



MAX-LV series  
Compact Busway

## MAX-LV series – Compact Busway



MAX-ELECTRIC



MAX ELECTRIC

### 浙江曼德西电气设备有限公司

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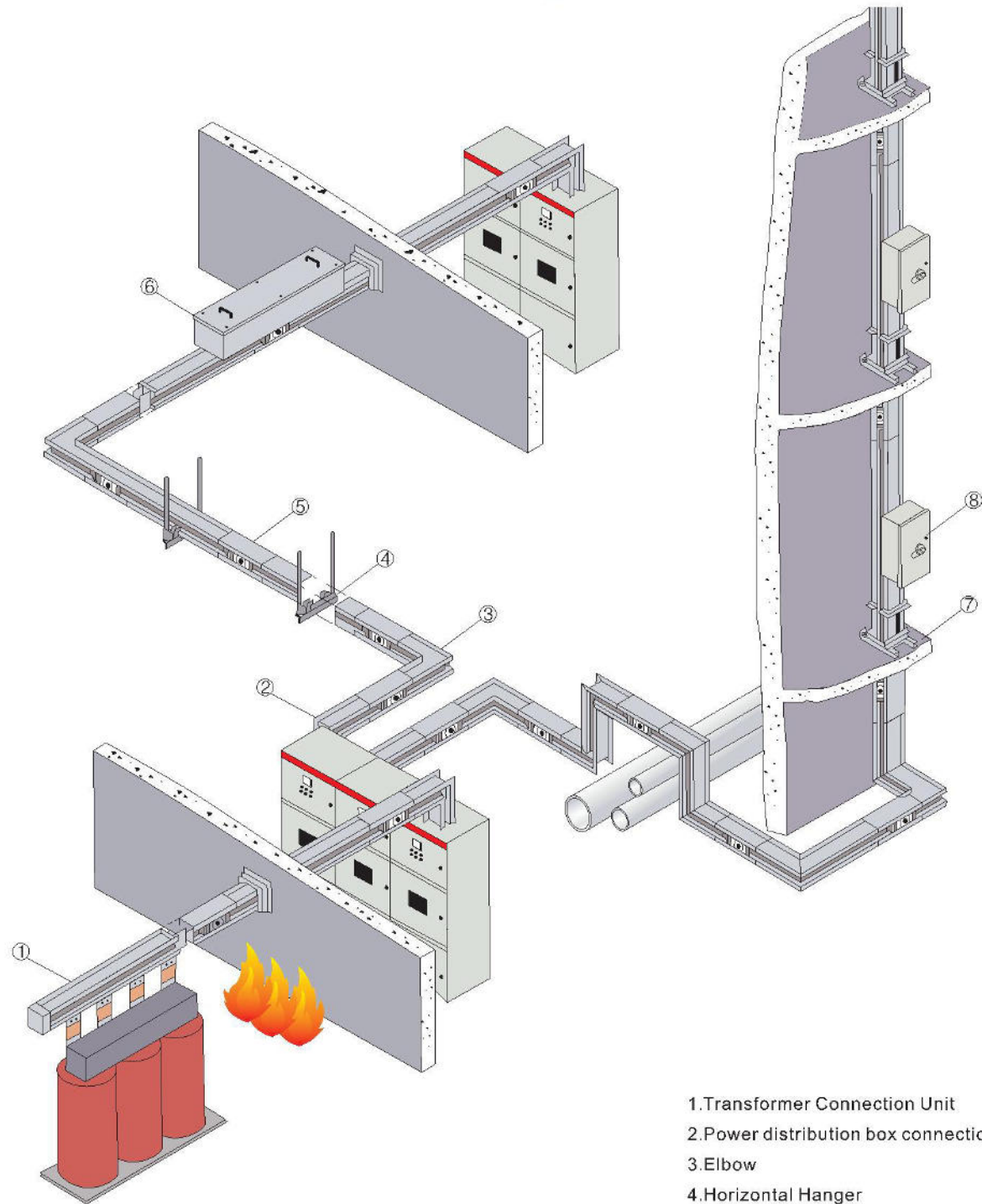
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# APPLICATION

MAX-LV series compact busway



1. Transformer Connection Unit
2. Power distribution box connection unit
3. Elbow
4. Horizontal Hanger
5. Joint
6. Tap-off Box for Large Current
7. Vertical spring Hanger
8. Tap-off Box

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MAX ELECTRIC



## MAX-LV series compact busway

MAX-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 250A to 4000A (for aluminium conductor) & 400A to 6300A (for copper conductor), 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-piece of aluminum housing, MAX-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, avoids hysteresis loss on the distribution system.

MAX-LV series busway provides longer life than mylar by epoxy insulation as an option epoxy power as insulation.

MAX-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, MAX-LV is a superior choice for your next installation.

## COMPANY PROFILE 公司简介

Zhejiang Mandexi Electric Equipment Co.,Ltd is located in Zhejiang province in China and established in 2005. We have been specializing in developing and manufacturing the power transmission & distribution equipment for years, we built our own brand "MAX ELECTRIC". our main products include MAX-LV- bus duct system,MAX-MV-bus duct system and MAX-HV-bus duct system.

We are the leading bus way company in China. It boasts the most complete lines of busway product & solution in the industry and modern manufacturing facility with state-of-the-art manufacturing equipment and process The company complies with quality management system ISO 9001, Environment Management System IS014001 and Occupational Health & Safety Management System OHSAS18001. The products made by MAX have obtained over 80 national and international patents and passed the type tests of international authority including CCC, KEMA and CE etc. All these strength together with our strong market position and financial status have allowed to us become the top national brand of busway. With long history and rich experience in product design, manufacturing expertise as well as proven quality of thousands of installations through China and the rest of world ,MAX ELECTRIC is striving to become a global leading manufacturer in busway system by helping customer to solve problems with innovative and efficient solutions.



# LEAP

## THE ENTERPRISE CULTURE:

Responsibility  
Honesty  
Creativity  
Harmony

## OUR VALUE:

Create value and offer great service for our customers

## OUR MISSION:

Make great contribution for the power transmission



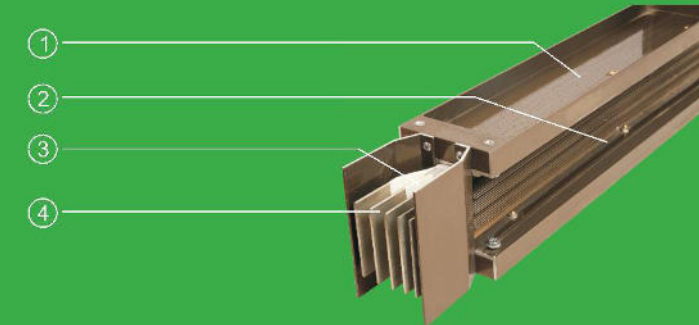
ISO 9001 ISO 14001 OHSAS 18001 SA 8000 GB/T 27922 GB/T 39490

CCC CE ROHS UL KEMA ASTA



## ● DETAIL PRESENTATION:

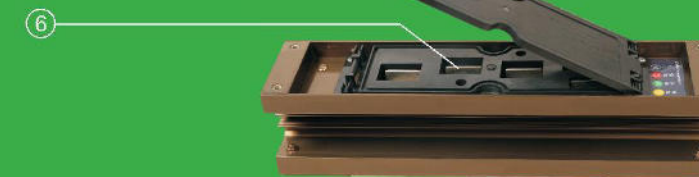
- ① Aluminum housing
- ② Fin for heat dissipation
- ③ Insulation material
- ④ Conductor



- ⑤ Joint



- ⑥ Plug in hole



Elbow



Elbow



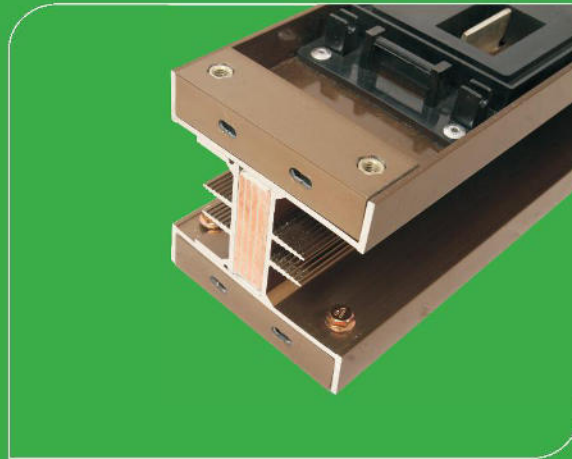
Elbow



Tap-off box

## Aluminum housing

- The surface treatment is Electrophoresis, more smooth and higher mechanical strength.
- The unique "serrated surface" makes the heat dissipation quicker.
- the "sandwich structure" (only 2 pieces) improves the IP level.



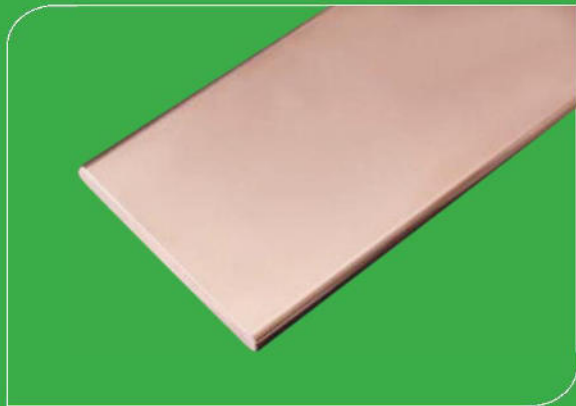
## Unique joint design

- 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.



## Conductor

- The high speed saw cutting, smooth and no burr, the cutting precision of the cutting, ensuring the evenness of the alkali surface, reducing the temperature rise of the busbar joint
- High quality conductor offers the best performance of the compact busway system.



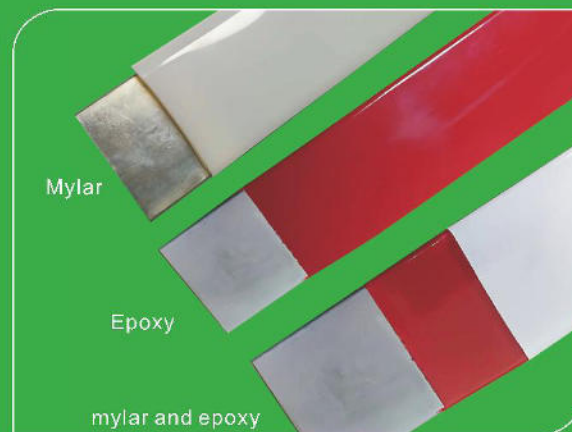
## Intensive socket

- Technical lead, the female row at the socket is not bending, which really realizes densification, low impedance, and lower voltage drop and line loss in the bus system. Fast heat dissipation, large splitting capacity, and more secure and reliable current. Reasonable structure, beautiful appearance, high protection level.



## Superior & reliable insulation

- Both polyester film insulation and epoxy insulation 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 case of fire.



## 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.



● Product features:

## Reference Standards

MAX-LV Busway System complies with:

- IEC 61439-1:2011 GB/T254.1-2013
- IEC 61439-6:2012 GB/T251.1-2015
- IEC 60529-1:2001 GB4208-2008
- JB/T9662-1999

Copper Conductor

Rated current	Rated short term tolerable current (KA)t=1s	Rated peak withstand current (KA)
400	30	63
630	30	63
800	30	63
1000	50	105
1250	50	105
1600	65	143
2000	65	143
2500	80	176
3200	80	176
4000	100	220
5000	100	220
6300	100	220

## Protection grade

According to the application situation, the protection grade of the bus slot can reach P66.

Note:

- IP40--"4" means prevent solid impurities and metal line, of which diameters are no less than 1.0mm, entering the shell, "0" means no protection.
- IP42--"4" means prevent solid impurities and metal line, of which diameters are no less than 1.0mm, entering the shell, "2" means prevent the shell tiling within 15° scope.
- IP54--"5" means dustproof, "4" means splashing
- IP65--"6" means dust tightness, "5" means spraying
- IP66--"6" means dust tightness, "6" means wild "6" means spraying

## Short circuit current rating

- MAX-LV busbar provides stable and efficient power transmission with high short circuit tolerance.
- MAX-LV busbar trough passed the international third-party verification for short-circuit tolerance.

Aluminum Conductor

Rated current	Rated short term tolerable current (KA)t=1s	Rated peak withstand current (KA)
250	15	30
400	15	30
630	30	63
800	30	63
1000	50	105
1250	50	105
1600	65	143
2000	65	143
2500	80	176
3200	80	176
4000	80	176

## Resistance, reactance, impedance and voltage drop

- MAX-LV compact busway owns high purity of conductor, sandwich structure and flux weakening housing, to make the resistance lowest.
- Part of the datas as below:

Copper Conductor(50H 20℃)

Current	Resistance (mΩ/m)	reactance (mΩ/m)	Impedance (mΩ/m)	voltage drop (V/m)				
				Power factor cosφ				
				0.6	0.7	0.8	0.9	1
400	0.090	0.037	0.118	0.058	0.062	0.065	0.068	0.062
630	0.090	0.037	0.118	0.092	0.098	0.103	0.106	0.098
800	0.066	0.032	0.084	0.090	0.095	0.099	0.101	0.091
1000	0.055	0.026	0.075	0.094	0.099	0.104	0.106	0.096
1250	0.040	0.019	0.053	0.086	0.091	0.095	0.097	0.087
1600	0.029	0.015	0.037	0.081	0.085	0.089	0.090	0.080
2000	0.023	0.012	0.031	0.081	0.085	0.088	0.089	0.078
2500	0.017	0.011	0.025	0.084	0.087	0.089	0.089	0.074
3200	0.015	0.006	0.015	0.075	0.081	0.086	0.089	0.084
4000	0.011	0.003	0.011	0.061	0.068	0.073	0.078	0.078
5000	0.086	0.002	0.007	0.077	0.082	0.086	0.089	0.081
6300	0.007	0.002	0.007	0.063	0.069	0.074	0.078	0.076

Aluminum Conductor(50H 20℃)

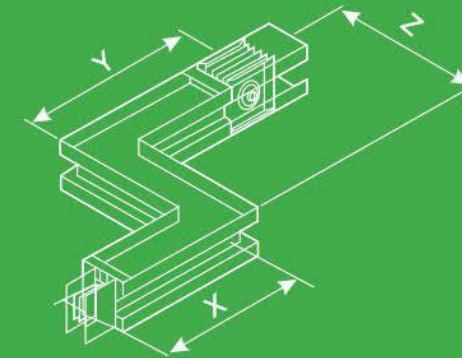
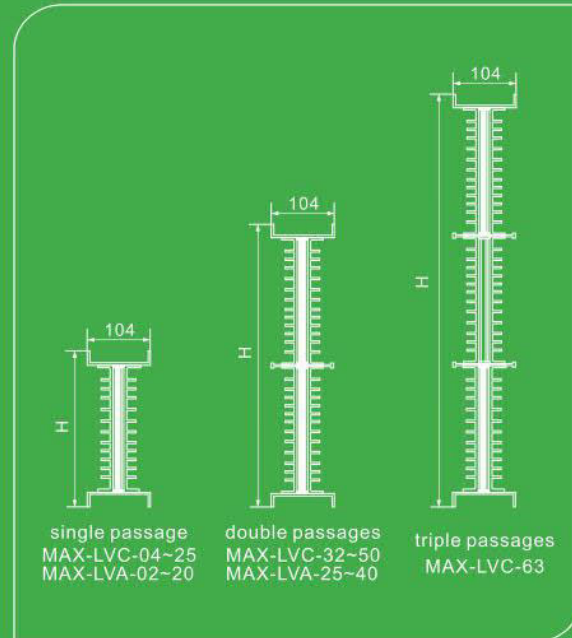
Current	Resistance (mΩ/m)	reactance (mΩ/m)	Impedance (mΩ/m)	voltage drop (V/m)				
				Power factor cosφ				
				0.6	0.7	0.8	0.9	1
250	0.162	0.028	0.165	0.052	0.058	0.063	0.068	0.070
400	0.125	0.024	0.127	0.065	0.072	0.079	0.085	0.087
630	0.093	0.052	0.131	0.106	0.111	0.115	0.116	0.101
800	0.077	0.027	0.108	0.094	0.101	0.107	0.112	0.106
1000	0.058	0.046	0.086	0.124	0.127	0.128	0.125	0.101
1250	0.044	0.012	0.062	0.076	0.084	0.090	0.096	0.094
1600	0.032	0.015	0.049	0.086	0.091	0.096	0.098	0.089
2000	0.029	0.019	0.045	0.113	0.118	0.120	0.120	0.100
2500	0.022	0.010	0.031	0.092	0.097	0.102	0.104	0.094
3200	0.016	0.007	0.024	0.083	0.088	0.093	0.096	0.089
4000	0.013	0.005	0.015	0.078	0.084	0.090	0.093	0.088

## Feeding straight part and Plug-in straight part:

- Feeding straight part connects transformer and power distribution box
- Plug-in straight part offers power distribution

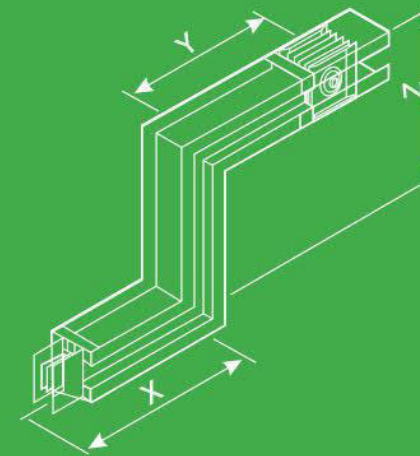
current code	current (A)	Height(mm)	
		MAX-LVC	MAX-LVA
02	250A	/	85
03	315A	/	85
04	400A	85	95
05	500A	95	105
06	630A	105	125
08	800A	125	150
10	1000A	150	170
12	1250A	185	185
16	1600A	230	230
20	2000A	265	305
25	2500A	305	330
32	3200A	420	480
40	4000A	480	560
50	5000A	560	/
63	6300A	815	/

All the width is 105mm



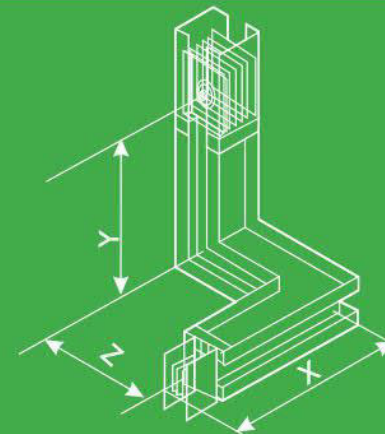
Standard length	
LVC	X=0.4m Y=0.4m Z=0.4m
Standard length	
LVA	X=0.4m Y=0.4m Z=0.4m

Horizontal elbow: changing horizontal direction



Standard length	
LVC - 04 ~ 12	X/Y=0.4m Z=0.4 ~ 0.7m
LVC - 16 ~ 25	X/Y=0.55m Z=0.7 ~ 1m
LVC - 32 ~ 50	X/Y=0.8m Z=1.2~1.5m
LVC - 63	X/Y=1m Z=1.5m
Standard length	
LVA - 02 ~ 10	X/Y=0.45m Z=0.4~0.7m
LVA - 12 ~ 20	X/Y=0.55m Z=0.7~1m
LVA - 25 ~ 40	X/Y=0.85m Z=1.2 ~ 1.5m

Vertical elbow: changing vertical direction



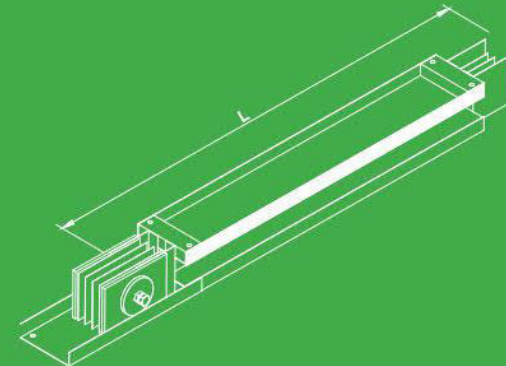
Standard length	
LVC - 04 ~ 12	X=0.4m Y=0.4m Z=0.4m
LVC - 16 ~ 25	X = 0.4m Y=0.55m Z=0.6m
LVC - 32 ~ 50	X = 0.4m Y=0.8m Z=0.8m
LVC - 63	X = 0.4m Y=1m Z=1m
Standard length	
LVA - 02 ~ 10	X=0.4m Y=0.45m Z=0.4m
LVA - 12 ~ 20	X = 0.4m Y=0.55m Z=0.6m
LVA - 25 ~ 40	X = 0.4m Y=0.85m Z=0.8m

Optional elbow: changing direction

### Feeding straight part

Standard length/Optional length	
LVC/LVC	L=1, 2, 3m / L=0.46~2.99m

Standard length/Optional length	
LVA/LVA	L=1, 2, 3m / L=0.46~4m

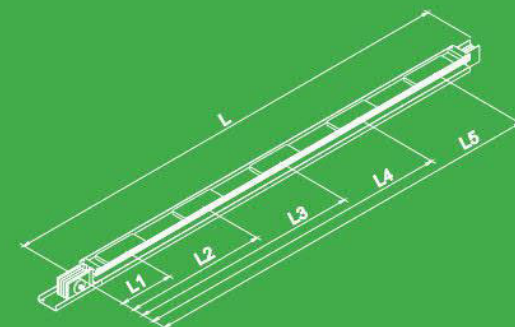


### Plug-in straight part

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=0.72~4m	LVA: L=0.72~4m



# MAX-LV compact busway system

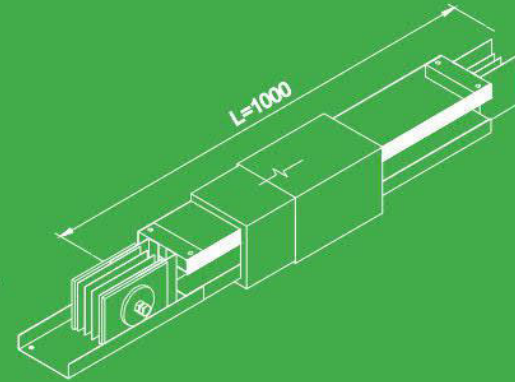


- Function unit:

## Fittings

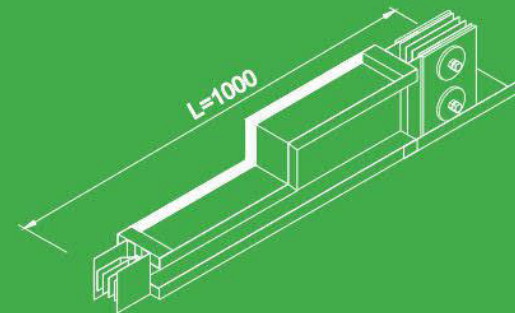
### Expansion joint

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



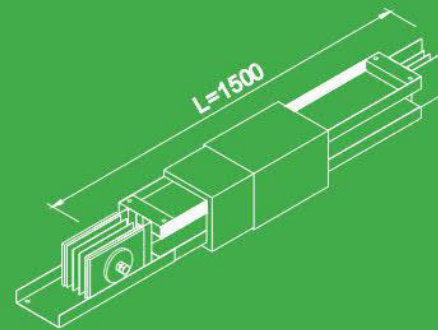
### Reducer

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

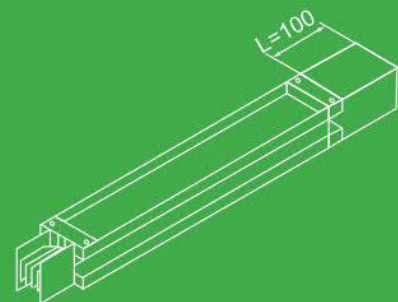


### Transposition joint

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.



### Terminal cover



- Tap-off box:

## Tap-off box

- The MAX-LV Tap-off box distributes electricity from the bus-slot to the load and ACTS as the mechanism for breaking the branch current. The Tap-off box is the key part of the user's most frequent and branch current protection.

## Tap-off box with fuse:

- The Tap-off box with fuse is made according to the specifications provided by the customer.
- Unique error-proof device: the Tap-off box has a home-made positioning device, can effectively prevent mis-splice.
- Pin: all pins are plated. To improve the electrical conductivity.

## Tap-off box with Circuit breaker:

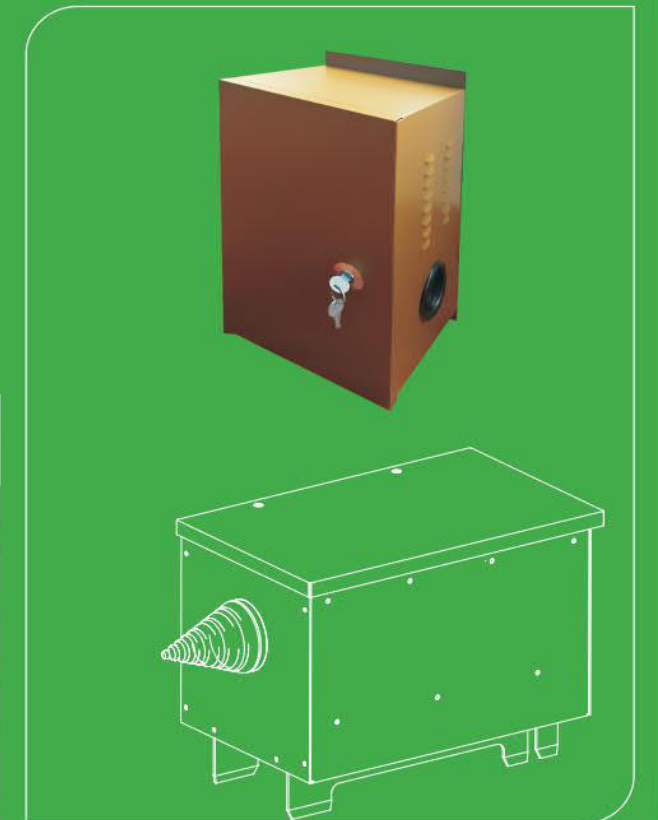
- Adopt the standard of break protection. The standard current is 16A--630A.
- Can be used to protect the load on the inside of the plug box.
- Optional circuit breaker accessories such as operating handle, shunt trip and leakage protection.

MAX-LV has fully considered the user's requirements in the design, and offers many options for protecting the internal circuit breaker or the fuse.

## Tap-off Box Dimensions (L\*W\*H)mm

- For non-standard dimension, please contact us.

Ampere(A)	Tap off Box Size		
	L(mm)	W(mm)	H(mm)
100A	450	230	280
125A	450	230	280
160A	450	230	280
200A	450	230	280
225A	450	230	280
250A	450	230	280
315A	700	350	300
400A	700	350	300
630A	800	350	300
800A	800	350	300

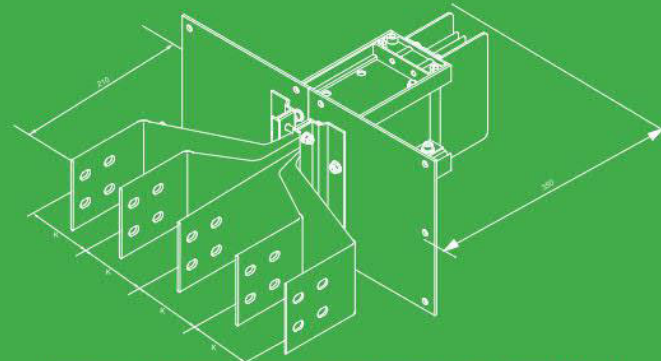




- Technic datas: 

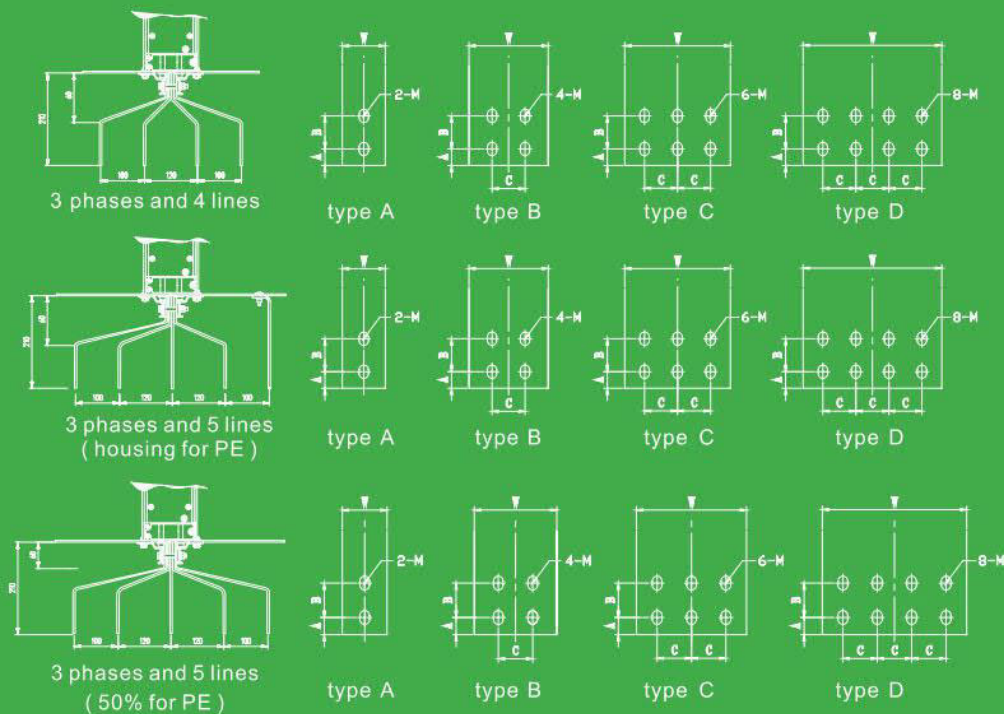
## Starting end design:

Starting end can be customized, applied to all the distribution box and transformer!



Remark: if you need anything customized, pls contact us!

## Starting end connection data:



## Starting end connection data:

Copper conductor

Rated Current	A	B	C	M	Type
250	~	~	~	~	~
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

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
5000	~	~	~	~	~
6300	~	~	~	~	~



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