat.No 75003007



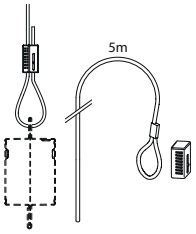
- PVC cable duct with cover (3 m) Cat.No 71000104



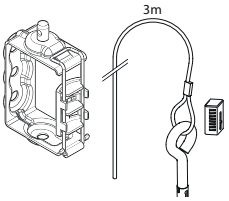
- Cablofil cable tray (3m) Cat.No 755001



- Kit consisting of 5 m steel cable and self-locking clamp Cat.No 75003008



- Suspension kit consisting of bracket with dowel (type A), 3 m steel cable and self-locking clamp Cat.No 75003009



4. STANDARDS AND REGULATIONS

The LB+ range complies with the following standards :

EN 61439-1 — Low-voltage switchgear and controlgear assemblies – Part 1: General rules.
EN 61439-6 — Low-voltage switchgear and controlgear assemblies – Part 6: Busbar trunking systems
EN/IEC 60529 (IP code)
UL 94 — Flammability tests for plastic materials used in devices and appliances.
EN / IEC 60332-3 series — Tests on electric and optical fibre cables under fire conditions,
including Part 3-10: Vertical flame spread test for bunched cables. [webstore.iec.ch], [webstore.iec.ch]
IEC 60085 — Electrical insulation materials – Thermal evaluation and designation.

RoHS
Compliance with the 2011/65/EU Directive (RoHS), as modified by the 2015/863/EU Delegated Directive, on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

REACH
The substances identified as SVHC (Substances of Very High Concern) according to the REACH Regulation (1907/2006), if present in theproducts at a concentration above 0.1% weight by weight, are declared inside the European SCIP database. At the date of publication of this document none of the substance listed in the annex XIV is found in this product.

WEEE
WEEE Directive (2012/19/EU): the sale of this product includes acontribution to the appointed environmental bodies of each European country in charge of handling, at the end of their life, the products falling within the scope of the EU Directive on Electrical and Electronic Equipment Waste.

Packaging
Design and manufacture of packaging compliant with European Directive 94/62/CE.

5. OTHER INFORMATION

XLPro Calcul : Calculation notes creation software, addressed to installers, design office and maintenance operators. Definition of the electrical characteristics of a low voltage installation in compliance with the applicable standards

For specific information, please contact Legrand support.
Unless otherwise indicated, data reported in this document refers exclusively to test conditions according to product standards. For different conditions of use of the product, inside electrical equipment or in any different installation context, refer to the regulatory requirements of the equipment, local regulations and design specifications of the system.