

XAP Busway

# **XAP-B Series Compact Busway**

**Rated Current 400-5000A**



*Powering Business Worldwide*

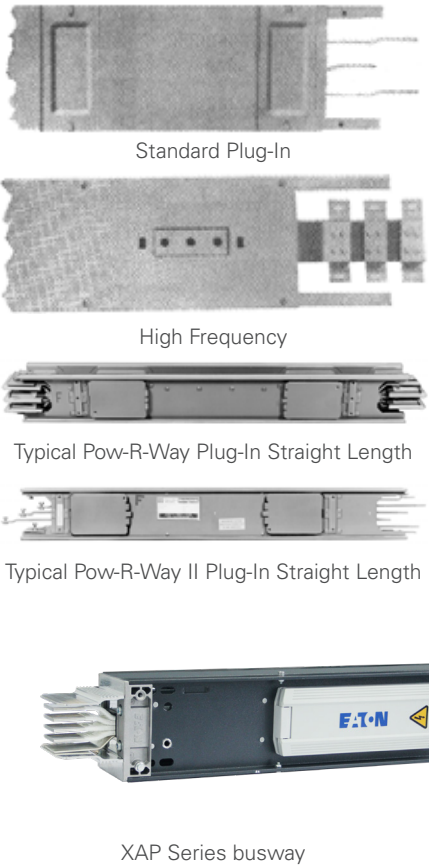


\* EATON  
It all began in 1911...



It was 1911 when a young entrepreneur named Joseph Eaton decided to invest in a new idea in transportation — the first gear-driven truck axle. And though we have grown considerably, both organically and by uniting some of the world's most respected names in our industry, we remain dedicated to the spirit of innovation and ideas that inspired him more than 100 years ago.

Product	1935	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	present
Power distribution bus															
Victory bus duct															
Standard plug-in															
Low impedance bus															
Life line Unibus															
High frequency bus															
Cutler-Hammer BV bus															
Current limiting bus															
Electric utility bus															
DC busway															
100 ampere busway															
Low impedance plug-in															
Cutler-Hammer Unibus															
H5000 feeder															
H5000 plug-in															
Cutler-Hammer CP2															
Pow-R-Way															
Pow-R-Way II															
Cutler-Hammer CP3															
Cutler-Hammer CP4															
Pow-R-Way III															







We make what matters work.

✱ We make what matters work.

Today, the world runs on critical infrastructure and technology. Planes. Hospitals. Factories. Data centers. Vehicles. The electrical grid. These are things people depend on every day. And the companies behind them depend on us to help solve some of the toughest power management challenges on the planet. At Eaton, we're dedicated to improving people's lives and the environment with power management technologies that are more reliable, efficient, safe and sustainable.

**EAT•N**  
Powering Business Worldwide

✱ **XAP-B series Compact Busway**

Adaptable busway systems for virtually any application, 400-5000A

We are a power management company made up of approximately 85,000 employees, doing business in more than 175 countries. Our energy-efficient products and services help our customers effectively manage electrical, hydraulic and mechanical power more reliably, efficiently, safely and sustainably. By giving people tools to use power more efficiently. Helping companies do business more sustainably. And by encouraging each and every employee at Eaton to think differently about our business, our communities and the positive impact we can have on the world.

Eaton's XAP series busway is the obvious choice when searching for a combination of technical performance and attractive design. Constant development of the range for over years has not only ensured economical and reliable solutions; XAP busway has evolved into an unsurpassed range able to adapt to virtually any installation.

XAP busway is an integral part of the product offering from Eaton. Complementing Eaton's range of low voltage distribution equipment to a complete selection of fused switchgear, circuit breaker systems, motor control gear and OEM products.

XAP busway system is thoroughly tested and comply fully with IEC 61439-6 . The range extends from 400 - 5000 A. The straightforward and highly styled design makes XAP busway easy to both install and use truly the system with style!





EATON owns state of art manufacturing system in the industry, it brings "high, precision and top" features to the products.

**01**

German Trumpf laser cutting and Trupunch ensures  $\pm 0.1\text{mm}$  accuracy for sheet-metal parts.



**02**

Canadian Accurpress, German Behringer, Italian Euromac and Ameppessta sheet-metal system enables parts to achieve International high quality lever.



**03**

Application of Panasonic automatic welding, laser welding and automatic riveting technology highly improves production efficiency.



EATON owns independant laboratory for research and development ,which always brings customers high quality product and electricity safety.

**01**

Temperature rise system allows max 6300A, which ensures product performance to reach design expectation.



**02**

Application of dust simulation tank and water spray platform give product superior IP protection degree performance at the research stage.



**03**

Perform strict quality control on IQC,IPQC and OQC to secure product "Zero deflection" upon ex-factory.



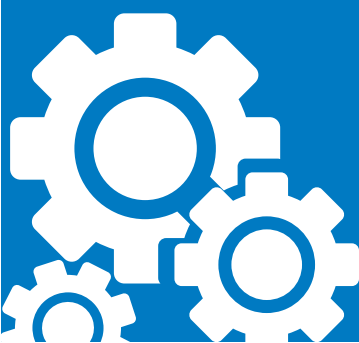




EATON always sticks to innovation research and development, pushes busway technology to safe, energy saving and intelligent direction.

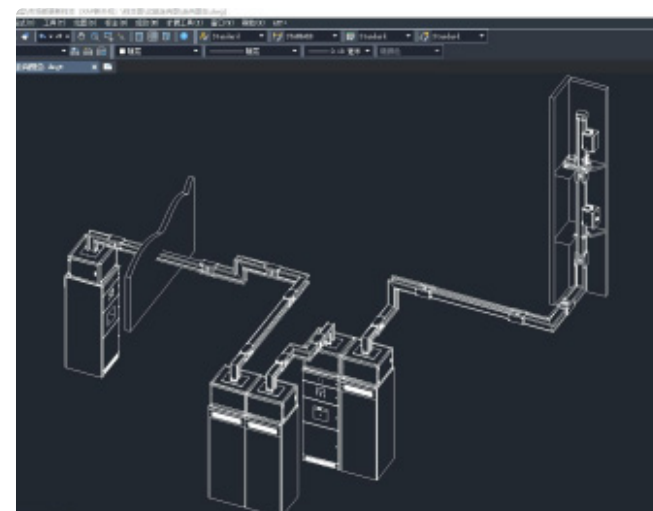


Manufacturing center sets up MES system and Intelligent factory data platform, closely butts with ERP, achieves the jump over from product manufacturing to "intelligent manufacturing".



## 01

Advanced 3D engineering software, integrated with product features, quickly optimise the busway layout, offers first-best arrangement to the project.



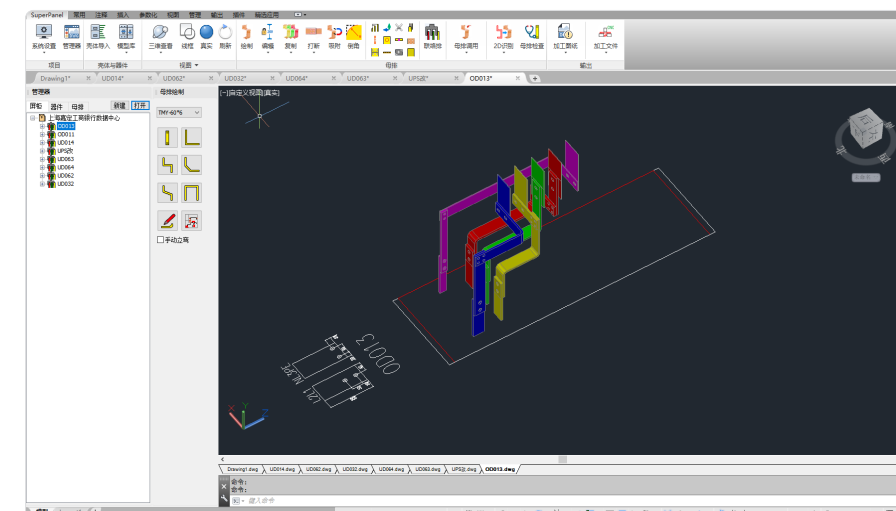
## 01

MES system precisely record all the process data and makes all the manufacturing data trackable.



## 02

Intelligent superpanel technology brings power to distribution system and provide customer with reliable power supply solution.



## 02

Intelligent factory data platform fully monitors the factory operation efficiency by statistic and analysis of all the data related with manufacturing, quality and safety.



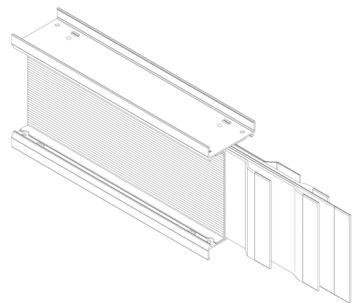


# XAP-B series compact busway

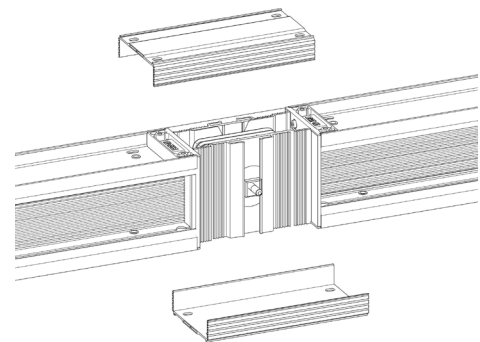
## Product features

Eaton busway housing adopts lightweight ToughRail Technology ®,which can withstand 20J impact without any deformation IK10) and pass 2400h salt fog test.

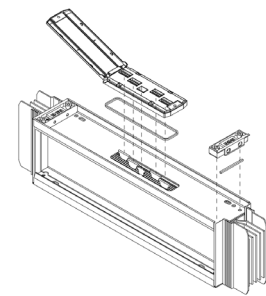
Conductor adopts new type Molecular penetration silver contact (Shuo) alloy Technology, which enables busway to have large current transmission, better dynamic thermal stability, convenient installation and maintenance.



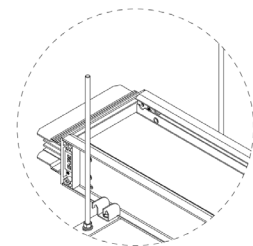
XAP-B busway is available with Intelligent monitor system and operation platform, it provides on-time data to customer and secures the electricity safety.



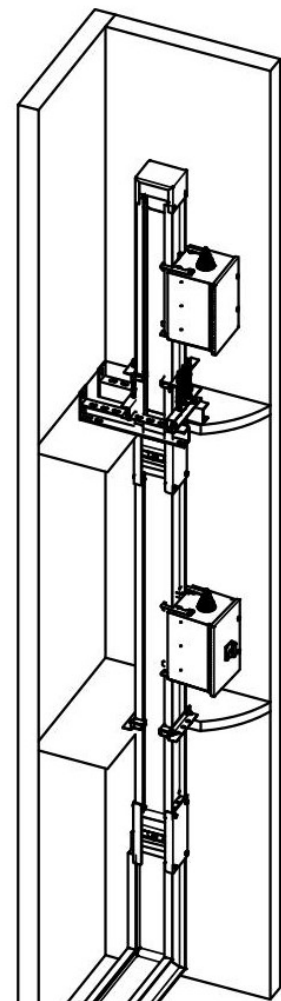
Exclusive IHD (Integral heat dissipation design) technology, in combination with T shaped heat dissipation fin, more wide and closer, total heat dissipation performance is 20% superior comparing with traditional design.



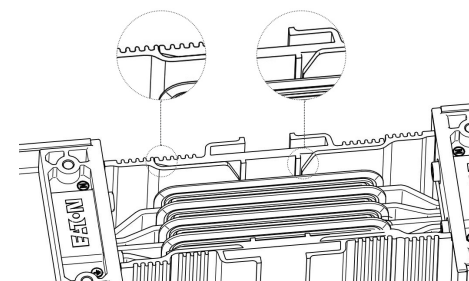
With exquisite workmanship, Eaton busway all contact sides has abandoned traditional "point to line " contact, and improves to "side to side", which greatly enhances the product IP protection degree.



Brand-new draining hole design, eliminates " cisterns effect".



By right of Eaton "Pow-R-Bridge joint package" technology, we innovatively made orientation design to prevent "false and over connection" , which fully guarantees reliable contact and stable electricity power transmission.

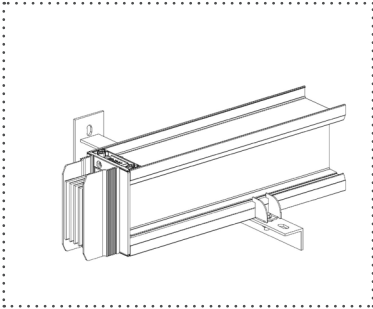




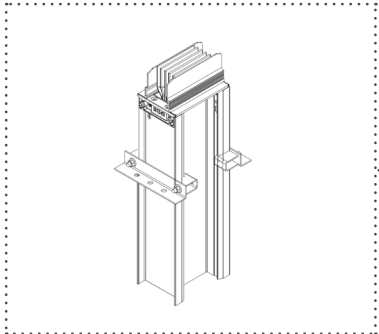
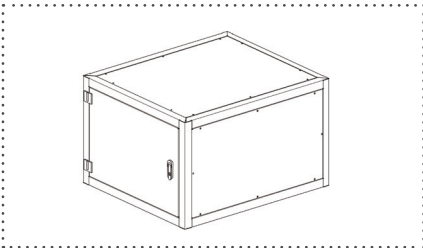
# XAP-B series compact busway

## Installation accessories

Bracket arm is applicable for the installation of the busway along the wall.

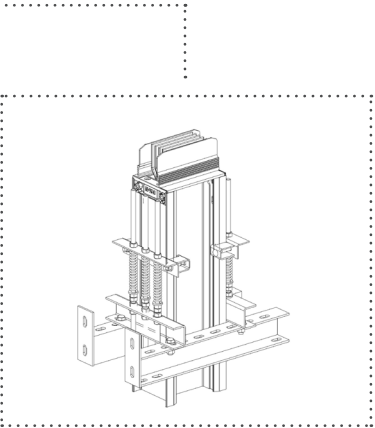
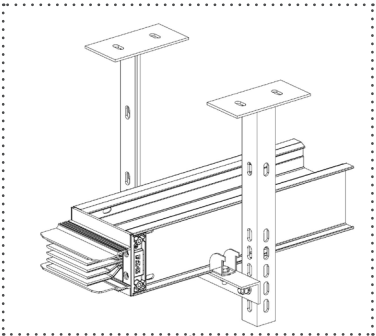


End tap box, to protect connection between busway and equipment, outline standard dimension:  
L=1000mm,W=800~1000mm,H=500mm

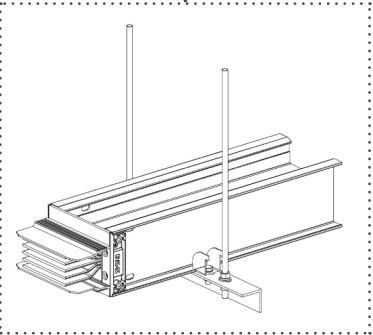


Middle fixation hanger, when the floor is 4 meters high, or equipped with plug in box, need to add fixation hanger to secure the busway installation in the vertical riser

Angle steel hanger, applicable for 3200A-5000A busway horizontal installation.



Spring hanger, for the application of busway penetration on the floor.



Harness cord suspension hanger, applicale for 400-2500A busway horizontal installation.



XAP-B series compact busway

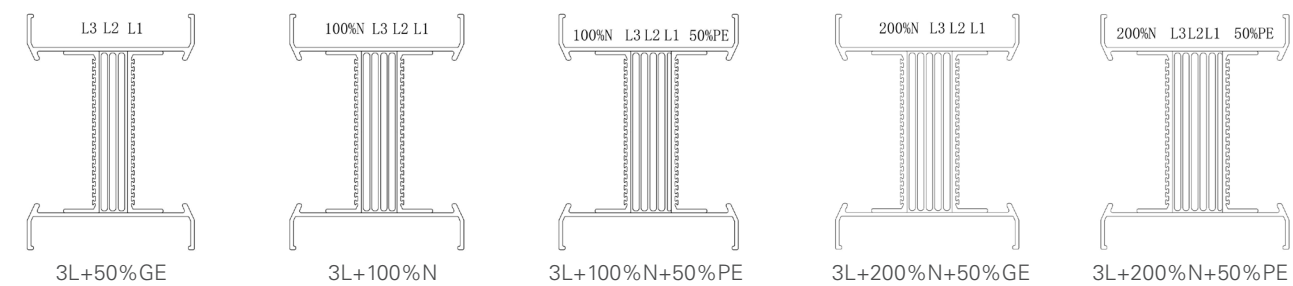
Technique data

Item	Unit	Current rating										
Rated current	A	400	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Standard	IEC 61439-6 2012 : LV switchgear and control gear assemblies – Part 6:Busbar trunking systems (busways)											
Thrid party certificate	CQC, KEMA-KEUR											
System	Applicable for 3P3W, 3P4W and 3P5W system											
Frequency	Hz	50/60										
Rated operation voltage Ue	V	≤ 690 V ( with tap off unit ) , ≤ 1000 V ( without tap off unit)										
Rated insulation voltage Ui	V	≤ 1000V										
Rated impulse withstand voltage Uimp	KV	8										
Rated short time withstand current ( Icw )	kA	30	30	30	50	50	65	80	80	100	120	120
Rated peak short circuit curent ( Ipk )	kA	63	63	63	105	105	143	176	176	220	264	264
IP	IP54/IP66											
Pollution degree	III											
Ambient temperature	℃	5 ~ 40 degree, average temperature does not exceed 35 degree within 24h										
Above sea leve	m	≤ 2000										
Fire propagation features	Yes											
Housing material	Aluminum-alloy											
Housing finishing	Electric static powder spray/ Aluminum oxidation											
Conductor material	Aluminum											
Conductor finishing	Tin / silver plating											
Conductor resistance												
Resistance ( R20)	mΩ /m	0.128	0.098	0.080	0.056	0.043	0.032	0.028	0.021	0.016	0.014	0.012
Reactance ( X )	mΩ /m	0.132	0.102	0.083	0.058	0.045	0.033	0.029	0.022	0.016	0.014	0.013
Impedance ( Z )	mΩ /m	0.030	0.026	0.023	0.018	0.014	0.010	0.008	0.004	0.002	0.001	0.005
Voltage drop												
Power factor 0.6	V/m	0.070	0.087	0.092	0.083	0.080	0.075	0.079	0.068	0.062	0.063	0.062
Power factor 0.7	V/m	0.077	0.096	0.100	0.089	0.086	0.081	0.087	0.076	0.070	0.072	0.066
Power factor 0.8	V/m	0.084	0.103	0.108	0.096	0.092	0.087	0.093	0.084	0.078	0.081	0.070
Power factor 0.9	V/m	0.089	0.109	0.114	0.100	0.096	0.092	0.098	0.090	0.085	0.090	0.072
Power factor 1.0	V/m	0.089	0.107	0.111	0.096	0.092	0.089	0.096	0.092	0.089	0.096	0.067

XAP-B series compact busway

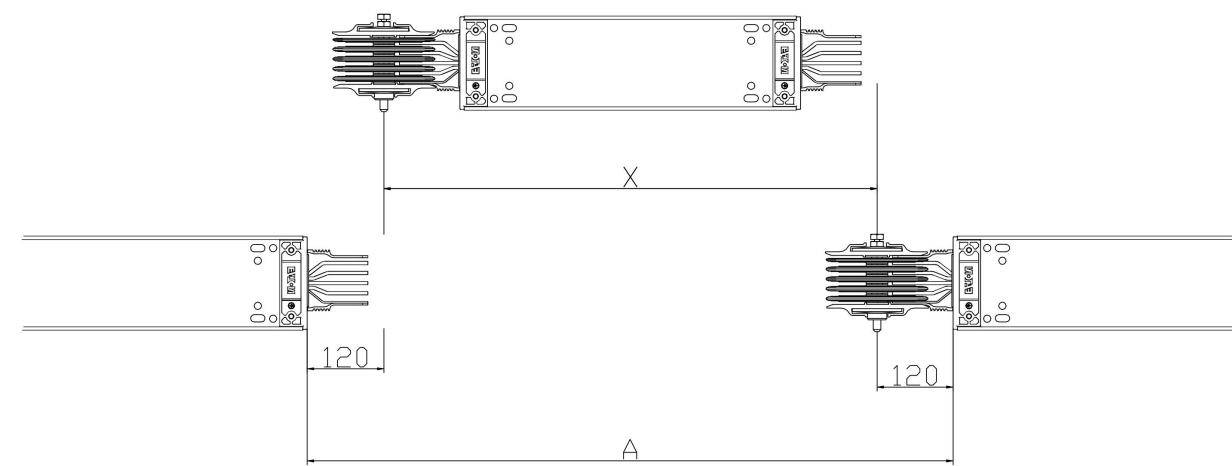
System selection

XAP-B busway is widely used in the 3P3W, 3P4W and 3P5W system.

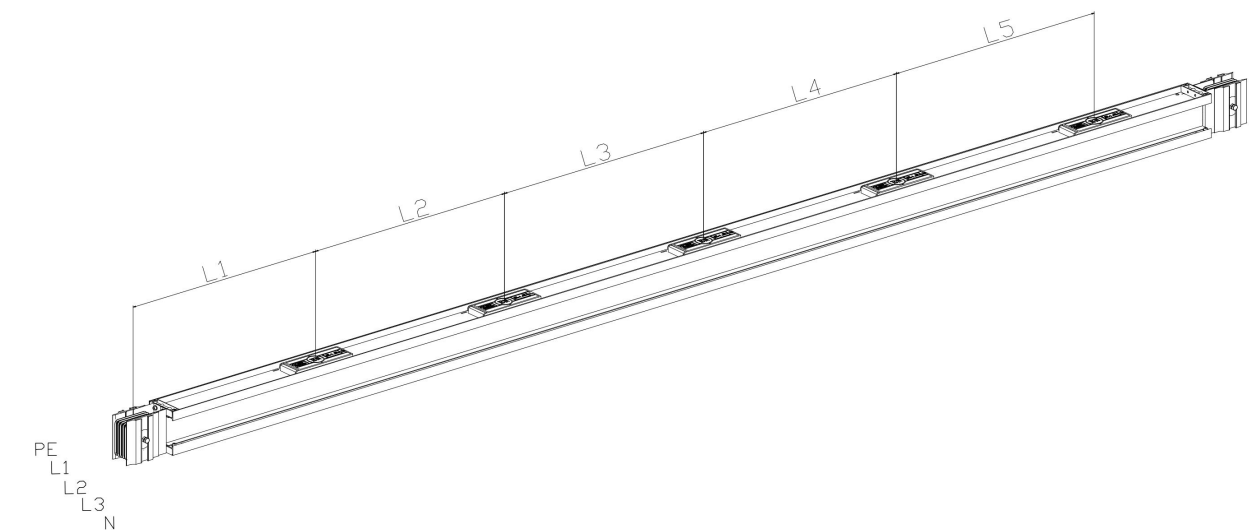


XAP-B busway length definition

Busway and functional unit length is calculated from the joint centerline, for the feeder, minimum length is 400mm, standard length is 3000mm.



Plug in type busway, minimum length is 720mm, standard length is 3000mm, busway can be equipped with five plug in openings on each side, plug in opening dimension is marked as follows.

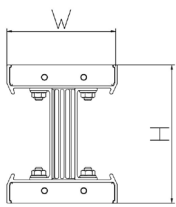




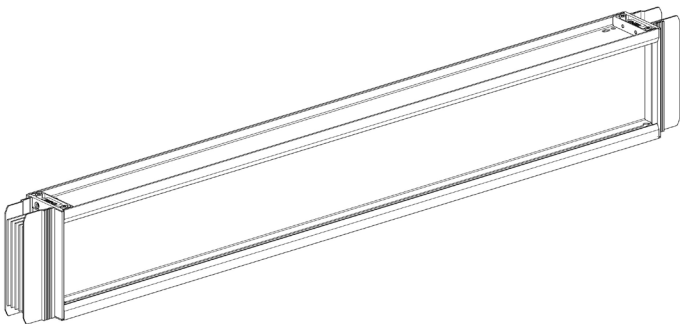
# XAP-B series compact busway

## Physical data

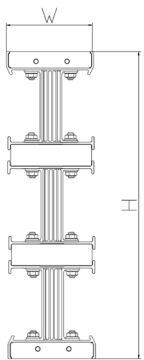
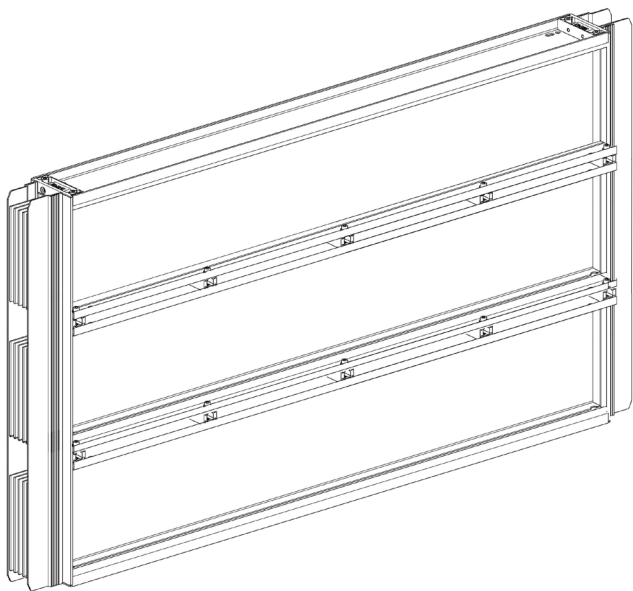
### Single deck busway



No.	Current rating( A)	Dimension		Weight	
		Width W ( mm )	Height H ( mm )	4W (kg/m)	5w (kg/m)
1	400	142	113	9.7	10.3
2	630	142	128	10.9	11.3
3	800	142	143	12.1	12.7
4	1000	142	168	14.1	15.2
5	1250	142	203	17.6	18.5
6	1600	142	248	19.7	24.2

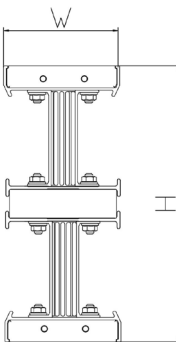


### Tripartite decks busway

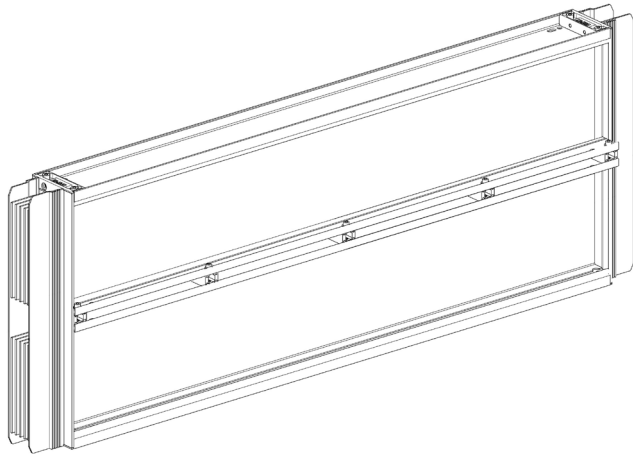


No.	Current rating( A)	Dimension		Weight	
		Width W ( mm )	Height H ( mm )	4W (kg/m)	5w (kg/m)
1	5000	142	826	68	73

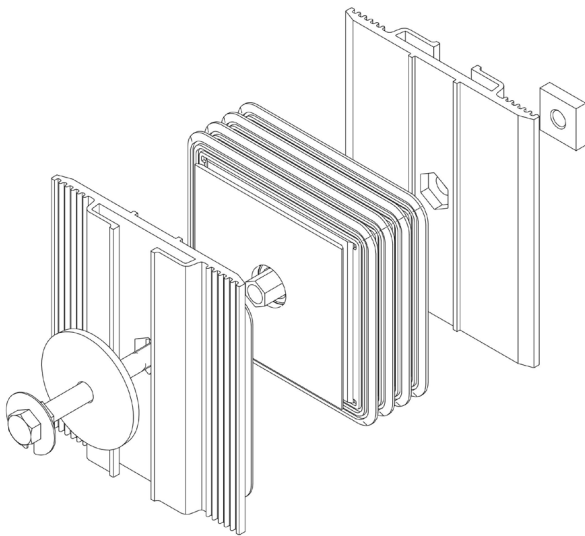
### Double decks busway



No.	Current rating( A)	Dimension		Weight	
		Width W ( mm )	Height H ( mm )	4W (kg/m)	5w (kg/m)
1	2000	142	327	29.2	31.2
2	2500	142	387	35.1	37.3
3	3200	142	477	44.2	47.4
4	4000	142	567	50.4	54.2



### Joint



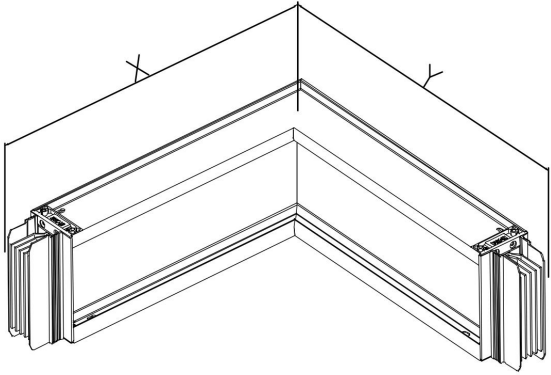
Note: Joint double-headed bolt torque value is 68±7 Nm

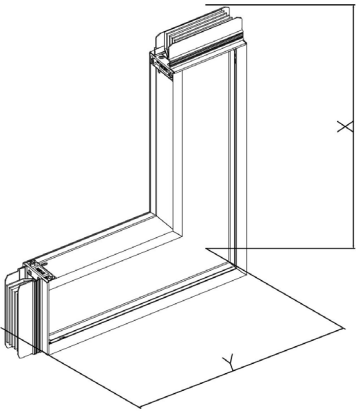
No.	Current rating(A)	Joint bolt qty
1	400	1
2	630	1
3	800	1
4	1000	1
5	1250	1
6	1600	1
7	2000	2
8	2500	2
9	3200	2
10	4000	4
11	5000	6

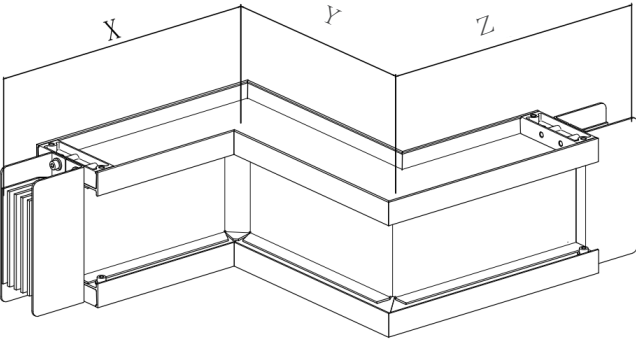


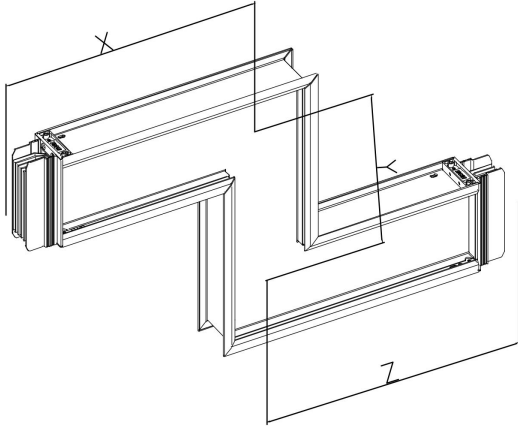
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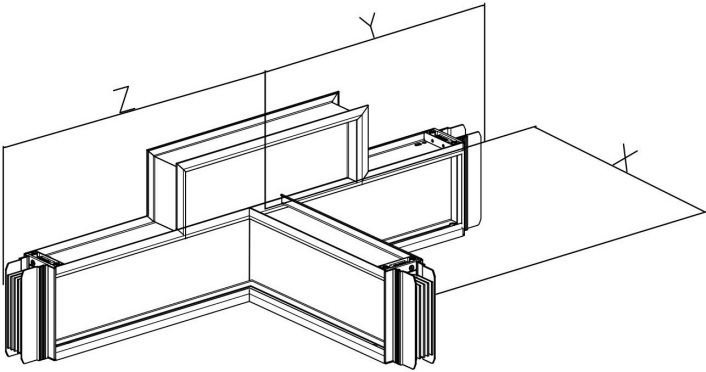
## Functional unit standard dimension

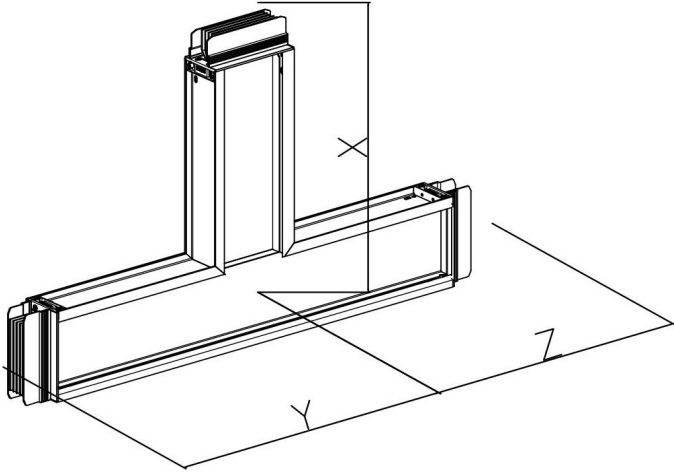
L horizontal elbow	No.	Current class	Dimension
	1	400A	X=400mm Y=400mm
	2	630A	X=400mm Y=400mm
	3	800A	X=400mm Y=400mm
	4	1000A	X=400mm Y=400mm
	5	1250A	X=400mm Y=400mm
	6	1600A	X=400mm Y=400mm
	7	2000A	X=400mm Y=400mm
	8	2500A	X=400mm Y=400mm
	9	3200A	X=400mm Y=400mm
	10	4000A	X=400mm Y=400mm
	11	5000A	X=400mm Y=400mm

L vertical elbow	No.	Current class	Dimension
	1	400A	X=500mm Y=500mm
	2	630A	X=500mm Y=500mm
	3	800A	X=500mm Y=500mm
	4	1000A	X=500mm Y=500mm
	5	1250A	X=500mm Y=500mm
	6	1600A	X=500mm Y=500mm
	7	2000A	X=700mm Y=700mm
	8	2500A	X=700mm Y=700mm
	9	3200A	X=700mm Y=700mm
	10	4000A	X=700mm Y=700mm
	11	5000A	X=850mm Y=850mm

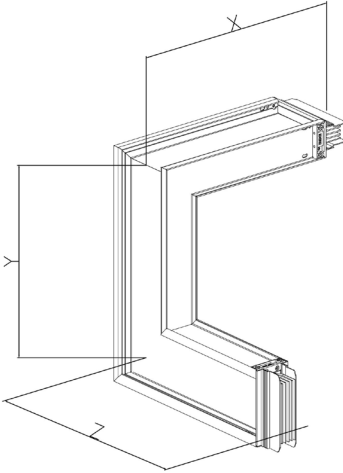
Z horizontal offset	No.	Current class	Dimension
	1	400A	X=400mm Y=250~900mm Z=400mm
	2	630A	X=400mm Y=250~900mm Z=400mm
	3	800A	X=400mm Y=250~900mm Z=400mm
	4	1000A	X=400mm Y=250~900mm Z=400mm
	5	1250A	X=400mm Y=250~900mm Z=400mm
	6	1600A	X=400mm Y=250~900mm Z=400mm
	7	2000A	X=400mm Y=250~900mm Z=400mm
	8	2500A	X=400mm Y=250~900mm Z=400mm
	9	3200A	X=400mm Y=250~900mm Z=400mm
	10	4000A	X=400mm Y=250~900mm Z=400mm
	11	5000A	X=400mm Y=250~900mm Z=400mm

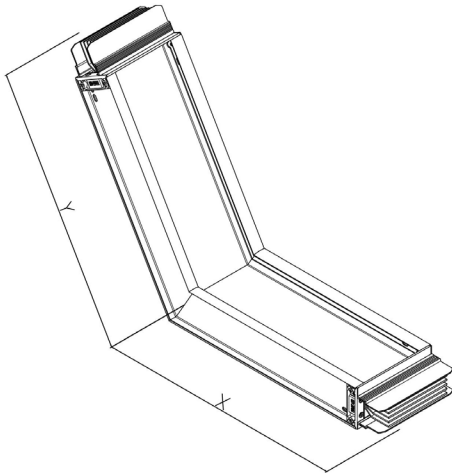
Z vertical offset	No.	Current class	Dimension
	1	400A	X=500mm Y=250~1000mm Z=500mm
	2	630A	X=500mm Y=250~1000mm Z=500mm
	3	800A	X=500mm Y=250~1000mm Z=500mm
	4	1000A	X=500mm Y=250~1000mm Z=500mm
	5	1250A	X=500mm Y=250~1000mm Z=500mm
	6	1600A	X=500mm Y=250~1000mm Z=500mm
	7	2000A	X=700mm Y=250~1000mm Z=700mm
	8	2500A	X=700mm Y=250~1000mm Z=700mm
	9	3200A	X=700mm Y=250~1000mm Z=700mm
	10	4000A	X=700mm Y=250~1000mm Z=700mm
	11	5000A	X=700mm Y=250~1000mm Z=700mm

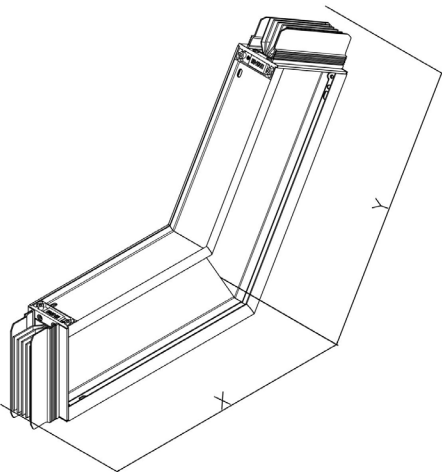
Tee horizontal offset	No.	Current class	Dimension
	1	400A	X=500mm Y=500mm Z=500mm
	2	630A	X=500mm Y=500mm Z=500mm
	3	800A	X=500mm Y=500mm Z=500mm
	4	1000A	X=500mm Y=700mm Z=700mm
	5	1250A	X=500mm Y=700mm Z=500mm
	6	1600A	X=500mm Y=700mm Z=500mm
	7	2000A	X=500mm Y=700mm Z=500mm
	8	2500A	X=500mm Y=700mm Z=500mm
	9	3200A	X=500mm Y=700mm Z=500mm
	10	4000A	X=500mm Y=700mm Z=500mm
	11	5000A	X=700mm Y=700mm Z=700mm

Tee vertical offset	No.	Current class	Dimension
	1	400A	X=500mm Y=500mm Z=500mm
	2	630A	X=500mm Y=500mm Z=500mm
	3	800A	X=500mm Y=500mm Z=500mm
	4	1000A	X=500mm Y=500mm Z=500mm
	5	1250A	X=500mm Y=500mm Z=500mm
	6	1600A	X=500mm Y=500mm Z=500mm
	7	2000A	X=700mm Y=700mm Z=700mm
	8	2500A	X=700mm Y=700mm Z=700mm
	9	3200A	X=700mm Y=700mm Z=700mm
	10	4000A	X=700mm Y=700mm Z=700mm
	11	5000A	X=700mm Y=700mm Z=700mm



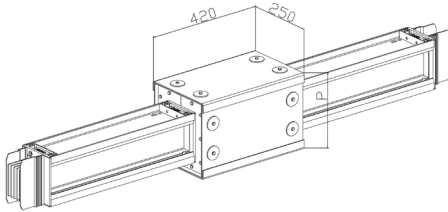
Combination elbow	No.	Current class	Dimension
	1	400A	X=400mm Y=500-1000mm Z=500mm
	2	630A	X=400mm Y=500-1000mm Z=500mm
	3	800A	X=400mm Y=500-1000mm Z=500mm
	4	1000A	X=400mm Y=500-1000mm Z=500mm
	5	1250A	X=400mm Y=500-1000mm Z=500mm
	6	1600A	X=400mm Y=500-1000mm Z=500mm
	7	2000A	X=400mm Y=700-1000mm Z=700mm
	8	2500A	X=400mm Y=700-1000mm Z=700mm
	9	3200A	X=400mm Y=700-1000mm Z=700mm
	10	4000A	X=400mm Y=700-1000mm Z=700mm
	11	5000A	X=400mm Y=850-1300mm Z=700mm

L special horizontal elbow	No.	Current class	Dimension
	1	400A	X=400mm Y=400mm
	2	630A	X=400mm Y=400mm
	3	800A	X=400mm Y=400mm
	4	1000A	X=400mm Y=400mm
	5	1250A	X=400mm Y=400mm
	6	1600A	X=400mm Y=400mm
	7	2000A	X=400mm Y=400mm
	8	2500A	X=400mm Y=400mm
	9	3200A	X=400mm Y=400mm
	10	4000A	X=400mm Y=400mm
	11	5000A	X=400mm Y=400mm

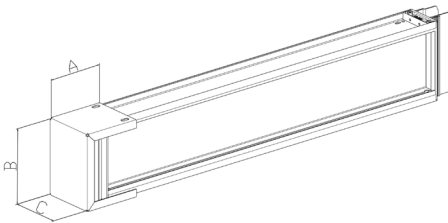
L special vertical elbow	No.	Current class	Dimension
	1	400A	X=500mm Y=500mm
	2	630A	X=500mm Y=500mm
	3	800A	X=500mm Y=500mm
	4	1000A	X=500mm Y=500mm
	5	1250A	X=500mm Y=500mm
	6	1600A	X=500mm Y=500mm
	7	2000A	X=700mm Y=700mm
	8	2500A	X=700mm Y=700mm
	9	3200A	X=700mm Y=700mm
	10	4000A	X=700mm Y=700mm
	11	5000A	X=850mm Y=850mm

Reducer	Rated current before reduction (A)	Rated current after reduction(A)										
		400	630	800	1000	1250	1600	2000	2500	3200	4000	5000
	630	R04	-	-	-	-	-	-	-	-	-	-
	800	R04	R06	-	-	-	-	-	-	-	-	-
	1000	R04	R06	R08	-	-	-	-	-	-	-	-
	1250	-	R06	R08	R10	-	-	-	-	-	-	-
	1600	-	R06	R08	R10	R12	-	-	-	-	-	-
	2000	-	-	R08	R10	R12	R16	-	-	-	-	-
	2500	-	-	-	R10	R12	R16	R20	-	-	-	-
	3200	-	-	-	-	R12	R16	R20	R25	-	-	-
	4000	-	-	-	-	-	R16	R20	R25	R32	-	-
	5000	-	-	-	-	-	-	R20	R25	R32	R40	-

Note: Reducer is also available to be equipped with fuse or MCCB, contact the factory for details.

Expansion joint	Rated current ( A )	Height ( P ) mm
	400	213
	630	228
	800	243
	1000	268
	1250	303
	1600	348
	2000	427
	2500	287
	3200	577
	4000	667
	5000	926

Note: Expansion joint has adjustment distance of  $\pm 40$ mm, when the linear distance is 50m, need to include one set of expansion joint.

End cover	Rated current (A)	(A) mm	(B) mm	(C) mm
	400	158	126	149
	630	158	141	149
	800	158	156	149
	1000	158	181	149
	1250	158	216	149
	1600	158	261	149
	2000	158	340	149
	2500	158	480	149
	3200	158	490	149
	4000	158	580	149
	5000	158	875	149

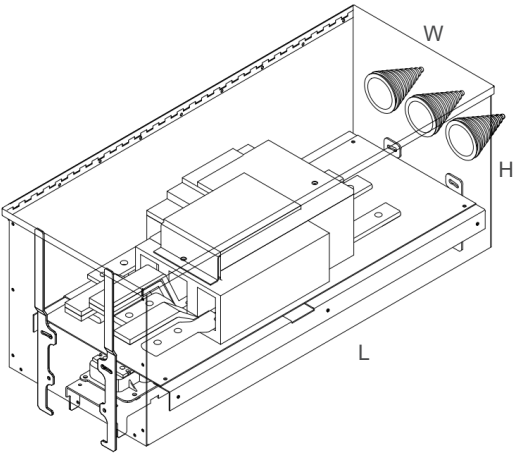
Note: End cover is the terminal part of the busway layout to protect the busway system.

Plug in box

Plug in box distributes electricity power from the busway to the load, and provides over load protection for the branch unit.

Product features

- Plug in box enclosure is made of cold-rolled steel with compact structure and high strength.
- Door panel comes with piano hinge with easy operation.
- Plug in box is equipped with fixiation hook,to prevent accidental pull out with load.
- Plug in box bottom is assembled with guide plate to guarantee correct phase during the installation.
- Both T type plug jaw and busway opening stab has silver plating on the surface, which reduces the contact resistance.



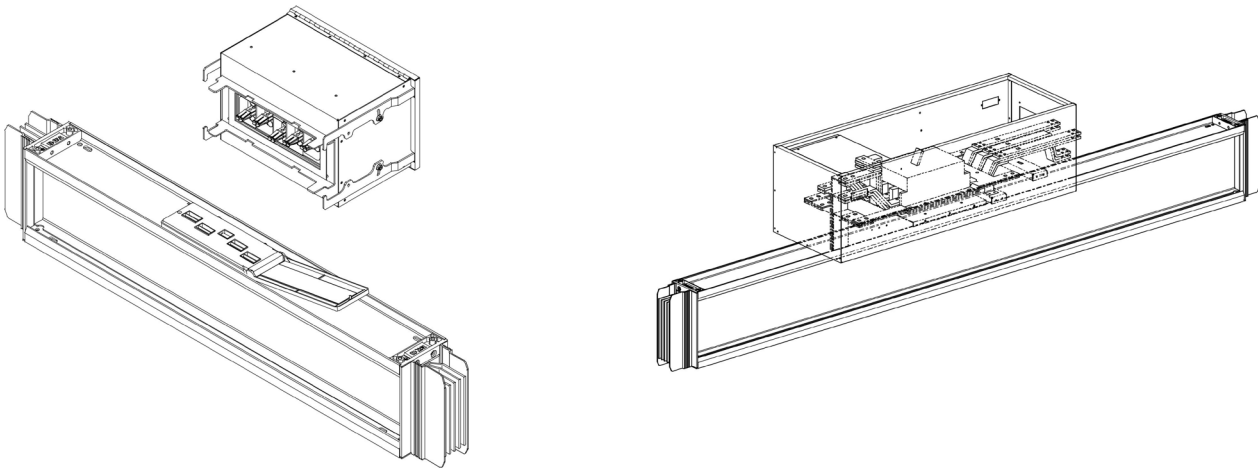
Product spec

- Plug in box includes five standard specification, they can be equipped with fuse , MCCB or any other protection component;
- MCCB can be 3 or 4 pole, with option of shunt trip,fire alarm, leakage protection and electrical operation,etc.

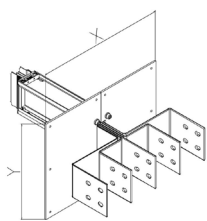
Plug in box outline standard dimension

Curent rating ( A )	L (mm)	W(mm)	H(mm) w/o rotary handle	H(mm) with rotary handle	Box No.	Figure
100	360	230	230	270	1	
160	400	250	250	290	2	
250	500	270	270	310	3	
400	650	310	310	350	4	
630~1000	1200	420	420	460	5	

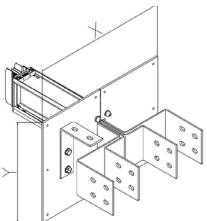
Note: Above dimension indicates standard, for special design, pls contact our engineer.



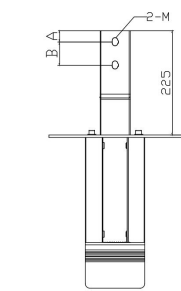
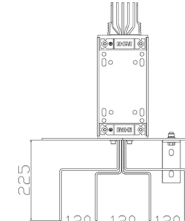
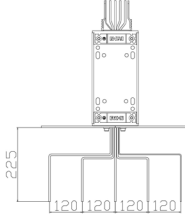
XAP-B series compact busway  
Flanged end



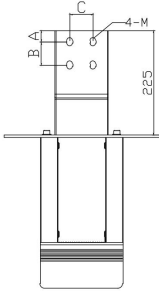
PE



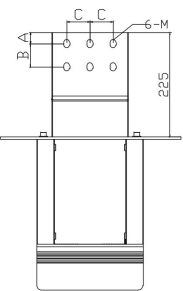
GE



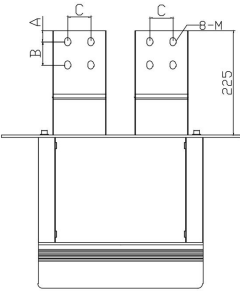
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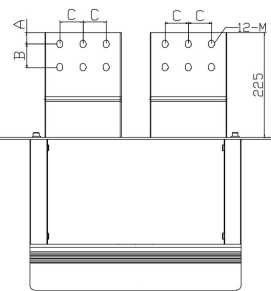
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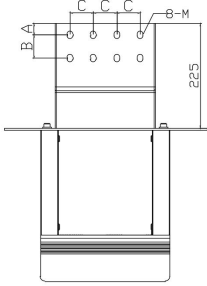
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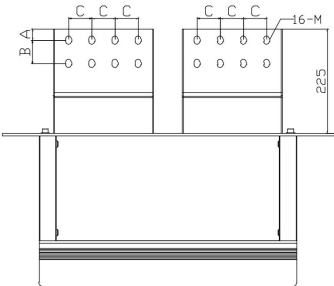
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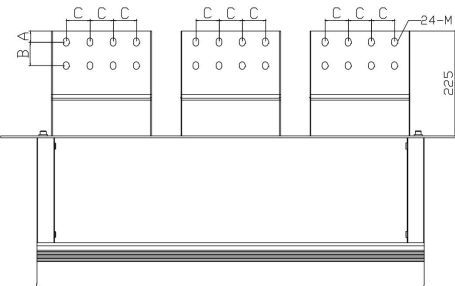
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⑥



⑦



⑧

Current class (A)	X ( mm )	Y ( mm )	A ( mm )	B ( mm )	C ( mm )	M ( mm )	Figure
400	450	273	25	50	50	13 X 17	
630	450	288	25	50	50	13 X 17	
800	450	303	25	50	50	13 X 17	
1000	450	338	25	50	50	13 X 17	
1250	450	373	25	50	50	13 X 17	
1600	450	423	25	50	50	13 X 17	
2000	450	496	25	50	50	13 X 17	
2500	450	560	25	50	50	13 X 17	
3200	450	666	25	50	50	13 X 17	
4000	450	726	25	50	50	13 X 17	
5000	450	766	25	50	50	13 X 17	⑧

Note: All the data above indicates standard, for special design, contact our engineer.



# XAP-B series compact busway

## Production selection

Product series	
XAP	

Type	
B	

Rated current	
Code	AI
04	400
06	630
08	800
10	1000
12	1250
16	1600
20	2000
25	2500
32	3200
40	4000
50	5000

System	
30	L1+L2+L3+PE ( GE )
51	L1+L2+L3+PEN ( GE )
53	L1+L2+L3+N+PE ( PE )

IP	
54	IP54
65	IP65
66	IP66

Unit type	
/	Straight length
LL/LR	L horizontal elbow
LV/LH	L vertical elbow
ZL/ZR	Z horizontal offset
ZV/ZH	Z vertical offset
TL/TR	Tee horizontal offset
TV/TH	T vertical offset
FE	Flanged end
EC	End cover
JP	Joint
EJ	Expansion joint

Unit length	
-------------	--

Opening qty	
-------------	--

Opening position	
TOF	front
TOB	back
TOFB	both

XAP B ■ ■ ■ - ■ - ■ - ■ ■

Product series	
XAP	

Type	
B	

No.	Box spec
X	Non - standard
1	1#standard
2	2#standard
3	3#standard
4	4#standard
5	5#standard

Plug in box code	
------------------	--

System	
30	L1+L2+L3+PE ( GE )
51	L1+L2+L3+PEN ( GE )
53	L1+L2+L3+N+PE ( PE )

NO.	IP
54	IP54

NO.	Protection type
CB	MCCB
FS	Fused switch
FU	Fuse
-	None

NO.	Rated current
63	63A
80	80A
100	100A
125	125A
160	160A
200	200A
250	250A
315	315A
400	400A
630	630A
800	800A
1000	1000A

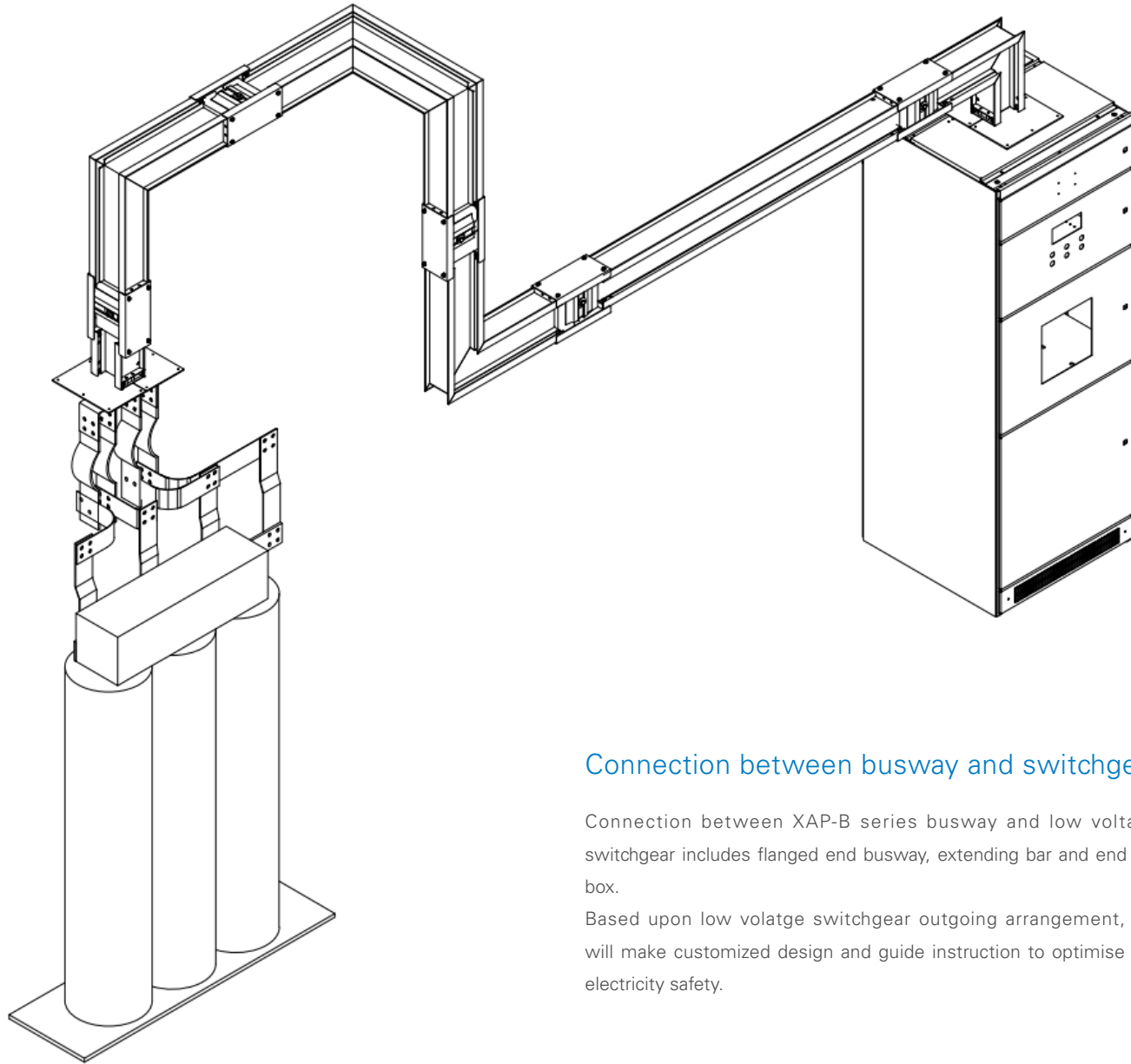
Pole No.	Plug in box code
3	3P
4	4P

NO.	Operation type
-	w/o operation
R	c/w Rotary handle
S	c/w side handle
M	c/w Electrical operation

XAP B - ■ T ■ ■ / ■ ■ - ■ ■

## XAP-B series Compact busway

### Connection with equipment



## Connection between busway and switchgear

Connection between XAP-B series busway and low voltage switchgear includes flanged end busway, extending bar and end tap box.

Based upon low voltage switchgear outgoing arrangement, we will make customized design and guide instruction to optimise the electricity safety.

## Connection between busway and transformer

Connection between XAP-B series busway and transformer includes flanged end busway, extending bar ,flexible link and end tap box.

Flexible link is used to absorb vibration during transformer operation.

End tap box is used to protect the connection unit to secure the reliable safety.

NOTE:



We make what matters work.



**EATON Busway (Jiangsu) Co., Ltd.**

No. 508 Ganglong Road, Yangzhong Economic Development Zone, Zhenjiang City 212212, P.R.China

For further information, please visit our website: [www.eaton.com.cn](http://www.eaton.com.cn)

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**Customer Service Center**

Tel: +86 511 8821 0138