Westinghouse

Alpha Power Series Busway

CE

Westinghouse

Leading The Future of Electrification

- A Global Heritage Brand with 130 Years of Product Innovation
- Perfect Products, Creative Services, and Competitive Price

Since 1886, Westinghouse Has Brought The Best To Life.

Westinghouse remains a trusted name globally in consumer and industrial products. Built on a heritage of innovation and entrepreneurial spirit, Westinghouse products were the first to supply the United States with AC electric power, transmit a commercial radio broadcast and capture man's first step on the moon. Today, Westinghouse continues to grow its diverse portfolio with a wide range of product categories that include home appliances, consumer electronics, lighting and power generation.

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Product Code

Product Code....36

The Advantage of Conductor

1. High conductivity
2. Low impurity
3. Excellent fatigue resistance
4. High thermal conductivity
5. High corrosion resistance
6. High toughness and structural strength

The Advantage of Insulation

1. Able to withstand fluctuations in electrical systems
2. Adopts peak and off-peak expansion and contraction
3. Able to withstand thermal shock
4. High reliability under static conditions
5. Resistant to strong shocks
6. High thermal conductivity
7. Waterproof and chemical resistant

Product Introduction

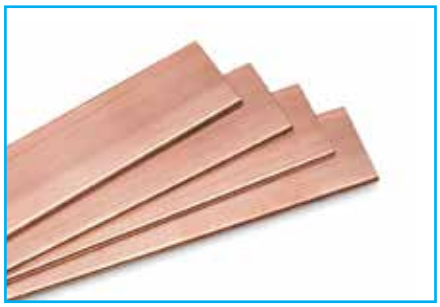
Product Feature

Aluminum alloy housing

• Alpha Power busway adopts two-pieces aluminum alloy housing, which is light in weight and high in mechanical strength; effectively avoids the influence of eddy current and loss, suitable for various application.

• The all-aluminum housing has excellent electrical conductivity, providing much higher grounding capacity than the copper/aluminum bar (50% of the phase bar).
• The unique «serrated surface» design of extruded aluminum housing greatly improves the heat dissipation for the whole busway system.
Special surface treatment helps the housing to withstand 2000-hour of salt spray test;

• The Alpha Power busway provides more reliable IP protection than the traditional design.



Conductor

• High-speed sawing machine offers a high sawing accuracy, make smooth cut without issues like deformed, stretched, inconsistent flat end, as a result the rise at the busway joint is decreased.

• The bus bar adopts high quality of copper and aluminum conductor with less power losses by 3—5%.

• The high purity conductors are treated by unique technique, the composition of the trace element under control. The treatment process in tin plating (silver as option) also the of much lower contact resistance.

Tap off unit

• A mechanical interlocking between the specialized pin lock mechanism and the box to prevent the plug box from being inserted and extracted with load, effectively ensuring the safety and reliability of power operation.

• The pins are made of high-quality shaped molded at one time. Sample testing with insertion and extraction will be made for the pins to ensure the permanent clamping force after power-on, ensuring the reliable of the tap off unit.

Product Introduction

Product Feature

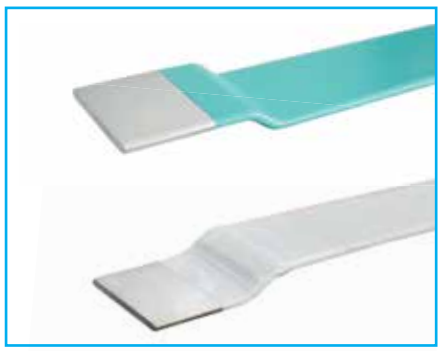
Unique joint design & Temperature rise indicator

• Joint insulator with a convex-concave groove edge provides an increased creepage distance.

• Color-coded-temperature indicator applied at busway joint is to give an early warning when high temperature occurs at the joint.

• 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 just a common 16mm socket wrench. Belleville spring washers are adopted to ensure pressure evenly applied across the joint.



Superior & Reliable insulation

• Both polyester film insulation and epoxy insulation (Class B) are available with exceptional electrical performance and superior mechanical strength.

• Environmental friendly materials are applied with certification by reputed international laboratory. The busway system is halogen-free with no toxicity emission in of fire.

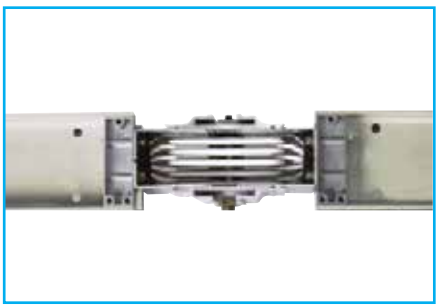
Compact outlet

• No bending at the outlet, and the busway is full-length compact. Low impedance, which makes lower voltage drop and less line loss of the busway system.

• Fast heat dissipation and large tapping capacity make the tapping current more safe and reliable. With proper structure attractive appearance and the high protection class.

Product Introduction

Product Feature



Proof for wrong-phase

• 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
Bridge type joint, each joint allow ±8mm liner adjustment.

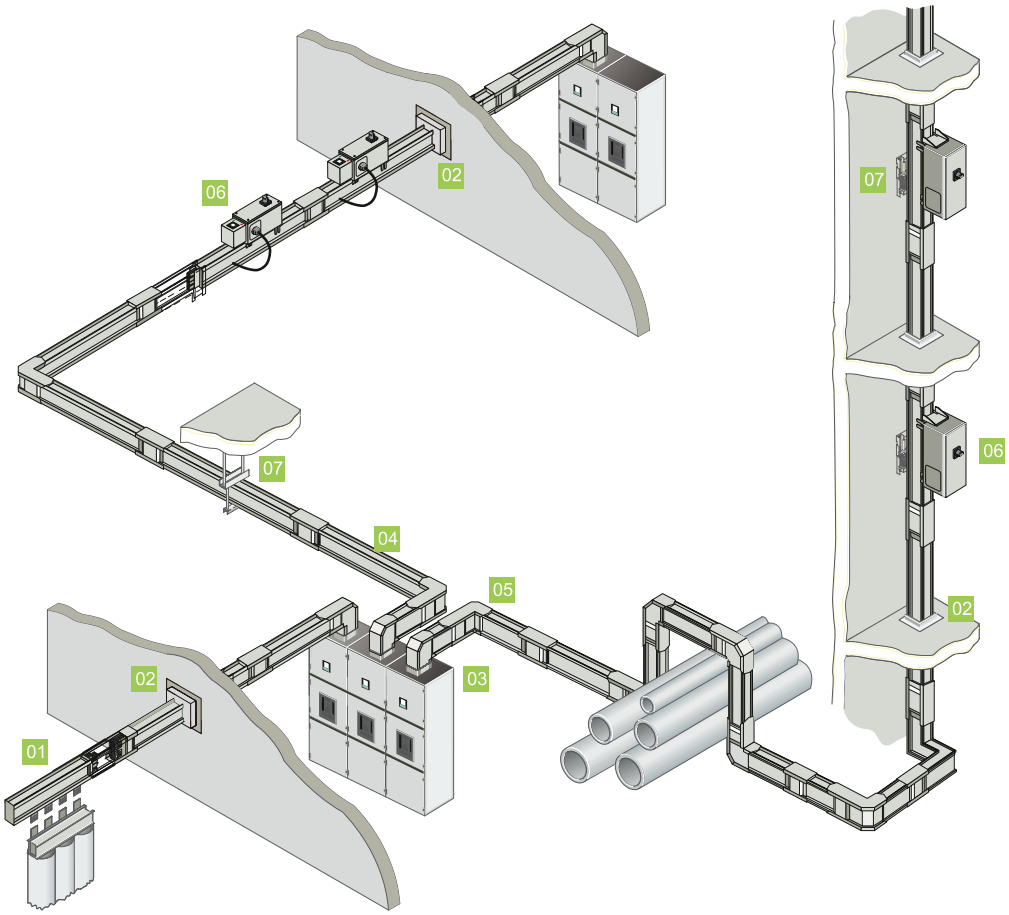
Dense Type Jack

• Bus bar at the jack is not bent, bus full-length intensive;
Low impedance, bus slot system has a lower voltage drop and line loss;
Fast heat dissipation, tap capacity, tap current more safe and reliable;
Reasonable structure, beautiful appearance, high protection grade.

“Sandwich”conductor structure

• The conductors are arranged densely in the housing, achieving the performance of superior heat dissipation, lower temperature rise and elimination of “chimney effect”. Current-carrying capability is not affected by different installation sites or methods. This compact structure has a width of only 125mm, occupying smaller building space.

Product Introduction



Busbar slot system may be overloaded and short-circuited during operation. Usually, fuses or circuit breakers are widely used as protection devices in the system. When selecting, the strength of short-circuit current, the operation function of the system and other factors should be considered.

In practical applications, due to the high sensitivity of fuses, and when the current slightly exceeds the rated current, fuses start to melt, but the melting time is relatively long, so fuses are not suitable for use as overload protection devices in the system.
If the busbar slot system uses fuses as overload protection devices, in order to ensure that the protection devices provide appropriate protection for the busbar slot system, the rated current of fuses must be one level lower than the rated current of the busbar slot system.

If circuit breakers are used for protection, the protection unit can be adjusted according to the rated current of the busbar slot system, that is, the busbar slot system can achieve 100% of the carrying capacity.

If it is decided to adopt fuses and circuit breakers as protection devices for short-circuit protection of the busbar slot system, the selected model of the current shall not exceed the specified protection current of the busbar slot system. It is also necessary to consider the strength of short-circuit current, whether it is necessary to take current limiting protection devices and the short-circuit switch capacity of the selected protection devices.

Standard

Alpha Power busway conforms to the following standards:

- IEC 61439-1:2011
- IEC 61439-6:2012
- IEC 60529-1:2001

Electric Parameter

Short-circuit ratings

The ratings shown below are UL recognized rms symmetrical amps. Tests were run per UL 857 standards.
The system can comply with IEC61439 for short circuit withstand test at 1 Second.

Rated short circuit withstand current

Copper	(RMS Symmetrical, kA)
Current	1 Sec.
400A	30
630A	30
800A	50
1000A	50
1250A	65
1600A	80
2000A	80
2500A	100
3200A	100
4000A	120
6300A	120

Rated short circuit withstand current

Aluminum	(RMS Symmetrical, kA)
Current	1 Sec.
250A	30
630A	30
800A	30
1000A	30
1250A	50
1600A	50
2000A	65
2500A	80
3200A	80
4000A	120

Resistance, reactance, impedance and voltage drop

Copper conductor:Frequency-50Hz

Current	Resistance R^{35} (mΩ/m)	Resistance R^{20} (mΩ/m)	Reactance X (mΩ/m)	Voltage Drop per Meter at Full Load Condition (V/m)				
				Power factor cosφ				
				0.6	0.7	0.8	0.9	1
400A	0.1260	0.1020	0.041	0.075	0.081	0.087	0.091	0.087
630A	0.1120	0.0900	0.037	0.106	0.114	0.122	0.128	0.122
800A	0.0770	0.0660	0.032	0.099	0.106	0.112	0.115	0.107
1000A	0.0539	0.0376	0.0193	0.11	0.118	0.125	0.13	0.123
1250A	0.0429	0.0338	0.0167	0.098	0.105	0.111	0.115	0.108
1600A	0.0291	0.0241	0.0155	0.09	0.096	0.1	0.103	0.094
2000A	0.0222	0.0178	0.0152	0.091	0.098	0.103	0.105	0.097
2500A	0.0220	0.0155	0.0134	0.095	0.101	0.105	0.106	0.095
3200A	0.0159	0.0123	0.0062	0.106	0.117	0.126	0.134	0.133
4000A	0.0115	0.0860	0.0061	0.079	0.088	0.096	0.103	0.104
6300A	0.0100	0.00727	0.0051	0.071	0.079	0.087	0.093	0.095

In the table above, the load distribution coefficient k=1. In a specific project, the k values vary with the branch number of the BTS.

Aluminium conductor:Frequency-50Hz

Current	Resistance R^{35} (mΩ/m)	Resistance R^{20} (mΩ/m)	Reactance X (mΩ/m)	Voltage Drop per Meter at Full Load Condition (V/m)				
				Power factor cosφ				
				0.6	0.7	0.8	0.9	1
250A	0.185	0.151	0.073	0.073	0.079	0.083	0.086	0.08
400A	0.155	0.121	0.061	0.098	0.105	0.111	0.115	0.107
630A	0.12	0.093	0.052	0.124	0.132	0.139	0.143	0.131
800A	0.105	0.077	0.027	0.117	0.129	0.139	0.147	0.145
1000A	0.072	0.058	0.046	0.139	0.144	0.148	0.147	0.125
1250A	0.061	0.044	0.012	0.1	0.111	0.121	0.13	0.132
1600A	0.046	0.032	0.015	0.11	0.119	0.127	0.133	0.127
2000A	0.041	0.029	0.019	0.138	0.146	0.153	0.157	0.142
2500A	0.029	0.022	0.01	0.11	0.119	0.126	0.132	0.126
3200A	0.023	0.016	0.007	0.108	0.117	0.125	0.132	0.127
4000A	0.015	0.013	0.005	0.09	0.097	0.104	0.109	0.104

In the table above, the load distribution coefficient k=1. In a specific project, the k values vary with the branch number of the BTS.

Resistance, reactance, impedance and voltage drop

Copper conductor:Frequency-60Hz

Current	Resistance R^{35} (mΩ/m)	Resistance R^{20} (mΩ/m)	Reactance X (mΩ/m)	Voltage Drop per Meter at Full Load Condition (V/m)				
				Power factor cosφ				
				0.6	0.7	0.8	0.9	1
400A	0.126	0.102	0.049	0.08	0.085	0.09	0.093	0.087
630A	0.112	0.09	0.045	0.112	0.12	0.127	0.131	0.122
800A	0.077	0.066	0.039	0.107	0.113	0.117	0.119	0.107
1000A	0.0539	0.0376	0.0193	0.117	0.125	0.131	0.134	0.123
1250A	0.0429	0.0338	0.0167	0.105	0.111	0.116	0.119	0.108
1600A	0.0291	0.0241	0.0155	0.097	0.102	0.105	0.107	0.094
2000A	0.0222	0.0178	0.0152	0.098	0.104	0.108	0.109	0.097
2500A	0.022	0.0155	0.0134	0.103	0.108	0.111	0.111	0.095
3200A	0.0159	0.0123	0.0062	0.112	0.122	0.13	0.137	0.133
4000A	0.0115	0.0086	0.0061	0.093	0.098	0.101	0.102	0.09
6300A	0.0100	0.00727	0.0051	0.08	0.085	0.09	0.093	0.087

In the table above, the load distribution coefficient k=1. In a specific project, the k values vary with the branch number of the BTS.

Aluminium conductor:Frequency-60Hz

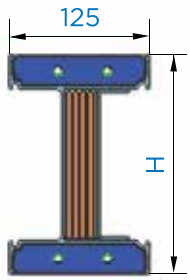
Current	Resistance R^{35} (mΩ/m)	Resistance R^{20} (mΩ/m)	Reactance X (mΩ/m)	Voltage Drop per Meter at Full Load Condition (V/m)				
				Power factor cosφ				
				0.6	0.7	0.8	0.9	1
250A	0.185	0.151	0.088	0.079	0.083	0.087	0.089	0.08
400A	0.155	0.121	0.073	0.105	0.111	0.116	0.119	0.107
630A	0.12	0.093	0.063	0.133	0.14	0.146	0.148	0.131
800A	0.105	0.077	0.033	0.123	0.134	0.143	0.151	0.145
1000A	0.072	0.058	0.055	0.152	0.156	0.157	0.154	0.125
1250A	0.061	0.044	0.014	0.104	0.115	0.124	0.133	0.132
1600A	0.046	0.032	0.018	0.117	0.125	0.132	0.137	0.127
2000A	0.041	0.029	0.023	0.149	0.156	0.161	0.162	0.142
2500A	0.029	0.022	0.012	0.117	0.125	0.132	0.136	0.126
3200A	0.023	0.016	0.008	0.114	0.123	0.13	0.135	0.127
4000A	0.015	0.013	0.006	0.096	0.103	0.108	0.112	0.104

In the table above, the load distribution coefficient k=1. In a specific project, the k values vary with the branch number of the BTS.

Dimension

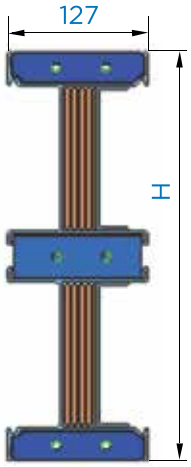
Straight length

Feeder, the straight length without outlets, can be installed either horizontally or vertically.
The standard length is either 3000mm or 4000mm.
The minimum length is 460mm.



Single-deck
Alpha Power
04～25

01



Dual-deck
Alpha Power
32～63

02

Copper conductor

Current	Dimension		Weight per meter (kg/m)		Fig.
	Width (W)	Height (H)	4Wire 100%N	5wire 100%N, 50%PE	
400A	127	103	11.3	12.4	01
630A	127	103	12.5	13.6	
800A	127	118	15.4	17.1	
1000A	127	128	18.1	19.9	
1250A	127	153	22.8	25.4	
1600A	127	188	30.7	34.3	
2000A	127	223	38.2	42.8	
2500A	127	273	52.8	59.4	
3200A	127	352	59.5	66.5	02
4000A	127	432	76.9	86.3	
6300A	127	630	97.3	108.9	

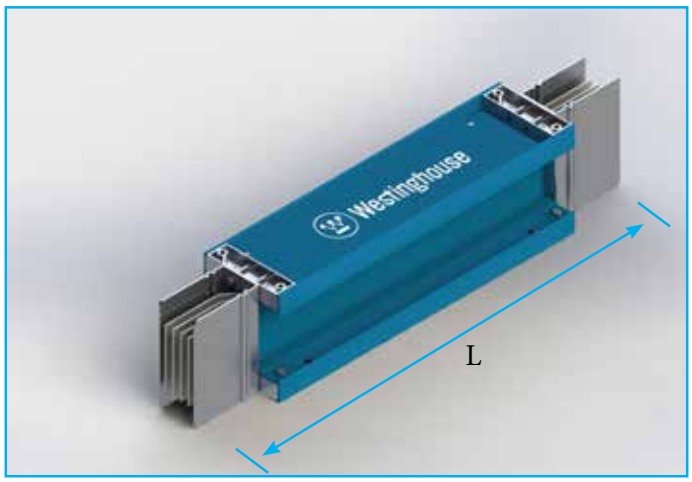
Aluminum conductor

Current	Dimension		Weight per meter (kg/m)		Fig.
	Width (W)	Height (H)	4Wire 100%N	5wire 100%N, 50%PE	
250A	127	103	6.8	7.2	01
400A	127	113	7.5	7.9	
630A	127	128	8.8	9.3	
800A	127	143	9.8	10.4	
1000A	127	168	11.8	12.7	
1250A	127	203	14.6	15.7	
1600A	127	253	18.3	19.8	
2000A	127	322	22.6	24.3	
2500A	127	392	28.7	31	02
3200A	127	492	36.2	39.4	
4000A	127	572	44.7	48.9	

Dimension

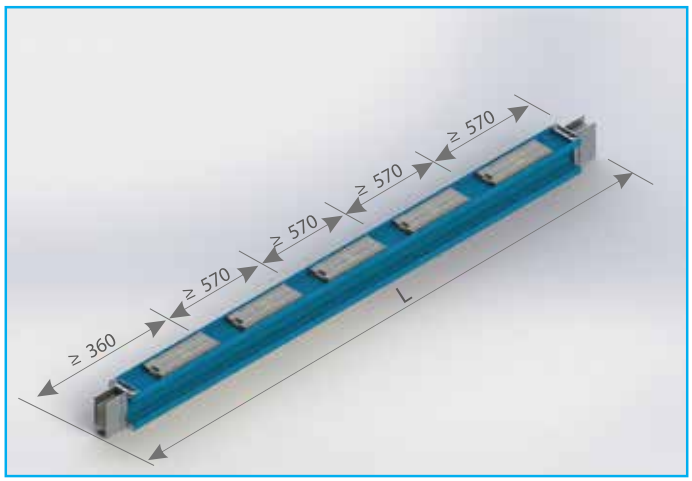
Plug-in straight length

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.



Standard length:	
Alpha Power C	L=1, 2, 3m
Optional length:	
Alpha Power C	L=0.72, 4m

Standard length:	
Alpha Power A	L=1, 2, 3m
Optional length:	
Alpha Power A	L=0.72, 4m



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

Dimension

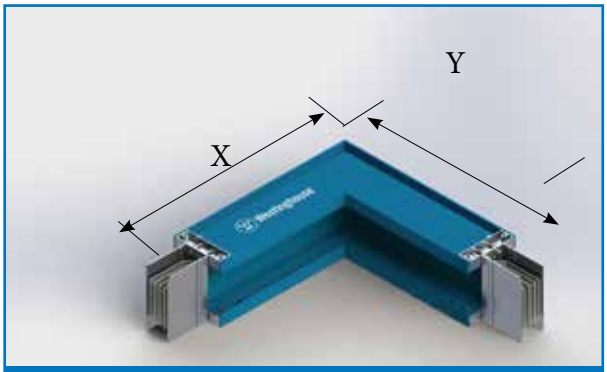
L flatwise elbow Fig 13.1

Copper conductor

Rated Current (A)	Copper busway size (mm)			
	Minimum		Standard	
	X	Y	Y	X
400A	341	341	400	400
630A	341	341	400	400
800A	351	351	400	400
1000A	366	366	400	400
1250A	391	391	400	400
1600A	421	421	550	550
2000A	461	461	550	550
2500A	511	511	550	550
3200A	590	590	800	800
4000A	670	670	800	800
6300A	770	770	800	800

Aluminum conductor

Rated Current (A)	Aluminium busway size (mm)			
	Minimum		Standard	
	X	Y	Y	X
250	341	341	450	450
400A	351	351	450	450
630A	366	366	450	450
800A	381	381	450	450
1000A	406	406	450	450
1250A	441	441	500	500
1600A	491	491	500	500
2000A	560	560	850	850
2500A	630	630	850	850
3200A	730	730	850	850
4000A	810	810	850	850



Horizontal bend: used to change the horizontal direction of Busline

Fig. 13.1

Dimension

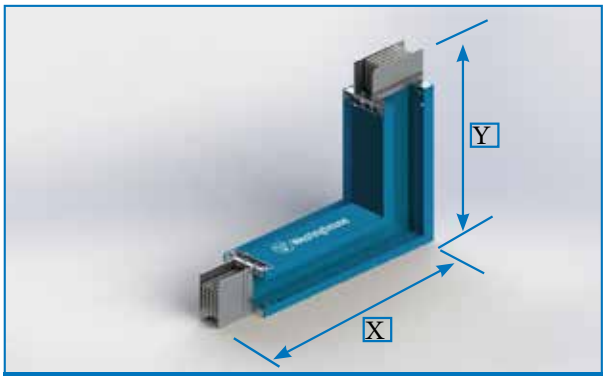
L edgewise elbow Fig 13.2

Copper conductor

Rated Current (A)	Copper busway size (mm)			
	Minimum		Standard	
	X	Y	Y	X
400A	363	363	400	400
630A	363	363	400	400
800A	363	363	400	400
1000A	363	363	400	400
1250A	363	363	400	400
1600A	363	363	400	400
2000A	363	363	400	400
2500A	363	363	400	400
3200A	363	363	400	400
4000A	363	363	400	400
6300A	363	363	400	400

Aluminum conductor

Rated Current (A)	Aluminium busway size (mm)			
	Minimum		Standard	
	X	Y	Y	X
250	363	363	400	400
400A	363	363	400	400
630A	363	363	400	400
800A	363	363	400	400
1000A	363	363	400	400
1250A	363	363	400	400
1600A	363	363	400	400
2000A	363	363	400	400
2500A	363	363	400	400
3200A	363	363	400	400
4000A	363	363	400	400



Horizontal bend: used to change the horizontal direction of Busline

Fig. 13.2

Dimension

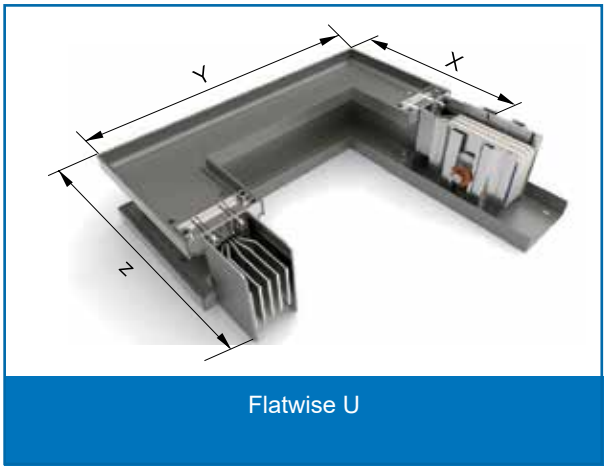
Flatwise U Fig 13.3

Copper conductor

Rated Current (A)	Copper busway size (mm)					
	Minimum			Standard		
	X	Y	Z	X	Y	Z
400A	341	326	341	400	450	400
630A	341	326	341	400	450	400
800A	351	346	351	400	450	400
1000A	366	376	366	400	450	400
1250A	391	426	391	400	450	400
1600A	421	486	421	550	700	550
2000A	461	566	461	550	700	550
2500A	511	666	511	550	700	550
3200A	590	824	590	800	1200	800
4000A	670	984	670	800	1200	800
6300A	770	1184	770	800	1200	800

Aluminum conductor

Rated Current (A)	Aluminium busway size (mm)					
	Minimum			Standard		
	X	Y	Z	X	Y	Z
250A	341	326	341	450	500	450
400A	351	346	351	450	500	450
630A	366	376	366	450	500	450
800A	381	406	381	450	500	450
1000A	406	456	406	450	500	450
1250A	441	526	441	500	650	500
1600A	491	626	491	500	650	500
2000A	560	764	560	850	650	850
2500A	630	904	630	850	1300	850
3200A	730	1104	730	850	1300	850
4000A	810	1264	810	850	1300	850



Flatwise U

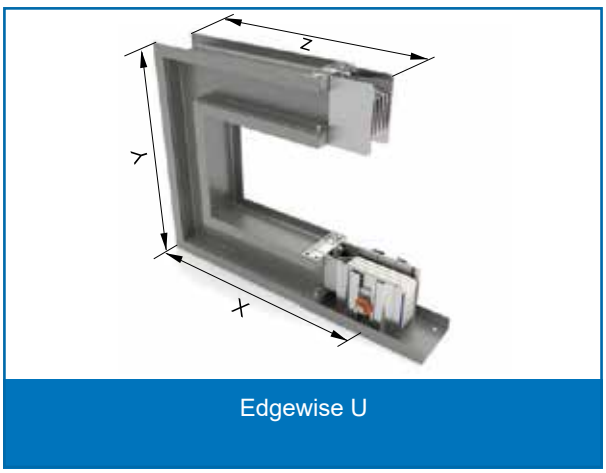
Fig. 13.3

Dimension

Edgewise U Fig 13.4

Copper conductor

Rated Current (A)	Copper busway size (mm)					
	Minimum			Standard		
	X	Y	Z	X	Y	Z
400A	363	370	363	400	400	400
630A	363	370	363	400	400	400
800A	363	370	363	400	400	400
1000A	363	370	363	400	400	400
1250A	363	370	363	400	400	400
1600A	363	370	363	400	400	400
2000A	363	370	363	400	400	400
2500A	363	370	363	400	400	400
3200A	363	370	363	400	400	400
4000A	363	370	363	400	400	400
6300A	363	370	363	400	400	400



Edgewise U

Fig. 13.4

Aluminum conductor

Rated Current (A)	Aluminium busway size (mm)					
	Minimum			Standard		
	X	Y	Z	X	Y	Z
250A	363	370	363	400	400	400
400A	363	370	363	400	400	400
630A	363	370	363	400	400	400
800A	363	370	363	400	400	400
1000A	363	370	363	400	400	400
1250A	363	370	363	400	400	400
1600A	363	370	363	400	400	400
2000A	363	370	363	400	400	400
2500A	363	370	363	400	400	400
3200A	363	370	363	400	400	400
4000A	363	370	363	400	400	400

Dimension

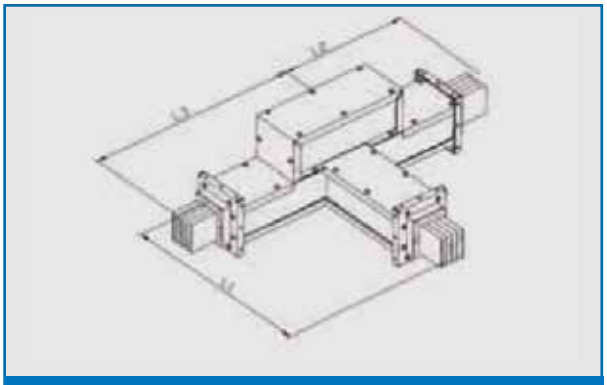
Flatwise T-Type Fig 13.5

Copper conductor

Rated Current (A)	Copper busway size (mm)					
	Minimum			Standard		
	X	Y	Z	X	Y	Z
400A	341	290	290	400	350	350
630A	341	290	290	400	350	350
800A	351	295	295	400	350	350
1000A	366	302	302	400	350	350
1250A	391	315	315	400	350	350
1600A	421	330	330	550	400	400
2000A	461	350	350	550	400	400
2500A	511	375	375	550	400	400
3200A	590	414	414	800	550	550
4000A	670	454	454	800	550	550
6300A	770	504	504	800	550	550

Aluminum conductor

Rated Current (A)	Aluminium busway size (mm)					
	Minimum			Standard		
	X	Y	Z	X	Y	Z
250A	341	290	290	450	350	350
400A	351	295	295	450	350	350
630A	366	302	302	450	350	350
800A	381	310	310	450	350	350
1000A	406	322	322	450	350	350
1250A	441	340	340	500	400	400
1600A	491	365	365	500	400	400
2000A	560	399	399	850	550	550
2500A	630	434	434	850	550	550
3200A	730	484	484	850	550	550
4000A	810	524	524	850	550	550



Flatwise T-Type Horizontal Bend used for adding busbar branch

Fig. 13.5

Dimension

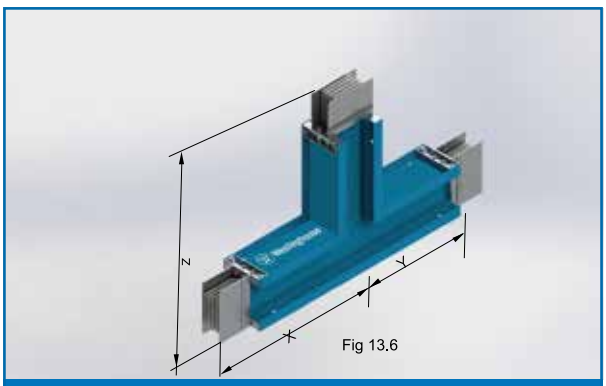
Edgewise T-Type Fig 13.6

Copper conductor

Rated Current (A)	Copper busway size (mm)					
	Minimum			Standard		
	X	Y	Z	X	Y	Z
400A	363	411	411	400	500	500
630A	363	411	411	400	500	500
800A	363	426	426	400	500	500
1000A	363	436	436	400	500	500
1250A	363	461	461	400	500	500
1600A	363	496	496	400	600	600
2000A	363	531	531	400	600	600
2500A	363	581	581	400	600	600
3200A	363	660	660	400	900	900
4000A	363	740	740	400	900	900
6300A	363	840	840	400	900	900

Aluminum conductor

Rated Current (A)	Aluminium busway size (mm)					
	Minimum			Standard		
	X	Y	Z	X	Y	Z
250A	363	411	411	400	500	500
400A	363	411	411	400	500	500
630A	363	426	426	400	500	500
800A	363	436	436	400	500	500
1000A	363	461	461	400	500	500
1250A	363	496	496	400	600	600
1600A	363	531	531	400	600	600
2000A	363	581	581	400	600	600
2500A	363	660	660	400	900	900
3200A	363	740	740	400	900	900
4000A	363	840	840	400	900	900



Edgewise T-Type Vertical Bend used for adding busbar branch

Fig. 13.6

Dimension

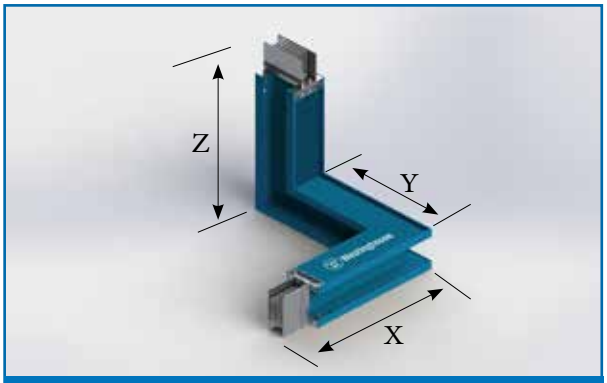
Combination Elbow Fig 13.7

Copper conductor

Rated Current (A)	Copper busway size (mm)					
	Minimum			Standard		
	X	Y	Z	X	Y	Z
400A	341	348	363	400	400	400
630A	341	348	363	400	400	400
800A	351	358	363	400	400	400
1000A	366	373	363	400	400	400
1250A	391	398	363	400	400	400
1600A	421	428	363	550	550	400
2000A	461	468	363	550	550	400
2500A	511	518	363	550	550	400
3200A	590	597	363	800	800	400
4000A	670	677	363	800	800	400
6300A	770	777	363	800	800	400

Aluminum conductor

Rated Current (A)	Aluminium busway size (mm)					
	Minimum			Standard		
	X	Y	Z	X	Y	Z
250A	341	348	363	450	450	400
400A	351	358	363	450	450	400
630A	366	373	363	450	450	400
800A	381	388	363	450	450	400
1000A	406	413	363	450	450	400
1250A	441	448	363	500	500	400
1600A	491	498	363	500	500	400
2000A	560	567	363	850	850	400
2500A	630	637	363	850	850	400
3200A	730	737	363	850	850	400
4000A	810	817	363	850	850	400



Special bend used for busbar to bypass obstacles or change the direction of busbar line layout

Fig. 13.7

Dimension

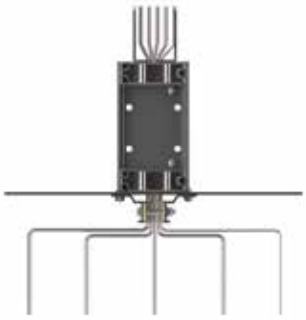
Flanged end

Standard length L=0.56m
Nonstandard length: L=0.56~2.00m

3P+100%N+50% integral housing as PE

3P+100%N+50% internal bar as PE

Top View



Section view

Section view

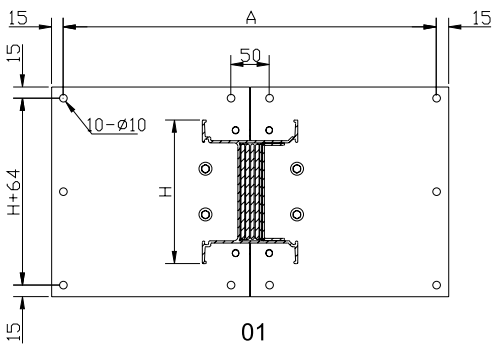
Flanged end and end tap box can used in connection with any type of switchgear cabinets and transformers. Flanged end busbar spacing can be customized on application.
Note:
All the dimensions are for standard products. Please contact our for customized dimensions.

Dimension

Flanged end cut out and drilling pattern

Alpha Power Cu

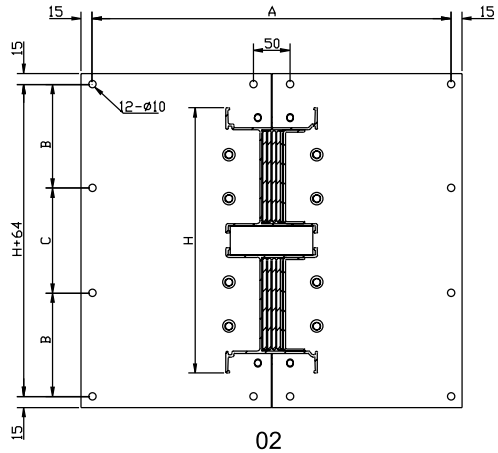
Rated Current (A)	3L+N+PE Size (mm)				3L+N Size (mm)			FIG
	H	A	B	C	A	B	C	
400A	103	490	370					01
630A	103	490	370					
800A	118	490	370					
1000A	128	490	370					
1250A	153	490	370					
1600A	188	490	370					
2000A	223	490	370					
2500A	273	490	370					
3200A	352	490	140	136	370	140	136	02
4000A	432	490	165	166	370	165	166	
6300A	532	490	200	196	370	200	196	



01

Alpha Power Al

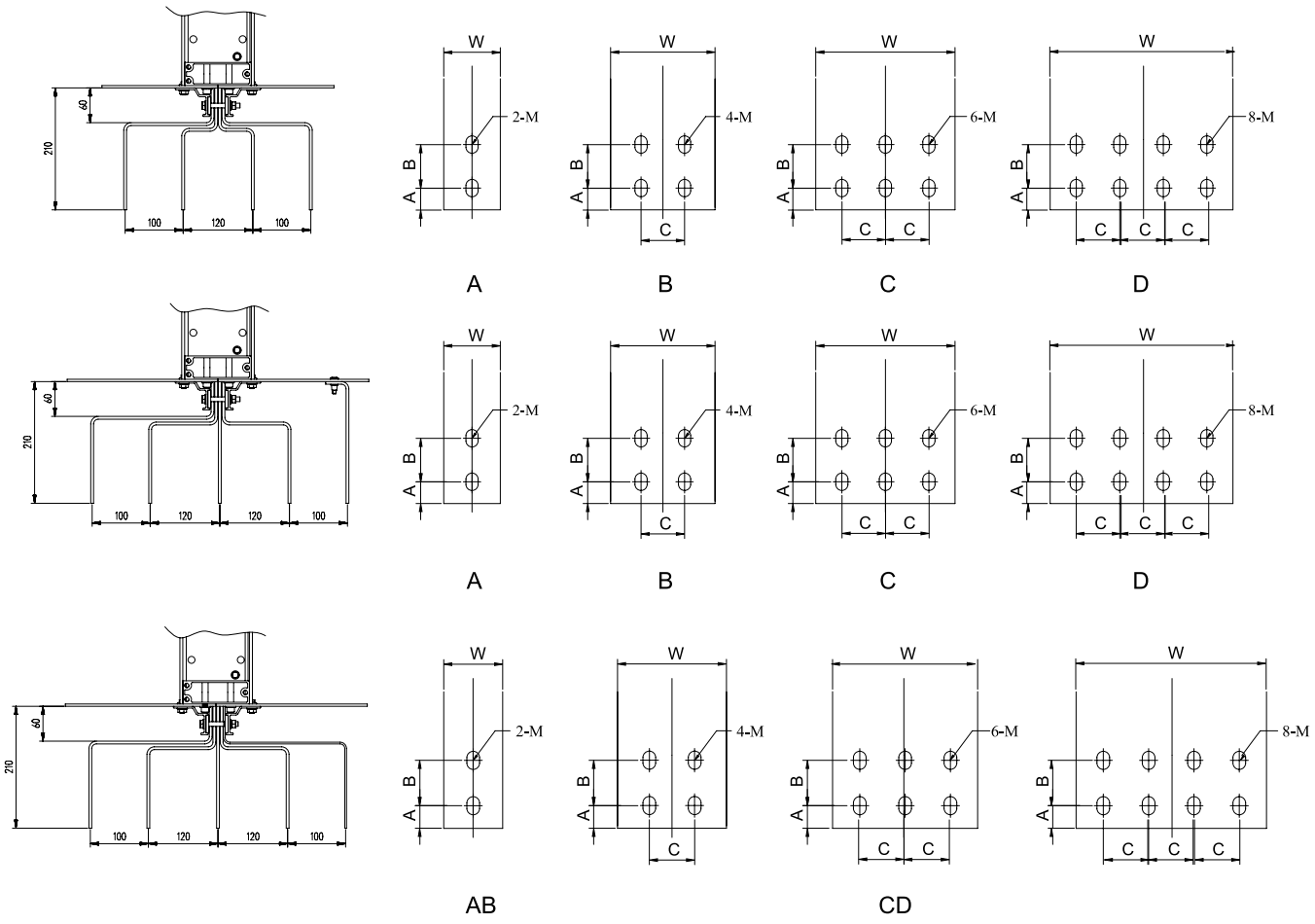
Rated Current (A)	3L+N+PE Size (mm)				3L+N Size (mm)			FIG
	H	A	B	C	A	B	C	
250A	103	490	370					01
400A	113	490	370					
630A	128	490	370					
800A	143	490	370					
1000A	168	490	370					
1250A	203	490	370					
1600A	253	490	370					
2000A	322	490	130	126	370	130	126	
2500A	392	490	150	156	370	150	156	02
3200A	492	490	185	186	370	185	186	
4000A	572	490	210	216	370	210	216	



02

Dimension

Flanged end bar hole pattern



Alpha Power Cu

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

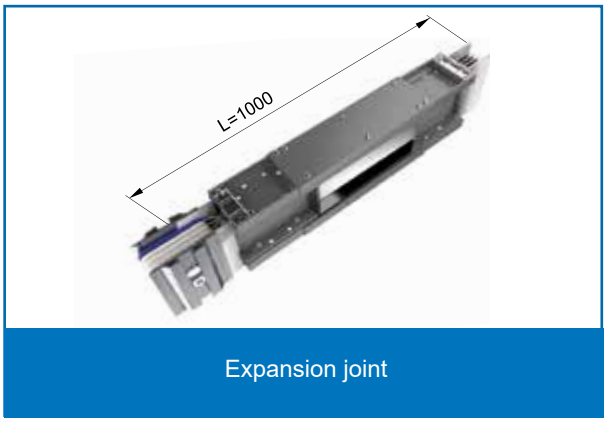
Alpha Power Al

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

Dimension

Expansion joint

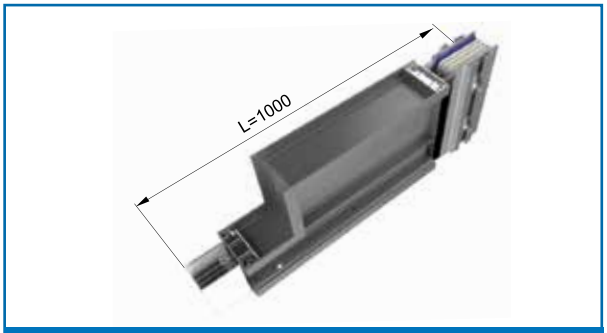
Expansion length is the transition section compensating for thermal expansion, it is normally set each 60m in linear distance.



Expansion joint

Reducer

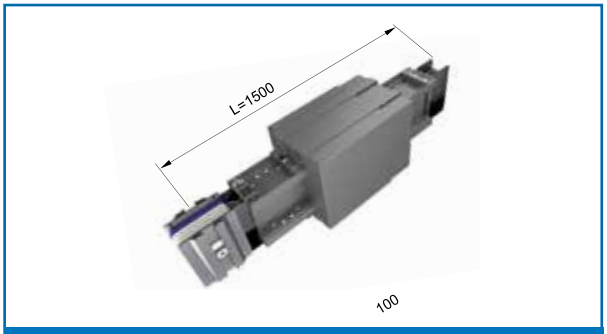
This reducer section is used for reducing busbar size to the final load, it provides users with more economic power transmission and distribution method.



Reducer

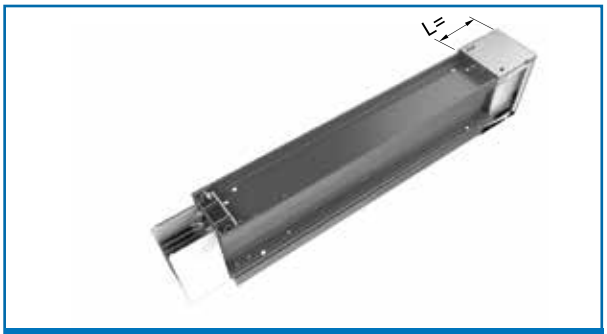
Transposition joint

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



Transposition joint

Terminal cover



Terminal cover

Dimension

Tap-off units

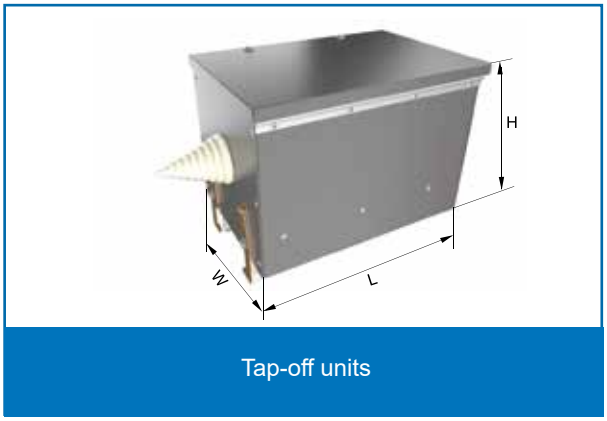
Alpha Power tap-off units is adopted to apply electrical power directly to the load from the busway system. Fully considering customer's requirements, Alpha Power bus plug offers the options of circuit breaker or fuse.

Tap-off units with circuit breaker

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

Tap-off units

• Tap-off units with fuses can be produced according to customer specifications.
• Unique fail-safe base pins The plug-in boxes is equipped with a positioning device that prevents incorrect phase installations.
• Plug-in pins
All pins are silver-plated to improve the electrical conductivity.



Tap-off units

Plug-in box Dimensions (L×W×H)mm

• For tap-off box over 1000A, please contact the manufacturer.

Rated Current (A)	Plug-in box Dimensions			
	L(mm) Length	W(mm) Width	H(mm) Height	Minimum Height (mm)
100	360	250	255	250
160	400	250	255	250
250	520	270	275	270
400	650	310	315	310
630	800	340	345	340
800-1000	1200	420	355	350

Note: Table 25-1 size is based on the size of common circuit breaker 3p/4p.

Protection class up to IP54 with IEC 60529

Tap-off units

Dimension

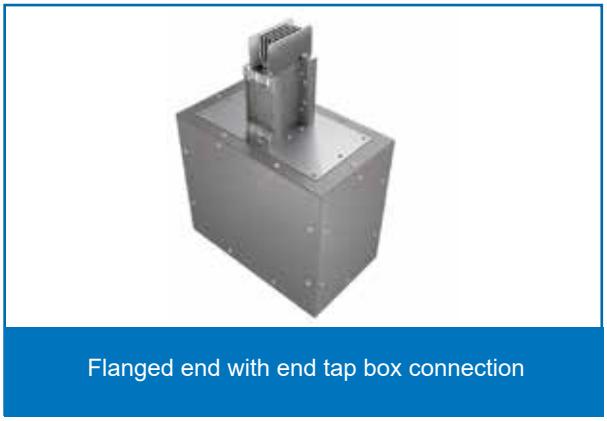
End tap box

Alpha Power series busway system tap boxes are used where a run of busway is fed by cable.
We offer standard size end tap box (1m×1m×1m) while we also supply with nonstandard box according to the on-site measurement.

End tap box

Flanged end with end tap box connection

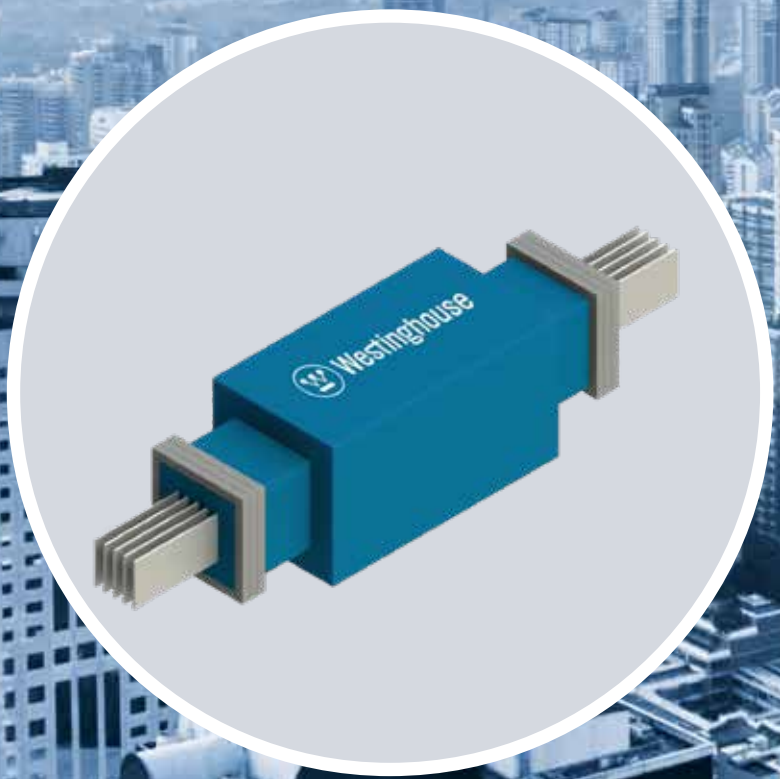
The flange plate can be manufactured according to the Size Of the end tap box, it can be connected directly With end tap box.



Flanged end with end tap box connection

Westinghouse

Alpha Power Series Busway (Resin Cast)

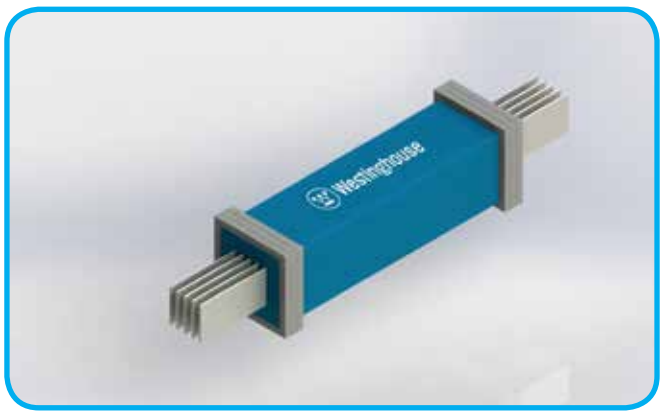


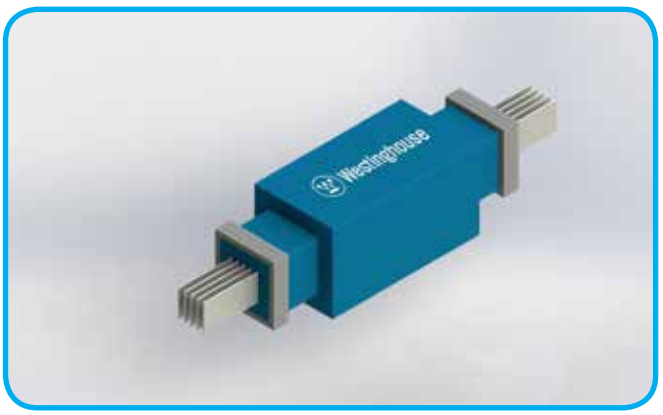
CE

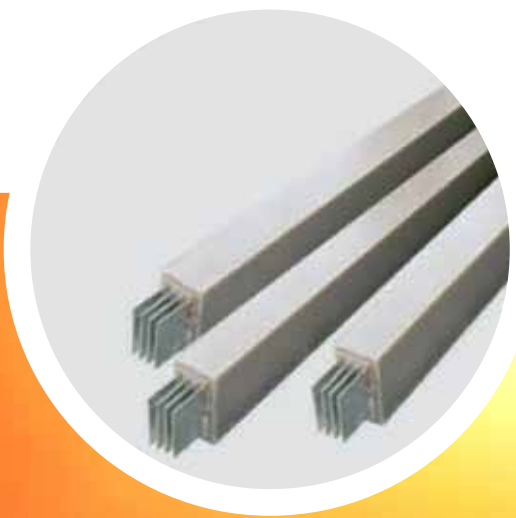
Product Introduction

Product Feature

Fully enclosed resin pouring busbar is a new generation of special busbar developed by Westinghouse It is poured With high-performance Insulating resin and a variety of inorganic minerals. The busbar is directly poured and seated, and the protection grade reaches IP68. It 's a new type of non-metallic shell busbar With four prevention functions: waterproof, fireproof, anti corrosion and explosion-proof. It is widely used in power transmission and distribution systems in shipping, chemical Industry, metallurgy, coal mining and other Industries.

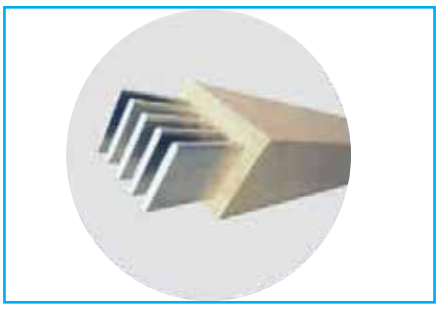






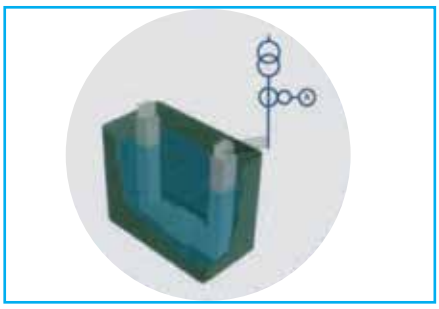
Product Introduction

Product Feature



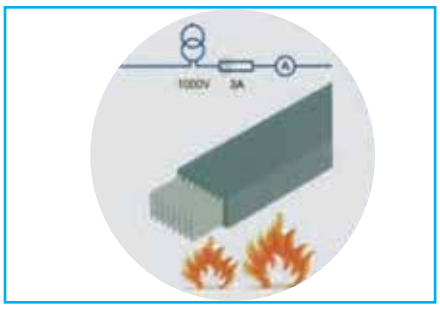
Structure Design

Adopting reasonable “sandwich: phase line tightly laminated structure design, Busbar groove is more compact, smaller volume, and enhance the dynamic thermal stability of bus system.



Water resistance performance

Made of high performance insulating resin, with excellent air tightness and water tightness, the protection grade, which can prevent dust from entering and can operate reliably for a long time even under continuous immersion.

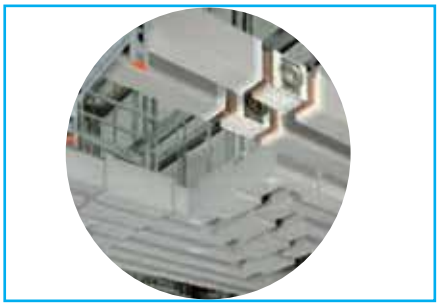


Fire resistance performance

Insulating resin is a self-extinguishing insulating material, fire resistance is A, fire preventing grade is F120, can work in 950-1000°C Flame for more than 90min. Keep the line without interruption, and the insulating resin does not contain halogen, high temperature will not release harmful gases.

Corrosion resistance performance

Busbar with metal shell can not prevent acid rain corrosion, corrosive gas produced by chemical plant, and even corrosive splash on electrical products. This requires the busbar to have corrosion resistance. Epoxy resin castable tor busbar groove has excellent corrosion resistance and can effectively resist the erosion Of various chemicals.



Long Life service

it can withstand 6 joule of mechanical impact, ensure the safety of use, and has good explosion -proof performance.

Use Environment

The product is not restricted by altitude can work in the environment of 40°C for a long time, and the insulating resin will not crack, can be used in the environment of the highest pollution level (level4) for a long time.

Product Introduction

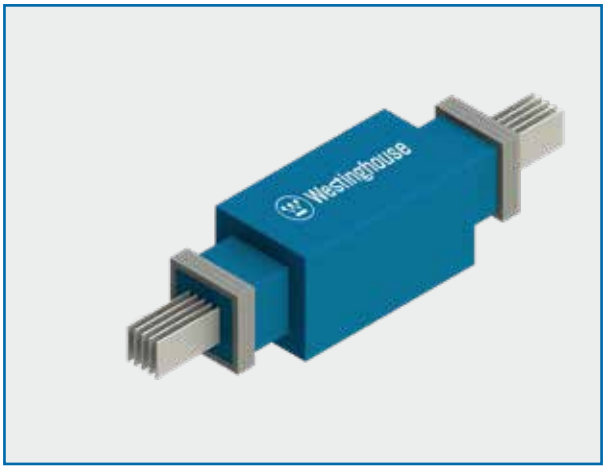
Product Feature

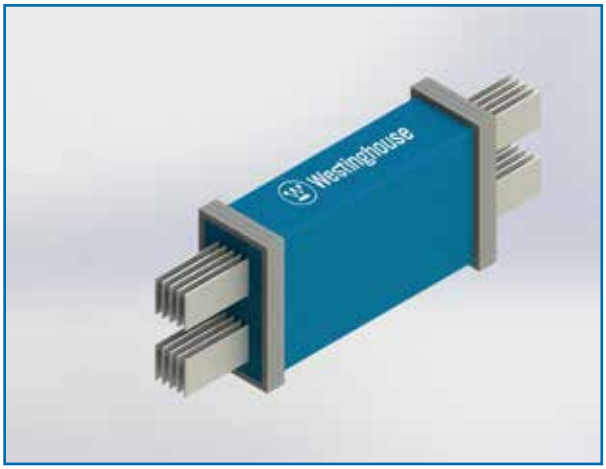
Resistance, Reactance, impedance and voltage drop (50-60Hz) impedance and voltage drop (50-60Hz)

Rated Current (A)	Resistance (R) (mΩ/m)	Reactance (X) (mΩ/m)	Impedance (Z) (mΩ/m)	Voltage Drop (V/m)	IP
250	0. 220	0. 097	0. 240	0. 1	68
400	0. 157	0. 093	0. 182	0. 1	68
630	0. 096	0. 085	0. 128	0. 1	68
800	0. 069	0. 025	0. 073	0. 1	68
1000	0. 051	0. 019	0. 054	0. 11	68
1250	0. 038	0. 014	0. 040	0. 11	68
1600	0. 030	0. 011	0. 031	0. 11	68
2000	0. 025	0. 009	0. 027	0. 11	68
2500	0. 019	0. 007	0. 020	0. 11	68
3000	0. 015	0. 006	0. 016	0. 12	68
4000	0. 012	0. 005	0. 013	0. 12	68
5000	0. 008	0. 004	0. 009	0. 13	68
6300	0. 005	0. 002	0. 005	0. 15	68

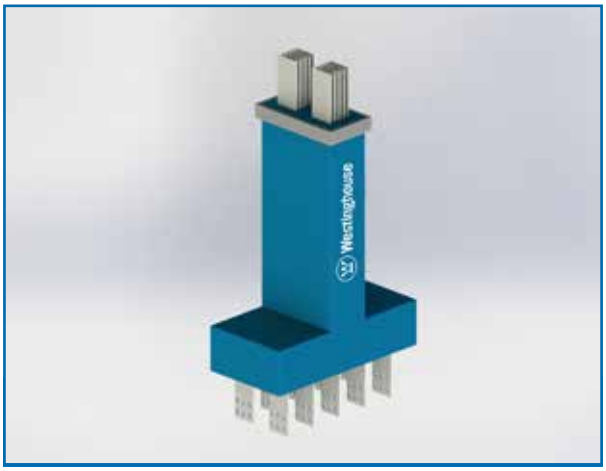
Dimension

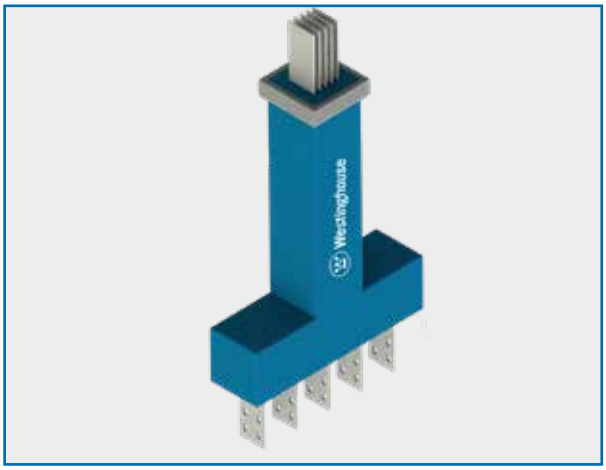
Linear Unit





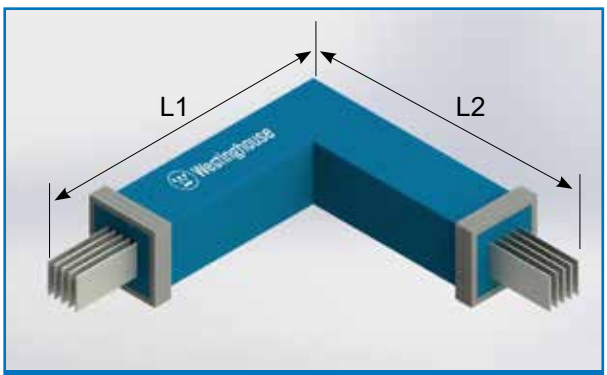
Beginning Incoming Unit





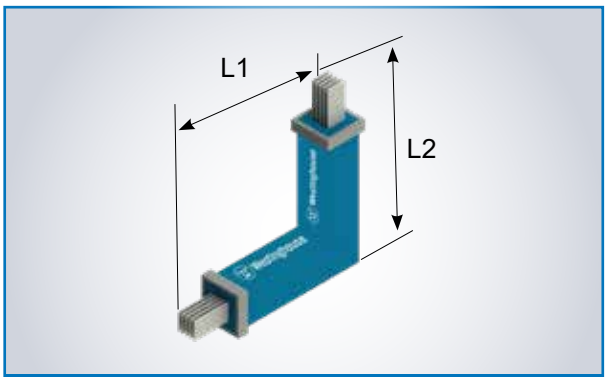
Electric Parameter

Rated capacity	L1 x L2 mm
250-5000	300x300
3150-5000	
6100-6300	350x350



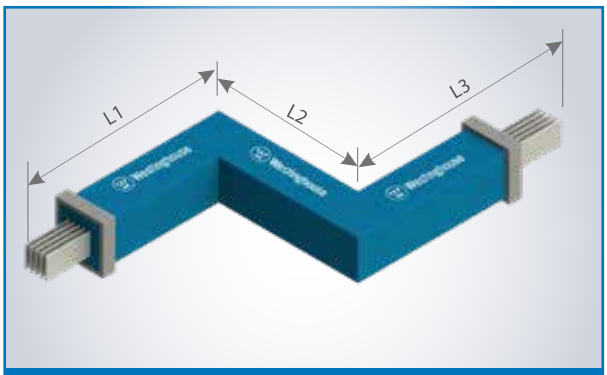
L-type horizontal bending

Rated capacity	L1 x L2 mm
250-5000	300x300
3150-5000	350x350
6100-6300	



L-type vertical bending

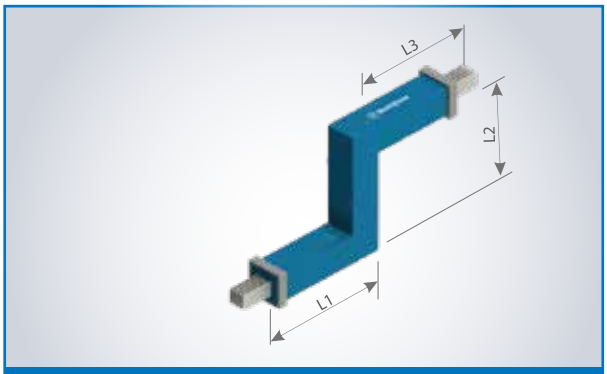
Rated capacity	L1 x L2 x L3 mm
250-5000	300x300x300
3150-5000	350x350x350
6100-6300	450x450x450



Z-type horizontal bending

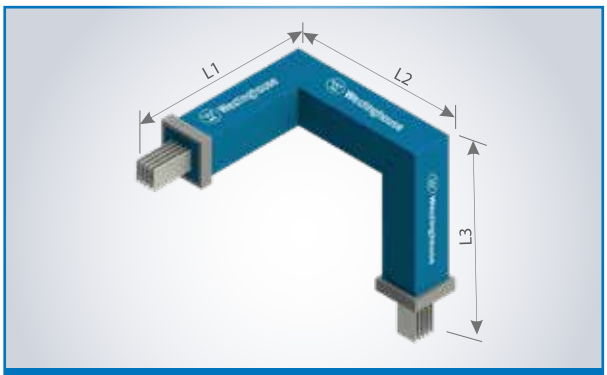
Electric Parameter

Rated capacity	L1 x L2 x L3 mm
250-5000	300x300x300
3150-5000	350x350x350
6100-6300	450x450x450



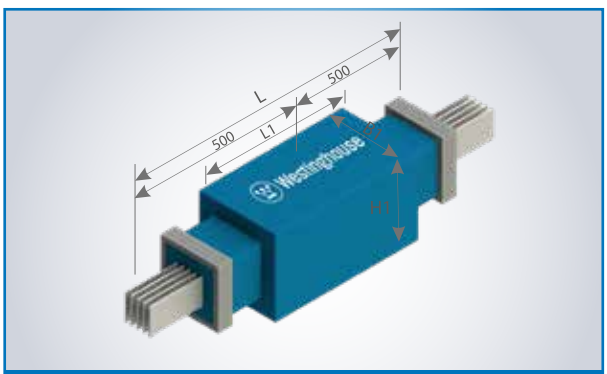
Z-type vertical bending

Rated capacity	L1 x L2 x L3 mm
250-5000	300x300x300
3150-5000	350x350x350
6100-6300	450x450x450



Horizontal and vertical bending

Rated capacity	L1 mm
250-5000	1000
3150-5000	1500
6100-6300	

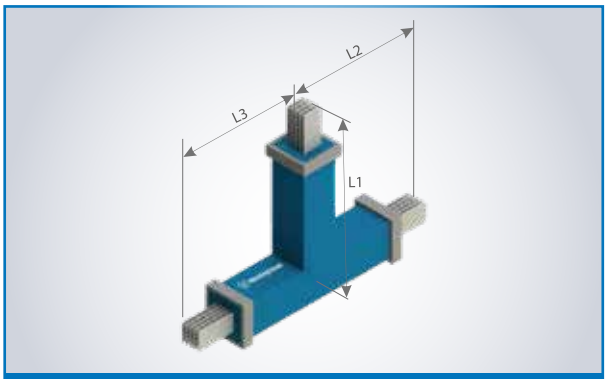


Phase shift unit

In the table above, the load distribution coefficient k=1. In a specific project, the k values vary with the branch number of the BTS.

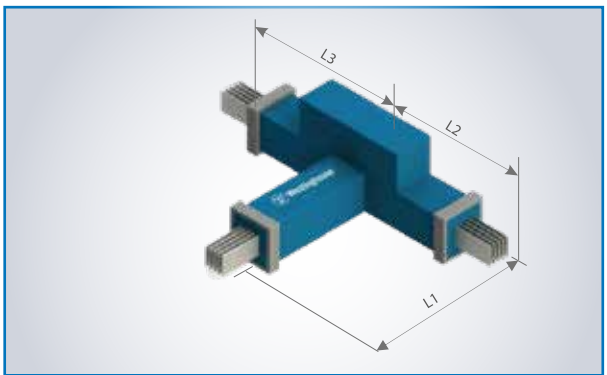
Electric Parameter

Rated capacity	L1 x L2 x L3 mm
250-5000	300x300x300
3150-5000	350x350x350
6100-6300	450x450x450



T-type vertical bending

Current Level	L1 x L2 x L3 mm
250	450x450x450
400	
630	
800	
1000	
1250	
1600	500x500x500
2000	
2500	550x550x550
3250	
4000	
5000	650x650x650
6300	



T-shaped horizontal bend

Installation

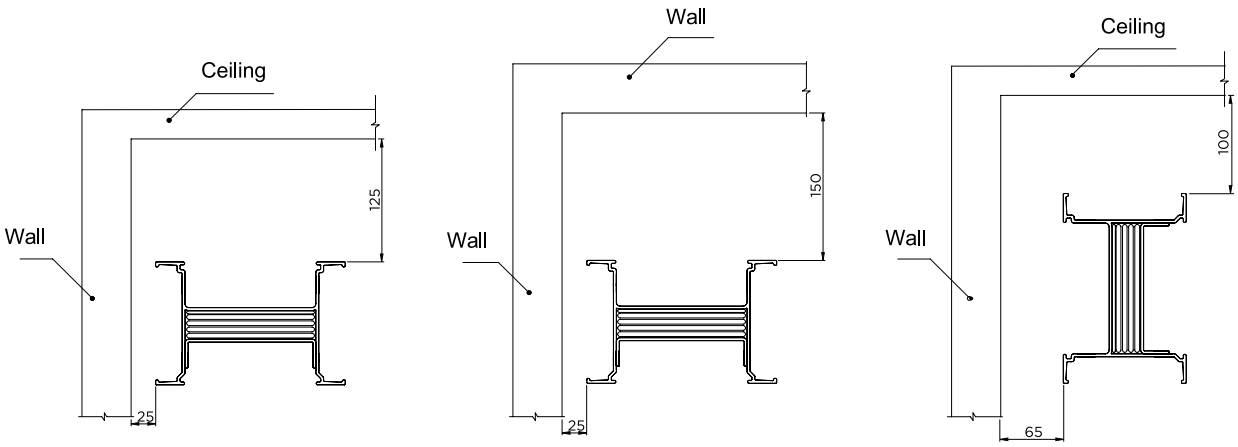
Protection Class

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

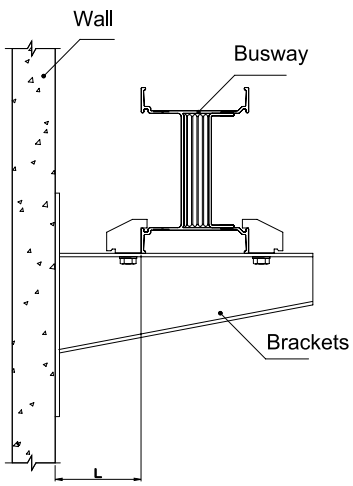
Note:

- **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
- **IP68---"6"** for dust density, "8" for water resistant in fresh water to a maximum depth of 1.5 meters

Minimum clearance required for installation



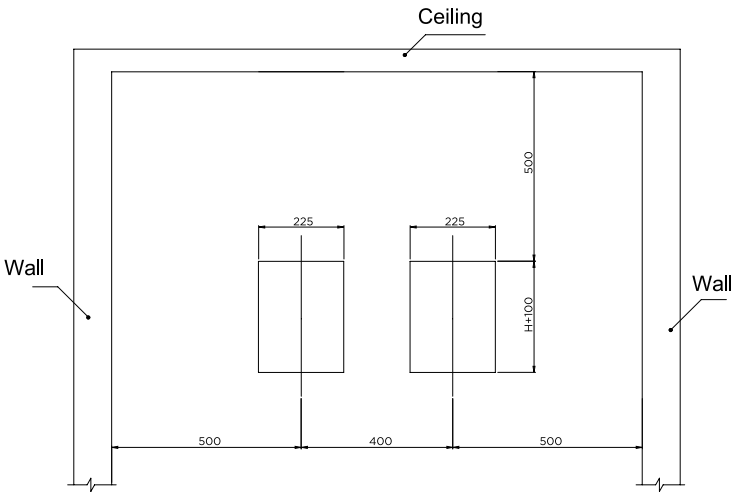
Minimum clearance required for plug-in box installation



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

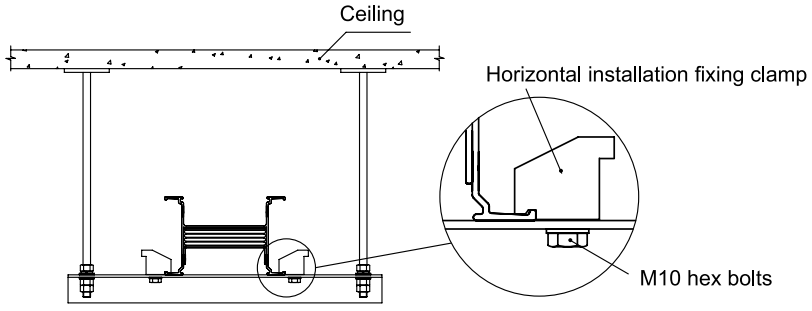
Installation

Horizontal wall-through installation

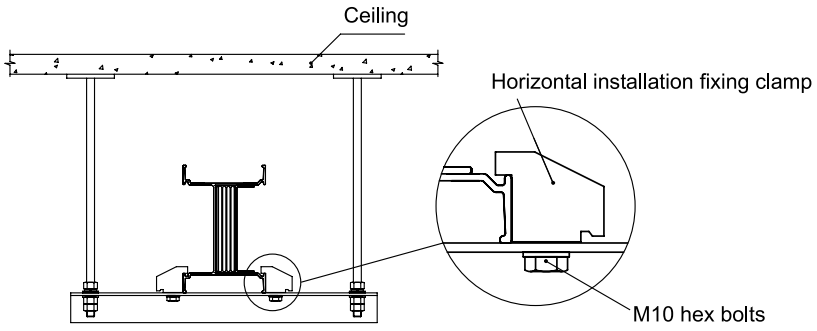


Horizontal installation-trapeze hangers Overhead Support

Holes should be first drilled in the floor so as to inlay steel expansion bolts (holes may also be drilled on site for flexible installation) or pre-bury steel U-channel for welding with hangers. The distance between two adjacent hangers shall not exceed 2m. Please specify any special requirements when placing your order.



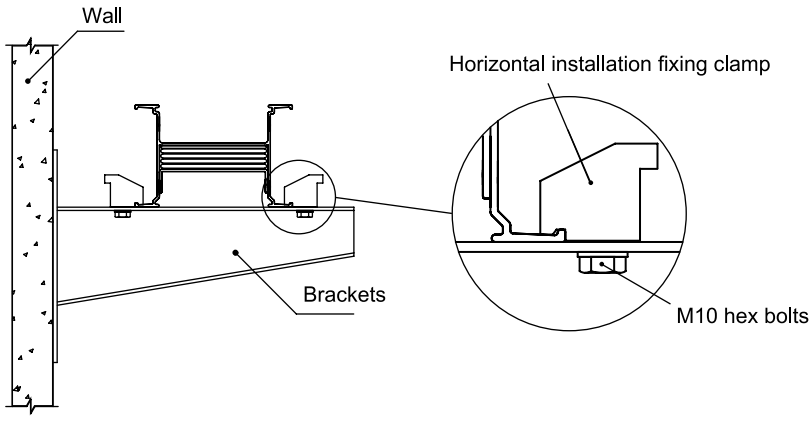
Flatwise installation



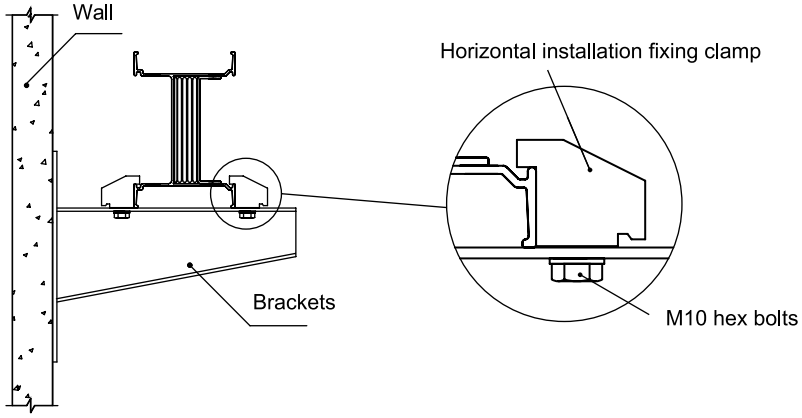
Edgewise installation

Installation

Horizontal installation-wall support



Flatwise installation

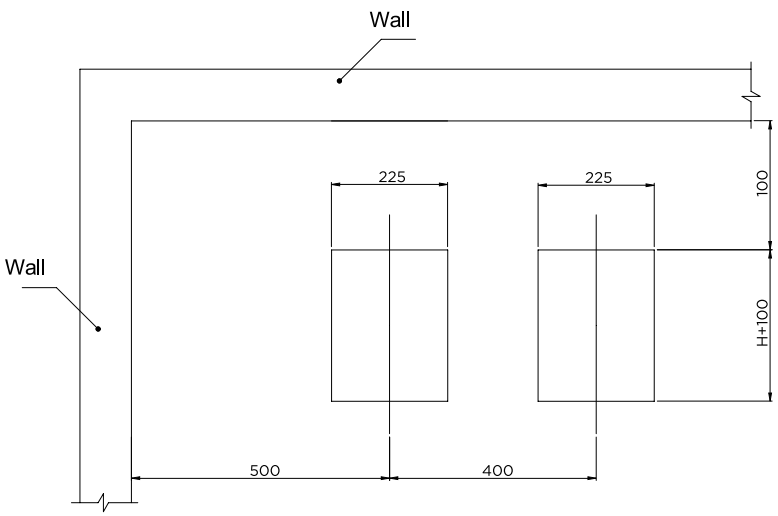


Edgewise installation

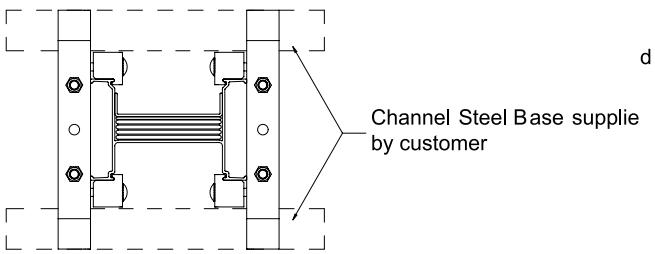
Installation

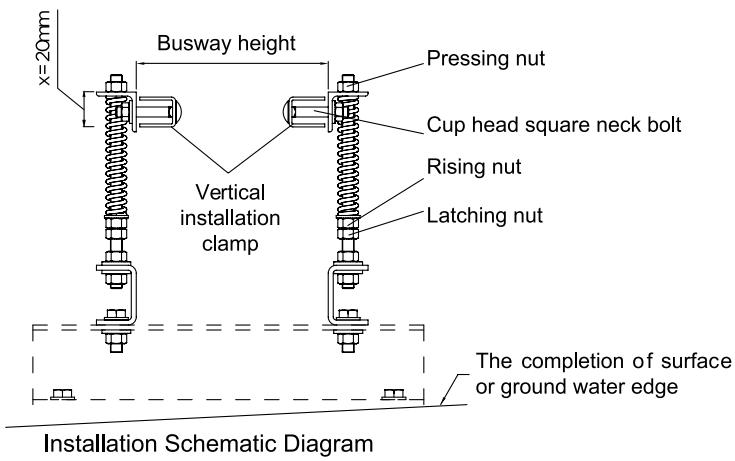
Vertical installation

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:

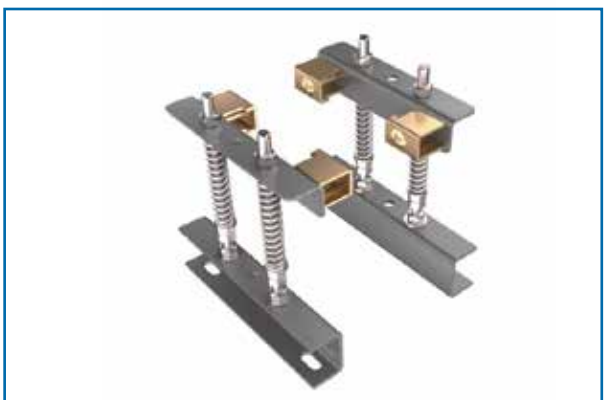


Installation for Vertical Spring Hanger





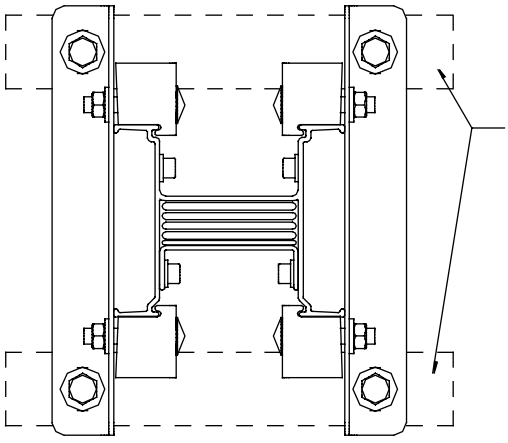
Installation Schematic Diagram



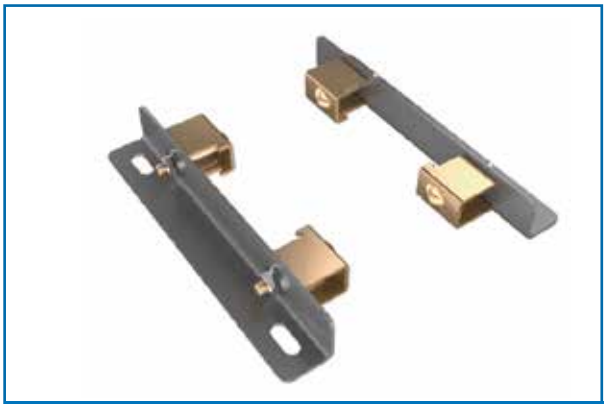
Spring Hanger

Installation

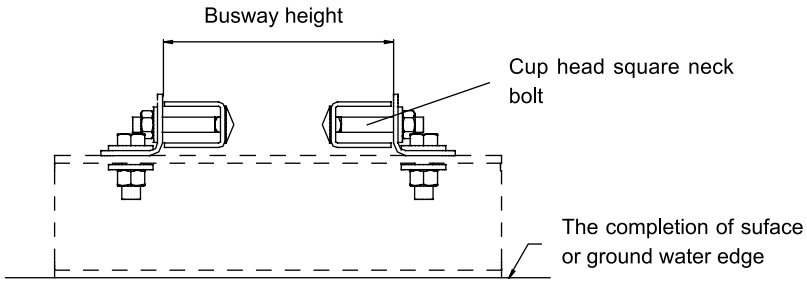
Installation for Vertical Fixed Hanger



Channel Steel supplied by customer. Customer supply the fixed parts of channel steel to ground and hanger to channel steel

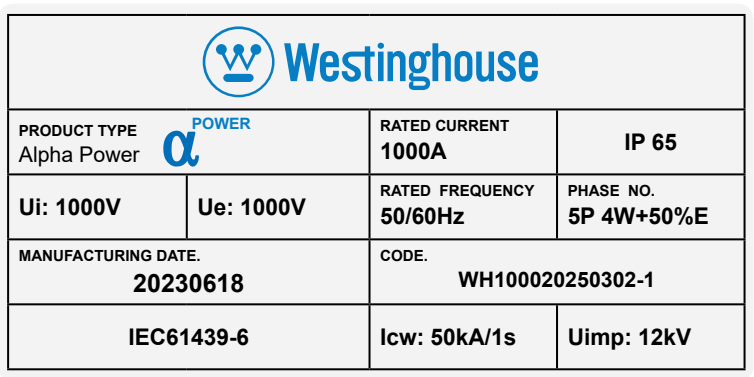


Vertical Fixed Hanger



Installation Schematic Diagram

Product Code



Westinghouse			
PRODUCT TYPE Alpha Power α POWER		RATED CURRENT 1000A	IP 65
Ui: 1000V	Ue: 1000V	RATED FREQUENCY 50/60Hz	PHASE NO. 5P 4W+50%E
MANUFACTURING DATE. 20230618		CODE. WH100020250302-1	
IEC61439-6		Icw: 50kA/1s	Uimp: 12kV

CODE WH 1000 2025 03 02 -1

Model Rating Year Month Day Seq

- Alpha Power
- Model: Alpha Power Series
- IP degree: IP65
- The feeder length of the copper busway: 3m

OUR PROMISE

Westinghouse is built upon a tradition of dependability and innovation.

Today, we strive to make everyday life a little better by offering a wide range of quality products and services you can trust.

WHY WESTINGHOUSE ?

Since 1886, Westinghouse has brought the best to life. Today, Westinghouse Electric Corporation remains a trusted name globally in consumer and industrial products. Built on a heritage of innovation and entrepreneurial spirit. Today, Westinghouse continues to grow its diverse portfolio, which includes a wide range of product categories, including home appliances, consumer electronics. power generation, Transmission & distribution and lighting.

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WH-01-Alphapower-0525