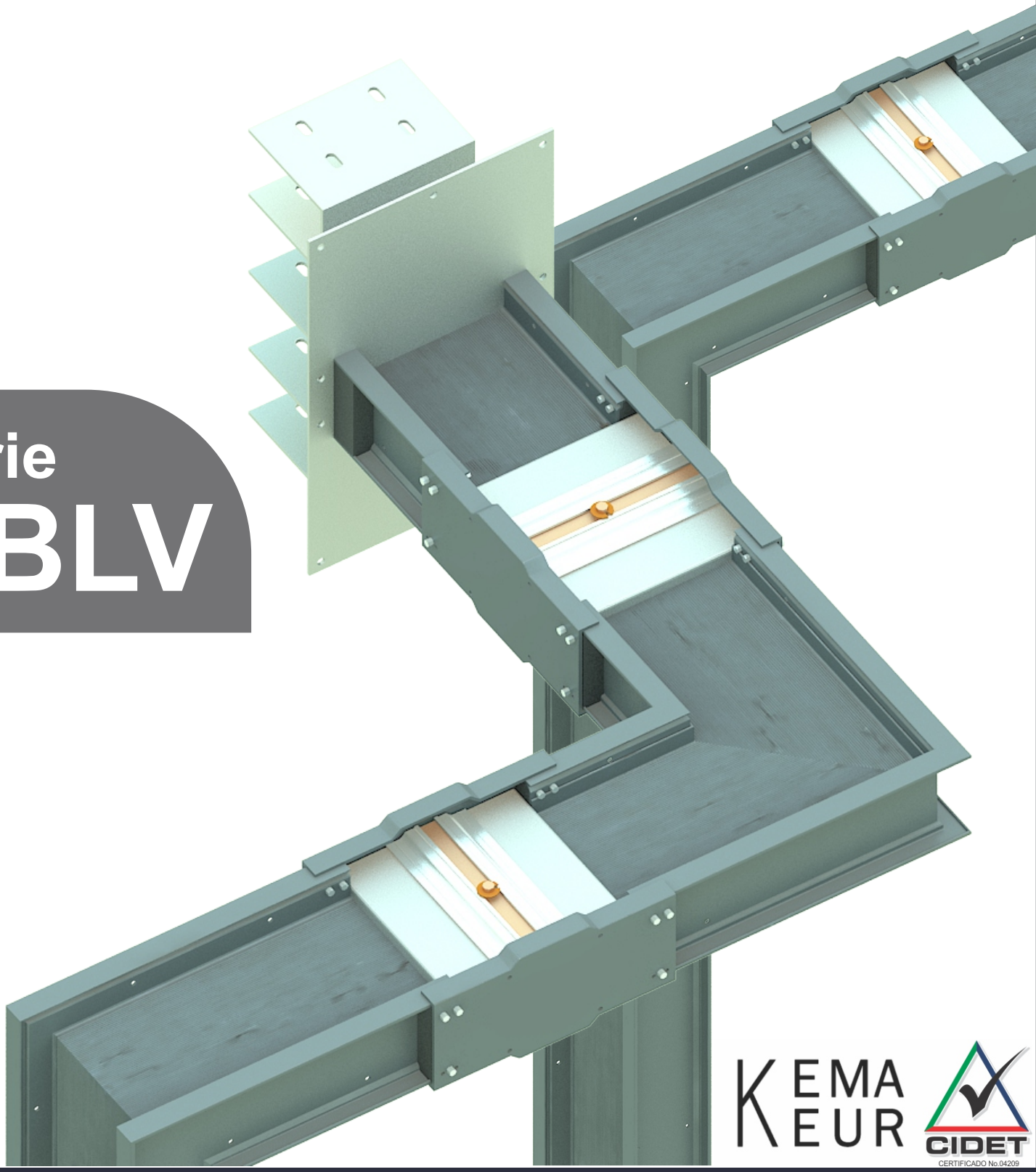
busway®

Serie BBLV



KEMA KEUR

CIDET

CERTIFICADO No.04209

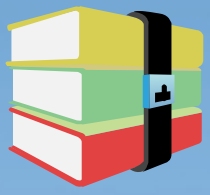
Mission

ENGINE of BUSWAY TOWN

Making Electrical Transmission & Distribution

More Reliable, More Efficient and More Economical

High efficiency



Saving space

Low lose

High protection

BUSWAY

Company Introduction

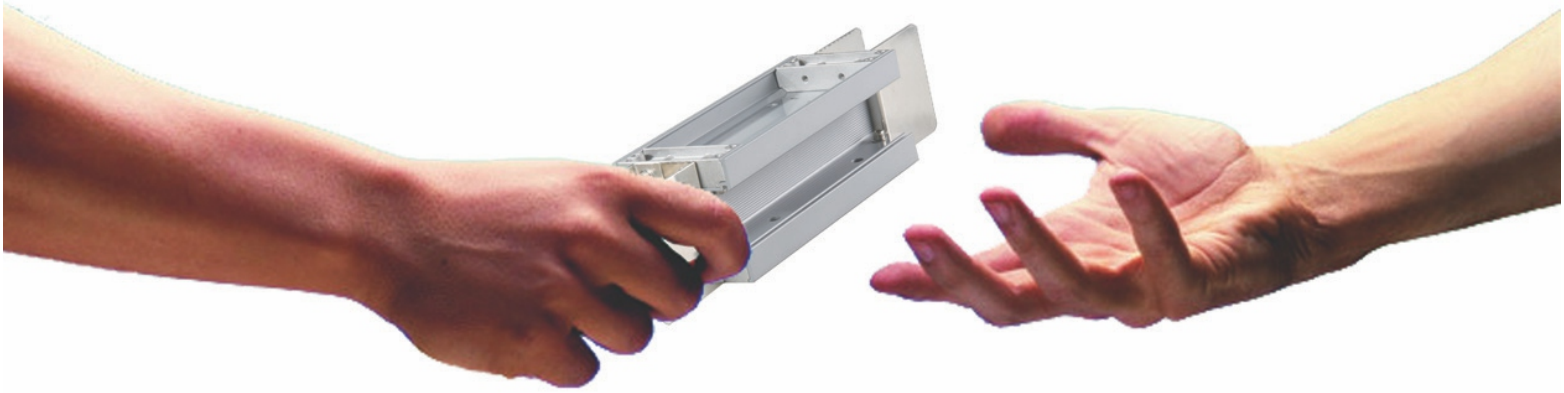
Both its testing centre and electrostatic power-coating centre are unrivalled in China and Asia respectively. We possess 80 patents, 2 of which have international coverage. Over the years our mark have obtained such certificates as ISO9000. ISO14001. OHSAS18000 SA8000 SB/T10401. Busways made by our factory are pointing to a demand revolution for the electricity distrbution market and creating a "bull market" for China-made busways

Culture and value

BUSWAY, ***currently No. 1 China national brand in busway striving to be a leading global busway specialist with full solutions.***

Our culture and value: ***"Integrity & commitment"***

Integrity: Self-Discipline and Social Commitment- "Commitment to society, customer and our people". We are seeking to become your first choice partner globally by striving to be excellence.



Content

System overview

BB LV™ series busway system is a reliable and efficient electrical distribution system with sandwich construction and superior performance. It is a safe and robust power distribution system with high electrical efficiency, low voltage drop, high mechanical strength.

The system offers a full line of busway to meet the world market: suitable for three-phase three-wire, three-phase four-wire, three-phase five-wire power supply and distribution, with rated current from 250 to 6300A, rated operation voltage up to 690V(rated insulation voltage up to 1000V), IP degree up to IP66 and the frequency 50~60Hz.

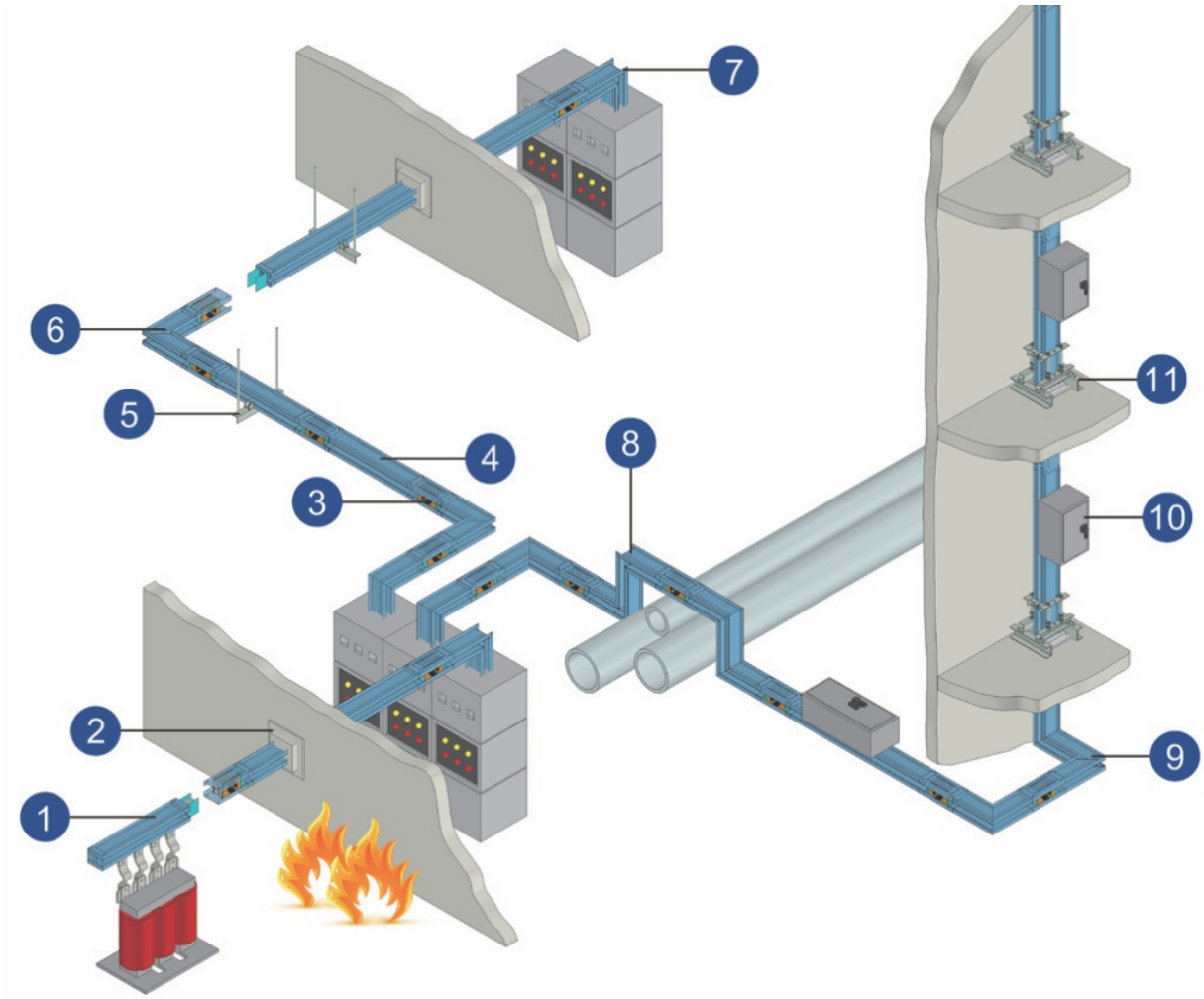
Constructed with two-pieces of aluminum housing, BB LV™ breaks the barrier of weight as one of the lightest system in the business and offers you maximum flexibility. The full aluminum alloy housing, a low magnetic material, avoid hysteresis loss on the distribution system.

BB LV™ series busway provides longer life than mylar by epoxy insulation(H class) as an option with “3M” power as coating insulation..

BB LV™ series busway system is an ideal choice for various applications including commercial, industrial electrical distribution and other verticals.

From every aspect—performance, flexibility, quality and customer value, BB LV™ is a superior choice for your next installation.

System overview



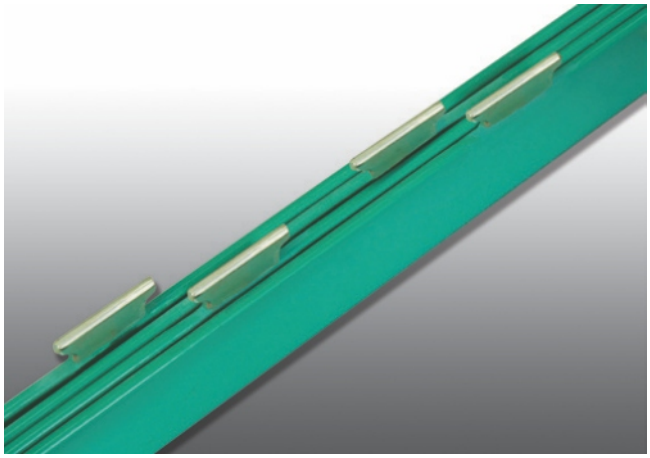
1. Transformer Connection Unit
2. Wall Flange
3. Joint
4. Straight Length
5. Hanger
6. Flatwise Elbow
7. Edgewise Elbow
8. Edgewise Offset
9. Nonstandard Elbow
10. Plug-in Box
11. Spring Hanger

Product features

Unique structure design

The unique “serrated surface” design of housing greatly improves the heat dissipation for the whole busway system. By the design of two-piece housing, BB LV™ series busway provides more reliable IP protection for the field application than the traditional design.

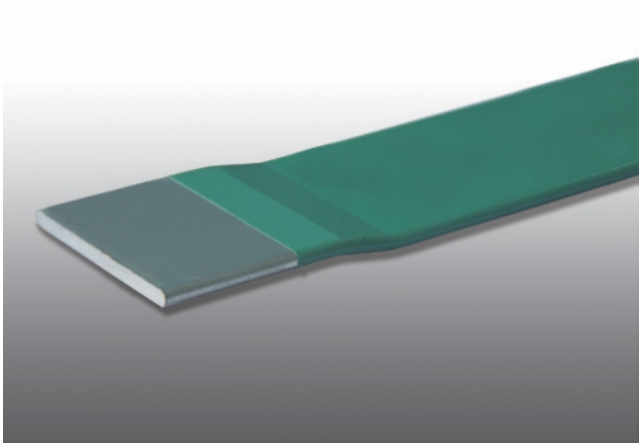
Novel conductor structure



True sandwich structure for the design and construction. Bus bars for plug in length are welded in place by state of art welding process. Bus tabs, arranged compactly without bending, achieve the performance of superior heat dissipation, lower temperature rise and elimination of “chimney effect”.

Product features

Superior and reliable Insulation



Class B(130℃) PET and Class H(180 ℃) epoxy insulation are available.

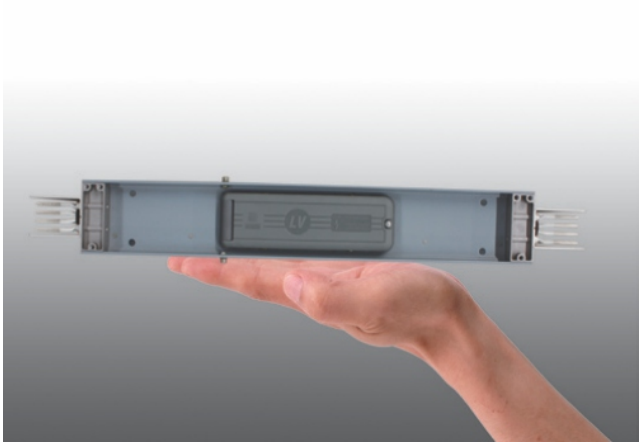
Epoxy insulation on bus bar is applied by an automated process with “3M” coating powder.

Epoxy insulation offers an exceptional electrical performance with dielectric strength up to 45V/μm and superior mechanical strength as well.

BB LV™ epoxy insulation provides longer lifer(50 years) for the system as Class H insulation allows for continuous operation at maximum 180℃ ambient.

The flame-retardant performance of LV™ epoxy insulation complies to V0 grade (UL standards). The busway system is halogen-free with no toxic emission in case of fire.

Compact design with Lighter weight, smaller size



BB LV™ busway dimension begins at 125mmx103mm for 400-630A ratings with very compact design. Bus plug is also compressive and dimension begins at 360mm×250mm×255mm for 100A. with more space for equipment.

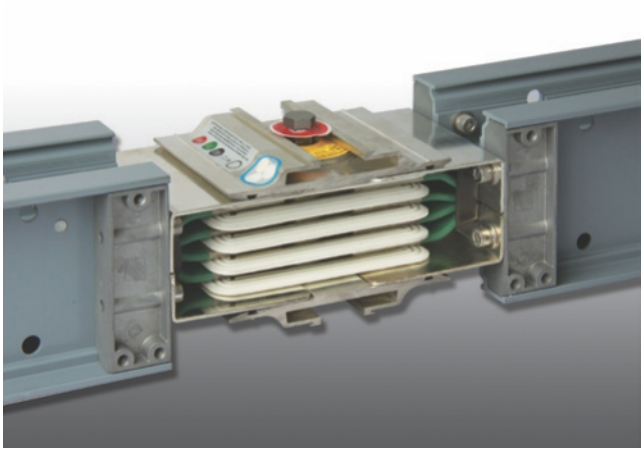
Features

—Ease of installation and safe operation

Safe plug-in operation mechanism

The installation of bus plug can be easily achieved by an ordinary wrench to complete the push in and pull out. The interlock mechanism is designed in compliance with IEC60439-2, preventing on-load connection and fully insuring the safety of the operator.

Unique error-proof device



A unique error-proof device is designed to prevent potential damage on bus bar due to incorrect connection.

With this unique device, the installers can not connect two sections of busway successfully with incorrect phase orientation.

Features

—Ease of installation and safe operation

Unique joint design

- Single bolt joint design is applied to shorten the time of connection by 50% than the traditional design.
- Double headed "break off" joint bolt is applied to tighten the busway with no torque wrench required. Just a common 16mm

socket wrench is used to fasten the fixed captive torque bolt with red indication disc. Belleville spring washers are adopted to ensure pressure evenly applied across the joint.

- Joint insulator with a convex-concave groove edge provides an increased creepage distance.
- Color coded temperature indicator is applied at busway joint to give an early warning when high temperature occurs at the joint.

High quality guarantee by the state of art equipment and process

High-speed sawing machine, imported from Germany, Numerical control machinery is used to precision polish-saw all busbar ends.

The resulting high quality bus end finish does not suffer from the deformed, stretched, inconsistent flat end surfaces common with punched busbar at the most critical interconnection joint locations.

Imported Robert for bus bar welding, the first one adopted for busway manufacturing in China, provides a high quality welding, more precisely and stably than manual process.

High quality guarantee by the state of art equipment and process

Automatic assembly line, the most sate of art in the world, guarantees a stable quality and fast delivery. One section of busway feeder can be completed within 90 seconds.

BB LV ™ busway demonstrates its high quality in careful selection of materials:
high quality raw materials such as copper raw material with purity up to 99.9935%, rivet from Germany, sealant from Canada, 3M epoxy powder from USA, Austria "Tiger" powder and so on.

Standards and certificates

Reference Standards
BB LV busway system complies with:

IEC 60947.2-1997

IEC 60439.1-2004

IEC 60439.2-2000

IEC 60529

JB/T9662-1999

Certificates

KEMA Quality

TEST CERTIFICATE

No. 3301287.101

Issued to:	Jiangsu Wetown Busway Co., Ltd. No.1, Nanzi Road, Technology Park, Xinba Town, Yangzhong City Jiangsu, China
For the product:	low-voltage busbar trunking system (copper bar)
Trade name:	Wettown
Type/Model:	LV-800 A
Ratings:	In: 800 A, Ue: 690 V
Manufactured by:	Jiangsu Wetown Busway Co., Ltd. No.1, Nanzi Road, Technology Park, Xinba Town, Yangzhong City Jiangsu, China
Subject:	Partial type tests
Requirements:	IEC 60439-2, 3rd ed. 2000-03 and Amendment A1 2005-08; Clauses: 8.2.1, 8.2.2, 8.2.4, 8.2.5, 8.2.7, 8.2.9, 8.2.10, 8.2.12 and 8.2.13
Remarks:	-

This Test Certificate is granted on account of an examination by KEMA Quality, the results of which are laid down in report no. 3301287.02, dated August 3, 2010.

The examination has been carried out on one single specimen of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by KEMA Quality is not the responsibility of KEMA Quality

KEMA Quality B.V.
Arnhem, August 3, 2010

H.R.M. Barends
Certification Manager

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T +31 26 356 2000 F +31 26 352 5800 www.kemaquality.com Company registration 09085396

a DEKRA company

KEMA Quality

TEST CERTIFICATE

No. 3301287.100

Issued to:	Jiangsu Wetown Busway Co., Ltd. No.1, Nanzi Road, Technology Park, Xinba Town, Yangzhong City Jiangsu, China
For the product:	low-voltage busbar trunking system (copper bar)
Trade name:	Wettown
Type/Model:	LV-1600 A
Ratings:	In: 1600 A, Ue: 690 V, Icw: 65 kA – 1,0 s
Manufactured by:	Jiangsu Wetown Busway Co., Ltd. No.1, Nanzi Road, Technology Park, Xinba Town, Yangzhong City Jiangsu, China
Subject:	Type tests
Requirements:	IEC 60439-2, 3rd ed. 2000-03 and Amendment A1 2005-08; Clauses: 8.2.1, 8.2.2, 8.2.3, 8.2.4, 8.2.5, 8.2.7, 8.2.9, 8.2.10, 8.2.12 and 8.2.13
Remarks:	-

This Test Certificate is granted on account of an examination by KEMA Quality, the results of which are laid down in report no. 3301287.01, dated August 3, 2010.

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KEMA Quality B.V.
Arnhem, August 3, 2010

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Electrical specification

BB LV™ Series Busway aluminum alloy housing provide an extremely low impedance ground path with small resistance for both copper and aluminum systems. Plug-in outlet grounding is supplied with tin-plated copper tabs bolted to the plug in box housing for superior continuity through standard bus plug ground stabs.

Grounding resistance of BB LV busway system (temperature=20℃)

LVC

Table 10-1

Current	Internal 50% ground bus resistance(mΩ/m)	Integrated housing ground DC resistance(mΩ/m)
400	197.4	
630	148.1	22.88
800	107.7	21.60
1000	91.1	20.83
1250	66.6	19.19
1600	47.4	17.16
2000	37.3	15.60
2500	28.3	13.76
3200	24.9	9.14
4000	18.6	8.12
5000	14.2	7.13
6300	11.0	5.20

LVA

Table 10-2

Current	Internal 50% ground bus resistance(mΩ/m)	Integrated housing ground DC resistance(mΩ/m)
250	291.7	22.88
400	233.3	22.01
630	179.5	20.83
800	147.7	19.84
1000	112.2	18.29
1250	83.9	16.48
1600	61.7	14.44
2000	56.1	9.59
2500	42.0	8.60
3200	30.9	7.50
4000	25.5	6.80

Electrical specification

Short-circuit ratings

BB LV busway provides a stable and efficient power transmission, with a high short-circuit withstand capability.

BB LV busway has been certified by KEMA to be in compliance

with IEC60439-1 and-2 short circuit withstand test for 1 second.

Copper conductor — Table 11-1

Current	Rated short circuit withstand current(ICW)KA	Rated peak withstand current(IPK)KA
400 630 800	30	63
1000 1250	50	105
1600 2000 2500	65	143
3200 4000 5000 6300	120	264

Aluminum conductor — Table 11-2

Current	Rated short circuit withstand current(ICW)KA	Rated peak withstand current(IPK)KA
250 400	20	40
630 800	30	63
1000 1250	50	105
1600	65	143
2000 2500	80	176
3200 4000	120	264

Electrical specification

KEMA-LV ALUMINIUM BUSWAY Tech List (Operation Temperature 20°)

Current	Bars per phase	AC Resistance (mΩ)	Reactance/meter (mΩ)	Impedance/meter (mΩ)	voltage drop per meter (V) power factor cos φ				
					0,6	0,7	0,8	0,9	1
250	1	0,203	0,031	0,205	0,064	0,071	0,078	0,085	0,088
400	1	0,162	0,028	0,165	0,083	0,092	0,101	0,110	0,112
630	1	0,125	0,024	0,127	0,103	0,114	0,125	0,134	0,136
800	1	0,101	0,021	0,104	0,108	0,119	0,130	0,139	0,140
1000	1	0,077	0,018	0,079	0,105	0,116	0,126	0,134	0,134
1250	1	0,058	0,015	0,060	0,101	0,111	0,120	0,127	0,125
1600	1	0,043	0,012	0,044	0,098	0,107	0,115	0,121	0,118
2000	2	0,039	0,011	0,040	0,111	0,121	0,130	0,137	0,134
2500	2	0,029	0,008	0,030	0,103	0,113	0,121	0,128	0,125
3200	2	0,021	0,005	0,022	0,093	0,103	0,111	0,119	0,118
4000	2	0,016	0,003	0,017	0,085	0,094	0,103	0,111	0,113

Current	Outline Dimension		Weight Kg/meter		short circuit test current KA	(Icw) KA	(Ipk) KA	IP	Rated insulation voltage Ui	Rated operation voltage Ue	Rated impulse withstand volatge Uimp
	Width (W)	Height(H)	4W 100%N	5W 100%N 50%PE							
250	125	103	6,7	7,1	20	20	40	Feeder IP66 Plug-in IP54	AC1000V	AC690V	8KV
400	125	113	7,4	7,8							
630	125	128	8,4	8,9	30	30	63				
800	125	142	9,4	10,0							
1000	125	167	11,1	11,9	50	50	105				
1250	125	202	13,5	14,6							
1600	125	252	16,9	18,3	80	80	176				
2000	125	320	21,2	22,8							
2500	125	390	26,0	28,1							
3200	125	490	32,8	35,7	120	120	264				
4000	125	570	39,2	42,9							

Electrical specification

Resistance, reactance, impedance and voltage drop

BB LV™ Series Busway has low voltage-drop values. Minimum reactance (X) is due to very close bar spacings (sandwiched construction) and a non-magnetic housing. Values shown are identical for plug-in and feeder. 50Hz values shown. For 60Hz, multiply reactance (X) by 1.2048 and resistance values do not change.

Aluminum busway (50Hz, temperature = 20℃) Table 12-1

Current	Resistance/ (mΩ/m)	Reactance/ (mΩ/m)	Impedance/ (mΩ/m)	Voltage drop per meter(V)				
				Power factor cosφ				
				0.6	0.7	0.8	0.9	1
250	0.203	0.031	0.205	0.064	0.071	0.078	0.085	0.088
400	0.162	0.028	0.165	0.083	0.092	0.101	0.110	0.112
630	0.125	0.024	0.127	0.103	0.114	0.125	0.134	0.136
800	0.101	0.021	0.104	0.108	0.119	0.130	0.139	0.140
1000	0.077	0.018	0.079	0.105	0.116	0.126	0.134	0.134
1250	0.058	0.015	0.060	0.101	0.111	0.120	0.127	0.125
1600	0.043	0.012	0.044	0.098	0.107	0.115	0.121	0.118
2000	0.039	0.011	0.040	0.111	0.121	0.130	0.137	0.134
2500	0.029	0.008	0.030	0.103	0.113	0.121	0.128	0.125
3200	0.021	0.005	0.022	0.093	0.103	0.111	0.119	0.118
4000	0.016	0.003	0.017	0.085	0.094	0.103	0.111	0.113

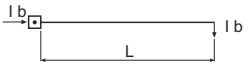
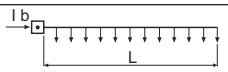
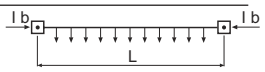
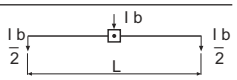
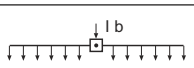
VOLTAGE DROP

If the length of the line is particulay long (>100m) it is necessary to check the voltage drop (hereinafter specified as v.d.). If the installation is a three phase system and the power factor is not than coso=0.7 the v.d. may be calculated with the coefficients of the voltage drop specified in the technical data table.

$$\frac{k*L*n}{In} = r*b = \frac{V\%}{Vn} = Vd$$

Defined

k=the voltage drop percentage factor(%) Table 12-1
L=length of busway line (m)
b=the distribution factor of the current
n=the load that supplies the busway (amp))
Vn= the voltage power supply of the busway
In=the current that supplies the busway
r=result
Vd=final voltage drop percentage factor

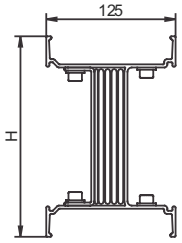
b=2	supplies at one end and load at the end of the line	
b=1	supplies at one end and with load evenly distributed	
b=0,5	supplies at both ends and with load evenly distributed	
b=0,5	central supply with loads at boths ends	
b=0,25	central supply with load distributed evenly	

Physical data

Straight length

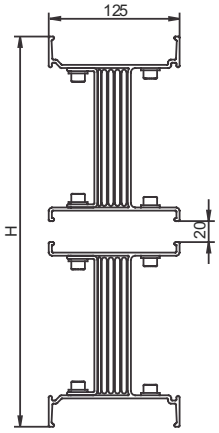
Feeder, the straight length without outlets, may be installed either horizontally or vertically.

The standard length is either 3000mm or 4000mm. The minimum length is 460mm.



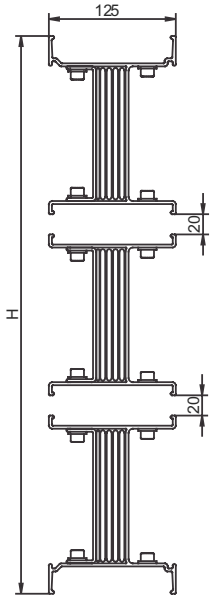
Single-deck
LVA-02～06
LVC-04～25

Fig 13-1



Dual-deck
LVA-20～40
LVC-32～50

Fig 13-2



Tripple-deck
LVC-63

Fig 13-3

Copper conductor — Table 13-1

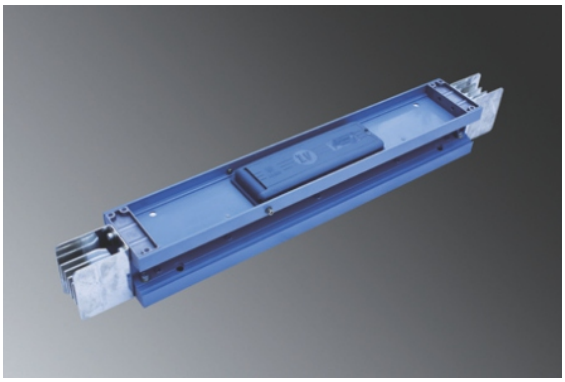
Current	Dimension		Weight per meter (kg/m)		Fig.
	Width (W)	Height (H)	4wire 100%N	5wire 100%N, 50%PE	
400 630	125	103	11.8	12.9	13-1
800	125	118	14.7	16.2	
1000	125	128	16.6	18.4	
1250	125	153	21.3	23.7	
1600	125	188	28.3	31.6	
2000	125	223	34.9	39.1	
2500	125	273	44.6	50.2	
3200	125	352	53.3	59.6	13-2
4000	125	432	68.8	77.3	
5000	125	532	88.2	99.4	
6300	125	701	114.5	128.9	13-3

Aluminum conductor — Table 13-2

Current	Dimension		Weight per meter (kg/m)		Fig.
	Width (W)	Height (H)	4wire 100%N	5wire 100%N, 50%PE	
250	125	103	6.7	7.1	13-1
400	125	113	7.4	7.8	
630	125	128	8.4	8.9	
800	125	143	9.4	10.0	
1000	125	168	11.1	11.9	
1250	125	203	13.5	14.6	
1600	125	253	16.9	18.3	
2000	125	322	21.2	22.8	13-2
2500	125	392	26.0	28.1	
3200	125	492	32.8	35.7	
4000	125	572	39.2	42.9	

Fittings

Plug-in straight length



The plug-in busway has a flexible design with optional plug outlets on both sides. A maximum of 5 outlets can be fixed on each side of 3m standard length. The customer may reserve plug outlets for extension in the future when changes occur in terms of the equipment load or busway run. Both base plate and socket cover are set for each plug outlet. Base plate helps to prevent fingers from contacting live conductors (IP2X) by accident, on which the phase sequences of conductors are identified. Socket cover prevents the conductive contacting surface from being contaminated. A pad may be used to keep off dust or moisture.

Standard length is 3000mm or 4000mm. The minimum length is 720mm. The minimum length of L1 (distance from the center of plug outlet to standard end) is 360mm. The minimum length of L2 (distance between the centers of two adjacent plug outlets) is 570mm.

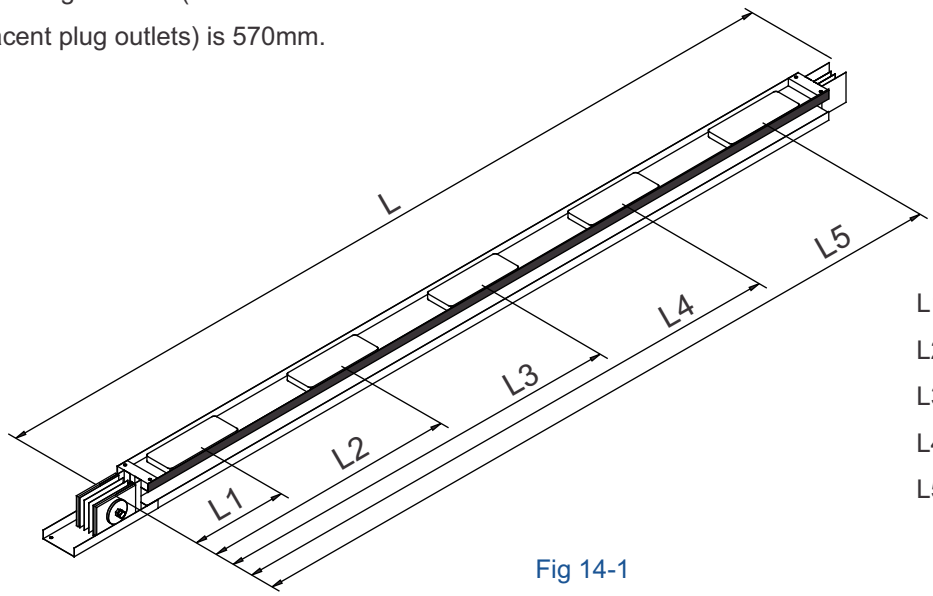


Fig 14-1

L1=0.36
L2=0.93
L3=1.50
L4=2.07
L5=2.64

Standard length:

LVC: L=1、2、3m LVA: L=1、2、3m

Optional length:

LVC: L=0.72～2.99m LVA: L=0.72～4m

Fittings

L flatwise elbow

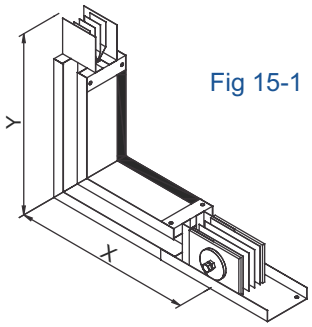


Fig 15-1

Table 15-1

Rated current (A)	Copper busway size (mm)				Aluminium busway size (mm)			
	Minium		Standard		Minium		Standard	
	X	Y	X	Y	X	Y	X	Y
250					341	341	450	450
400	341	341	400	400	351	351	450	450
630	341	341	400	400	366	366	450	450
800	351	351	400	400	381	381	450	450
1000	366	366	400	400	406	406	450	450
1250	391	391	400	400	441	441	500	500
1600	421	421	550	550	491	491	500	500
2000	461	461	550	550	560	560	850	850
2500	511	511	550	550	630	630	850	850
3200	590	590	800	800	730	730	850	850
4000	670	670	800	800	810	810	850	850
5000	770	770	800	800				
6300	939	939	950	950				

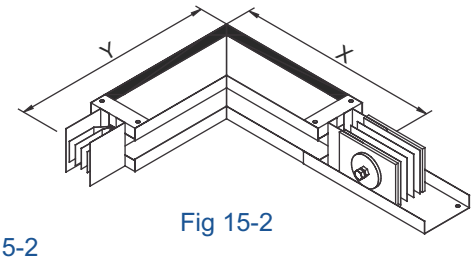


Fig 15-2

L edgewise elbow

Table 15-2

Rated current (A)	Copper busway size (mm)				Aluminium busway size (mm)			
	Minium		Standard		Minium		Standard	
	X	Y	X	Y	X	Y	X	Y
250					363	363	400	400
400	363	363	400	400	363	363	400	400
630	363	363	400	400	363	363	400	400
800	363	363	400	400	363	363	400	400
1000	363	363	400	400	363	363	400	400
1250	363	363	400	400	363	363	400	400
1600	363	363	400	400	363	363	400	400
2000	363	363	400	400	363	363	400	400
2500	363	363	400	400	363	363	400	400
3200	363	363	400	400	363	363	400	400
4000	363	363	400	400	363	363	400	400
5000	363	363	400	400				
6300	363	363	400	400				

Fittings

Z flatwise offset

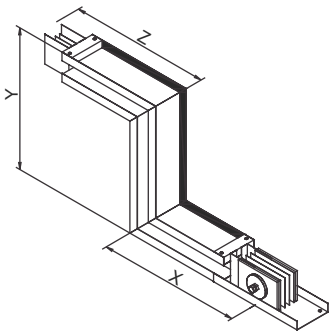


Fig 16-1

Table 16-1

Rated current (A)	Copper busway size (mm)						Aluminium busway size (mm)					
	Minium			Standard			Minium			Standard		
	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
250							341	326	341	450	500	450
400	341	326	341	400	450	400	351	346	351	450	500	450
630	341	326	341	400	450	400	366	376	366	450	500	450
800	351	346	351	400	450	400	381	406	381	450	500	450
1000	366	376	366	400	450	400	406	456	406	450	500	450
1250	391	426	391	400	450	400	441	526	441	500	650	500
1600	421	486	421	550	700	550	491	626	491	500	650	500
2000	461	566	461	550	700	550	560	764	560	850	1300	850
2500	511	666	511	550	700	550	630	904	630	850	1300	850
3200	590	824	590	800	1200	800	730	1104	730	850	1300	850
4000	670	984	670	800	1200	800	810	1264	810	850	1300	850
5000	770	1184	770	800	1200	800						
6300	939	1522	939	950	1550	950						

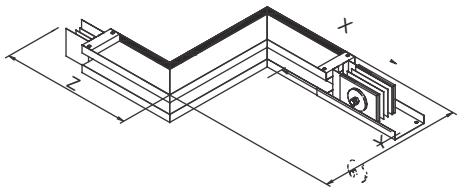


Fig 16-2

Z edgewise offset

Table 16-2

Rated current (A)	Copper busway size (mm)						Aluminium busway size (mm)					
	Minium			Standard			Minium			Standard		
	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
250							363	370	363	400	400	400
400	363	370	363	400	400	400	363	370	363	400	400	400
630	363	370	363	400	400	400	363	370	363	400	400	400
800	363	370	363	400	400	400	363	370	363	400	400	400
1000	363	370	363	400	400	400	363	370	363	400	400	400
1250	363	370	363	400	400	400	363	370	363	400	400	400
1600	363	370	363	400	400	400	363	370	363	400	400	400
2000	363	370	363	400	400	400	363	370	363	400	400	400
2500	363	370	363	400	400	400	363	370	363	400	400	400
3200	363	370	363	400	400	400	363	370	363	400	400	400
4000	363	370	363	400	400	400	363	370	363	400	400	400
5000	363	370	363	400	400	400						
6300	363	370	363	400	400	400						

Fittings

Flatwise U

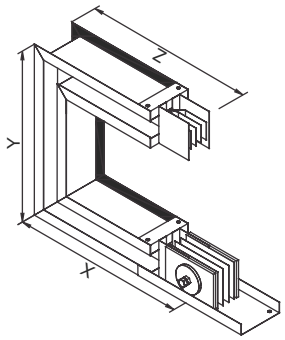


Fig 17-1

Table 17-1

Rated current (A)	Copper busway size (mm)						Aluminium busway size (mm)					
	Minium			Standard			Minium			Standard		
	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
250							341	326	341	450	500	450
400	341	326	341	400	450	400	351	346	351	450	500	450
630	341	326	341	400	450	400	366	376	366	450	500	450
800	351	346	351	400	450	400	381	406	381	450	500	450
1000	366	376	366	400	450	400	406	456	406	450	500	450
1250	391	426	391	400	450	400	441	526	441	500	650	500
1600	421	486	421	550	700	550	491	626	491	500	650	500
2000	461	566	461	550	700	550	560	764	560	500	650	500
2500	511	666	511	550	700	550	630	904	630	850	1300	850
3200	590	824	590	800	1200	800	730	1104	730	850	1300	850
4000	670	984	670	800	1200	800	810	1264	810	850	1300	850
5000	770	1184	770	800	1200	800						
6300	939	1522	939	950	1550	950						

Edgewise U

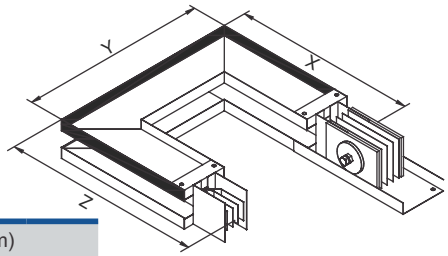


Fig 17-2

Table 17-2

Rated current (A)	Copper busway size (mm)						Aluminium busway size (mm)					
	Minium			Standard			Minium			Standard		
	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
250							363	370	363	400	400	400
400	363	370	363	400	400	400	363	370	363	400	400	400
630	363	370	363	400	400	400	363	370	363	400	400	400
800	363	370	363	400	400	400	363	370	363	400	400	400
1000	363	370	363	400	400	400	363	370	363	400	400	400
1250	363	370	363	400	400	400	363	370	363	400	400	400
1600	363	370	363	400	400	400	363	370	363	400	400	400
2000	363	370	363	400	400	400	363	370	363	400	400	400
2500	363	370	363	400	400	400	363	370	363	400	400	400
3200	363	370	363	400	400	400	363	370	363	400	400	400
4000	363	370	363	400	400	400	363	370	363	400	400	400
5000	363	370	363	400	400	400						
6300	363	370	363	400	400	400						

Fittings

Flatwise Tee

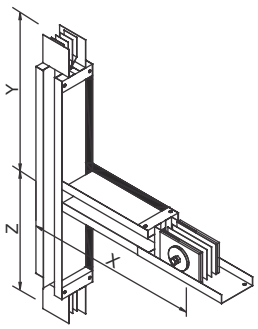


Fig 18-1

Table 18-1

Rated current (A)	Copper busway size (mm)						Aluminium busway size (mm)					
	Minium			Standard			Minium			Standard		
	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
250							341	290	290	450	350	350
400	341	290	290	400	350	350	351	295	295	450	350	350
630	341	290	290	400	350	350	366	302	302	450	350	350
800	351	295	295	400	350	350	381	310	310	450	350	350
1000	366	302	302	400	350	350	406	322	322	450	350	350
1250	391	315	315	400	350	350	441	340	340	500	400	400
1600	421	330	330	550	400	400	491	365	365	500	400	400
2000	461	350	350	550	400	400	560	399	399	850	550	550
2500	511	375	375	550	400	400	630	434	434	850	550	550
3200	590	414	414	800	550	550	730	484	484	850	550	550
4000	670	454	454	800	550	550	810	524	524	850	550	550
5000	770	504	504	800	550	550						
6300	939	589	589	950	600	600						

Edgewise Tee

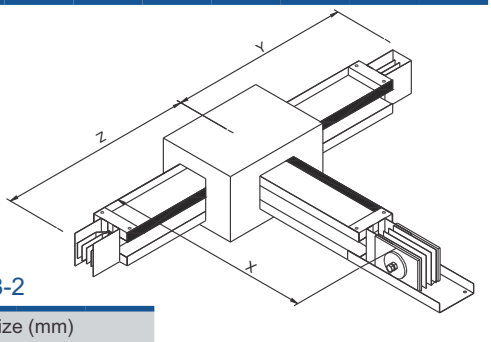


Fig 18-2

Table 18-2

Rated current (A)	Copper busway size (mm)						Aluminium busway size (mm)					
	Minium			Standard			Minium			Standard		
	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
250							363	411	411	400	500	500
400	363	411	411	400	500	500	363	421	421	400	500	500
630	363	411	411	400	500	500	363	436	436	400	500	500
800	363	426	426	400	500	500	363	451	451	400	500	500
1000	363	436	436	400	500	500	363	476	476	400	500	500
1250	363	461	461	400	500	500	363	511	511	400	600	600
1600	363	496	496	400	600	600	363	561	561	400	600	600
2000	363	531	531	400	600	600	363	630	630	400	900	900
2500	363	581	581	400	600	600	363	700	700	400	900	900
3200	363	660	660	400	900	900	363	800	800	400	900	900
4000	363	740	740	400	900	900	363	880	880	400	900	900
5000	363	840	840	400	900	900						
6300												

Fittings

Combination Elbow

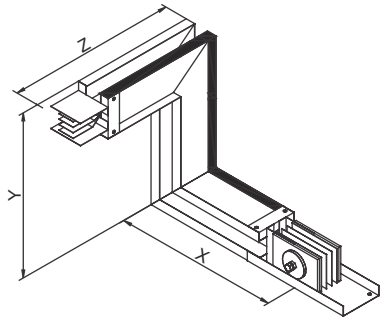


Fig 19-1

Table 19-1

Rated current (A)	Copper busway size (mm)						Aluminium busway size (mm)					
	Minium			Standard			Minium			Standard		
	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
250							341	348	363	450	450	400
400	341	348	363	400	400	400	351	358	363	450	450	400
630	341	348	363	400	400	400	366	373	363	450	450	400
800	351	358	363	400	400	400	381	388	363	450	450	400
1000	366	373	363	400	400	400	406	413	363	450	450	400
1250	391	398	363	400	400	400	441	448	363	500	500	400
1600	421	428	363	550	550	400	491	498	363	500	500	400
2000	461	468	363	550	550	400	560	567	363	850	850	400
2500	511	518	363	550	550	400	630	637	363	850	850	400
3200	590	597	363	800	800	400	730	737	363	850	850	400
4000	670	677	363	800	800	400	810	817	363	850	850	400
5000	770	777	363	800	800	400						
6300	939	946	363	950	950	400						

Fittings

Flange end

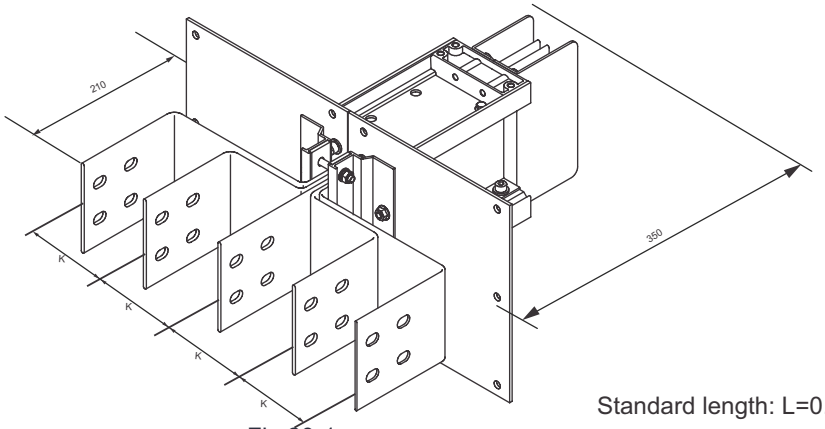
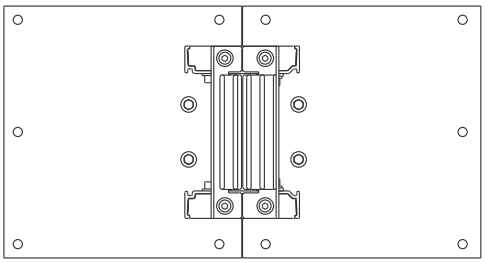


Fig 20-1

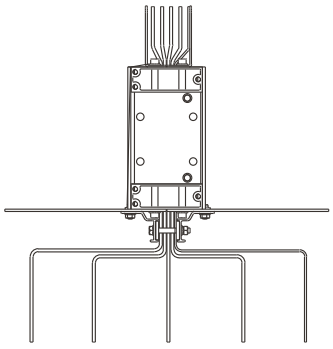
Standard length: L=0.56m

Nonstandard length: L=0.56～2.00m



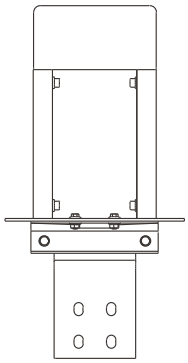
Section view

Fig 20-2



Top view

Fig 20-3



Side view

Fig 20-4

Flanged end and end tap box can be used in connection with any type of switchgear cabinets and transformers.

Flanged end busbar spacing can be customized on specific application.

Note:

All the dimensions provided are for standard products. Please contact our engineers for customized dimensions.

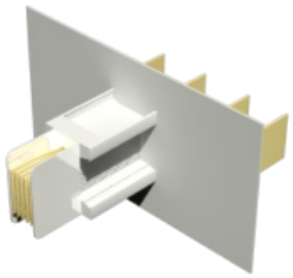
Fittings

Flanged end cut out and drilling pattern

LVC

Table 21-1

Rated Current (A)	3L+N+PE Size (mm)				3L+N Size (mm)			Fig
	H	A	B	C	A	B	C	
400	103	490	-	-	370	-	-	21-1
630	103	490	-	-	370	-	-	
800	118	490	-	-	370	-	-	
1000	128	490	-	-	370	-	-	
1250	153	490	-	-	370	-	-	
1600	188	490	-	-	370	-	-	
2000	223	490	-	-	370	-	-	
2500	273	490	-	-	370	-	-	
3200	352	490	140	136	370	140	136	21-2
4000	432	490	165	166	370	165	166	
5000	532	490	200	196	370	200	196	
6300	701	490	190	192.5	370	190	192.5	21-3



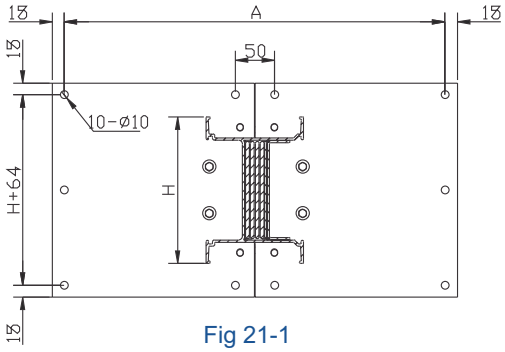


Fig 21-1

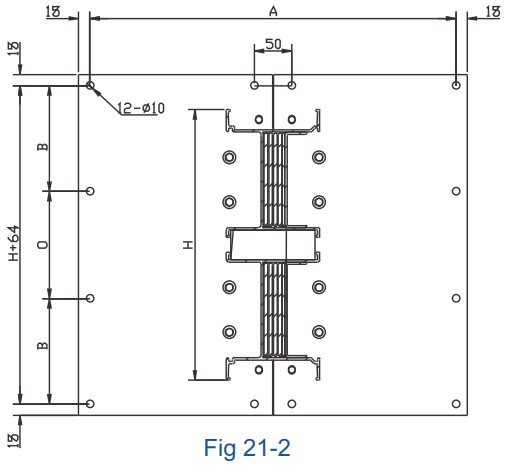


Fig 21-2

LVA

Table 21-2

Rated Current (A)	3L+N+PE Size (mm)				3L+N Size (mm)			Fig
	H	A	B	C	A	B	C	
250	103	490	-	-	370	-	-	21-1
400	113	490	-	-	370	-	-	
630	128	490	-	-	370	-	-	
800	143	490	-	-	370	-	-	
1000	168	490	-	-	370	-	-	
1250	203	490	-	-	370	-	-	
1600	253	490	-	-	370	-	-	
2000	322	490	130	126	370	130	126	21-2
2500	392	490	150	156	370	150	156	
3200	492	490	185	186	370	185	186	
4000	572	490	210	216	370	210	216	

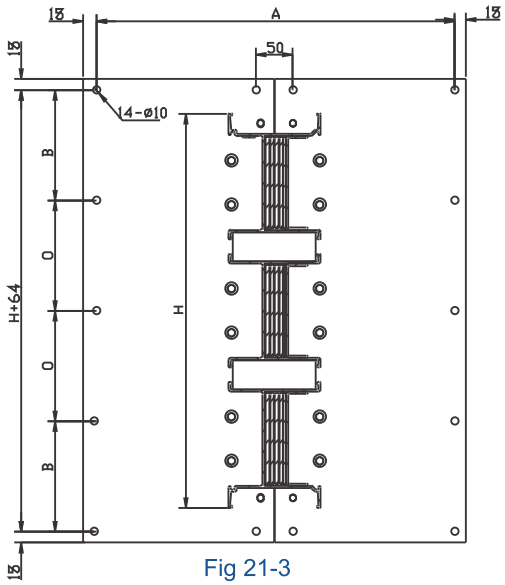
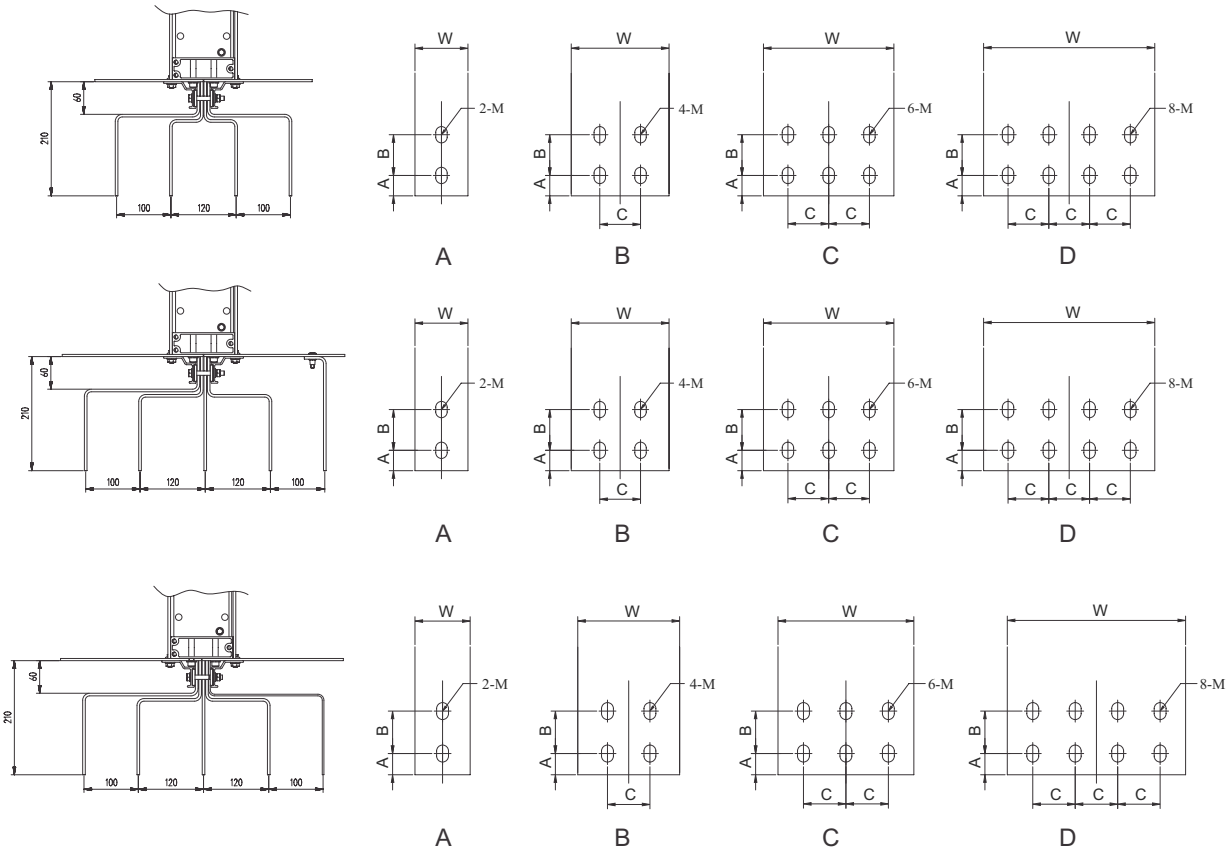


Fig 21-3

Fittings

Flanged end bar hole pattern



Copper conductor

Table 22-1

Rated Current	A	B	C	M	Type
400	25	50		Φ12	A
630	25	50		Φ14×20	A
800	25	50		Φ14×20	A
1000	25	50		Φ14×20	A
1250	25	50	50	Φ14×20	B
1600	25	50	50	Φ14×20	B
2000	25	50	50	Φ14×20	C
2500	25	50	50	Φ14×20	D
3200	25	50	50	Φ14×20	B
4000	25	50	50	Φ14×20	C
5000	25	50	50	Φ14×20	D
6300	25	50	50	Φ14×20	C

Aluminum conductor

Table 22-2

Rated Current	A	B	C	M	Type
250	25	50		Φ14×20	A
400	25	50		Φ14×20	A
630	25	50		Φ14×20	A
800	25	50		Φ14×20	A
1000	25	50	50	Φ14×20	B
1250	25	50	50	Φ14×20	C
1600	25	50	50	Φ14×20	C
2000	25	50	50	Φ14×20	D
2500	25	50	50	Φ14×20	C
3200	25	50	50	Φ14×20	C
4000	25	50	50	Φ14×20	D

Fittings

Expansion joint

Expansion length is the transition section compensating for thermal expansion, it is normally set each 60m in linear distance.

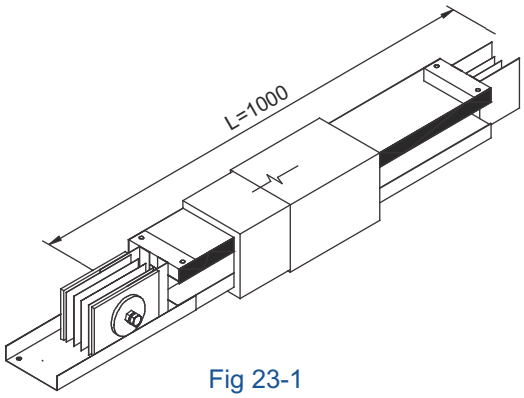


Fig 23-1

Transition joint

This transition section is used for reducing busbar size to the final load, it provides users with more economic power transmission and distribution method.

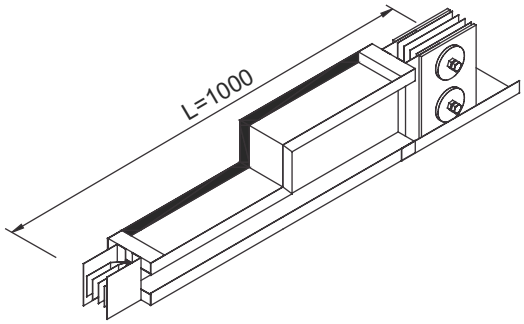


Fig 23-2

Transposition joint

Transposition section is the transition parts used for changing phase sequence of the busbar; its minimum size is 1500mm. The phase sequence of both sides has to be provided by the customer.

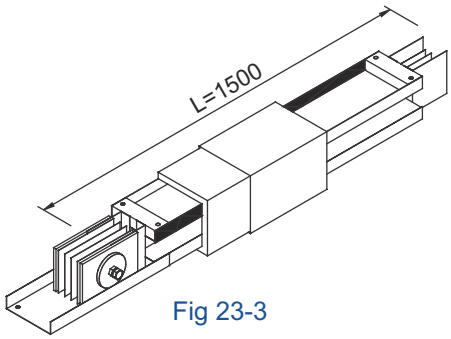


Fig 23-3

Terminal cover

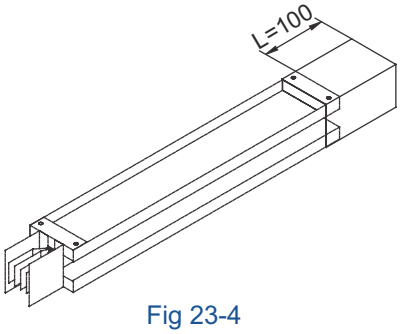


Fig 23-4

Fittings

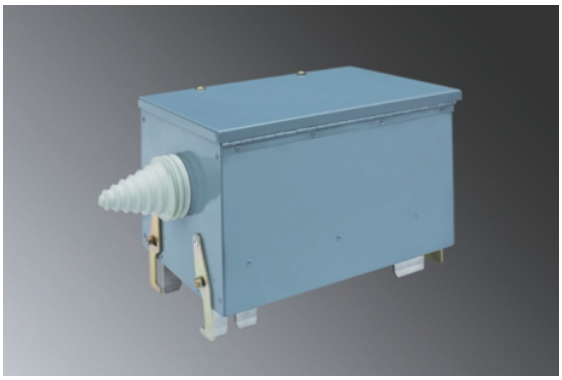
Bus plug

LV bus plug is adopted to apply electrical power directly to the load from the busway system. Fully considering customer's requirements, LV bus plug offers the options of circuit breaker or fuse.

Bus plug with circuit breaker

• Circuit breaker protection can be available with a current range from 16A-1000A.

• Load protection in the plug can be 3-Pole or 4-Pole circuit breakers, including accessories of breakers such as rotary handles, shunt release, thermal magnetic release and leakage-current protection module.



Plug with fuse

• Plug-boxes with fuses can be produced according to customer specifications.

• Unique fail-safe base pins

the plug is equipped with a positioning device that prevents incorrect phase installations.

plug Pins: All the pins are silver-plated to improve the electrical conductivity.

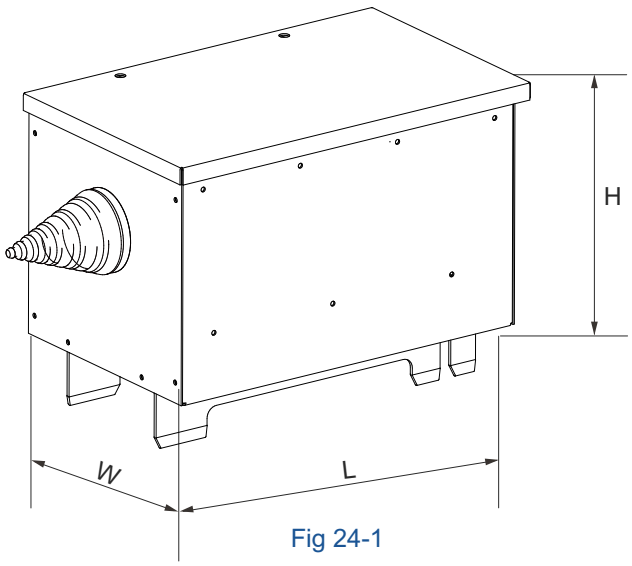


Fig 24-1

Plug-in box Dimensions (L×W×H)mm

• For non-standard dimension, please contact the manufacturer.

Table 24-1

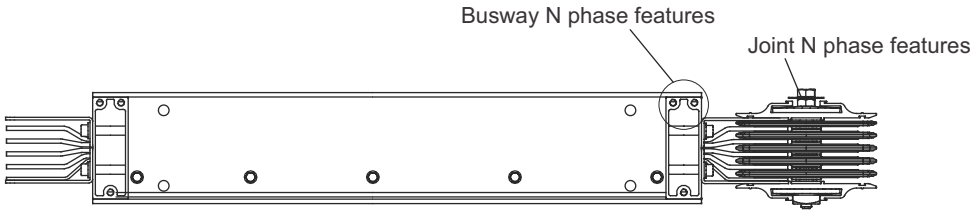
Current ratings (A)	Plug-in box Dimensions		
	L(mm) Length	W(mm) Width	H(mm) Height
100	360	250	250
160	400	250	250
250	520	270	270
400	650	310	310
630	800	340	340
800/1000	1200	420	350

Note:

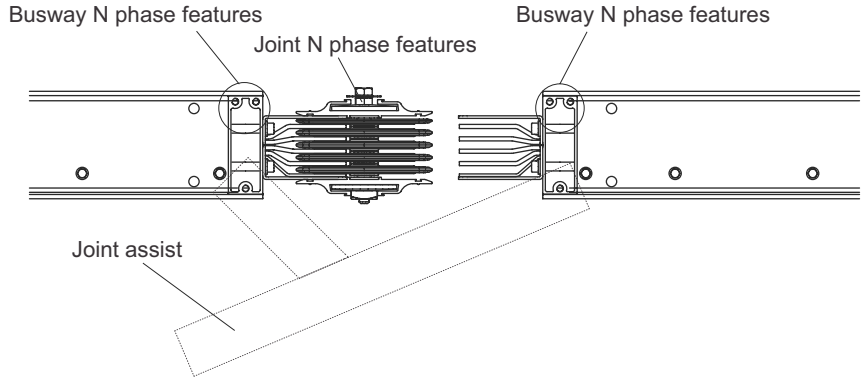
Table 24-1 size is based on the size of common circuit breaker 3p/4p.

Installation of busway and joint

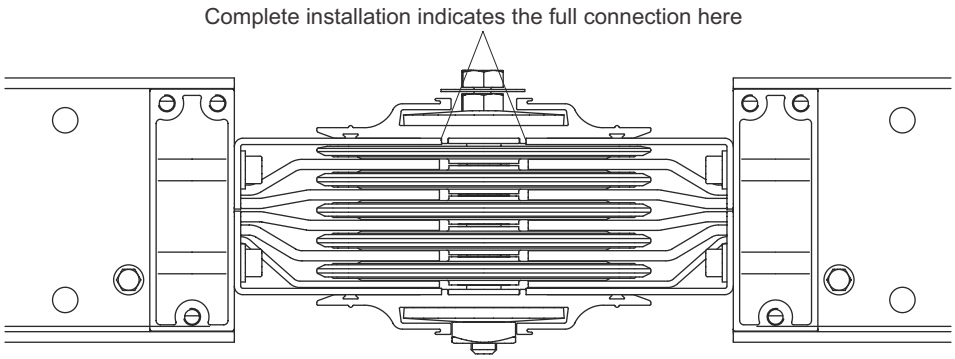
- Put the busway on the overhead support;
- Loosen the double-headed torque bolt of joint;
- Assemble the joint to busway with “N” phase matching with each other (Note: failure to fix the bolt may cause fall of joint).



(3) Assemble the next busway to the other side of joint. (Joint assist will make the installation easier)

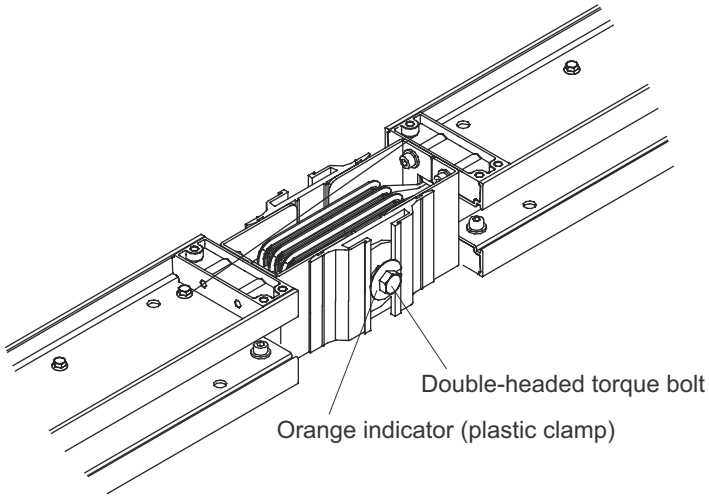


(4) Position the busway and joint to make sure reliable and complete connection.

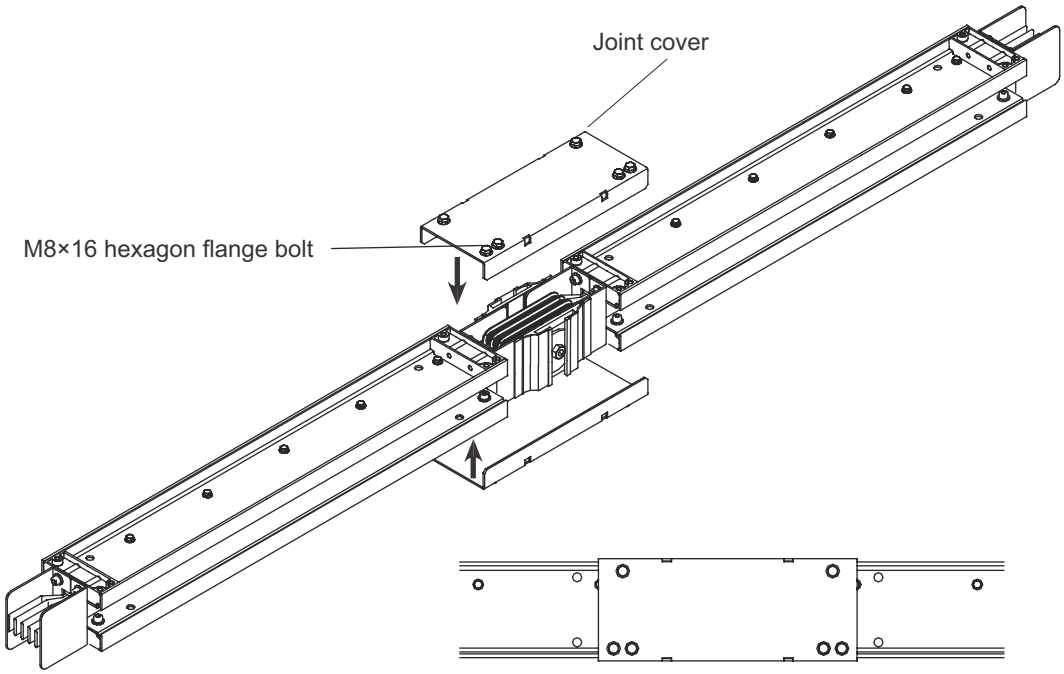


Installation of busway and joint

(5) Tighten the double-headed torque bolt with a spanner until the top bolt head shears off and orange indicator falls off to achieve reliable connection of joint.



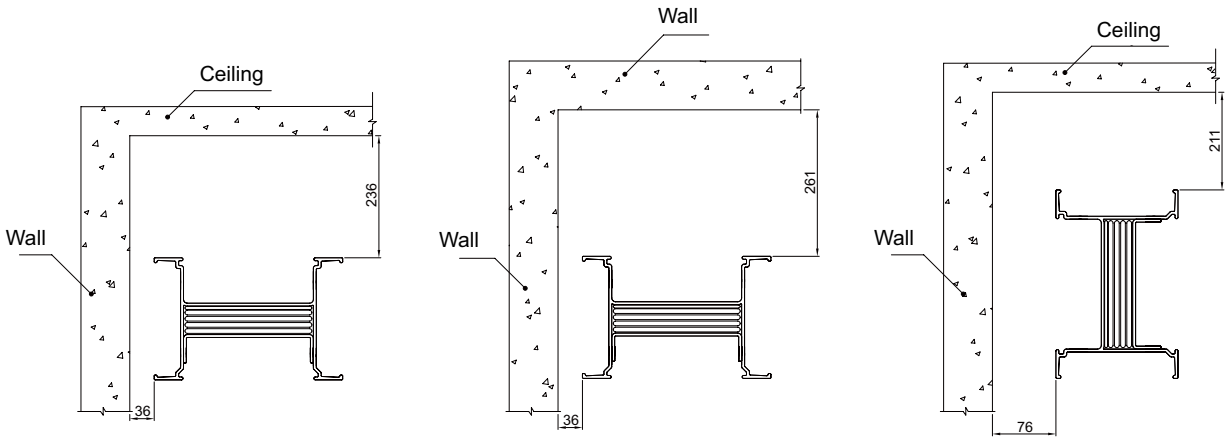
(6) Install the top, bottom cover plate and tighten the bolt by following steps shown below.



(7) Megohm the busway installed with joint, insulation resistance reading shall be more than 5 MΩ.

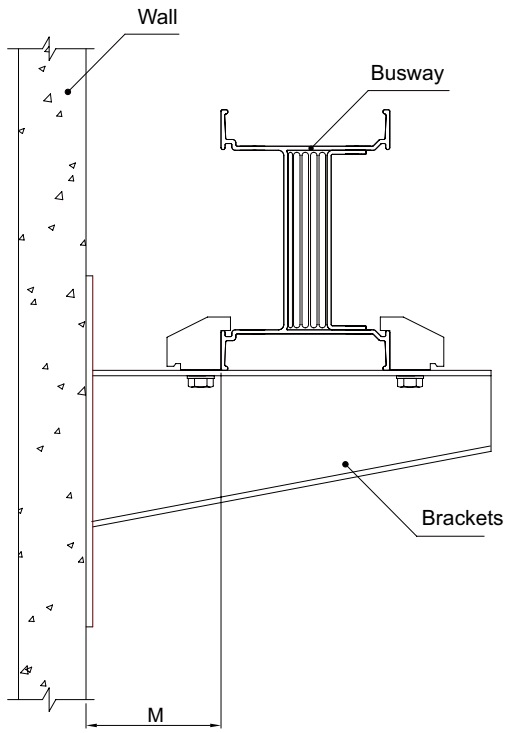
Installation

Minimum distance required for installation



Minimum clearance required for plug-in box installation

When the busbar is vertically installed, you must reserve enough room for plug-in box.



Vertical installation

Rated current of plugs (A)	100	160	250	400	630	800	1000
L(mm)	150	175	195	210	230	260	300

Note: All dimensions are in mm.

Installation

Vertical installation

When installing a vertical bus run, please refer to the figure for the dimension of the access holes. Please ensure that the spacing between every two runs of busway exceeds 350mm, especially if there are two or more vertical runs of busway installed in the same riser. Please refer to the figure below:

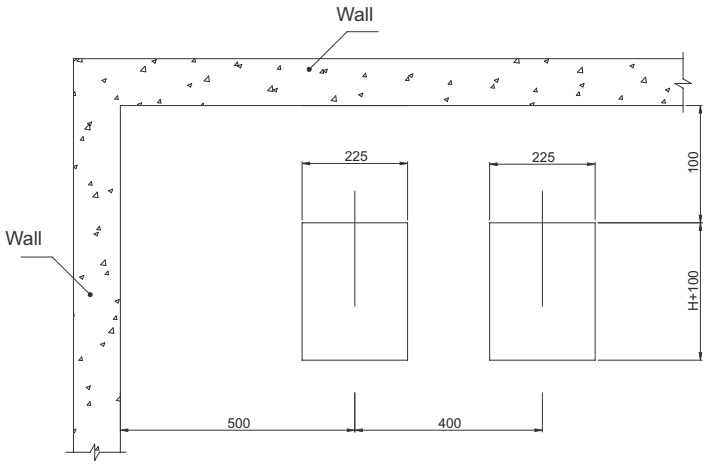


Fig 28-1

Installation for Vertical Spring Hanger

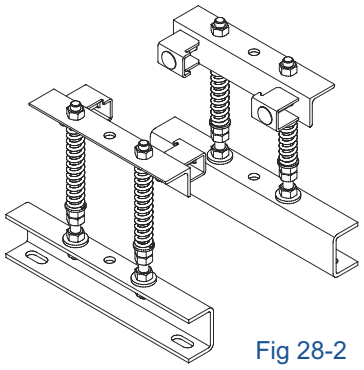


Fig 28-2

Vertical Spring Hanger

This support is used per piece of 3 meters or less in vertical installation

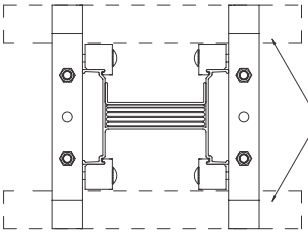


Fig 28-3

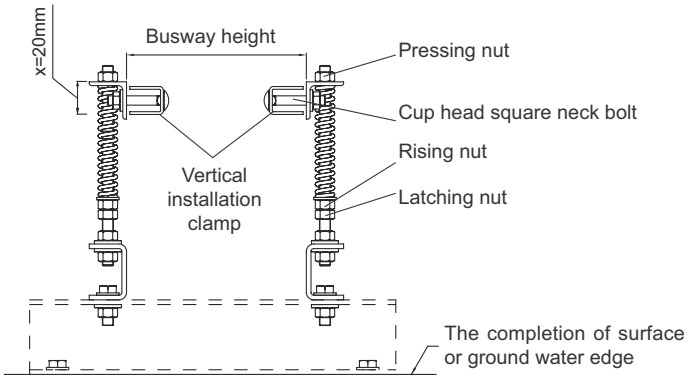


Fig 28-4

Installation Schematic Diagram

Installation

Installation for Vertical Fixed Hanger

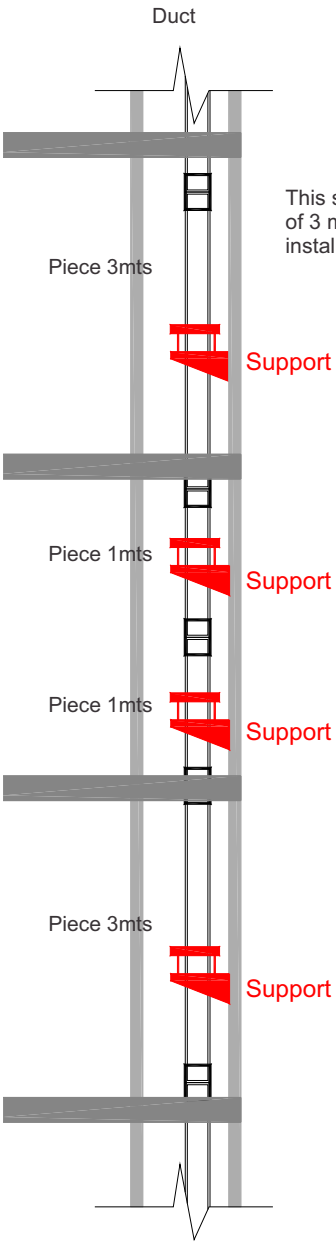


Fig 29-4

Vertical Fixed Hanger

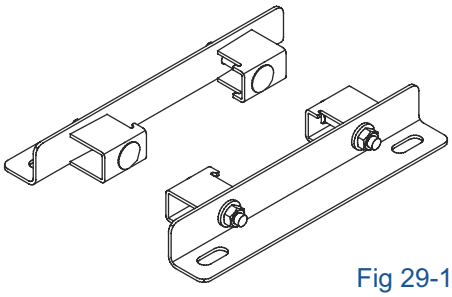


Fig 29-1

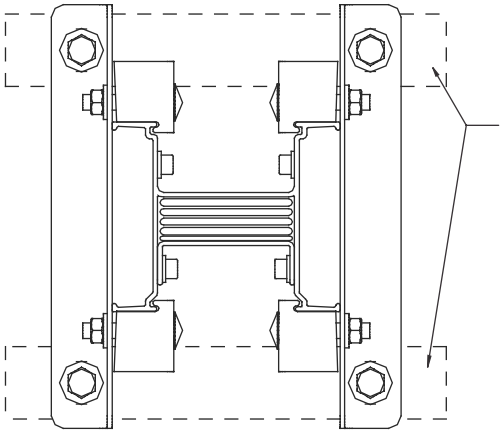
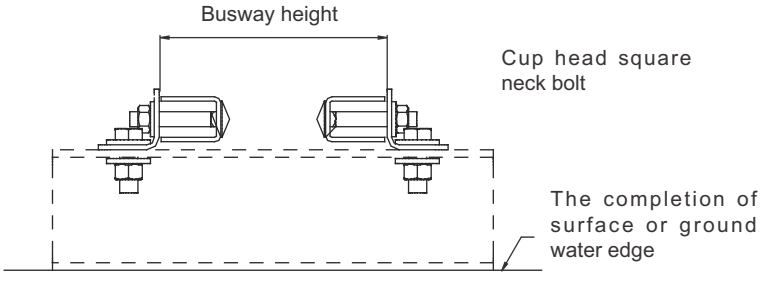


Fig 29-2



Installation Schematic Diagram

Fig 29-3

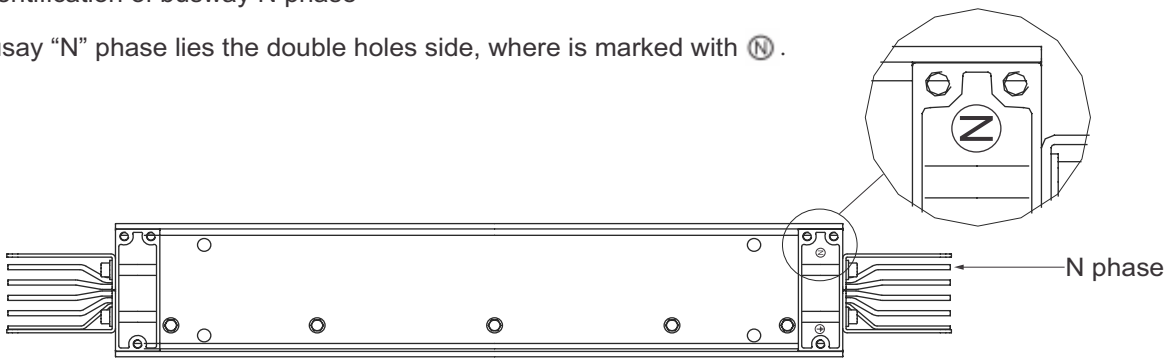
Installation of busway and joint

1. Construction features identification

Maintain N phase alignment of busway and joint during installation.

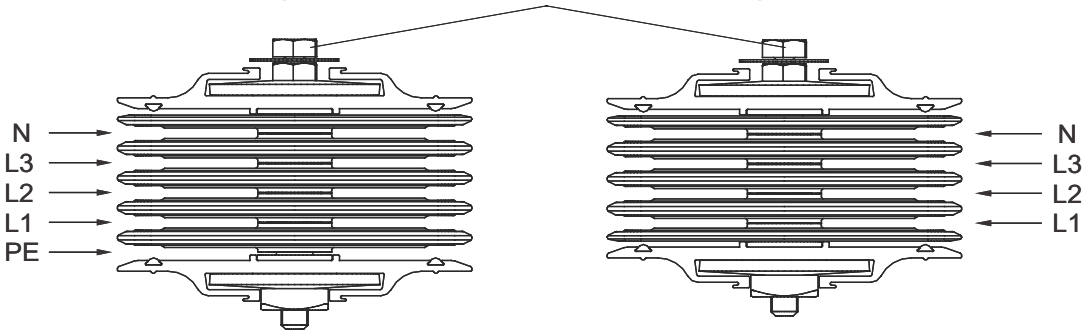
(1) Identification of busway N phase

Busay “N” phase lies the double holes side, where is marked with Ⓝ.



(2) Identification of joint N phase

Joint “N” phase lies the double-headed torque bolt side.



2. Installation tools:

tapeline, megohm, φ19 tubular spanner, 12# ring spanner(hexagon open spanner) etc.

3. Installation steps

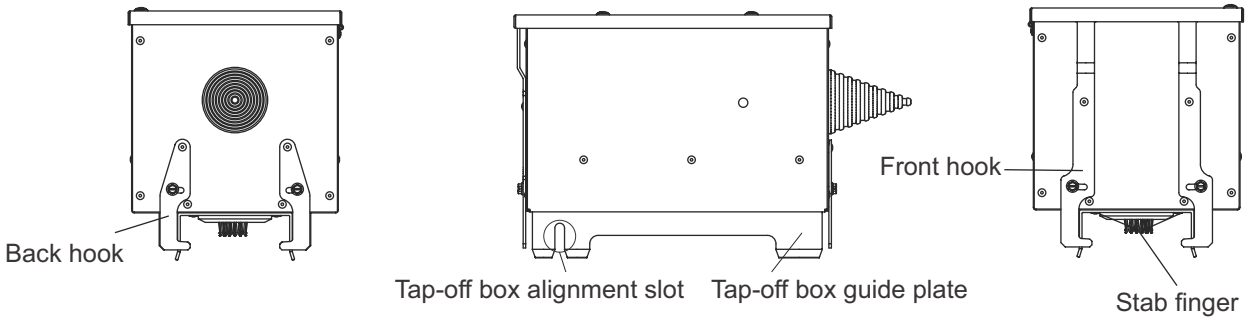
(1) Pre-installation procedure

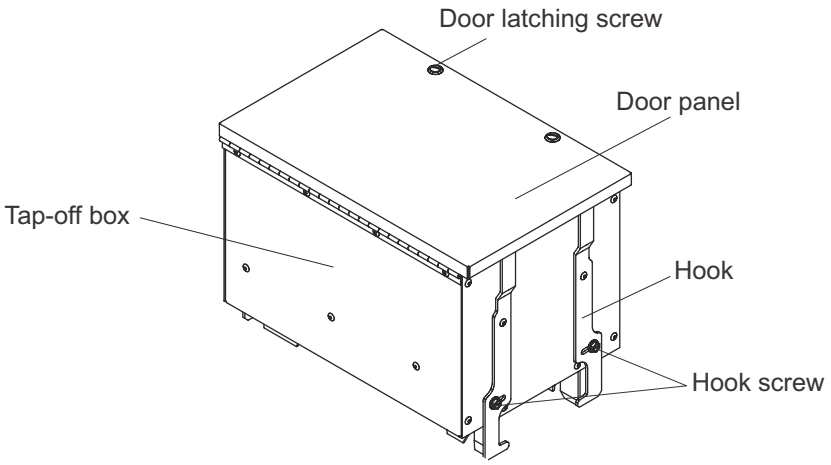
- Check out the busway and joint per the installation material;
- Inspect the busway and joint, make sure they are in good condition;
- Megohm test each busway before installation, the insulation resistance shall be more than 100MΩ;
- Prepare to install.

Tap-off box mounting

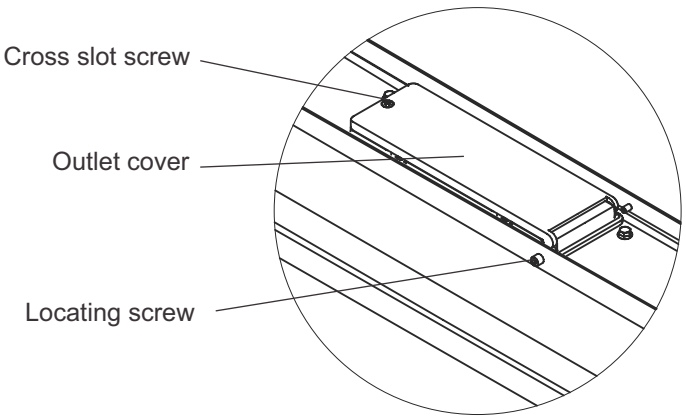
1. Tap-off box features

(1) Identification of tap-off box





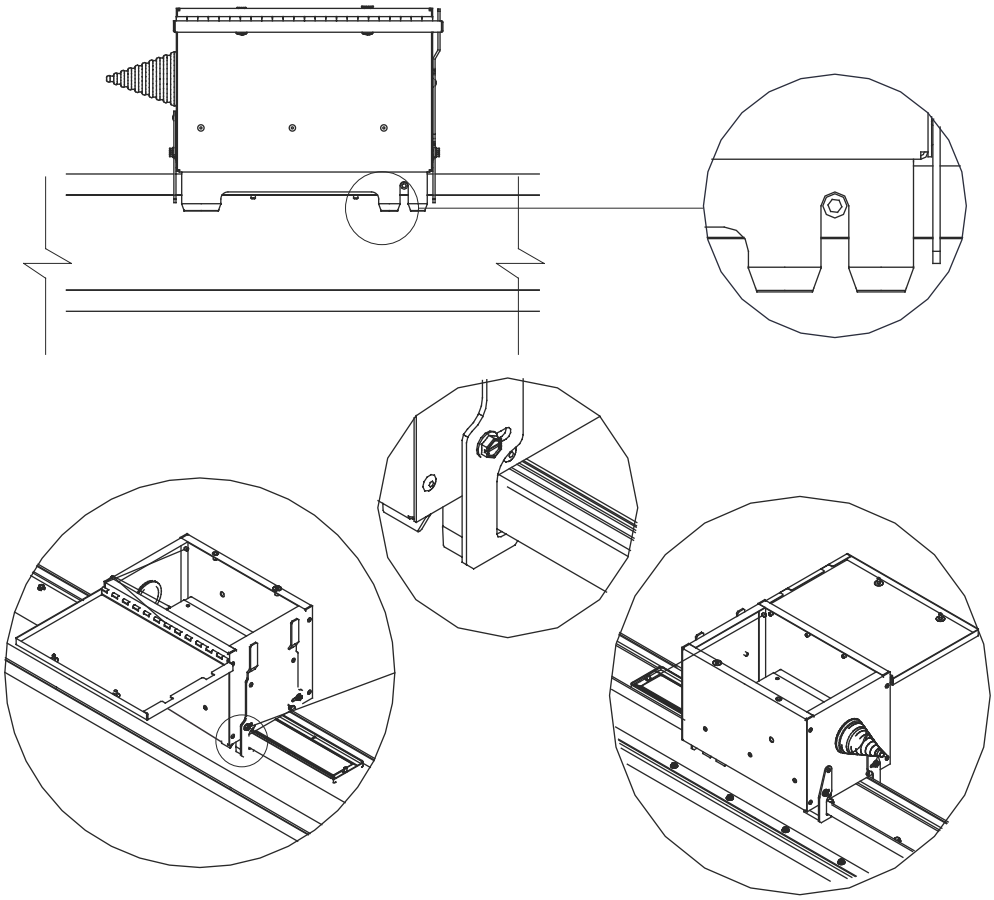
(2) Identification of plug-in busway



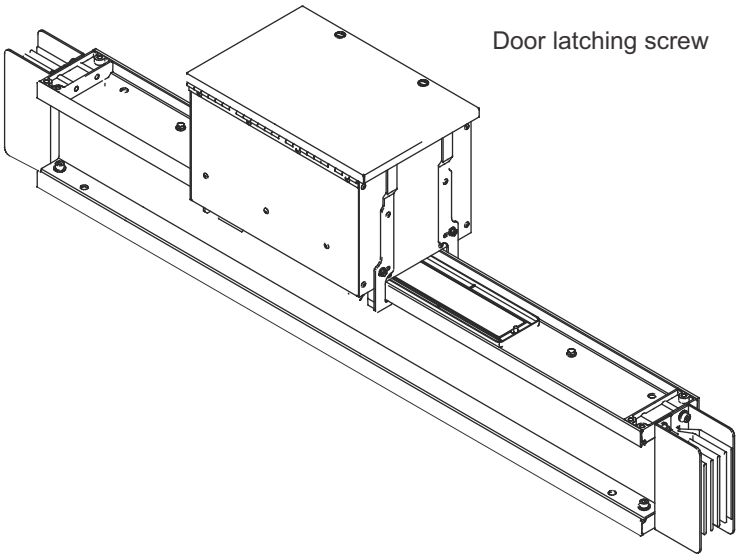
2. Installation tools:

straight screwdriver, cross screwdriver, 10# ring spanner (hexagon open spanner) etc.

Tap-off box mounting



(6) Close the tap-off box and tighten the door latching screw.



Application

Transformer Connection

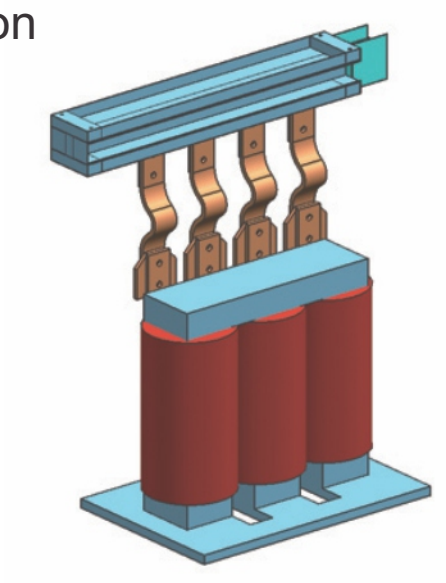


Fig 30-1

Switchgear Connection

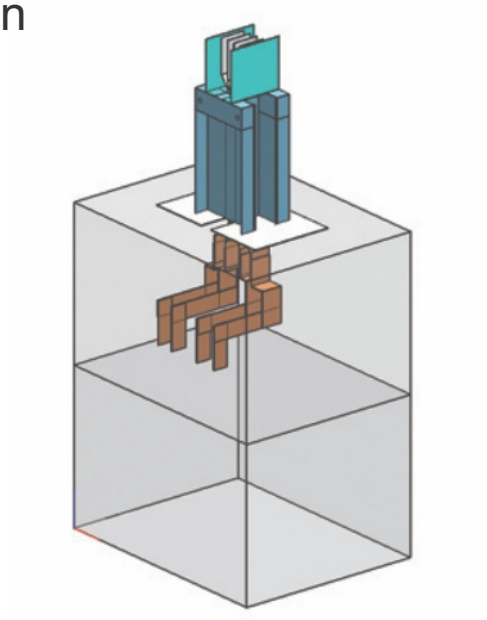


Fig 30-2

Ordering Information

SERIE BB LV™ purchase guide

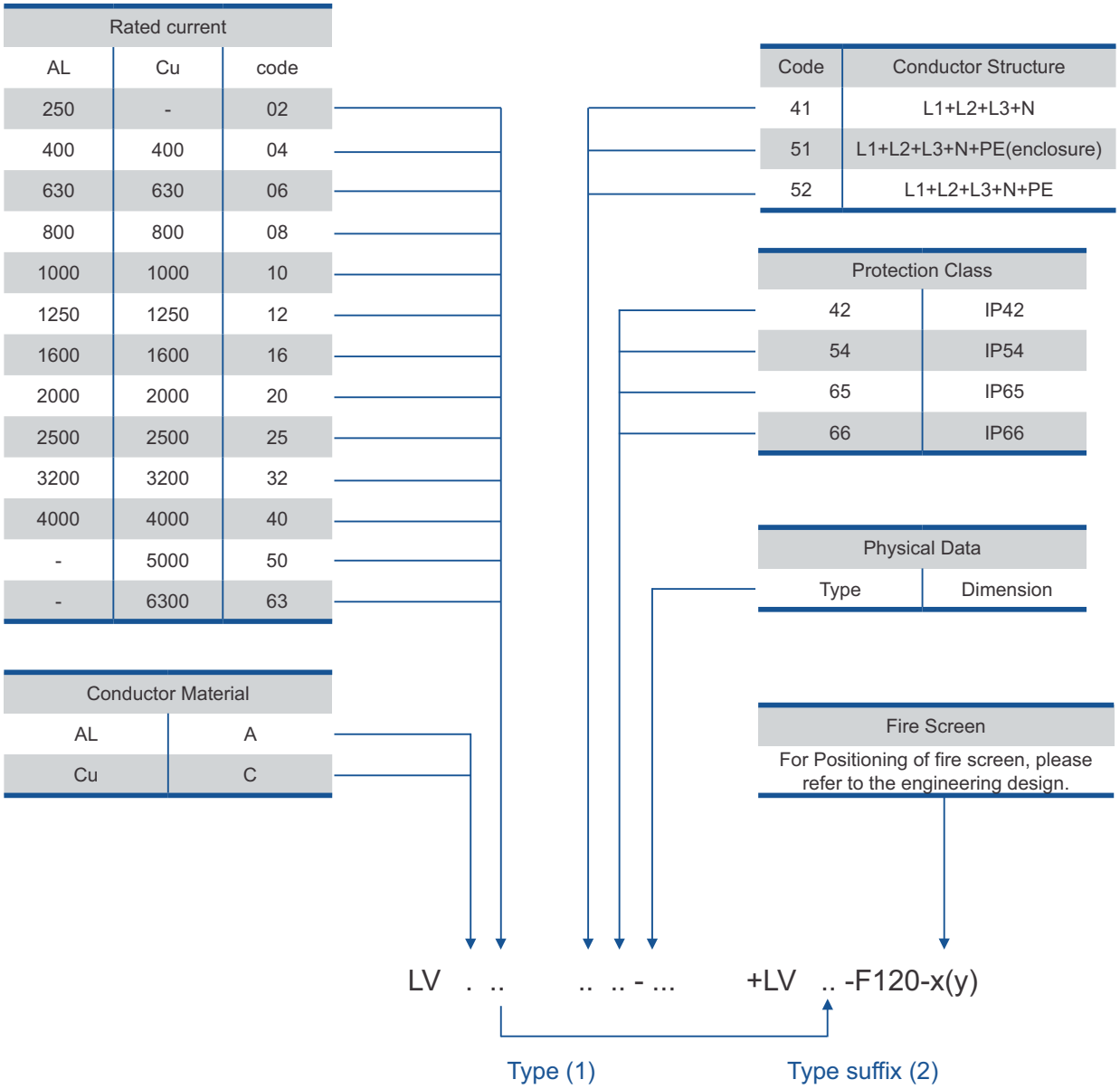
Quotation Inquiry Form

- Model, rated current, rated voltage
- Plug-in busway or in feeder busway
- Characteristics of the power supply and protection degree
- Surface treatment and color and accessories
- Name, model, specifications, quantity of components and protection degree of the plug

Items	Details											
Conductor Type	copper conductor	aluminium conductor										
Rated Capacity	250A	400A	500A	630A	800A	1000A	1250A	1350A	1600A	2000A	2500A	3200A
	3800A	4000A	4500A	5000A	6300A							
Phase and Wire	3P4W L1, L2, L3, PEN100%			3P4W L1, L2, L3, N100%				3P5W L1, L2, L3, N100%PE50%				
Phase Sequence	option 1	option 2	option 3	option 4	option 5	option 6	option 7	option 8	others			
Frequency	50Hz	60Hz										
Voltage	400V	690V										
Protection Class	IP40	IP42	IP54	IP65	IP66	others						
Colour	light grey	light yellow	others									
Product Type	Plug-in straight length_____M				Feeder straight length_____M							
No. of Outlet	1	2	3	4	5	One side	Both side					
Attachment	L edgewise elbow (N-phase inward)_____piece					L edgewise elbow (N-phase outward)_____piece						
	L edgewise elbow (N-phase upside)_____piece					L edgewise elbow (N-phase underside)_____piece						
	T edgewise elbow (N-phase inward)_____piece					Tedgewise elbow (N-phase outward)_____piece						
	T edgewise elbow (N-phase upside)_____piece					T edgewise elbow (N-phase underside) _____piece						
	terminal_____piece				terminal busway _____piece							
	transposition busway_____piece			expansion busway_____piece			phase conversion busway_____piece					
Plug-in box	Isolating switch + fuze		MCCB		Rotary handle operation		Rotating crank operation					
	Rated current	___A___pce	___A___pce	___A___pce	___A___pce	___A___pce	___A___pce					
		___A___pce	___A___pce	___A___pce	___A___pce	___A___pce	___A___pce					
	Short Circuit Current											
Support	horizontal_____pce				vertical_____pce							
Delivery date												
Transportation												
Destination Address												
Contact												
Special Requirements												

Table 31-1

BB LV Busway System Numbering



For example; LVC045265-3 means:

Straight length with LV type busway, rated current of 400A, three phase five wire (with PE), IP65 and length of 3000mm.

Model: LV, current rating 400A, 5-wire system(with a separate PE), protection rating: IP65, length=3m

BB LV plug-in box system numbering

Code	Protection Class
42	IP42
54	IP54

Code	Busway system
41	LV...41
51	LV...42
52	LV...52

Code	Box specifications
1	1#
2	2#
3	3#
4	4#
5	5#
6	6#

Code	Rating of circuit breaker
63S	63A
80S	80A
100S	100A
125S	125A
160S	160A
200S	200A
250S	250A
320S	320A
400S	400A
630S	630A
800S	800A

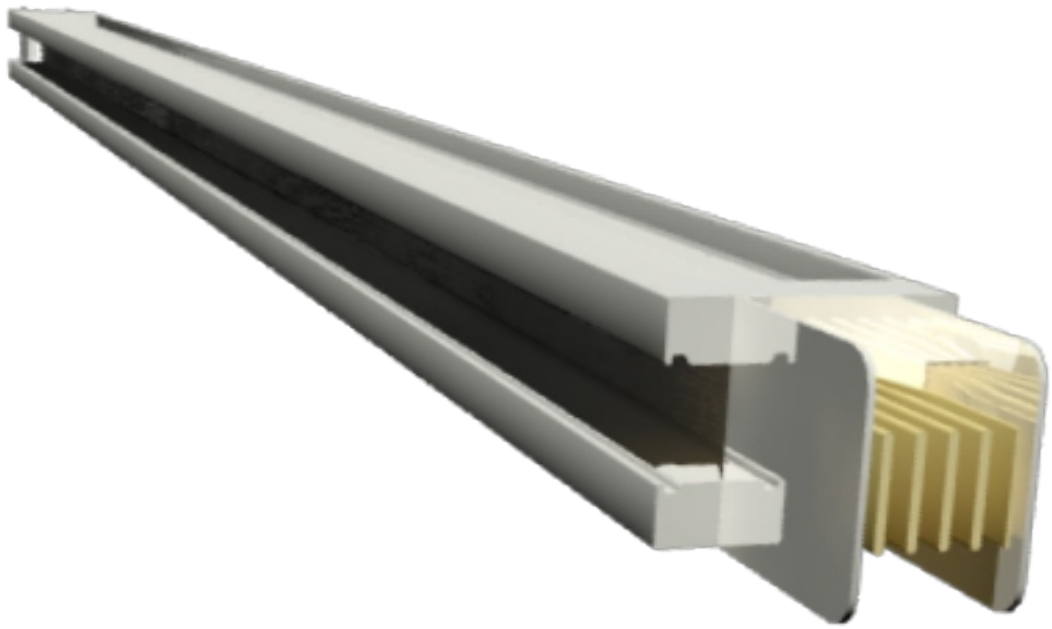
Code	Poles of circuit breaker
3P	3 poles
4P	4 poles

Code	Type of operation
-	Without operating mechanism
R	Rotary operating handle
M	Motor operating mechanism

For example:

LV-3T5254/200S-3P-R means the plug-in box with specification of 3#, busway system of 52, protection rating of IP54, 3P breaker protection and rotary operating handle, rated current 200A.

BB SERIE LV



25 amp - 6000 amp / IP65

. LV busway system complies with:
IEC 60947.2 - 1997
IEC 60439.1 - 2004
IEC 60439.2 - 2000
IEC 60529
JB/T9662 - 1999

CIDET
KEMA
SA 8000
ISO 9001
ISO 14001
OHSAS 18001

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E-mail: proyectosbusway@gmail.com