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LV Series Busduct

Reliable Efficient Cost-Effective
Electrical Distribution System

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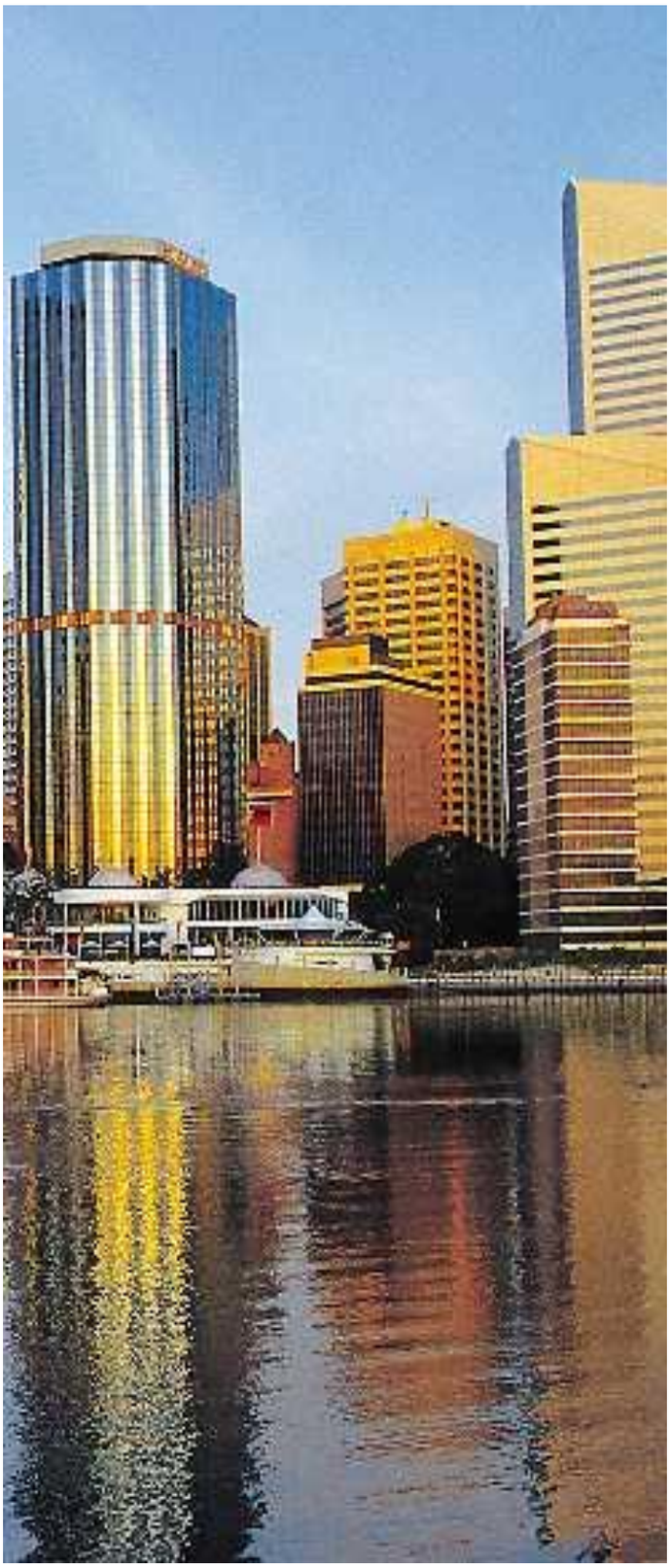


Contents

System overview

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.

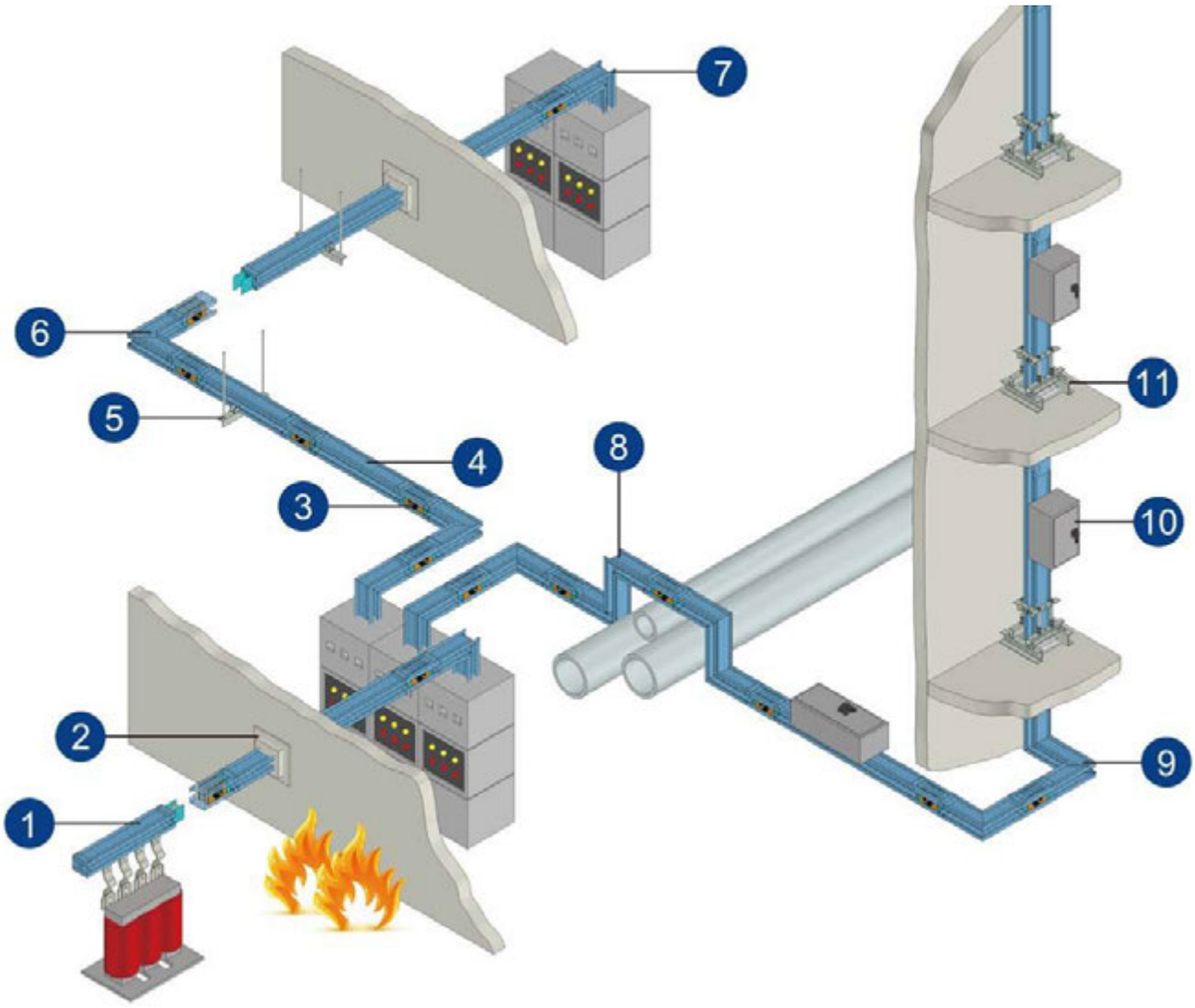
Constructed with two-pieces of aluminium housing, LV™ breaks the barrier of weight as one of the lightest system in the business and offers you maximum flexibility. The full aluminium alloy housing, a low magnetic material, prevents hysteresis loss on the distribution system.

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

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, 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

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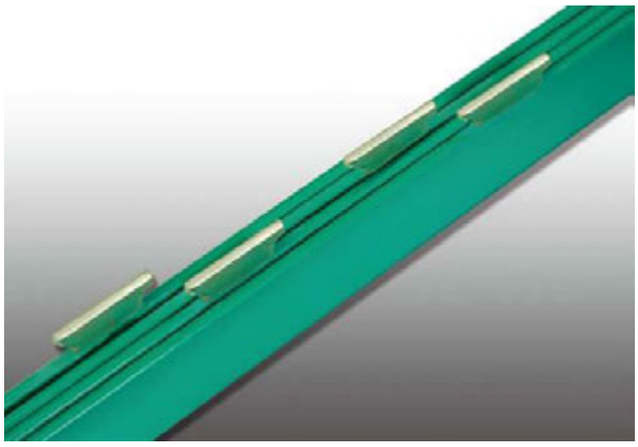
Product Features

—Superior design and performance.

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, LV™ series busway provides more reliable IP protection for the field application than the traditional design.

Novel conductor structure

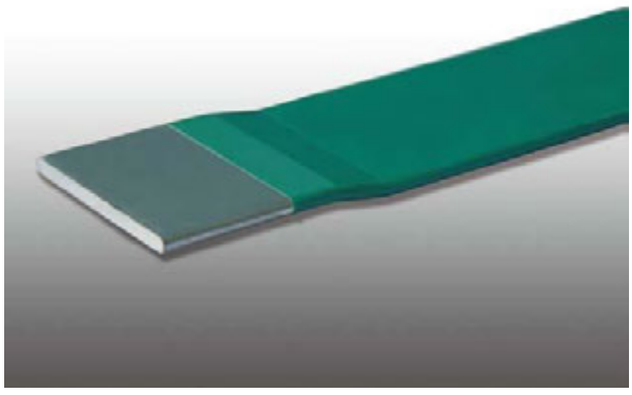


Utilises sandwich structure for the design and construction. Bus bars for plug in length are welded in place by state of art welding process. Bus tabs, arranged compactly without bending, achieve the performance of superior heat dissipation, lower temperature rise and elimination of “chimney effect”.

Product Features

—Superior design and performance.

Superior & 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. LV™ epoxy insulation provides longer life (50 years) for the system as Class H insulation allows for continuous operation at maximum 180°C ambient. The flame-retardant performance of LV™ epoxy insulation complies with V0 grade (UL standards). The busway system is halogen-free with no toxic emission in case of fire.

Compact design

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 cannot 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 Robot 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 state of art in the world, guarantees a stable quality and fast delivery. One section of busway feeder can be completed within 90 seconds.

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%, key materials and accessories imported from Canada, USA, Austria.

Standards and certificates

Reference Standards
LV busway system complies with:

IEC 60947.2-1997

IEC 60439.1-2004

IEC 60439.2-2000

IEC 60529

JB/T9662-1999

Certificates

Electrical specification

WETOWN LV™ Series Busway aluminium alloy housing provide an extremely low impedance ground path with small resistance for both copper and aluminium 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 LV busway system (temperature=20℃):

LVC Table 10-1

Current	Internal 50% ground bus resistance(μΩ/m)	Integrated housing ground DC resistance(μΩ/m)
400	197.4	22.88
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

LVA Table 10-2

Current	Internal 50% ground bus resistance(μΩ/m)	Integrated housing ground DC resistance(μΩ/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

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

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

Resistance, reactance, impedance and voltage drop

WETOWN 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. Calculate new voltage drop Vd=amps load×3 (R cos Q + X sin Q) m, where cos Q=Power Factor.

Copper 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
400 630	0.099	0.031	0.104	0.092	0.100	0.107	0.112	0.108
800	0.079	0.028	0.084	0.089	0.096	0.101	0.105	0.100
1000	0.061	0.024	0.065	0.096	0.103	0.109	0.113	0.105
1250	0.044	0.020	0.048	0.091	0.097	0.102	0.104	0.095
1600	0.033	0.017	0.037	0.089	0.093	0.097	0.098	0.088
2000	0.025	0.014	0.028	0.089	0.094	0.097	0.098	0.086
2500	0.019	0.011	0.022	0.087	0.091	0.094	0.094	0.082
3200	0.016	0.010	0.019	0.096	0.100	0.103	0.104	0.090
4000	0.012	0.007	0.014	0.089	0.093	0.096	0.097	0.086
5000	0.009	0.004	0.010	0.077	0.082	0.086	0.089	0.082
6300	0.007	0.002	0.007	0.061	0.068	0.074	0.079	0.080

Aluminium busway (50Hz, temperature = 20℃) Table 12-2

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

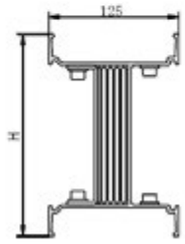
Physical data

Straight length

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

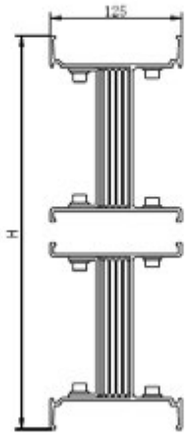
The standard length is either 3000mm or 4000mm.

The minimum length is 460mm.



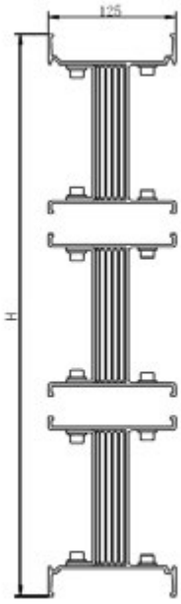
Single-deck
LVA-02～06
LVC-04～25

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

Aluminium 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.

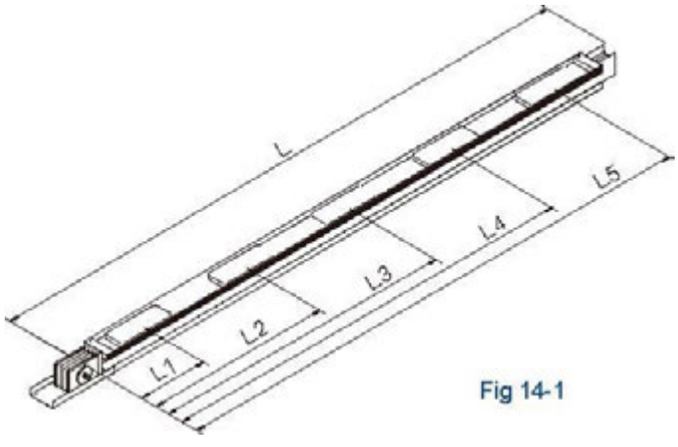


Fig 14-1

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

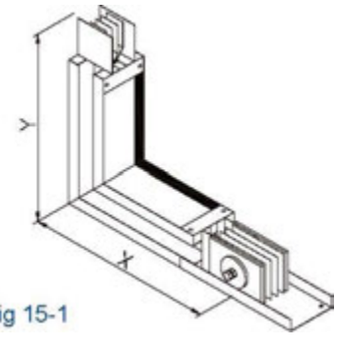


Fig 15-1

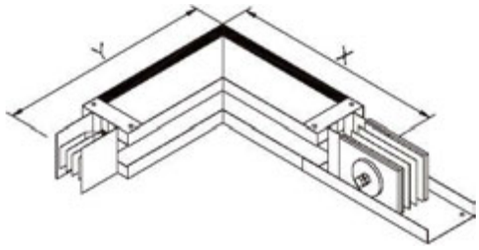


Fig 15-2

L flatwise elbow 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				

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

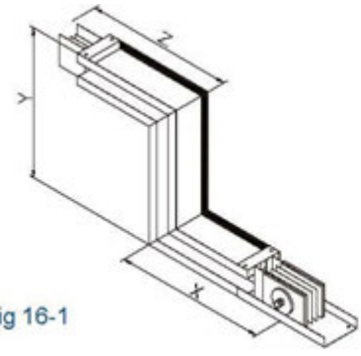


Fig 16-1

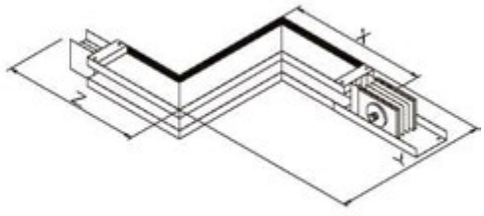


Fig 16-2

Z flatwise offset

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						

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

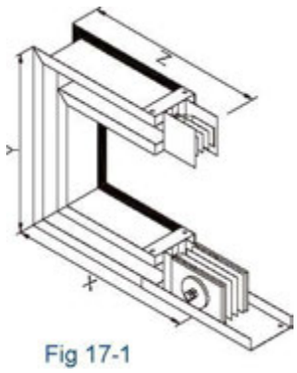


Fig 17-1

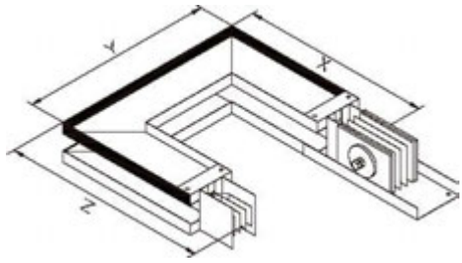


Fig 17-2

Flatwise U 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

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

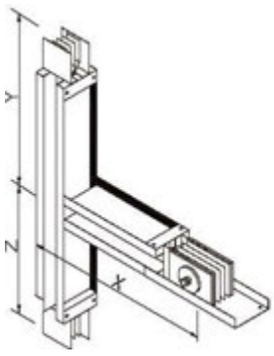


Fig 18-1

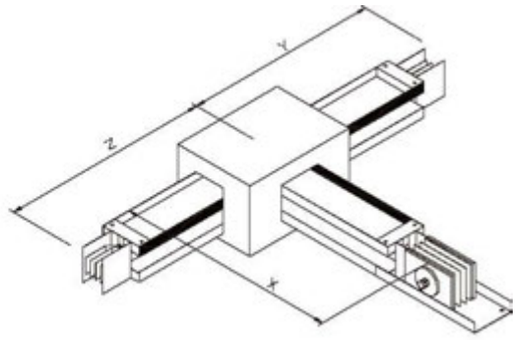


Fig 18-2

Flatwise Tee

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

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

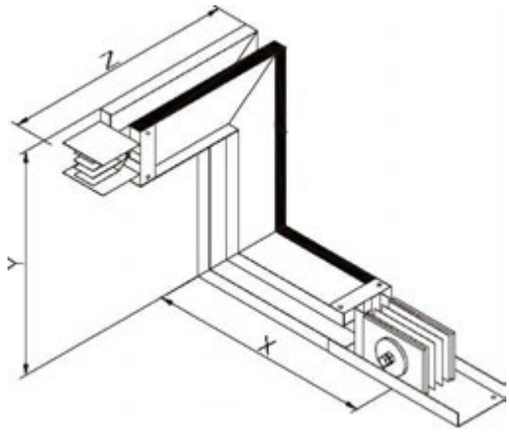


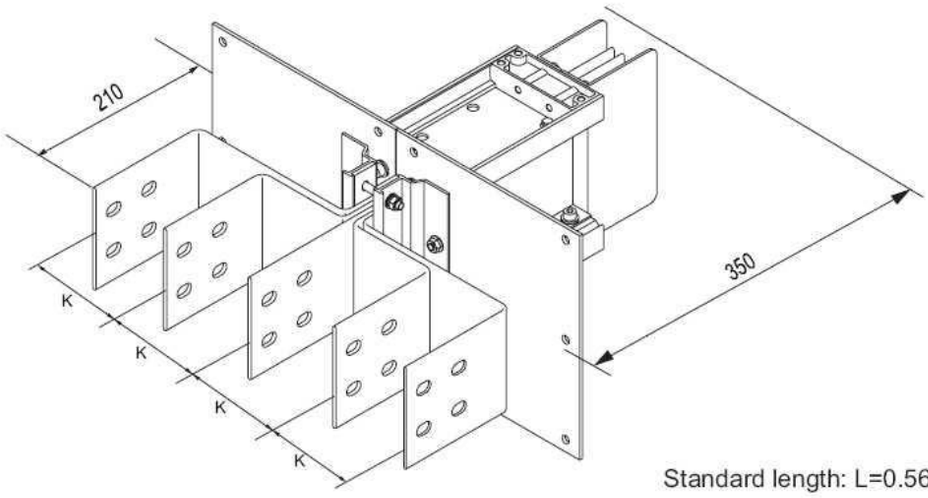
Fig 19-1

Combination Elbow

Table 19-1

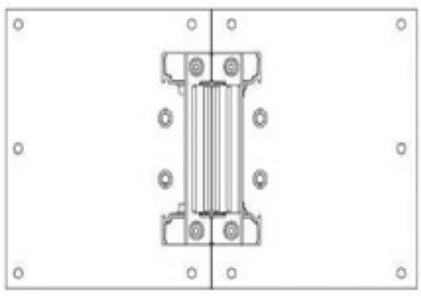
Rated current (A)	Copper busway size (mm)						Aluminium busway size (mm)					
	Minium			Standard			Minium			Standard		
	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
250							341	348	363	450	450	400
400	341	348	363	400	400	400	351	358	363	450	450	400
630	341	348	363	400	400	400	366	373	363	450	450	400
800	351	358	363	400	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



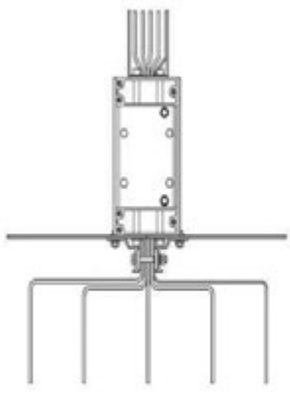
Standard length: L=0.56m

Nonstandard length: L=0.56～2.00m



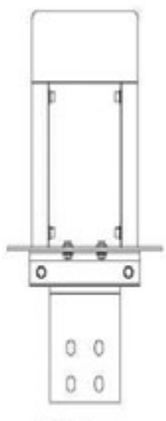
Section view

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.

Fittings

Flanged end cut out and drilling pattern

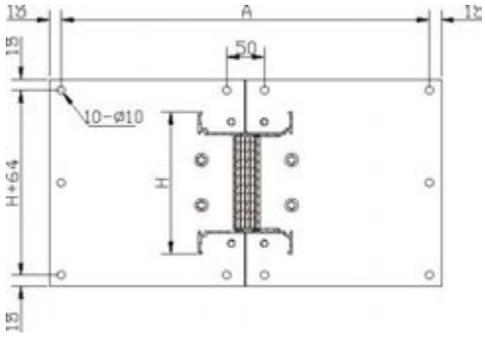


Fig 21-1

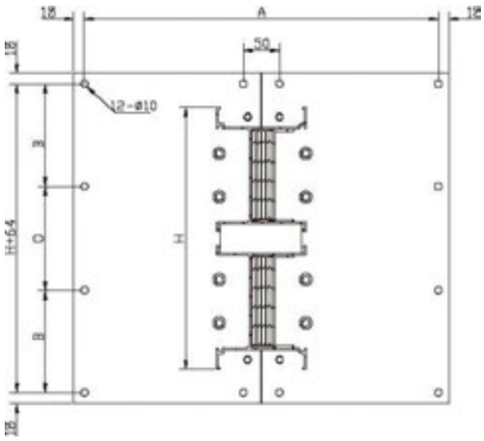


Fig 21-2

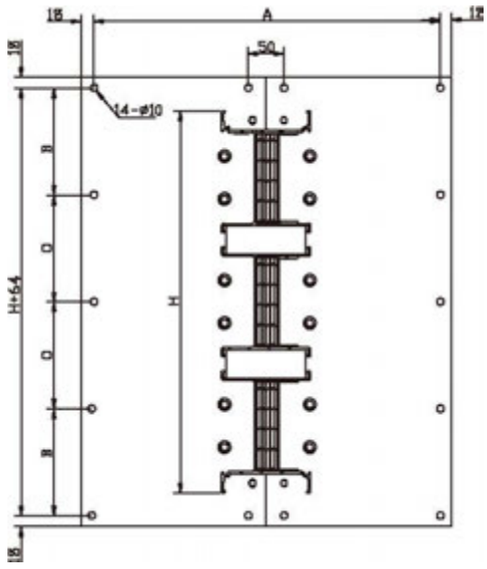


Fig 21-3

LVC Table 21-1

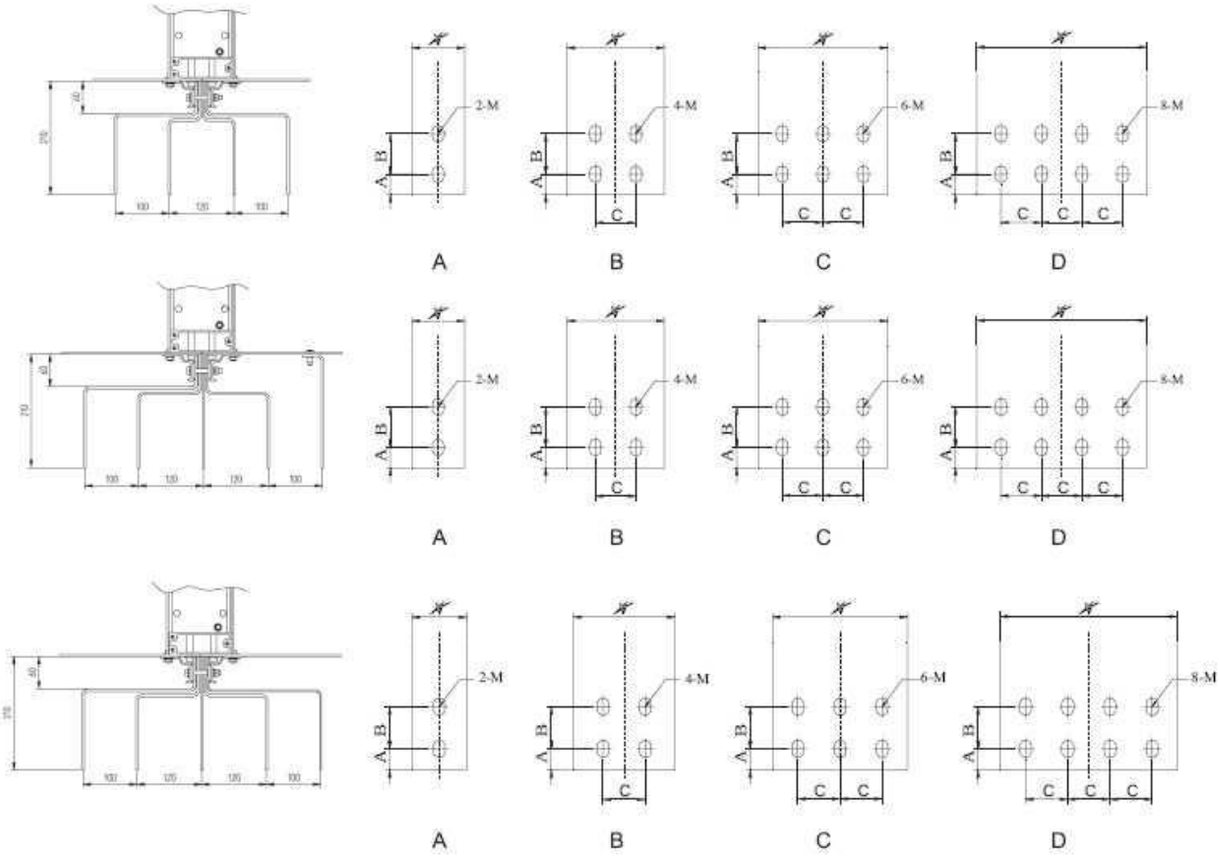
Rated Current (A)	3L+N+PE Size (mm)				3L+N Size (mm)			Fig
	H	A	B	C	A	B	C	
400	103	490	-	-	370	-	-	
630	103	490	-	-	370	-	-	
800	118	490	-	-	370	-	-	
1000	128	490	-	-	370	-	-	
1250	153	490	-	-	370	-	-	21-1
1600	188	490	-	-	370	-	-	
2000	223	490	-	-	370	-	-	
2500	273	490	-	-	370	-	-	
3200	352	490	140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

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	-	-	
400	113	490	-	-	370	-	-	
630	128	490	-	-	370	-	-	
800	143	490	-	-	370	-	-	21-1
1000	168	490	-	-	370	-	-	
1250	203	490	-	-	370	-	-	
1600	253	490	-	-	370	-	-	
2000	322	490	130	126	370	130	126	
2500	392	490	150	156	370	150	156	21-2
3200	492	490	185	186	370	185	186	
4000	572	490	210	216	370	210	216	

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.

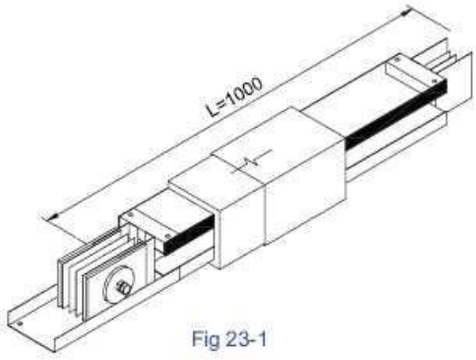


Fig 23-1

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.

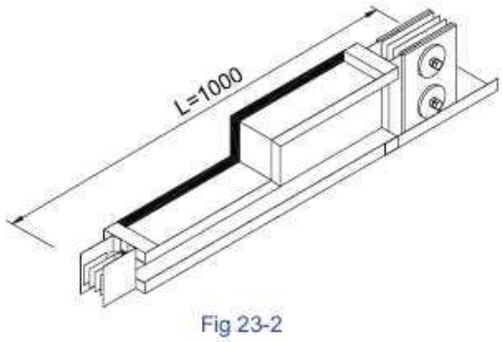


Fig 23-2

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.

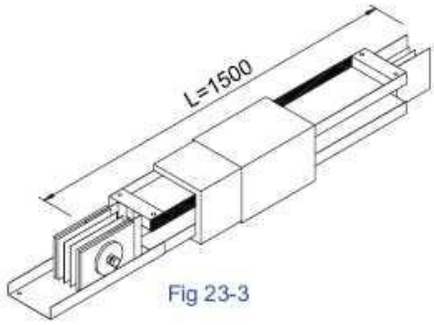


Fig 23-3

Terminal cover

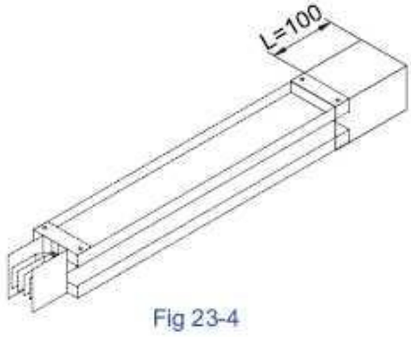


Fig 23-4

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.

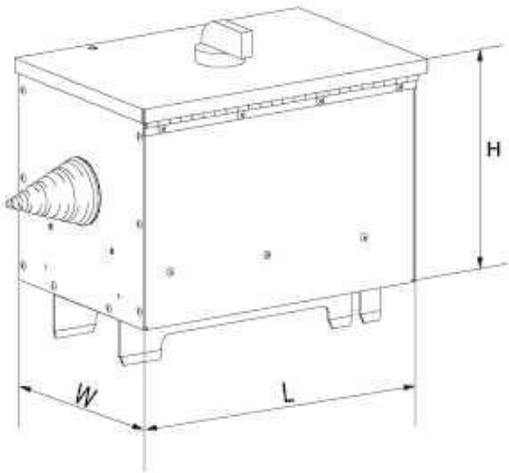


Fig 24-1

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

LV busway protection class can be up to IP66 according to different applications.

Notes:

IP40---"4" indicates that solid objects greater than 1mm in diameter will not penetrate the housing."0" denotes no protection.

IP42---"4" indicates that solid objects greater than 1mm in diameter will not penetrate the housing."2" denotes prevention of water dripping inside by an angle of up to 15°.

IP54---"5" for dust, "4"indicates splashes of water.

IP65---"6" for dust density, "5" indicates protection from water spray.

IP66---"6" for dust density, "6" for protection of stronger water spray

Minimum clearance required for installation

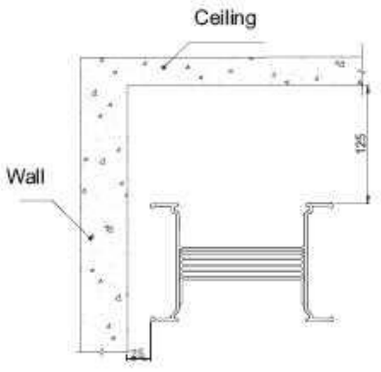


Fig 25-1

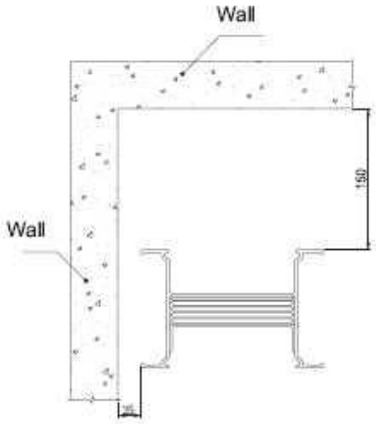


Fig 25-2

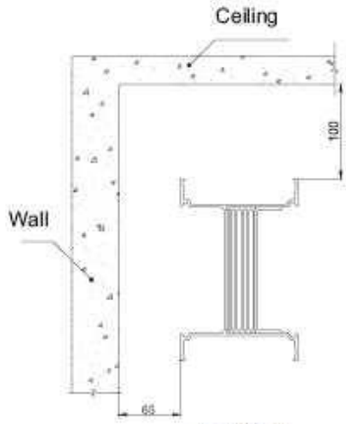


Fig 25-3

Minimum clearance required for plug-in box installation

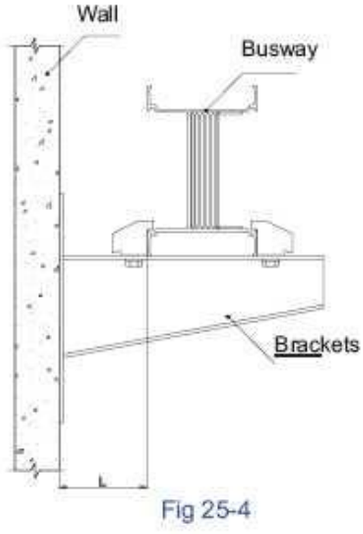


Fig 25-4

Table 25-1

Current level for plug-in box	L(mm)
100	150
160	175
250	195
400	210
630	230
800	260
1000	300

21 Activity Crescent Molendinar QLD
martin.evans@sourceco.com
Phone 1300 797 747
Fax 07 5564 6638

Installation

Horizontal wall-through installation

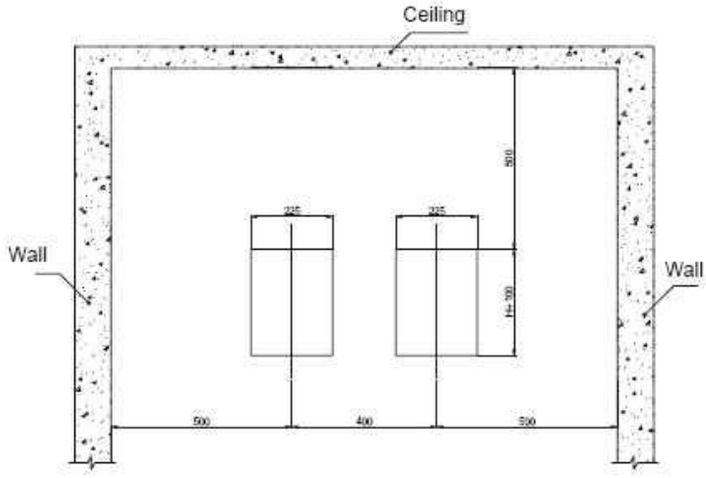
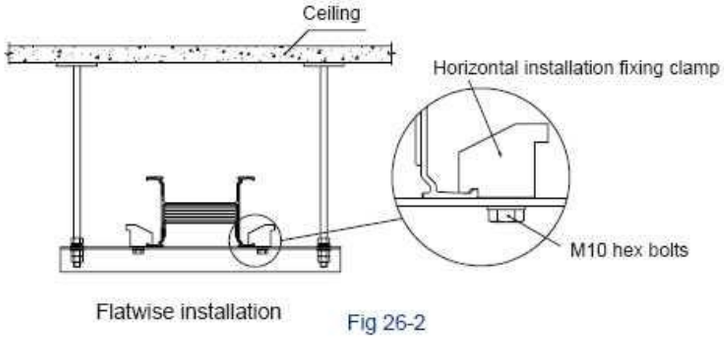


Fig 26-1

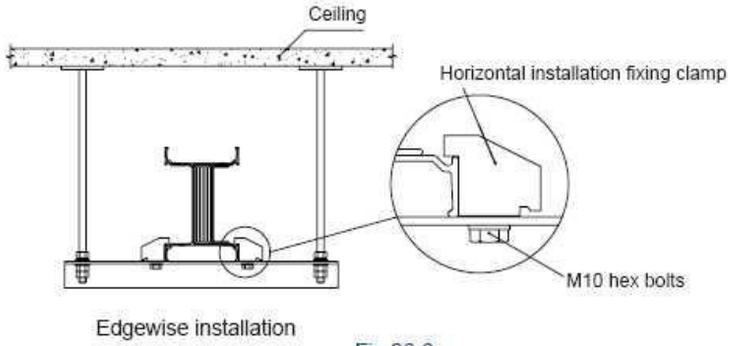
Horizontal installation-trapeze hangers Overhead Support

Holes should be first drilled in the floor so as to inlay steel expansion bolts (holes may also be drilled on the spot for flexible installation) or pre-bury s ıt hangers shall not exceed 2m. Please specif



Flatwise installation

Fig 26-2



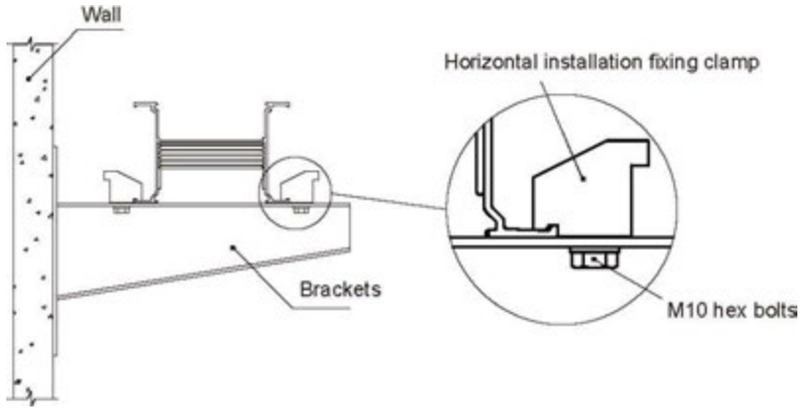
Edgewise installation

Fig 26-3

Fig 26-3

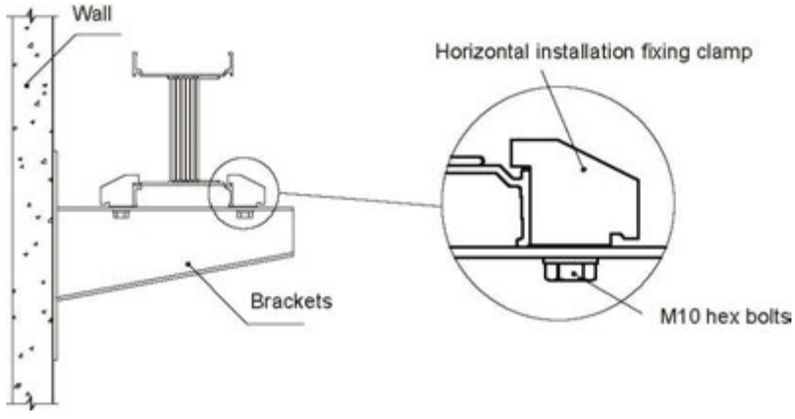
Installation

Horizontal installation-wall support



Flatwise installation

Fig 27-1



Edgewise installation

Fig 27-2

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:

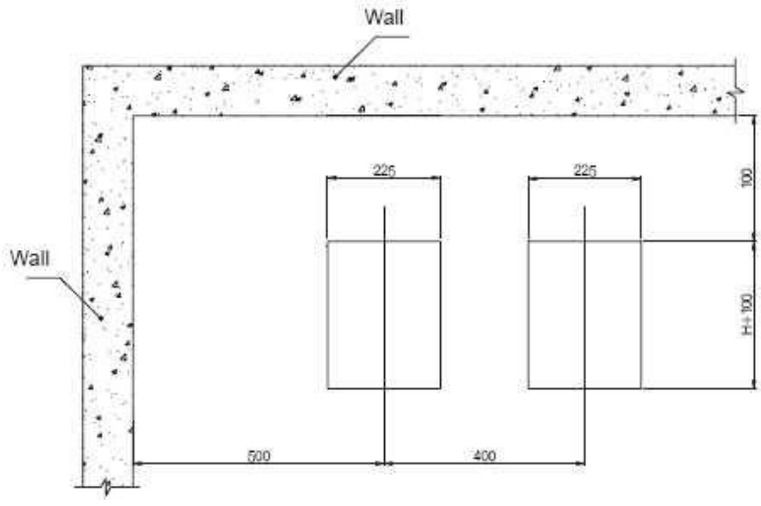


Fig 28-1

Installation for Vertical Spring Hanger

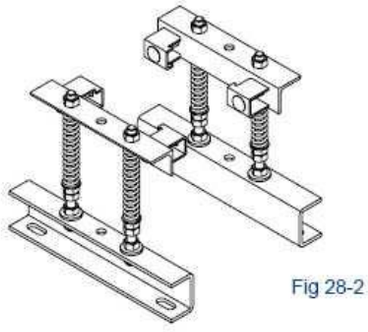


Fig 28-2

Vertical Spring Hanger

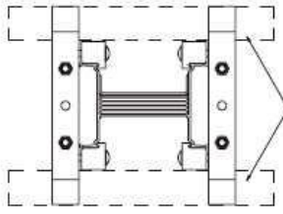


Fig 28-3

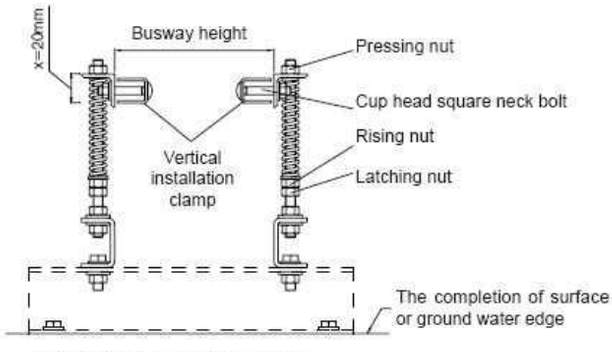


Fig 28-4

Installation Schematic Diagram

Installation

Installation for Vertical Fixed Hanger

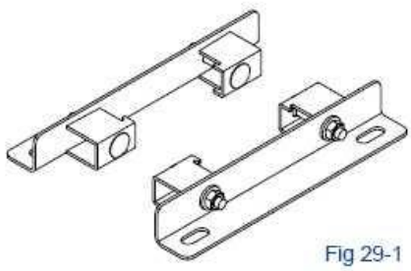


Fig 29-1

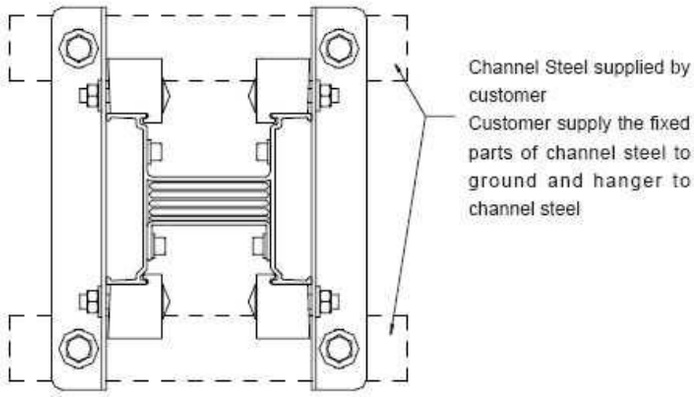
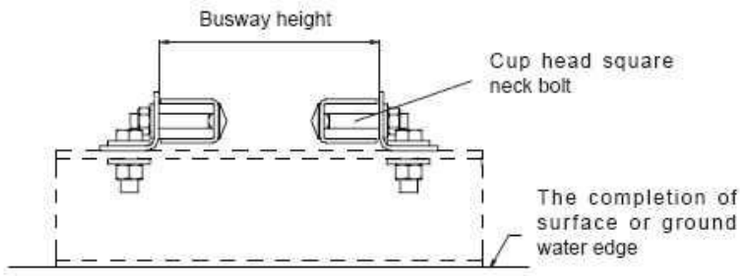


Fig 29-2

Vertical Fixed Hanger



Installation Schematic Diagram

Fig 29-3

Application

Transformer Connection

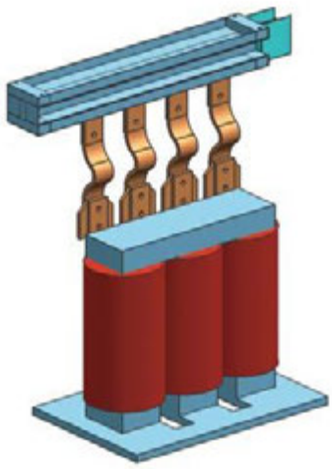


Fig 30-1

Switchgear Connection

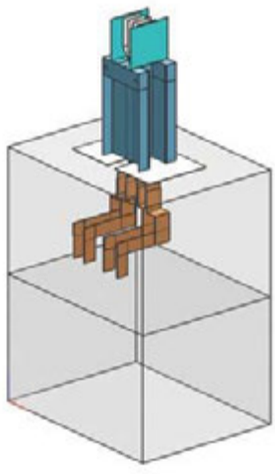


Fig 30-2

Ordering Information

LV™ Purchase Guide

Quotation Inquiry Form

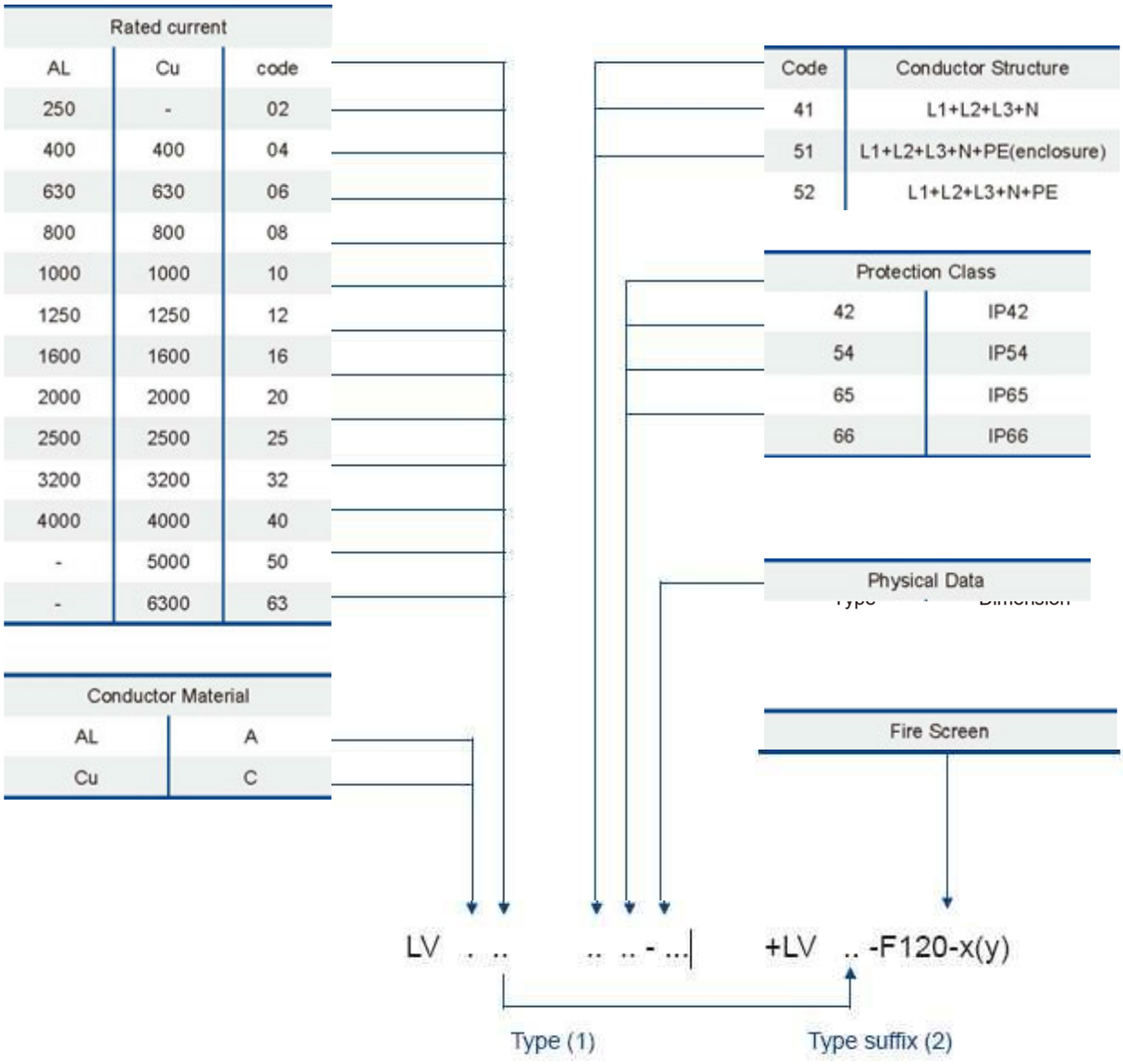
- Model, rated current, rated voltage
- Plug-in busway or in feeder busway
- Characteristics of the power supply and protection degree
- Surface treatment and colour and accessories
- Name, model, specifications, quantity of components and protection degree of the plug

Please indicate by ticking applicable boxes

Table 31-1

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	
	☐ Isolating switch + fuze ☐ MCCB ☐ Rotary handle operation ☐ Rotating crank operation	
Plug-in box	Rated	A pce A pce A pce A pce A pce A pce
	current	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		

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

V 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

LV- . T .. .. / ...- .. - .

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.