EAE

ELEKTROTEKNİK



PANELMASTER

DESIGN AND APPLICATION RULEBOOK

V.42.3

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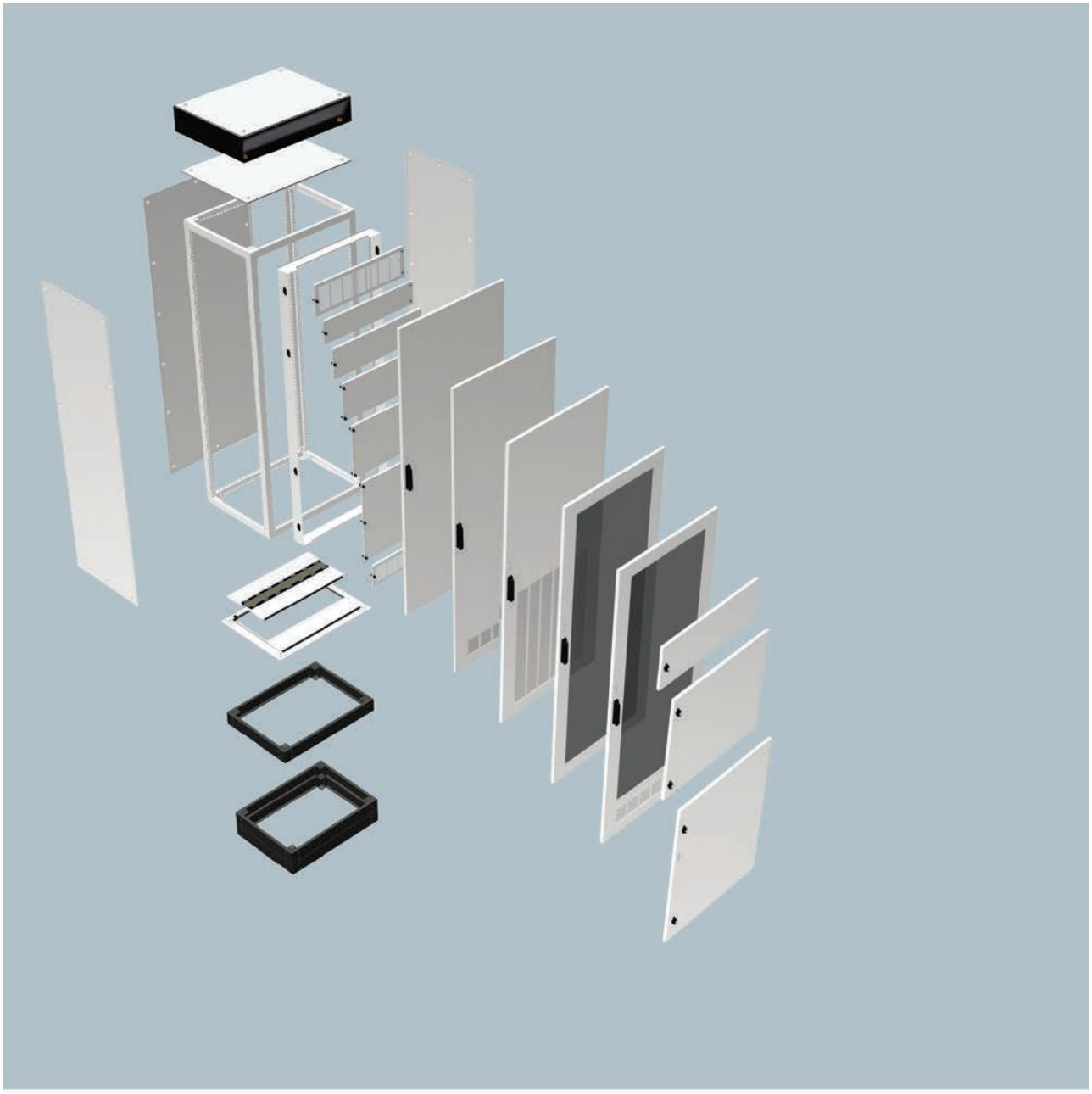


PanelMaster Type Tested Low Voltage Swithboards

PanelMaster low voltage switchboards are designed to fulfill various applications needs. It's unique structure and flexible power modules are type tested and certified by internationally accepted laboratories.

Rated Current (I_n)	: Up to 6800 A
Rated Short Time Withstand Current (I_{cw})	: Up to 120 kA - 1 sec
Rated Impulse Withstand Voltage (U_{imp})	: Up to 12 kV
Partitioning	: Up to Form 4b
Protection Class	: Up to IP55
Protection Class Against Mechanical Impact	: IK10
Framework	: Painted 2 mm pre-galvanised steel
Color	: Ral 7035 light grey epoxy-polyester power paint
Operating Temperature	: -5 °C, +40 °C
Standard and Regulations	: IEC/EN 61439 -1/2 Low Voltage Switchgear and Controlgear Assemblies IEC/EN 62208 Empty Enclosures for Low Voltage Switchgear and Controlgear Assemblies IEC/EN 60529 Degrees of Protection Provided by Enclosures (IP Code) IEC/EN 62262 Degrees of Protection Provided by Enclosure for Electrical Euipment Against External Mechanical Impacts (IK Code) IEC 61641 Enclosed low-voltage switchgear and controlgear assemblies Guide for Testing Under Conditions of Arching due to Internal Fault IEC 60068 ve IEEE-693/2005 - Seismic Qualification

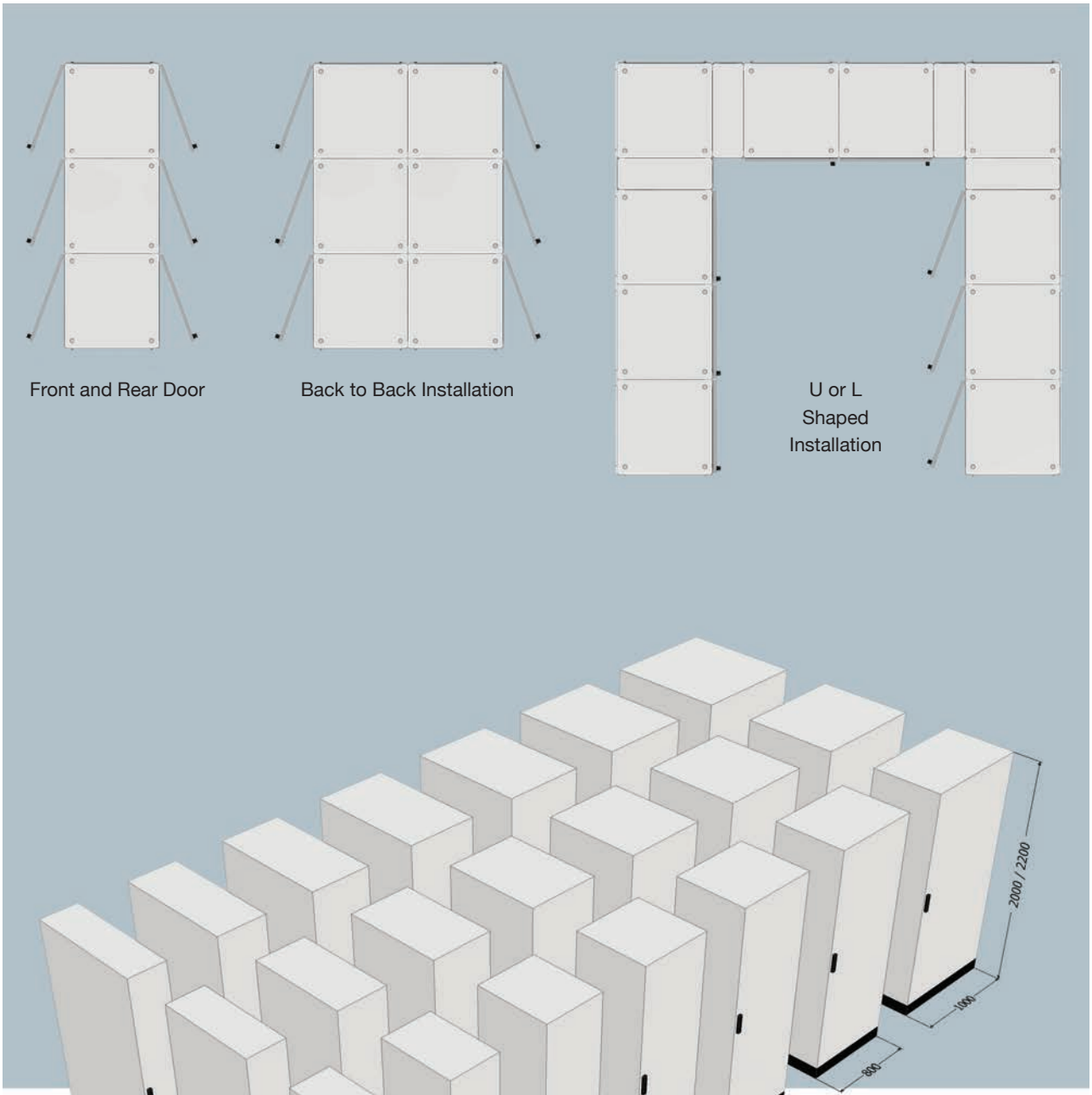
Wide configuration options



Flexible Configuration

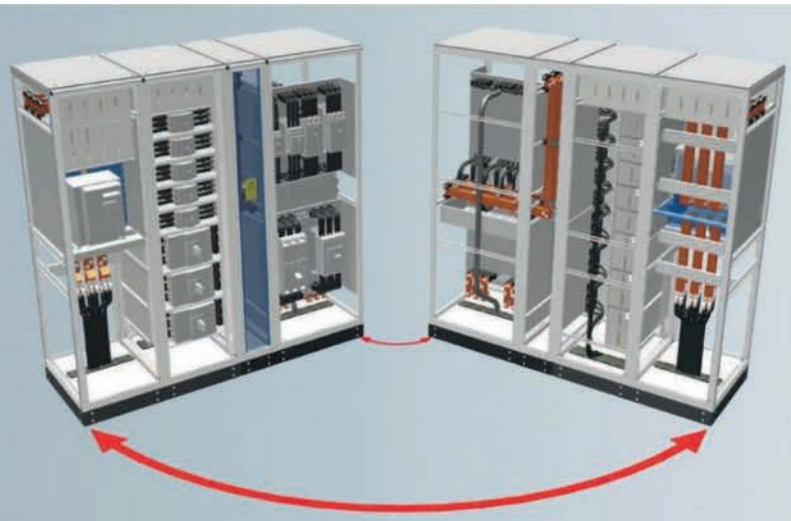
- Plain door
- Glazed door
- Partial door
- Door with ventilation
- Front plates
- IP31, IP41, IP55
- Ventilation Module

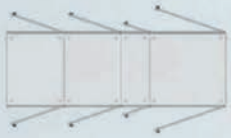




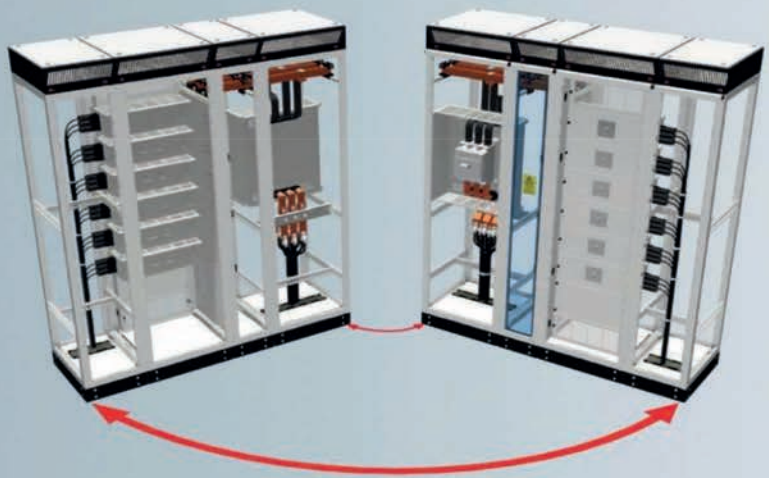
Wide dimension variety with modular prefabricated contruction

Covers all kind of applications





Rear Access Design





Front Access Design







Partial Door Aplications





Modular Wall Mounted Applications

Freedom of choosing switchgear brand



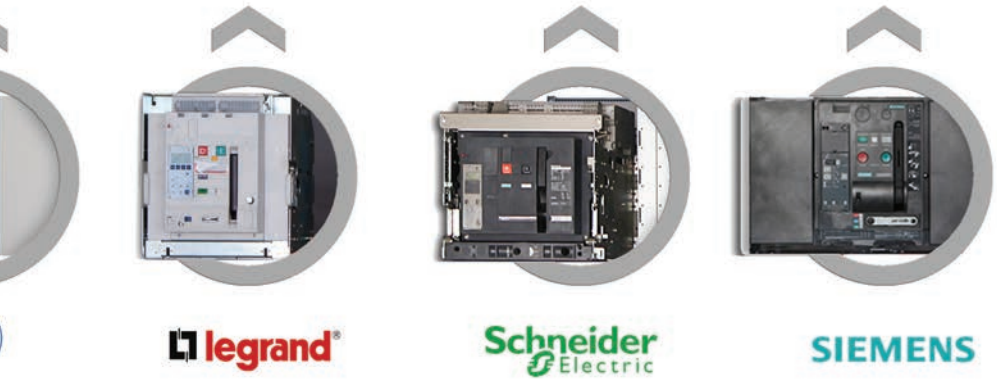












legrand®

Schneider Electric

SIEMENS

PANELMASTER® BUSBAR CROSS SECTION

IP31 DEGREE OF PROTECTION					
CURRENT	**MAIN BUSBAR**	**VERTICAL DISTRIBUTION BUSBAR**	**NEUTRAL BUSBAR**	**PROTECTIVE EARTH BUSBAR**	**MAIN BUSBAR CONNECTION**
630 A	1 x (40x10 mm)	1 x (30x10 mm)	1 x (20x10 mm) or 1 x (40x10 mm)	1 x (40x5 mm)	2 x (20x10 mm)
800 A	1 x (50x10 mm)	1 x (40x10 mm)	1 x (30x10 mm) or 1 x (50x10 mm)	1 x (40x5 mm)	2 x (30x10 mm)
1000 A	1 x (60x10 mm)	1 x (50x10 mm)	1 x (30x10 mm)	1 x (40x5 mm)	2 x (40x10 mm)
1250 A	2 x (40x10 mm) or 1 x (80x10 mm)	2 x (30x10 mm)	1 x (40x10 mm) or 1 x (80x10 mm)	1 x (40x5 mm)	3 x (20x10 mm) or 2 x (60x10 mm)
1600 A	2 x (50x10 mm) or 1 x (100x10 mm)	2 x (40x10 mm)	1 x (50x10 mm) or 1 x (100x10 mm)	1 x (50x5 mm)	3 x (30x10 mm) or 2 x (80x10 mm)
2000 A	2 x (60x10 mm) or 1 x (120x10 mm)	2 x (50x10 mm)	1 x (60x10 mm) or 1 x (120x10 mm)	1 x (30x10 mm)	3 x (40x10 mm) or 2 x (100x100 mm)
2500 A	2 x (80x10 mm)	2 x (80x10 mm)	1 x (80x10 mm)	1 x (40x10 mm)	3 x (60x10 mm)
3200 A	2 x (100x10 mm)	2 x (100x10 mm)	1 x (100x10 mm)	1 x (50x10 mm)	3 x (80x10 mm)
4000 A	3 x (100x10 mm)	3 x (100x10 mm)	2 x (80x10 mm)	1 x (80x10 mm)	4 x (80x10 mm)
5000 A	3 x (120x10 mm)	-	2 x (100x10 mm)	1 x (100x10 mm)	4 x (100x10 mm)
6300 A	2 x 3 x (80x10 mm)	-	2 x (120x10 mm)	1 x (120x10 mm)	2 x 4 x (60x10 mm)

NOTE : In order to use IP31 cross sections, front door must have ventilation openings (D1, D3,C1 etc.), and all sections must be equipped with EGHM ventilation module except 300 mm wide busbar section.

IP55 DEGREE OF PROTECTION					
CURRENT	**MAIN BUSBAR**	**VERTICAL DISTRIBUTION BUSBAR**	**NEUTRAL BUSBAR**	**PROTECTIVE EARTH BUSBAR**	**MAIN BUSBAR CONNECTION**
630 A	1 x (40x10 mm)	1 x (30x10 mm)	1 x (20x10 mm) or 1 x (40x10 mm)	1 x (40x5 mm)	2 x (20x10 mm)
800 A	1 x (50x10 mm)	1 x (40x10 mm)	1 x (30x10 mm) or 1 x (50x10 mm)	1 x (40x5 mm)	2 x (30x10 mm)
1000 A	1 x (60x10 mm)	1 x (50x10 mm)	1 x (30x10 mm) or 1 x (60x10 mm)	1 x (40x5 mm)	2 x (40x10 mm)
1250 A	2 x (40x10 mm) or 1 x (80x10 mm)	2 x (30x10 mm)	1 x (40x10 mm) or 1 x (80x10 mm)	1 x (40x5 mm)	3 x (20x10 mm) or 2 x (60x10 mm)
1600 A	2 x (50x10 mm) or 1 x (100x10 mm)	2 x (40x10 mm)	1 x (50x10 mm) or 1 x (100x10 mm)	1 x (50x5 mm)	3 x (30x10 mm) or 2 x (80x10 mm)
2000 A	2 x (60x10 mm) or 1 x (120x10 mm)	2 x (50x10 mm)	1 x (60x10 mm) or 1 x (120x10 mm)	1 x (30x10 mm)	3 x (40x10 mm) or 2 x (100x100 mm)
2500 A	2 x (100x10 mm)	2 x (80x10 mm)	1 x (100x10 mm)	1 x (50x10 mm)	3 x (80x10 mm)
3200 A	2 x (120x10 mm)	2 x (100x10 mm)	1 x (120x10 mm)	1 x (60x10 mm)	3 x (100x10 mm)
4000 A	3 x (120x10 mm)	3 x (100x10 mm)	2 x (100x10 mm)	1 x (100x10 mm)	4 x (100x10 mm)
5000 A	3 x (160x10 mm) or 2 x 3 x (80x10 mm)	-	2 x (120x10 mm)	1 x (120x10 mm)	4 x (120x10 mm) or 2 x 4 x (60x10 mm)
6300 A	2 x 3 x (100x10 mm)	-	3 x (100x10 mm)	1 x (160x10 mm)	2 x 4 x (80x10 mm)

NOTES :

1) Table values are valid for rectangular busbar with vertical positioning

2) Neutral conductor minimum cross section will be %50 of the phase conductor cross section.

3) If neutral conductor will be placed side by side with the phase conductors at the main busbar section, (because of the insulator design) neutral cross section should be equal to phase cross section.

4) All busbar cross section given in the table is tested at 35°C ambient temperature.

PANELMASTER® MAIN BUSBAR CURRENTS AT DIFFERENT AMBIENT TEMPERATURES

MAIN BUSBAR CROSS SECTION	MAIN BUSBAR RATED CURRENT (A) (BUSBARS ON TOP)					
	40°C		45°C		50°C	
	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1x40x10 mm	689 A	675 A	668 A	654 A	646 A	633 A
1x50x10 mm	827 A	803 A	802 A	778 A	776 A	753 A
1x60x10 mm	1103 A	975 A	1069 A	945 A	1034 A	914 A
"1x80x10 mm or (2x40x10 mm)"	1301 A	1213 A	1261 A	1176 A	1220 A	1138 A
"1x100x10 mm or (2x50x10 mm)"	1670 A	1553 A	1613 A	1500 A	1555 A	1445 A
"1x120x10 mm or (2x60x10 mm)"	2143 A	1986 A	2077 A	1925 A	2010 A	1862 A
2x80x10 mm	2504 A	2258 A	2427 A	2188 A	2348 A	2117 A
2x100x10 mm	3151 A	2558 A	3054 A	2479 A	2955 A	2399 A
2x120x10 mm	3892 A	3252 A	3773 A	3152 A	3650 A	3049 A
3x100x10 mm	4250 A	3441 A	4119 A	3335 A	3985 A	3227 A
2x160x10 mm	4533 A	3671 A	4393 A	3558 A	4251 A	3443 A
3x120x10 mm	4853 A	3931 A	4704 A	3810 A	4551 A	3687 A
"3x160x10 mm or (2x3x80x10 mm)"	6164 A	5129 A	5974 A	4971 A	5780 A	4810 A
2x3x100x10 mm	6501 A	6152 A	6327 A	5988 A	6150 A	5820 A

PANELMASTER® CALCULATING CURRENT CARRYING CAPACITY AT DIFFERENT AMBIENT TEMPERATURES, DE-RATING FACTOR

IEC 61439-1 deals with the rated current of the single electrical circuit and not with the rated current of the individual components, such as circuit-breakers or conductors. In accordance with the definition, the rated current of a circuit is defined by the switchgear manufacturer as a function of the ratings of the electrical components of the circuit.

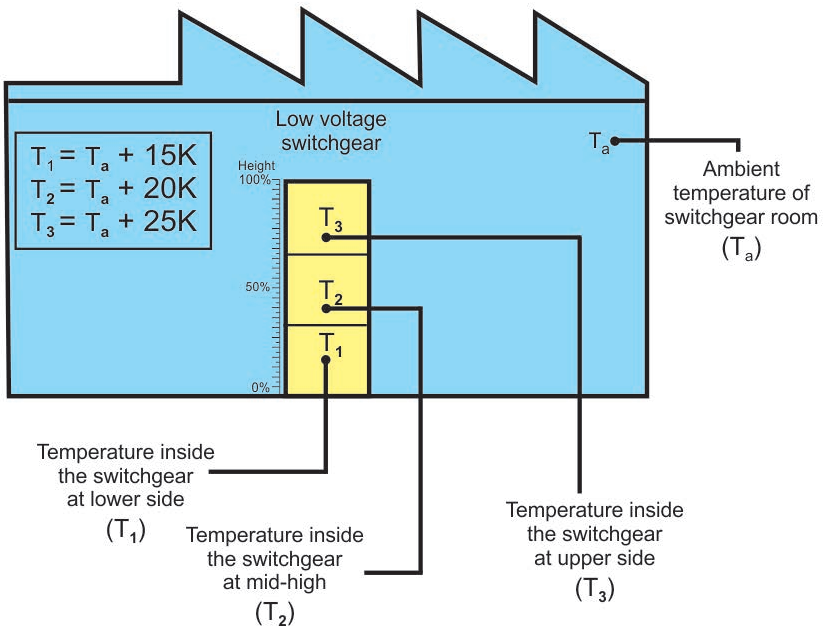
Main components regarding de-rating calculations are main busbars, conductors between main busbars and switching devices and switching devices themselves. New ratings according different ambient temperatures are defined step by step as follows.

1. Defining main busbar cross-section can be done by using **Table "PanelMaster Busbar Cross Section"** at page 10.

2. Defining cross-section of conductors between main busbar and switching devices can be done by using **Table "PanelMaster MCCB Connection Busbar Current Carrying Capacity at Different Ambient Temperatures"** at page 19.

3. Defining switching device rating can be done by considering **manufacturer technical documents for a temperature level calculated by adding temperature-rise value inside switchgear described below to ambient temperature subject to de-rating.**

Current carrying capacity of a circuit breaker is affected by its own ambient temperature inside switchgear. Temperature distribution inside a typical switchgear is like follows;



Reference ambient temperature: 35°C

For ventilated ≤IP31 switchgear

temp. at bottom inside the switchgear is around 50°C (35°C + 15K)

temp. at mid-height inside the switchgear is around 55°C (35°C + 20K)

temp. at top inside the switchgear is around 60°C (35°C + 25K)

Note: For non-ventilated (>IP31) switchgear 10K shall be added on respective temperatures.

Note: Kelvin, K unit is used for temperature differance. 1K = 1°C

PANELMASTER® RATED DIVERSITY FACTOR - RDF

The definition of Rated Diversity Factor, according to the IEC 61439-1 standard is as follows;

The rated diversity factor can be stated:
- for groups of circuits;
- for the whole assembly

The rated diversity factor multiplied by the rated current of the circuits (I_{nc}) shall be equal to or higher than the assumed loading of the outgoing circuits (Ib). Loading of the outgoing circuits should be explained in related Panel Standard.

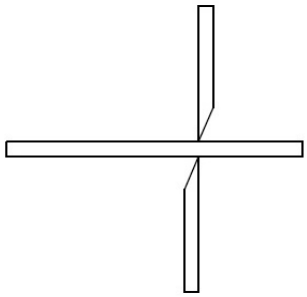
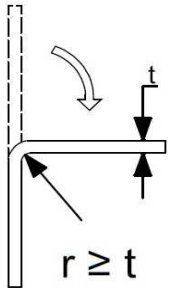
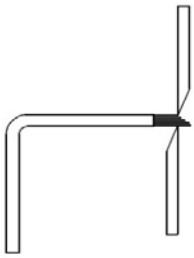
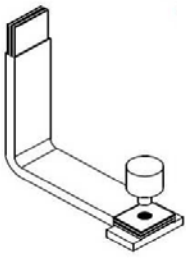
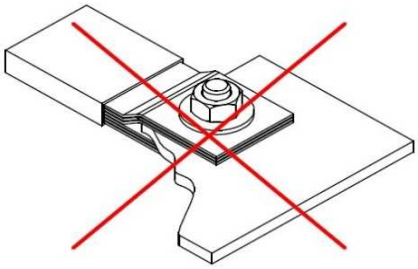
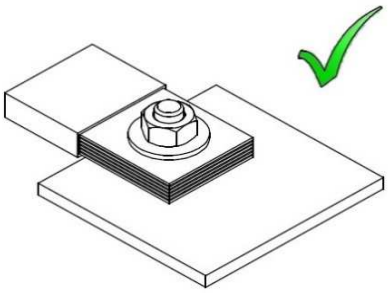
By declaring the rated diversity factor, panel manufacturer indicate designed panel avarage load conditions.

If there is a lack of agreement between panel manufacturer and the end user regarding actual load currents following values can be taken account for panel outgoing circuits or loads considered as panel group of outgoing circuits.

IEC 61439-2 Table 101 : Values of assumed loading

Type of Load	Assumed loading factor
Distribution - 2 and 3 circuits	0,9
Distribution – 4 and 5 circuits	0,8
Distribution – 6 to 9 circuits	0,7
Distribution – 10 or more circuits	0,6
Electric actuator	0,2
Motors ≤ 100 kW	0,8
Motors > 100 kW	1,0

CROSS SECTION OF FLEXIBLE BUSBAR FOR MOULDED CASE CIRCUIT BREAKERS		
Current	**Flexible Bar Cross Section**	**Current Carrying Capacity**
160 A	15,5x0,8x2 mm	165 A
200 A	20x1x2 mm	214 A
250 A	20x1x3 mm	280 A
320 A	24x1x3 mm	320 A
400 A	24x1x5 mm	398 A
630 A	32x1x8 mm	667 A
800 A	40x1x8 mm	805 A
1000 A	50x1x10 mm	1080 A
1250 A	2 x (40x1x8 mm)	1385 A
1600 A	2 x (50x1x8 mm)	1569 A

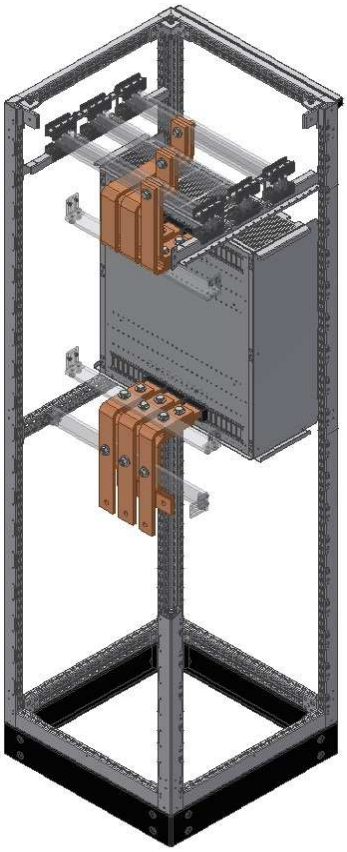
STEP 1- CUT	STEP 2 - BEND
	
STEP 3 - CLEAN EDGES	**STEP 4 - DRILL**
	
CONNECTION DETAIL	
	

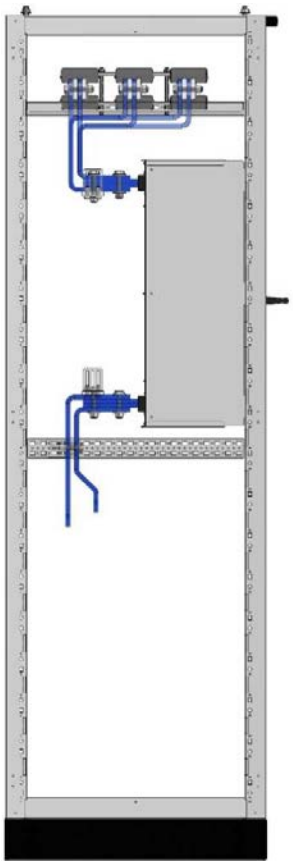
NOTES :

1) Flexible busbars conductors can be %99,99 electrolytic copper.

2) Maximum operating temperature can be 105 °C.

PANELMASTER® MCCB'S INTERCONNECTION BUSBAR CROSS SECTION TABLE

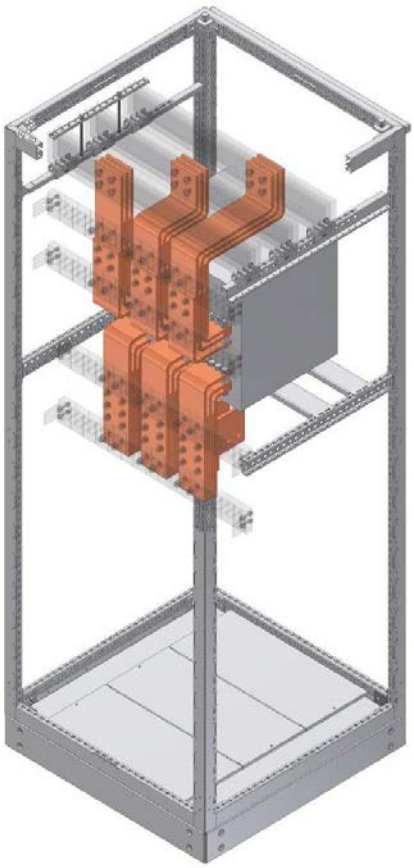




CURRENT	ABB	CHINT	EATON	GE	LEGRAND	ME	SCHNEIDER	SIEMENS
160 A	15 x 3 mm or 20 x 2 mm	15 x 3 mm	15 x 3 mm	15 x 3 mm or 20 x 2 mm	15 x 3 mm	20 x 2 mm	15 x 3 mm or 20 x 2 mm	15 x 3 mm or 20 x 2 mm
200 A	20 x 3 mm	20 x 3 mm	20 x 3 mm	20 x 3 mm	20 x 3 mm	20 x 3 mm	20 x 3 mm	20 x 3 mm
250 A	20 x 5 mm	20 x 5 mm	20 x 5 mm	20 x 5 mm	20 x 5 mm or 25 x 3 mm	20 x 5 mm	20 x 5 mm	20 x 5 mm
400 A	30 x 5 mm	30 x 5 mm	30 x 5 mm	30 x 5 mm	30 x 5 mm	30 x 5 mm	30 x 5 mm	30 x 5 mm or 40 x 3 mm
630 A	30 x 10 mm or 40 x 10 mm	30 x 10 mm	30 x 10 mm	30 x 10 mm	30 x 10 mm	30 x 10 mm	30 x 10 mm	30 x 10 mm, 40 x 10 mm, 50 x 5 mm
800 A	2 x 40 x 5 mm or 50 x 10 mm	50 x 10 mm	50 x 10 mm	50 x 10 mm	50 x 10 mm	50 x 10 mm	50 x 10 mm	50 x 10 mm
1000 A	2 x 40 x 10 mm or 2 x 50 x 5 mm	2 x 50 x 5 mm	2 x 50 x 5 mm	2 x 50 x 5 mm	2 x 50 x 5 mm	*ACB used	2 x 50 x 5 mm	2 x 50 x 5 mm
1250 A	2 x 50 x 10 mm	2 x 50 x 10 mm	2 x 50 x 10 mm	2 x 50 x 10 mm	2 x 50 x 10 mm	*ACB used	2 x 50 x 10 mm	2 x 50 x 10 mm
1600 A	2 x 50 x 10 mm	2 x 50 x 10 mm	2 x 50 x 10 mm	2 x 50 x 10 mm	2 x 50 x 10 mm	*ACB used	2 x 50 x 10 mm	2 x 50 x 10 mm

*Please check air circuit breaker - ACB interconnecton busbar cross section table.

PANELMASTER® AIR CIRCUIT BREAKER INTERCONNECTION BUSBAR CROSS SECTION TABLE



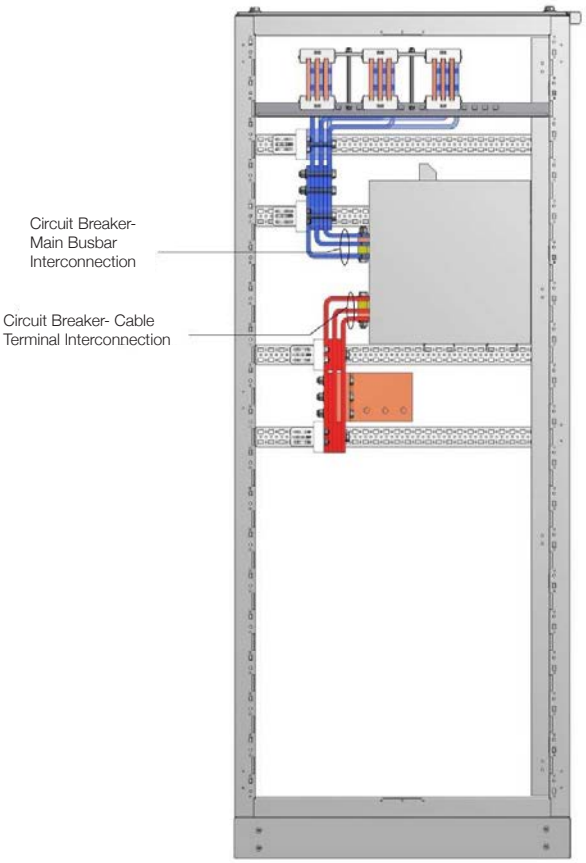


ABB												
CUR-RENT	ABB Emax E1.2 (Fixed -Withdrawable Type)			ABB Emax E2.2 (Fixed - Withdrawable Type)			ABB Emax E4.2 (Fixed - Withdrawable Type)			ABB Emax E6.2 (Fixed - Withdrawable Type)		
	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section
630 A	44 mm	26 mm	50x10 mm	-	-	-	-	-	-	-	-	-
800 A	44 mm	26 mm	50x10 mm	60 mm	30 mm	1 x (60x10 mm)	-	-	-	-	-	-
1000 A	44 mm	26 mm	2 x (50x10 mm)	60 mm	30 mm	1 x (60x10 mm)	-	-	-	-	-	-
1250 A	44 mm	26 mm	2 x (50x10 mm)	60 mm	30 mm	2 x (60x10 mm)	-	-	-	-	-	-
1600 A	44 mm	26 mm	2 x (50x10 mm)	60 mm	30 mm	2 x (60x10 mm)	-	-	-	-	-	-
2000 A	-	-	-	60 mm	30 mm	2 x (60x10 mm)	80 mm	46 mm	2 x (80x10 mm)	-	-	-
2500 A	-	-	-	60 mm	30 mm	3 x (60x10 mm)	80 mm	46 mm	3 x (100x10 mm)	-	-	-
3200 A	-	-	-	-	-	-	80 mm	46 mm	3 x (80x10 mm)	-	-	-
4000 A	-	-	-	-	-	-	80 mm	46 mm	4 x (100x10 mm)	96 mm	30 mm	4 x (100x10 mm)
5000 A	-	-	-	-	-	-	-	-	-	95 mm	46 mm	2x 3 x (100x10 mm)
6300 A	-	-	-	-	-	-	-	-	-	95 mm	46 mm	2 x 3 x (100x10 mm)

NOTE : Circuit breaker - to main busbar interconnection busbar could be manufactured in one piece or several pieces connected to eachother The reason why busbars are made with several pieces connected to each other is that current transformers can be easily dismantled and installed.

PANELMASTER® AIR CIRCUIT BREAKER INTERCONNECTION BUSBAR CROSS SECTION TABLE

CHINT

Current	CHINT NA1 1000 (Fixed - Withdrawable Type)			CHINT NA1 2000 (Fixed - Withdrawable Type)			CHINT NA1 3200 (Fixed - Withdrawable Type)			CHINT NA1 6300 (Withdrawable Type)		
	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section
630 A	35 mm	35 mm	40x10 mm	-	-	-	-	-	-	-	-	-
800 A	35 mm	35 mm	50x10 mm	60 mm	35 mm	60x10 mm	-	-	-	-	-	-
1000 A	35 mm	35 mm	2 x (40x10 mm)	60 mm	35 mm	60x10 mm	-	-	-	-	-	-
1250 A	-	-	-	60 mm	35 mm	2 x (60x10 mm)	-	-	-	-	-	-
1600 A	-	-	-	60 mm	35 mm	2 x (60x10 mm)	-	-	-	-	-	-
2000 A	-	-	-	60 mm	35 mm	2 x (60x10 mm)	-	-	-	-	-	-
2500 A	-	-	-	-	-	-	86 mm	29 mm	2 x (80x10 mm)	-	-	-
3200 A	-	-	-	-	-	-	86 mm	29 mm	3 x (80x10 mm)	-	-	-
4000 A	-	-	-	-	-	-	-	-	-	210 mm	36,5 mm	4 x (100x10 mm)

EATON

Current	EATON IZMX16 (Fixed - Withdrawable Type)			EATON IZMX40 (66 kA) (Fixed - Withdrawable Type)			EATON IZMX40 (85kA -105 kA) (Fixed - Withdrawable Type)			EATON IZM63 (Fixed - Withdrawable Type)		
	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section
630 A	51 mm	19 mm	50x10 mm	-	-	-	-	-	-	-	-	-
800 A	51 mm	19 mm	50x10 mm	76 mm	39 mm	50x10 mm	100 mm	35 mm	50x10 mm	-	-	-
1000 A	51 mm	19 mm	2 x (50x10 mm)	76 mm	39 mm	60x10 mm	100 mm	35 mm	60x10 mm	-	-	-
1250 A	51 mm	19 mm	2 x (50x10 mm)	76 mm	39 mm	80x10 mm	100 mm	35 mm	80x10 mm	-	-	-
1600 A	51 mm	19 mm	2 x (50x10 mm)	76 mm	39 mm	2 x (50x10 mm)	100 mm	35 mm	2 x (50x10 mm)	-	-	-
2000 A	-	-	-	76 mm	39 mm	2 x (60x10 mm)	100 mm	35 mm	2 x (60x10 mm)	-	-	-
2500 A	-	-	-	76 mm	39 mm	2 x (80x10 mm)	100 mm	35 mm	2 x (80x10 mm)	-	-	-
3200 A	-	-	-	76 mm	39 mm	3 x (80x10 mm)	100 mm	35 mm	3 x (100x10 mm)	-	-	-
4000 A	-	-	-	-	-	-	100 mm	35 mm	4 x (100x10 mm)	-	-	-
5000 A	-	-	-	-	-	-	-	-	-	102 mm	25 mm	2 x 3 x (100x10 mm)
6300 A	-	-	-	-	-	-	-	-	-	102 mm	25 mm	2 x 4 x (100x10 mm)

GE

Current	GE EntelliGuard Case1 (Fixed Type)			GE EntelliGuard Case1 (Withdrawable Type)			GE EntelliGuard Case2 (Fixed - Withdrawable Type)			GE EntelliGuard Case3 (Fixed - Withdrawable Type)		
	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section
400 A	50 mm	50 mm	30x10 mm	65 mm	35 mm	30x10 mm	100 mm	30 mm	30X10 mm	-	-	-
630 A	50 mm	50 mm	50x10 mm	65 mm	35 mm	50x10 mm	100 mm	30 mm	50X10 mm	-	-	-
800 A	50 mm	50 mm	50x10 mm	65 mm	35 mm	50x10 mm	100 mm	30 mm	50x10 mm	-	-	-
1000 A	50 mm	50 mm	60x10 mm	65 mm	35 mm	60x10 mm	100 mm	30 mm	60x10 mm	-	-	-
1250 A	50 mm	50 mm	2 x (50x10 mm)	65 mm	35 mm	2 x (50x10 mm)	100 mm	30 mm	2 x (50x10 mm)	-	-	-
1600 A	50 mm	50 mm	2 x (50x10 mm)	65 mm	35 mm	2 x (50x10 mm)	100 mm	30 mm	2 x (50x10 mm)	-	-	-
2000 A	-	-	-	65 mm	35 mm	2 x (60x10 mm)	100 mm	30 mm	2 x (60x10 mm)	-	-	-
2500 A	-	-	-	65 mm	35 mm	2 x (80x10 mm)	100 mm	30 mm	2 x (80x10 mm)	-	-	-
3200 A	-	-	-	-	-	-	100 mm	30 mm	3 x (100x10 mm)	-	-	-
4000 A	-	-	-	-	-	-	100 mm	30 mm	4 x (100x10 mm)	-	-	-
5000 A	-	-	-	-	-	-	-	-	-	2x100 mm	27,5 mm	2 x 3 x (100x10 mm)
6300 A	-	-	-	-	-	-	-	-	-	2x100 mm	27,5 mm	2 x 4 x (100x10 mm)

LEGRAND

Current	LEGRAND DMX3 Case1 (Fixed Type)			LEGRAND DMX3 Case1 (Withdrawable Type)			LEGRAND DMX3 Case2 (Fixed - Withdrawable Type)			-		
	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section
800 A	60 mm	25 mm	60x10 mm	70 mm	46,5 mm	60x10 mm	100 mm	30 mm	60x10 mm	100 mm	30 mm	100 x 5 mm
1000 A	60 mm	25 mm	60x10 mm	70 mm	46,5 mm	60x10 mm	100 mm	30 mm	60x10 mm	100 mm	30 mm	100 x 5 mm
1250 A	60 mm	25 mm	2 x (60x10 mm)	70 mm	46,5 mm	2 x (60x10 mm)	100 mm	30 mm	2 x (60x10 mm)	100 mm	30 mm	100 x 10 mm
1600 A	60 mm	25 mm	2 x (60x10 mm)	70 mm	46,5 mm	2 x (60x10 mm)	100 mm	30 mm	2 x (60x10 mm)	100 mm	30 mm	100 x 10 mm
2000 A	60 mm	25 mm	2 x (60x10 mm)	70 mm	46,5 mm	2 x (60x10 mm)	100 mm	30 mm	2 x (60x10 mm)	100 mm	30 mm	2 x 100 x 10 mm
2500 A	60 mm	25 mm	3 x (60x10 mm)	70 mm	46,5 mm	2 x (80x10 mm)	100 mm	30 mm	2 x (100x10 mm)	100 mm	30 mm	2 x 100 x 10 mm
3200 A	-	-	-	-	-	-	100 mm	30 mm	3 x (100x10 mm)	100 mm	30 mm	3 x 100 x 10 mm
4000 A	-	-	-	-	-	-	100 mm	30 mm	4 x (100x10 mm)	100 mm	30 mm	4 x (100x10 mm)
5000 A	-	-	-	-	-	-	100 mm	30 mm	2x3x(100x10 mm)	-	-	-
6300 A	-	-	-	-	-	-	100 mm	30 mm	2x4x(100x10 mm)	-	-	-

NOTE : Circuit breaker - to main busbar interconnection busbar could be manufactured in one piece or several pieces connected to eachother. The reason why busbars are made with several pieces connected to each other is that current transformers can be easily dismantled and installed.

PANELMASTER® AIR CIRCUIT BREAKER INTERCONNECTION BUSBAR CROSS SECTION TABLE

ME

Current	AE 630 A - 1600 A (Fixed - Withdrawable Type)			AE 2000 A - 3200 A (Fixed Type)			AE 2000 A - 3200 A (Withdrawable Type)			AE 4000 A - 6300 A (Withdrawable Type)		
	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section
630A	50 mm	35 mm	50x10 mm	-	-	-	-	-	-	-	-	-
800 A	50 mm	35 mm	50x10 mm	-	-	-	-	-	-	-	-	-
1000 A	50 mm	35 mm	60x10 mm	-	-	-	-	-	-	-	-	-
1250 A	50 mm	35 mm	2 x (50x10 mm)	-	-	-	-	-	-	-	-	-
1600 A	50 mm	35 mm	2 x (50x10 mm)	-	-	-	-	-	-	-	-	-
2000 A	-	-	-	95 mm	35 mm	2 x (60x10 mm)	95 mm	35 mm	2 x (60x10 mm)	-	-	-
2500 A	-	-	-	95 mm	35 mm	2 x (80x10 mm)	95 mm	35 mm	2 x (80x10 mm)	-	-	-
3200 A	-	-	-	95 mm	35 mm	3 x (100x10 mm)	103 mm	27 mm	3 x (100x10 mm)	-	-	-
4000 A	-	-	-	-	-	-	-	-	-	125 mm	27 mm	4 x (100x10)
5000 A	-	-	-	-	-	-	-	-	-	125 mm	27 mm	6 x (100x10)
6300 A	-	-	-	-	-	-	-	-	-	125 mm	27 mm	6 x (120x10)

SCHNEIDER

Current	SCHNEIDER NT06 - NT16 (Fixed - Withdrawable Type)			SCHNEIDER MVS - *(NW40 4000 A) (Fixed - Withdrawable Type)			SCHNEIDER NW08 - NW32 (Fixed - Withdrawable Type)			SCHNEIDER NW40b - NW63 Fixed - Withdrawable Type)		
	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section
630 A	44 mm	26 mm	50x10 mm	-	-	-	-	-	-	-	-	-
800 A	44 mm	26 mm	50x10 mm	76 mm	39 mm	50x10 mm	76 mm	39 mm	50x10 mm	-	-	-
1000 A	44 mm	26 mm	2 x (50x10 mm)	76 mm	39 mm	60x10 mm	76 mm	39 mm	60x10 mm	-	-	-
1250 A	44 mm	26 mm	2 x (50x10 mm)	76 mm	39 mm	2 x (50x10) mm	76 mm	39 mm	2 x (50x10 mm)	-	-	-
1600 A	44 mm	26 mm	2 x (50x10 mm)	76 mm	39 mm	2 x (50x10) mm	76 mm	39 mm	2 x (50x10 mm)	-	-	-
2000 A	-	-	-	76 mm	39 mm	2 x (60x10 mm)	76 mm	39 mm	2 x (60x10 mm)	-	-	-
2500 A	-	-	-	76 mm	39 mm	2 x (80x10 mm)	76 mm	39 mm	2 x (80x10 mm)	-	-	-
3200 A	-	-	-	76 mm	39 mm	3 x (80x10 mm)	76 mm	39 mm	3 x (80x10 mm)	-	-	-
4000 A	-	-	-	100 mm	39 mm	4 x (100x10 mm)	-	-	-	100 mm	39 mm	4 x (100x10 mm)
5000 A	-	-	-	-	-	-	-	-	-	2 x 76 mm	50 mm	2 x 3 x (100x10 mm)
6300 A	-	-	-	-	-	-	-	-	-	2 x 76 mm	50 mm	2 x 3 x (120x10 mm)

SIEMENS

Current	SIEMENS 3WL Case1 (Fixed - Withdrawable Type)			SIEMENS 3WL Case2 (Fixed - Withdrawable Type)			SIEMENS 3WL Case3 (Fixed - Withdrawable Type)			-		
	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section
630 A	55 mm	35 mm	40X10 mm	-	-	-	-	-	-	-	-	-
800 A	55 mm	35 mm	50x10 mm	90 mm	40 mm	60x10 mm	-	-	-	-	-	-
1000 A	55 mm	35 mm	60x10 mm	90 mm	40 mm	60x10 mm	-	-	-	-	-	-
1250 A	55 mm	35 mm	2 x (40x10 mm)	90 mm	40 mm	80x10 mm	-	-	-	-	-	-
1600 A	55 mm	35 mm	2 x (50x10 mm)	90 mm	40 mm	100x10 mm	-	-	-	-	-	-
2000 A	55 mm	35 mm	2 x (60x10 mm)	90 mm	40 mm	2 x (80x10 mm)	-	-	-	-	-	-
2500 A	-	-	-	90 mm	40 mm	2 x (100x10 mm)	-	-	-	-	-	-
3200 A	-	-	-	90 mm	40 mm	3 x (80x10 mm)	-	-	-	-	-	-
4000 A	-	-	-	90 mm	40 mm	4 x (100x10 mm)	160 mm	50 mm	4 x (100x10 mm)	-	-	-
5000 A	-	-	-	-	-	-	160 mm	50 mm	2 x 3 x (100x10 mm)	-	-	-
6300 A	-	-	-	-	-	-	160 mm	50 mm	2 x 3 x (120x10 mm)	-	-	-

Current	SIEMENS 3WT Case1 (Fixed - Withdrawable Type)			SIEMENS 3WT Case2 (Fixed Type)			SIEMENS 3WT Case2 (Withdrawable Type)			-		
	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section
800 A	60 mm	30 mm	60X10 mm	-	-	-	-	-	-	-	-	-
1000 A	60 mm	30 mm	60x10 mm	-	-	-	-	-	-	-	-	-
1250 A	60 mm	30 mm	2 x (60x10 mm)	-	-	-	-	-	-	-	-	-
1600 A	60 mm	30 mm	2 x (60x10 mm)	-	-	-	-	-	-	-	-	-
2000 A	-	-	-	80 mm	40 mm	2 x (80x10 mm)	80 mm	40 mm	2 x (80x10 mm)	-	-	-
2500 A	-	-	-	80 mm	40 mm	2 x (80x10 mm)	80 mm	40 mm	2 x (80x10 mm)	-	-	-
3200 A	-	-	-	80 mm	40 mm	3 x (80x10 mm)	100 mm	20 mm	3 x (100x10 mm)	-	-	-
4000 A	-	-	-	80 mm	40 mm	4 x (100x10 mm)	100 mm	20 mm	4 x (100x10 mm)	-	-	-
4000 A	-	-	-	-	-	-	100 mm	30 mm	4 x (100x10 mm)	-	-	-

NOTE : Circuit breaker - to main busbar interconnection busbar could be manufactured in one piece or several pieces connected to eachother The reason why busbars are made with several pieces connected to each other is that current transformers can be easily dismantled and installed. Schneider NW40 series values only apply for 4000A.

PANELMASTER® MCCB CONNECTION BUSBAR CURRENT CARRING CAPACITY AT DIFFERENT AMBIENT TEMPERATURES

BUSBAR CROSS SECTION	CURRENT (A)					
	40°C		45°C		50°C	
	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1x15x3 mm	159 A	156 A	153 A	150 A	147 A	144 A
1x20x2 mm	168 A	161 A	161 A	155 A	155 A	148 A
1x20x3 mm	220 A	210 A	211 A	202 A	203 A	194 A
1x20x5 mm	245 A	231 A	235 A	222 A	226 A	213 A
1x30x5 mm	397 A	377 A	382 A	362 A	366 A	347 A
1x30x10 mm	600 A	576 A	577 A	554 A	553 A	531 A
1x40x10 mm	696 A	629 A	669 A	605 A	641 A	580 A
1x50x10 mm	816 A	783 A	785 A	753 A	752 A	722 A
1x60x10 mm	1101 A	975 A	1058 A	938 A	1014 A	899 A
1x80x10 mm	1228 A	1148 A	1180 A	1103 A	1132 A	1058 A
1x100x10 mm	1632 A	1516 A	1569 A	1458 A	1505 A	1398 A
2x40x10 mm	1278 A	1194 A	1229 A	1148 A	1178 A	1101 A
2x50x10 mm"	1645 A	1528 A	1572 A	1460 A	1498 A	1391 A
2x60x10 mm	2087 A	1903 A	2007 A	1830 A	1924 A	1754 A
2x80x10 mm	2449 A	2364 A	2354 A	2273 A	2257 A	2179 A
2x100x10 mm	2877 A	2778 A	2766 A	2670 A	2652 A	2560 A
3x60x10 mm	2791 A	2545 A	2683 A	2446 A	2572 A	2346 A
3x80x10 mm	3232 A	3044 A	3108 A	2927 A	2979 A	2806 A
3x100x10 mm	3907 A	3672 A	3756 A	3530 A	3601 A	3384 A
4x80x10 mm	4005 A	3749 A	3851 A	3604 A	3692 A	3456 A
2x2x80x10 mm	4184 A	3918 A	4023 A	3767 A	3857 A	3612 A
4x100x10 mm	4269 A	3996 A	4105 A	3842 A	3935 A	3684 A
2x2x100x10 mm	5209 A	4732 A	5008 A	4549 A	4801 A	4362 A
2x3x100x10 mm	5724 A	5471 A	5503 A	5260 A	5276 A	5043 A
2x3x120x10 mm	6283 A	6276 A	6041 A	6033 A	5792 A	5785 A
2x4x100x10 mm	7093 A	7085 A	6819 A	6812 A	6538 A	6531 A
6x100x10 mm	5585 A	5338 A	5369 A	5132 A	5148 A	4920 A
6x120x10 mm	6154 A	6147 A	5916 A	5909 A	5673 A	5666 A

PANELMASTER® AUTOMATIC TRANSFER SWITCH INTERCONNECTON BUSBAR CROSS SECTION TABLE

ABB-OT_C / OTM_C Series Transfer Switch												
Current	OT630...800E03/04C_P OT630…800E03/04Y OTM630...800E2/3/4CM OT630…800E03/04Y			OT1000...1600E03/04CP OTM1000...1250E2/3/4CM M1000...1250E2/3/4			OT2000…2500E03/04CP OTM2000...2500E3/4CM			OT3200E02/03/04C_P OT3200E2/3/4CM		
	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section
630A	39 mm	26 mm	2x185 mm^2 or 40x10 mm	-	-	-	-	-	-	-	-	-
800 A	39 mm	26 mm	2x240 mm^2 or 50x10 mm	-	-	-	-	-	-	-	-	-
1000 A	-	-	-	50 mm	30 mm	60x10 mm^2 or 2 x (30x10 mm)	-	-	-	-	-	-
1250 A	-	-	-	50 mm	30 mm	2 x (50x10 mm)	-	-	-	-	-	-
1600 A	-	-	-	50 mm	30 mm	2 x (50x10 mm)	-	-	-	-	-	-
2000 A	-	-	-	-	-	-	100 mm	26 mm	3 x (100x5 mm) or 2 x (100x10 mm)	-	-	-
2500 A	-	-	-	-	-	-	100 mm	26 mm	2 x (100x10 mm)	-	-	-
3200 A	-	-	-	-	-	-	-	-	-	100 mm	40 mm	4 x (100x10 mm)

ABB-TrueOne Series Transfer Switch												
Current	OX_500...800_			OX_800U...1600_								
	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section						
500A	30 mm	35 mm	30 x 10 mm	-	-	-	-	-	-	-	-	-
630A	30 mm	35 mm	40 x 10 mm	-	-	-	-	-	-	-	-	-
800 A	30 mm	35 mm	50 x 10 mm*	85 mm	30 mm	50 x 10 mm	-	-	-	-	-	-
1000 A	-	-	-	85 mm	30 mm	60 x 10 mm	-	-	-	-	-	-
1250 A	-	-	-	85 mm	30 mm	2 x (50x10 mm) or 80 x 10 mm	-	-	-	-	-	-
1600 A	-	-	-	85 mm	30 mm	2 x (50x10 mm)	-	-	-	-	-	-

* When the air-to-air isolation distance falls below 15 mm, phase barriers shall be used between circuit breaker poles.
Apart from this, connection coppers shall also be insulated (covered with a heat shrink tube) excluding circuit breaker connection bars. Insulation materials to be used shall be flame-retardant, halogen free and resistant to 105 ºC temperature.

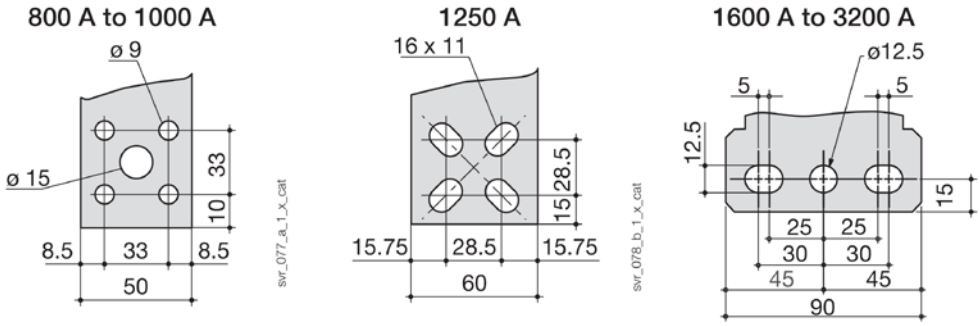
Note: Copper busbars used in the switch - main busbar connection can be joint or can be manufactured from a single piece of copper.

PANELMASTER® AUTOMATIC TRANSFER SWITCH INTERCONNECTON BUSBAR CROSS SECTION TABLE

SOCOMEC - AtyS Series												
Current	Case Type - B5			Case Type - B6			Case Type - B7			Case Type - B8		
	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section	Contact Width	Distance Between Contacts	Busbar Cross Section
500A	32 mm	33 mm	2 x (32x5 mm) or 30x10 mm	-	-	-	-	-	-	-	-	-
630A	45 mm	20 mm	2 x (40x5 mm)* or 40x10 mm*	-	-	-	-	-	-	-	-	-
800 A	-	-	-	50 mm	30 mm	2 x (50x5 mm) or 50x10 mm	-	-	-	-	-	-
1000 A	-	-	-	50 mm	30 mm	2 x (63x5 mm)* or 60x10 mm	-	-	-	-	-	-
1250 A	-	-	-	60 mm	20 mm	2 x (60x7 mm)* or 2 x (60x10 mm)*	-	-	-	-	-	-
1600 A	-	-	-	-	-	-	90 mm	30 mm	2 x (100x7 mm)* or 100x10 mm*	-	-	-
2000 A	-	-	-	-	-	-	-	-	-	90 mm	30 mm	3 x (100x5 mm)* or 2 x (100x10 mm)*
2500 A	-	-	-	-	-	-	-	-	-	90 mm	30 mm	2 x (100x10 mm)*
3200 A	-	-	-	-	-	-	-	-	-	90 mm	30 mm	3 x (100x10 mm)*

* When the air-to-air isolation distance falls below 15 mm, phase barriers shall be used between circuit breaker poles.
Apart from this, connection coppers shall also be insulated (covered with a heat shrink tube) excluding circuit breaker connection bars. Insulation materials to be used shall be flame-retardant, halogen free and resistant to 105 ºC temperature.

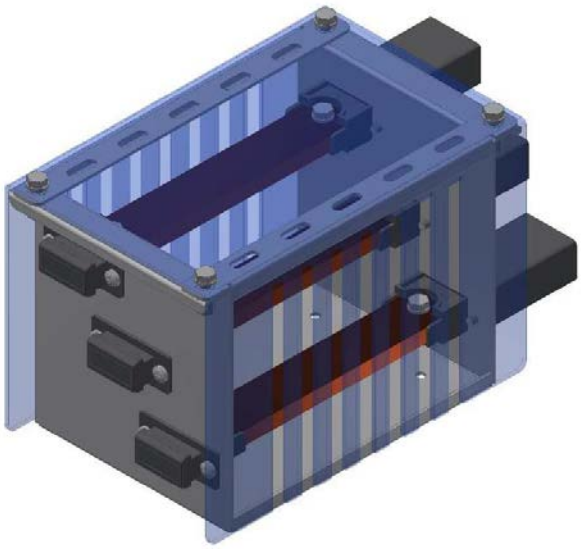
Note: Copper busbars used in the switch - main busbar connection can be joint or can be manufactured from a single piece of copper.

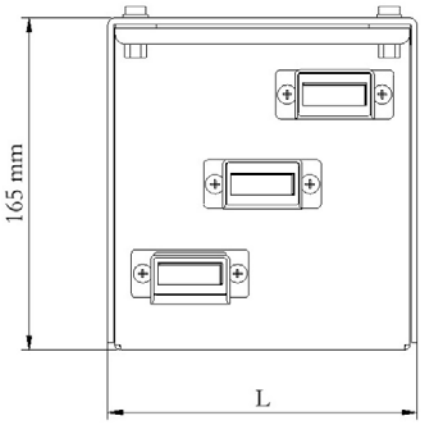


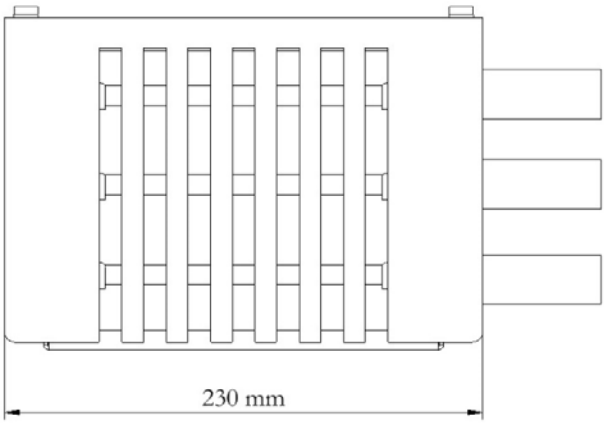
PANELMASTER® DISTRIBUTION BLOCK

PM DB CODE EXPLANATION			
Code	Width (L)	Pole Number	Short Circuit Current
PMDB	15 (150 mm)	3P	25 kA
PMDB	20 (200 mm)	3P	35 kA
PMDB	25 (250 mm)	3P	50 kA
PMDB	20 (200 mm)	4P	25 kA
PMDB	25 (250 mm)	4P	35 kA
PMDB	35 (350 mm)	4P	50 kA

Sample Code: PMDB153P25KA

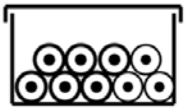






Rated Current : Up to 630 A
Short Circuit Current : Up to 50 kA
Degree of Protection : Up to IP2X
Copper Bar : 30 x 10 mm
Note 1 : Copper bar is not included in the product content.
Note 2 : Busbars and distribution blocks cannot be extended or duplicated with cable connection. A protection device must be used for the supply circuit of each busbar and distribution block.

PANELMASTER® CONDUCTORS CROSS SECTIONS TO BE USED FOR CIRCUIT BREAKER ELECTRICAL CONNECTIONS

Maximum operating current	 Single-core cables, spaced horizontally in free air (1)		 Bundled, single core multi wire cables (2)		 Free placement inside cable trunking, single core, multi wire cables (2)	
	Ambient temperature inside the enclosure					
	35 °C	55 °C	35 °C	55 °C	35 °C	55 °C
	Cross sectional area of conductor					
[A]	[mm²]	[mm²]	[mm²]	[mm²]	[mm²]	[mm²]
6	1,5	1,5	1,5	2,5	1,5	2,5
10	1,5	1,5	1,5	2,5	1,5	2,5
16	2,5	2,5	2,5	4	2,5	6
20	2,5	2,5	2,5	6	4	10
25	4	4	4	10	6	10
32	6	6	6	16	10	16
40	10	10	10	16	16	25
50	10	16	16	25	16	35
63	16	16	16	35	---	---
80	25	25	25	50	---	---
100	35	35	35	70	---	---
125	50	50	50	95	---	---
160	70 or 20x1x2 mm (3)	70 or 20x1x2 mm (3)	70 or 20x1x2 mm (3)	70 or 20x1x2 mm (3)	---	---
200	95 or 20x1x3 mm (3)	95 or 20x1x3 mm (3)	120 or 20x1x3 mm (3)	120 or 20x1x3 mm (3)	---	---
250	120 or 20x1x3 mm (3)	120 or 20x1x3 mm (3)	150 or 20x1x3 mm (3)	150 or 20x1x3 mm (3)	---	---

(1) Spacing should be at least one cable diameter.
(2) If bunled design will be prefered, cables shall be specified as suitable for 90°C conductor temperature.
(3) Flexible busbar maximum operating temperature is 105°C.

Notes:

Note 1: In main distribution switchgear, cross-sections shall be selected according to 55°C ambient temperature.
Note 2: In MCC, reactive power compensation, sub-distribution switchgears with rated current below 1600A, ambient temperature inside the switchgear must be calculated according to IEC 60890 standard or selected as 55 °C.

Suggested cable types :

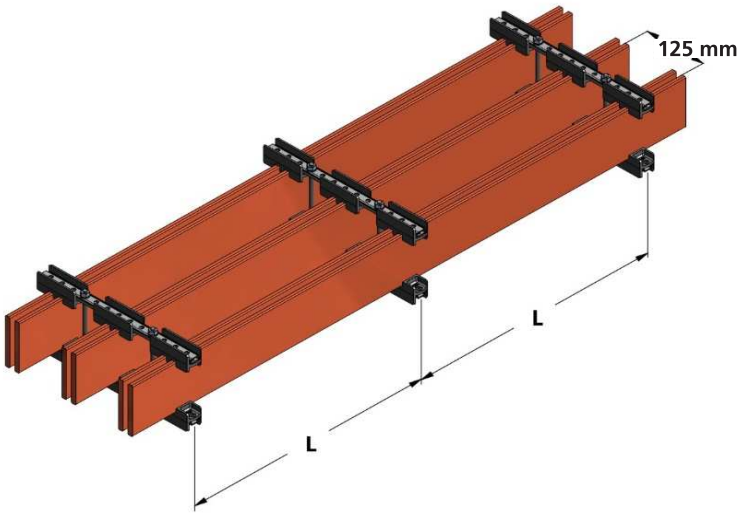
- All cables shall be multi wire and single type.
- Selected cable must have sufficient rated insulation voltage for its intended circuit.
- H07V-K: 450/750 V PVC insulated, unsheathed, single core, flexible conductor cables, conductor temperature 70°C
- H07V2-K: 450/750 V PVC insulated, unsheathed, single core, flexible conductor cables, conductor temperature 90°C
- H07Z-K: 450/750 V HFFR insulated, unsheathed, single core, flexible conductor cables, conductor temperature 90°C

Cable connection rules:

- Generally, only one conductor shall be connected to one terminal. Connection of two or more conductors to one terminal is only permissible if the terminal is designed for this purpose.
- Avoid contact of cables to bare conductors which are in different voltage level.
- Cables shall not be in contact with sharp edges.

PANELMASTER® TABLE OF MAX DISTANCE BETWEEN SUPPORTS L

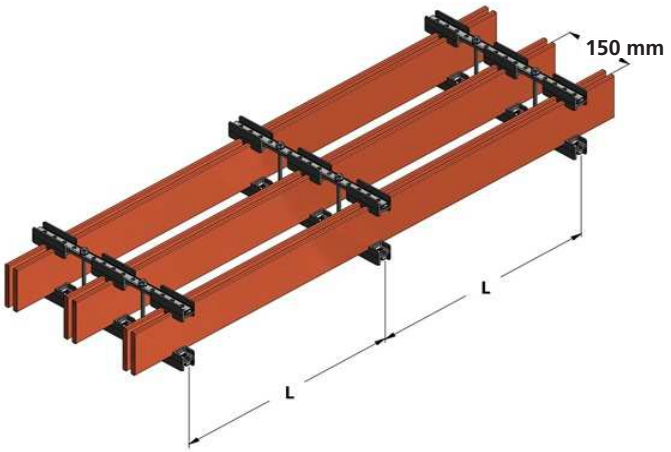
DISTANCE BETWEEN PHASES = 125 mm



	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
630 A	1 x (40x10 mm)	PM MC 10 20	Insulator Distance (L)	74 cm	63 cm	55 cm	49 cm	44 cm	40 cm	37 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
800 A	1 x (50x10 mm)	PM MC 10 20	Insulator Distance (L)	74 cm	63 cm	55 cm	49 cm	44 cm	40 cm	37 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
1000 A	1 x (60x10 mm)	PM MC 10 20	Insulator Distance (L)	74 cm	63 cm	55 cm	49 cm	44 cm	40 cm	37 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
1250 A	1 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	85 cm	75 cm	64 cm	57 cm	51 cm	45 cm	38 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
	2 x (40x10 mm)	PM MC 10 20	Insulator Distance (L)	78 cm	67 cm	58 cm	52 cm	47 cm	42 cm	38 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
1600 A	1 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	95 cm	82 cm	72 cm	64 cm	55 cm	45 cm	38 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
	2 x (50x10 mm)	PM MC 10 20	Insulator Distance (L)	90 cm	77 cm	68 cm	60 cm	54 cm	45 cm	38 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
2000 A	1 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	90 cm	78 cm	68 cm	55 cm	45 cm	38 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
	2 x (60x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	87 cm	76 cm	67 cm	55 cm	45 cm	38 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
2500 A	2 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	95 cm	83 cm	68 cm	55 cm	45 cm	38 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
	2 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	86 cm	68 cm	55 cm	45 cm	38 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
3200 A	2 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	86 cm	68 cm	55 cm	45 cm	38 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
	2 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	86 cm	68 cm	55 cm	45 cm	38 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm

PANELMASTER® TABLE OF MAX DISTANCE BETWEEN SUPPORTS L

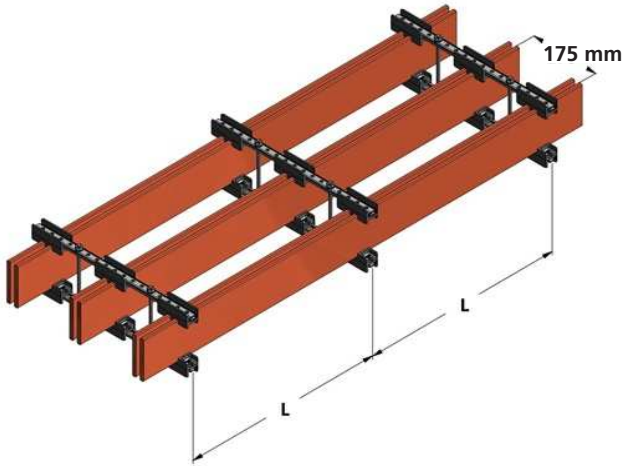
DISTANCE BETWEEN PHASES = 150 mm



630 A	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
	1 x (40x10 mm)	PM MC 10 20	Insulator Distance (L)	81 cm	69 cm	61 cm	54 cm	49 cm	44 cm	40 cm	37 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
800 A	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
	1 x (50x10 mm)	PM MC 10 20	Insulator Distance (L)	81 cm	69 cm	61 cm	54 cm	49 cm	44 cm	40 cm	37 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
1000 A	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
	1 x (60x10 mm)	PM MC 10 20	Insulator Distance (L)	81 cm	69 cm	61 cm	54 cm	49 cm	44 cm	40 cm	37 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
1250 A	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
	1 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	93 cm	80 cm	70 cm	62 cm	56 cm	51 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
	2 x (40x10 mm)	PM MC 10 20	Insulator Distance (L)	83 cm	71 cm	62 cm	56 cm	50 cm	45 cm	42 cm	38 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
1600 A	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
	1 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	90 cm	78 cm	70 cm	63 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
	2 x (50x10 mm)	PM MC 10 20	Insulator Distance (L)	97 cm	83 cm	63 cm	65 cm	58 cm	53 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
2000 A	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
	1 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	98 cm	86 cm	76 cm	66 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
	2 x (60x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	94 cm	82 cm	73 cm	65 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
2500 A	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
	2 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	95 cm	83 cm	68 cm	55 cm	45 cm	38 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
	2 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	81 cm	66 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
3200 A	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
	2 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	81 cm	66 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
	2 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	81 cm	66 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
4000 A	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
	3 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	81 cm	66 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
	3 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	81 cm	66 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
5000 A	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
	3 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	81 cm	66 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
	3 x (160x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	81 cm	66 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
	2 x 3 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	79 cm	72 cm	57 cm	50 cm	41 cm	35 cm	30 cm
6300 A	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
	2 x 3 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	79 cm	72 cm	57 cm	50 cm	41 cm	35 cm	30 cm
	2 x 3 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	90 cm	77 cm	62 cm	55 cm	45 cm	37 cm	33 cm

PANELMASTER® TABLE OF MAX DISTANCE BETWEEN SUPPORTS L

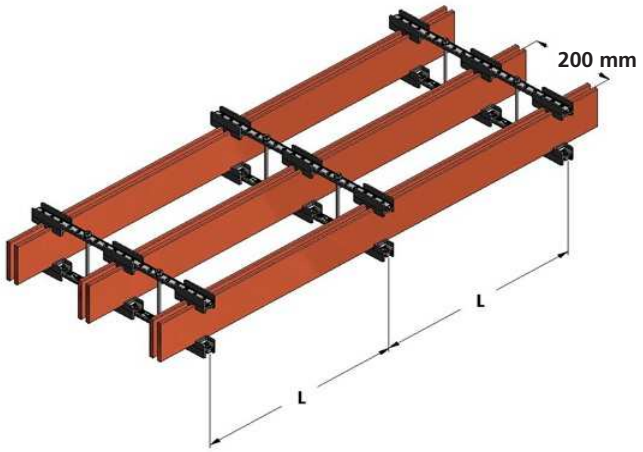
DISTANCE BETWEEN PHASES = 175 mm



	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
630 A	1 x (40x10 mm)	PM MC 10 20	Insulator Distance (L)	87 cm	75 cm	66 cm	58 cm	52 cm	48 cm	44 cm	40 cm	37 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
800 A	1 x (50x10 mm)	PM MC 10 20	Insulator Distance (L)	87 cm	75 cm	66 cm	58 cm	52 cm	48 cm	44 cm	40 cm	37 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
1000 A	1 x (60x10 mm)	PM MC 10 20	Insulator Distance (L)	87 cm	75 cm	66 cm	58 cm	52 cm	48 cm	44 cm	40 cm	37 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
1250 A	1 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	86 cm	76 cm	67 cm	61 cm	55 cm	50 cm	45 cm	39 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
	2 x (40x10 mm)	PM MC 10 20	Insulator Distance (L)	88 cm	75 cm	66 cm	59 cm	53 cm	48 cm	44 cm	41 cm	38 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
1600 A	1 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	97 cm	85 cm	75 cm	68 cm	62 cm	53 cm	45 cm	39 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
	2 x (50x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	88 cm	77 cm	69 cm	62 cm	56 cm	51 cm	45 cm	39 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
2000 A	1 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	93 cm	82 cm	74 cm	63 cm	53 cm	45 cm	39 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
	2 x (60x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	87 cm	77 cm	70 cm	63 cm	53 cm	45 cm	39 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
2500 A	2 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	95 cm	83 cm	68 cm	55 cm	45 cm	38 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
	2 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	95 cm	77 cm	63 cm	53 cm	45 cm	39 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
3200 A	2 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	95 cm	77 cm	63 cm	53 cm	45 cm	39 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
	2 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	95 cm	77 cm	63 cm	53 cm	45 cm	39 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
4000 A	3 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	95 cm	77 cm	63 cm	53 cm	45 cm	39 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
	3 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	95 cm	77 cm	63 cm	53 cm	45 cm	39 cm	34 cm	30 cm	26 cm	23 cm	21 cm	19 cm	17 cm	16 cm	14 cm	13 cm
5000 A	3 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	81 cm	66 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
	3 x (160x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	81 cm	66 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
	2 x 3 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	79 cm	72 cm	57 cm	50 cm	41 cm	35 cm	30 cm
6300 A	2 x 3 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	79 cm	72 cm	57 cm	50 cm	41 cm	35 cm	30 cm
	2 x 3 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	95 cm	77 cm	63 cm	53 cm	45 cm	39 cm

PANELMASTER® TABLE OF MAX DISTANCE BETWEEN SUPPORTS L

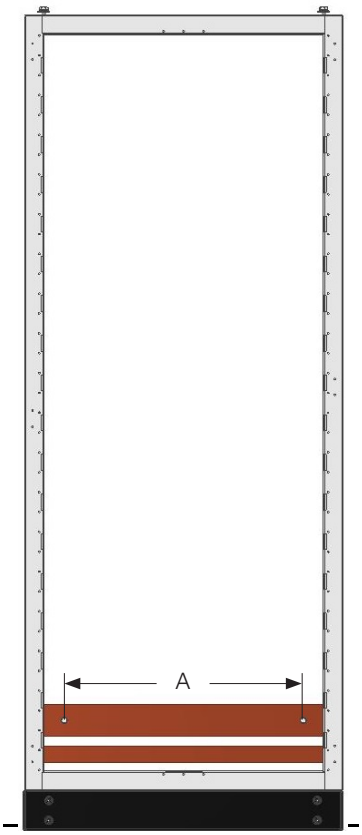
DISTANCE BETWEEN PHASES = 200 mm



	Busbar Cross Section	Insulator Type	Short Circuit Current	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	70 kA	75 kA	80 kA	85 kA	90 kA	95 kA	100 kA	105 kA	110 kA	115 kA	120 kA
630 A	1 x (40x10 mm)	PM MC 10 20	Insulator Distance (L)	93 cm	80 cm	70 cm	62 cm	56 cm	51 cm	47 cm	43 cm	40 cm	37 cm	35 cm	33 cm	31 cm	30 cm	27 cm	25 cm	23 cm	21 cm	19 cm
800 A	1 x (50x10 mm)	PM MC 10 20	Insulator Distance (L)	93 cm	80 cm	70 cm	62 cm	56 cm	51 cm	47 cm	43 cm	40 cm	37 cm	35 cm	33 cm	31 cm	30 cm	27 cm	25 cm	23 cm	21 cm	19 cm
1000 A	1 x (60x10 mm)	PM MC 10 20	Insulator Distance (L)	93 cm	80 cm	70 cm	62 cm	56 cm	51 cm	47 cm	43 cm	40 cm	37 cm	35 cm	33 cm	31 cm	30 cm	27 cm	25 cm	23 cm	21 cm	19 cm
1250 A	1 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	92 cm	81 cm	72 cm	65 cm	59 cm	54 cm	50 cm	46 cm	43 cm	40 cm	38 cm	34 cm	30 cm	27 cm	25 cm	23 cm	21 cm	19 cm
	2 x (40x10 mm)	PM MC 10 20	Insulator Distance (L)	92 cm	79 cm	69 cm	61 cm	55 cm	50 cm	46 cm	42 cm	39 cm	37 cm	35 cm	32 cm	31 cm	29 cm	27 cm	25 cm	23 cm	21 cm	19 cm
1600 A	1 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	90 cm	80 cm	72 cm	66 cm	60 cm	56 cm	52 cm	48 cm	42 cm	38 cm	34 cm	30 cm	27 cm	25 cm	23 cm	21 cm	19 cm
	2 x (50x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	93 cm	81 cm	72 cm	65 cm	59 cm	54 cm	50 cm	46 cm	43 cm	41 cm	38 cm	34 cm	30 cm	27 cm	25 cm	23 cm	21 cm	19 cm
2000 A	1 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	79 cm	72 cm	66 cm	61 cm	56 cm	48 cm	42 cm	38 cm	34 cm	30 cm	27 cm	25 cm	23 cm	21 cm	19 cm
	2 x (60x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	73 cm	67 cm	61 cm	57 cm	52 cm	48 cm	42 cm	38 cm	34 cm	30 cm	27 cm	25 cm	23 cm	21 cm	19 cm
2500 A	2 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	95 cm	83 cm	68 cm	55 cm	45 cm	38 cm	32 cm	28 cm	24 cm	21 cm	19 cm	17 cm	15 cm	14 cm	12 cm	11 cm	10 cm	9 cm
	2 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	90 cm	76 cm	65 cm	56 cm	48 cm	42 cm	38 cm	34 cm	30 cm	27 cm	25 cm	23 cm	21 cm	19 cm
3200 A	2 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	90 cm	76 cm	65 cm	56 cm	48 cm	42 cm	38 cm	34 cm	30 cm	27 cm	25 cm	23 cm	21 cm	19 cm
	2 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	90 cm	76 cm	65 cm	56 cm	48 cm	42 cm	38 cm	34 cm	30 cm	27 cm	25 cm	23 cm	21 cm	19 cm
4000 A	3 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	90 cm	76 cm	65 cm	56 cm	48 cm	42 cm	38 cm	34 cm	30 cm	27 cm	25 cm	23 cm	21 cm	19 cm
	3 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	90 cm	76 cm	65 cm	56 cm	48 cm	42 cm	38 cm	34 cm	30 cm	27 cm	25 cm	23 cm	21 cm	19 cm
5000 A	3 x (120x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	81 cm	66 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
	3 x (160x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	81 cm	66 cm	55 cm	45 cm	39 cm	33 cm	29 cm	25 cm	22 cm	20 cm	18 cm	16 cm	15 cm	13 cm	12 cm	11 cm
	2 x 3 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	90 cm	77 cm	62 cm	57 cm	49 cm	39 cm	35 cm
6300 A	2 x 3 x (80x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	90 cm	77 cm	62 cm	57 cm	49 cm	39 cm	35 cm
	2 x 3 x (100x10 mm)	PM MC 10 20	Insulator Distance (L)	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	100 cm	90 cm	76 cm	65 cm	56 cm

PANELMASTER® NEUTRAL COPPER BUSBAR MAXIMUM SUPPORT DISTANCES

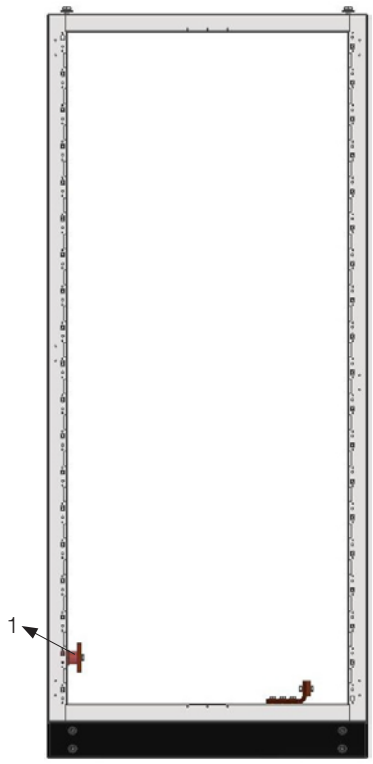
up to 80x10 mm

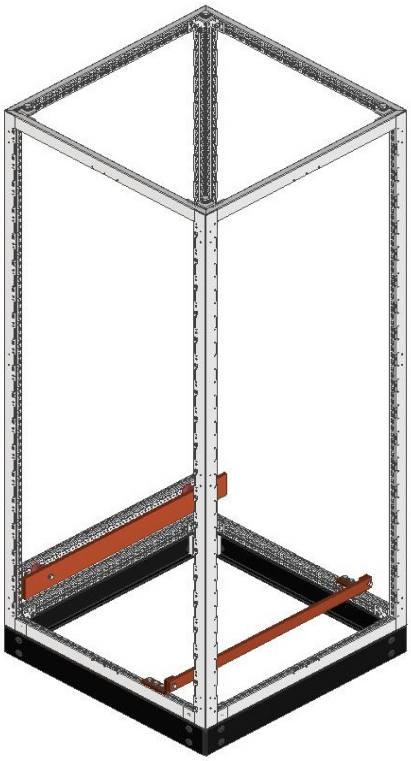


PHASE SHORT CIRCUIT CURRENT	"A" DISTANCE
50 kA	90 cm
70 kA	70 cm
100 kA	30 cm

1 line support insulator should be used up to 80x10 mm neutral busbar.

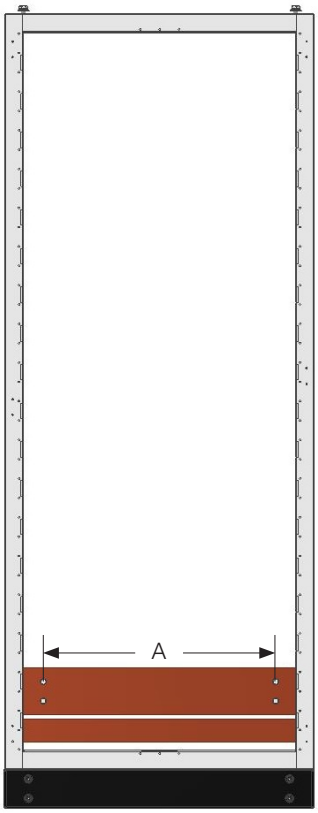
PM DI 03, PM DI 05 or "Alce" brand support insulator should be used as support insulator.





PANELMASTER® NEUTRAL COPPER BUSBAR MAXIMUM SUPPORT DISTANCES

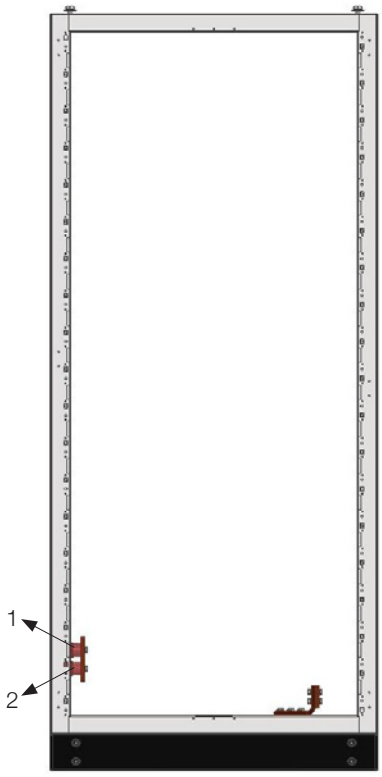
100 mm - 120 mm

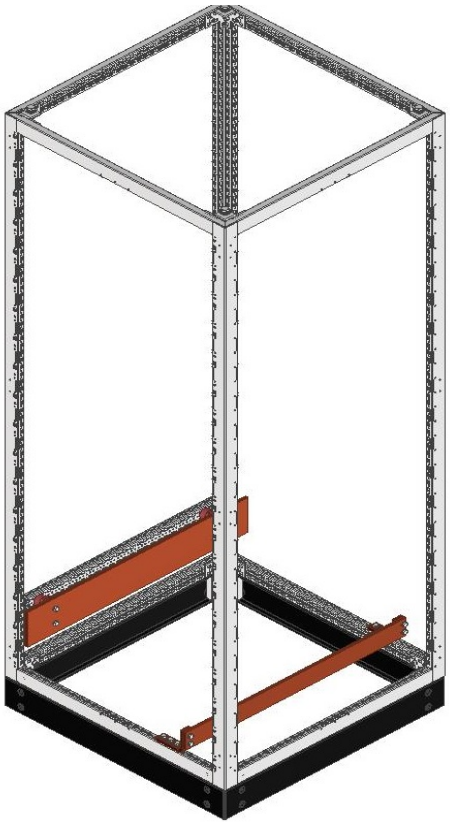


PHASE SHORT CIRCUIT CURRENT	"A" DISTANCE
50 kA	90 cm
70 kA	70 cm
100 kA	30 cm

2 lines of support insulator should be used up to 120x10 mm neutral busbar.

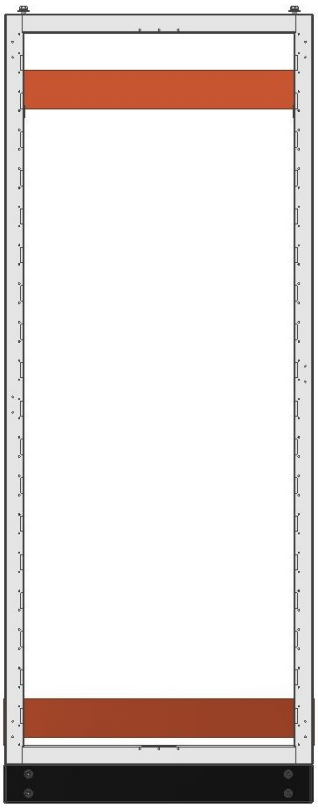
PM DI 03, 05 or "Alce" brand support insulator should be used as support insulator.

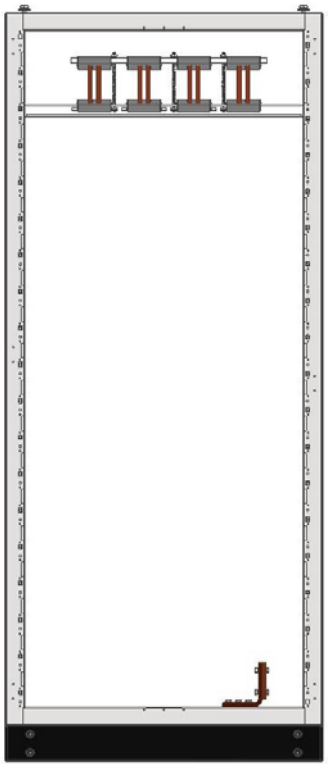


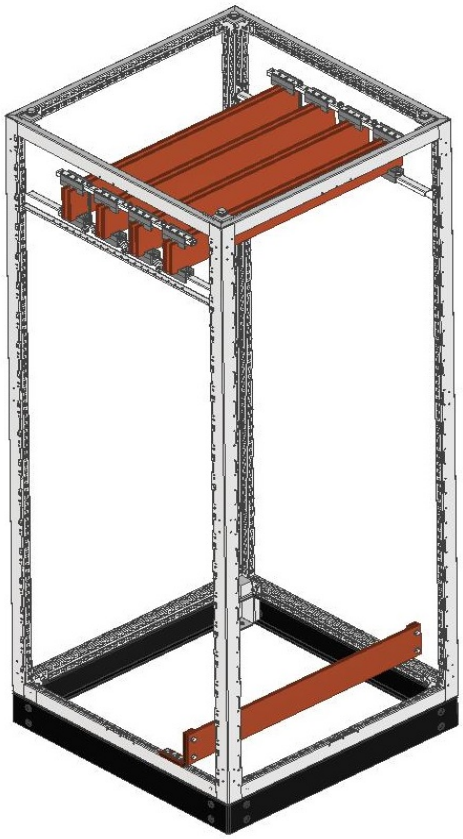


PANELMASTER® NEUTRAL COPPER BUSBAR MAXIMUM SUPPORT DISTANCES

4-Pole Main Busbar



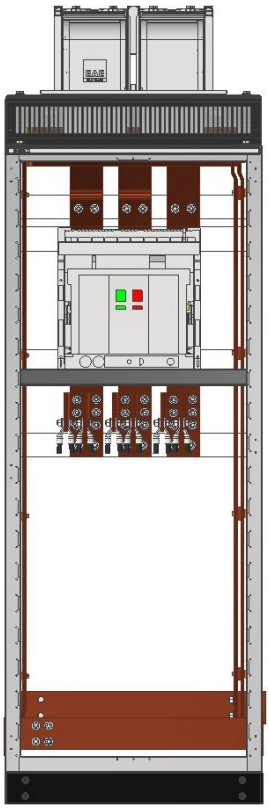


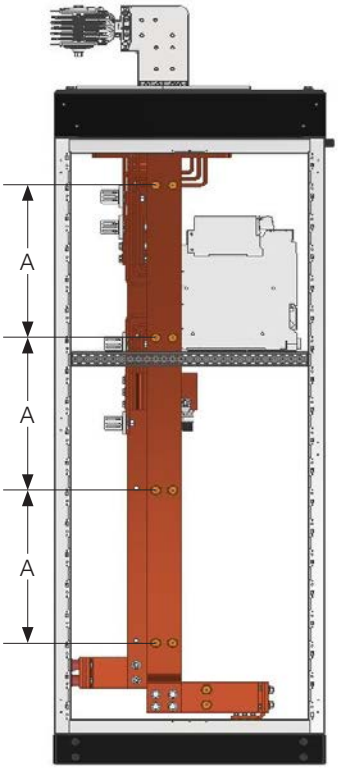


Note: If the neutral conductor is to be located in the main busbar section together with the phase conductors, it should be supported together with the phase conductors.

PANELMASTER® NEUTRAL COPPER BUSBAR MAXIMUM SUPPORT DISTANCES

Busbar Pano Modüllü Uygulama



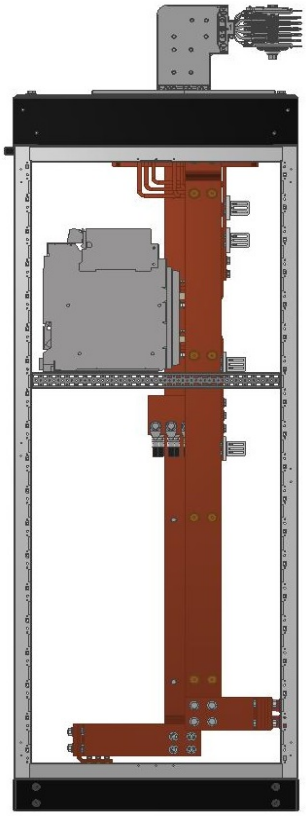


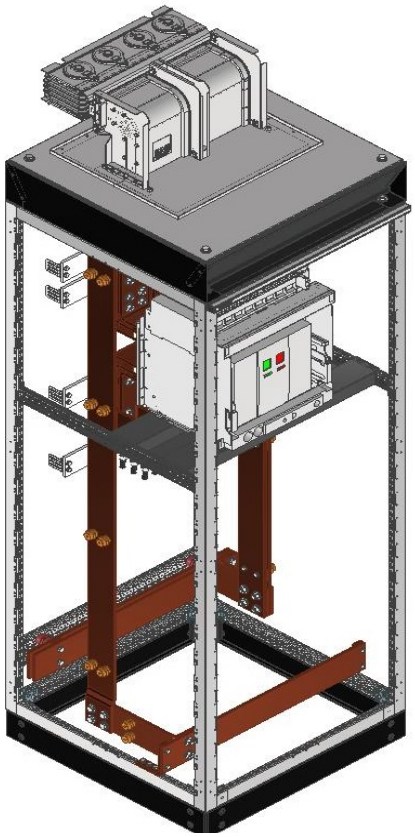
PHASE SHORT CIRCUIT CURRENT	"A" DISTANCE
50 kA	90 cm
70 kA	70 cm
100 kA	30 cm

1. 1 line support insulator should be used up to 80x10 mm neutral busbar.

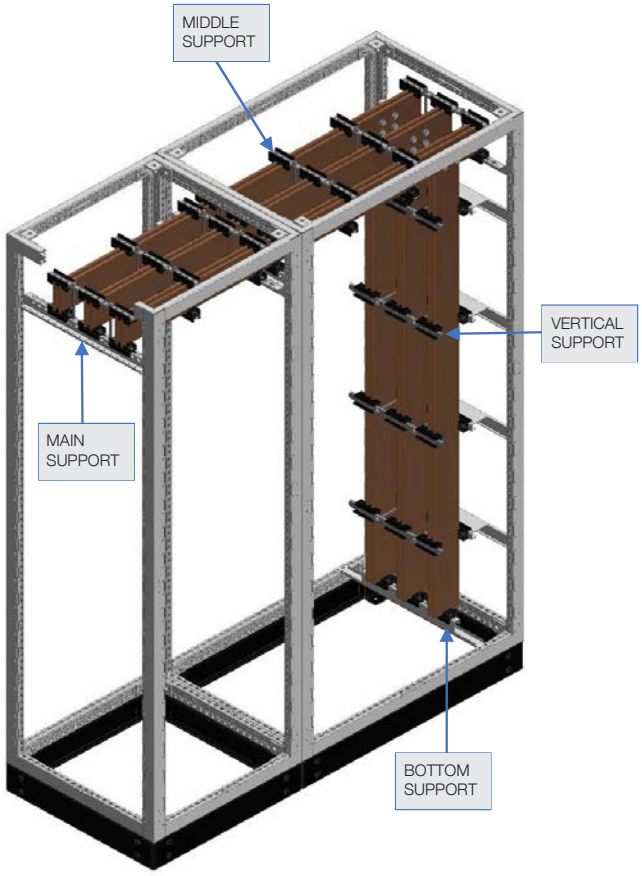
2. 2 lines of support insulator should be used up to 120x10 mm neutral busbar.

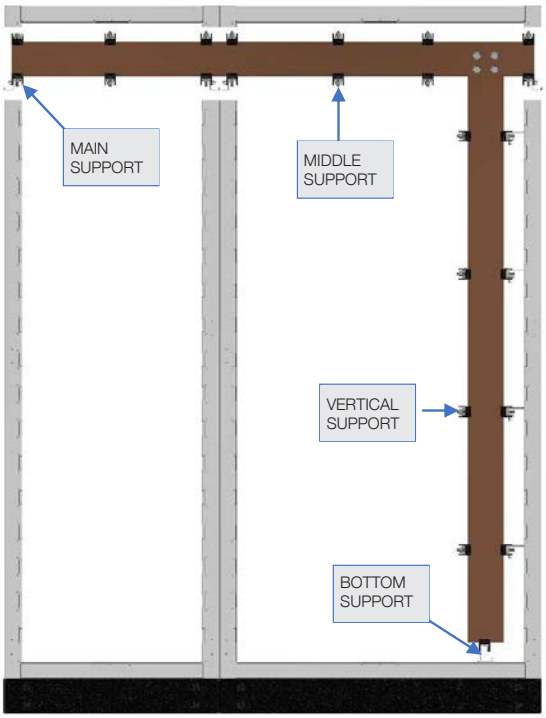
PM DI 03, 05 or "Alce" brand support insulator should be used as support insulator.



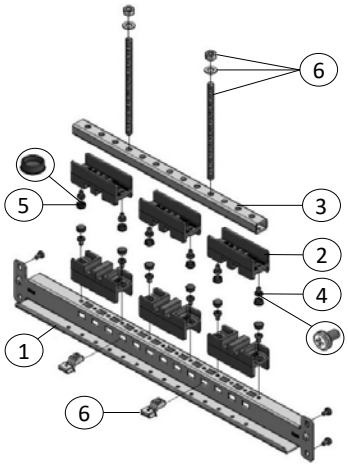


PANELMASTER® BUSBAR SUPPORT APPLICATION EXAMPLES



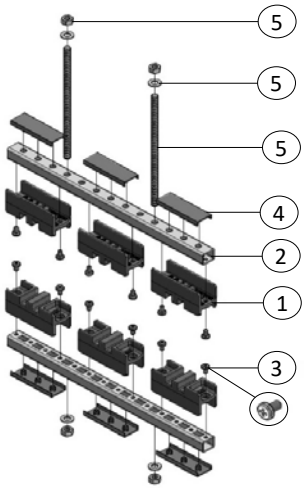


MAIN SUPPORT (PM MT)



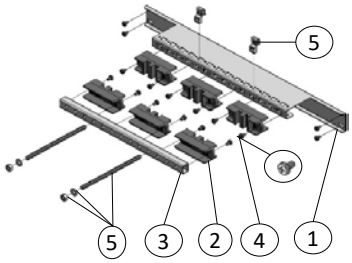
1- MTG Stainless Stell Profile
2- PM MC 1020 or PM MC 1030 Busbar Insulator
3- ITP Alu. Profile
4- M5*8 YSB Guide Screw
5- Guide Screw Insulation Cover
6- Rod Set

MIDDLE SUPPORT (PM MA)



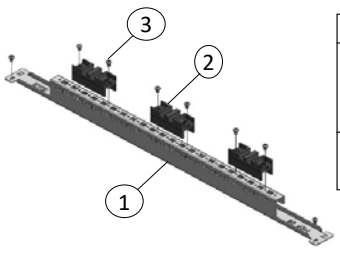
1- PM MC 1020 or PM MC 1030 Busbar Insulator
2- ITP Alu. Profile
3- M5*8 YSB Guide Screw
4- EB MA Insulation Cover
5- Rod Set

VERTICAL SUPPORT (PM MP)



1- MPG Profile
2- PM MC 1020 or PM MC 1030 Busbar Insulator
3- ITP Alu. Profile
4- M5*8 YSB Guide Screw
5- Rod Set

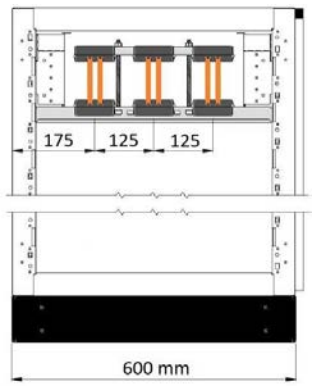
BOTTOM SUPPORT (PM ME)

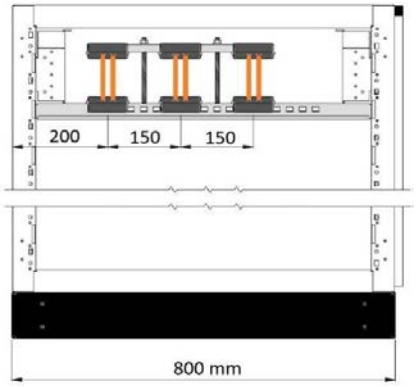


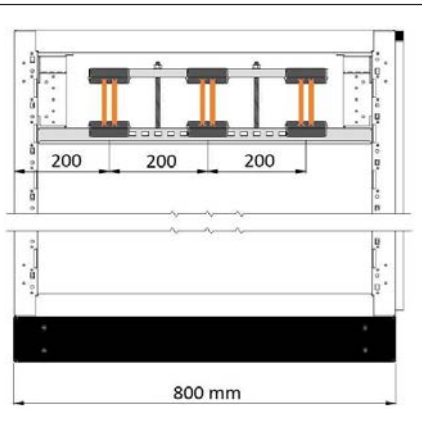
1- MEP Profile
2- PM MC 1020 or PM MC 1030 Busbar Insulator
3- M5*8 YSB Guide Screw

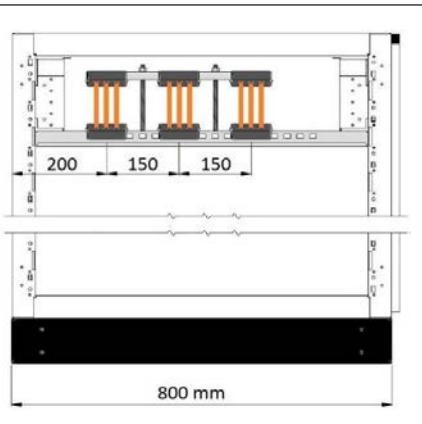
PANELMASTER® ENCLOSURE DEPTH BASED ON DISTANCE BETWEEN MAIN BUSBAR PHASES

3P

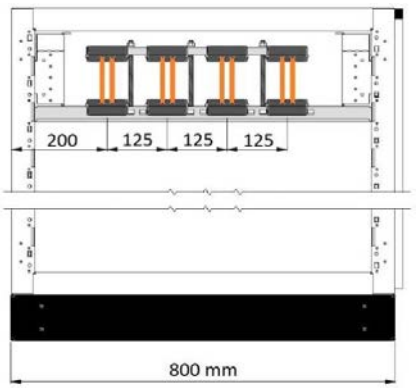


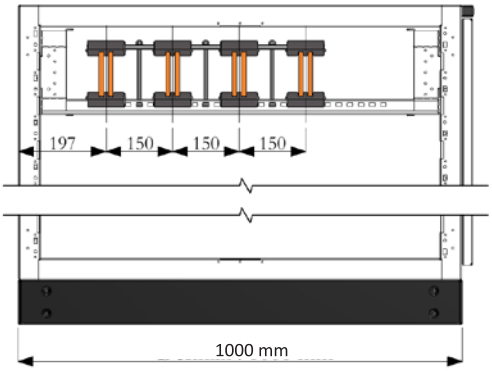


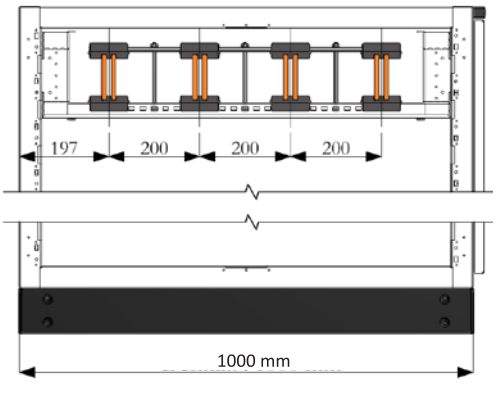




3P + N

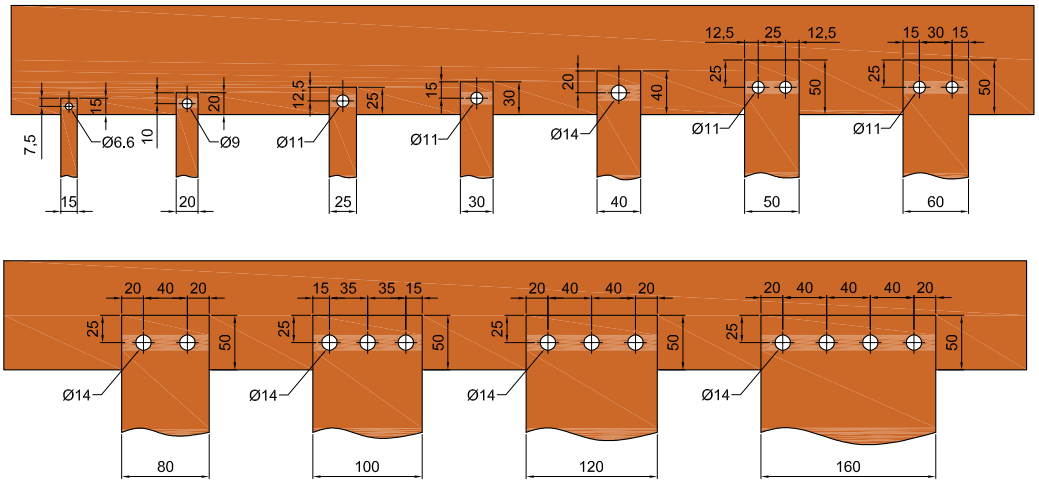






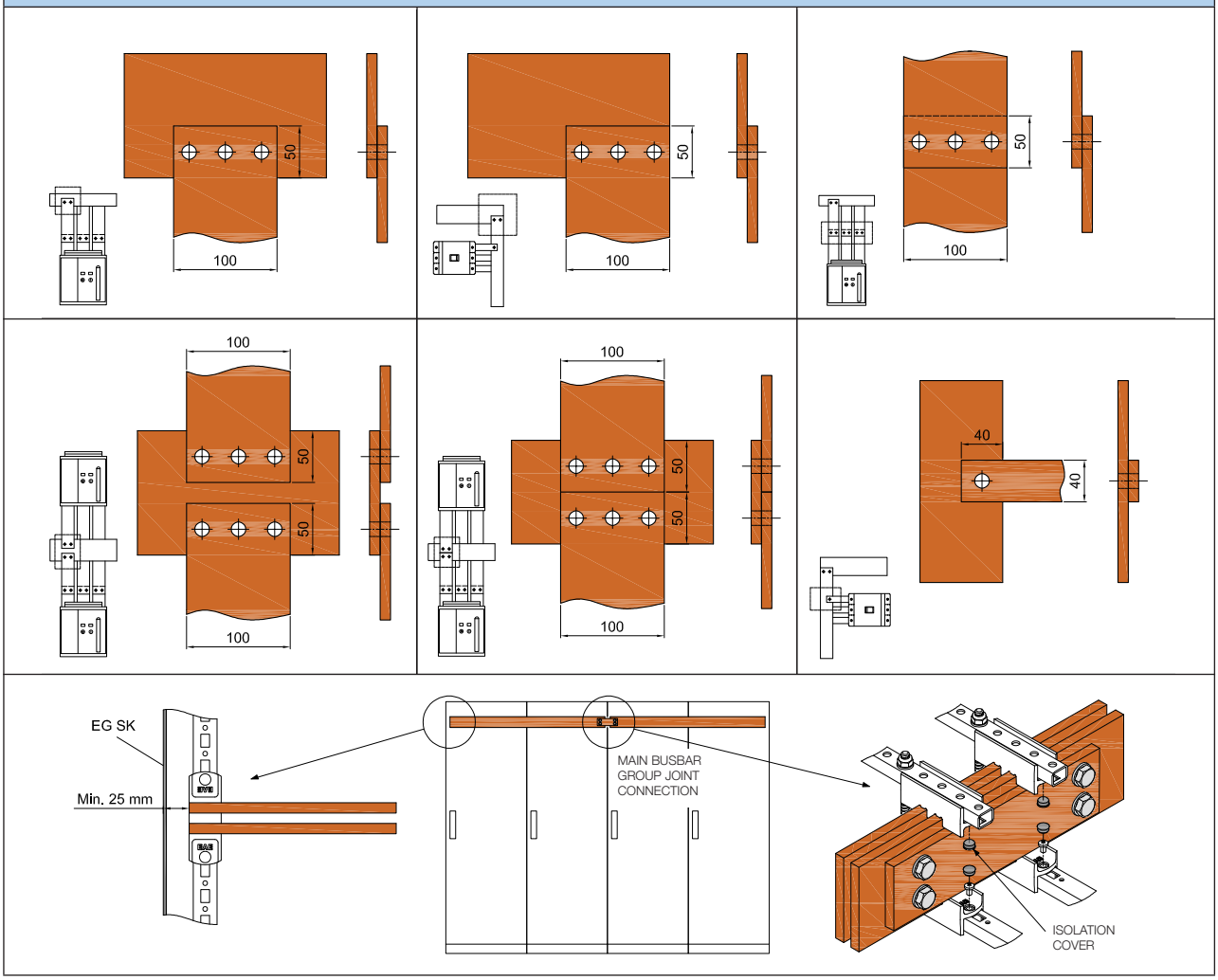
PANELMASTER® COPPER BAR CONNECTIONS AND HOLE TEMPLATES

MAIN BUSBAR AND CIRCUIT BREAKER BUSBAR CONNECTIONS



	Ø9 M8	Ø11 M10	Ø14 M12

SAMPLE APPLICATIONS

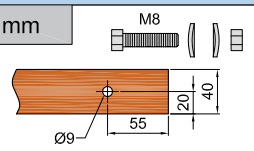
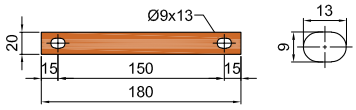
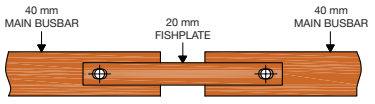
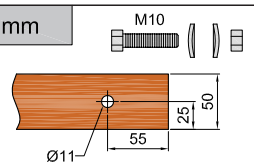
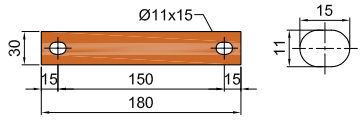
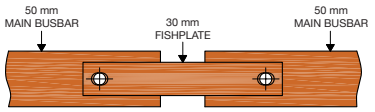
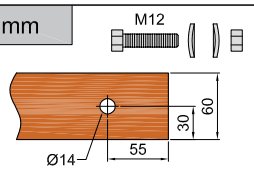
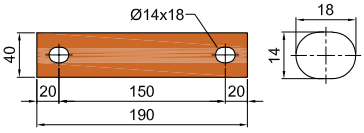
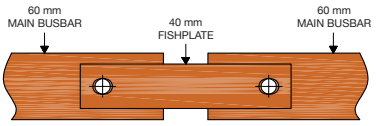
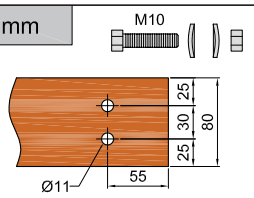
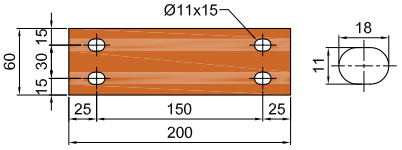
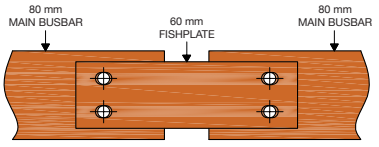
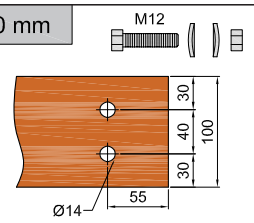
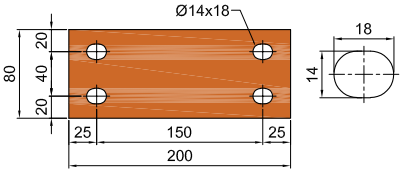
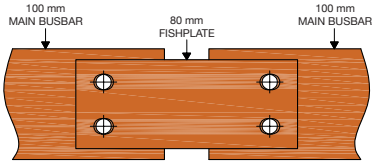
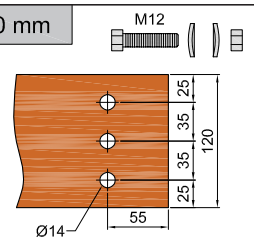
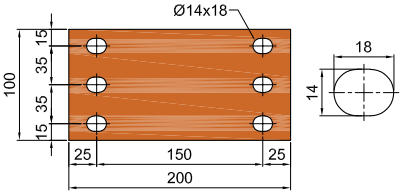
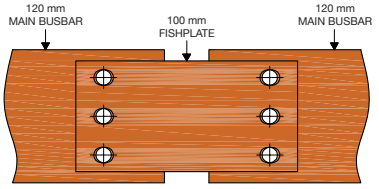
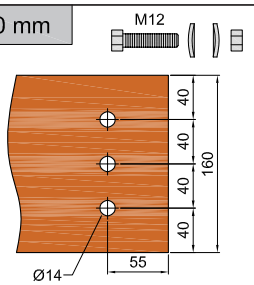
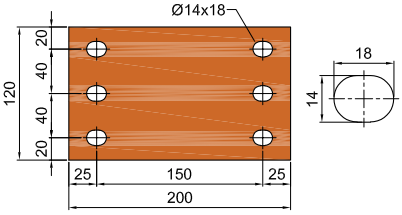
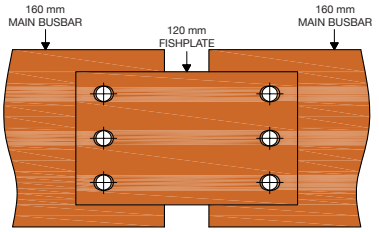


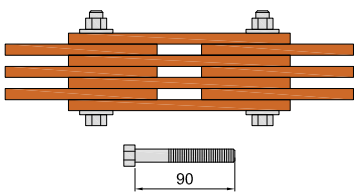
1) Please review the “Earth Conductor Connection to the Main Frame” page.

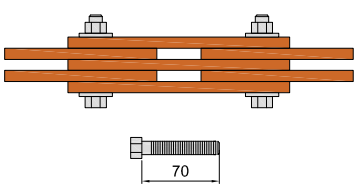
2) Please review “Cable Connection Terminals” pages.

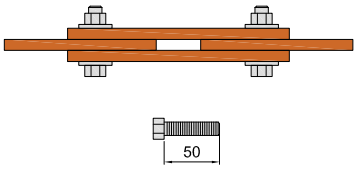
3) Hole templates of the relevant switchgear manufacturers will be considered for switchgear terminal connections.

PANELMASTER® GROUP JOINT CONNECTIONS - FISHPLATES

MAIN BUSBAR	MAIN BUSBAR FISHPLATE	CONNECTION
40 mm 	20 mm 	
50 mm 	30 mm 	
60 mm 	40 mm 	
80 mm 	60 mm 	
100 mm 	80 mm 	
120 mm 	100 mm 	
160 mm 	120 mm 	

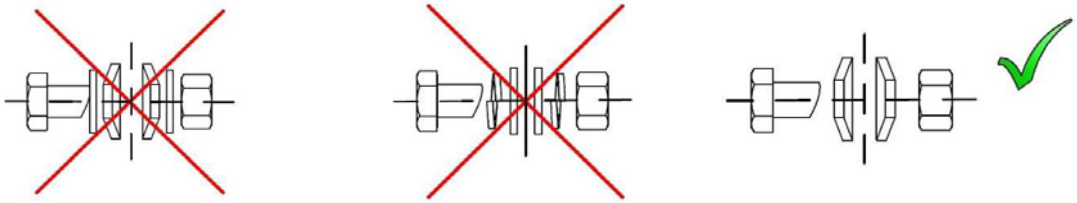






PANELMASTER® COPPER CONNECTION APPLICATIONS

Bolt	Washer	Application	Washer	Nut	Tightening Torque			
					M6	M8	M10	M12
					12 Nm	25 Nm	50 Nm	80 Nm
					Test Torque			
8.8 Bolt	Belleville Washer	Busbar-Busbar	Belleville Washer		8 Nm	18 Nm	40 Nm	70 Nm
					Tightening Torque			
					12 Nm	25 Nm	50 Nm	80 Nm
					Test Torque			
8.8 Bolt	Belleville Washer	Busbar-Flexible Busbar	Oversized Flat Washer and Belleville Washer		8 Nm	18 Nm	40 Nm	70 Nm
					Tightening Torque			
					12 Nm	25 Nm	50 Nm	80 Nm
					Test Torque			
8.8 Bolt	Belleville Washer	Busbar-Cable Lug	Flat Washer		8 Nm	18 Nm	40 Nm	70 Nm



Belleville Washer Clamp Test: In order to test the quality of the washer;
1. Measure the belleville washer height with vernier caliper
2. Apply the pressure to belleville washer by clamp until it is flatten and realise. Then measure it's height again with vernier caliper.
3. Difference between two measurements shuld not exceed %15

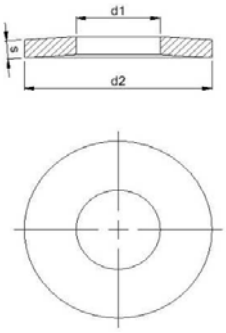
CAUTION 1: Belleville washer which are used or tested shall not be used again.

Test torque: The bolt which is tightened at "Tightering Torque" will be forced to opening by appliying given test torque. Test results will be successful if the bolt remains tightened afterward.

CAUTION 2: All belleville washers shall be manufactured according to **DIN 6796** standard.

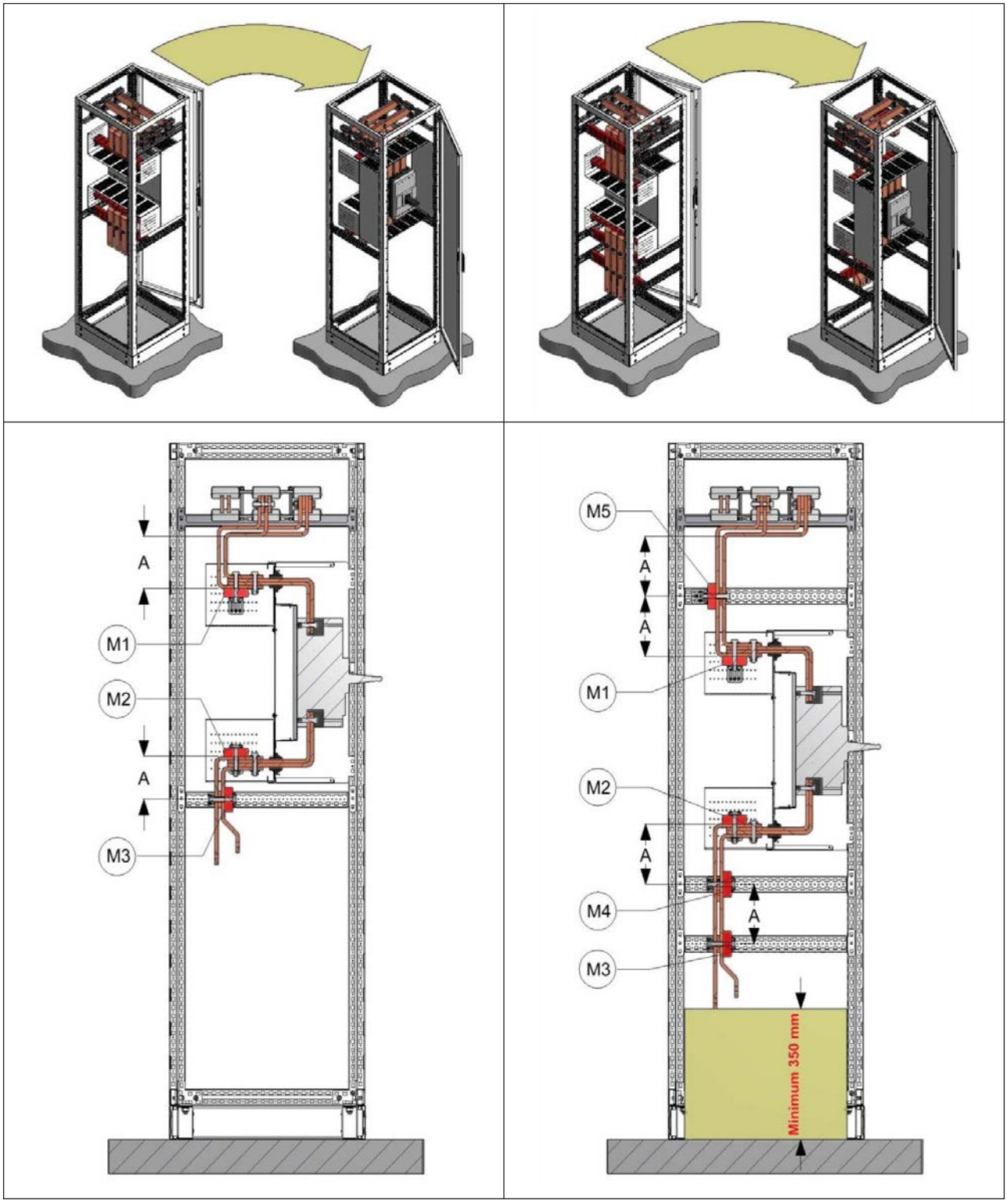
CAUTION 3: Oversized flat washers shall be manufactured according to **DIN 9021** standard for flexible busbar applications.

DIN 6796 Belleville Washer



	M6	M8	M10	M12
d1	6,4	8,4	10,5	13
d2	14	18	23	29
s	1,5	2	2,5	3

PANELMASTER® MCCB INTERCONNECTION BUSBARS SUPPORT DESCRIPTION



1) M1, M2 and M3 supports must be used. They have to be used at first bends of circuit breaker connection busbars to main busbar and terminals. Please check ''CABLE CONNECTION TERMINALS" pages.

2) Used supports will be ''PM GF XXYY" . Please check ''E-KABIN B SERIES" catalogue.

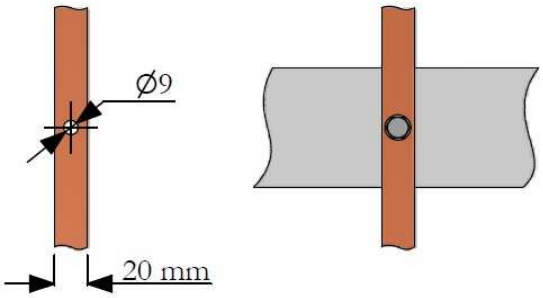
3) M4 and M5 supports will be used depending on "A" distance is not enough, based on short circuit current value.

SHORT CIRCUIT CURRENT	DISTANCE ''A"
36 kA	≤ 750 mm
50 kA	≤ 500 mm
70 kA	≤ 250 mm

PANELMASTER® MCCB INTERCONNECTION BUSBARS SUPPORT DESCRIPTION

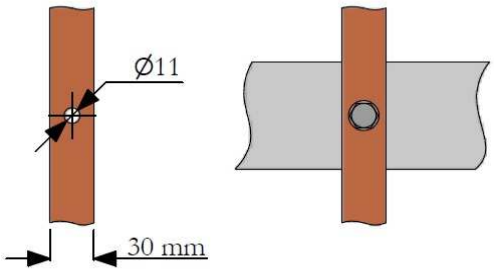
SOLID BUSBAR SUPPORT DETAIL

20 mm



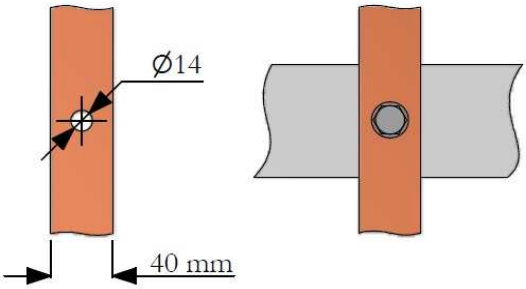
8.8 Quality M8 Bolt

30 mm



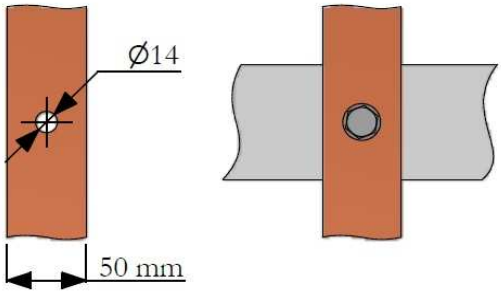
8.8 Quality M10 Bolt

40 mm



8.8 Quality M12 Bolt

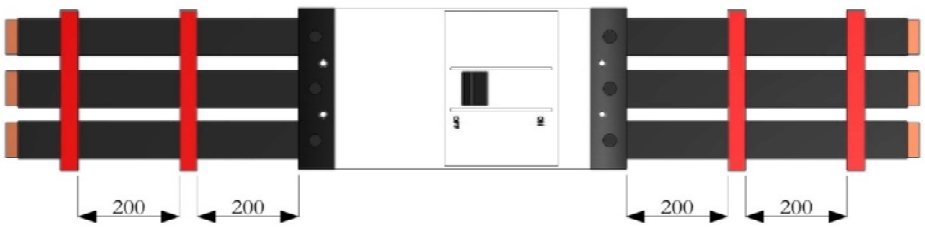
50 mm



8.8 Quality M12 Bolt

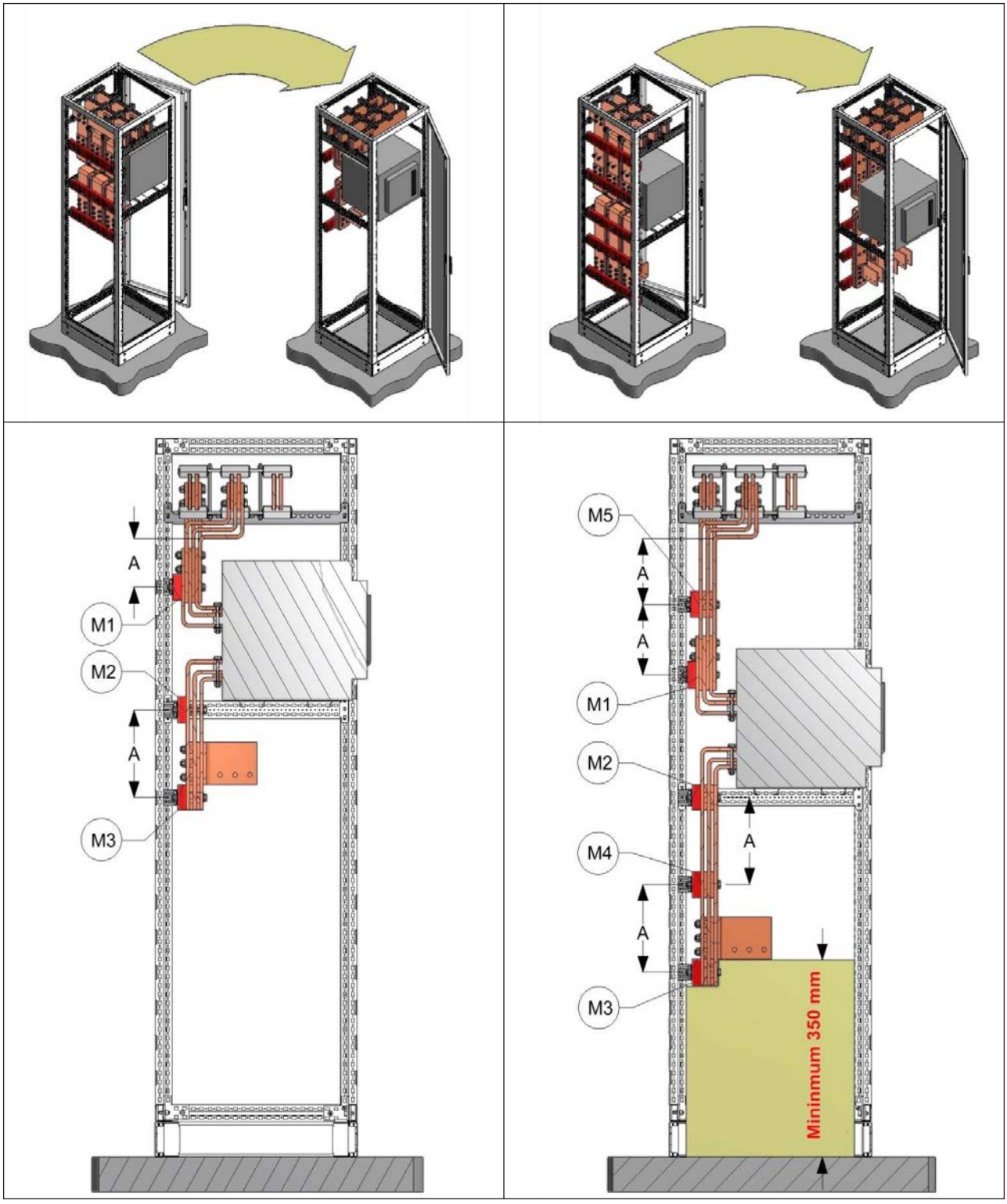
Bolt	Washer	Application	Washer	Nut	M8	M10	M12
					Tightening Torque		
					20 Nm	45 Nm	70 Nm
					Test Torque		
8.8 Bolt	Belleville Washer	Busbar - GF Insulator	Flat Washer		12 Nm	35 Nm	60 Nm

CABLE AND FLEXIBLE BUSBAR SUPPORT DETAIL



NOTE : Used supports will be PM GF XXYY. Please check “E-KABIN B SERIES” catalogue.

PANELMASTER® AIR TYPE CIRCUIT BREAKER INTERCONNECTION BUSBARS SUPPORT DESCRIPTION



1) M1, M2 and M3 supports must be used. They have to be used at first bends of circuit breaker connection busbars to main busbar and terminals. Please check ‘’CABLE CONNECTION TERMINALS” pages.

2) Used supports will be ‘’PM GF XXYY” . Please check ‘’E-KABIN B SERIES” catalogue.

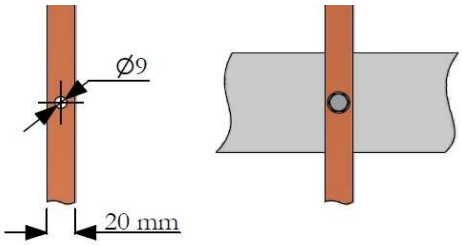
3) M4 and M5 supports will be used depending on “A” distance is not enough, based on short circuit current value.

SHORT CIRCUIT CURRENT	DISTANCE ‘’A”
50 kA	≤ 500 mm
70 kA	≤ 300 mm
100 kA	≤ 200 mm

PANELMASTER® AIR TYPE CIRCUIT BREAKER INTERCONNECTION BUSBARS SUPPORT DESCRIPTION

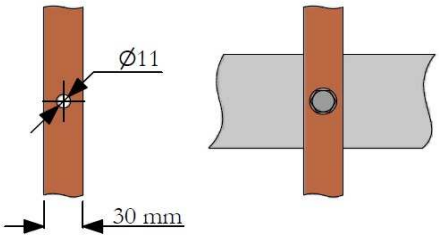
SOLID BUSBAR SUPPORT DETAIL

20 mm



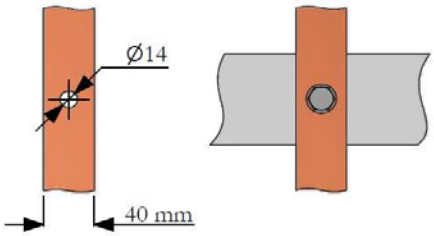
8.8 Quality M8 Bolt

30 mm



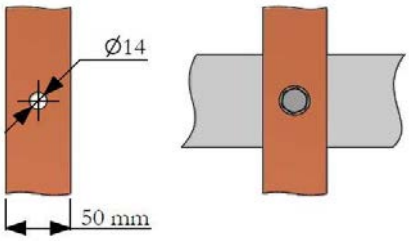
8.8 Quality M10 Bolt

40 mm



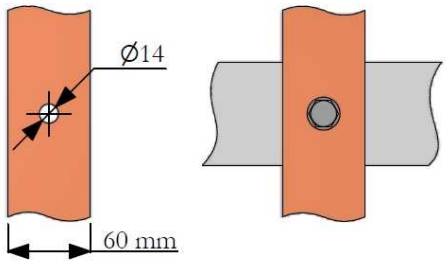
8.8 Quality M12 Bolt

50 mm



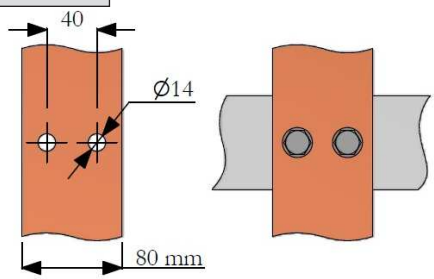
8.8 Quality M12 Bolt

60 mm



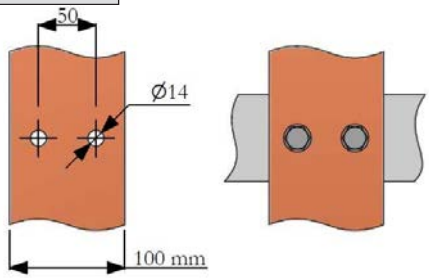
8.8 Quality M12 Bolt

80 mm



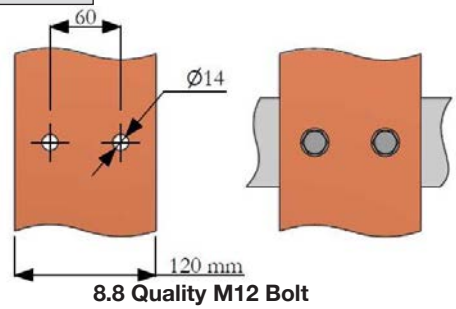
8.8 Quality M12 Bolt

100 mm

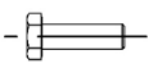
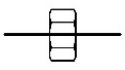


8.8 Quality M12 Bolt

120 mm



8.8 Quality M12 Bolt

Bolt	Washer	Application	Washer	Nut	M8	M10	M12
					Tightening Torque		
					20 Nm	45 Nm	70 Nm
					Test Torque		
8.8 Bolt	Bellevielle Washer	Busbar - GF Insulator	Flat Washer		12 Nm	35 Nm	60 Nm

PANELMASTER® MARKING

Panel Identification Label

The assembly manufacturer shall provide each assembly with one or more labels, marked in a durable manner and located in a place such that they are visible and legible when the assembly is installed and in operation.

The following information regarding the assembly shall be provided on the designation label(s):

a) Panel builder name and trademark
b) Panel name
c) Panel serial number
d) Panel production date
e) Followed standard
f) CE marking
g) Assembly rated current (I_{nA})
h) Assembly rated voltage (U_n)
i) Assembly rated frequency (f_n)

According to the standard, electrical values (short circuit current, etc.) and mechanical values (IP, IK, weight, etc.) are not required to be written on the panel identification label. However, this information must be included in the technical document prepared for the end user.

Labels should be mounted to the panel surface by one of the methods of adhering, screwing or riveting.
It is possible to use different types of label materials such as aluminum, stainless steel, double-layer plastic, plexiglass, PVC, vinyl etc.

Markings should be made using methods such as laser engraving, mechanical engraving, serigraphy, digital printing.

Marking made by moulding, pressing, engraving or similar, including labels with a laminated plastic covering, shall not be submitted to the following test.

The test is made by rubbing the marking by hand for 15 s with a piece of cloth soaked in water and then for 15 s with a piece of cloth soaked with petroleum spirit. (As petroleum ether, n-hexane or heptane are suitable solutions.)

After the test, the marking shall be legible to normal or corrected vision without additional magnification.

Functional unit marking

This marking will enable maintenance technicians to clearly identify each device or control device (contactor, relay, etc.). Mark the device without covering the information engraved on the device name plate.

This labeling should be compatible with single line and three line design diagrams.

Inside the switchgear, do not use metal labels or labels made from conductive materials, to avoid any risk of a short circuit if they fail.









Conductor marking

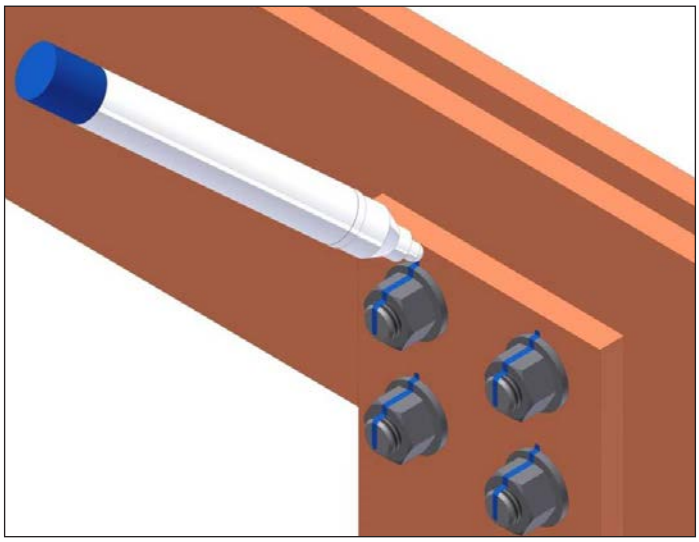
Whatever the conductor (bar, cable, insulated flexible bar), place the marking as close as possible the connection point. Phases must be marked at least L1,L2,L3, at the end and at the connection points. The protective conductor (PE,PEN) must be easily distinguishable by its marking and/or colour.

Terminal marking

All terminal blocks and wires that enter the terminal block must be marked. Different marking techniques can be used.

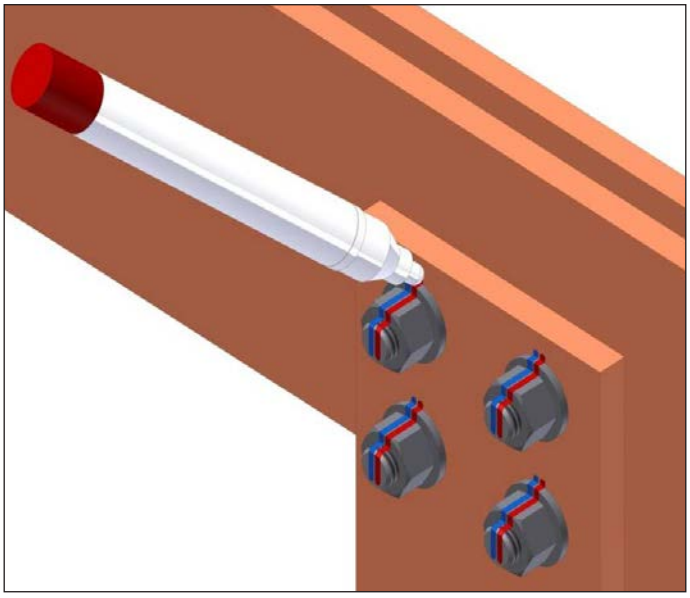
PANELMASTER® BUSBAR CONNECTION BOLTS MARKING

TIGHTENING TORQUE MARKING



PanelMaster® Busbar bolt connections, which are tightened based on tightening torque specified in the Copper Connection. Applications table, shall be marked with **blue marking paint or pen.**

TEST TORQUE MARKING



PanelMaster® Busbar bolt connections, which are tested based on test torque specified in the Copper Connection Applications table, shall be marked with **red marking paint or pen.**

These markings are intended to prove that the tightening torque and the test torque are applied to the respective bolt connection completely; it **is not** a process to prevent the connection from loosening.

Important Note : These markings must be made on the **nut** side of the busbar bolt connection.

PANELMASTER® PROTECTIVE CONDUCTOR CONNECTION - EARTHING

The protective conductor (PE) is connected to the chassis or the main structure in order to protect people and materials effects of an electrical fault. This terminal must be sized to take a conductor with the cross-section defined in IEC 61439-1 Section 8.8 table 5

Cross-sectional area of phase line conductors, S-mm²	Minimum cross-sectional area of the corresponding protective conductor (PE), S_p-mm²
≤ 16	S
16 < S ≤ 35	16
35 < S ≤ 400	S/2
400 < S ≤ 800	200
800 < S	S/4

Table-5 : Minimum terminal capacity for copper protective conductors (PE)





Exposed conductive parts must be electrically connected to one another so that no dangerous voltage can arise between exposed conductive parts that are accessible simultaneously. This continuity can be obtained by construction or by using equipotential link conductors. A check must be carried out to ensure that the various exposed conductive parts of the assembly are connected to the terminal of the incoming external protective conductor. The check must be carried out using a resistance measurement instrument which is capable of carrying a current of at least 10 A (AC or DC). This current is injected between each exposed conductive part and the terminal for the external protective conductor. The resistance is measured and must not exceed 0.1 Ω.

Means used for assembling the various metal parts of an assembly are considered sufficient for ensuring earth continuity of the protective circuits if the precautions taken guarantee permanent good conductivity.

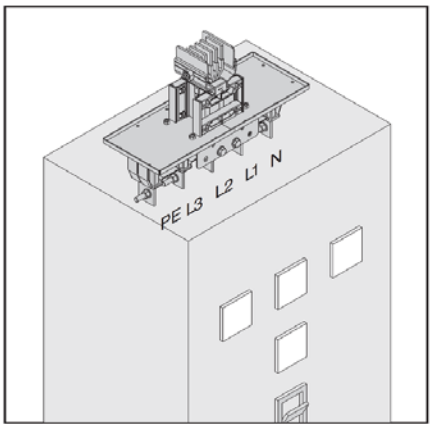
Exposed conductive parts of a device that cannot be connected to the protective circuit interconnected for earthing continuity by the fixing means of the device shall be connected to the protective circuit earthing arrangement of the assembly by a conductor.

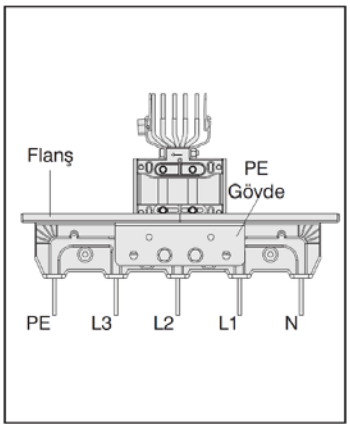
The protective conductor (PE) shall be readily distinguishable by location and/or marking or colour.

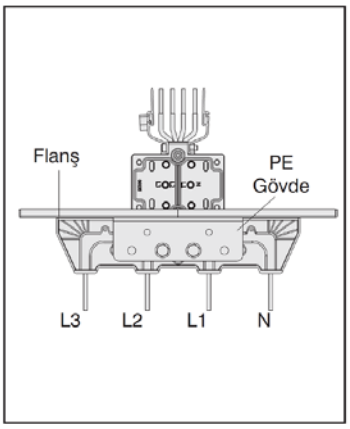
Fixing rails (DIN rails) can be used as protective conductors as long as they are totally interconnected by their assembly and connected using appropriate terminal blocks. When devices or equipment are fixed on exposed conductive parts, and in particular when these parts are removable (doors, panels, plates, etc.), the equipment that is attached must be connected directly with a protective conductor.

PANELMASTER® BUSBAR TRUNKING MODULE EARTHING

In terms of personnel safety and operational continuity, the busbars placed in the panel using the busbar trunking module must be connected to the main earthing conductor of the panel. This connection is differing according to the used busbar types.

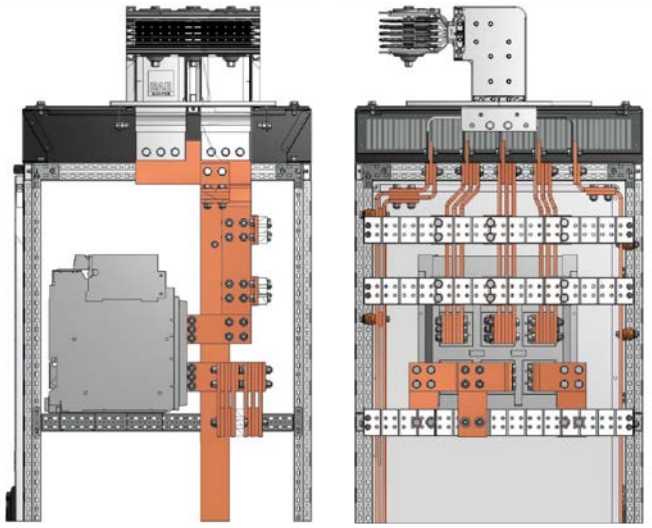




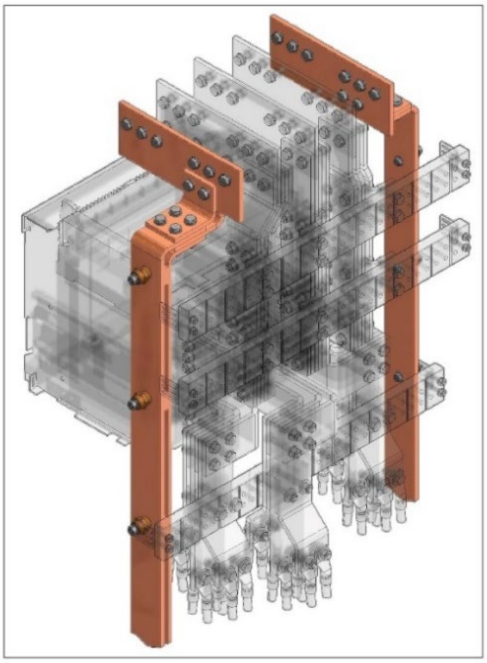


If there a separate earthing conductor (4½ conductor or 5 conductor busbar) is used in the busbar, the copper connection should be made to the main earthing conductor of the panel shall be with same cross-section of the conductor in the busbar.

If busbar conductors are made of aluminium, the connection copper conductor cross-section shall be minimum 66 (2/3) % of busbar aluminium earthing conductor cross-section.



PE / N



If the used busbar is of 4-conductor type and there is no separate earthing conductor, the metal body must be connected to the main earthing conductor inside the panel. In this case, the following formula in IEC 61439-1 Annex-B shall be used to calculate the cross-sectional area of the earthing conductor (PE) to be connected to the busbar body. In the cross-section calculation using this formula, it is predicted that the earthing conductor will withstand thermal strains caused by 0.2 s to 5 s constant currents.

$$S_p = \frac{\sqrt{I^2.t}}{k}$$

where

Sp is the cross-sectional area (mm^2);

I is the value (RMS) of AC or the mean value of DC fault current for a fault of negligible impedance which can flow through the protective device (A);

t is the operating time of the disconnecting device (s);

k is the factor dependent on the material of the protective conductor, the insulation and the initial and final temperatures, see Table B.1.

Table B.1 – Values of k for insulated protective conductors not incorporated in cables or bare protective conductors in contact with cable covering

	Insulation of protective conductor or cable covering		
	Thermo-plastic (PVC)	XLPE EPR Bare conductors	Butyl rubber
Maximum temperature of conductor under short-circuit current conditions *	160°	250°	220°
Conductor material (Factor k)			
Copper	143	176	166
Aluminium	95	116	110
Steel	52	64	60
* The initial temperature of the conductor is assumed to be 30 °C.			

Busbars using in primary circuits

The earth conductor calculation, which will be connected to the body of an incoming busbar connected to the panel from the main earthing busbar of the panel, can be done as follows.

Example 1: The effective phase-to-earth short-circuit current of a busbar with Icw=120 kA, 1s short-time withstand current is 60% of the phase-to-phase current. Assuming that a bare copper conductor will be used from Table B.1, it is found as k=176. Accordingly, the minimum copper cross-section to be connected between the busbar earth conductor and the main earth conductor:

I= 120 kA x %60 = 72 kA, t=1 second

$$S_p = \frac{\sqrt{I^2.t}}{k} = \frac{\sqrt{72.000^2.1}}{176} = \frac{72.000}{176} = 409\ mm^2$$

Since a non-standard size is obtained, bare copper with the nearest high standard cross-section should be preferred.

50 x 10 = 500 mm^2

Busbars used in outgoing circuits

When calculating the earthing conductor cross-section to be used between the body of the outgoing busbars and the main earthing conductor, the calculation shall be made as in the example, considering that it is protected with a circuit breaker.

Example 2: Output circuit breaker short-circuit current (Icc): 70 kA It is calculated as k=176, assuming that bare copper conductor will be used from Table B.1. Accordingly, the minimum copper cross-section that must be connected between the busbar ground conductor and the main earthing conductor is:

I=70 kA x %60 = 42 kA, t= 0,2 s.

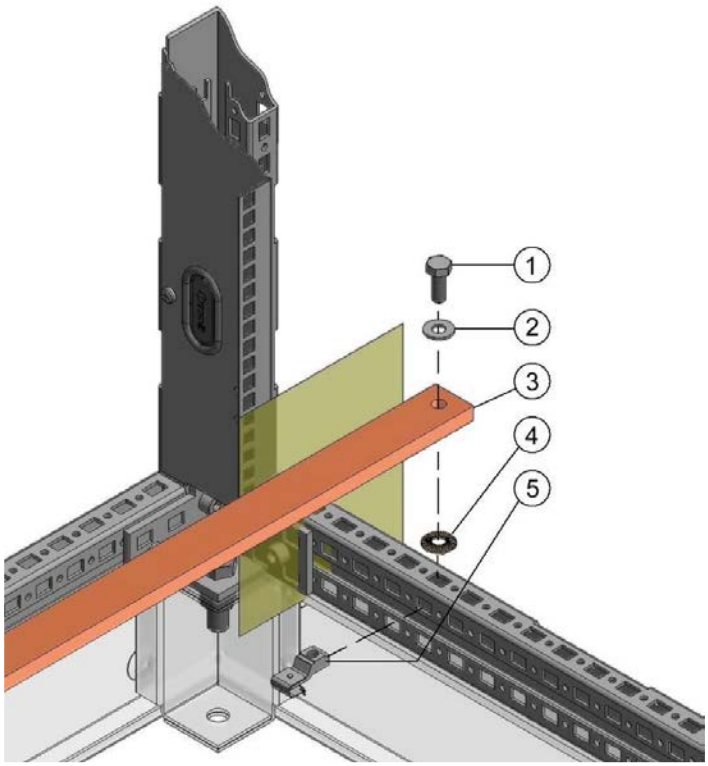
$$S_p = \frac{\sqrt{I^2.t}}{k} = \frac{\sqrt{42.000^2.0{,}2}}{176} = 106\ mm^2$$

Since a non-standard size is obtained, bare copper with the nearest high standard cross-section should be preferred.

25 x 5mm = 125mm^2

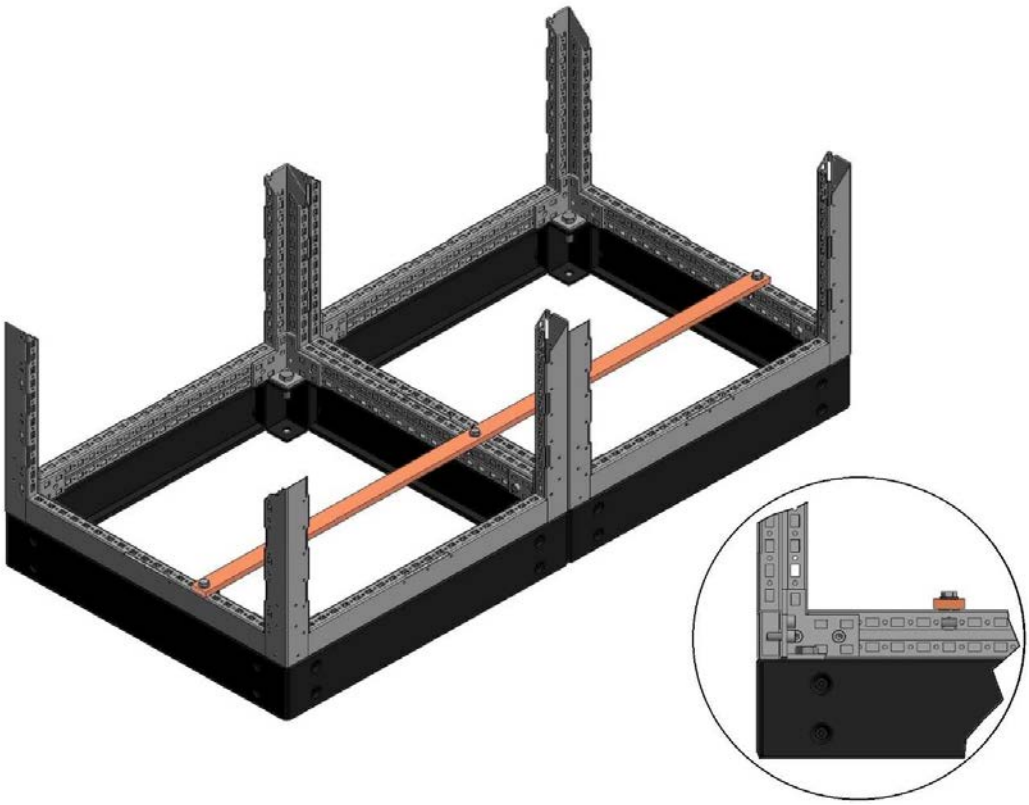
PANELMASTER® EARTH CONDUCTOR MAIN FRAME CONNECTION APPLICATIONS - SINGLE BOLT CONNECTIONS.

PHASE SHORT CIRCUIT CURRENT UP TO 50 kA

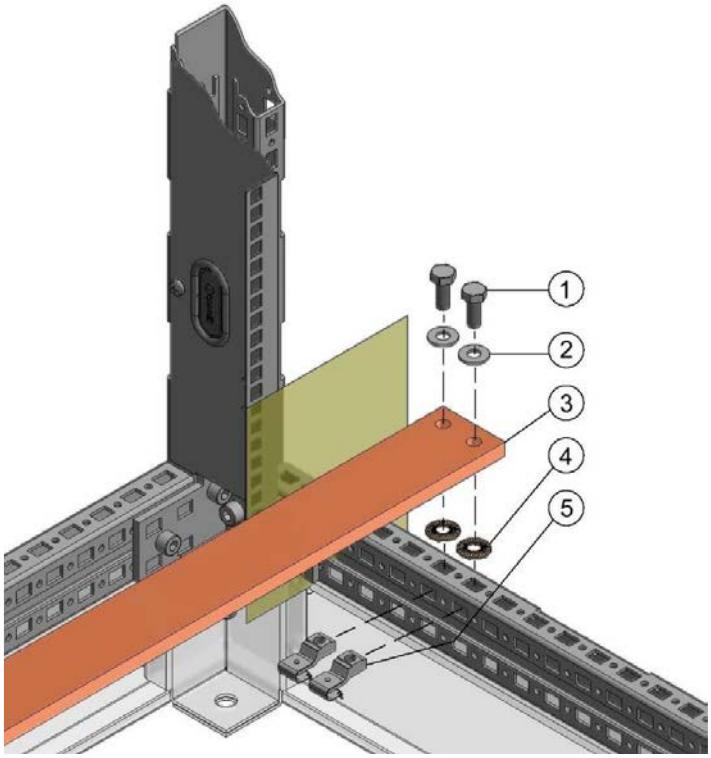


1) M8*20 Hexagon Bolt
2) M8 Belleville Washer
3) Earthing Conductor
4) M8 Contact Washer
5) M8 Spring Zamak Nut

Protective Earth Short Circuit Withstand Current: 30 kA

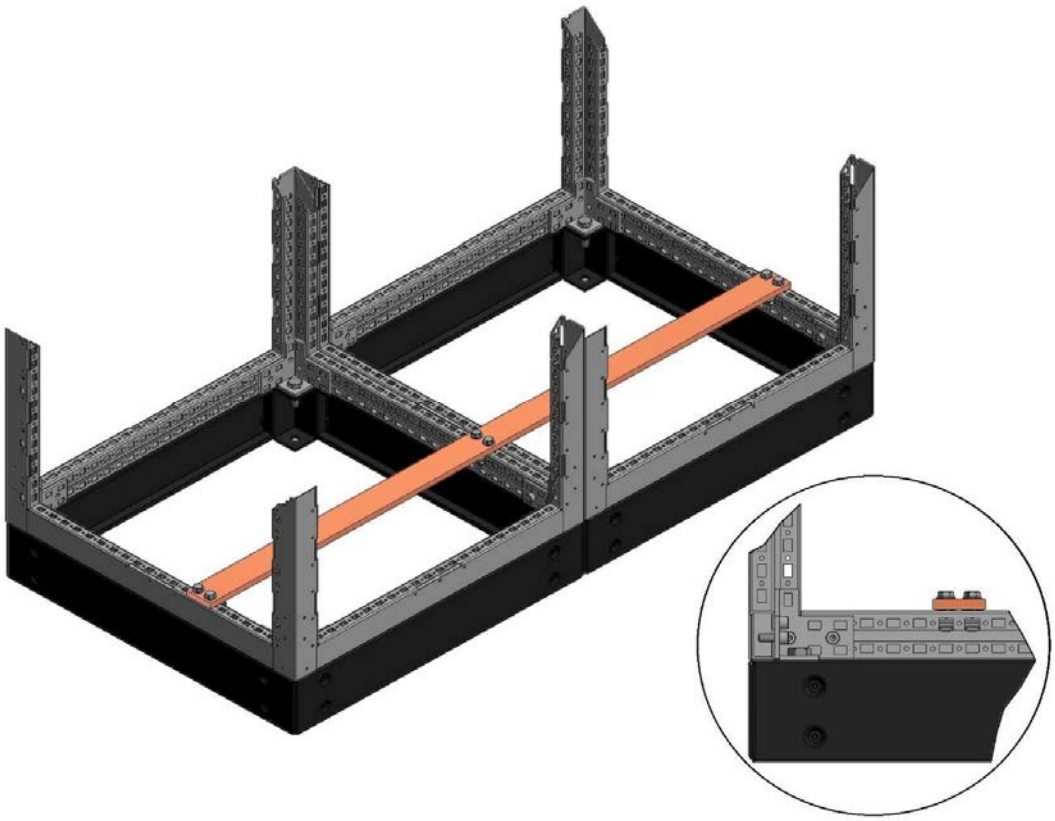


PHASE SHORT CIRCUIT CURRENT UP TO 70 kA



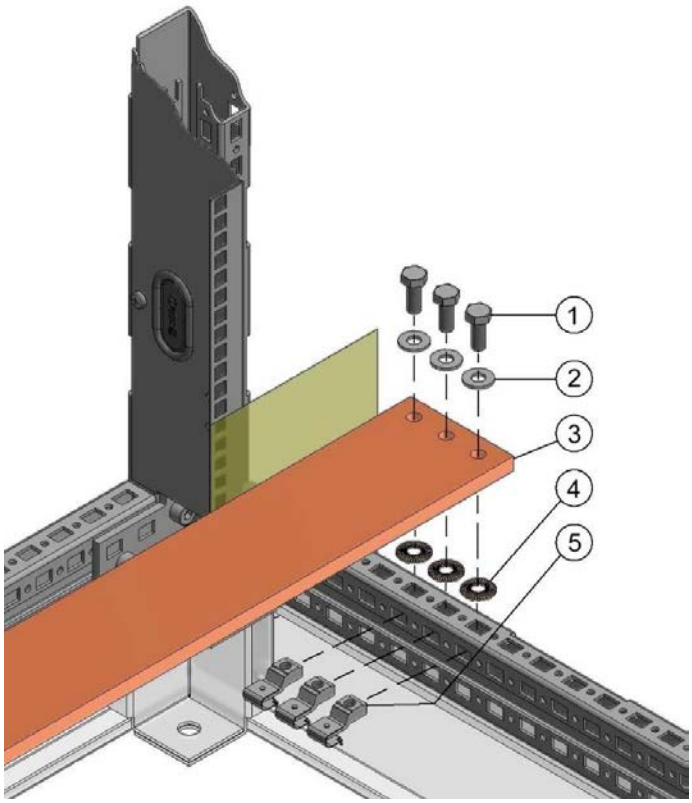
1) M8*20 Hexagon Bolt
2) M8 Belleville Washer
3) Earthing Conductor
4) M8 Contact Washer
5) M8 Spring Zamak Nut

Protective Earth Short Circuit Withstand Current: 42 kA



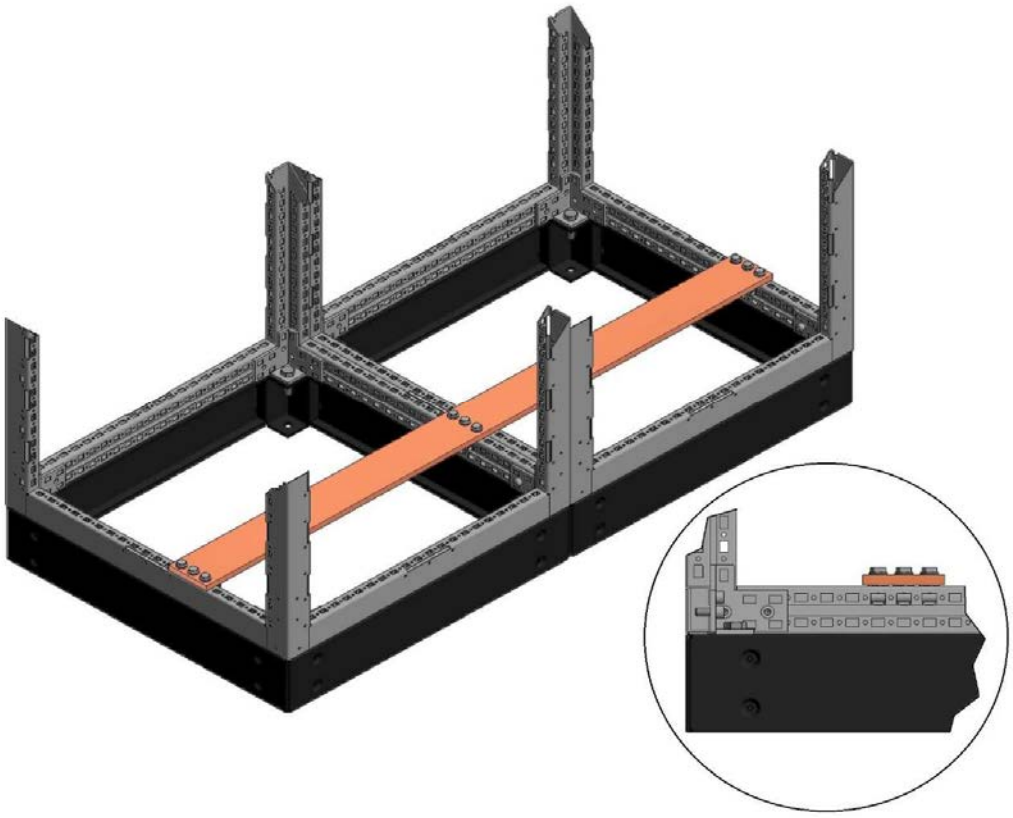
PANELMASTER® EARTH CONDUCTOR MAIN FRAME CONNECTION APPLICATIONS - TRIPLE BOLT CONNECTIONS.

PHASE SHORT CIRCUIT CURRENT UP TO 120 kA



1) M8*20 Hexagon Bolt
2) M8 Belleville Washer
3) Earthing Conductor
4) M8 Contact Washer
5) M8 Spring Zamak Nut

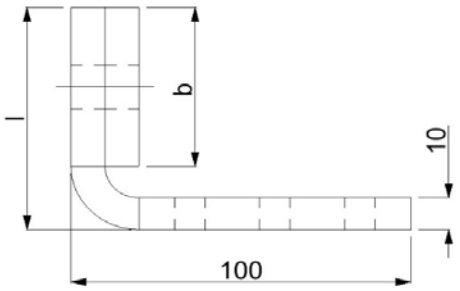
Protective Earth Short Circuit Withstand Current: 72 kA

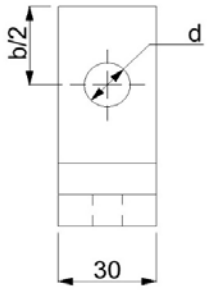


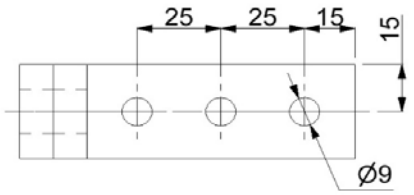
PANELMASTER® EARTH CONDUCTOR CONNECTION TO THE MAIN FRAME

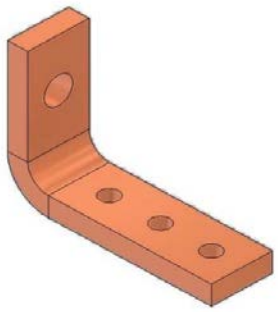
BUSBAR WIDTH (b) : BETWEEN 30-50 mm

b	ı	d	bolt
30	50	11	M10
40	60	14	M12
50	70	14	M12



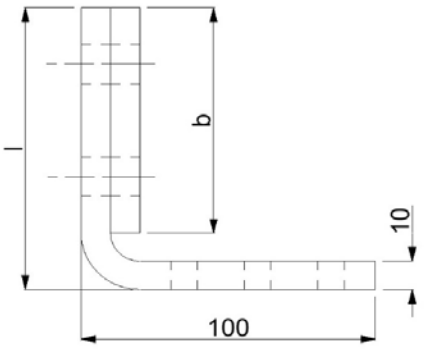


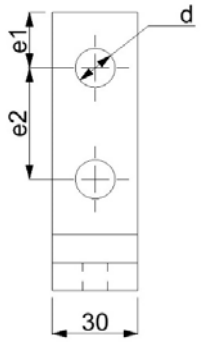


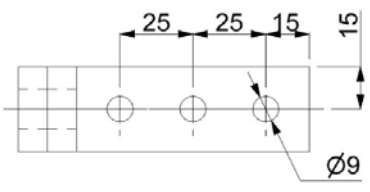


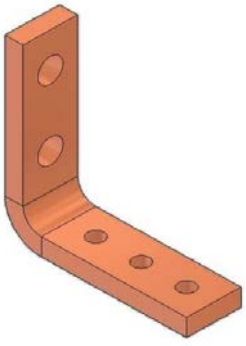
BUSBAR WIDTH (b) : BETWEEN 60-120 mm

b	ı	d	e1	e2	bolt
60	80	14	17	26	M10
80	100	14	20	40	M12
100	120	14	25	50	M12
120	140	14	30	60	M12





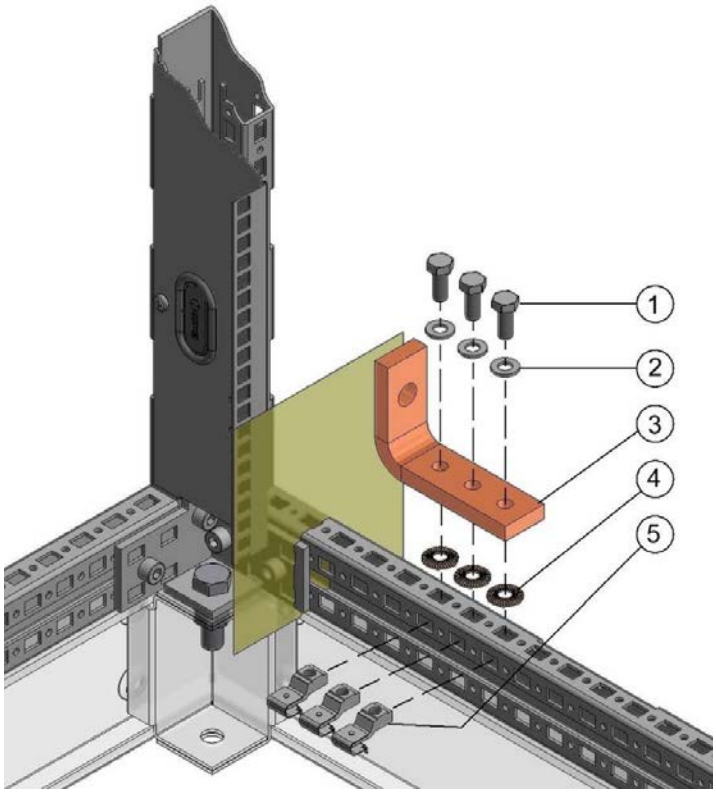




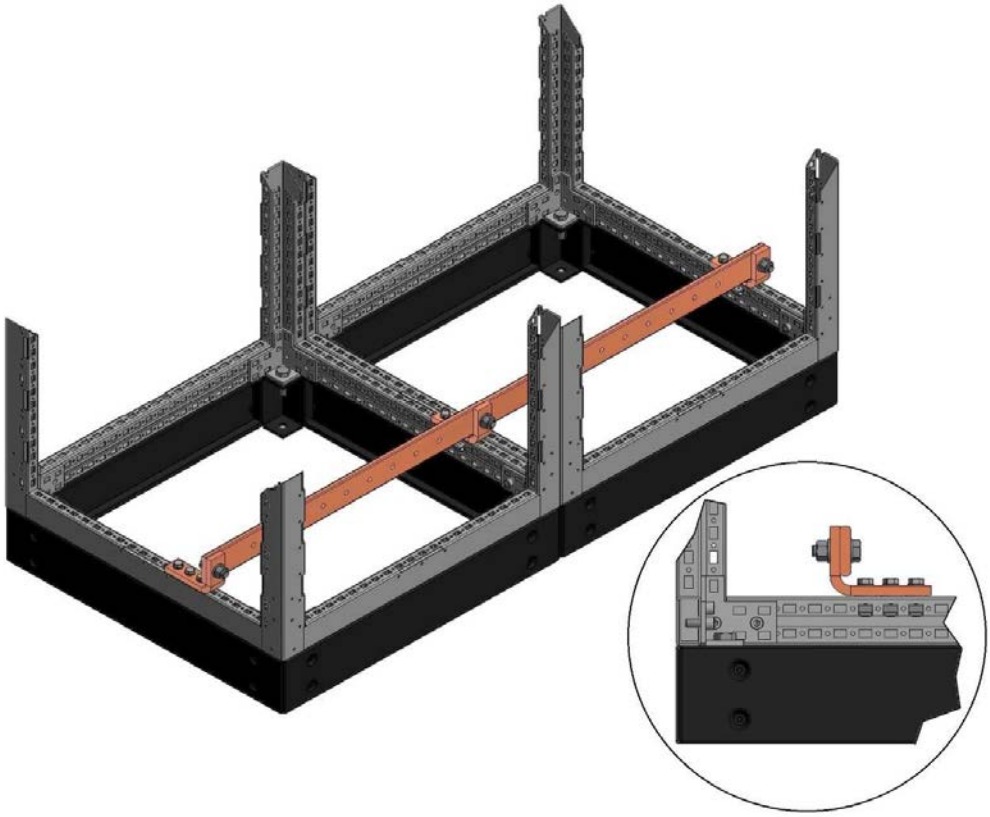
Note : Unless otherwise indicated, all given dimensions are in mm.

PANELMASTER® EARTH CONDUCTOR CONNECTION TO THE MAIN FRAME - TRIPLE BOLT CONNECTION WITH L INTERCONNECTION

PHASE SHORT CIRCUIT CURRENT UP TO 120 kA



1) M8*20 Hexagon Bolt
2) M8 Belleville Washer
3) Earthing Conductor
4) M8 Contact Washer
5) M8 Spring Zamak Nut

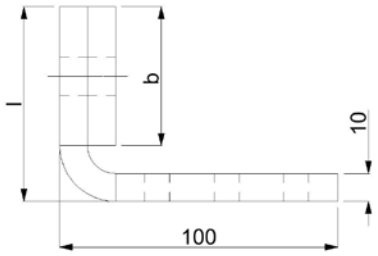


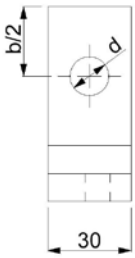
PANELMASTER® EARTH CONDUCTOR GROUP JOINT CONNECTIONS

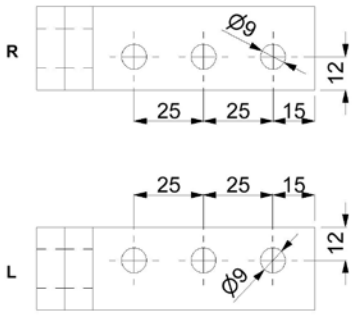
EARTH CONDUCTOR TO BE CONNECTED TO THE MAIN FRAME OF GROUP JOINT ENCLOSURES

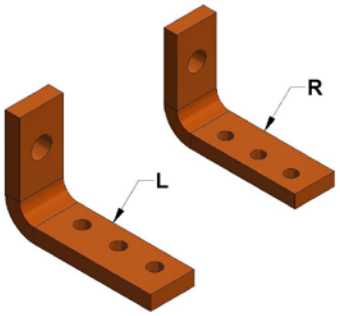
Copper bar width (B): Between 30-50 mm

b	l	d	cıvata
30	50	11	M10
40	60	14	M12
50	70	14	M12



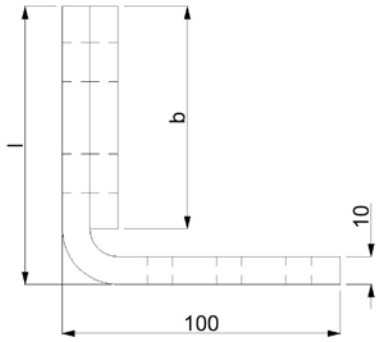


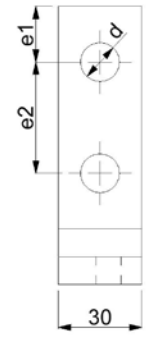


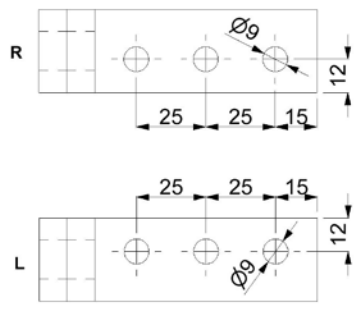


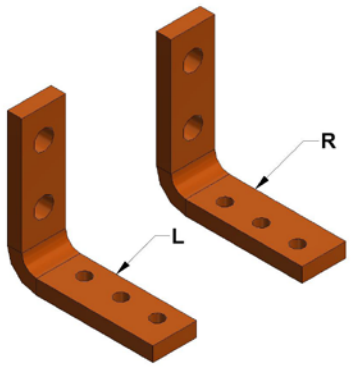
Copper bar width (B): Between 60-120 mm

b	l	d	e1	e2	cıvata
60	80	14	15	30	M12
80	100	14	20	40	M12
100	120	14	25	50	M12
120	140	14	30	60	M12







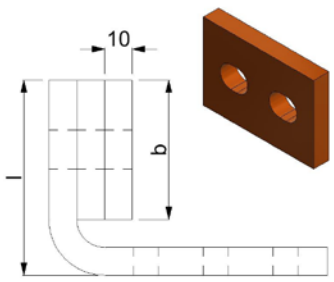


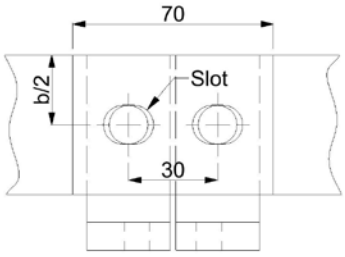
PANELMASTER® EARTH CONDUCTOR GROUP JOINT CONNECTIONS

90° EARTH CONDUCTOR GROUP JOINT CONNECTION

Copper bar width (B): Between 30-50 mm

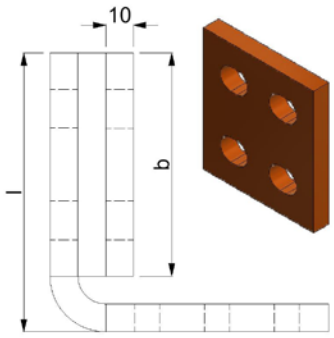
b	l	slot	cıvata
30	50	11x15	M10
40	60	14x18	M12
50	70	14x18	M12

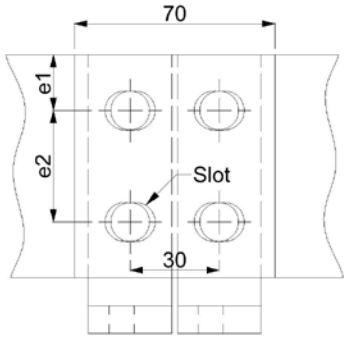


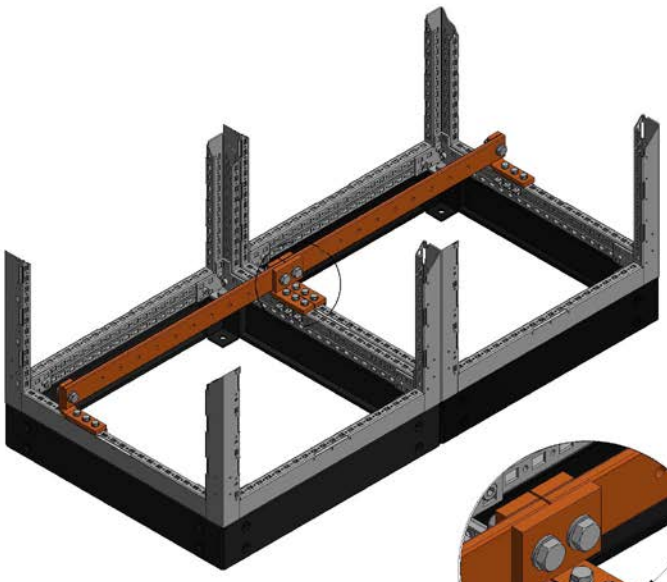


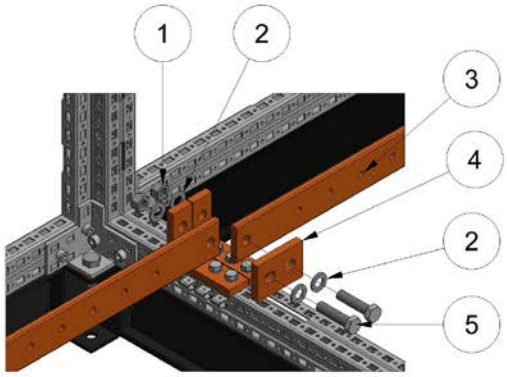
Copper bar width (B): Between 60-120 mm

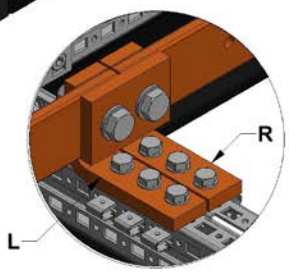
b	l	slot	e1	e2	cıvata
60	80	14x18	15	30	M12
80	100	14x18	20	40	M12
100	120	14x18	25	50	M12
120	140	14x18	30	60	M12





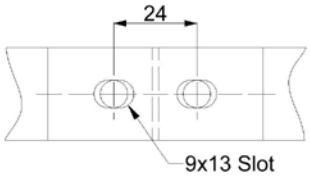
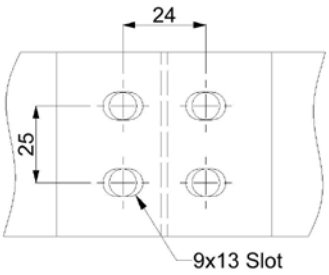
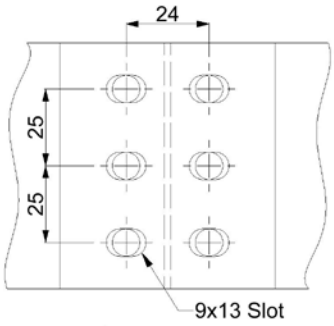
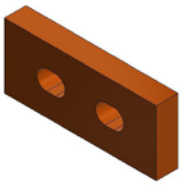
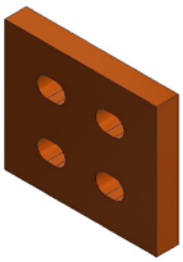
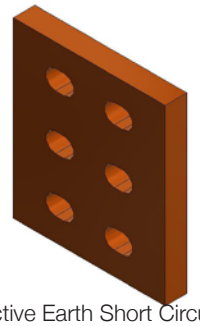


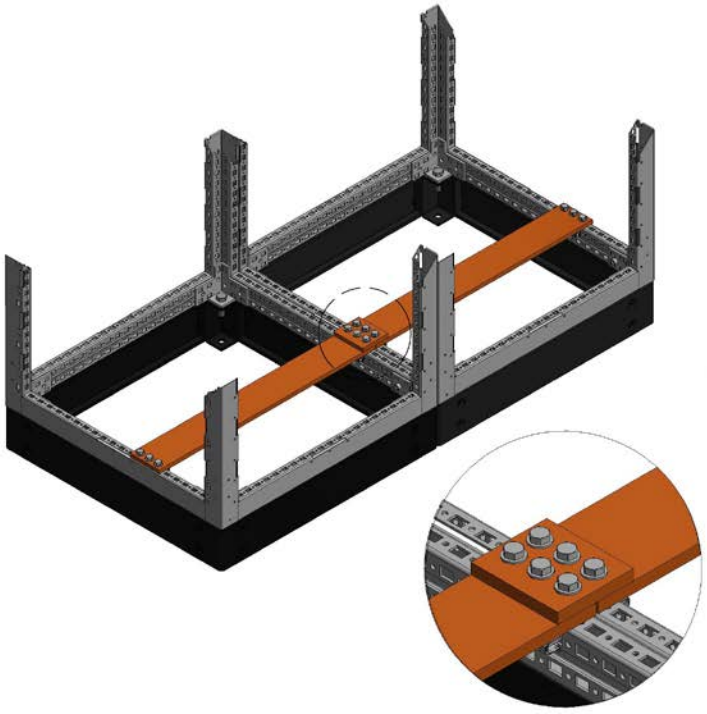


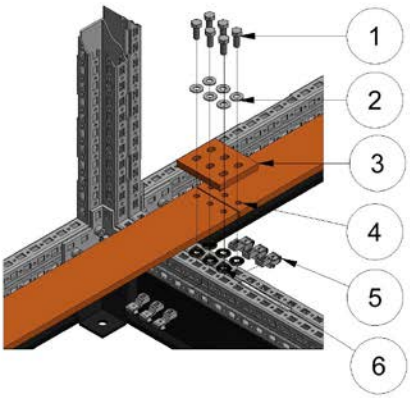


1) M12 Nut
2) M12 Bellevile Washer
3) Earthing Conductor
4) Additional Group Joint Earthing Conductor
3) M12*50 Hexagon Bolt

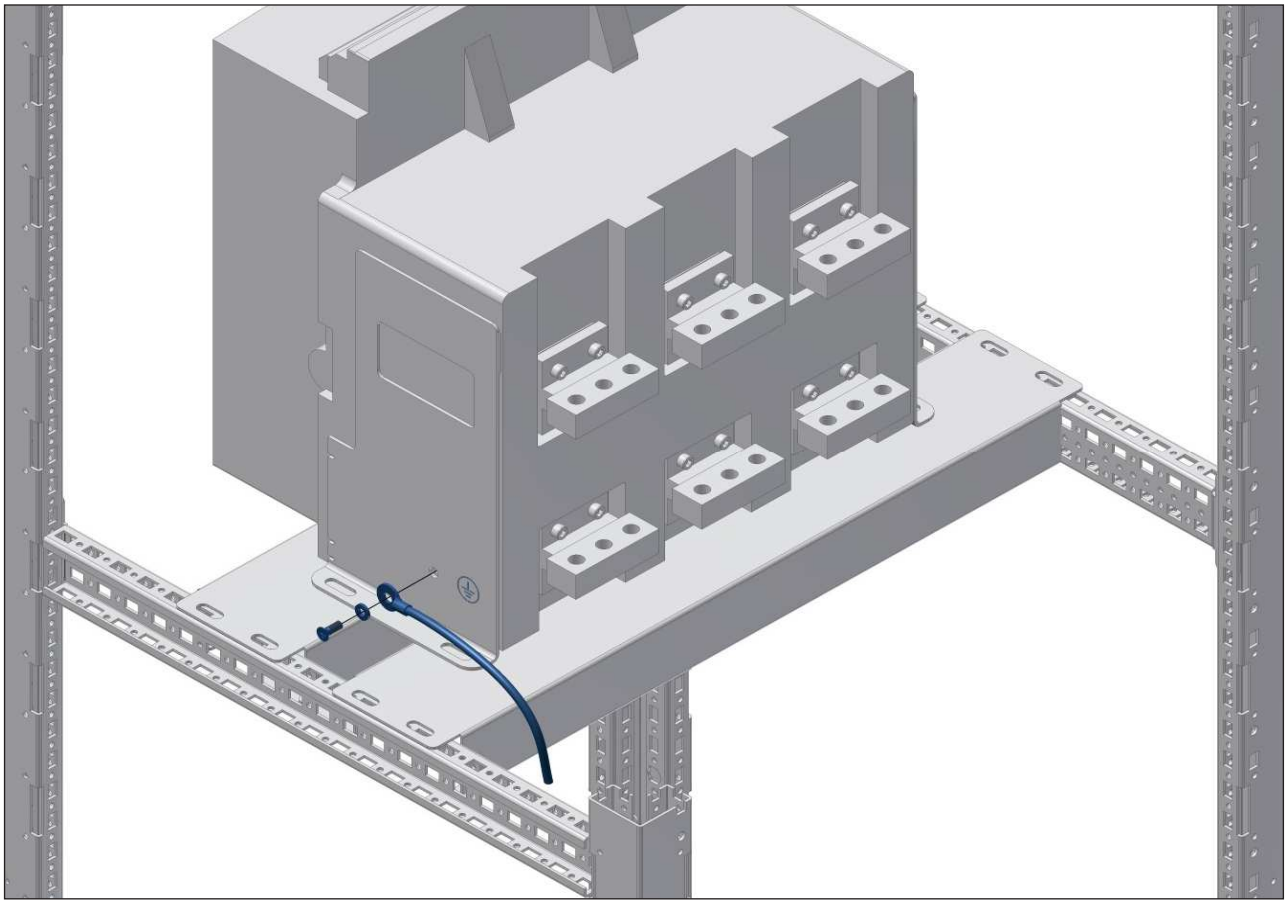
EARTH CONDUCTOR GROUP JOINT CONNECTION PARALLEL TO SURFACE

Phase short circuit withstand current up to 50kA.	**Phase short circuit withstand current up to 70kA.**	**Phase short circuit withstand current up to 120kA.**
		
		
Protective Earth Short Circuit Withstand Current: 30 kA	Protective Earth Short Circuit Withstand Current: 42 kA	Protective Earth Short Circuit Withstand Current: 72 kA





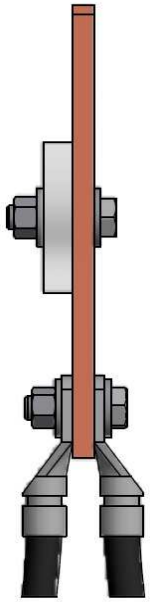
1) M8*30 Hexagon Bolt
2) M8 Bellevile Washer
3) Additional Group Joint Earthing Conductor
4) Earthing Conductor
5) M8 Spring Zamak Nut
6) M8 Contact Washer

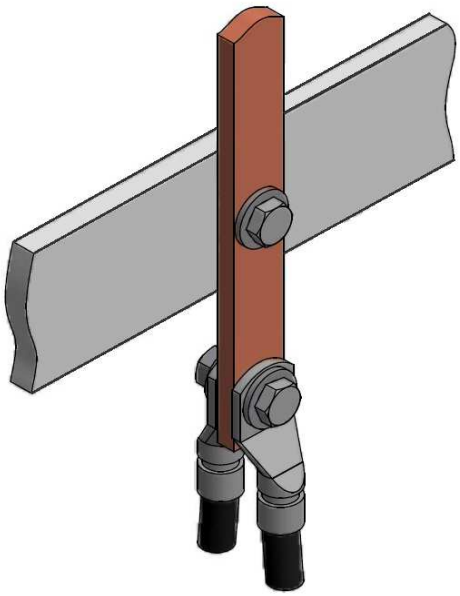


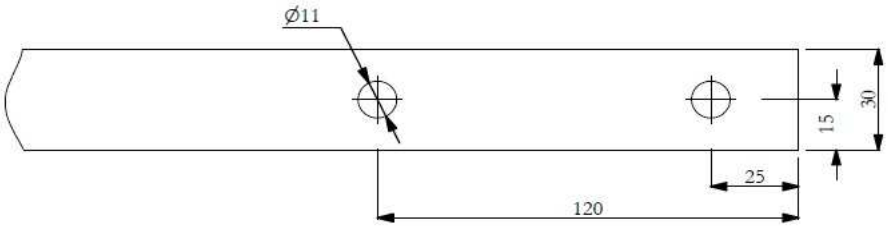
1. Air circuit breaker case earthing shall be according to manufacturer's instructions. If there is no instruction given by it's manufacturer, earth connection cable cross section shall be min 10 mm^2.

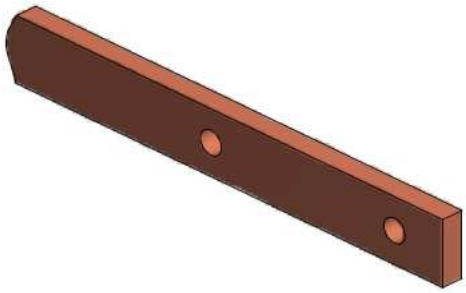
2. The cable to be used for the Circuit Breaker case earthing is connected to designated point on the circuit breaker, which is specified by the circuit breaker manufacturer and to the earth conductor.

1 x 30 x 10 mm CABLE CONNECTION TERMINALS



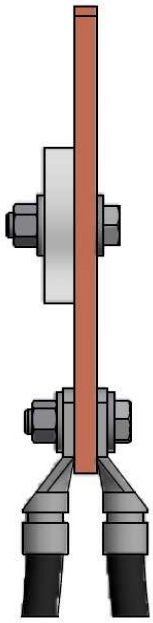


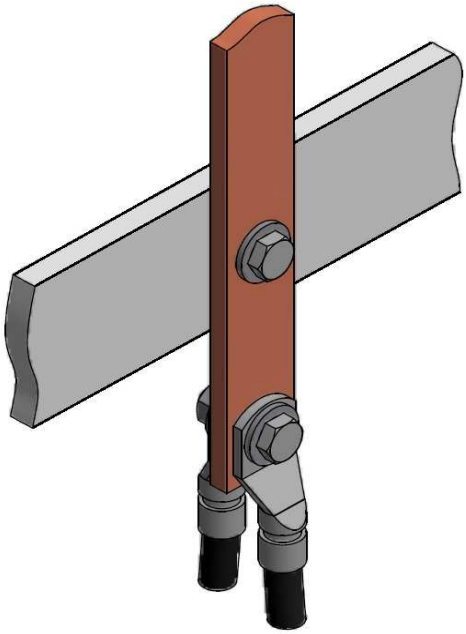


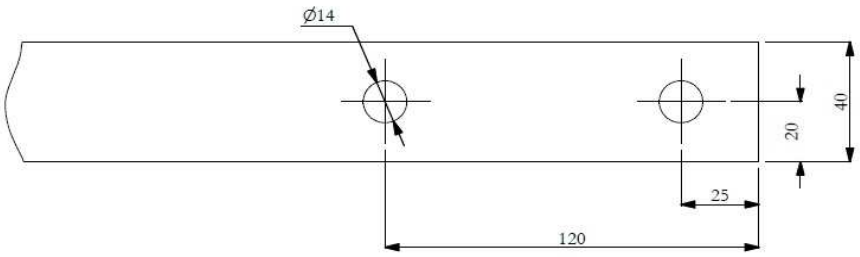


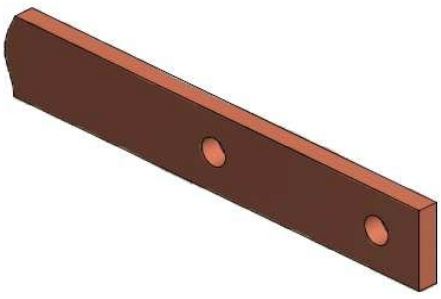
2 Pcs 95 mm^2 cables can be connected

1 x 40 x 10 mm CABLE CONNECTION TERMINALS



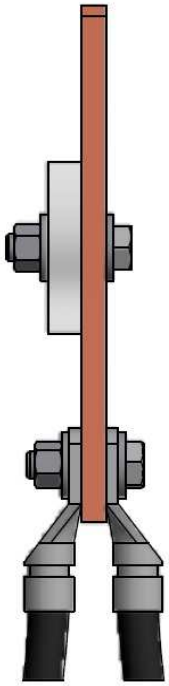


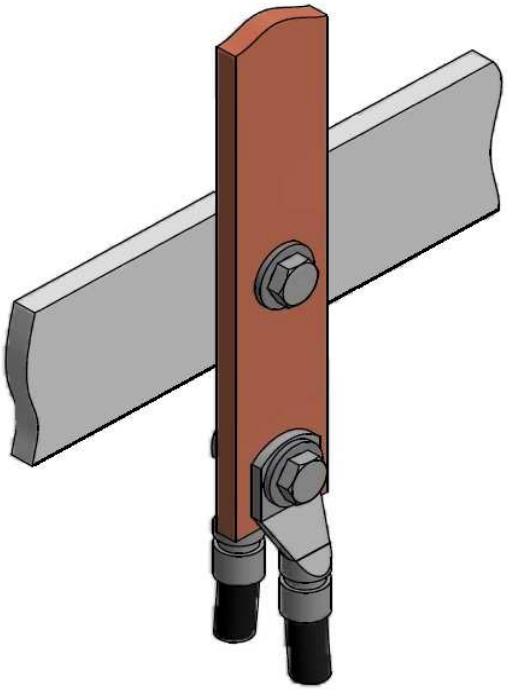


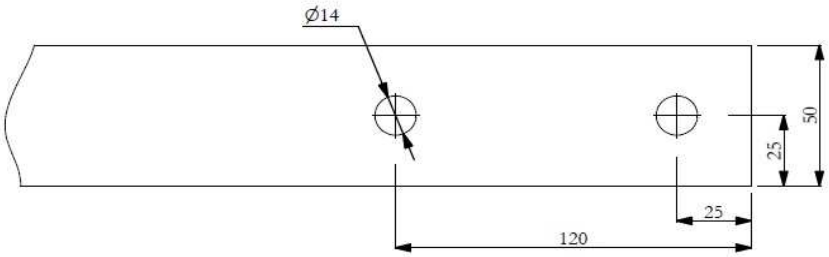


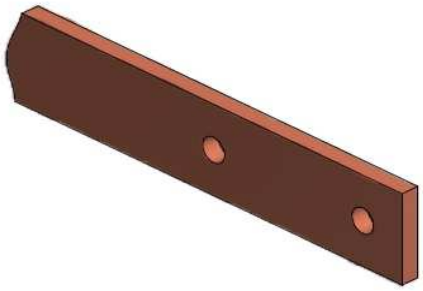
2 Pcs 185 mm^2 cables can be connected

1 x 50 x 10 mm CABLE CONNECTION TERMINALS



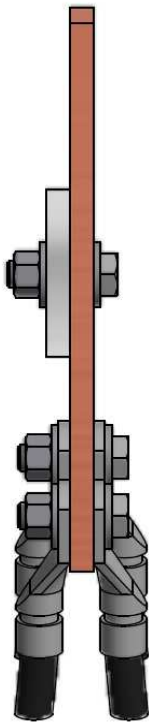


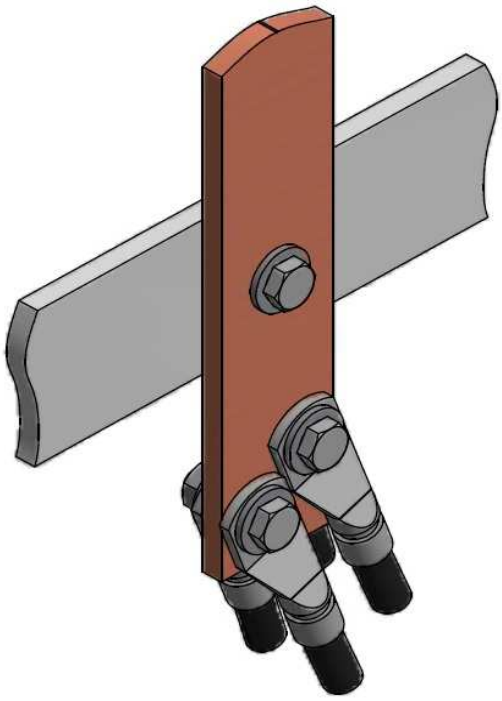


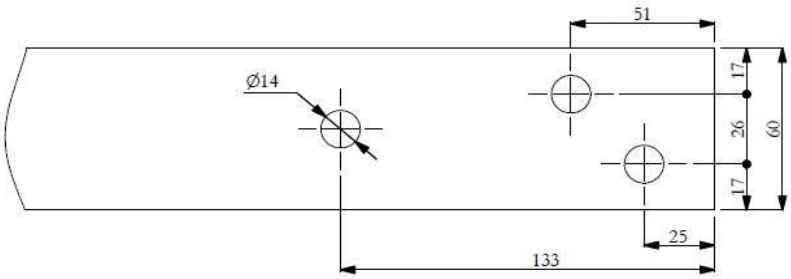


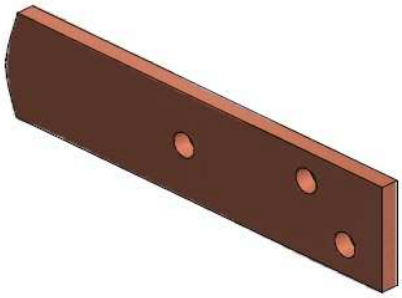
2 Pcs 240 mm^2 cables can be connected

1 x 60 x 10 mm CABLE CONNECTION TERMINALS



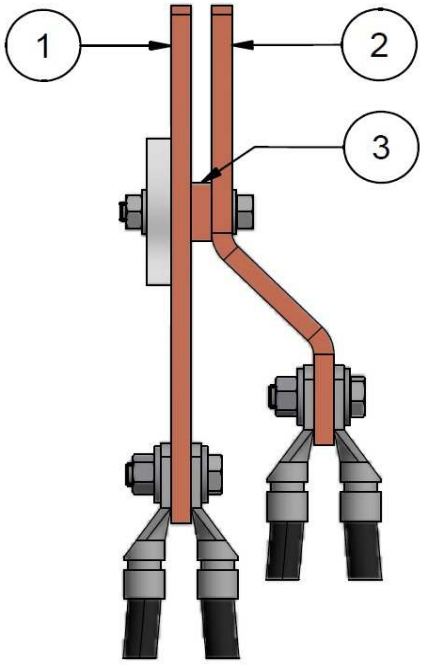


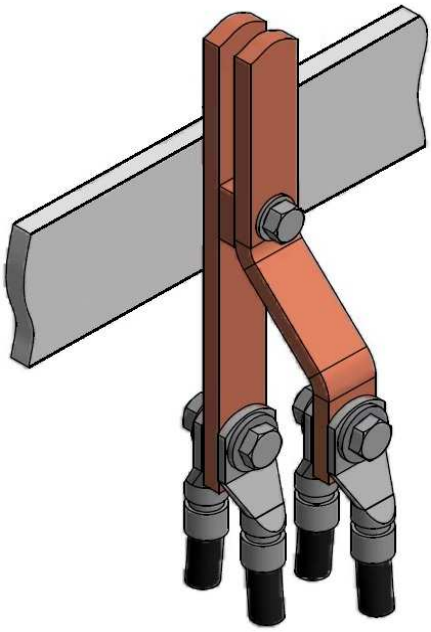


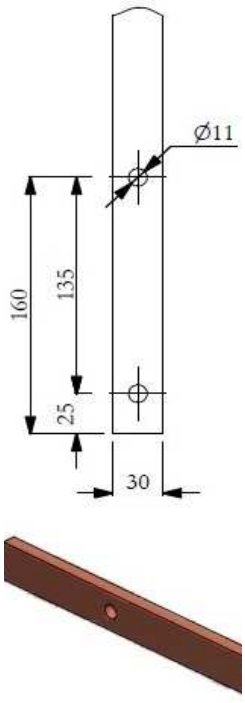
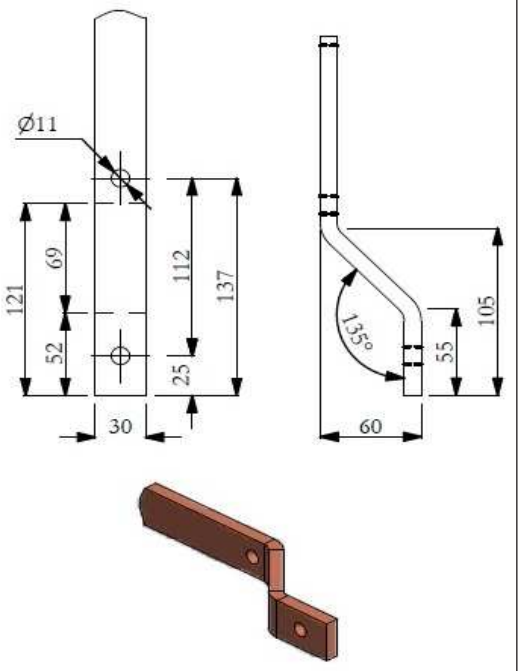
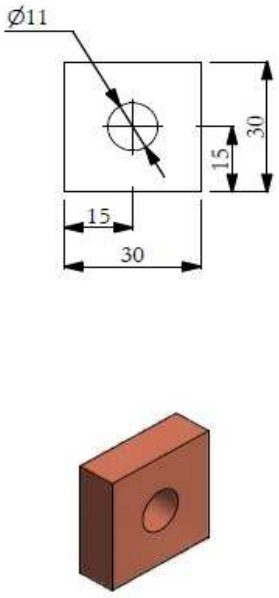


4 Pcs 240 mm^2 cables can be connected

2 x 30 x 10 mm CABLE CONNECTION TERMINALS

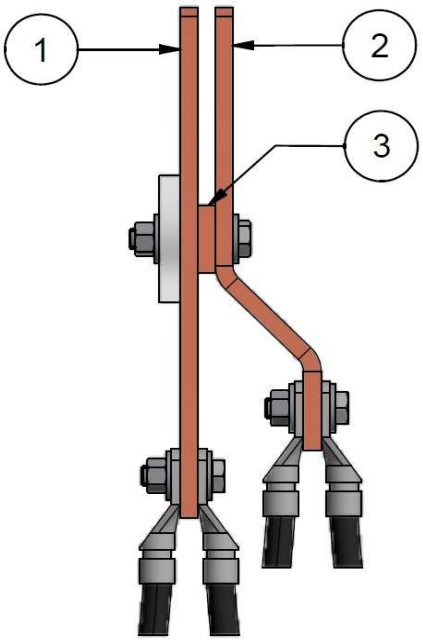


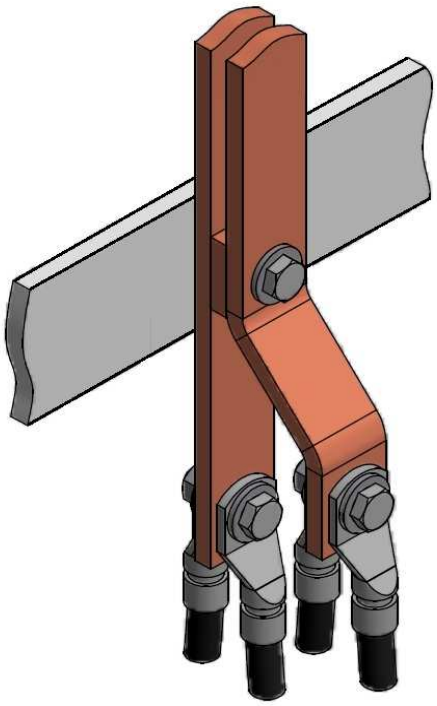


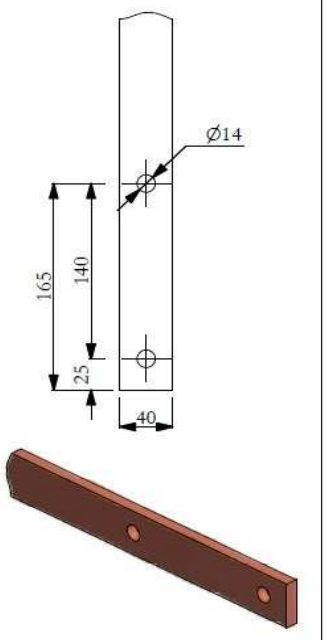
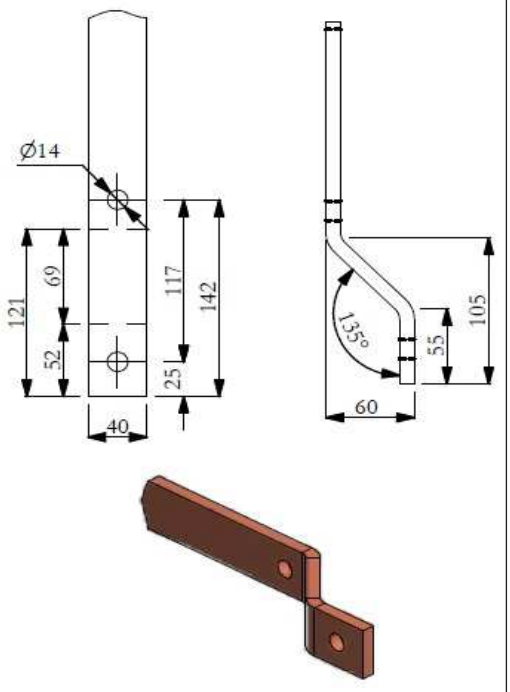
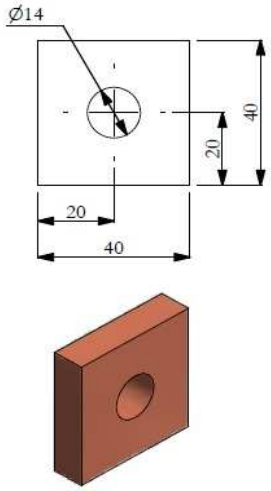
①	②	③
		

4 Pcs 240 mm^2 cables can be connected

2 x 40 x 10 mm CABLE CONNECTION TERMINALS

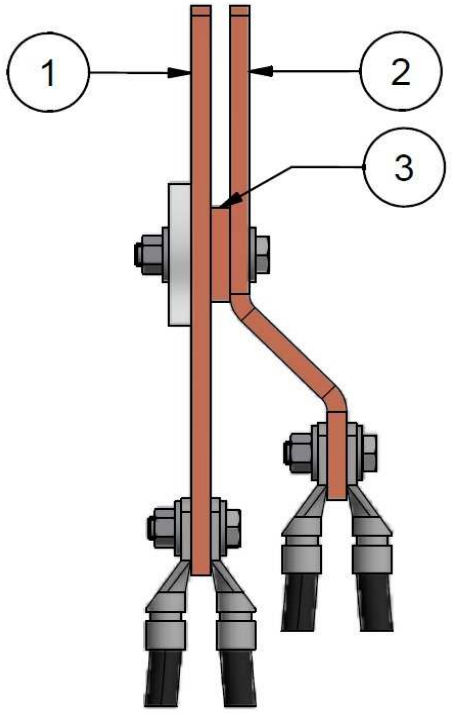


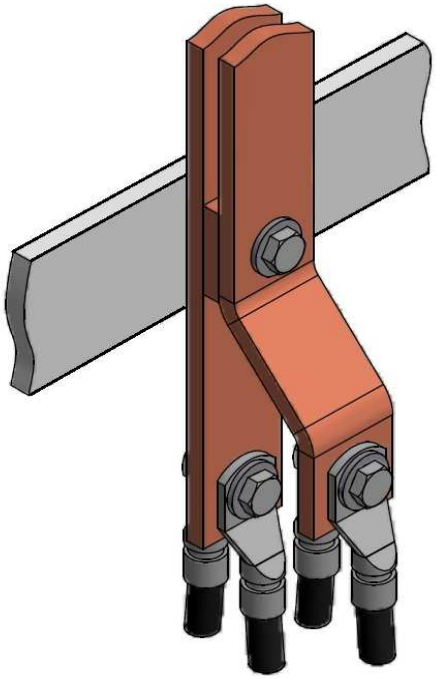


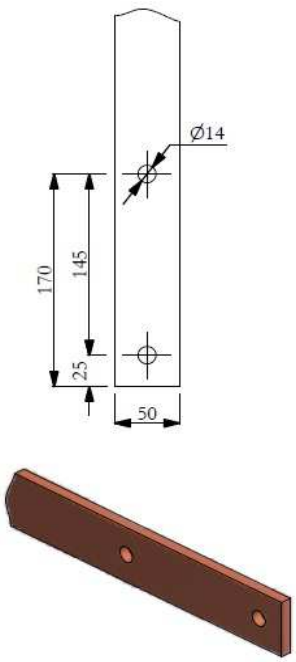
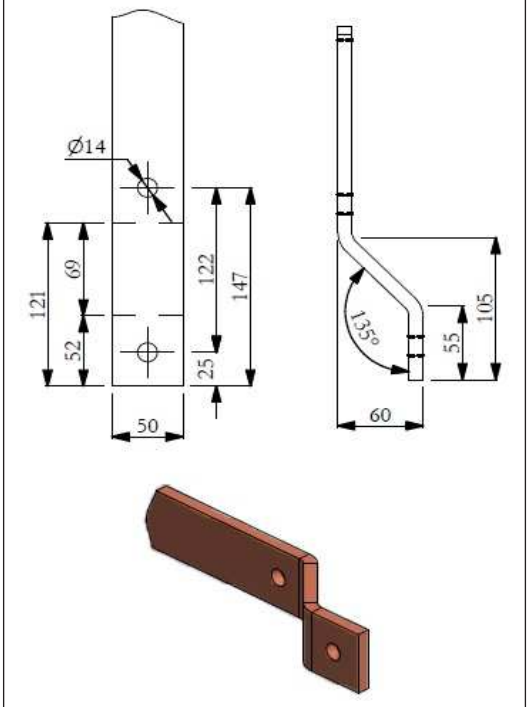
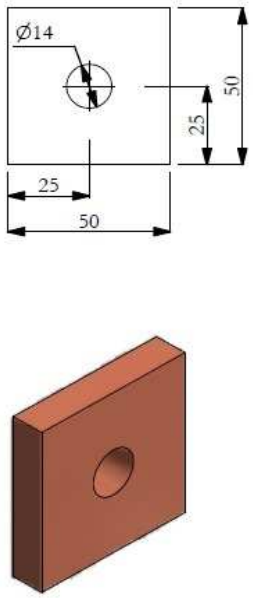
1	2	3
		

4 Pcs 240 mm^2 cables can be connected

2 x 50 x 10 mm CABLE CONNECTION TERMINALS

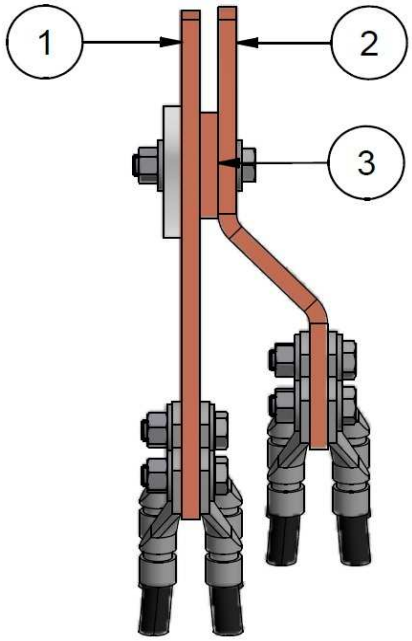


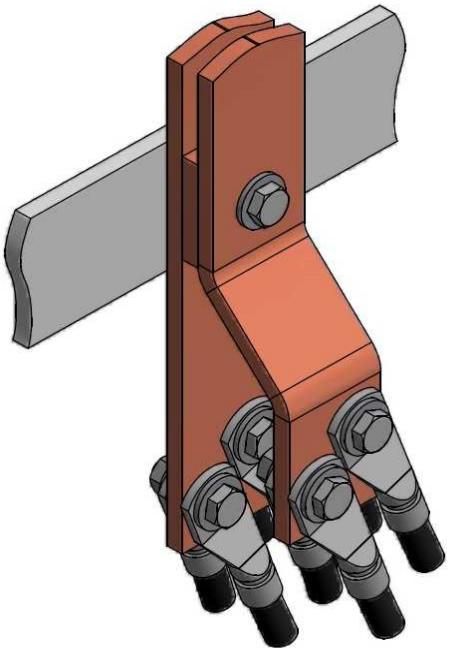


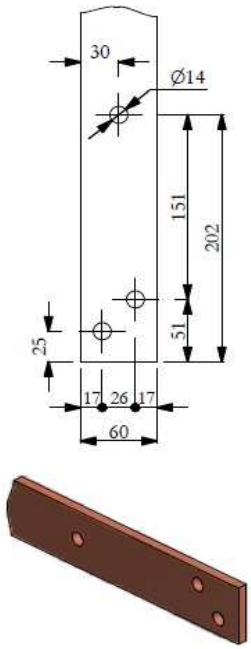
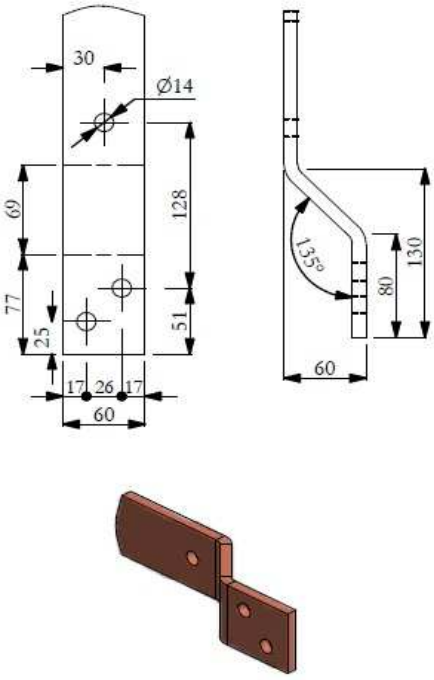
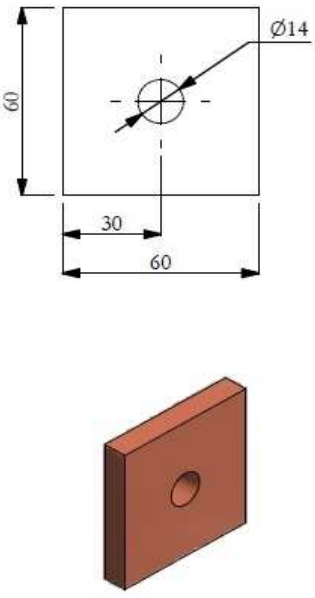
1	2	3
		

4 Pcs 240 mm^2 cables can be connected

2 x 60 x 10 mm CABLE CONNECTION TERMINALS

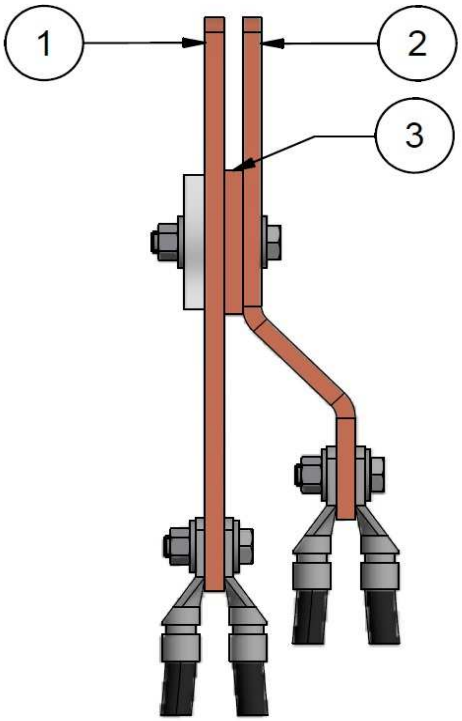


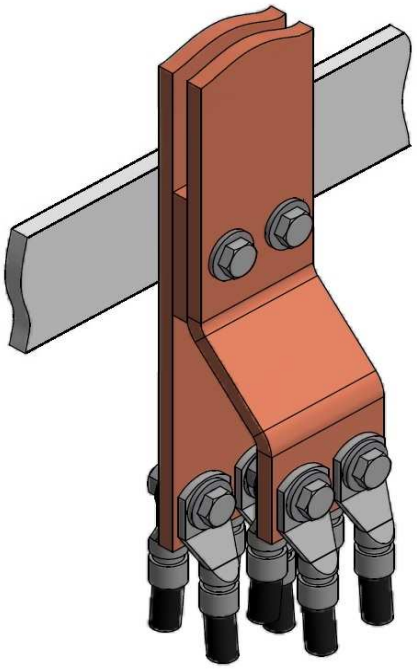


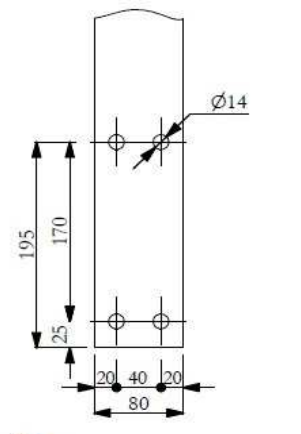
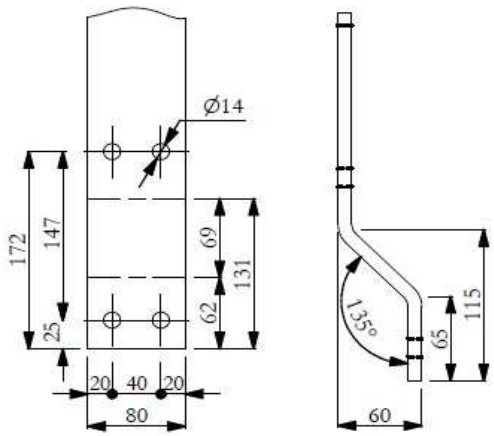
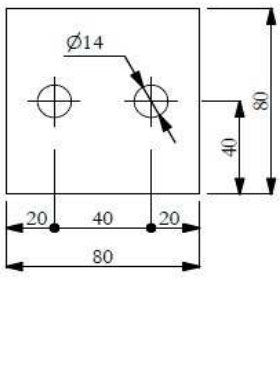
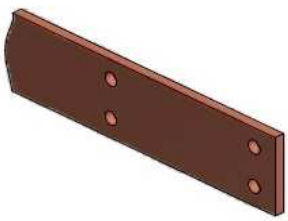
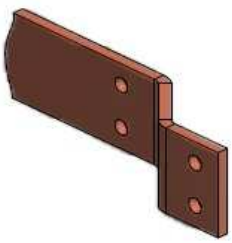
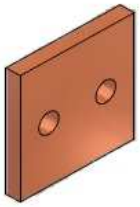
1	2	3
		

8 Pcs 240 mm^2 cables can be connected

2 x 80 x 10 mm CABLE CONNECTION TERMINALS

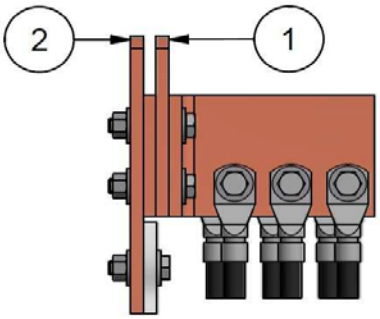


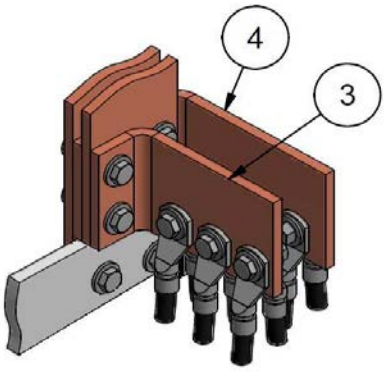


①	②	③
		
		

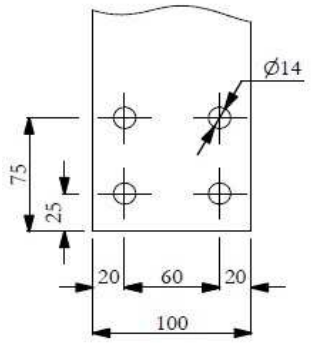
8 Pcs 240 mm² cables can be connected

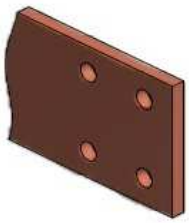
2 x 100 x 10 mm CABLE CONNECTION TERMINALS



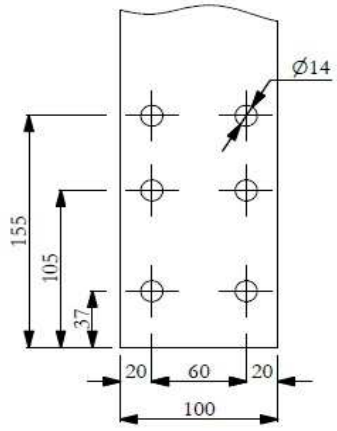


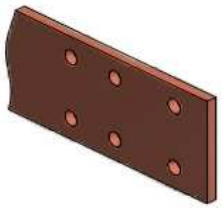
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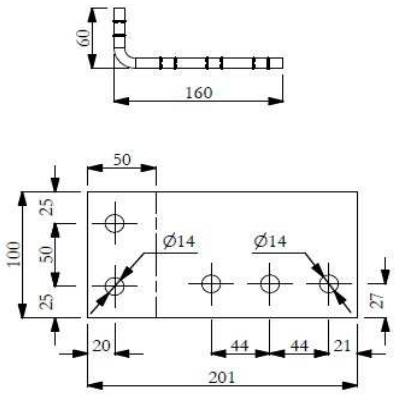


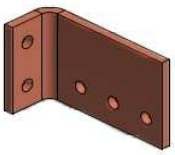
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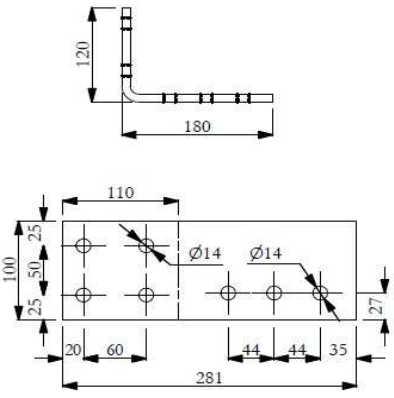


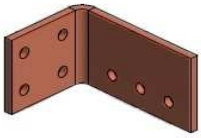
3





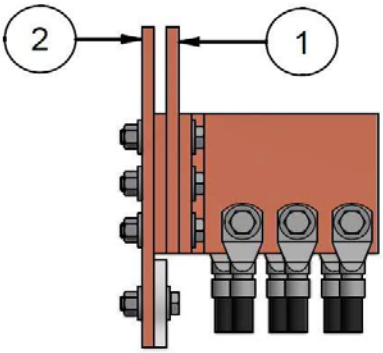
4

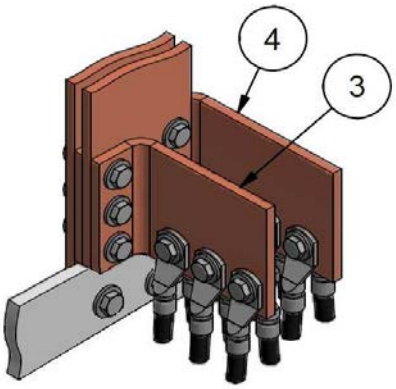




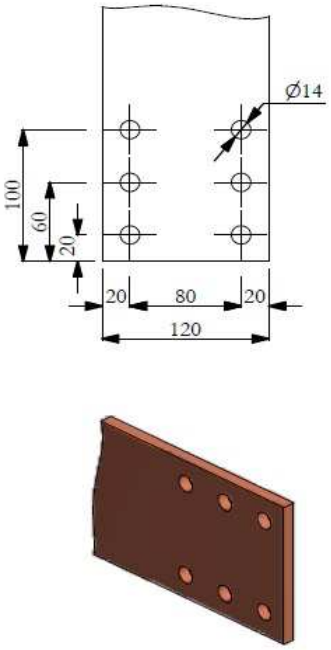
12 Pcs 240 mm^2 cables can be connected

2 x 120 x 10 mm CABLE CONNECTION TERMINALS

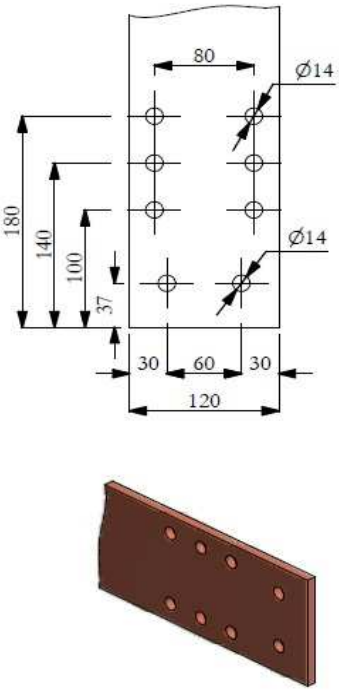




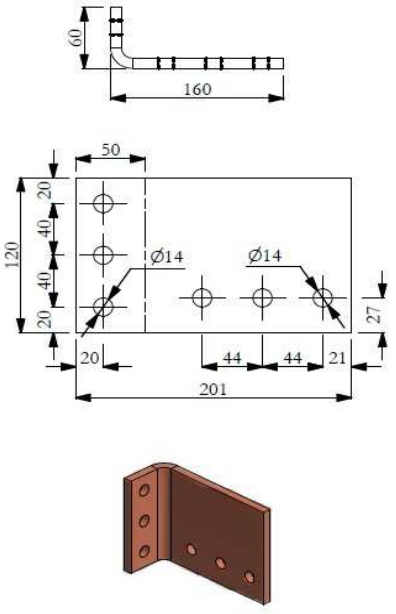
1



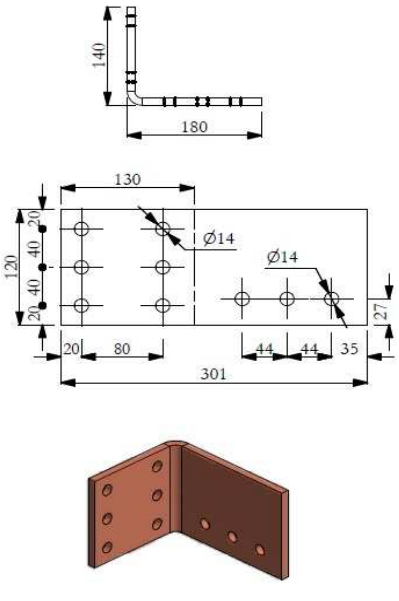
2



3

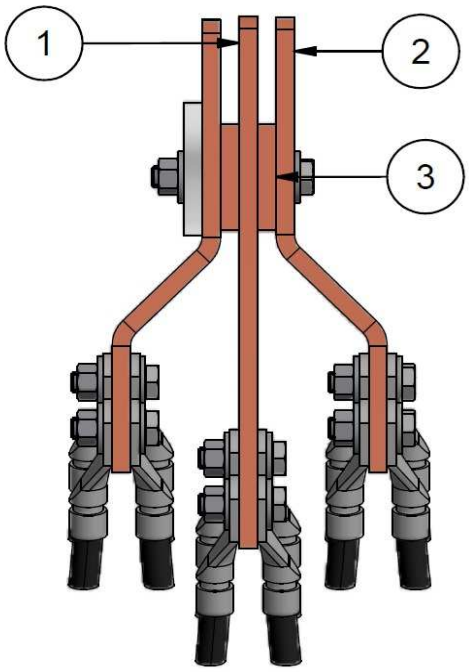


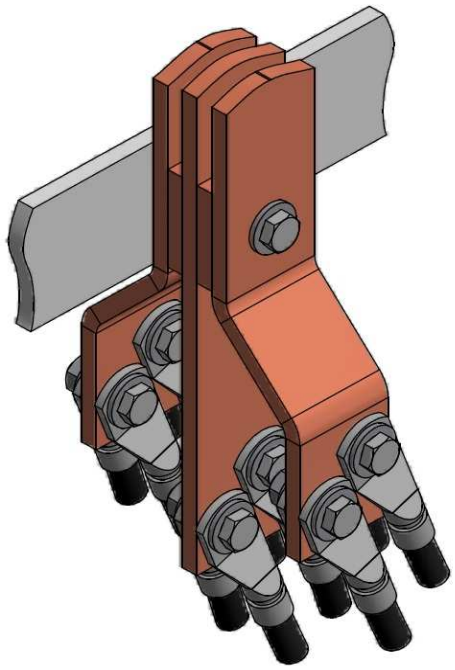
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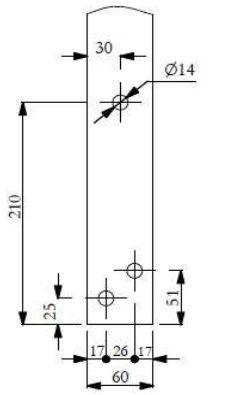
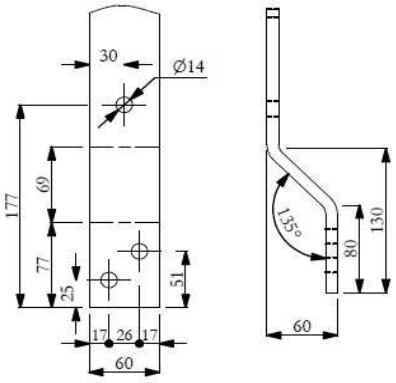
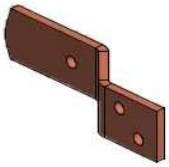
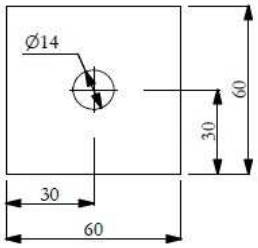
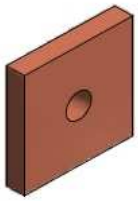


12 Pcs 240 mm^2 cables can be connected

3 x 60 x 10 mm CABLE CONNECTION TERMINALS

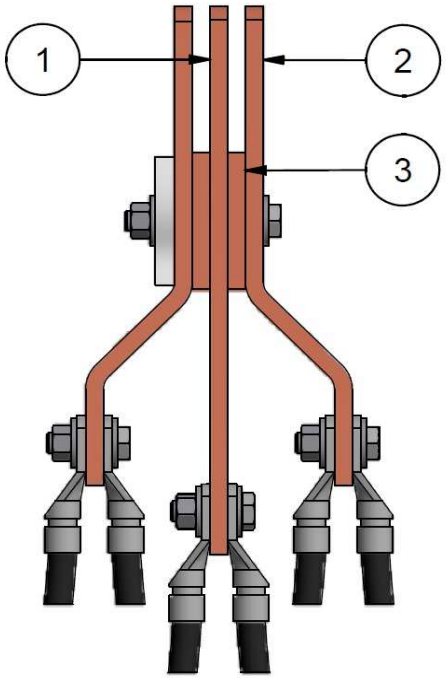


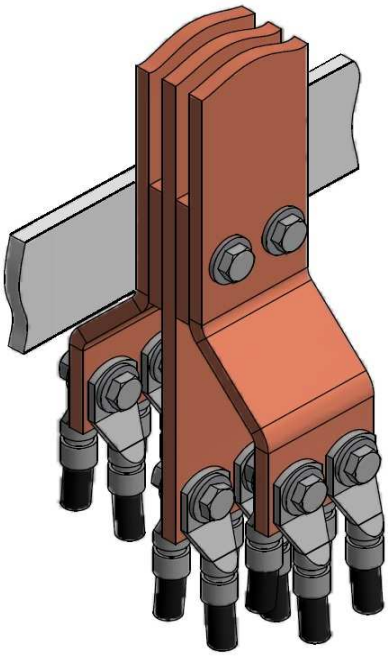


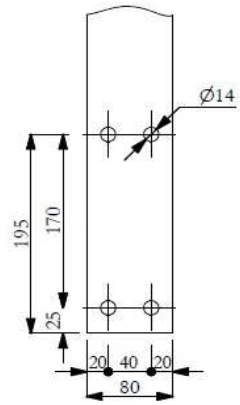
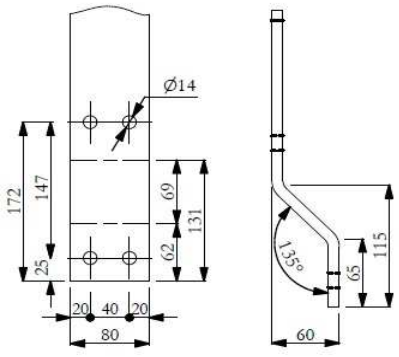
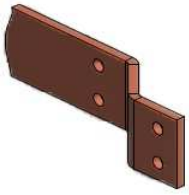
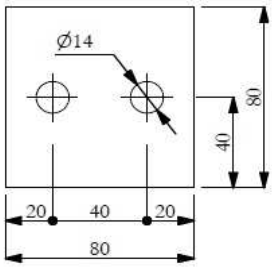
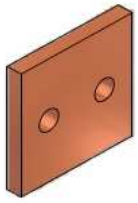
1	2	3
 	  x2	  x2

12 Pcs 240 mm^2 cables can be connected

3 x 80 x 10 mm CABLE CONNECTION TERMINALS

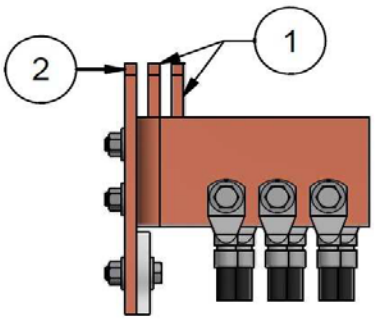


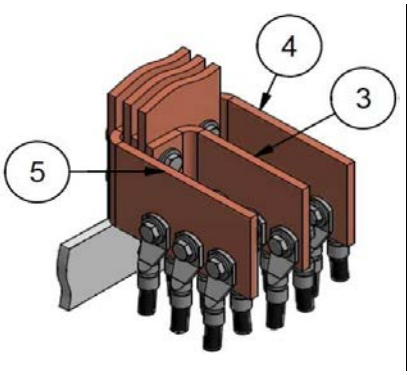


1	2	3
 	  x2	  x2

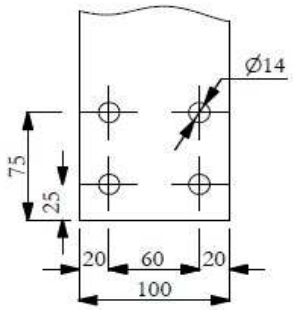
12 Pcs 240 mm^2 cables can be connected

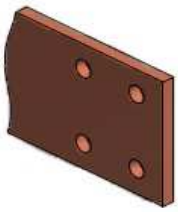
3 x 100 x 10 mm CABLE CONNECTION TERMINALS





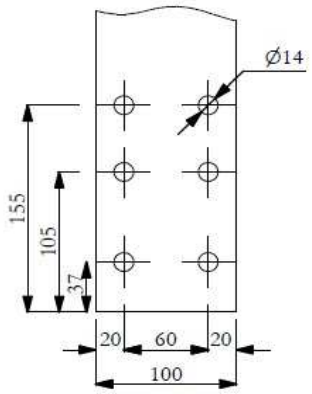
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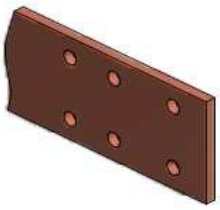




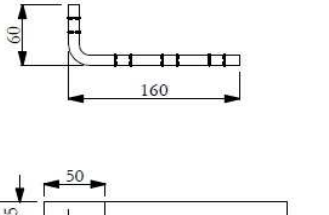
x2

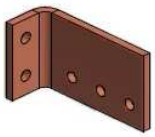
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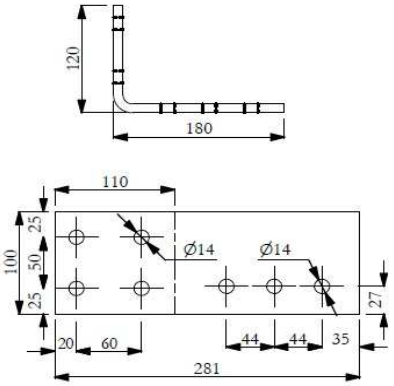


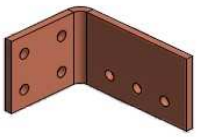
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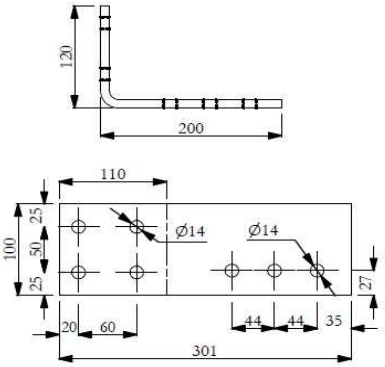


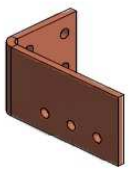
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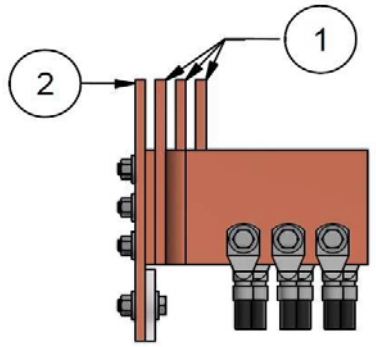
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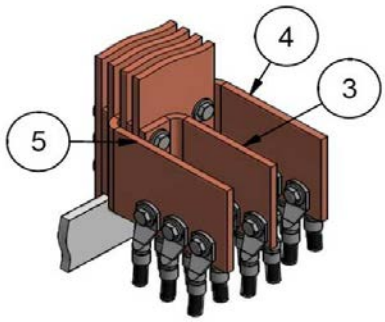




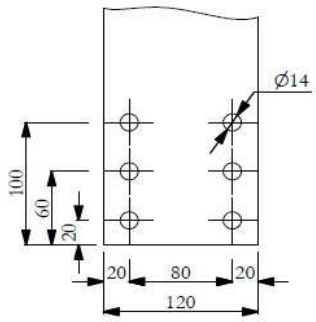
18 Pcs 240 mm^2 cables can be connected

4 x 120 x 10 mm CABLE CONNECTION TERMINALS





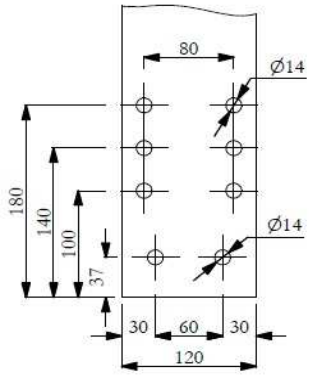
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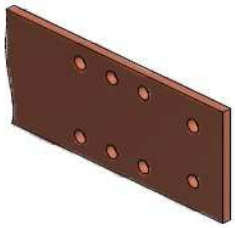




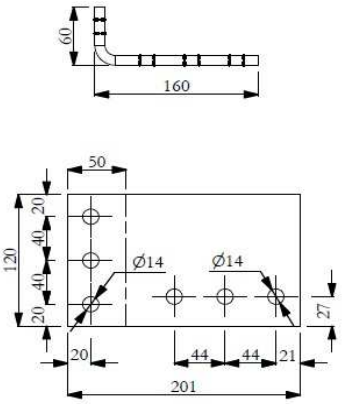
x3

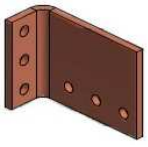
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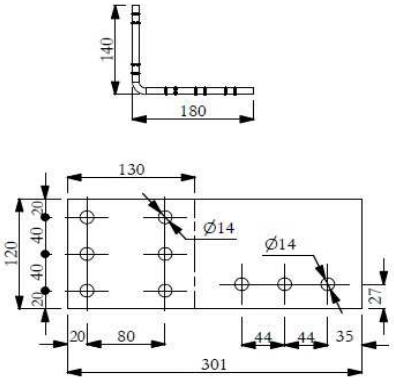


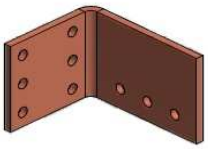
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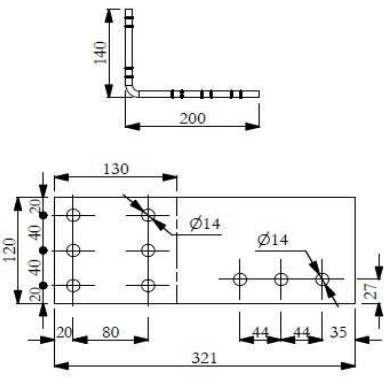


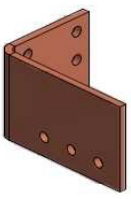
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5





18 Pcs 240 mm^2 cables can be connected

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

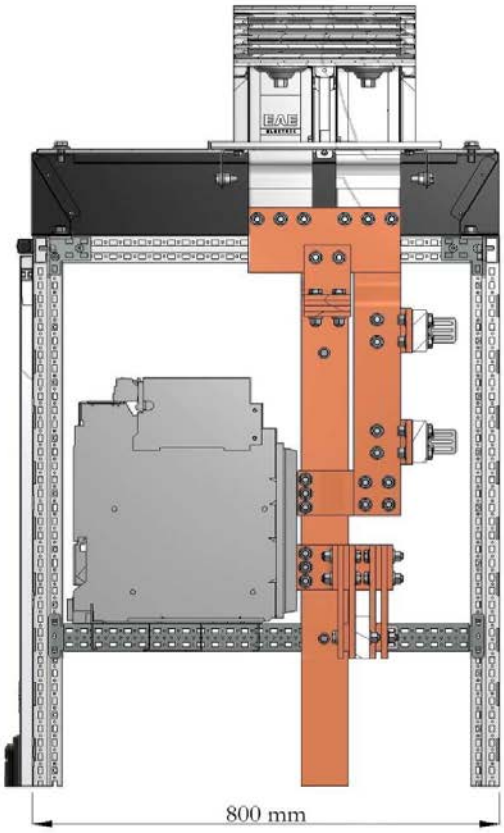
MODEL
001

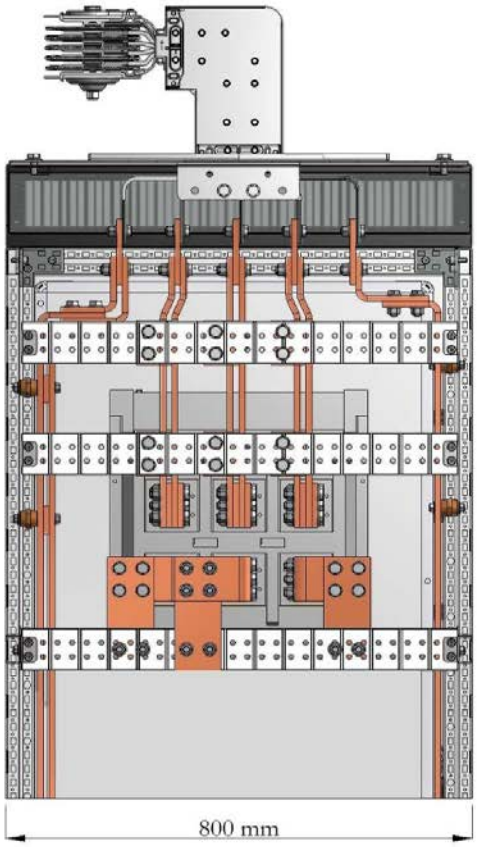
2500 A 3P

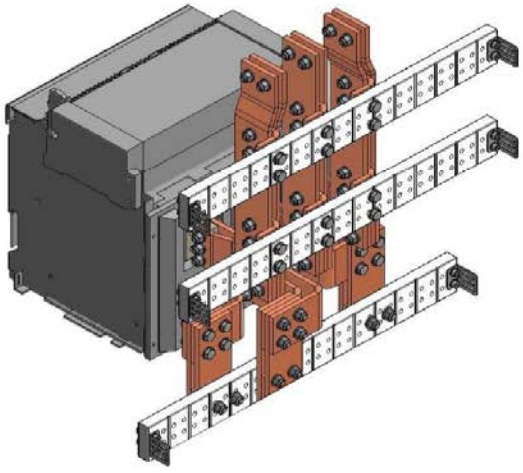


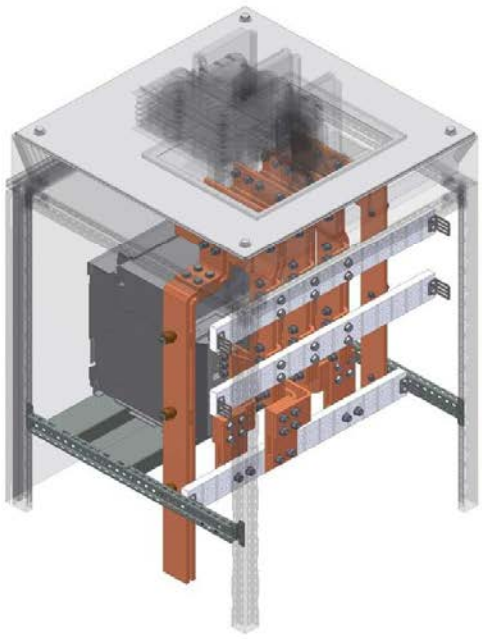
KXA





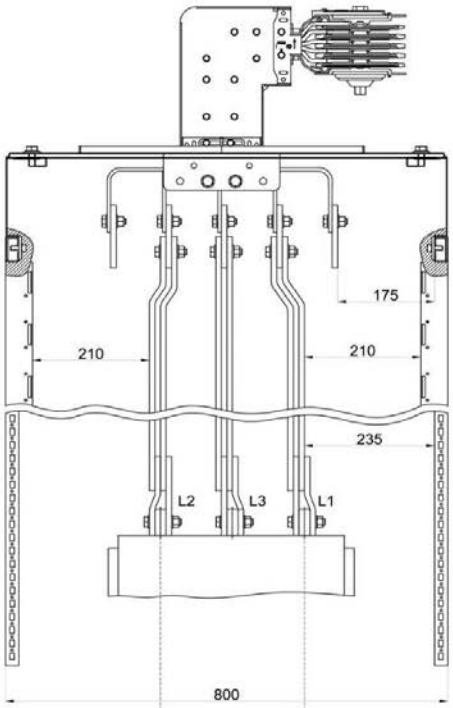


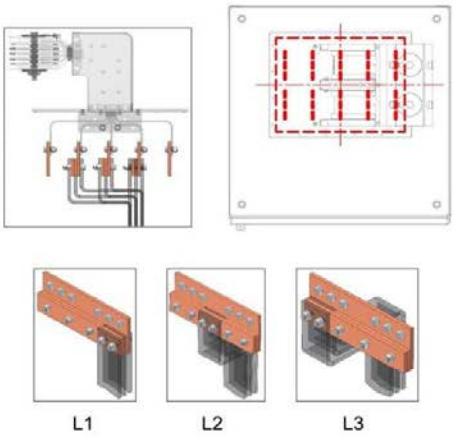




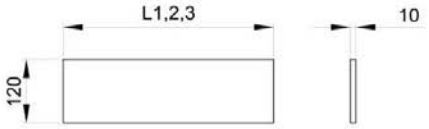
PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
001





For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
ABB	Emax 2 / E2.2	260	260	260
SCHNEIDER	NW / MVS			
EATON	IZMX40			
LEGRAND	SIZE 1			
CHINT	NA1			
ABB	Emax 2 / E1.2			
LEGRAND	SIZE 2			
GE	ENVELOPE 2			
SIEMENS	WL			

Paralleling busbar minimum dimensions.

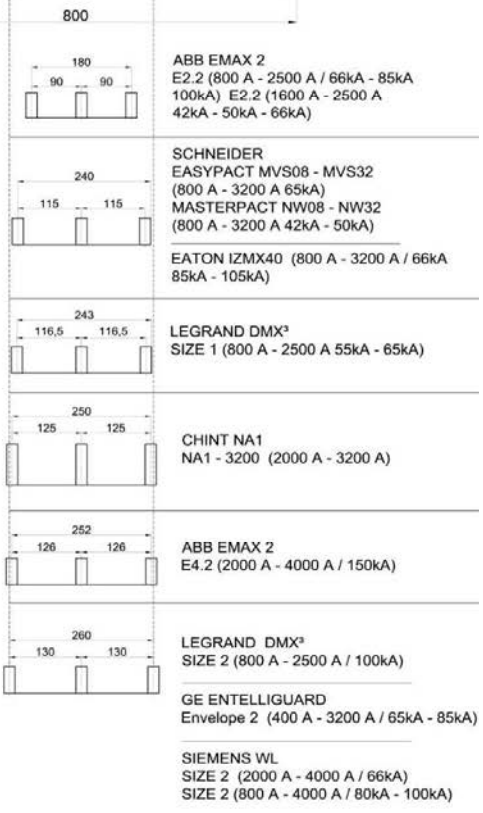


ABB EMAX 2
E2.2 (800 A - 2500 A / 66kA - 85kA
100kA) E2.2 (1600 A - 2500 A
42kA - 50kA - 66kA)

SCHNEIDER
EASYPACT MVS08 - MVS32
(800 A - 3200 A 65kA)
MASTERPACT NW08 - NW32
(800 A - 3200 A 42kA - 50kA)

EATON IZMX40 (800 A - 3200 A / 66kA
85kA - 105kA)

LEGRAND DMX³
SIZE 1 (800 A - 2500 A 55kA - 65kA)

CHINT NA1
NA1 - 3200 (2000 A - 3200 A)

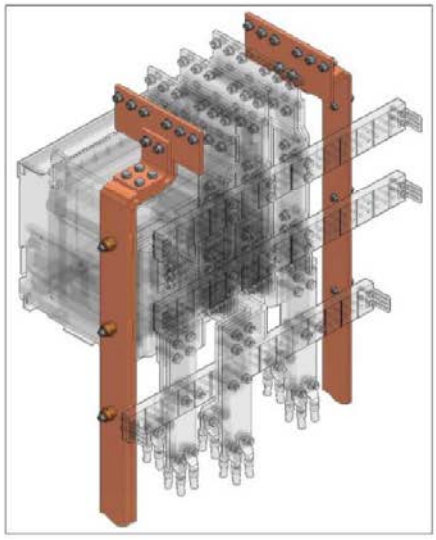
ABB EMAX 2
E4.2 (2000 A - 4000 A / 150kA)

LEGRAND DMX³
SIZE 2 (800 A - 2500 A / 100kA)

GE ENTELLIGUARD
Envelope 2 (400 A - 3200 A / 65kA - 85kA)

SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A / 80kA - 100kA)

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

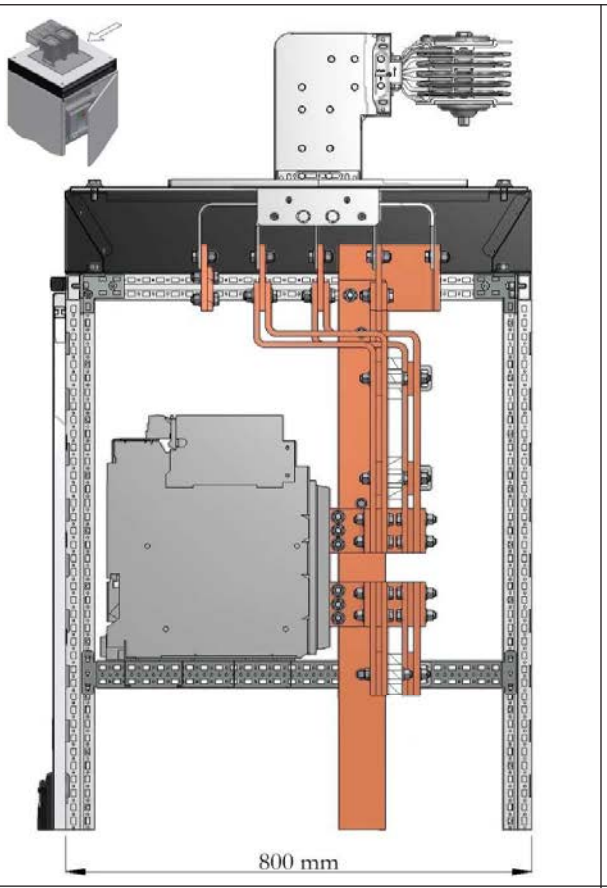
MODEL
002

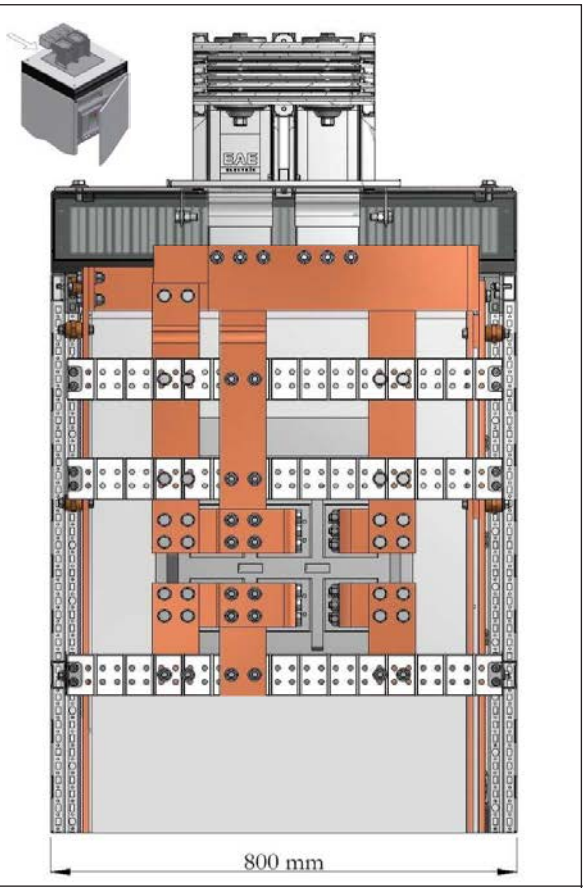
2500 A 3P

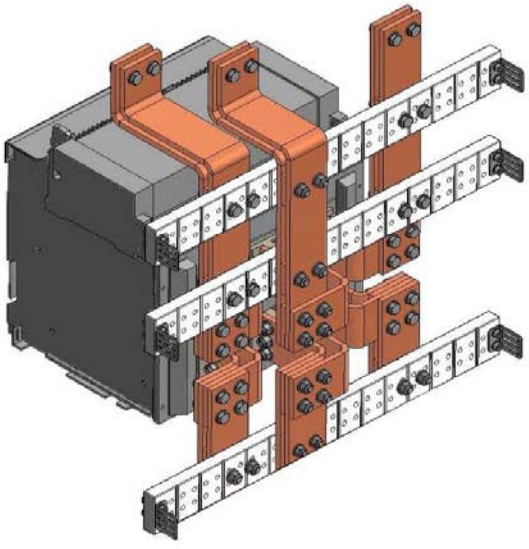


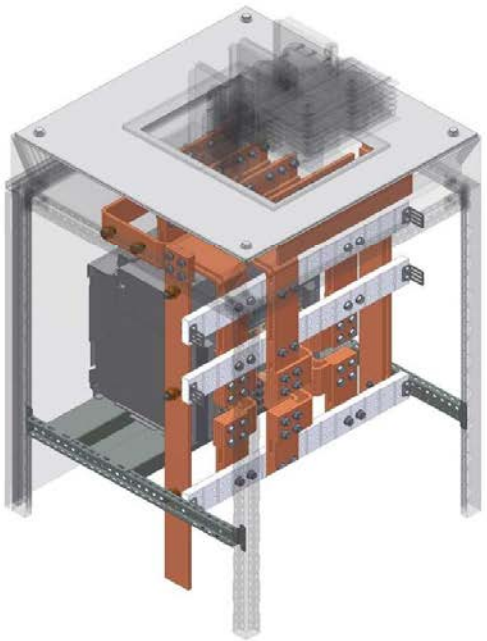
KXA





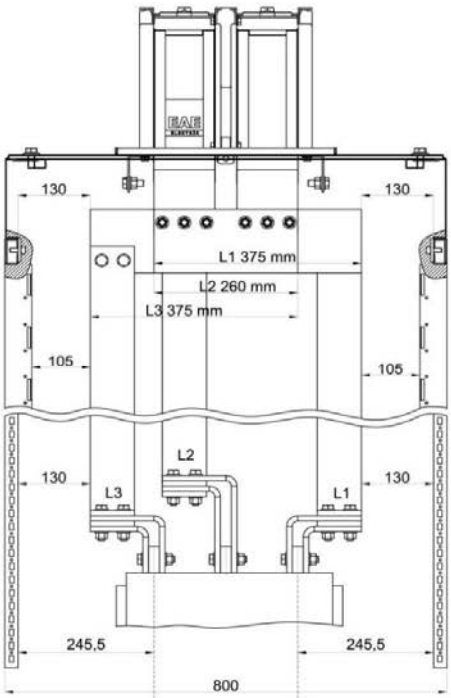






PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
002



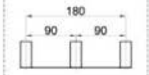
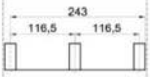


ABB EMAX 2
E2.2 (800 A - 2500 A / 66kA - 85kA
100kA) E2.2 (1600 A - 2500 A
42kA - 50kA - 66kA)



SCHNEIDER
EASYPACT MVS08 - MVS32
(800 A - 3200 A 65kA)
MASTERPACT NW08 - NW32
(800 A - 3200 A 42kA - 50kA)

EATON IZMX40 (800 A - 3200 A / 66kA
85kA - 105kA)



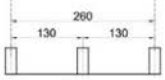
LEGRAND DMX³
SIZE 1 (800 A - 2500 A 55kA - 65kA)



CHINT NA1
NA1 - 3200 (2000 A - 3200 A)



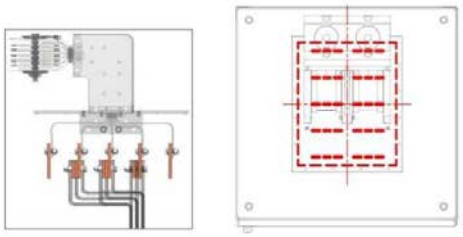
ABB EMAX 2
E4.2 (2000 A - 4000 A / 150kA)



LEGRAND DMX³
SIZE 2 (800 A - 2500 A / 100kA)

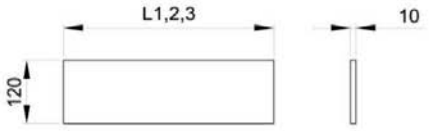
GE ENTELLIGUARD
Envelope 2 (400 A - 3200 A / 65kA - 85kA)

SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A / 80kA - 100kA)





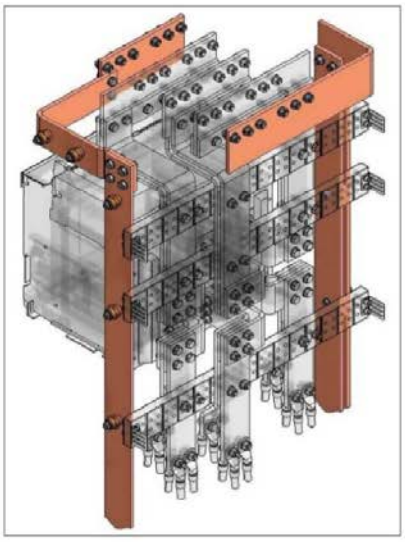
For details, please check busbar
trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
ABB	Emax 2 / E2.2	350	260	350
SCHNEIDER	NW / MVS	375	260	375
EATON	IZMX40			
LEGRAND	SIZE 1			
CHINT	NA1			
ABB	Emax 2 / E1.2			
LEGRAND	SIZE 2			
GE	ENVELOPE 2			
SIEMENS	WL			

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

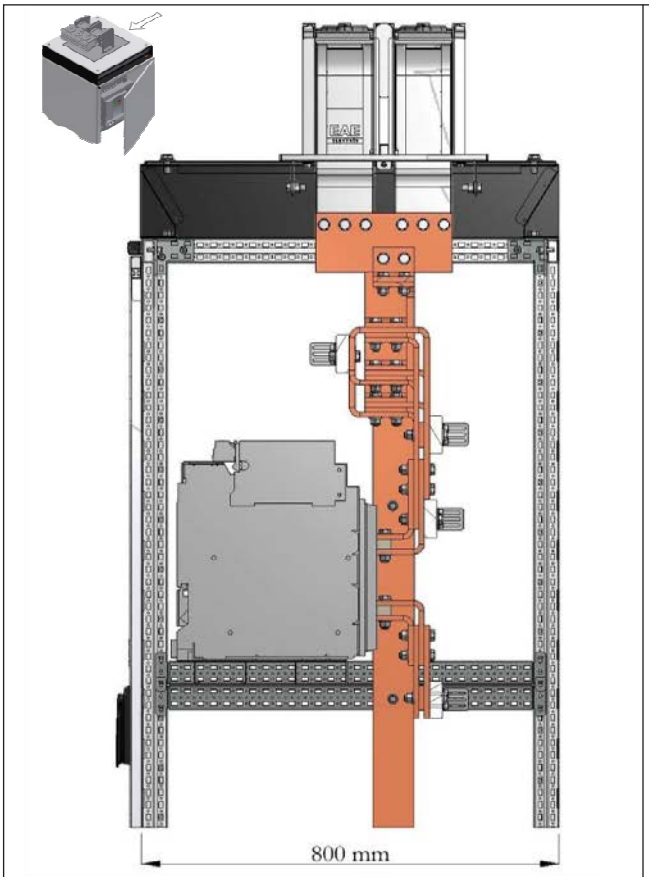
MODEL
003

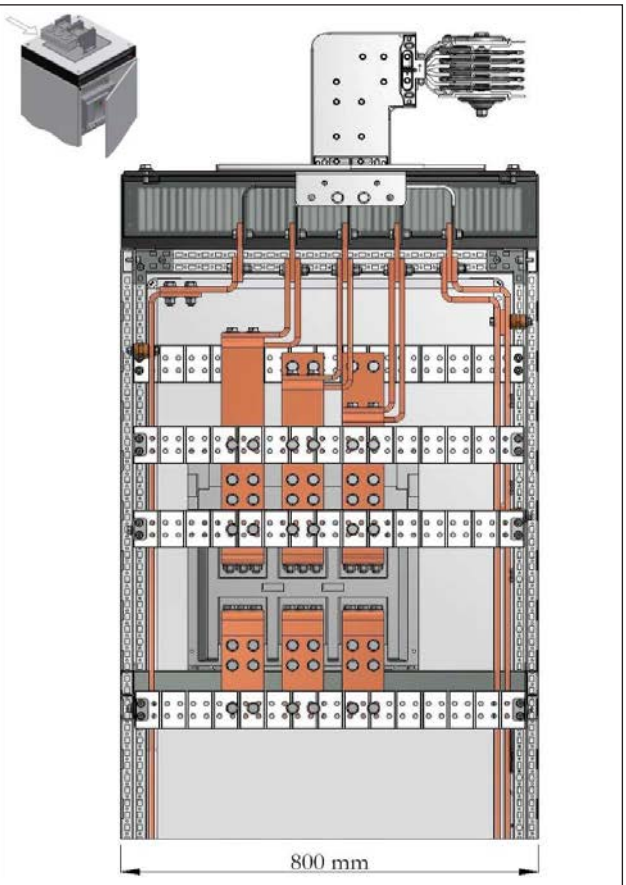
2500 A 3P

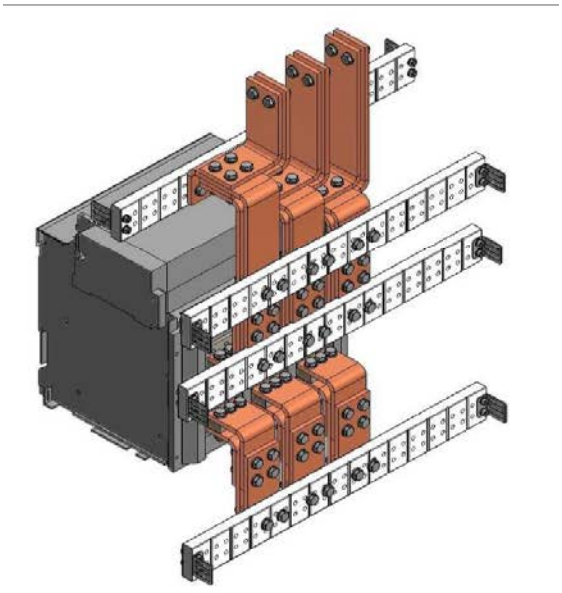


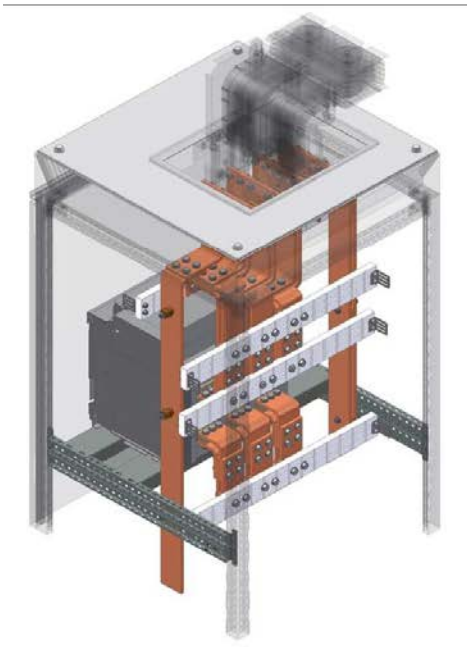
KXA





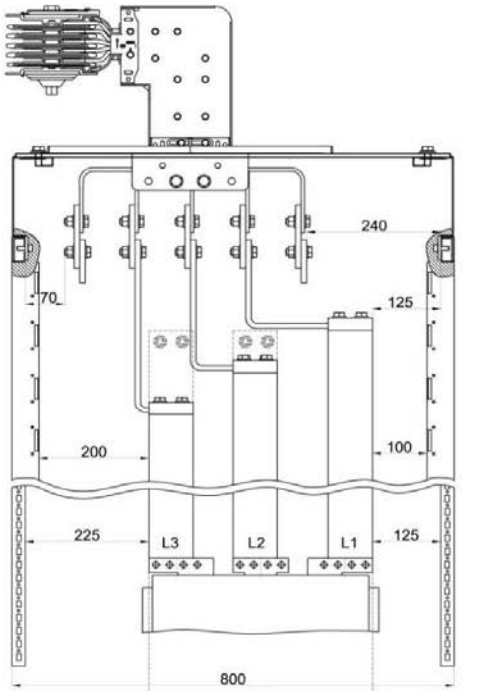


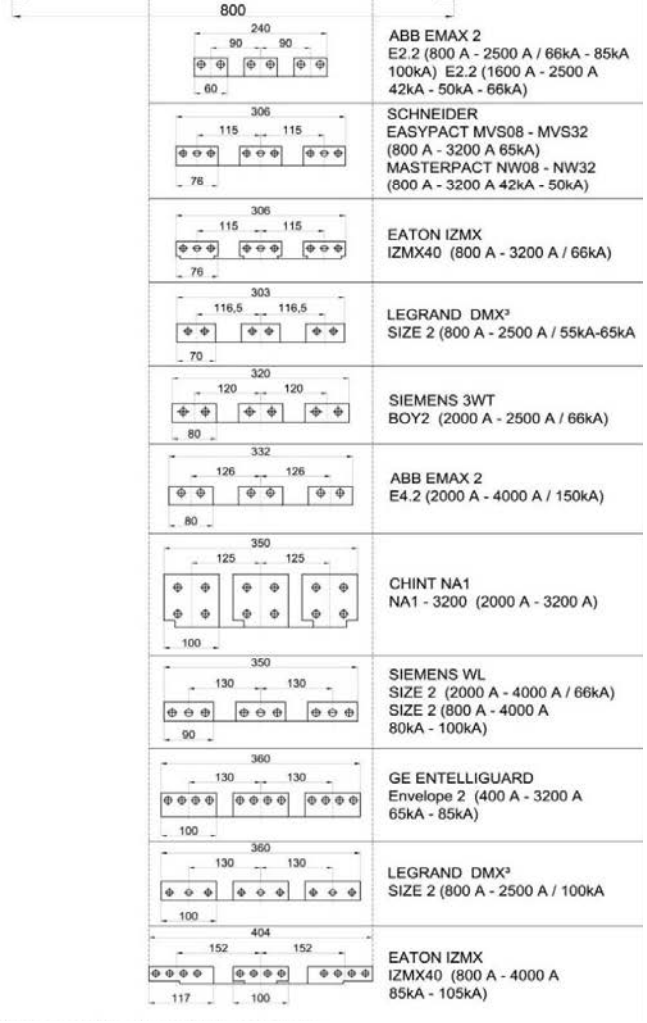


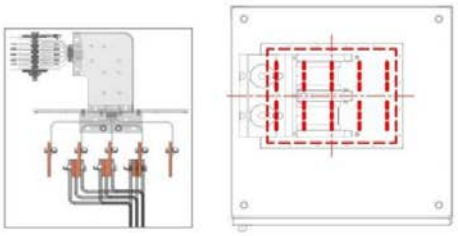


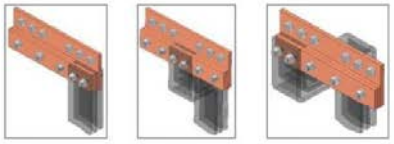
PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
003

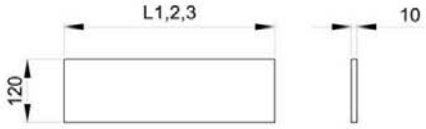








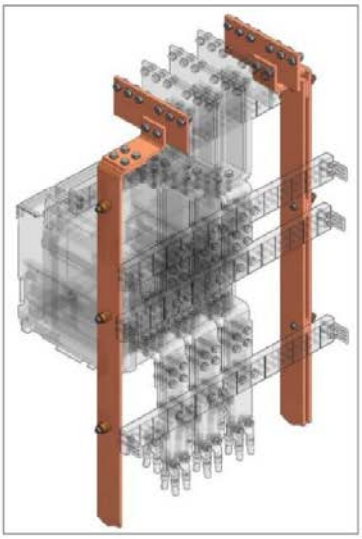
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
SALTER	KOD.	L1	L2	L3
ABB	Emax 2 / E2.2	260	260	260
SCHNEIDER	MVS / NW			
EATON	IZMX40 / 66kA			
LEGRAND	SIZE 2 55kA - 65kA			
SIEMENS	3WT			
ABB	Emax 2 / E4.2 150kA			
CHINT	NA1			
SIEMENS	WL			
GE	ENVELOPE 2			
LEGRAND	SIZE 2 100kA			
EATON	IZMX40 / 85kA - 105kA			

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

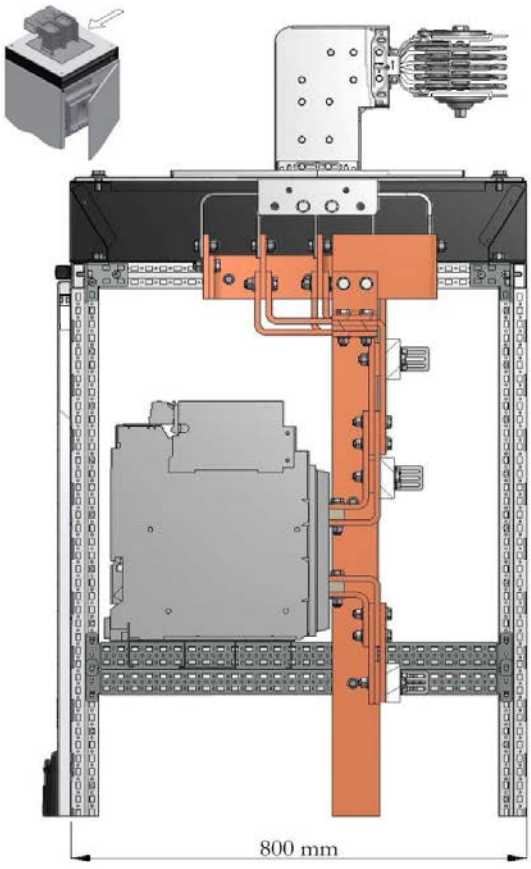
MODEL
004

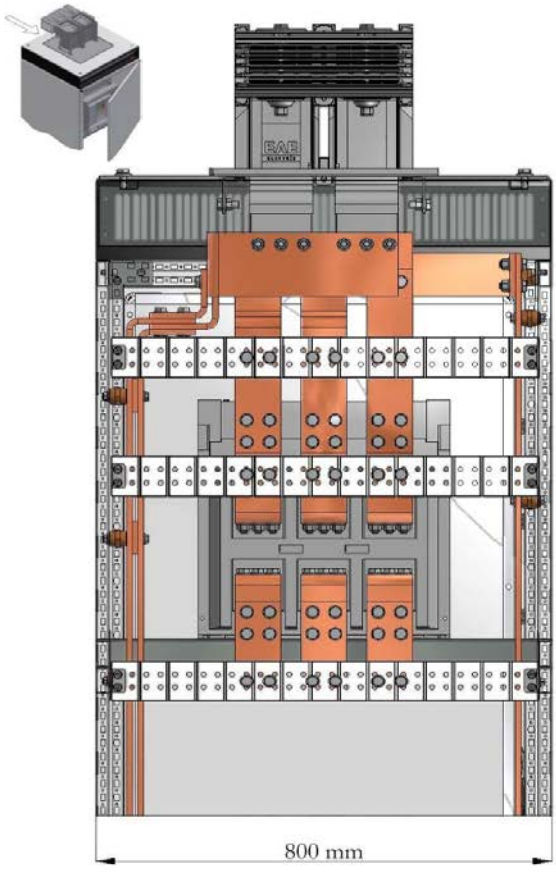
2500 A 3P

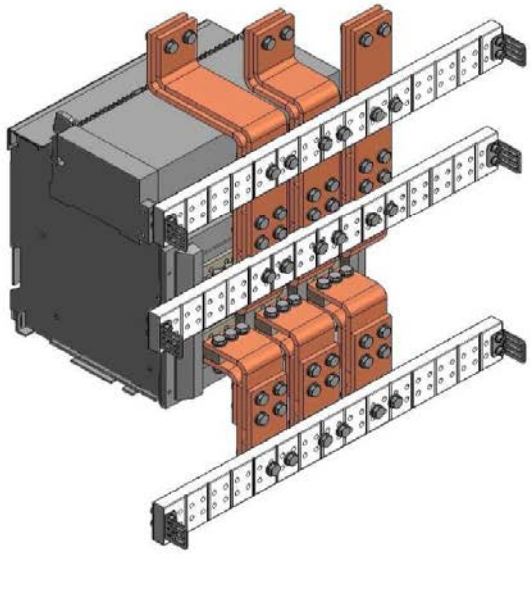


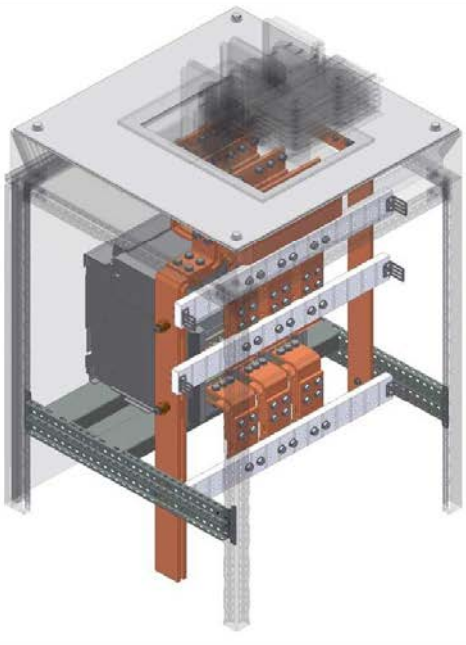
KXA





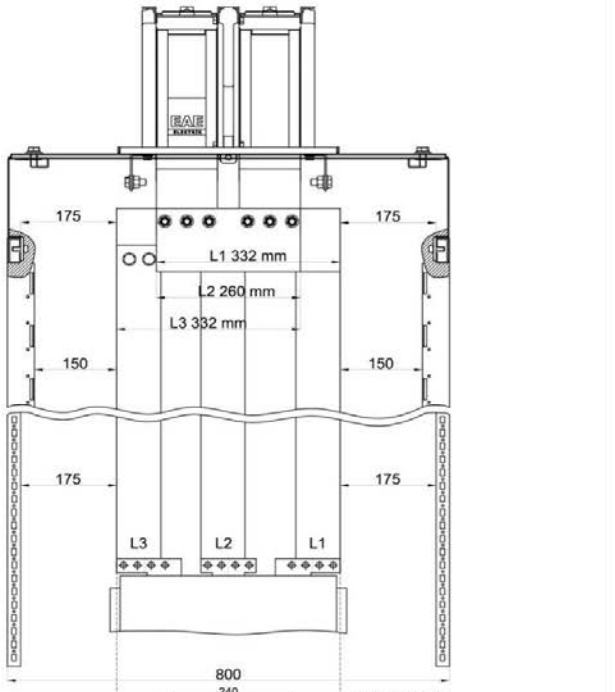






PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
004



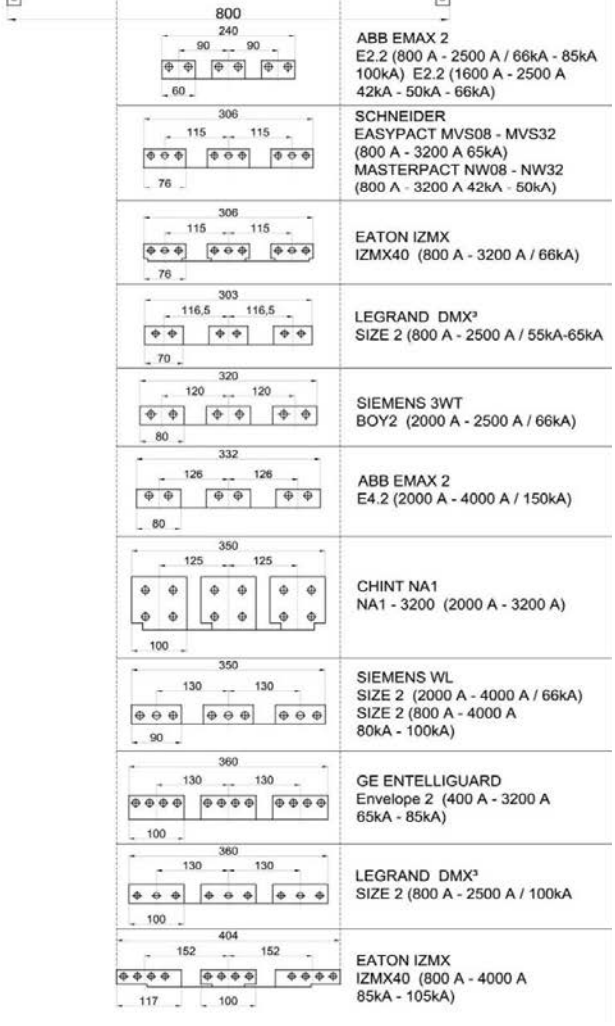


ABB EMAX 2
E2.2 (800 A - 2500 A / 66kA - 85kA 100kA) E2.2 (1600 A - 2500 A 42kA - 50kA - 66kA)

SCHNEIDER
EASYPACT MVS08 - MVS32 (800 A - 3200 A 65kA)
MASTERPACT NW08 - NW32 (800 A - 3200 A 42kA - 50kA)

EATON IZMX
IZMX40 (800 A - 3200 A / 66kA)

LEGRAND DMX³
SIZE 2 (800 A - 2500 A / 55kA-65kA

SIEMENS 3WT
BOY2 (2000 A - 2500 A / 66kA)

ABB EMAX 2
E4.2 (2000 A - 4000 A / 150kA)

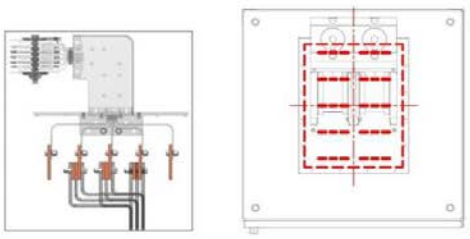
CHINT NA1
NA1 - 3200 (2000 A - 3200 A)

SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A 80kA - 100kA)

GE ENTELLIGUARD
Envelope 2 (400 A - 3200 A 65kA - 85kA)

LEGRAND DMX³
SIZE 2 (800 A - 2500 A / 100kA

EATON IZMX
IZMX40 (800 A - 4000 A 85kA - 105kA)



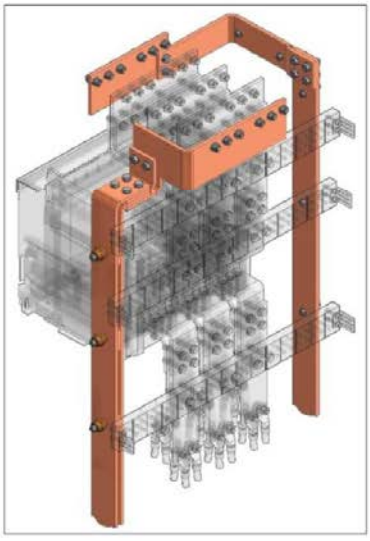
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
ABB	Emax 2 / E2.2	290	260	290
SCHNEIDER	MVS / NW			
EATON	IZMX40 / 66kA			
LEGRAND	SIZE 2 55kA - 65kA			
SIEMENS	3WT	310	260	310
ABB	Emax 2 / E4.2 150kA			
CHINT	NA1			
SIEMENS	WL			
GE	ENVELOPE 2			
LEGRAND	SIZE 2 100kA			
EATON	IZMX40 / 85kA - 105kA	330	260	330

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

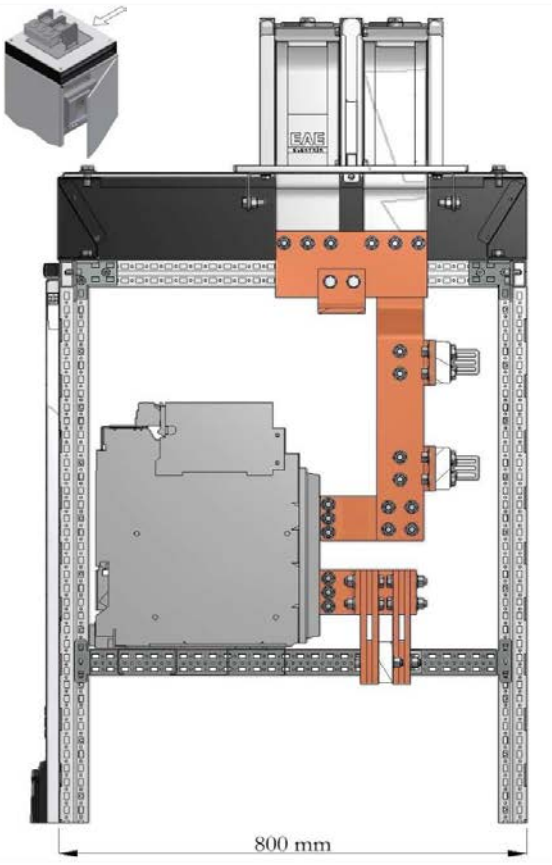
MODEL
005

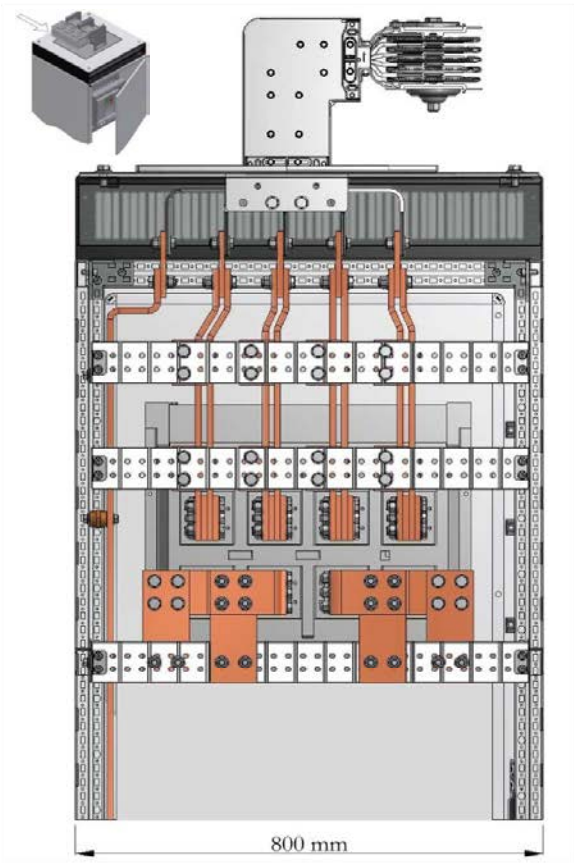
2500 A 4P

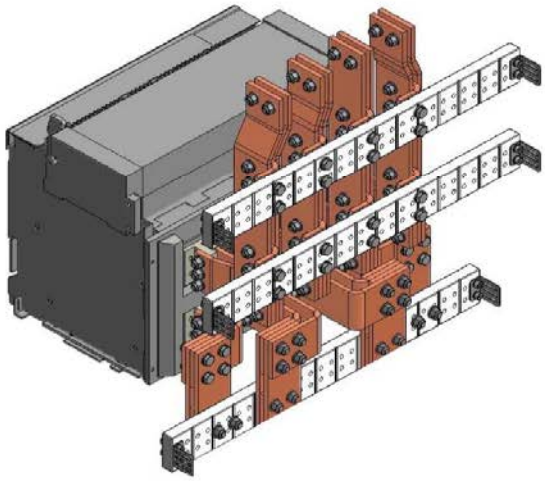


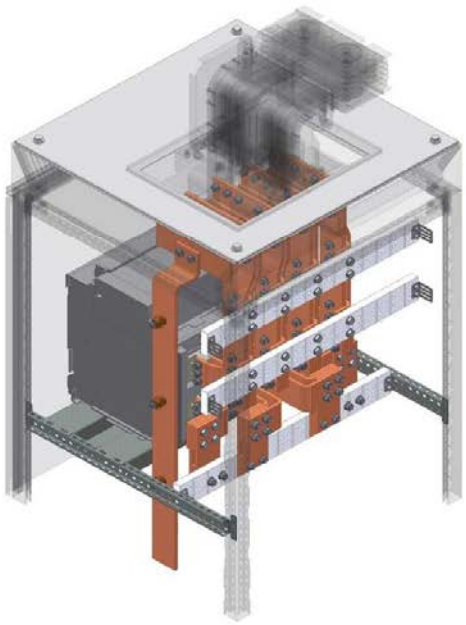
KXA











PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
005

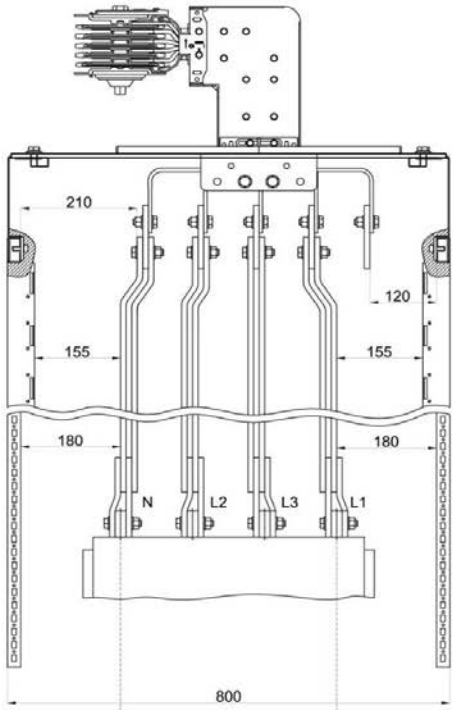
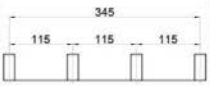




ABB EMAX 2
E2.2 (800 A - 2500 A / 66kA - 85kA
100kA) E2.2 (1600 A - 2500 A
42kA - 50kA - 66kA)

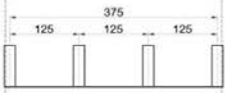


LEGRAND DMX³
SIZE 1 (800 A - 2500 A 55kA - 65kA)



SCHNEIDER
EASYPACT MVS08 - MVS32
(800 A - 3200 A 65kA)
MASTERPACT NW08 - NW32
(800 A - 3200 A 42kA - 50kA)

EATON IZMX40 (800 A - 3200 A / 66kA
85kA - 105kA)



CHINT NA1
NA1 - 3200 (2000 A - 3200 A)

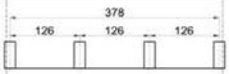
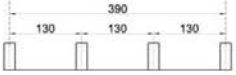


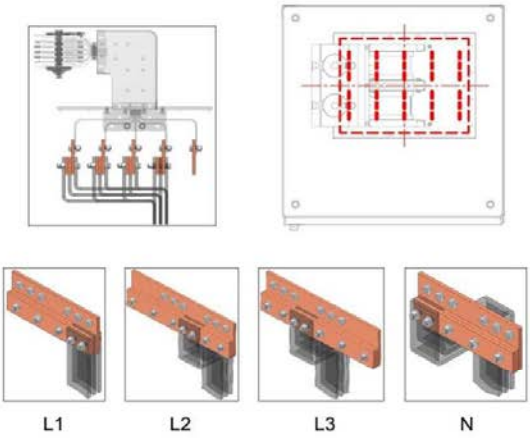
ABB EMAX 2
E4.2 (2000 A - 4000 A / 150kA)



LEGRAND DMX³
SIZE 2 (800 A - 2500 A / 100kA)

GE ENTELLIGUARD
Envelope 2 (400 A - 3200 A
65kA - 85kA)

SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA
SIZE 2 (800 A - 4000 A / 80kA - 100kA)



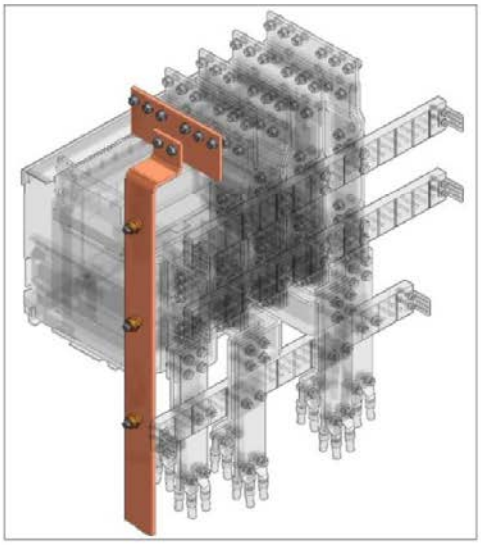
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
ABB	Emax 2 / E2.2	260	260	260	260
LEGRAND	SIZE 1				
SCHNEIDER	NW / MVS				
EATON	IZMX40				
CHINT	NA1				
ABB	Emax 2 / E4.2				
LEGRAND	SIZE 2				
GE	ENVELOPE 2				
SIEMENS	WL				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

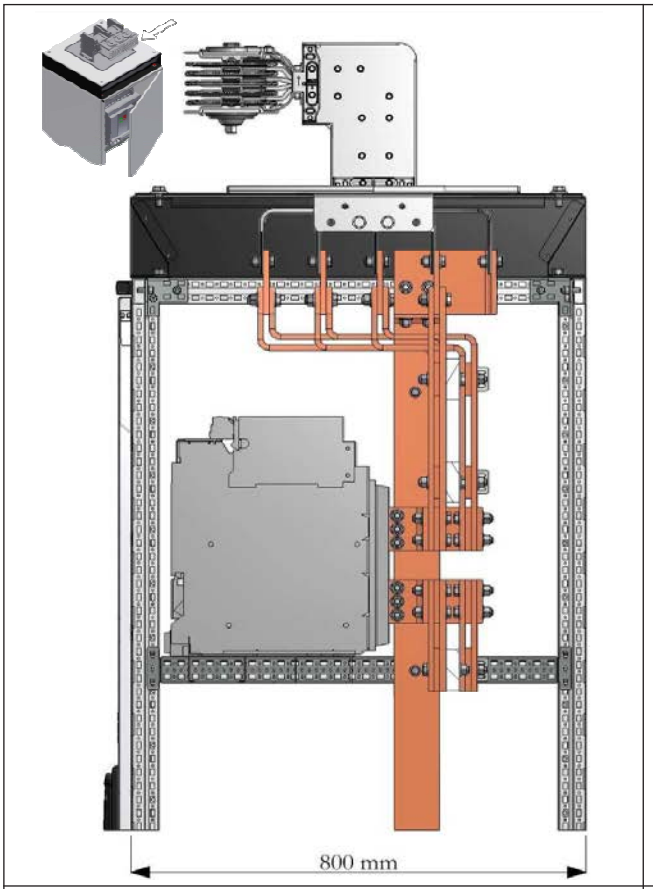
MODEL
006

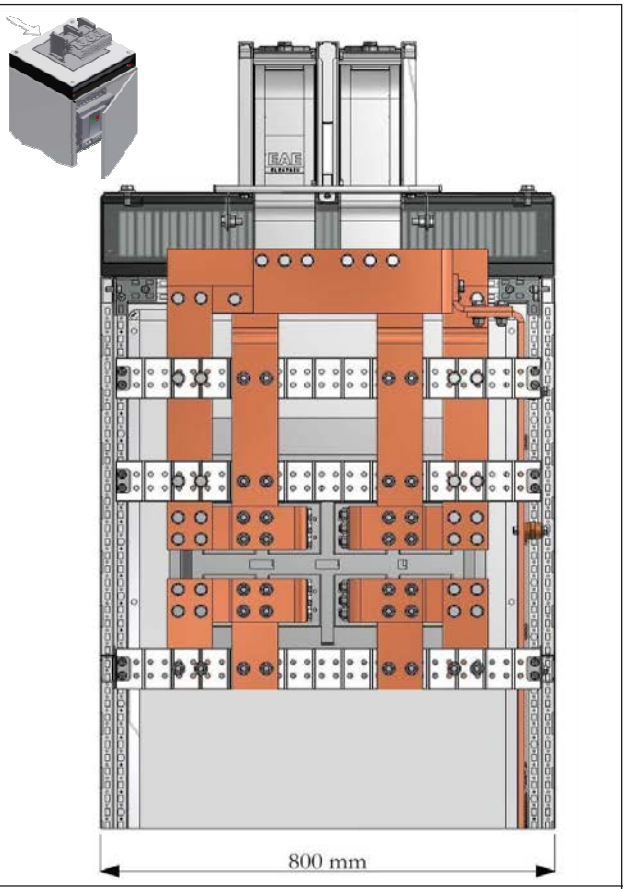
2500 A 4P

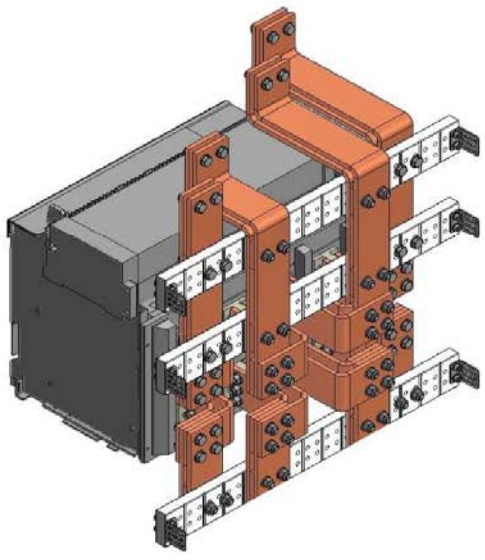


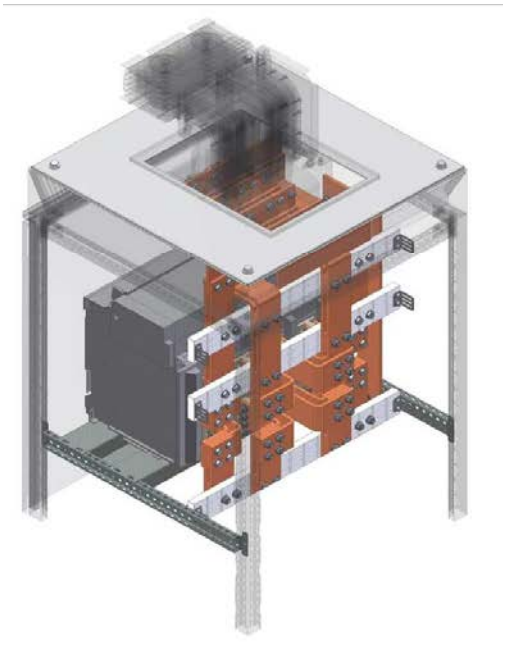
KXA











PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
006

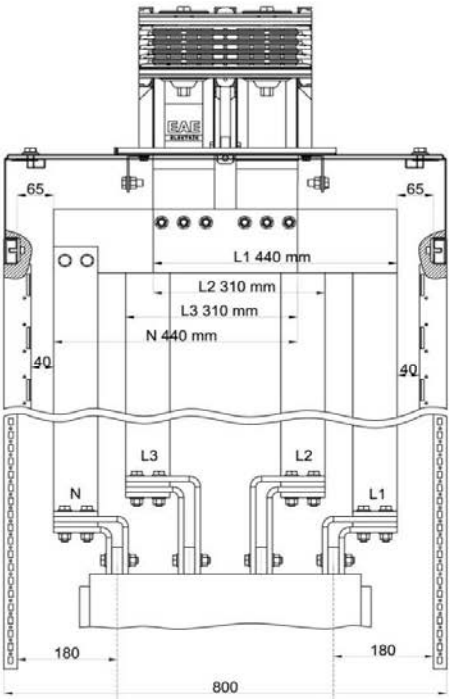
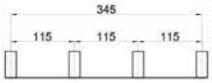




ABB EMAX 2
E2.2 (800 A - 2500 A / 66kA - 85kA
100kA) E2.2 (1600 A - 2500 A
42kA - 50kA - 66kA)

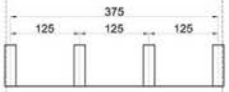


LEGRAND DMX³
SIZE 1 (800 A - 2500 A 55kA - 65kA)



SCHNEIDER
EASYPACT MVS08 - MVS32
(800 A - 3200 A 65kA)
MASTERPACT NW08 - NW32
(800 A - 3200 A 42kA - 50kA)

EATON IZMX40 (800 A - 3200 A / 66kA
85kA - 105kA)



CHINT NA1
NA1 - 3200 (2000 A - 3200 A)

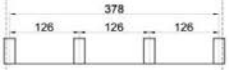
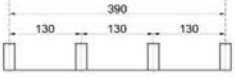


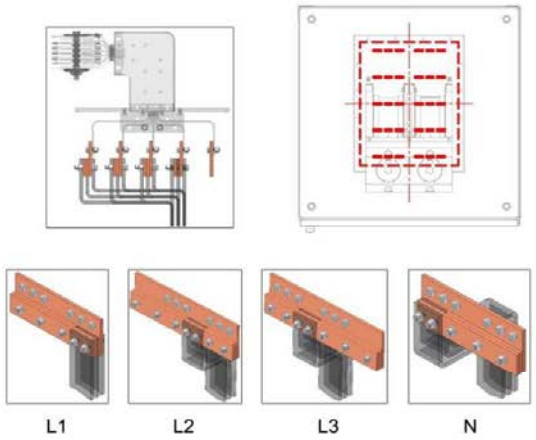
ABB EMAX 2
E4.2 (2000 A - 4000 A / 150kA)



LEGRAND DMX³
SIZE 2 (800 A - 2500 A / 100kA)

GE ENTELLIGUARD
Envelope 2 (400 A - 3200 A
65kA - 85kA)

SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA
SIZE 2 (800 A - 4000 A / 80kA - 100kA)



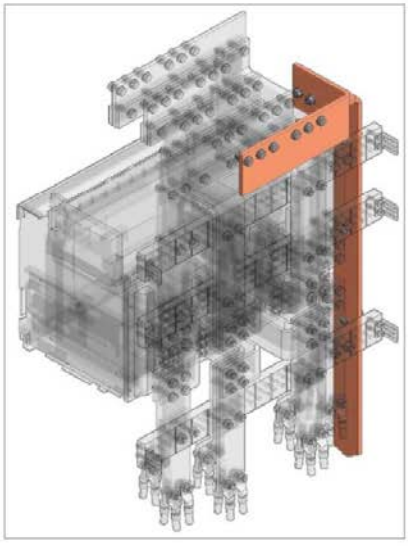
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
ABB	Emax 2 / E2.2	410	320	320	410
LEGRAND	SIZE 1	434	328	328	434
SCHNEIDER	NW / MVS	450	333	333	450
EATON	IZMX40				
CHINT	NA1	470	340	340	470
ABB	Emax 2 / E4.2				
LEGRAND	SIZE 2				
GE	ENVELOPE 2				
SIEMENS	WL				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

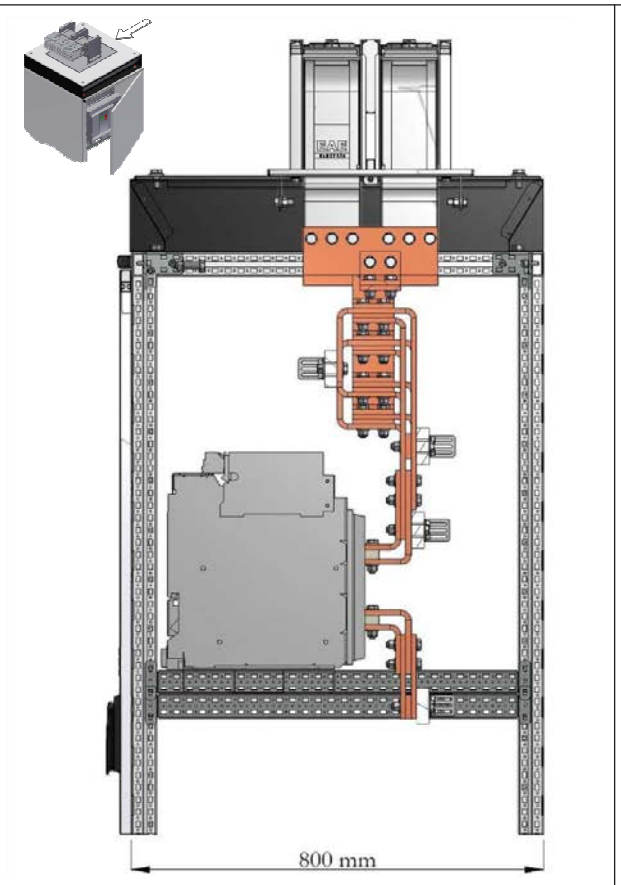
MODEL
007

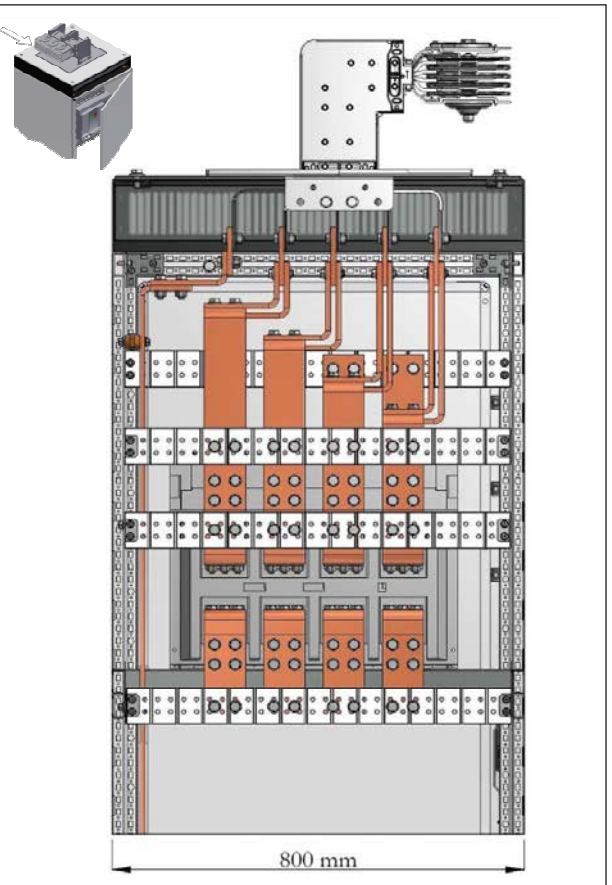
2500 A 4P

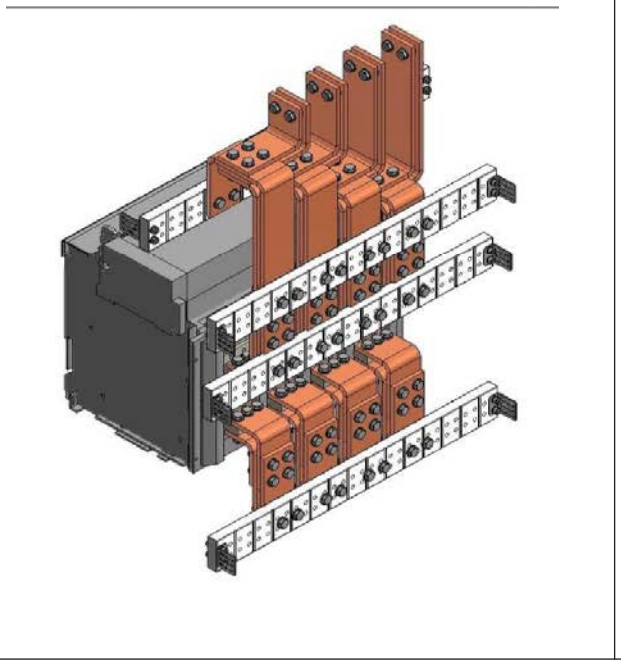


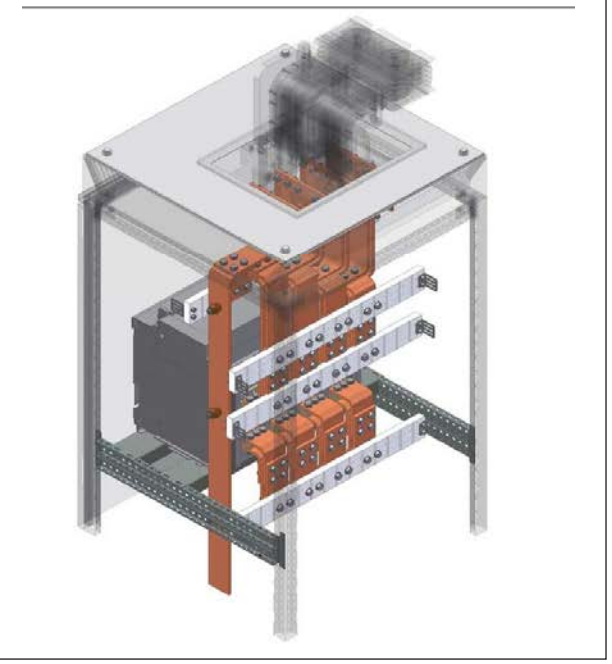
KXA



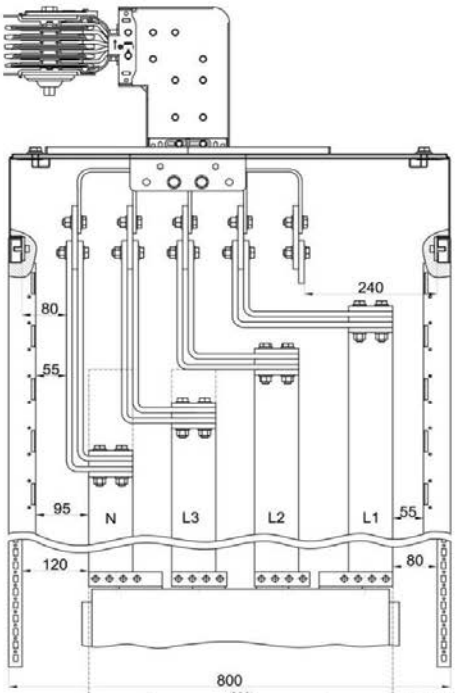


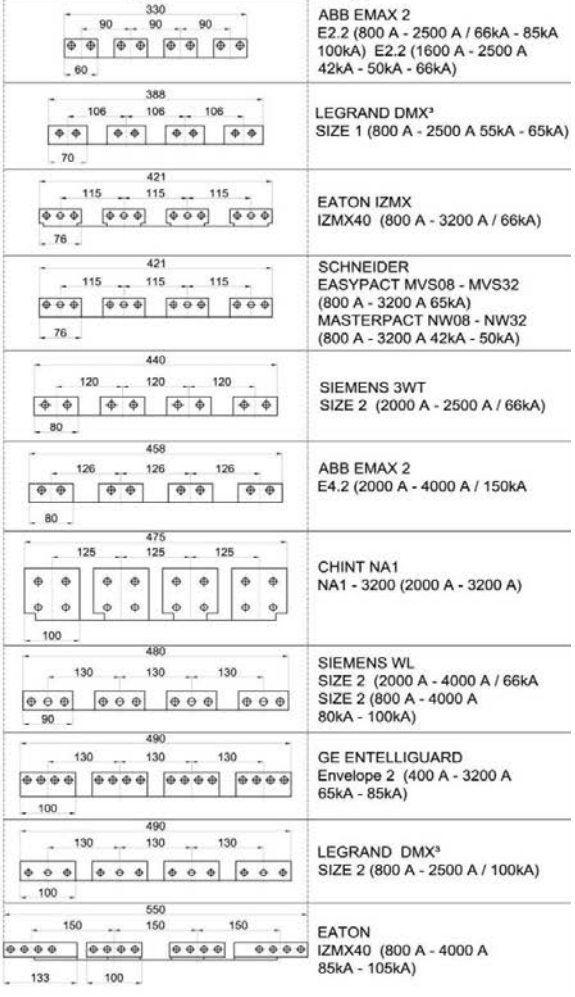


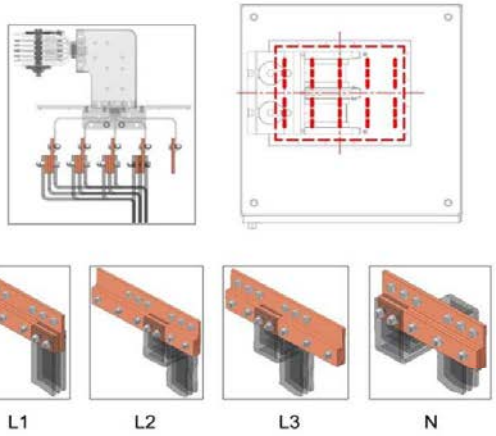




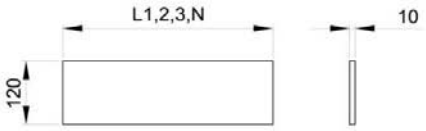
MODEL
007







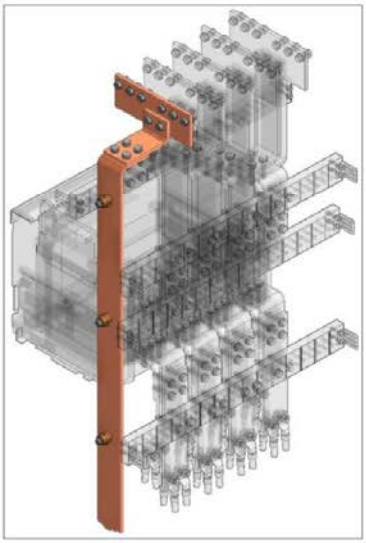
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
ABB	Emax 2 / E2.2	260	260	260	260
LEGRAND	SIZE 1				
EATON	IZMX40 / 66kA				
SCHNEIDER	NW / MVS				
SIEMENS	3WT				
ABB	Emax 2 / E4.2				
CHINT	NA1				
SIEMENS	WL				
GE	ENVELOPE 2				
LEGRAND	SIZE 2				
EATON	IZMX40 / 85kA - 105kA				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

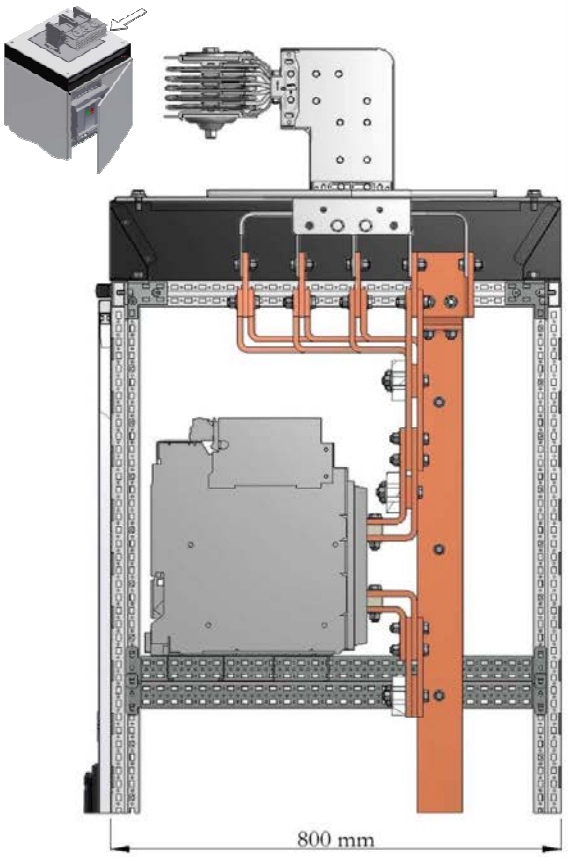
MODEL
008

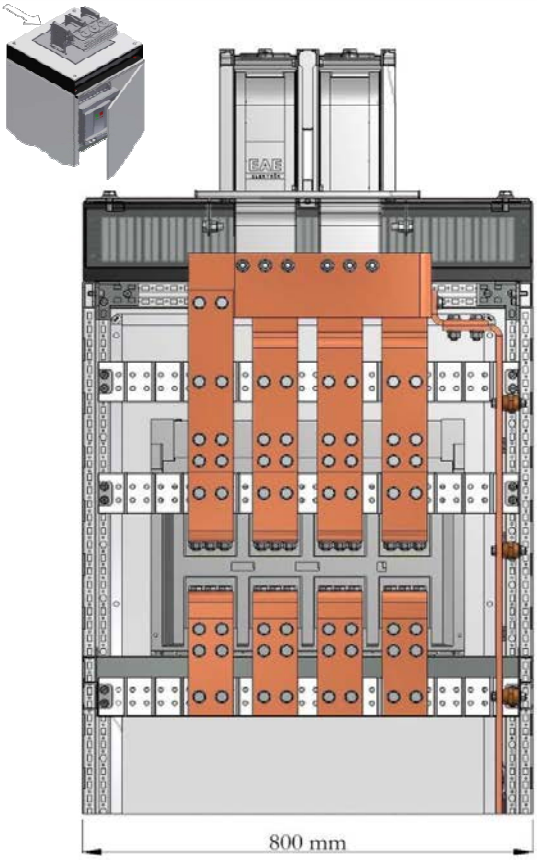
2500 A 4P

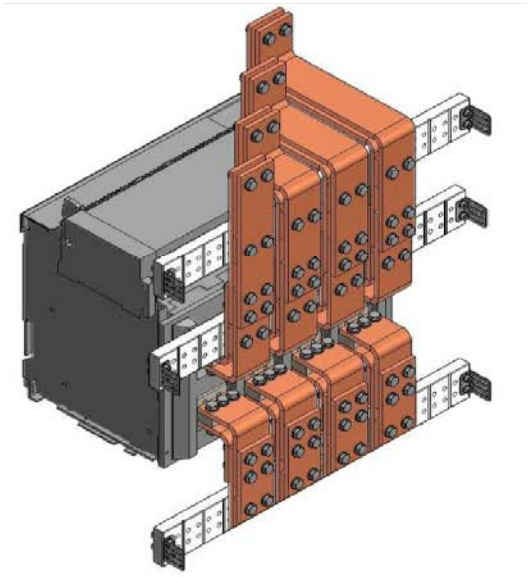


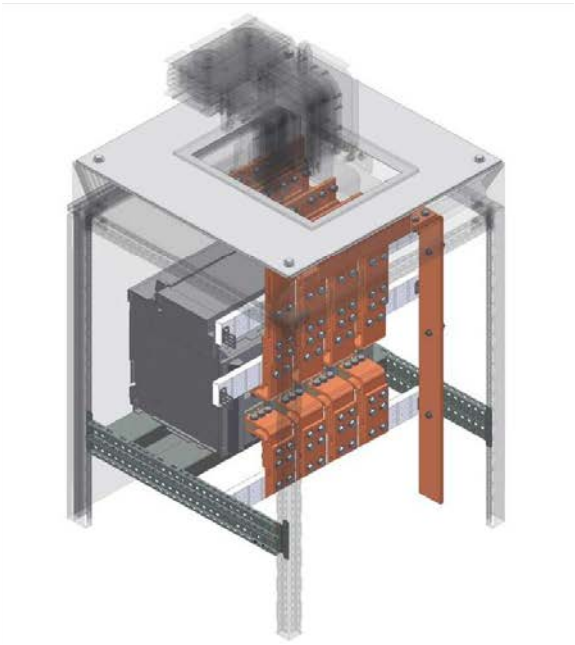
KXA



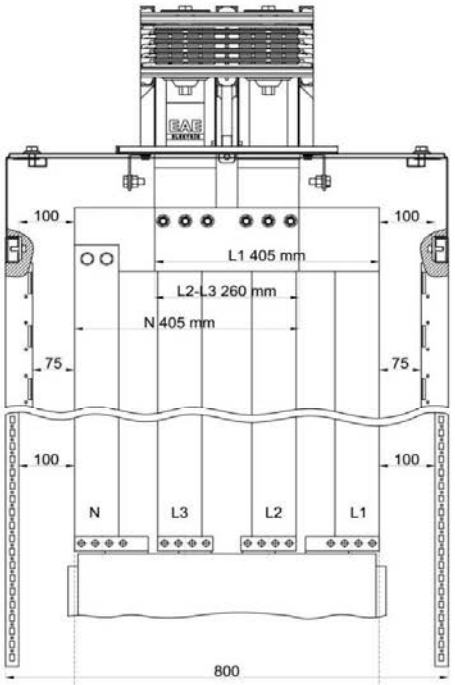








MODEL
008



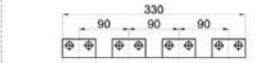
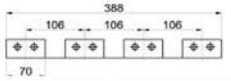
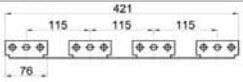


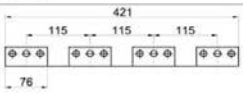
ABB EMAX 2
E2.2 (800 A - 2500 A / 66kA - 85kA
100kA) E2.2 (1600 A - 2500 A
42kA - 50kA - 66kA)



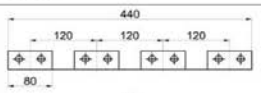
LEGRAND DMX³
SIZE 1 (800 A - 2500 A 55kA - 65kA)



EATON IZMX
IZMX40 (800 A - 3200 A / 66kA)



SCHNEIDER
EASYPACT MVS08 - MVS32
(800 A - 3200 A 65kA)
MASTERPACT NW08 - NW32
(800 A - 3200 A 42kA - 50kA)



SIEMENS 3WT
SIZE 2 (2000 A - 2500 A / 66kA)

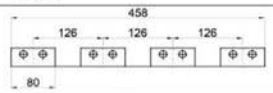
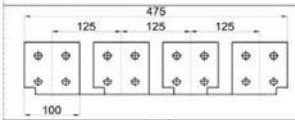
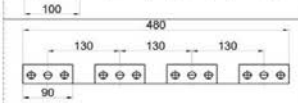


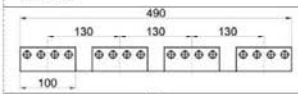
ABB EMAX 2
E4.2 (2000 A - 4000 A / 150kA



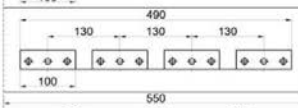
CHINT NA1
NA1 - 3200 (2000 A - 3200 A)



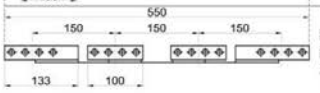
SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA
SIZE 2 (800 A - 4000 A
80kA - 100kA)



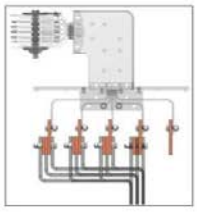
GE ENTELLIGUARD
Envelope 2 (400 A - 3200 A
65kA - 85kA)

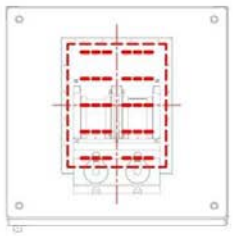


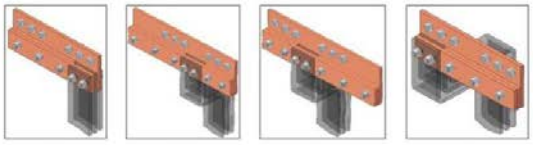
LEGRAND DMX³
SIZE 2 (800 A - 2500 A / 100kA)



EATON
IZMX40 (800 A - 4000 A
85kA - 105kA)







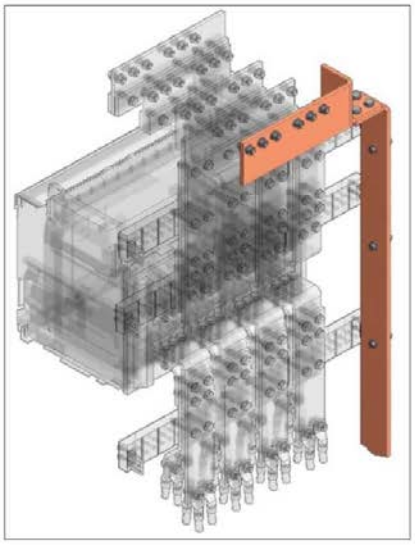
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
ABB	Emax 2 / E2.2	300	260	260	300
LEGRAND	SIZE 1	340	260	260	340
EATON	IZMX40 / 66kA				
SCHNEIDER	NW / MVS				
SIEMENS	3WT	360	260	260	360
ABB	Emax 2 / E4.2				
CHINT	NA1	405	260	260	405
SIEMENS	WL				
GE	ENVELOPE 2				
LEGRAND	SIZE 2				
EATON	IZMX40 / 85kA - 105kA				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

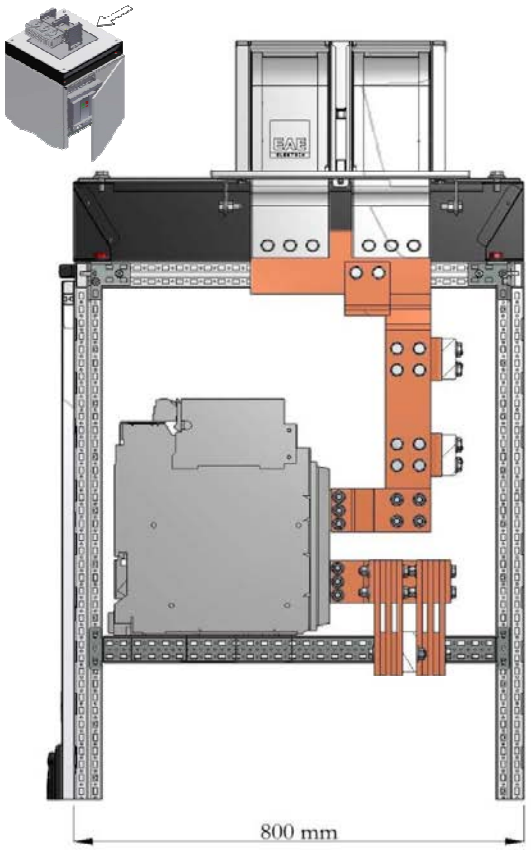
MODEL
009

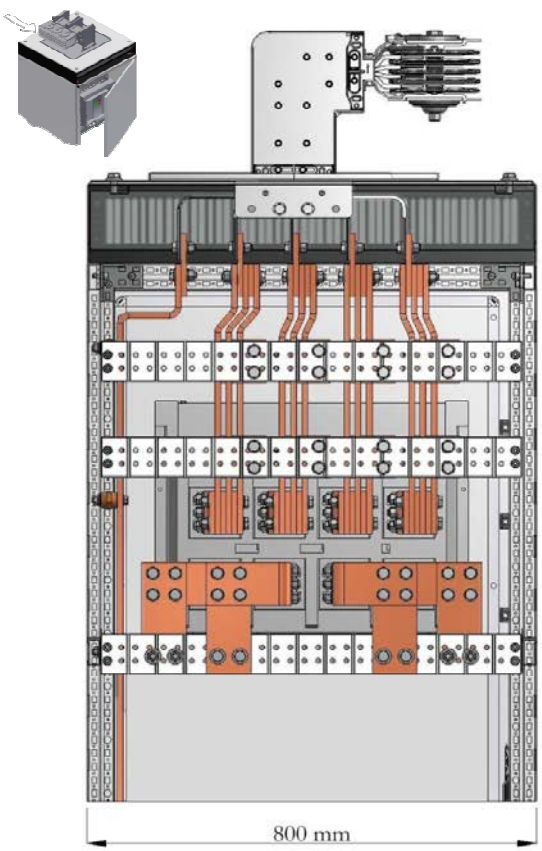
3200 A 4P

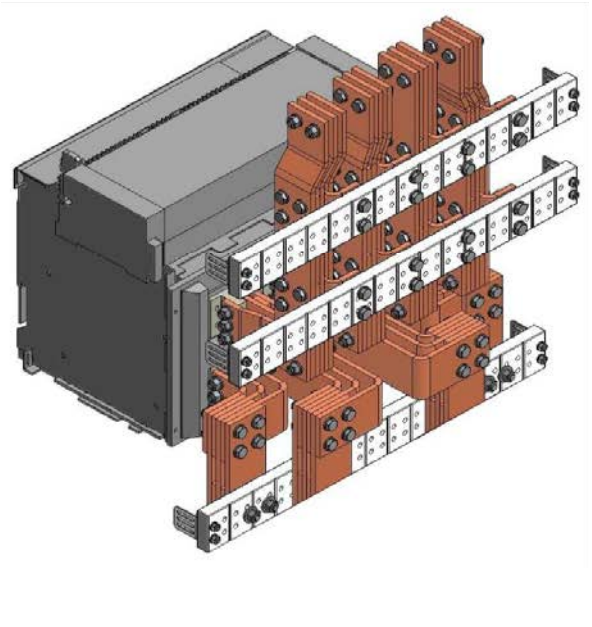


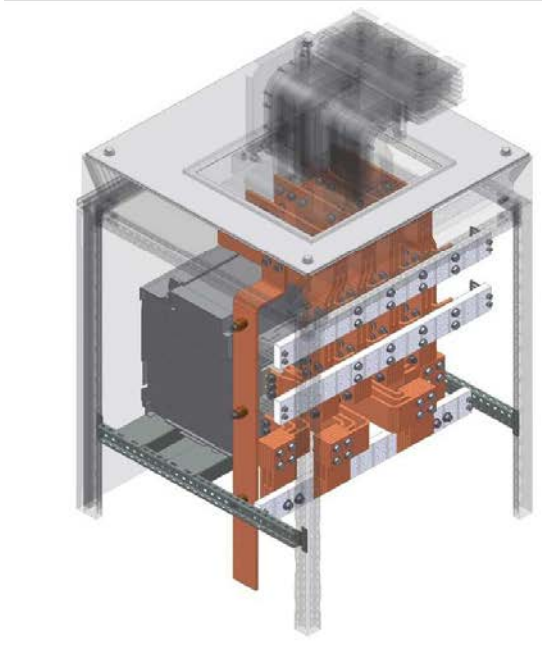
KXA



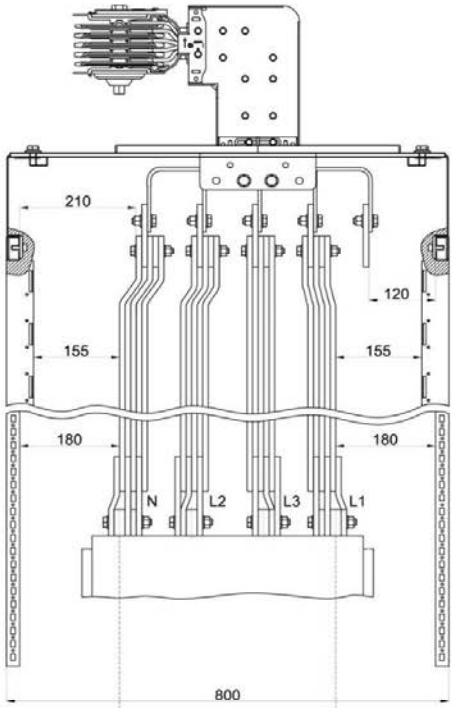


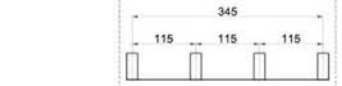






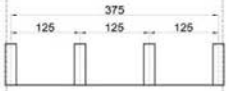
MODEL
009





SCHNEIDER
EASYPACT MVS08 - MVS32
(800 A - 3200 A 65kA)
MASTERPACT NW08 - NW32
(800 A - 3200 A 42kA - 50kA)

EATON IZMX40 (800 A - 3200 A / 66kA
85kA - 105kA)



CHINT NA1
NA1 - 3200 (2000 A - 3200 A)

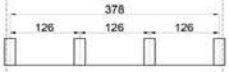
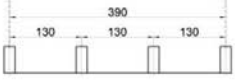


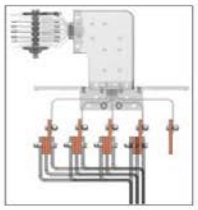
ABB EMAX 2
E4.2 (3200 A - 4000 A
66kA - 85kA - 100kA)
E4.2 (2000 A - 4000 A / 150kA)

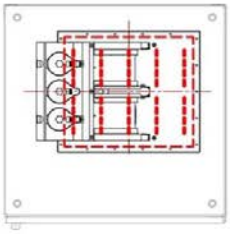


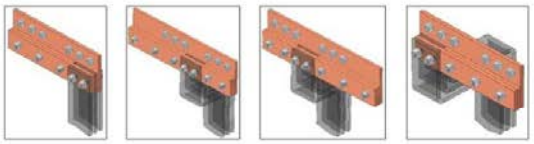
LEGRAND DMX³
SIZE 2 (3200 A - 4000 A
55kA - 65kA - 100kA)

GE ENTELLIGUARD
Envelope 2 (400 A - 3200 A
65kA - 85kA)

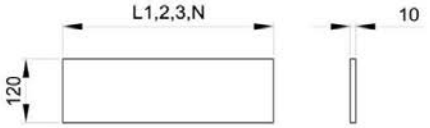
SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A
80kA - 100kA)







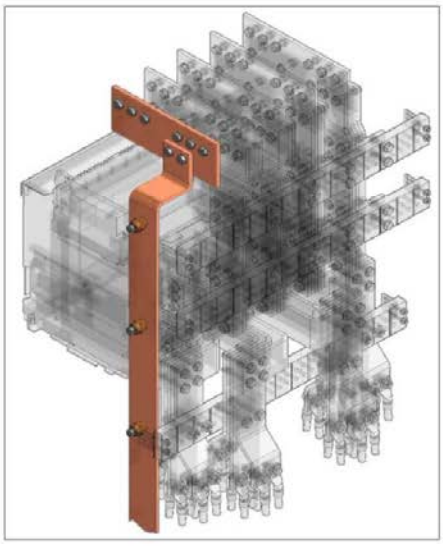
For details, please check busbar
trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
SCHNEIDER	NW / MVS	320	320	320	320
EATON	IZMX				
CHINT	NA1				
ABB	Emax 2 / E4.2				
LEGRAND	KASA 2				
GE	ENVELOPE 2				
SIEMENS	WL				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

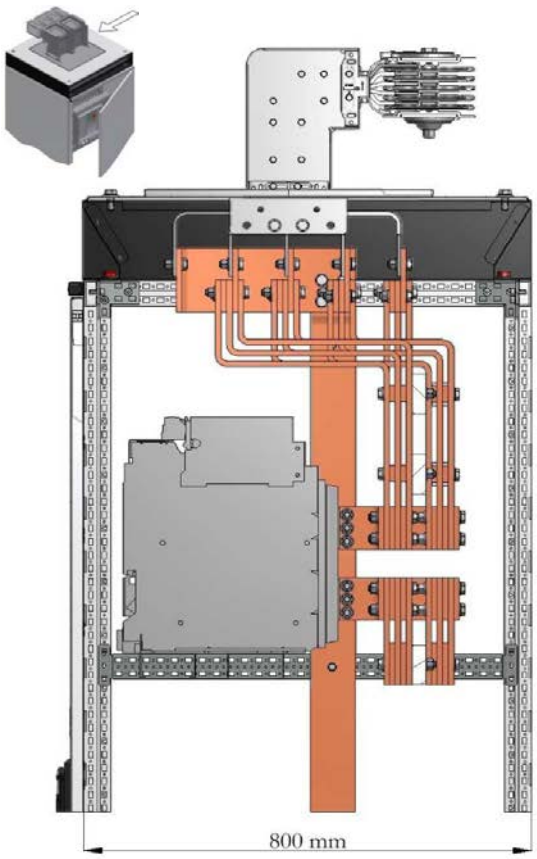
MODEL
010

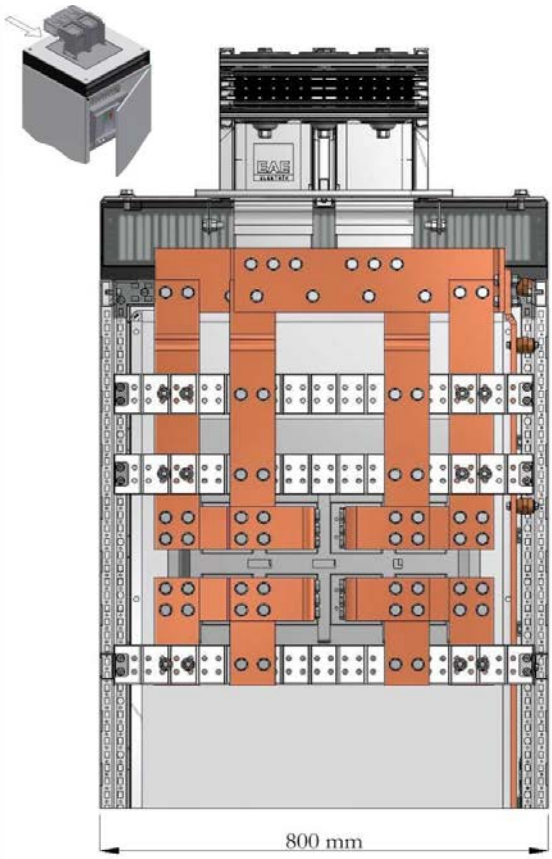
3200 A 4P

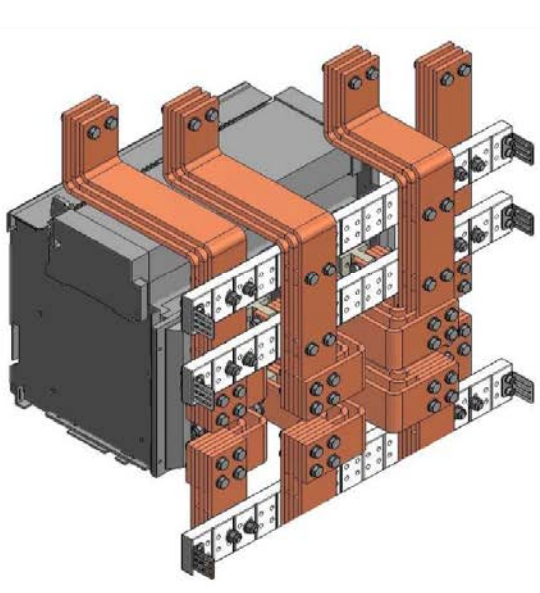


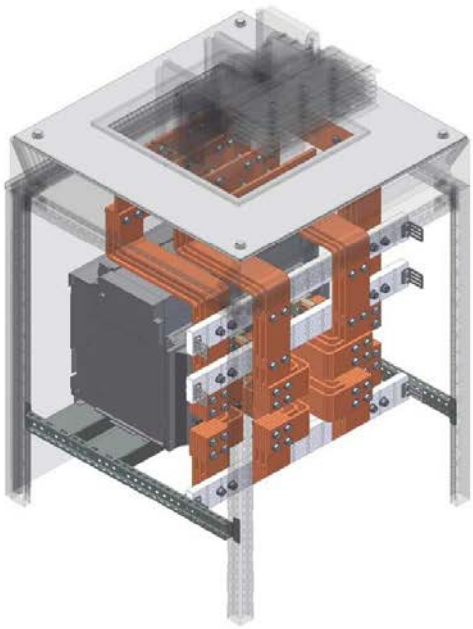
KXA



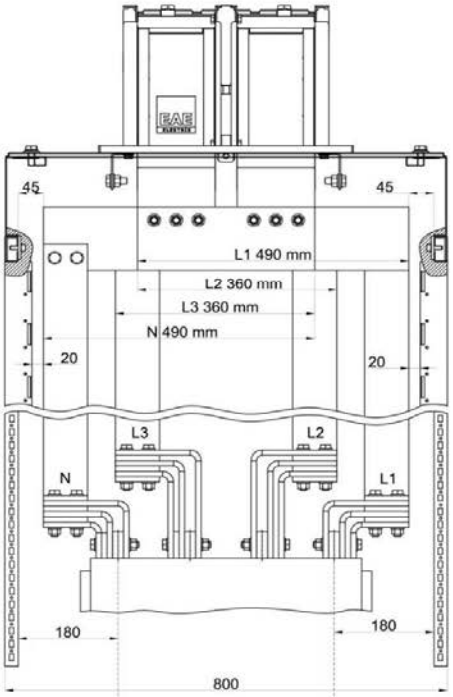








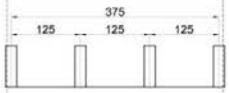
MODEL
010





SCHNEIDER
EASYPACT MVS08 - MVS32
(800 A - 3200 A 65kA)
MASTERPACT NW08 - NW32
(800 A - 3200 A 42kA - 50kA)

EATON IZMX40 (800 A - 3200 A / 66kA
85kA - 105kA)



CHINT NA1
NA1 - 3200 (2000 A - 3200 A)

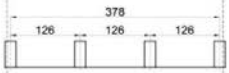
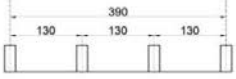


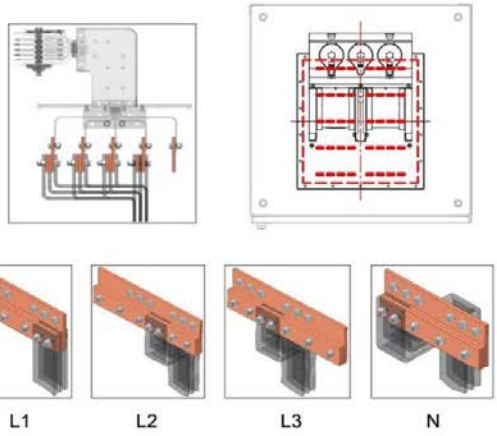
ABB EMAX 2
E4.2 (3200 A - 4000 A
66kA - 85kA - 100kA)
E4.2 (2000 A - 4000 A / 150kA)



LEGRAND DMX³
SIZE 2 (3200 A - 4000 A
55kA - 65kA - 100kA

GE ENTELLIGUARD
Envelope 2 (400 A - 3200 A
65kA - 85kA)

SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A / 80kA - 100kA)



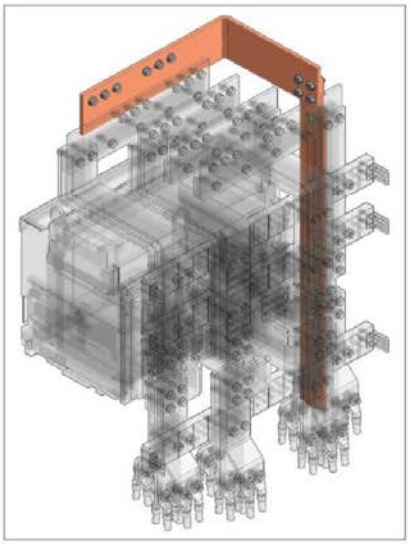
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
SALTER	KOD.	L1	L2	L3	N
SCHNEIDER	NW / MVS	490	360	360	490
EATON	IZMX				
CHINT	NA1				
ABB	Emax 2 / E4.2				
LEGRAND	KASA 2				
GE	ENVELOPE 2				
SIEMENS	WL				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

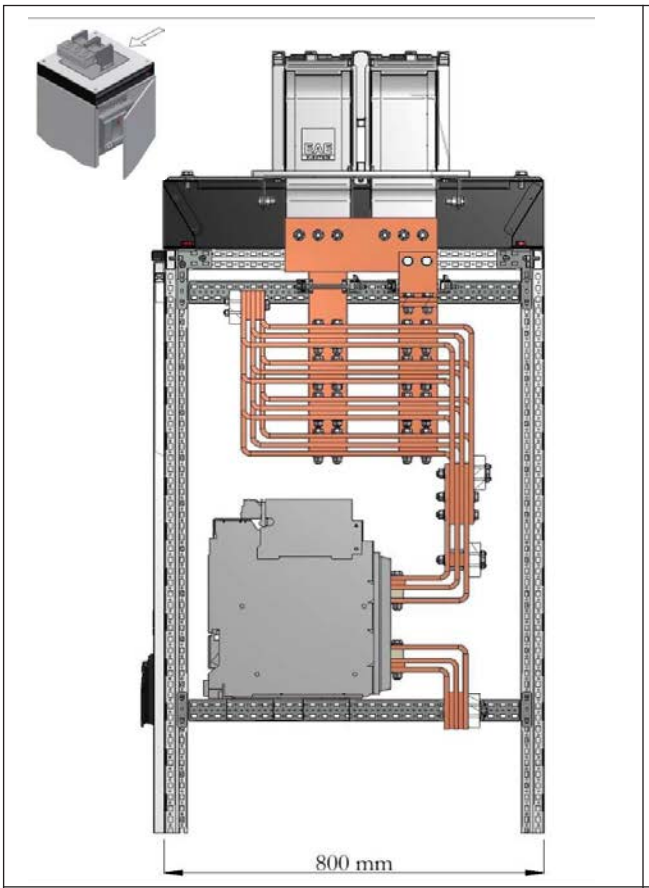
MODEL
011

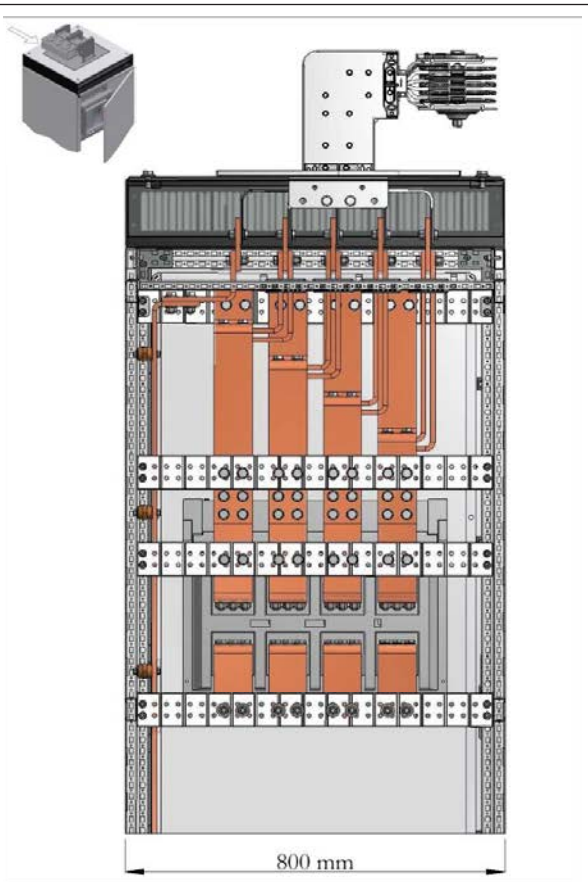
3200 A 4P

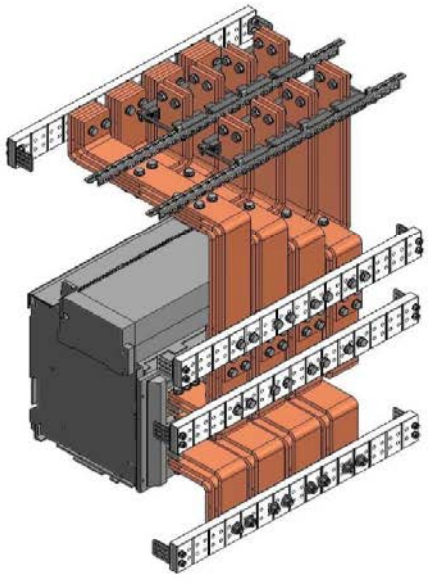


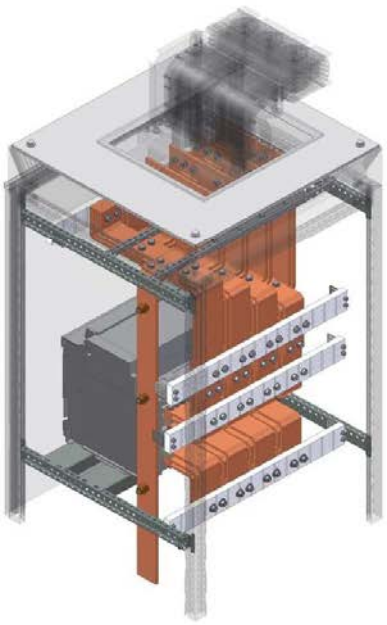
KXA





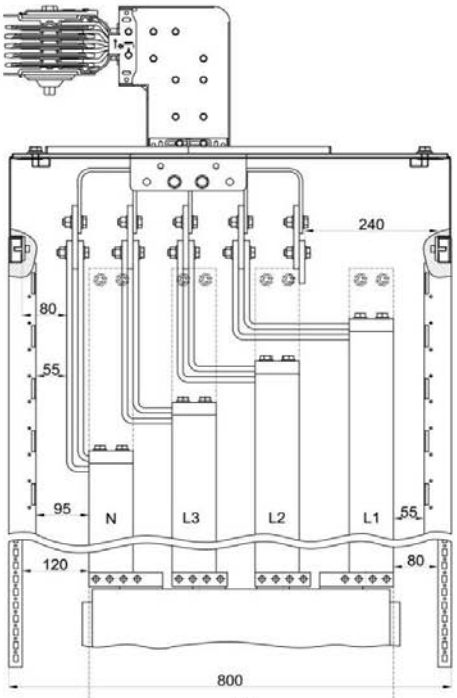


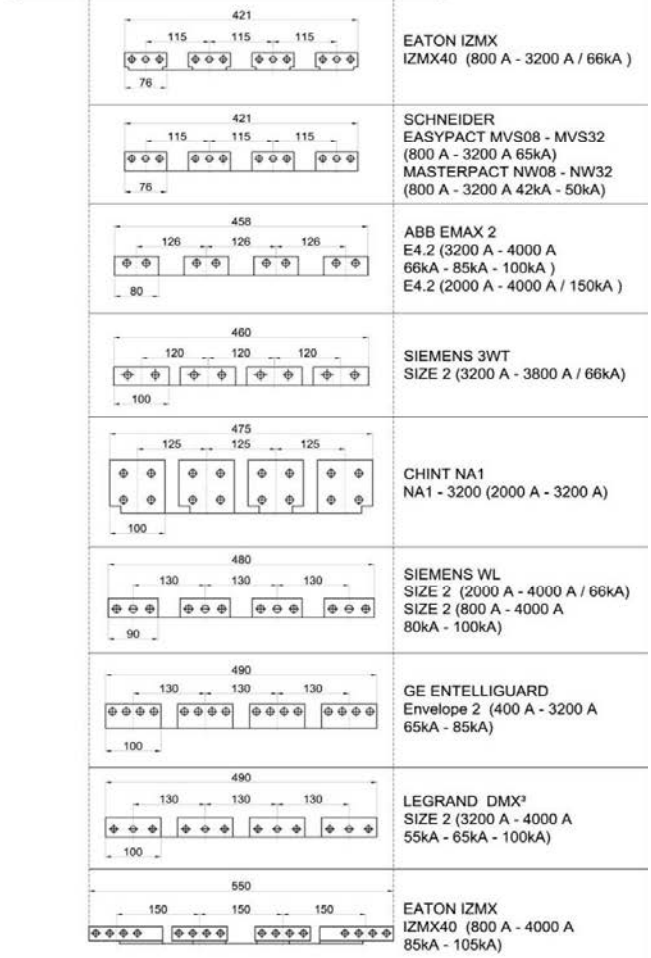


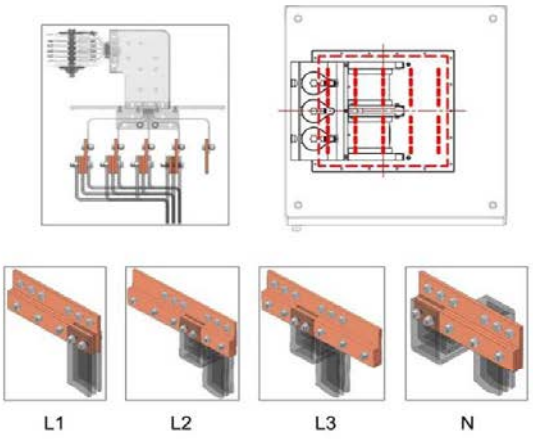


PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

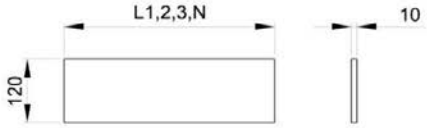
MODEL
011







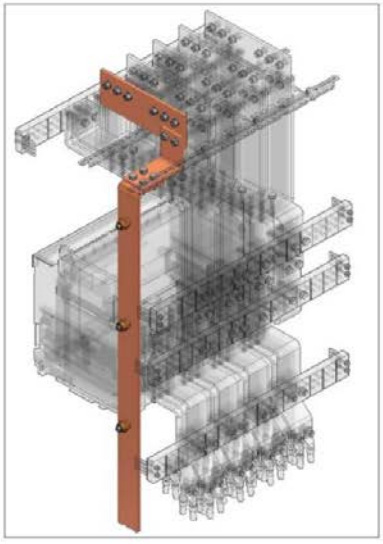
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
EATON	IZMX40 / 66kA	320	320	320	320
SCHNEIDER	NW / MVS				
ABB	Emax 2 / E4.2				
SIEMENS	3WT				
CHINT	NA1				
SIEMENS	WL				
GE	ENVELOPE 2				
LEGRAND	KASA 2				
EATON	IZMX40 / 85kA - 105kA				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

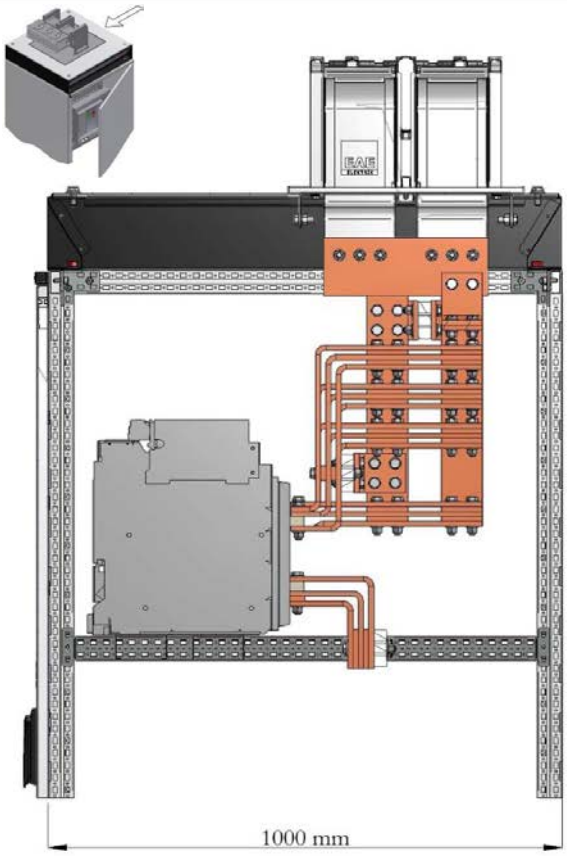
MODEL
012

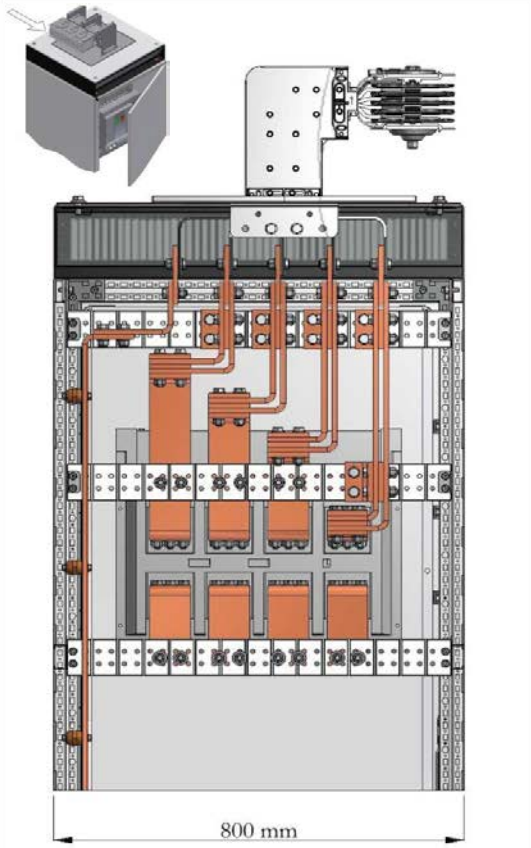
3200 A 4P

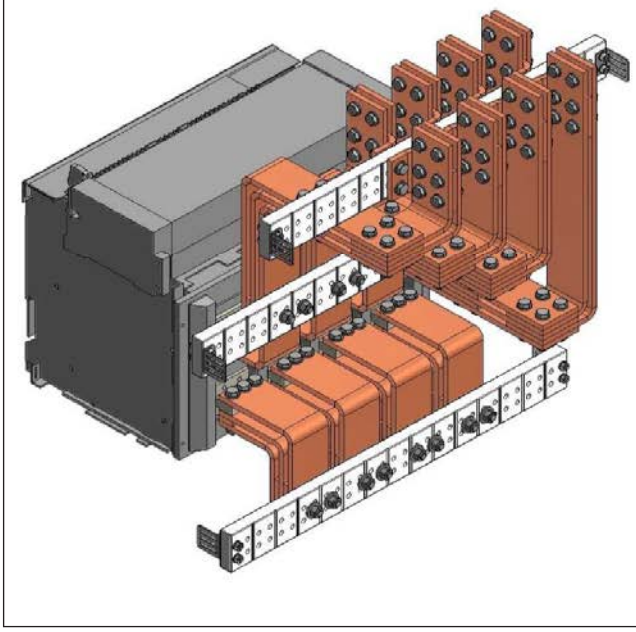


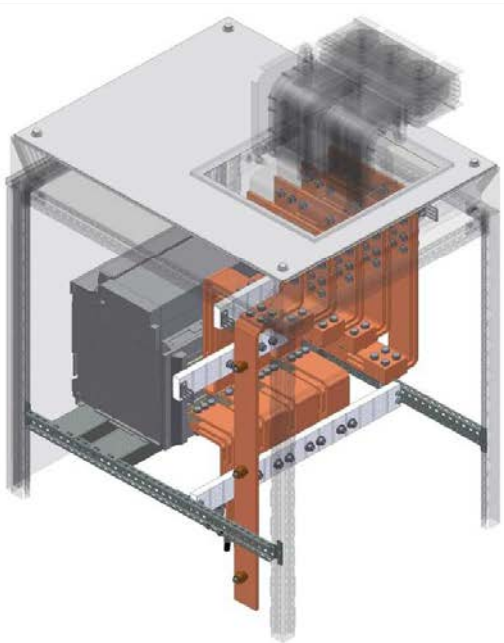
KXA



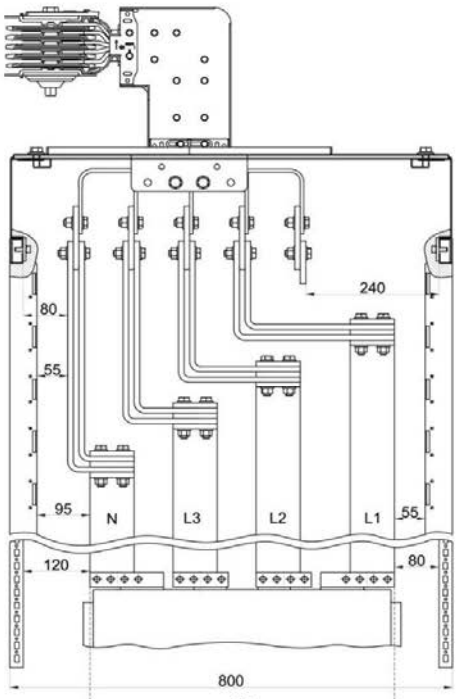


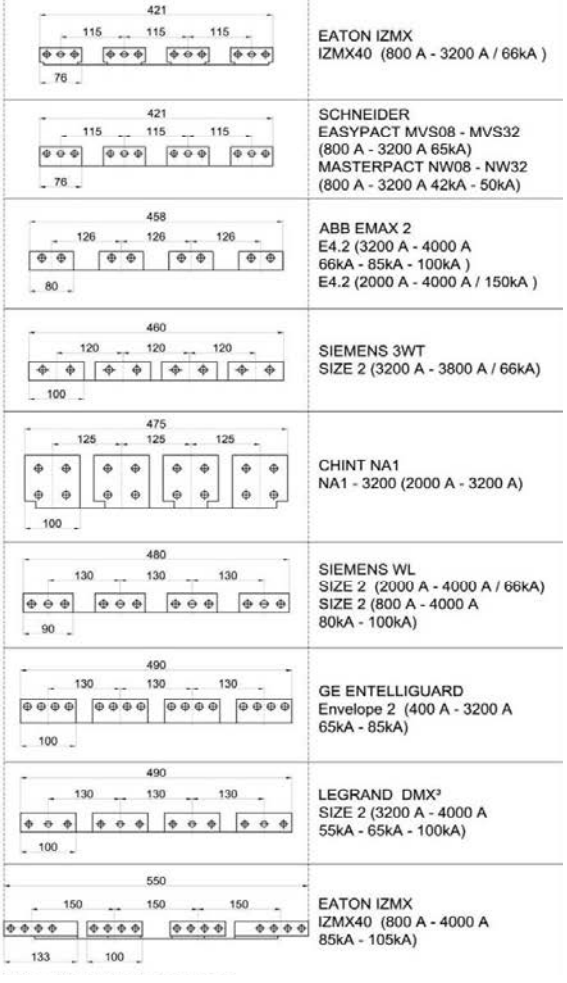


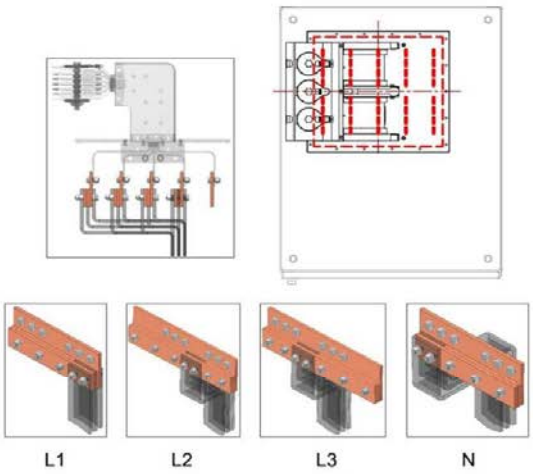




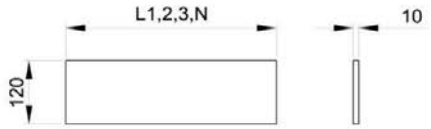
MODEL
012







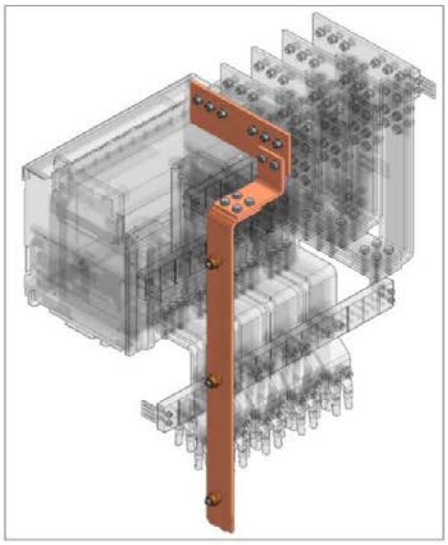
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
SALTER	KOD.	L1	L2	L3	N
EATON	IZMX40 / 66kA	320	320	320	320
SCHNEIDER	NW / MVS				
ABB	Emax 2 / E4.2				
SIEMENS	3WT				
CHINT	NA1				
SIEMENS	WL				
GE	ENVELOPE 2				
LEGRAND	KASA 2				
EATON	IZMX40 / 85kA - 105kA				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

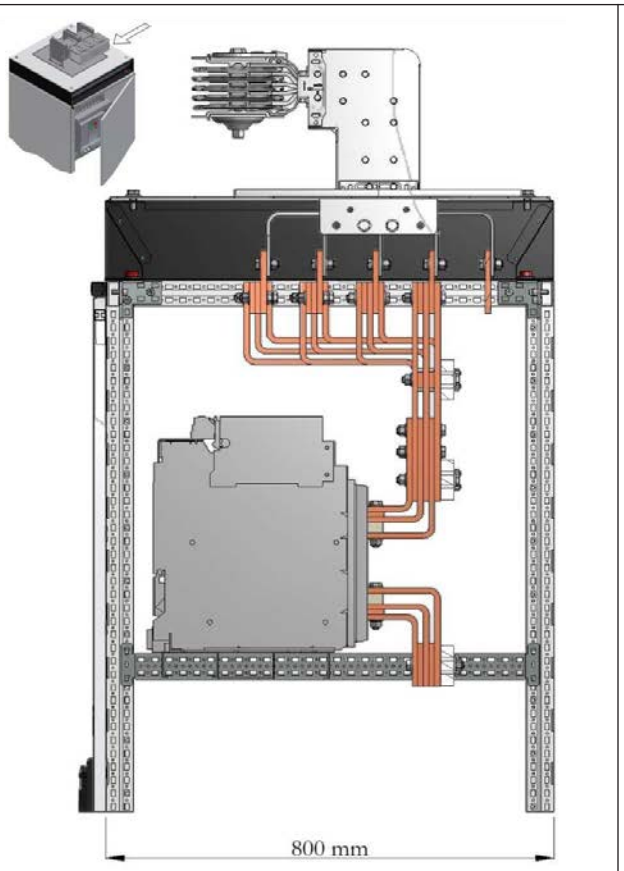
MODEL
013

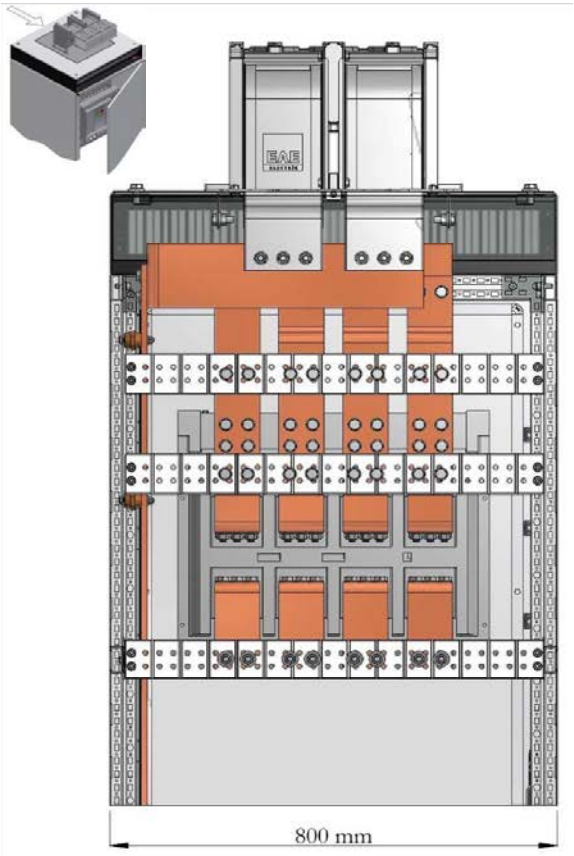
3200 A 4P

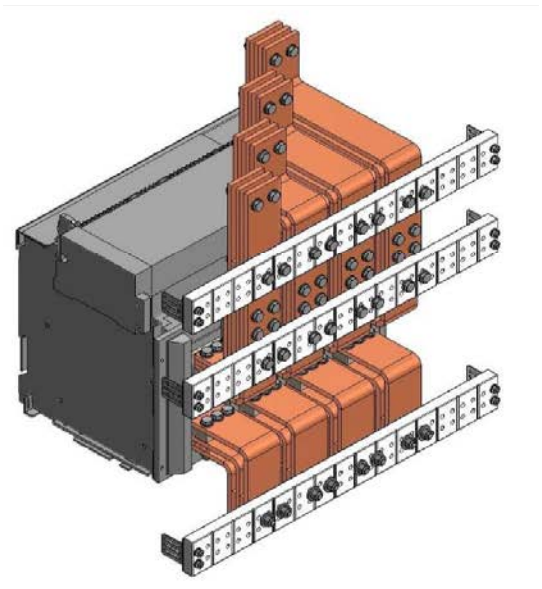


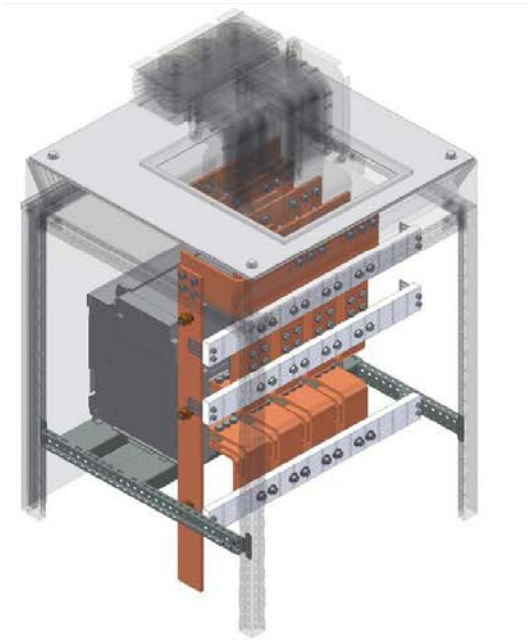
KXA



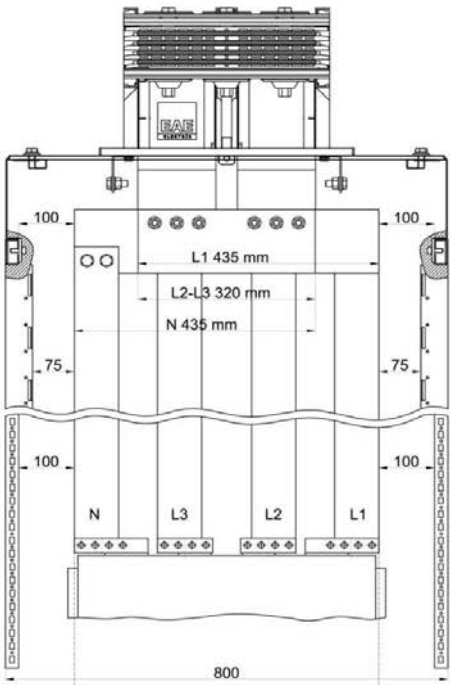


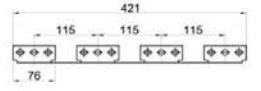




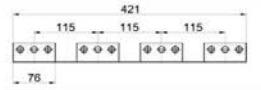


MODEL
013





EATON IZMX
IZMX40 (800 A - 3200 A / 66kA)



SCHNEIDER
EASYPACT MVS08 - MVS32
(800 A - 3200 A 65kA)
MASTERPACT NW08 - NW32
(800 A - 3200 A 42kA - 50kA)

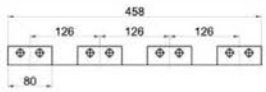
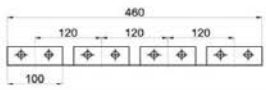
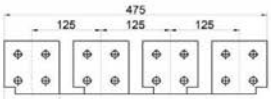


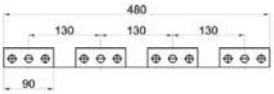
ABB EMAX 2
E4.2 (3200 A - 4000 A
66kA - 85kA - 100kA)
E4.2 (2000 A - 4000 A / 150kA)



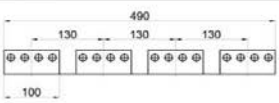
SIEMENS 3WT
SIZE 2 (3200 A - 3800 A / 66kA)



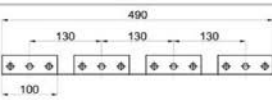
CHINT NA1
NA1 - 3200 (2000 A - 3200 A)



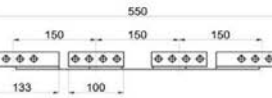
SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A
80kA - 100kA)



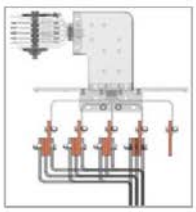
GE ENTELLIGUARD
Envelope 2 (400 A - 3200 A
65kA - 85kA)

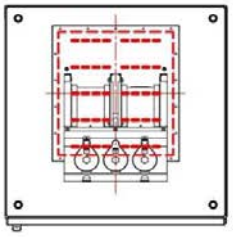


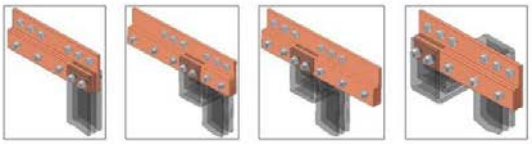
LEGRAND DMX³
SIZE 2 (3200 A - 4000 A
55kA - 65kA - 100kA)



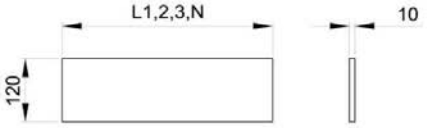
EATON IZMX
IZMX40 (800 A - 4000 A
85kA - 105kA)







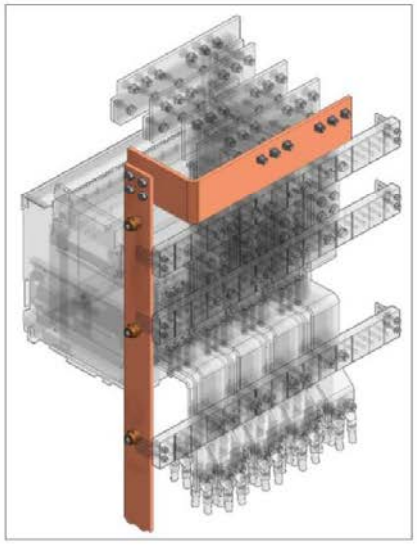
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
EATON	IZMX40 / 66kA	370	320	320	370
SCHNEIDER	NW / MVS				
ABB	Emax 2 / E4.2	390	320	320	390
SIEMENS	3WT				
CHINT	NA1	405	320	320	405
SIEMENS	WL				
GE	ENVELOPE 2				
LEGRAND	SIZE 2				
EATON	IZMX40 / 85kA - 105kA	435	320	320	435

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

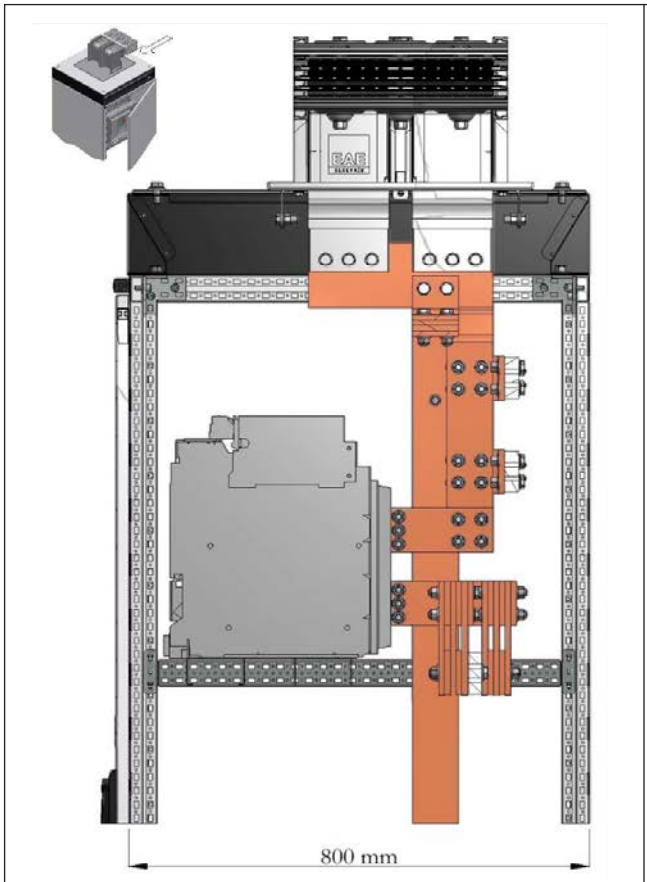
MODEL
014

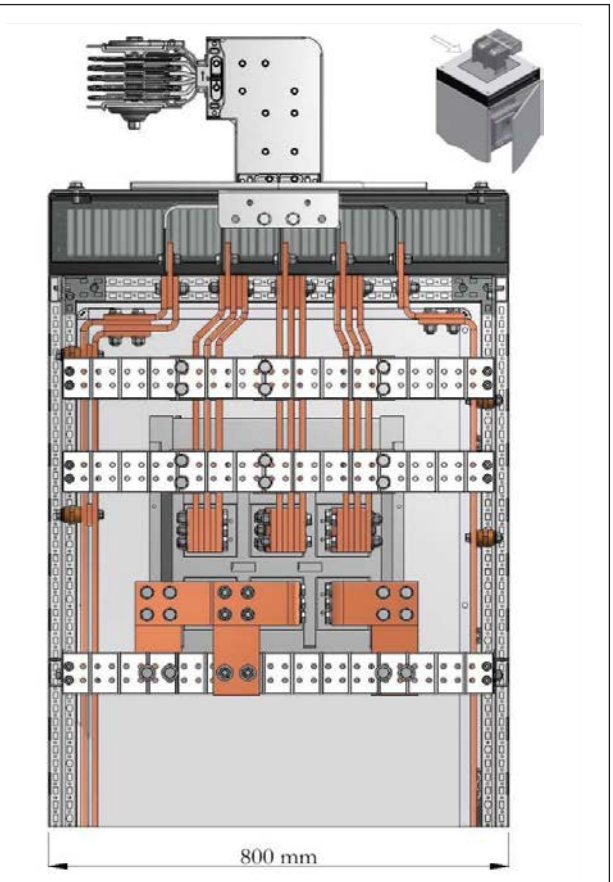
3200 A 4P

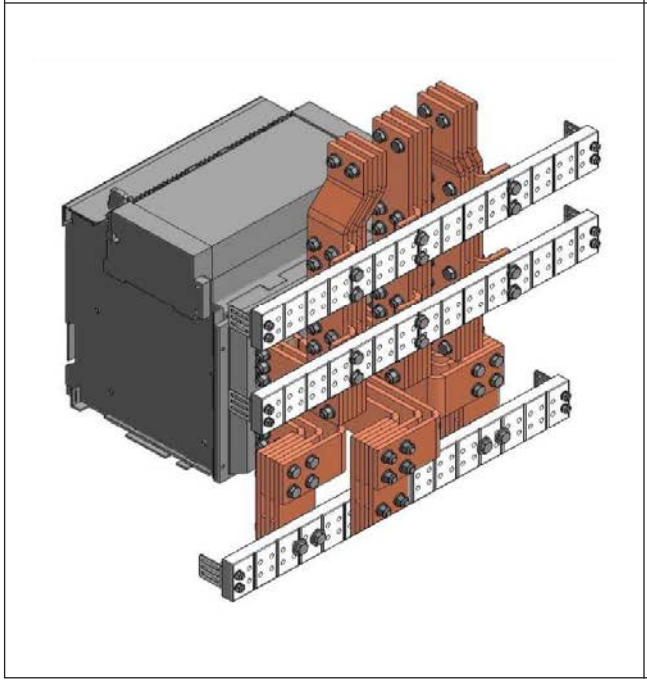


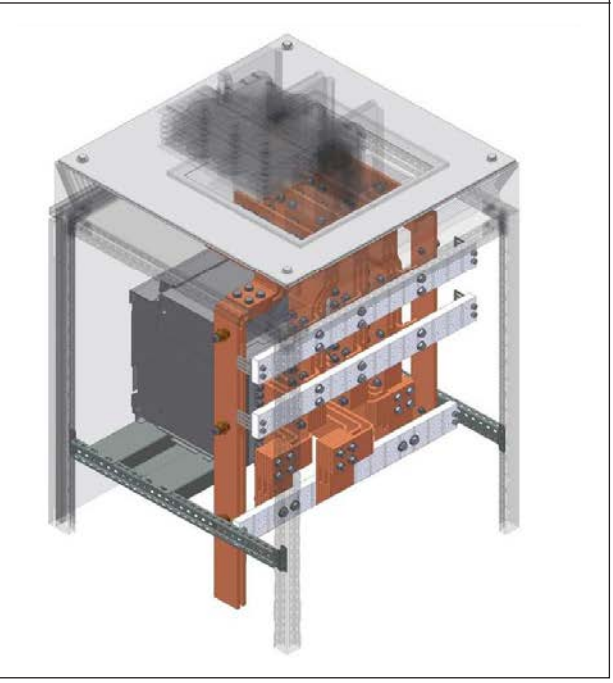
KXA



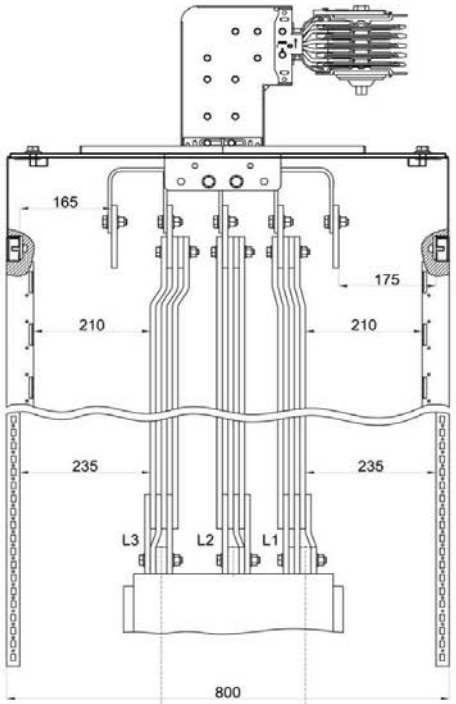


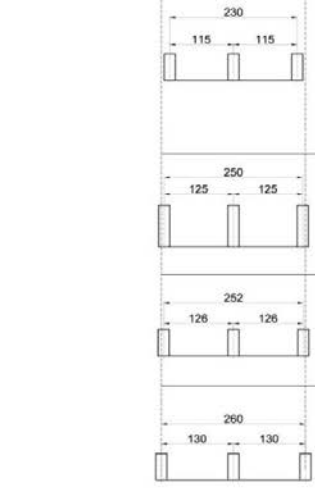






MODEL
014





SCHNEIDER
EASYPACT MVS08 - MVS32
(800 A - 3200 A 65kA)
MASTERPACT NW08 - NW32
(800 A - 3200 A 42kA - 50kA)

EATON IZMX40 (800 A - 3200 A / 66kA
85kA - 105kA)

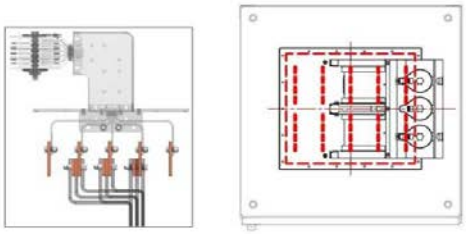
CHINT NA1
NA1 - 3200 (2000 A - 3200 A)

ABB EMAX 2
E4.2 (3200 A - 4000 A / 66kA - 85kA
100kA) E4.2 (2000 A - 4000 A 150kA)

LEGRAND DMX³
SIZE 2 (3200 A - 4000 A
55kA - 65kA - 100kA)

GE ENTELLIGUARD
Envelope 2 (400 A - 3200 A
65kA - 85kA)

SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A / 80kA - 100kA)





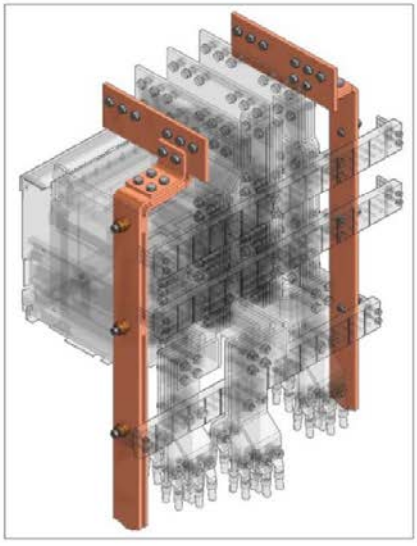
For details, please check busbar
trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
SCHNEIDER	NW / MVS	320	320	320
EATON	IZMX			
CHINT	NA1			
ABB	Emax 2 / E4.2			
LEGRAND	KASA 2			
GE	ENVELOPE 2			
SIEMENS	WL			

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

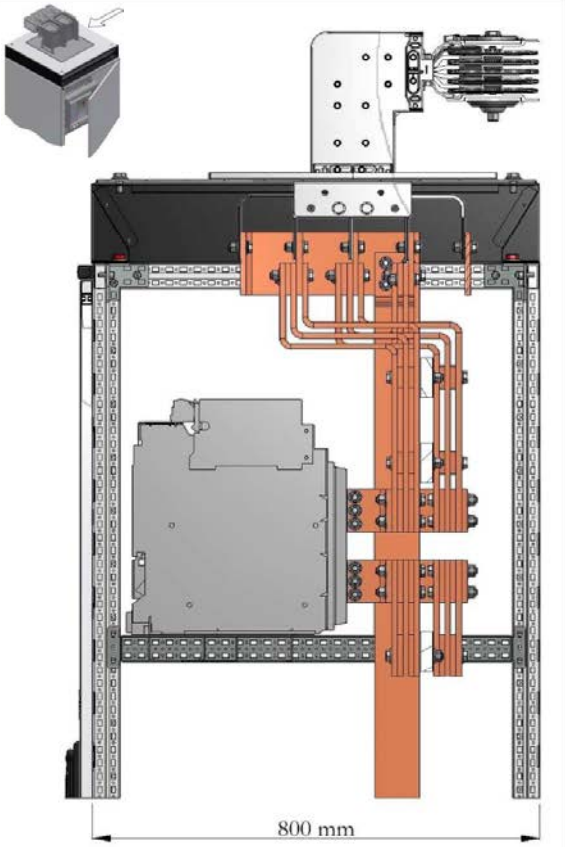
MODEL
015

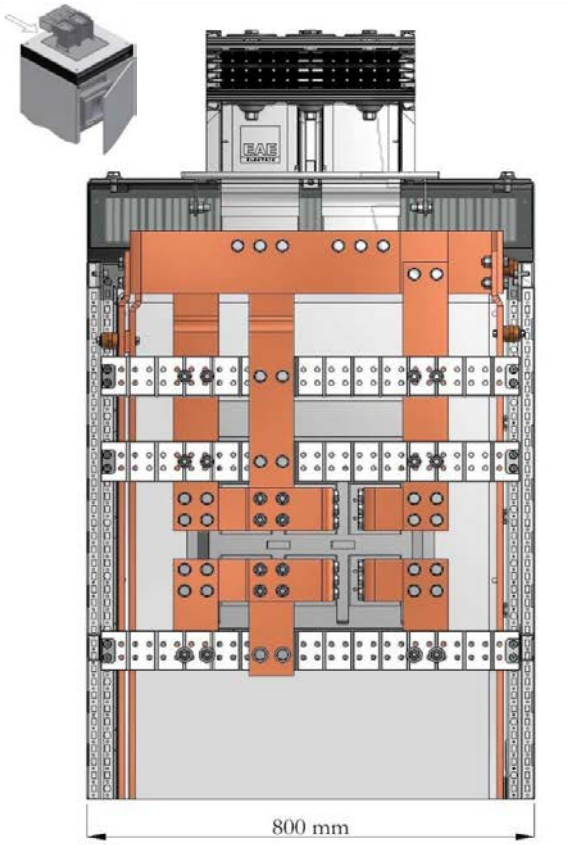
3200 A 3P

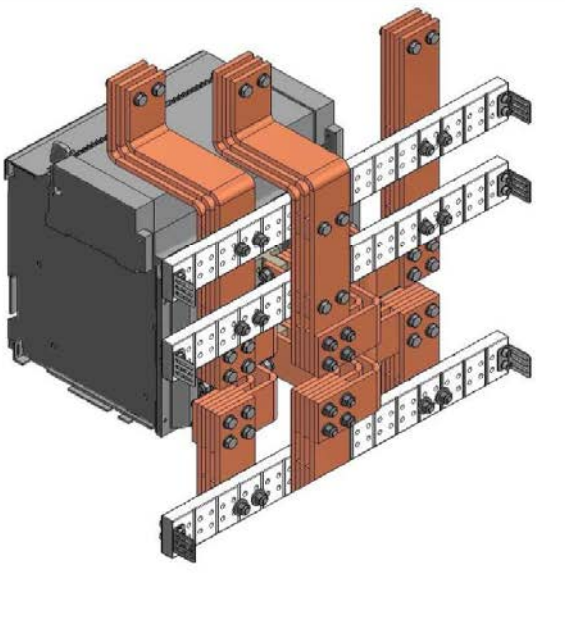


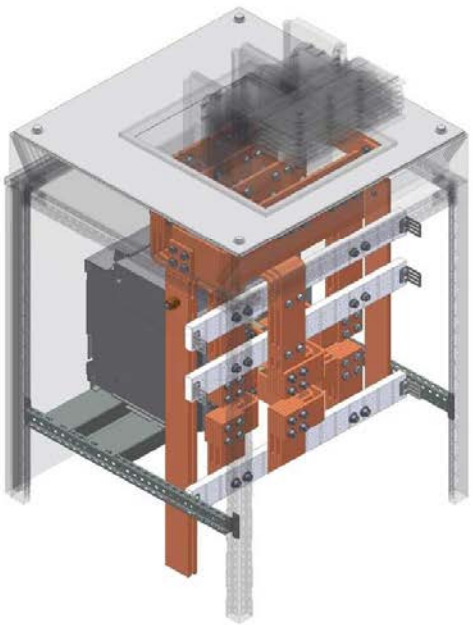
KXA





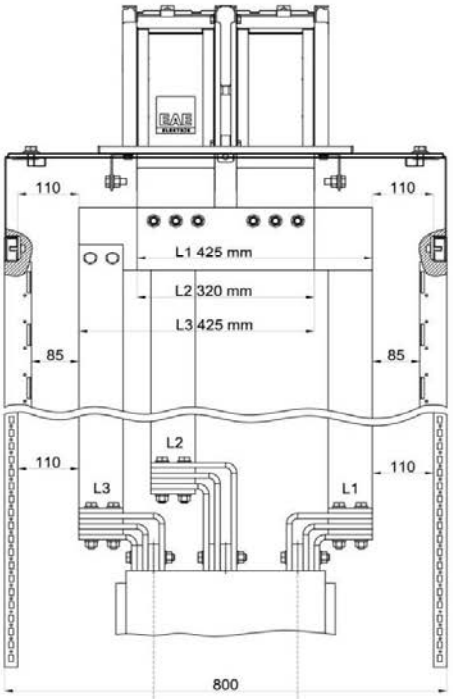


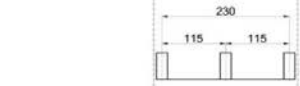




PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

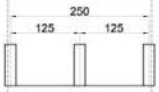
MODEL
015





SCHNEIDER
EASYPACT MVS08 - MVS32
(800 A - 3200 A 65kA)
MASTERPACT NW08 - NW32
(800 A - 3200 A 42kA - 50kA)

EATON IZMX40 (800 A - 3200 A / 66kA
85kA - 105kA)



CHINT NA1
NA1 - 3200 (2000 A - 3200 A)

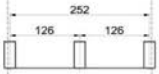
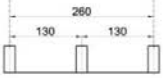


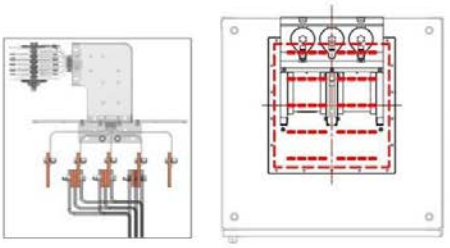
ABB EMAX 2
E4.2 (3200 A - 4000 A
66kA - 85kA - 100kA)
E4.2 (2000 A - 4000 A / 150kA)



LEGRAND DMX³
SIZE 2 (3200 A - 4000 A
55kA - 65kA - 100kA

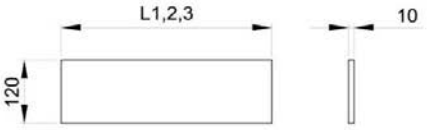
GE ENTELLIGUARD
Envelope 2 (400 A - 3200 A
65kA - 85kA)

SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A / 80kA - 100kA)





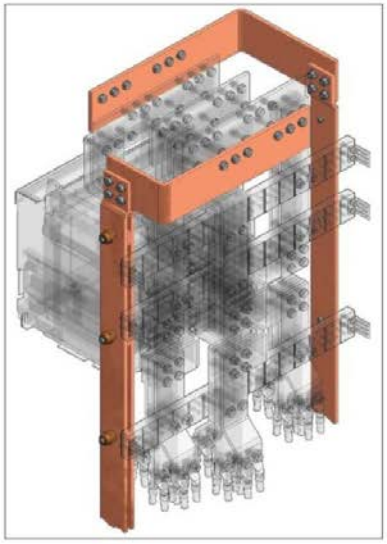
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
SCHNEIDER	NW / MVS	410	320	410
EATON	IZMX			
CHINT	NA1	425	320	425
ABB	Emax 2 / E4.2			
LEGRAND	SIZE 2			
GE	ENVELOPE 2			
SIEMENS	WL			

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

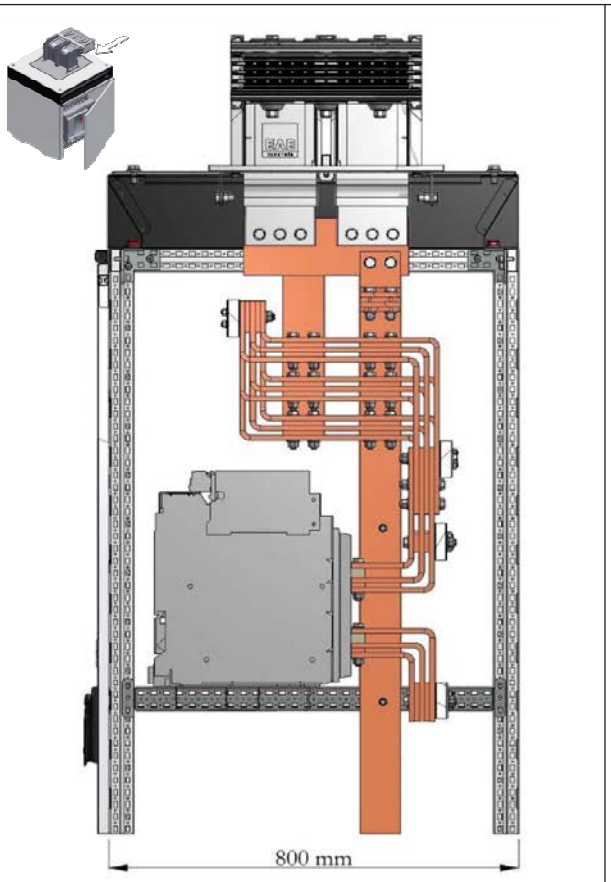
MODEL
016

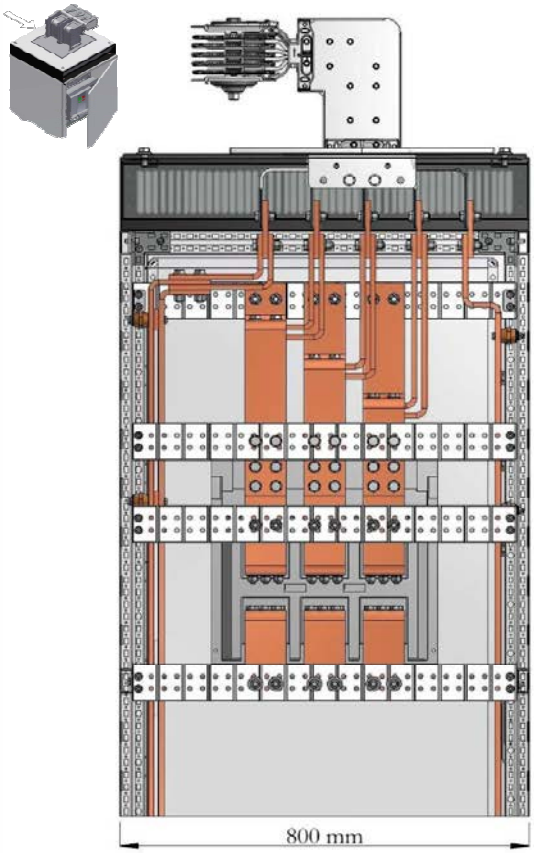
3200 A 3P

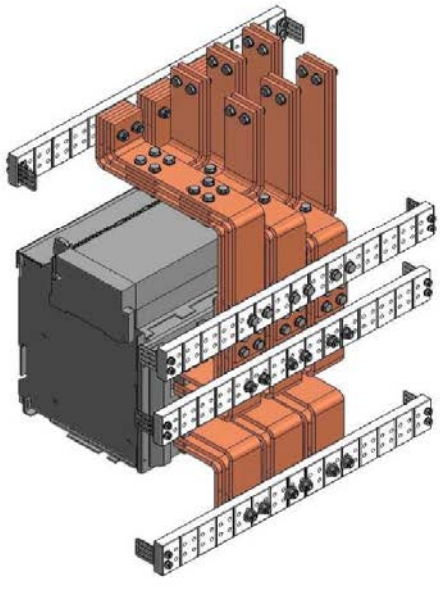


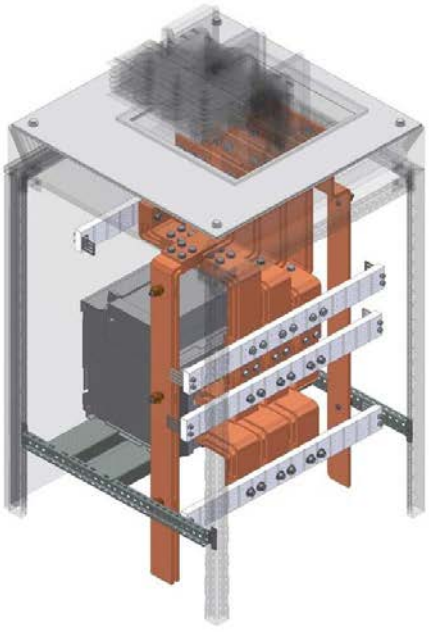
KXA



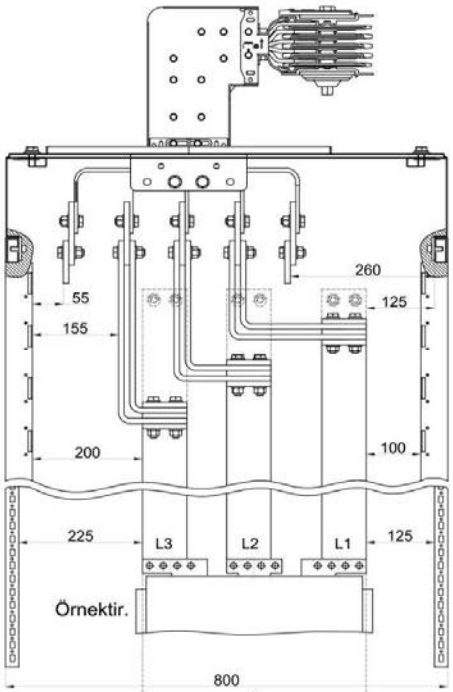


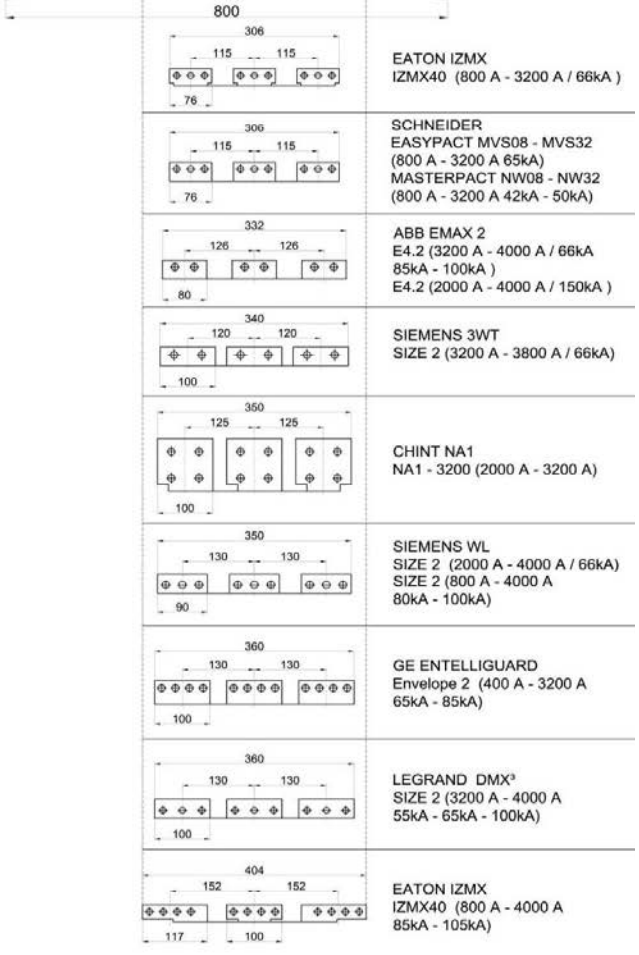


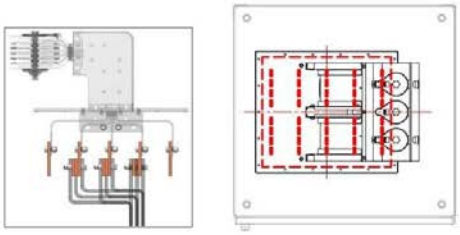


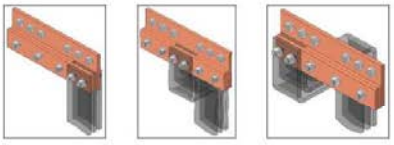


MODEL
016

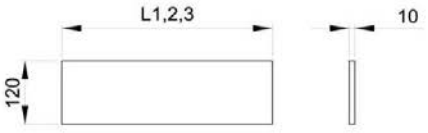








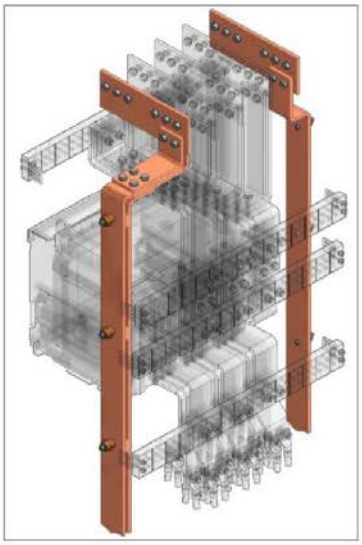
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
EATON	IZMX40 / 66kA	320	320	320
SCHNEIDER	NW / MVS			
ABB	Emax 2 / E4.2			
SIEMENS	3WT			
CHINT	NA1			
SIEMENS	WL			
GE	ENVELOPE 2			
LEGRAND	KASA 2			
EATON	IZMX40 / 85kA - 105kA			

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

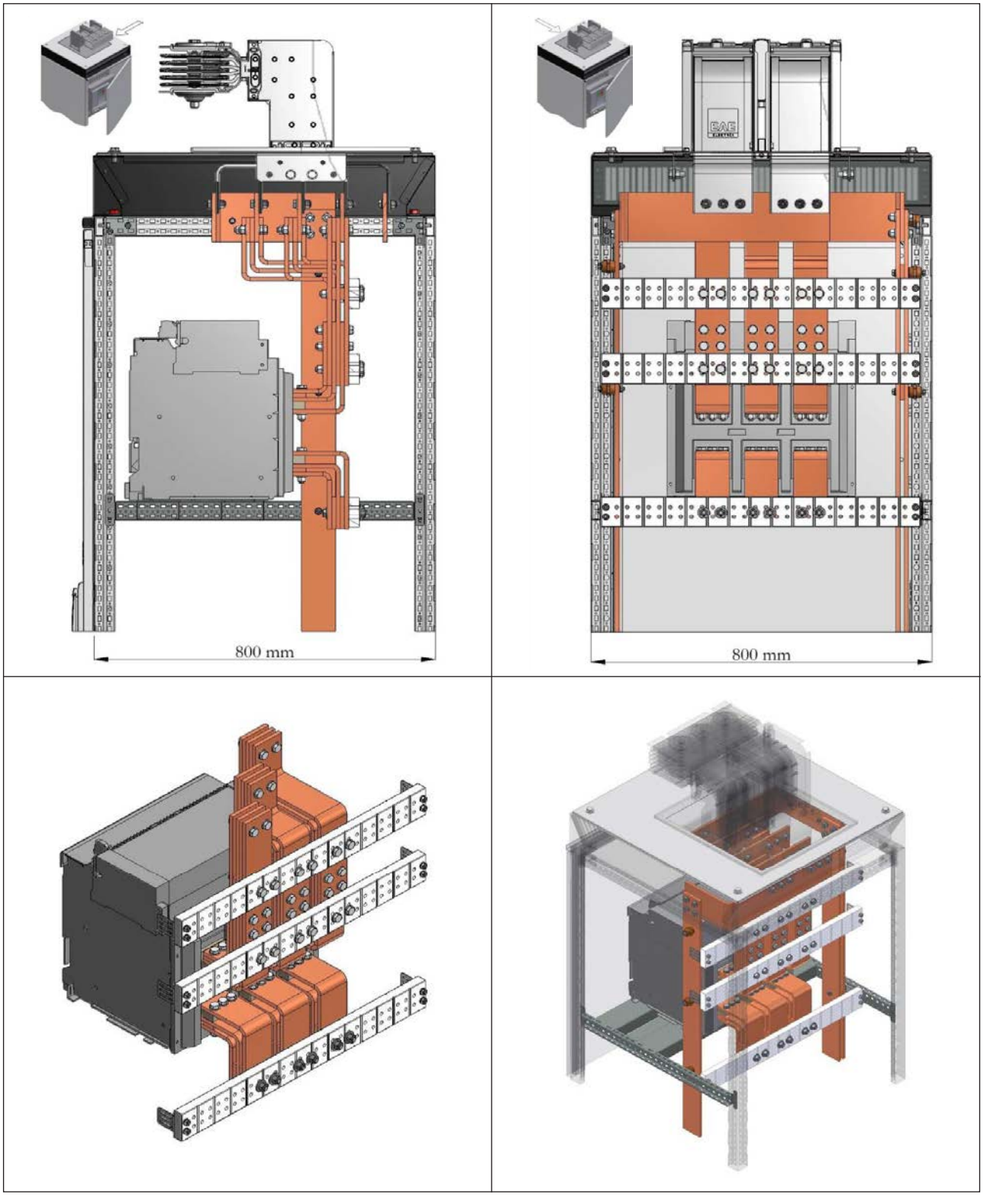
MODEL
017

3200 A 3P

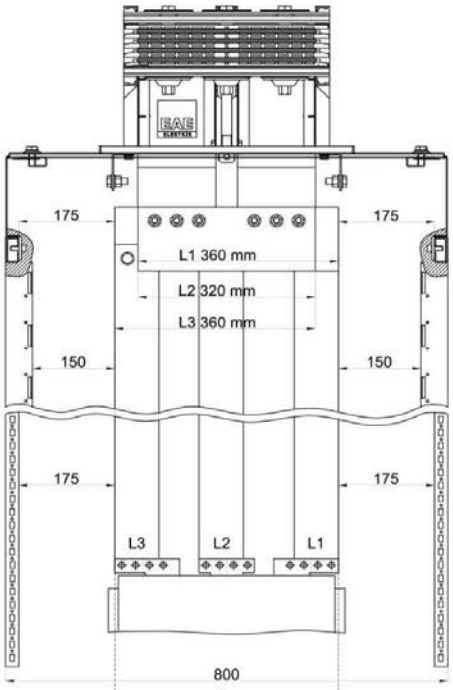


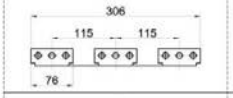
KXA



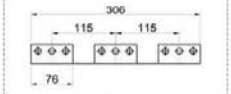


MODEL
017





EATON IZMX
IZMX40 (800 A - 3200 A / 66kA)



SCHNEIDER
EASYPACT MVS08 - MVS32
(800 A - 3200 A 65kA)
MASTERPACT NW08 - NW32
(800 A - 3200 A 42kA - 50kA)

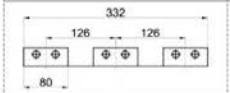
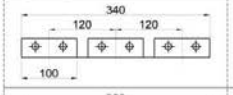
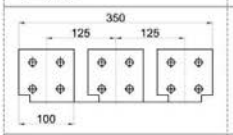


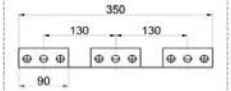
ABB EMAX 2
E4.2 (3200 A - 4000 A
66kA - 85kA - 100kA)
E4.2 (2000 A - 4000 A / 150kA)



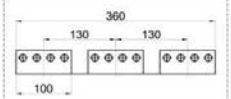
SIEMENS 3WT
SIZE 2 (3200 A - 3800 A / 66kA)



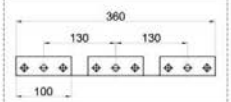
CHINT NA1
NA1 - 3200
(2000 A - 3200 A)



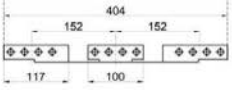
SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A / 80kA -100kA)



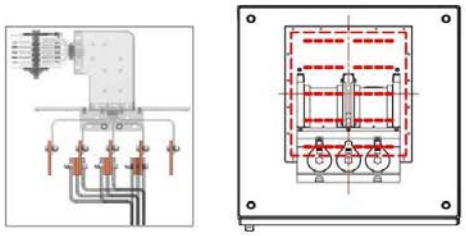
GE ENTELLIGUARD
Envelope 2 (400 A - 3200 A
65kA - 85kA)



LEGRAND DMX³
SIZE 2 (3200 A - 4000 A
55kA - 65kA - 100kA)

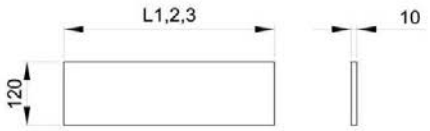


EATON IZMX
IZMX40 (800 A - 4000 A
85kA - 105kA)





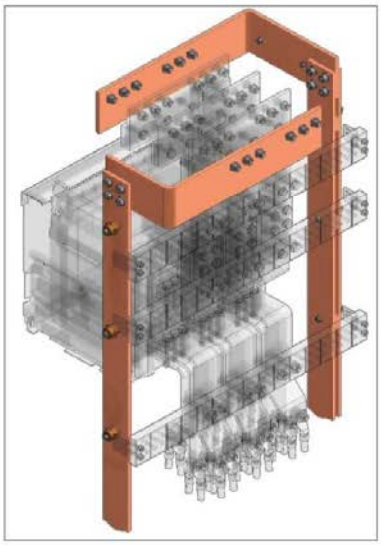
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
SALTER	KOD.	L1	L2	L3
EATON	IZMX40 / 66kA	325	320	325
SCHNEIDER	NW / MVS			
ABB	Emax 2 / E4.2			
SIEMENS	3WT	335	320	335
CHINT	NA1			
SIEMENS	WL			
GE	ENVELOPE 2	340	320	340
LEGRAND	SIZE 2			
EATON	IZMX40 / 85kA - 105kA	360	320	360

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

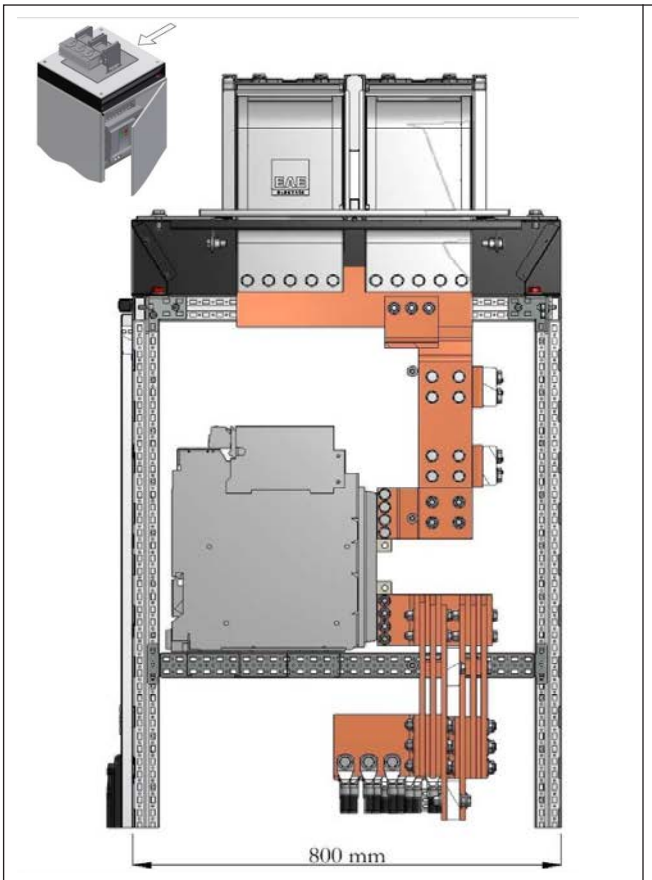
MODEL
018

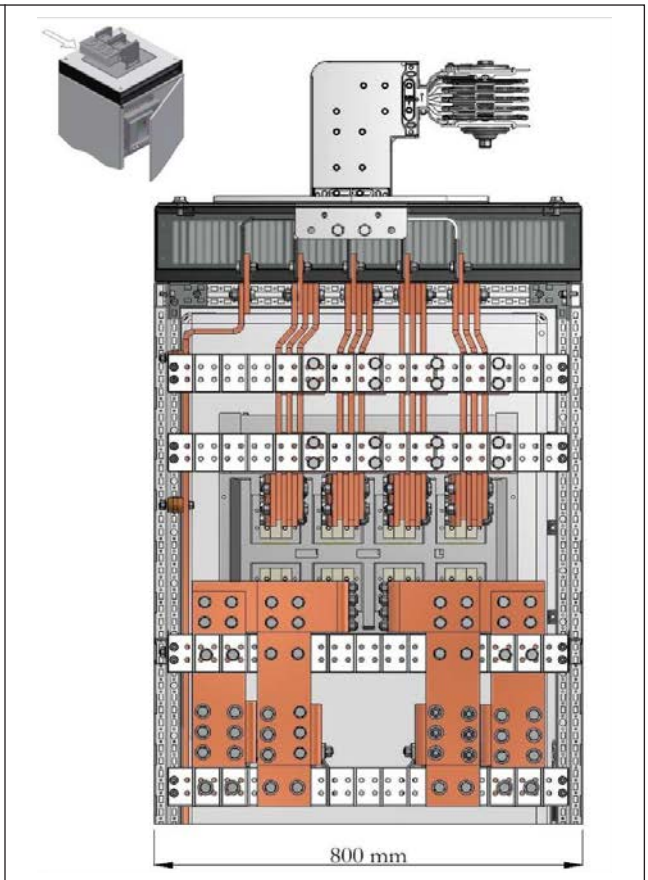
4000 A 4P

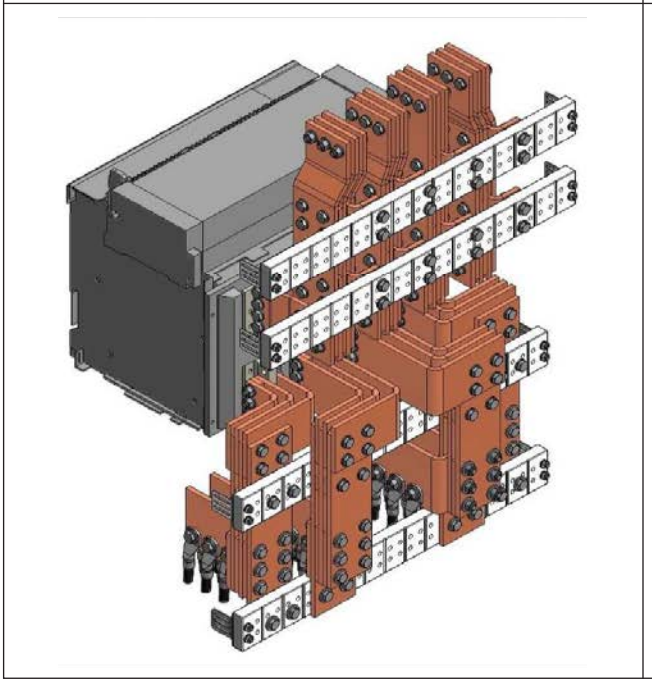


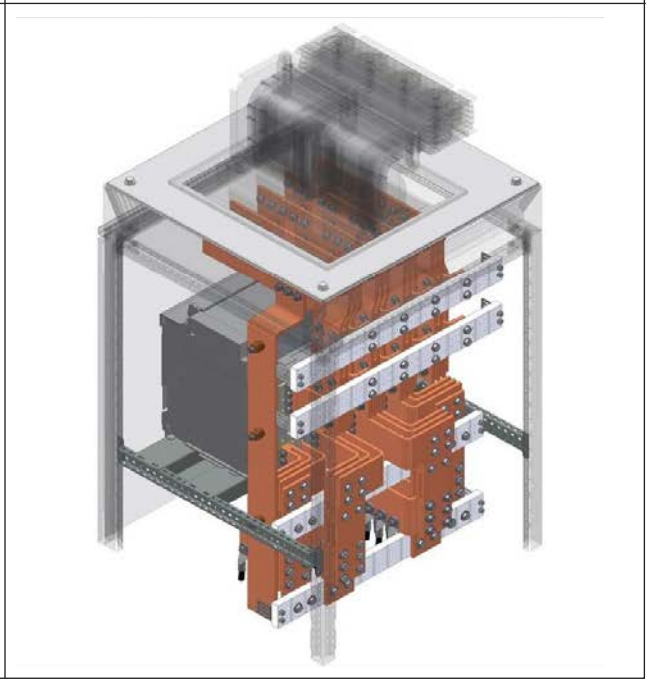
KXA



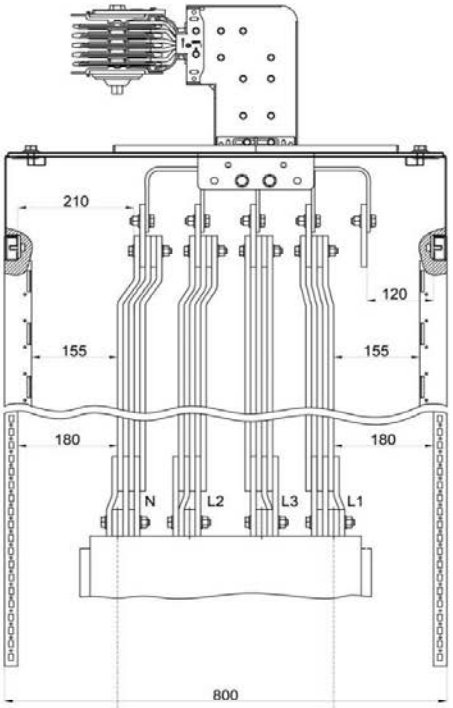


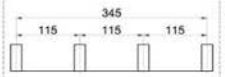






MODEL
018





SCHNEIDER
EASYPACT MVS40 (4000 A / 65kA)
MASTERPACT NW40
(4000 A / 65kA - 100kA)

EATON IZMX
IZMX40 (800 A - 4000 A / 85kA - 105kA)

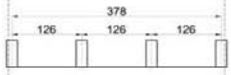
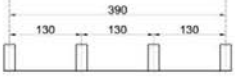


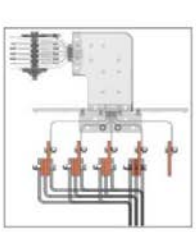
ABB EMAX 2
E4.2 (3200 A - 4000 A
66kA - 85kA - 100kA)
E4.2 (2000 A - 4000 A / 150kA)

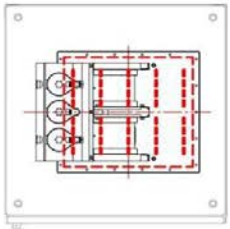


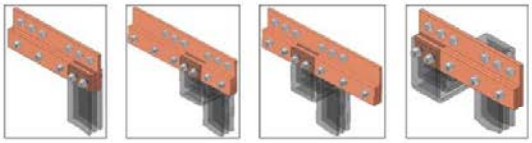
LEGRAND DMX³
SIZE 2 (3200 A - 4000 A
55kA - 65kA - 100kA)

GE ENTELLIGUARD
Envelope 2 (4000 A
65kA - 85kA şalterler)

SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A / 80kA - 100kA)







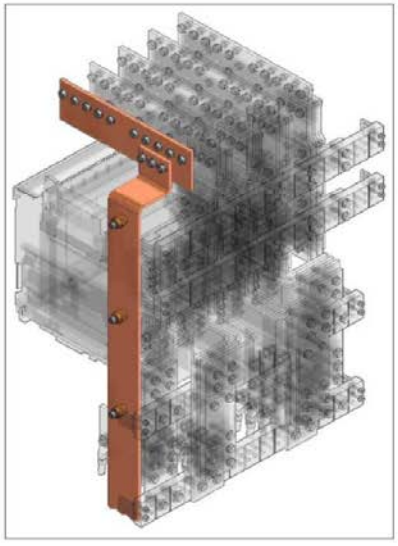
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
ABB	Emax 2 / E4.2 / E1.2	440	440	440	440
SIEMENS	WL				
GE	ENVELOPE 2				
LEGRAND	SIZE 2				
SCHNEIDER	NW 40 / MVS40				
EATON	IZMX40				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

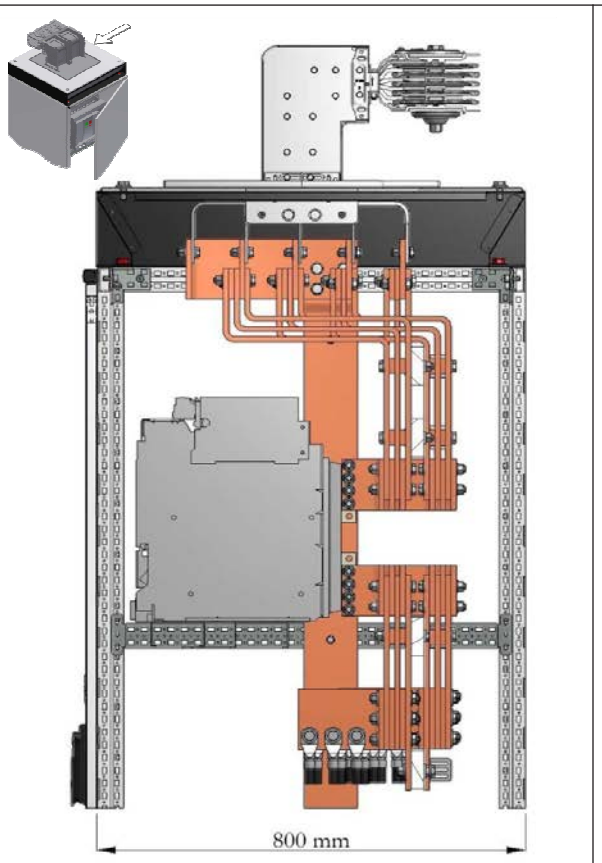
MODEL
019

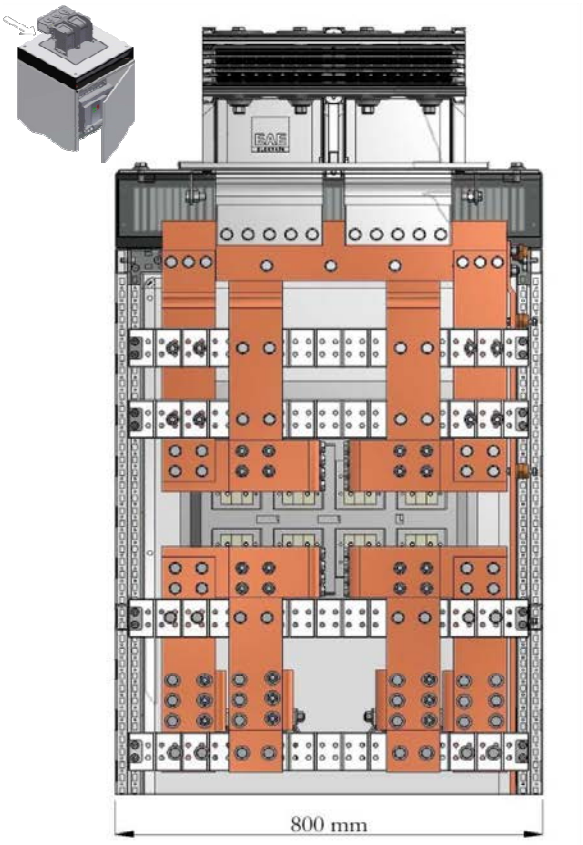
4000 A 4P

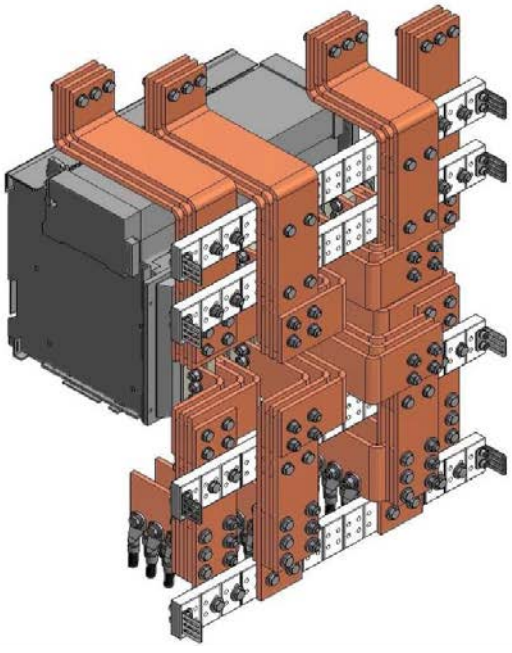


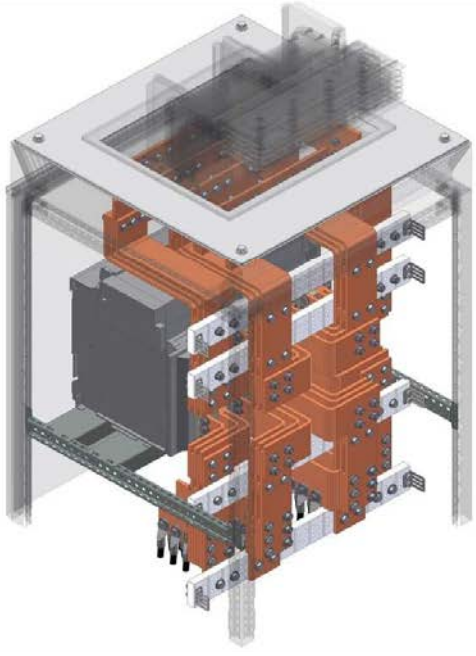
KXA



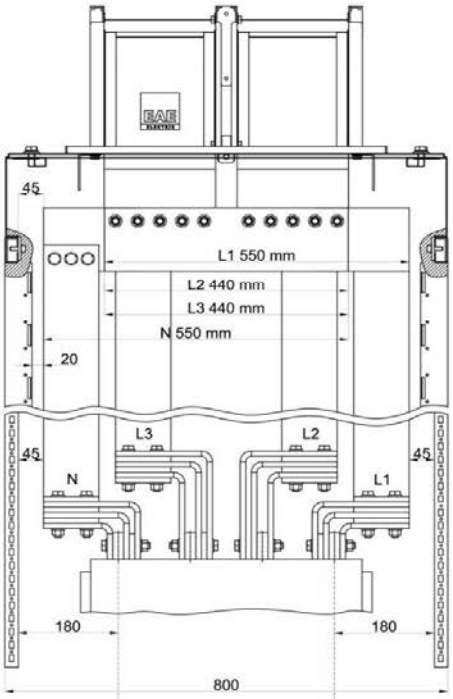


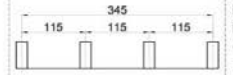






MODEL
019





SCHNEIDER
EASYPACT MVS40 (4000 A / 65kA)
MASTERPACT NW40
(4000 A / 65kA - 100kA)

EATON IZMX
IZMX40 (800 A - 4000 A / 85kA - 105kA)

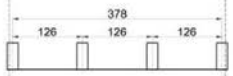
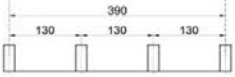


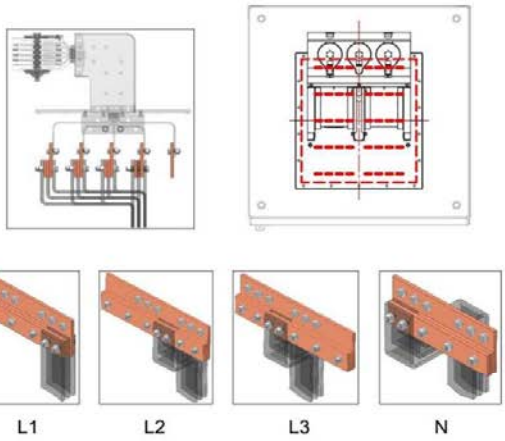
ABB EMAX 2
E4.2 (3200 A - 4000 A
66kA - 85kA - 100kA)
E4.2 (2000 A - 4000 A / 150kA)



LEGRAND DMX³
SIZE 2 (3200 A - 4000 A
55kA - 65kA - 100kA)

GE ENTELLIGUARD
Envelope 2 (4000 A
65kA - 85kA şalterler)

SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A / 80kA - 100kA)



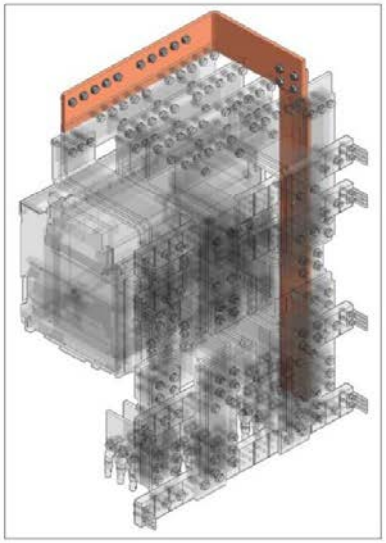
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
SCHNEIDER	NW 40 / MVS40	550	440	360	550
EATON	IZMX40				
ABB	Emax 2 / E4.2 / E4.2				
LEGRAND	SIZE 2				
GE	ENVELOPE 2				
SIEMENS	WL				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

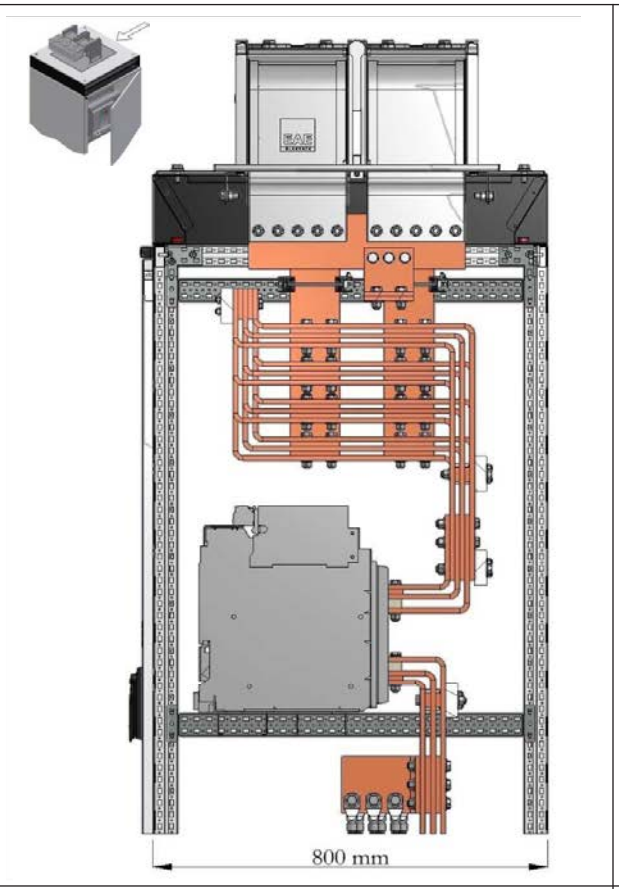
MODEL
020

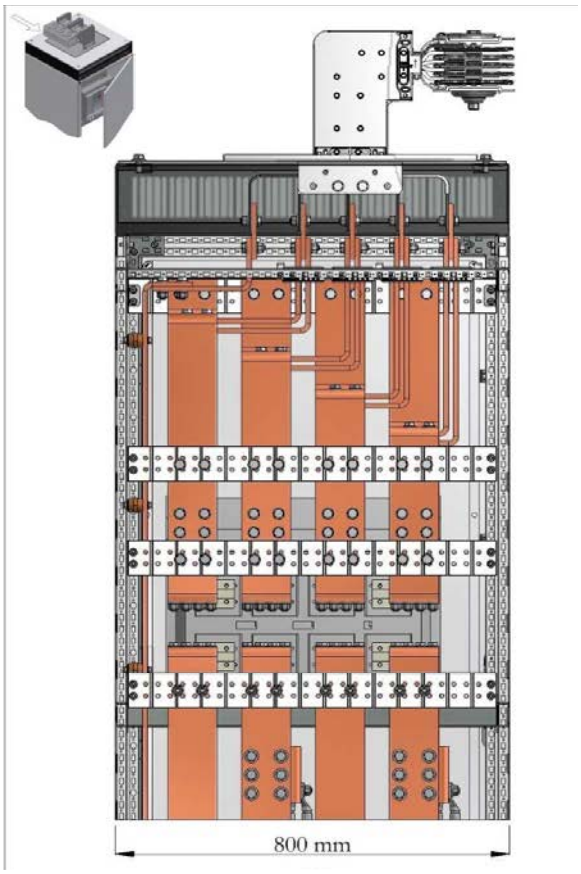
4000 A 4P

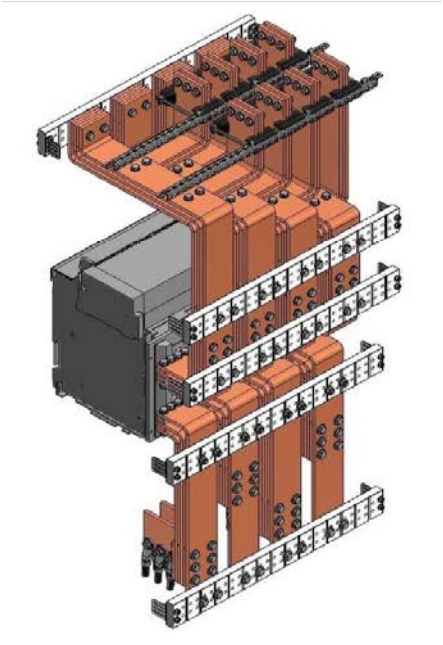


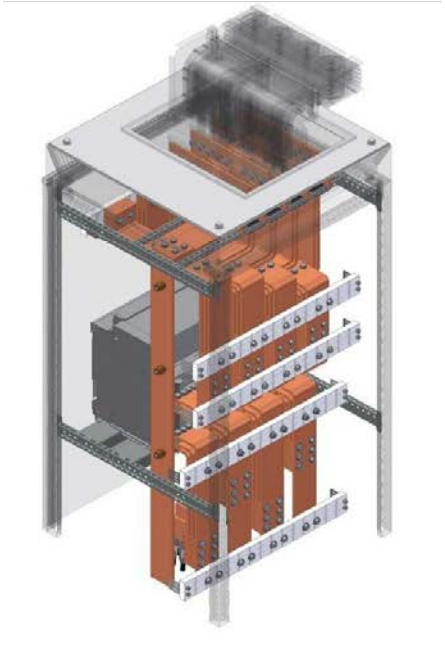
KXA





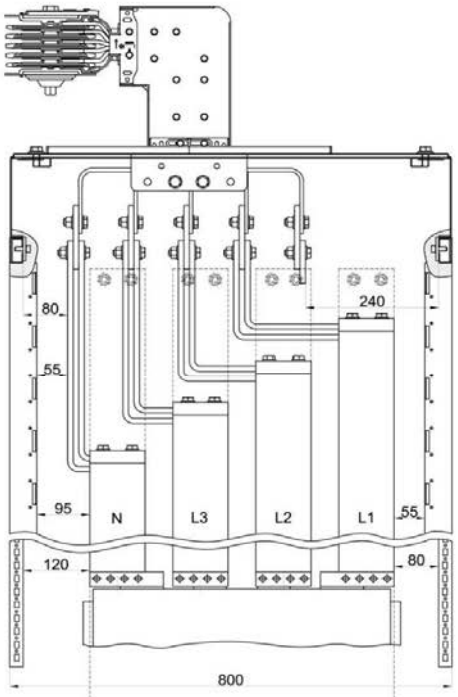




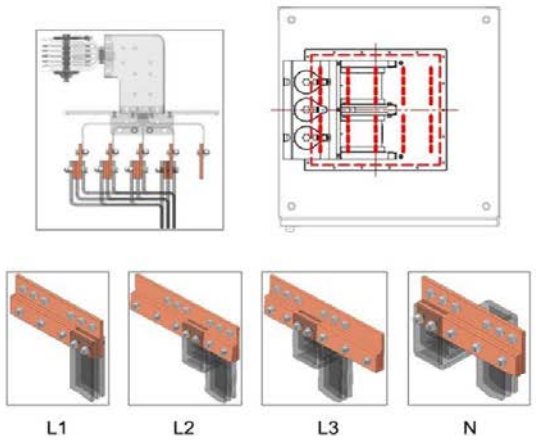


PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

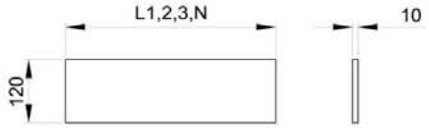
MODEL
020







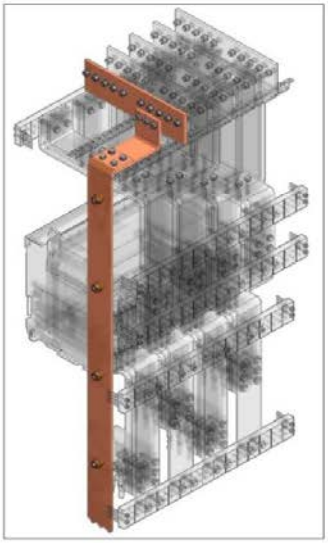
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
ABB	Emax 2 / E4.2	440	440	440	440
SIEMENS	WL				
GE	ENVELOPE 2				
LEGRAND	SIZE 2				
SCHNEIDER	NW 40 / MVS40				
EATON	IZMX40				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

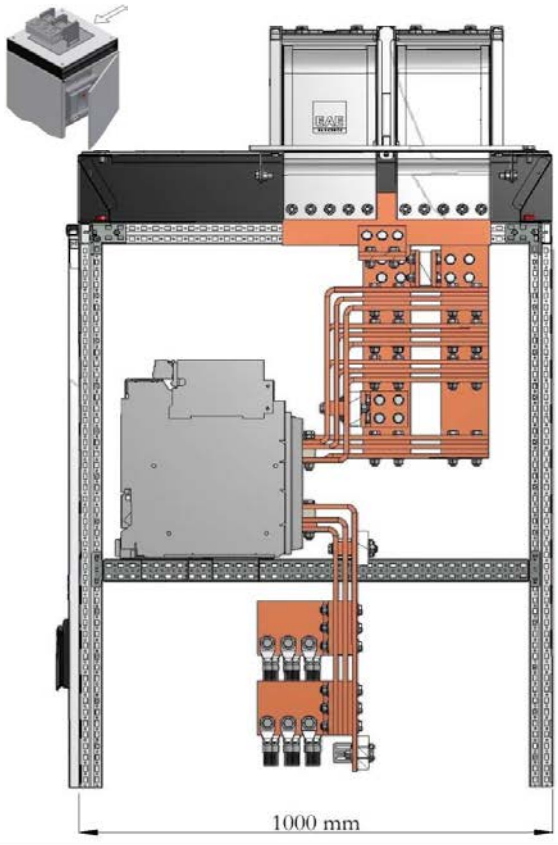
MODEL
021

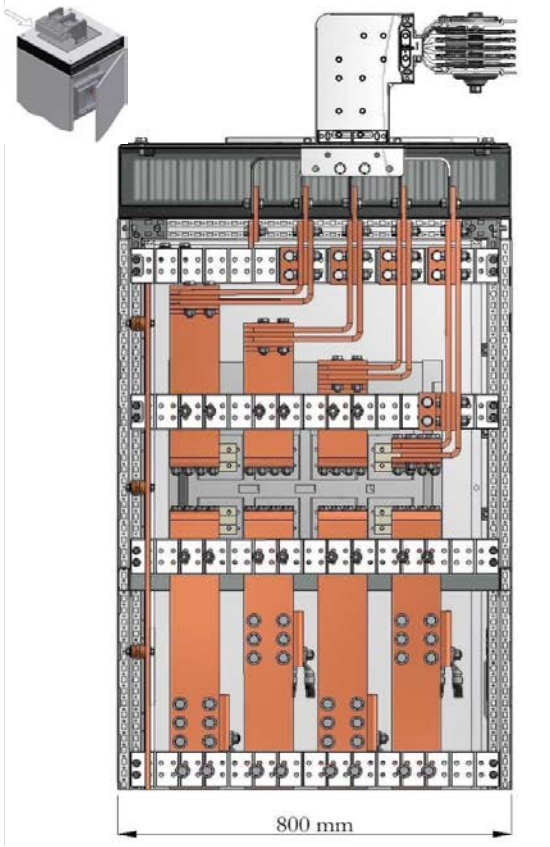
4000 A 4P

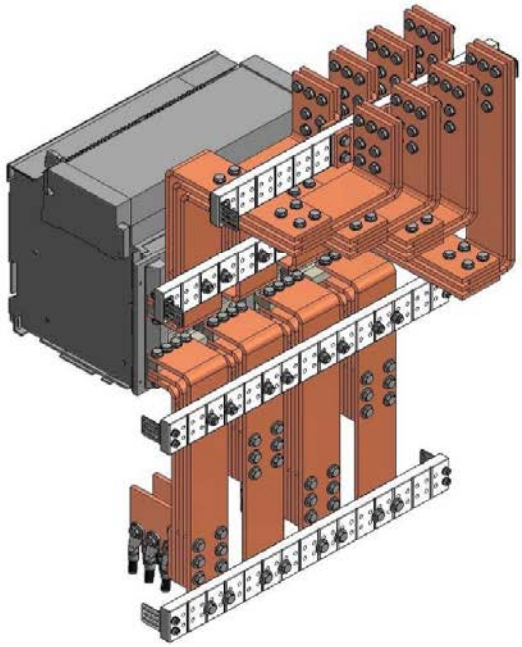


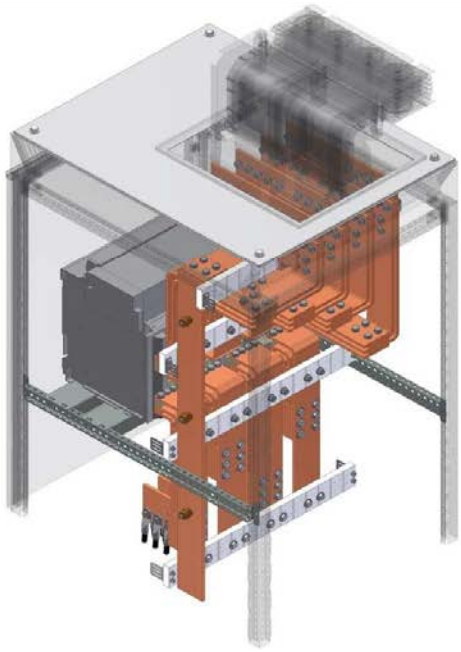
KXA





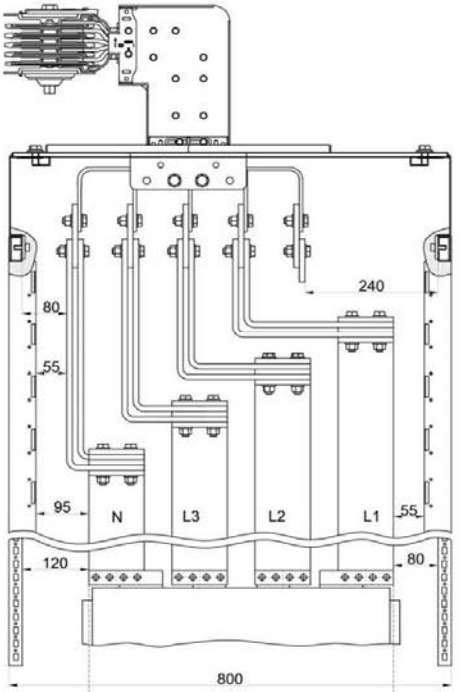






PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
021



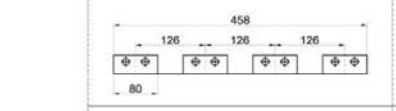
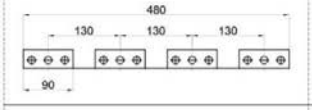
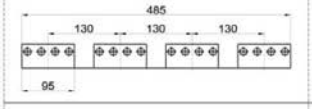


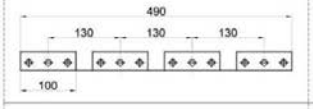
ABB EMAX 2
E4.2 (3200 A - 4000 A
66kA - 85kA - 100kA)
E4.2 (2000 A - 4000 A / 150kA)



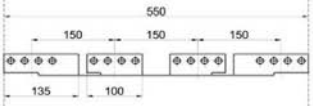
SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A
80kA - 100kA)



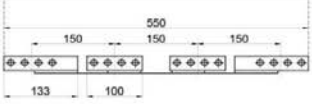
GE ENTELLIGUARD
Envelope 2
(4000 A / 65kA - 85kA)



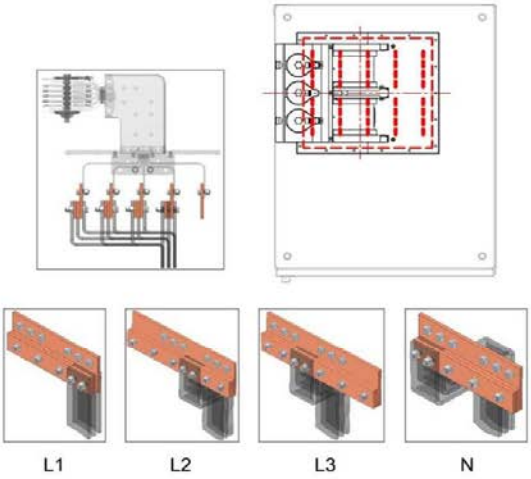
LEGRAND DMX³
SIZE 2 (3200 A - 4000 A
55kA - 65kA - 100kA)



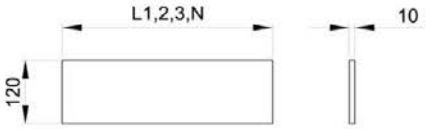
SCHNEIDER
EASYPACT MVS40
(4000 A / 65kA)
MASTERPACT NW40
(4000 A / 65kA - 100kA)



EATON IZMX
IZMX40 (800 A - 4000 A
85kA - 105kA)



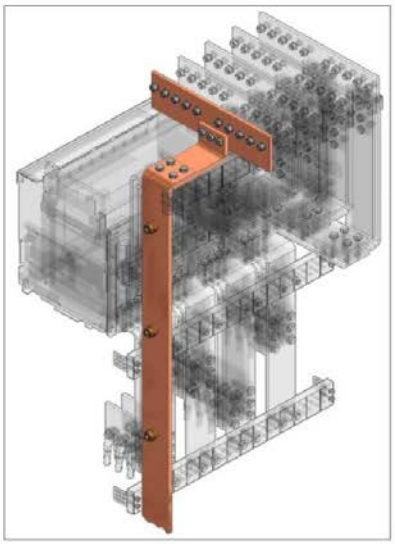
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
SALTER	KOD.	L1	L2	L3	N
ABB	Emax 2 / E4.2	440	440	440	440
SIEMENS	WL				
GE	ENVELOPE 2				
LEGRAND	SIZE 2				
SCHNEIDER	NW 40 / MVS40				
EATON	IZMX40				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

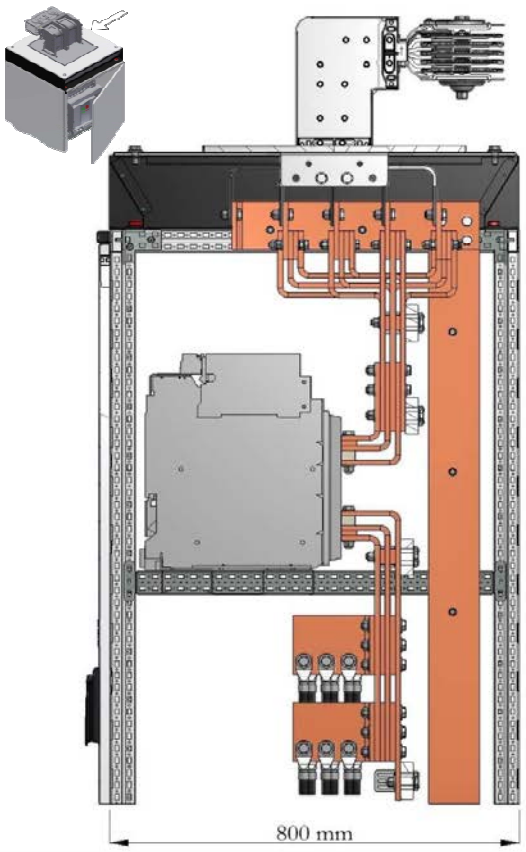
MODEL
022

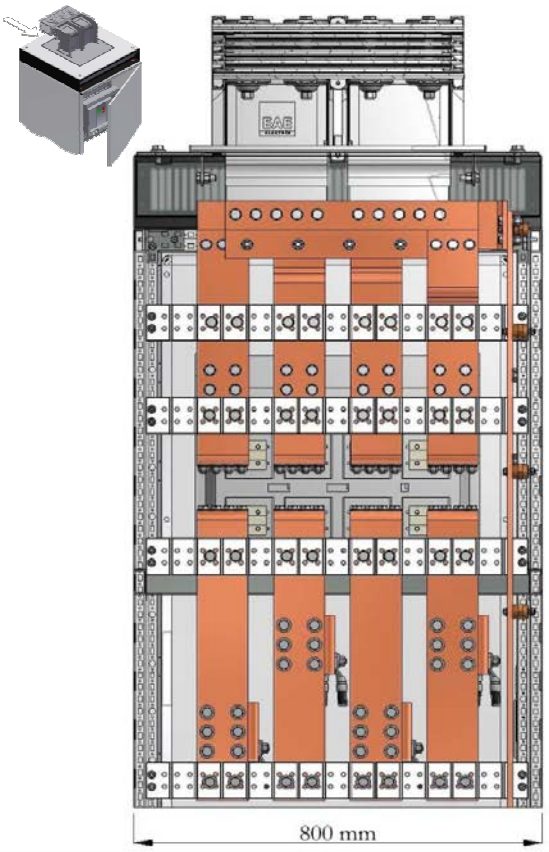
4000 A 4P

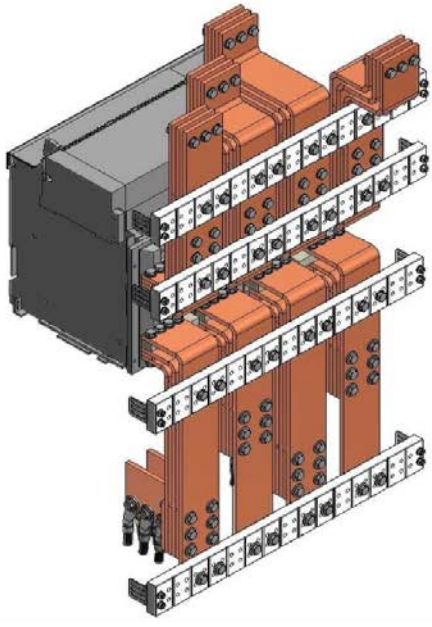


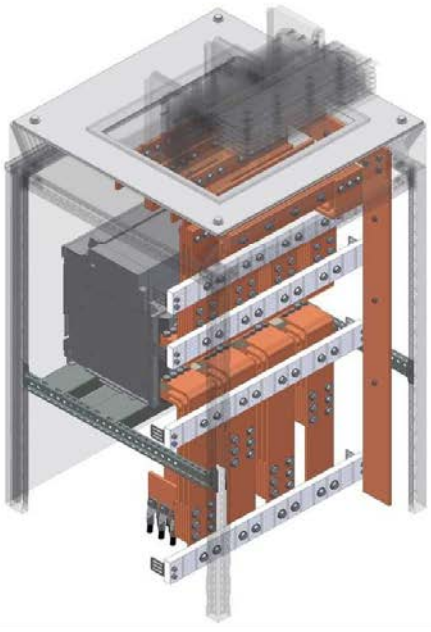
KXA



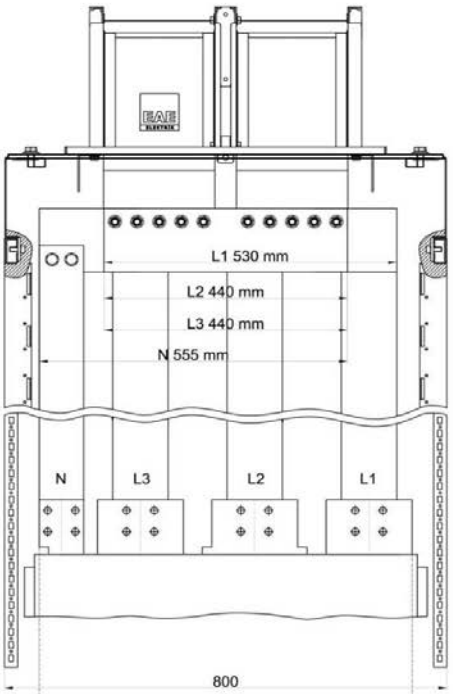


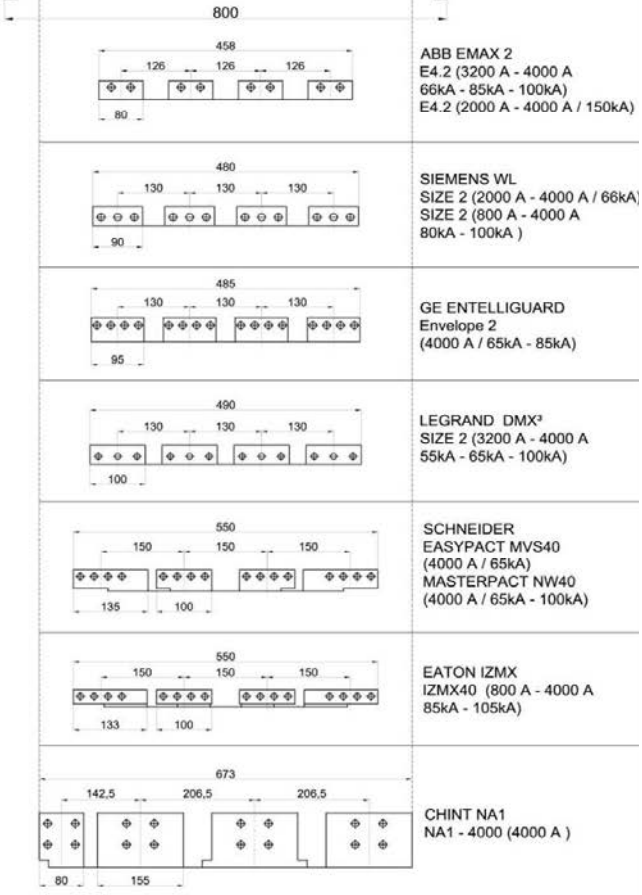


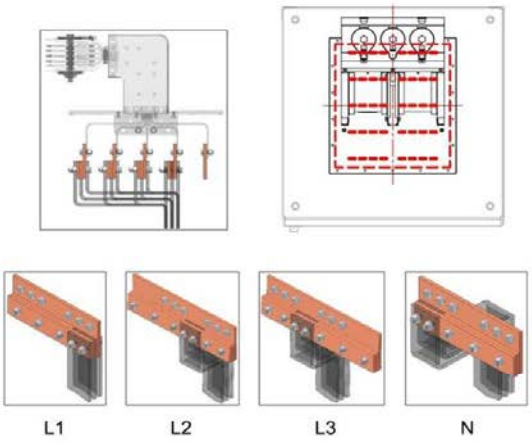




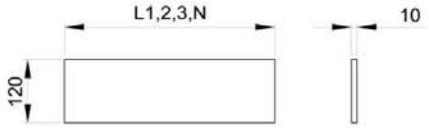
MODEL
022







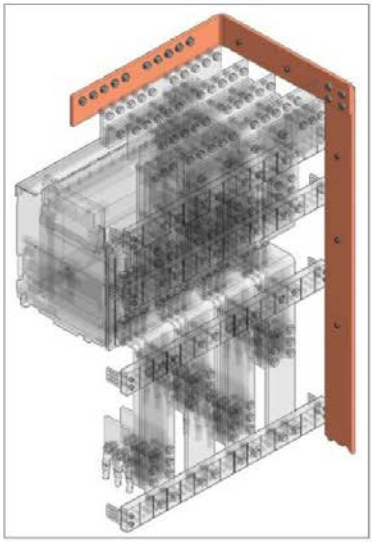
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
ABB	Emax 2 / E4.2	465	440	440	465
SIEMENS	WL				
GE	ENVELOPE 2				
LEGRAND	SIZE 2				
SCHNEIDER	NW 40 / MVS40	495	440	440	495
EATON	IZMX40				
CHINT	NA1	530	440	440	555

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

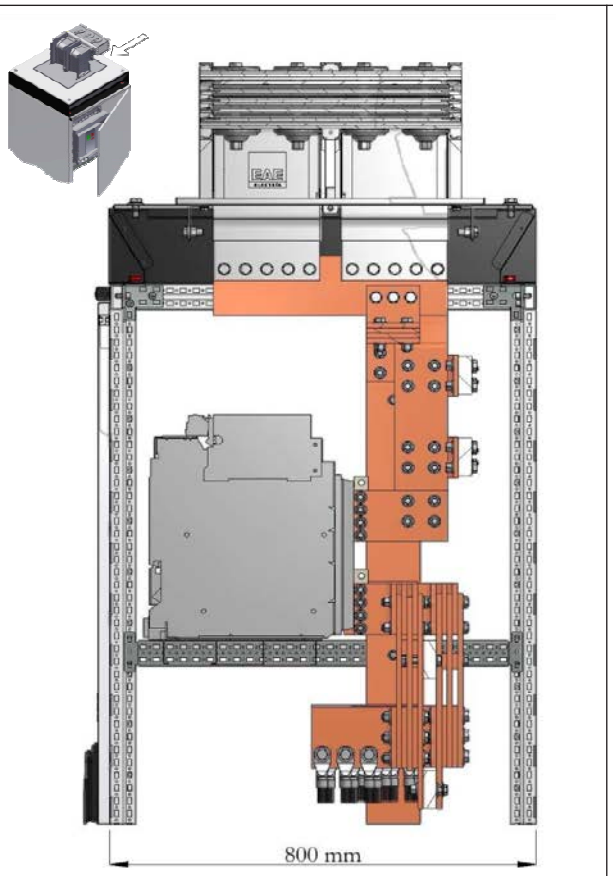
MODEL
023

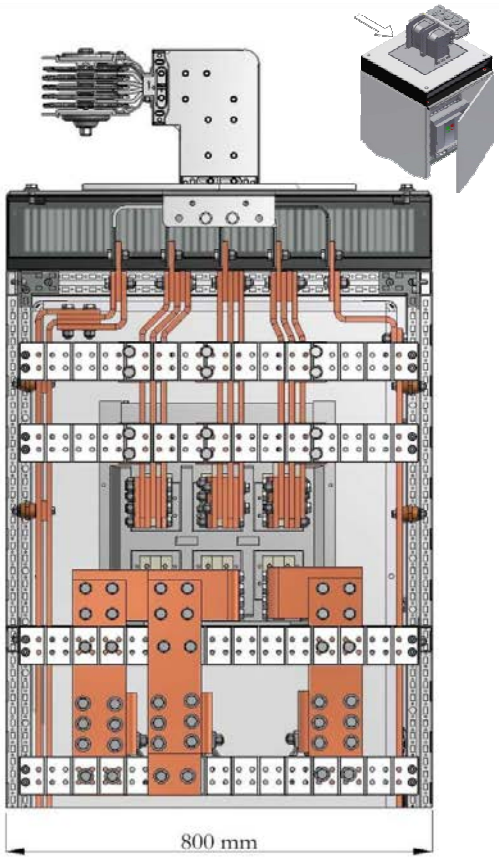
4000 A 3P

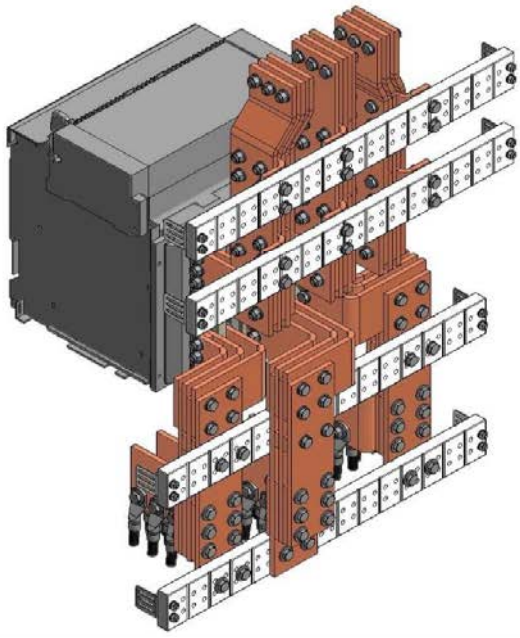


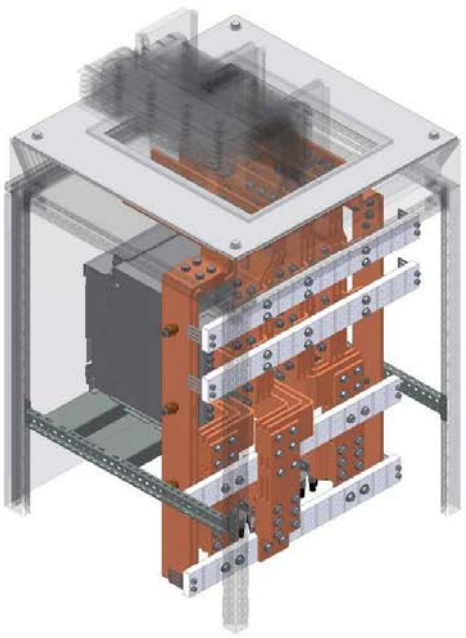
KXA



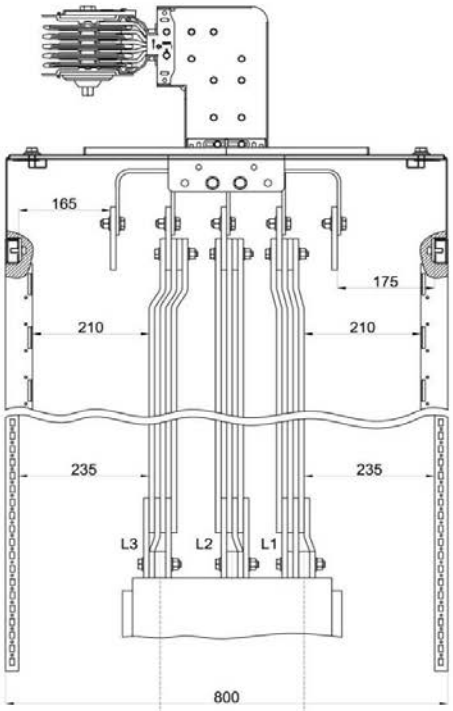








MODEL
023



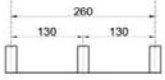
SCHNEIDER
EASYPACT MVS40 (4000 A / 65kA)
MASTERPACT NW40
(4000 A / 65kA - 100kA)



EATON IZMX
IZMX40 (800 A - 4000 A / 85kA - 105kA)



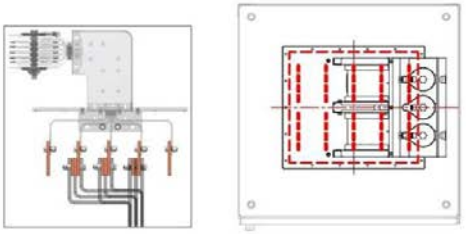
ABB EMAX 2
E4.2 (3200 A - 4000 A
66kA - 85kA - 100kA)
E4.2 (2000 A - 4000 A / 150kA)



LEGRAND DMX³
SIZE 2 (3200 A - 4000 A
55kA - 65kA - 100kA)

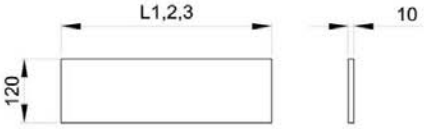
GE ENTELLIGUARD
Envelope 2 (4000 A
65kA - 85kA şalterler)

SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A / 80kA - 100kA)





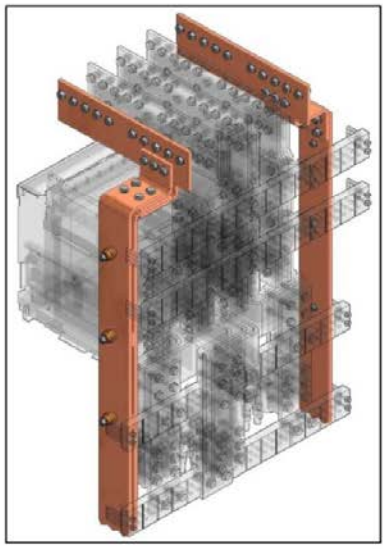
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
SCHNEIDER	NW 40 / MVS40	320	320	320
EATON	IZMX40			
ABB	Emax 2 / E4.2			
LEGRAND	SIZE 2			
GE	ENVELOPE 2			
SIEMENS	WL			

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

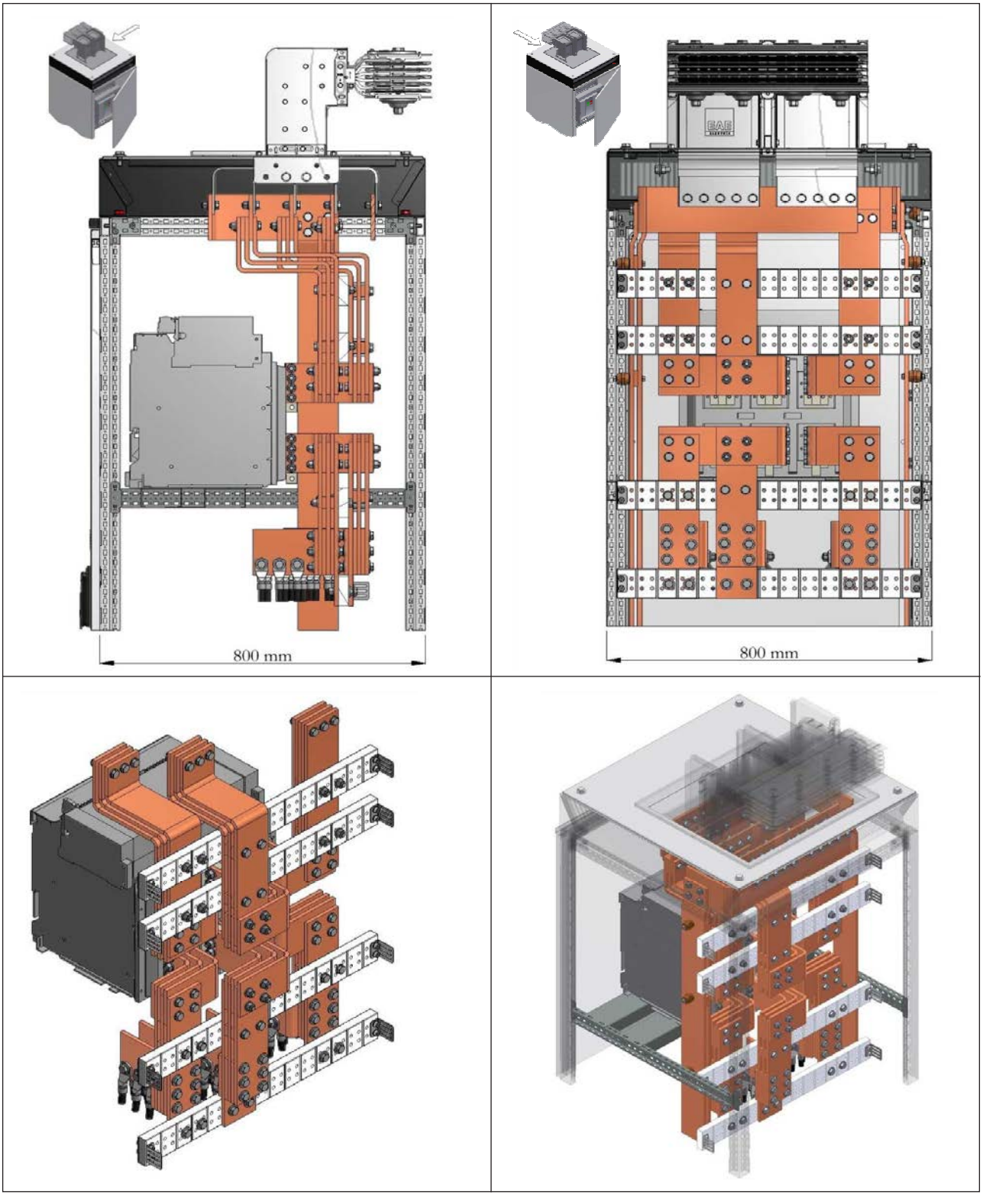
MODEL
024

4000 A 3P

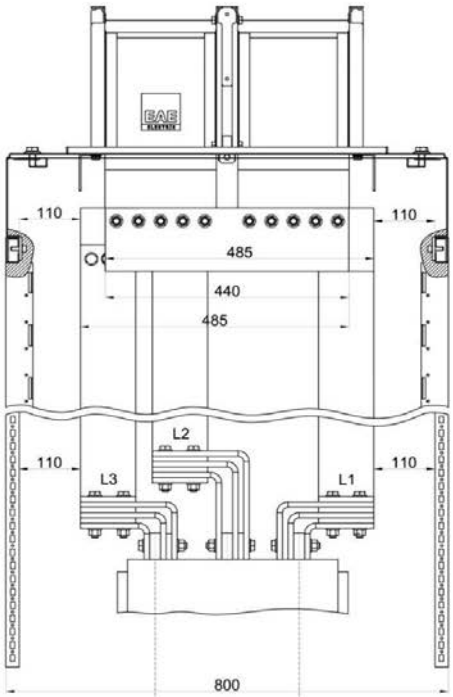


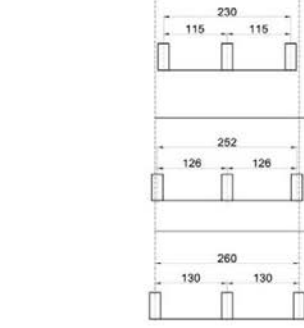
KXA





MODEL
024





SCHNEIDER
EASYPACT MVS40 (4000 A / 65kA)
MASTERPACT NW40
(4000 A / 65kA - 100kA)

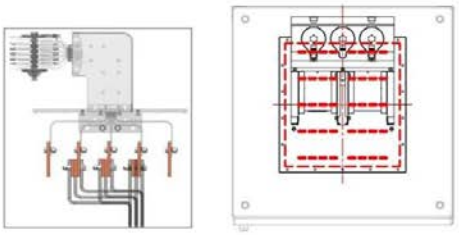
EATON IZMX
IZMX40 (800 A - 4000 A / 85kA - 105kA)

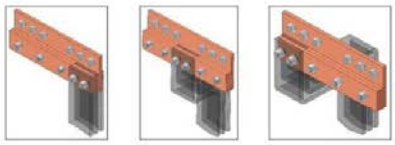
ABB EMAX 2
E4.2 (3200 A - 4000 A
66kA - 85kA - 100kA)
E4.2 (2000 A - 4000 A / 150kA)

LEGRAND DMX³
SIZE 2 (3200 A - 4000 A
55kA - 65kA - 100kA)

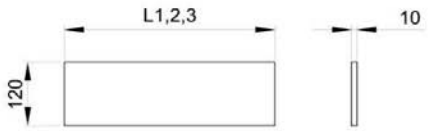
GE ENTELLIGUARD
Envelope 2 (4000 A
65kA - 85kA şalterler)

SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A / 80kA - 100kA)





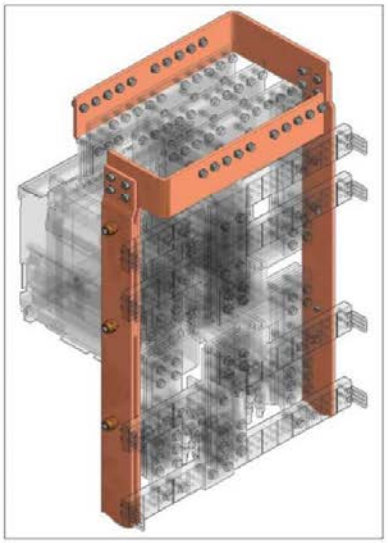
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
SCHNEIDER	NW 40 / MVS40	485	440	485
EATON	IZMX40			
ABB	Emax 2 / E4.2			
LEGRAND	SIZE 2			
GE	ENVELOPE 2			
SIEMENS	WL			

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

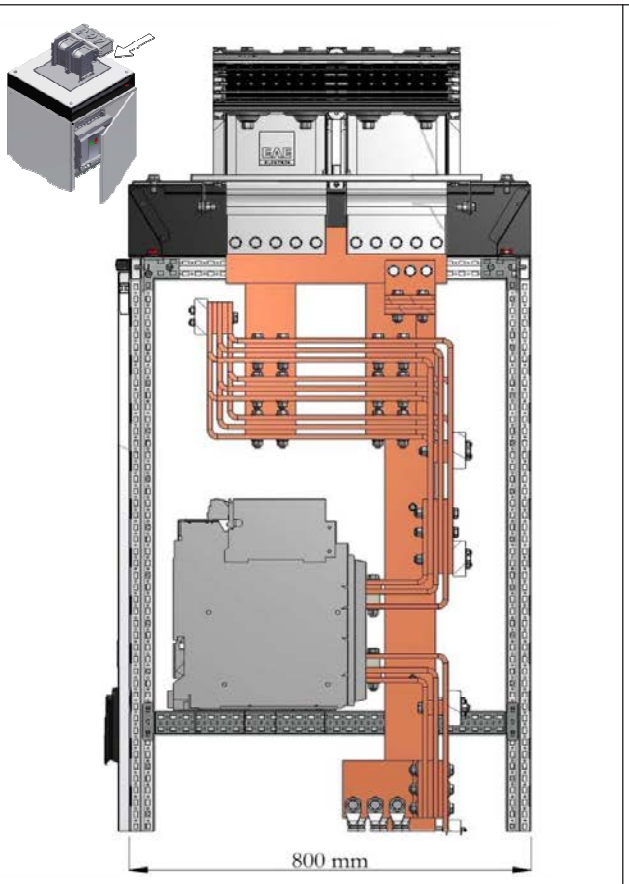
MODEL
025

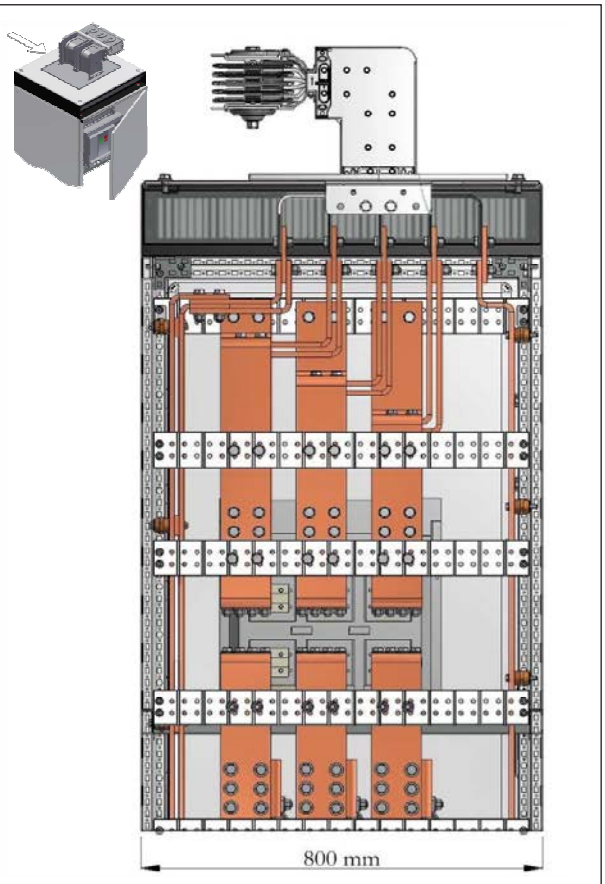
4000 A 3P

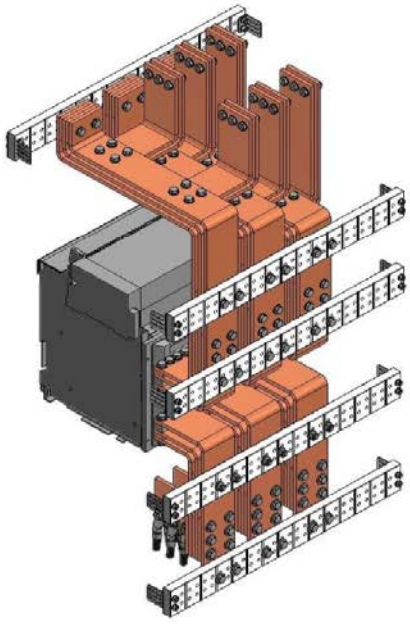


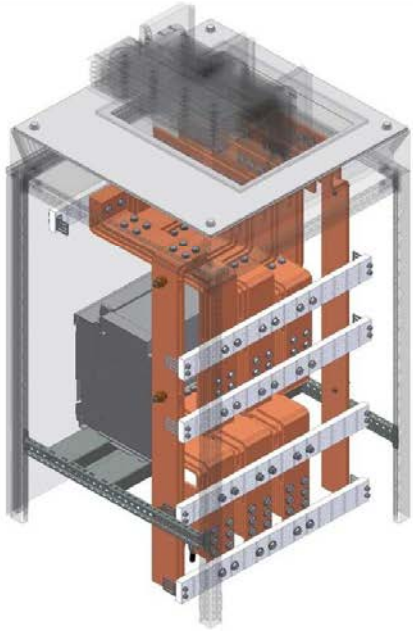
KXA



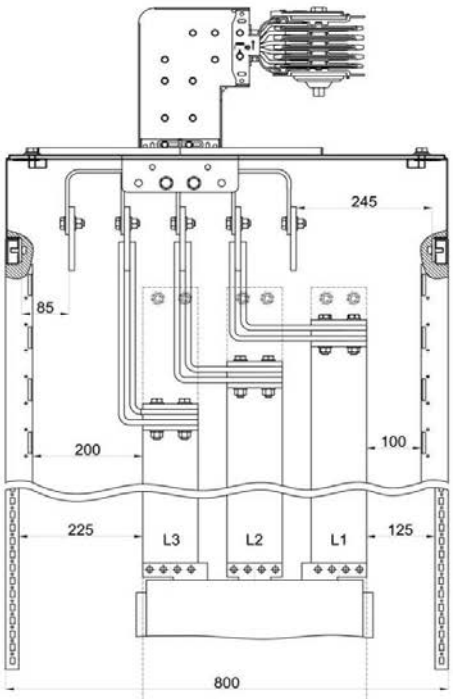


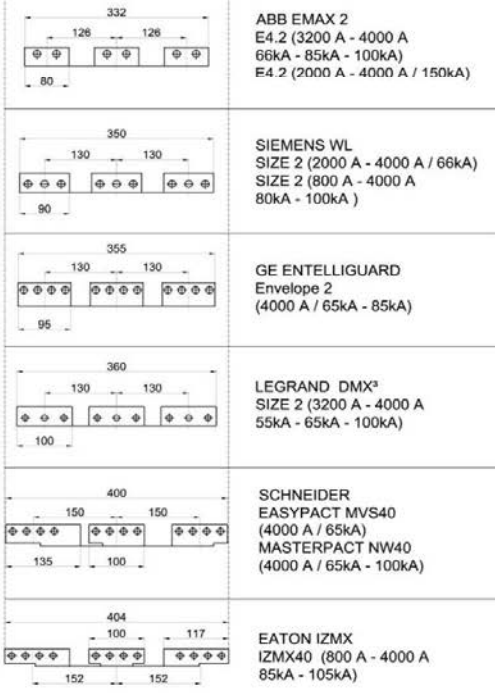


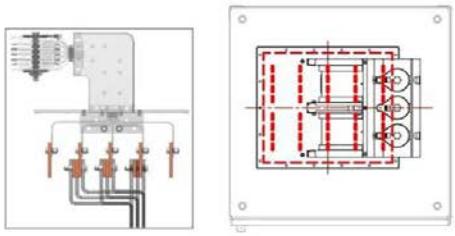


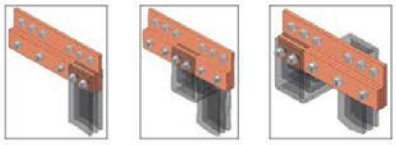


MODEL
025

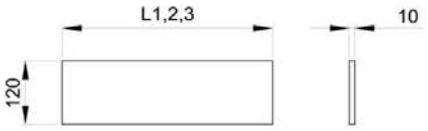






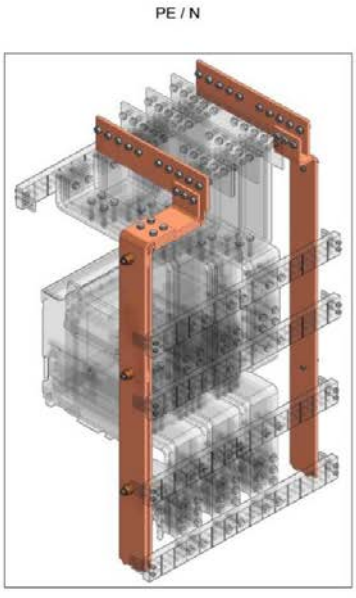


For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
ABB	Emax 2 / E4.2	440	440	440
SIEMENS	WL			
GE	ENVELOPE 2			
LEGRAND	SIZE 2			
SCHNEIDER	NW 40 / MVS40			
EATON	IZMX40			

Paralleling busbar minimum dimensions.



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

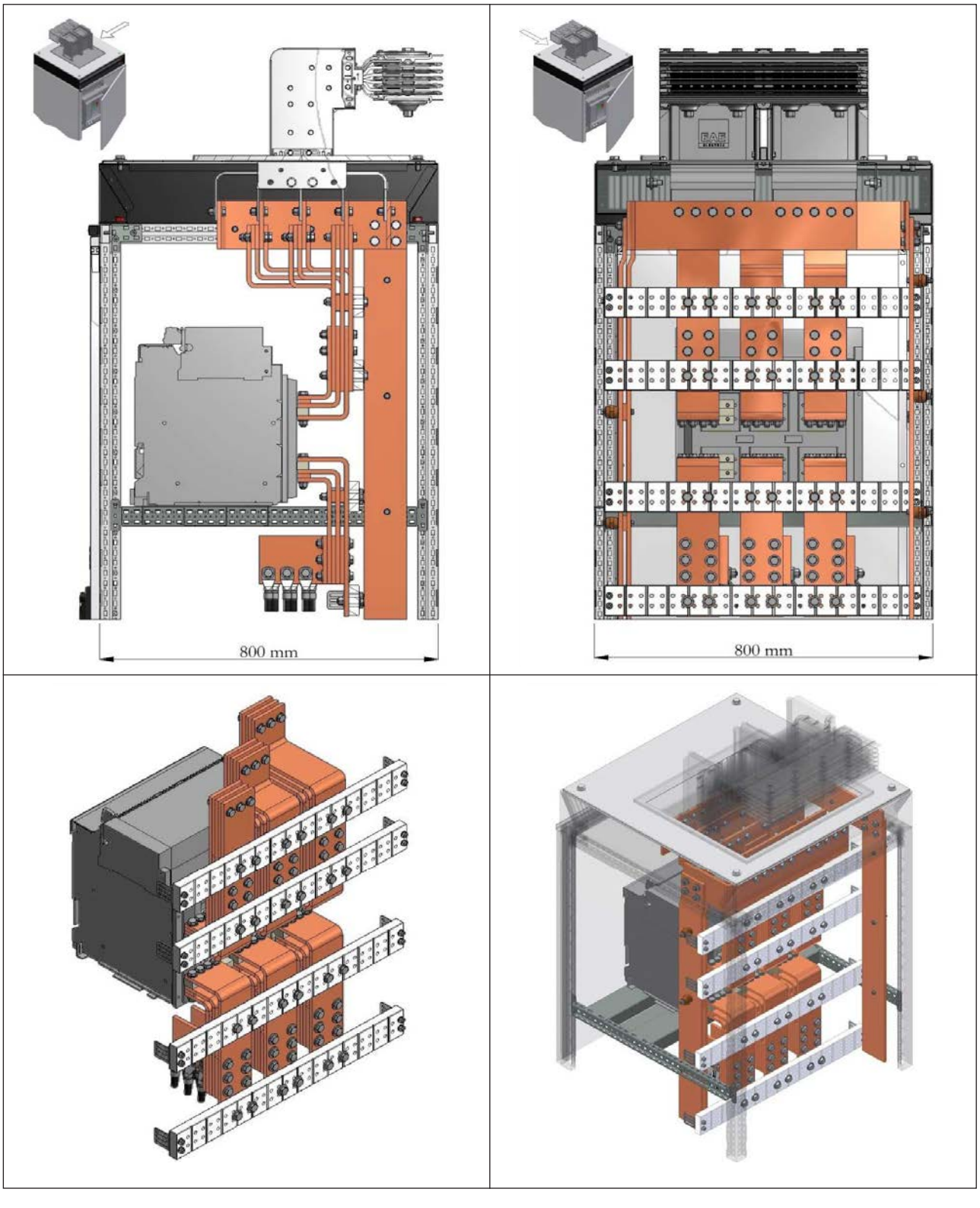
MODEL
026

4000 A 3P

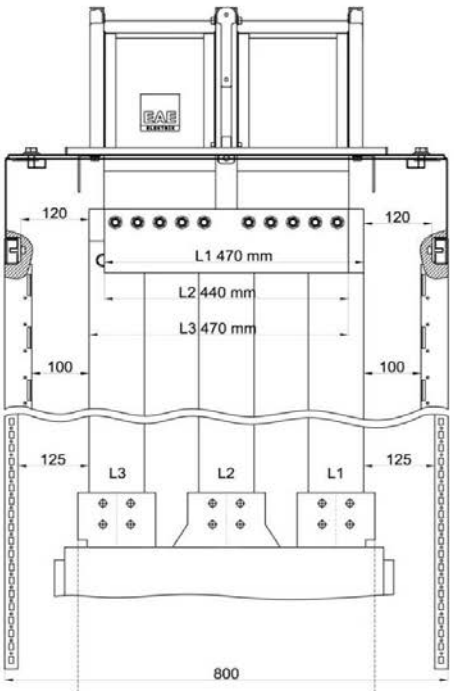


KXA





MODEL
026



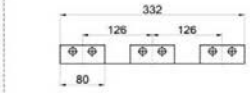
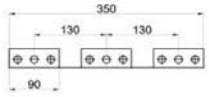
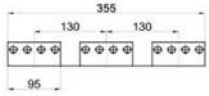


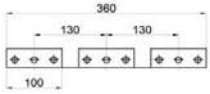
ABB EMAX 2
E4.2 (3200 A - 4000 A
66kA - 85kA - 100kA)
E4.2 (2000 A - 4000 A / 150kA)



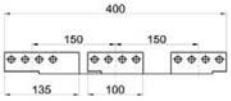
SIEMENS WL
SIZE 2 (2000 A - 4000 A / 66kA)
SIZE 2 (800 A - 4000 A
80kA - 100kA)



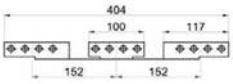
GE ENTELLIGUARD
Envelope 2
(4000 A / 65kA - 85kA)



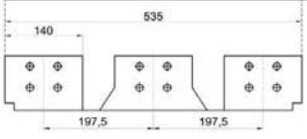
LEGRAND DMX³
SIZE 2 (3200 A - 4000 A
55kA - 65kA - 100kA)



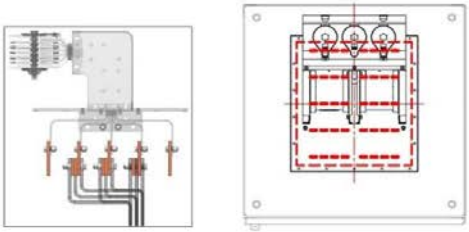
SCHNEIDER
EASYPACT MVS40
(4000 A / 65kA)
MASTERPACT NW40
(4000 A / 65kA - 100kA)

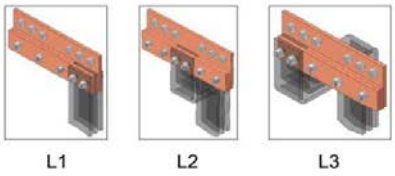


EATON IZMX
IZMX40 (800 A - 4000 A
85kA - 105kA)

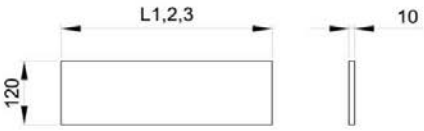


CHINT NA1
NA1 - 4000 (4000 A)





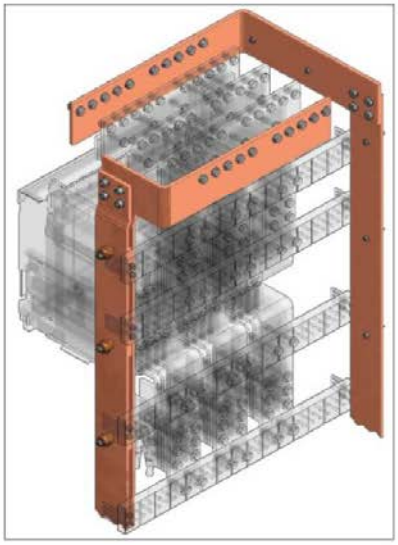
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
ABB	Emax 2 / E4.2	440	440	440
SIEMENS	WL			
GE	ENVELOPE 2			
LEGRAND	SIZE 2			
SCHNEIDER	NW 40 / MVS40			
EATON	IZMX40			
CHINT	NA1	470	440	470

Paralleling busbar minimum dimensions.

PE / N

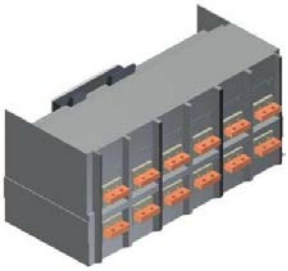


Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

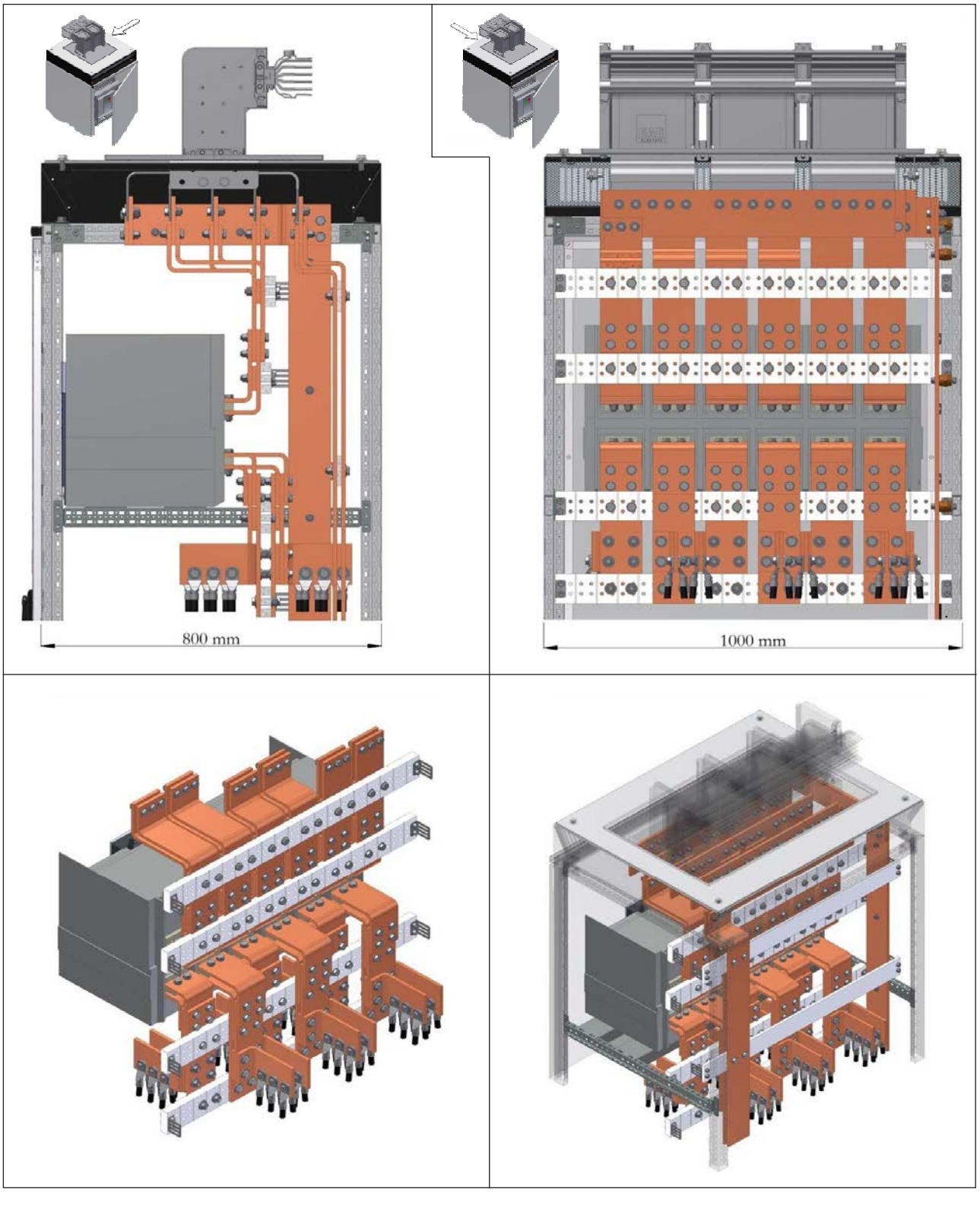
MODEL
027

5000 A 3P



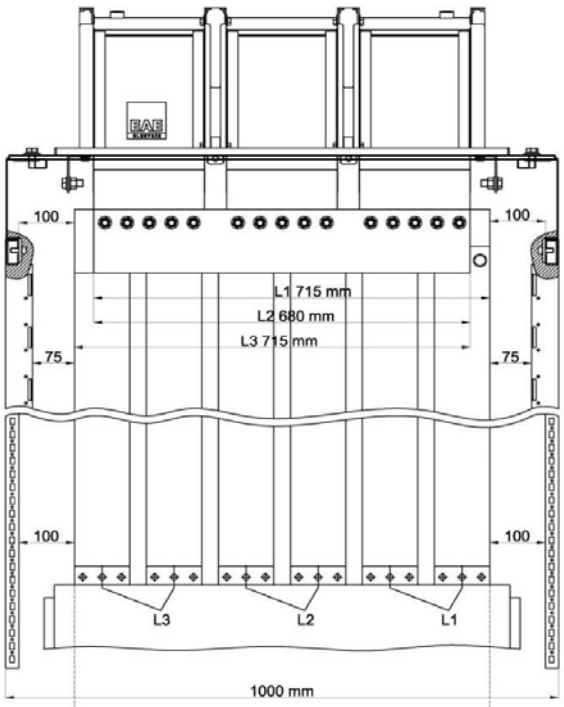
KXA

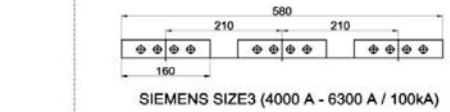




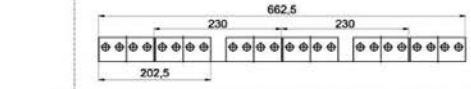
PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
027

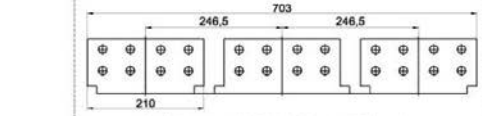




SIEMENS SIZE3 (4000 A - 6300 A / 100kA)



GE ENTELLIGUARD Envelope 3 (5000 A / 85kA - 100kA - 150kA)



CHİNT NA1 - 6300 (4000 A - 5000 A)

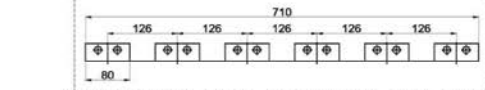
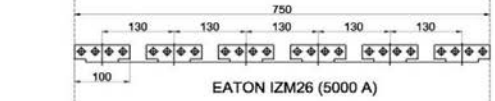
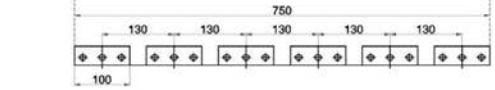


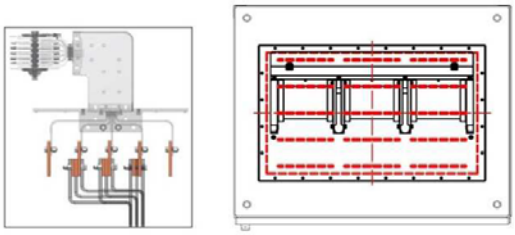
ABB E6.2 (4000 A - 5000 A - 6300 A / 100kA - 150kA - 200kA)

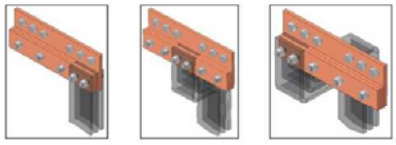


EATON IZM26 (5000 A)

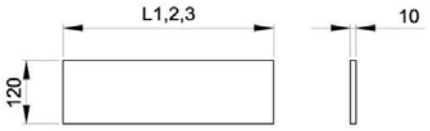


LEGRAND SIZE 3 (5000 A - 6300 A / 100kA)





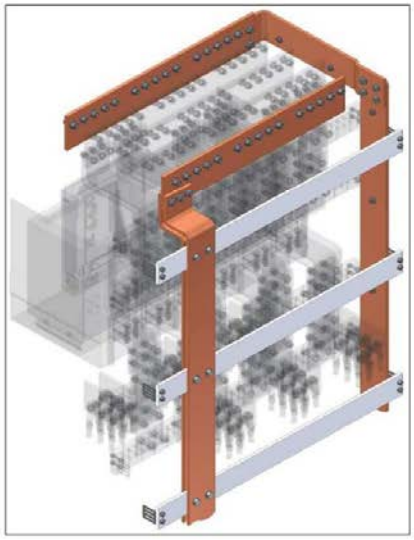
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
SİEMENS	WL	680	680	680
GE	ENVELOPE 3			
CHİNT	NA1	700	680	700
ABB	Emax 2 / E6.2			
EATON	IZMX26	715	680	715
LEGRAND	SIZE 3			

Paralleling busbar minimum dimensions.

PE / N

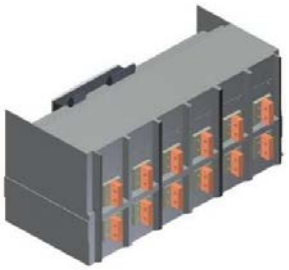


Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

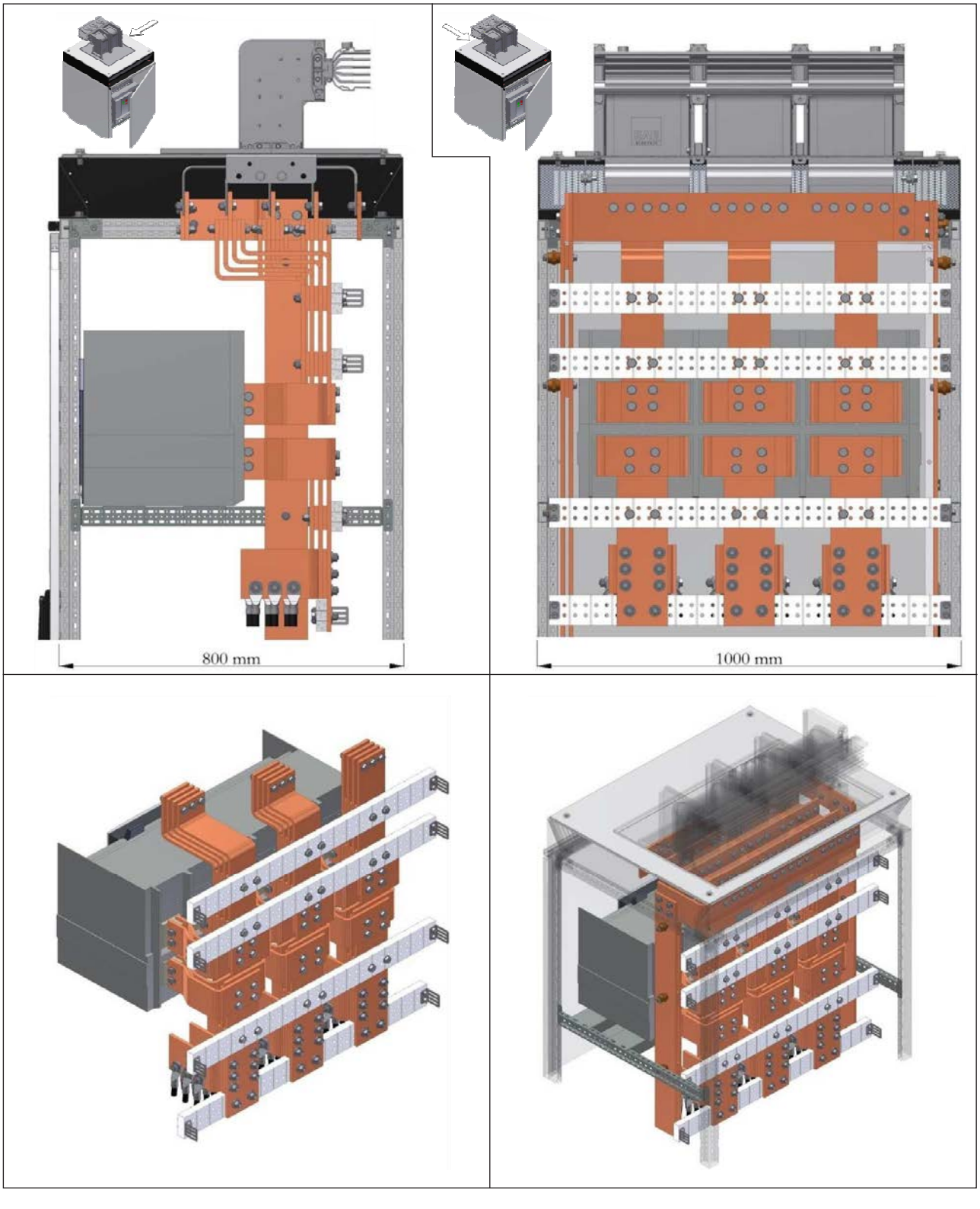
MODEL
028

5000 A 3P

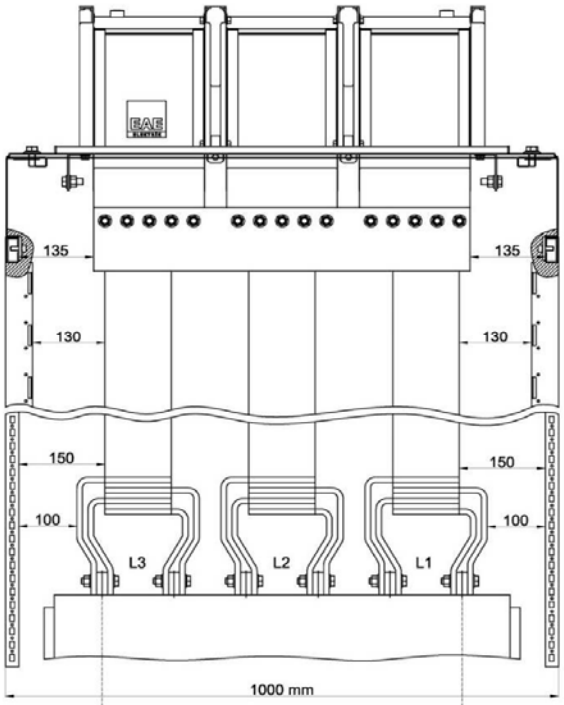


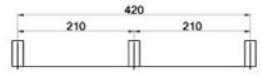
KXA



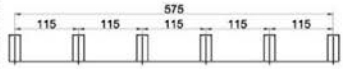


MODEL
028





SIEMENS SIZE3 (4000 A - 6300 A / 100kA)



GE ENTELLIGUARD Envelope 3 (5000 A / 85kA - 100kA - 150kA)

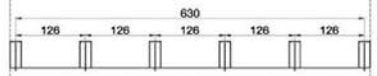
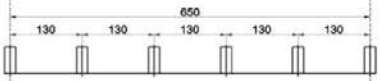
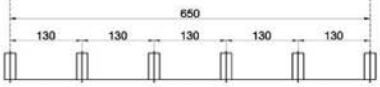


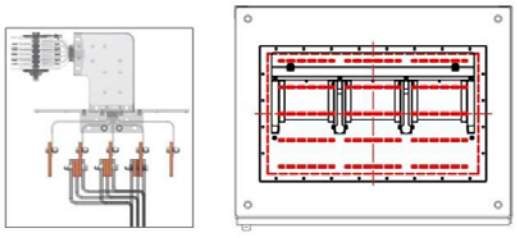
ABB E6.2 (4000 A - 5000 A - 6300 A / 100kA - 150kA - 200kA)

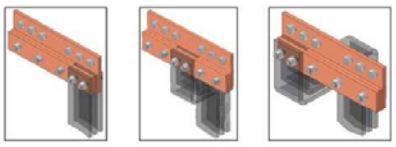


EATON IZM26 (5000 A)

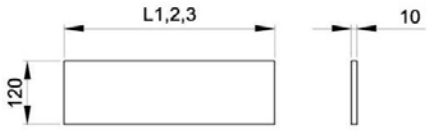


LEGRAND SIZE 3 (5000 A - 6300 A / 100kA)





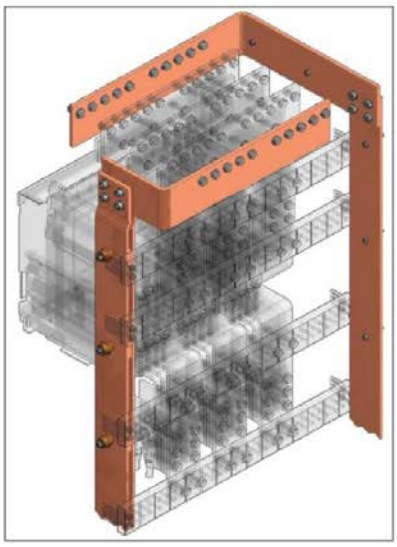
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
SIEMENS	WL	680	680	680
GE	ENVELOPE 3			
ABB	Emax 2 / E6.2			
EATON	IZMX26			
LEGRAND	SIZE 3			

Paralleling busbar minimum dimensions.

PE / N

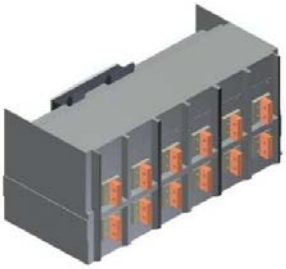


Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

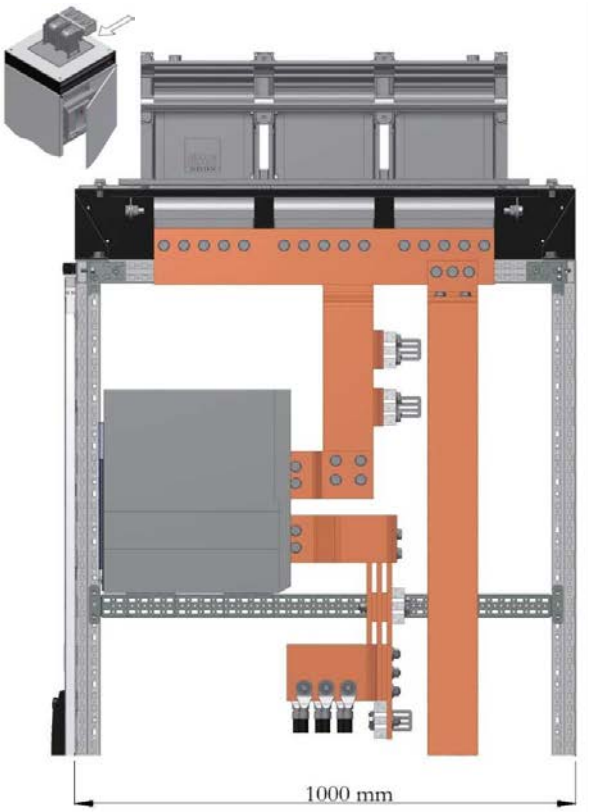
MODEL
029

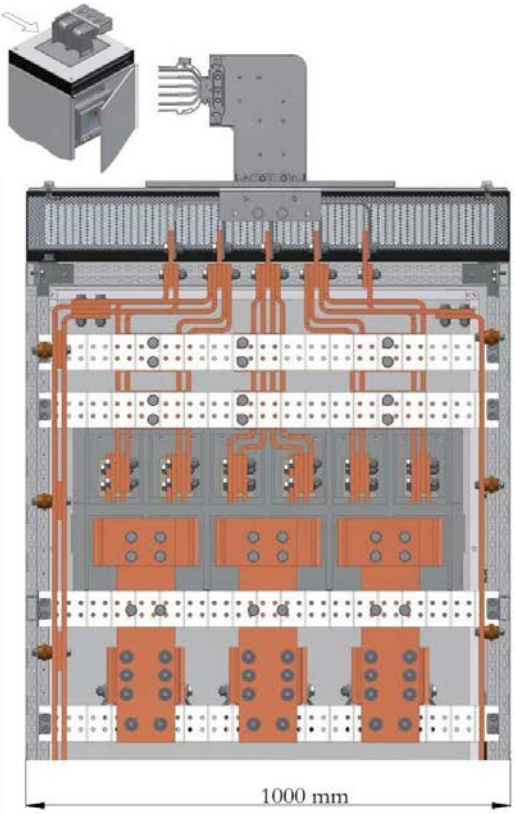
5000 A 3P

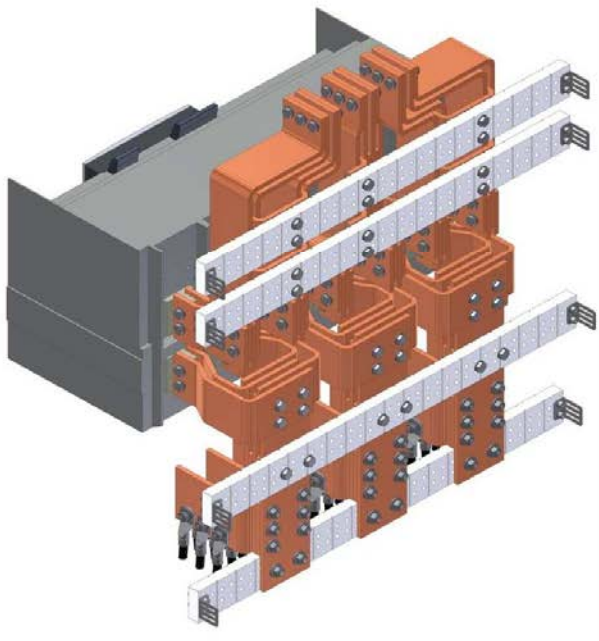


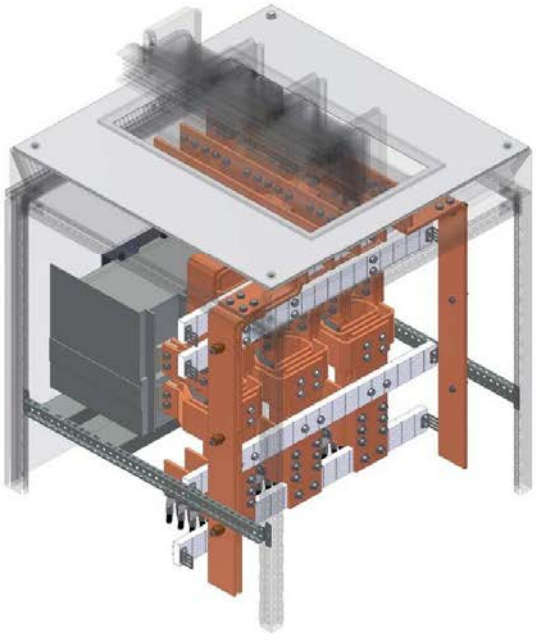
KXA



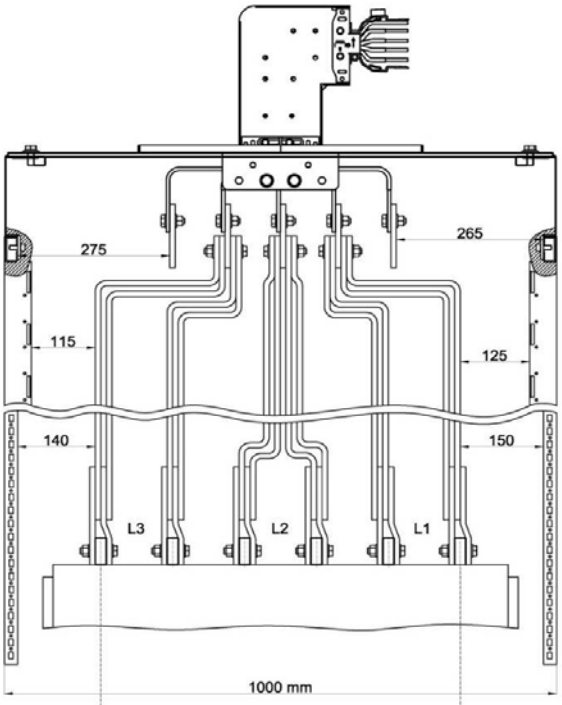


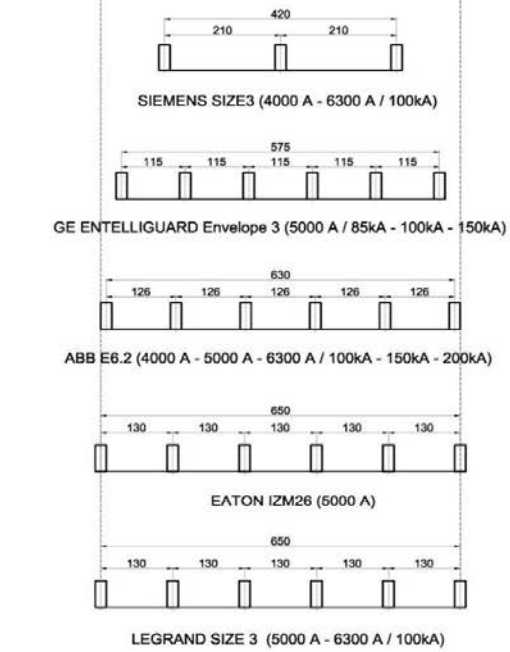


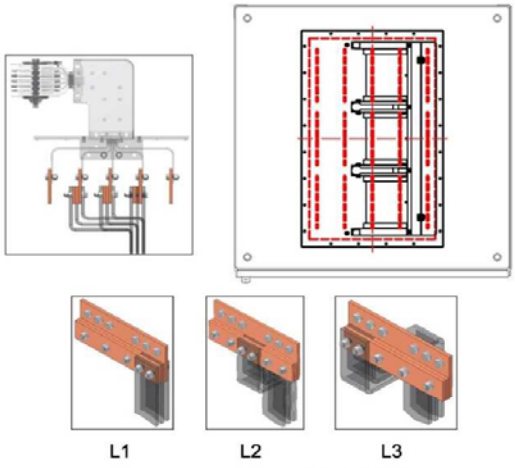




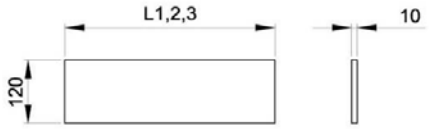
MODEL
029





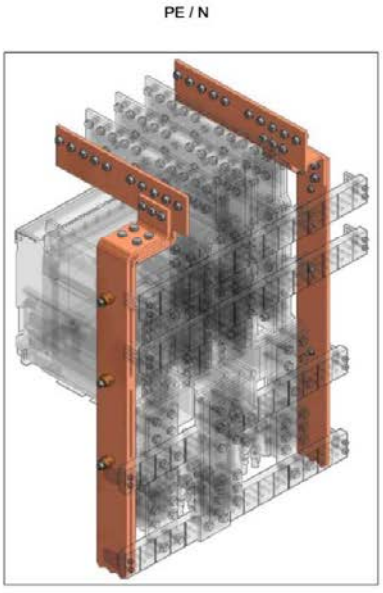


For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
SIEMENS	WL	680	680	680
GE	ENVELOPE 3			
ABB	Emax 2 / E6.2			
EATON	IZMX26			
LEGRAND	SIZE 3			

Paralleling busbar minimum dimensions.

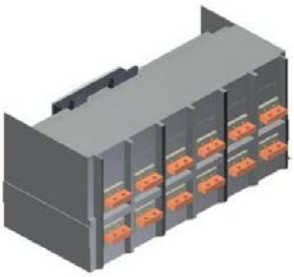


Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

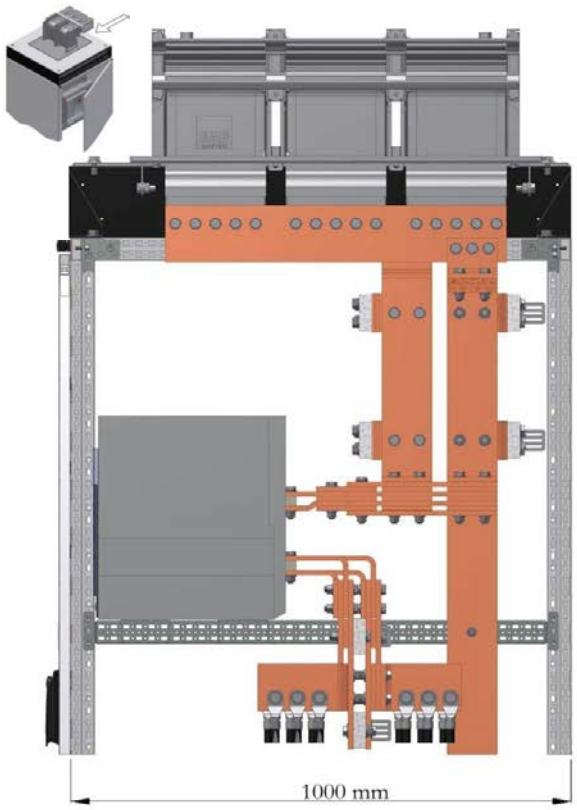
MODEL
030

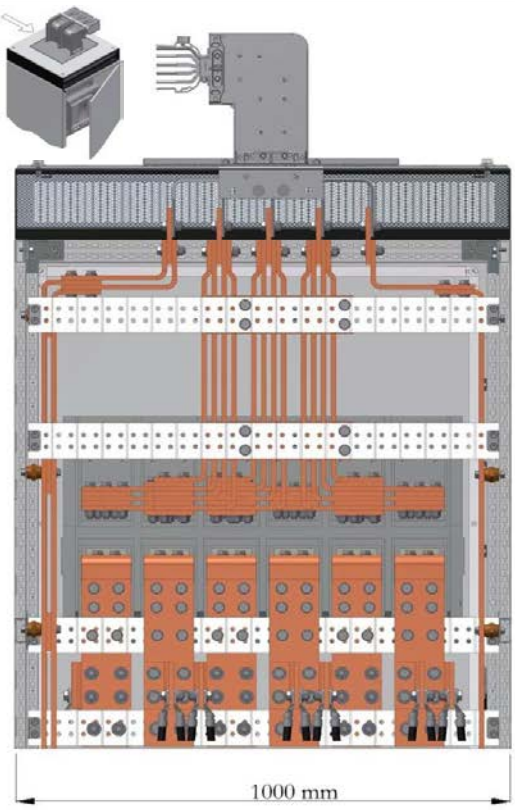
5000 A 3P

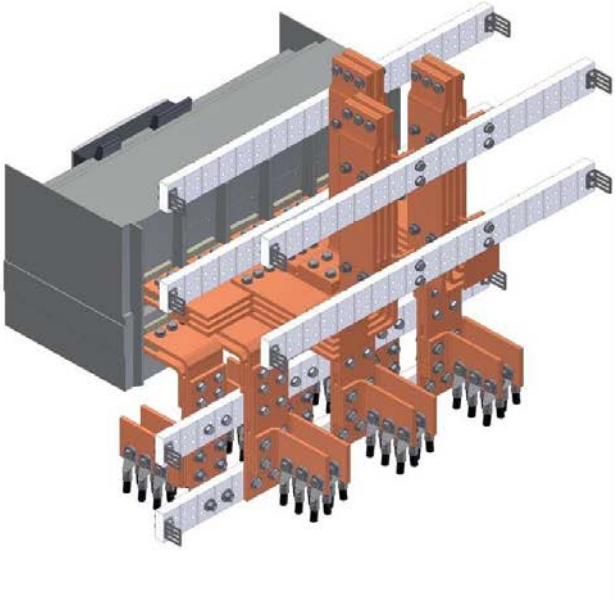


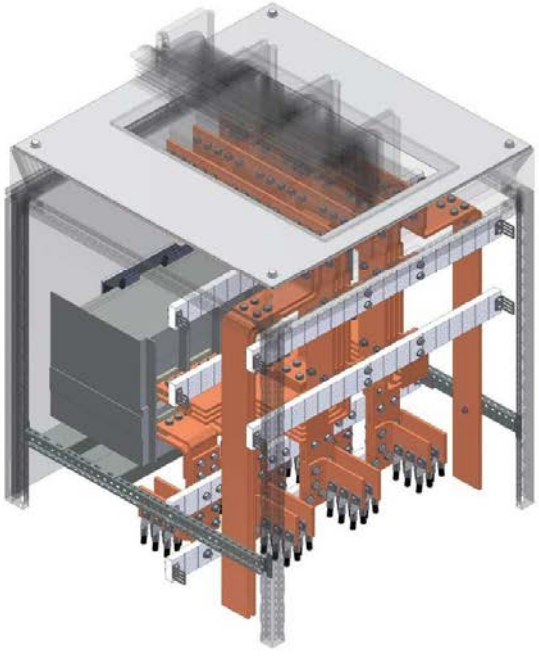
KXA





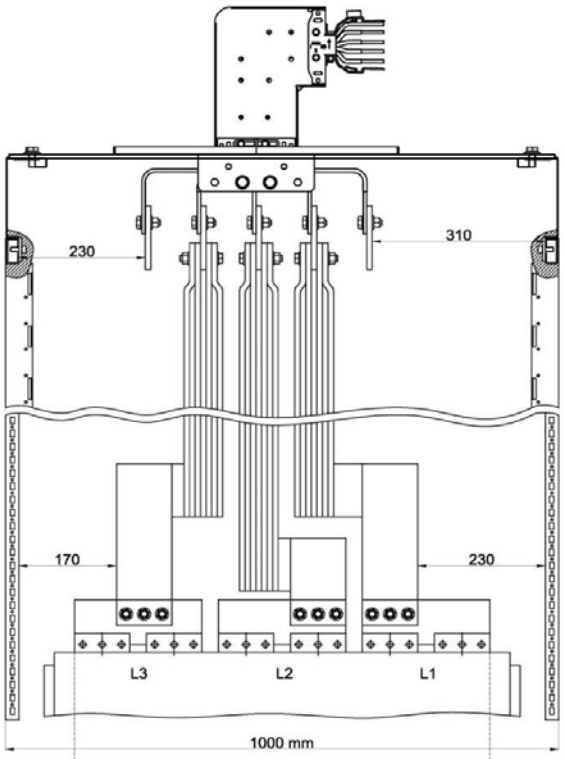


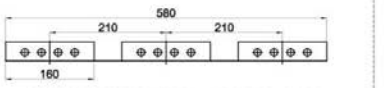




PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
030





SIEMENS SIZE3 (4000 A - 6300 A / 100kA)

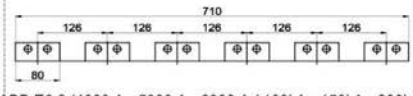
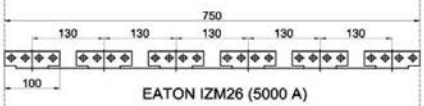
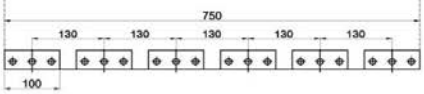


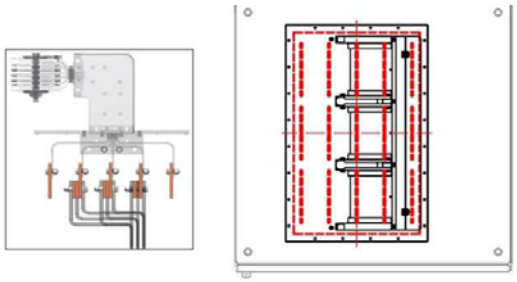
ABB E6.2 (4000 A - 5000 A - 6300 A / 100kA - 150kA - 200kA)

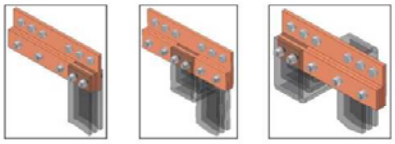


EATON IZM26 (5000 A)

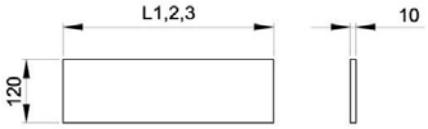


LEGRAND SIZE 3 (5000 A - 6300 A / 100kA)





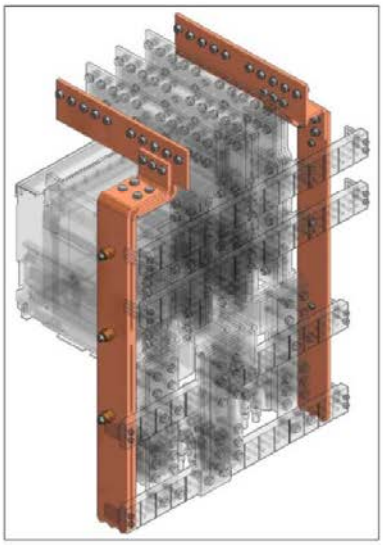
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
SIEMENS	WL	680	680	680
ABB	Emax 2 / E6.2			
EATON	IZMX26			
LEGRAND	SIZE 3			

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

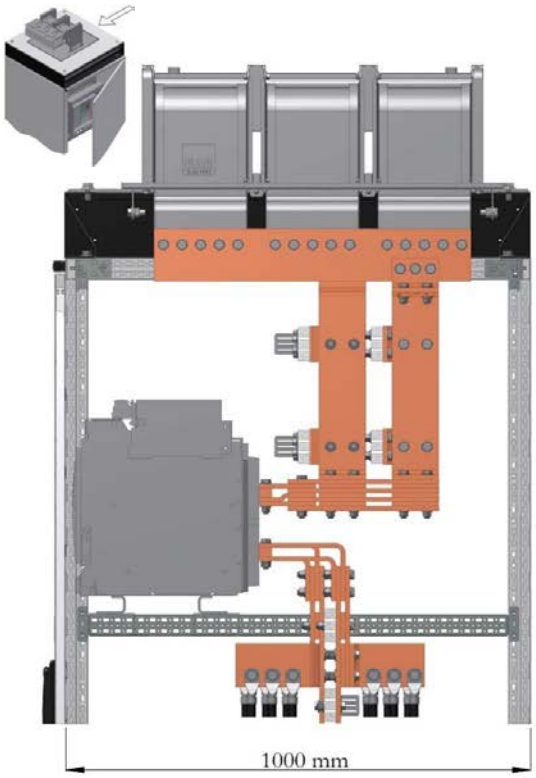
MODEL
031

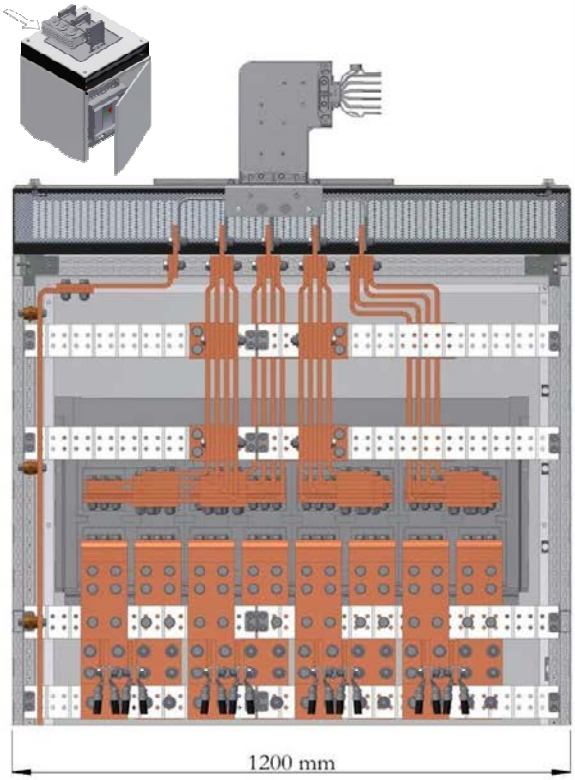
5000 A 3P

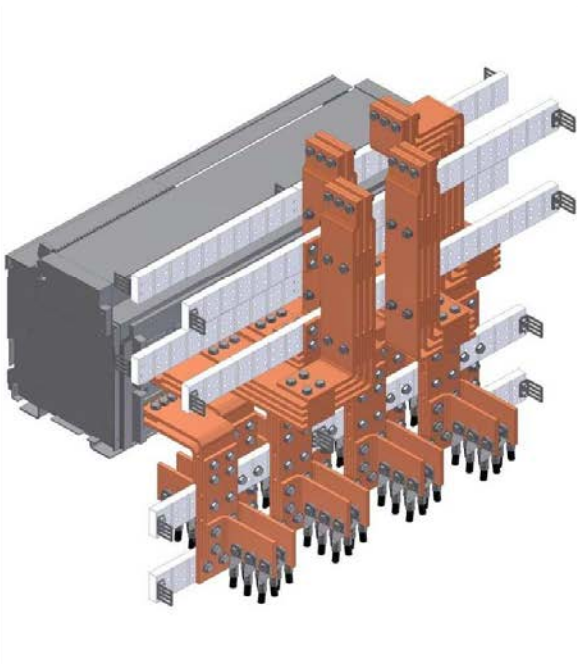


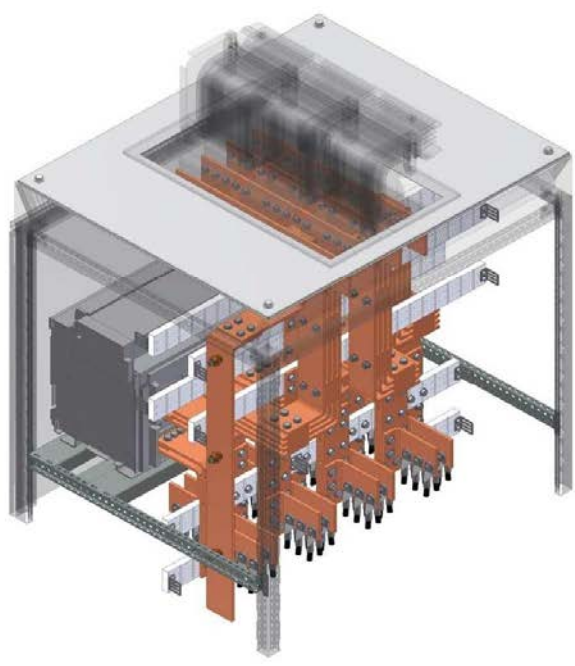
KXA





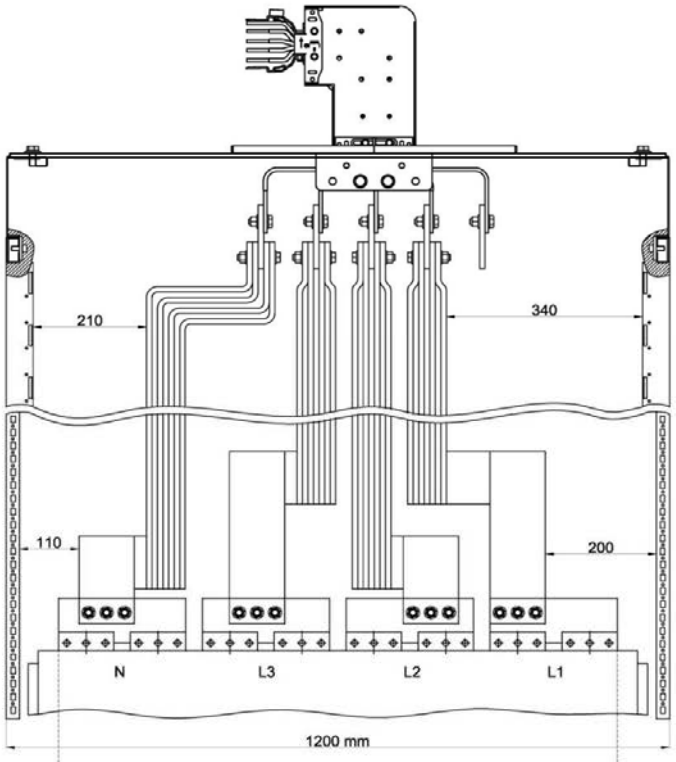


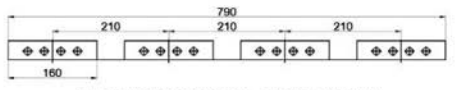




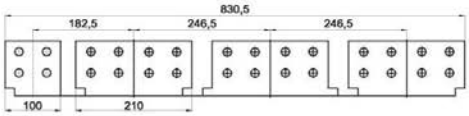
PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
031

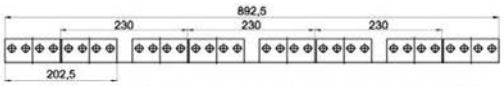




SIEMENS SIZE3 (4000 A - 6300 A / 100kA)



CHİNT NA1 - 6300 (4000 A - 5000 A)



GE ENTELLIGUARD Envelope 3 (5000 A / 85kA - 100kA - 150kA)

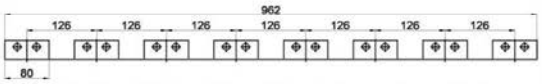
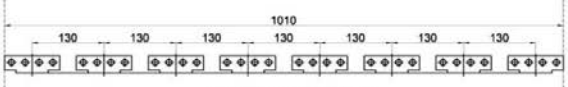
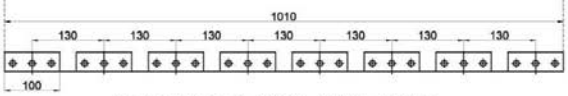


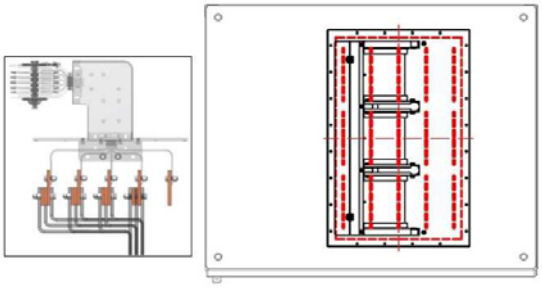
ABB E6.2 (4000 A - 5000 A - 6300 A / 100kA - 150kA - 200kA)

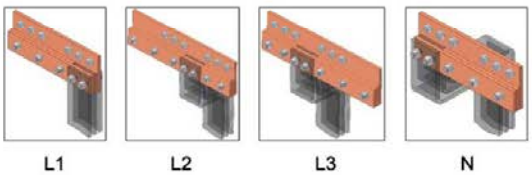


EATON IZM26 (5000 A)

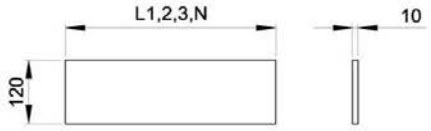


LEGRAND SIZE 3 (5000 A - 6300 A / 100kA)





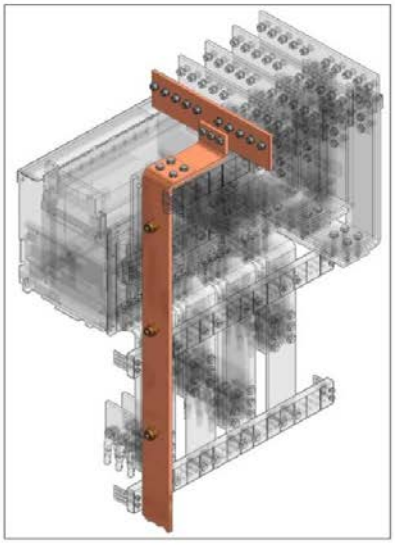
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
SİEMENS	WL	680	680	680	680
CHINT	NA1				
GE	ENVELOPE 3				
ABB	Emax 2 / E6.2				
EATON	IZMX26				
LEGRAND	SIZE 3				

Paralleling busbar minimum dimensions.

PE / N

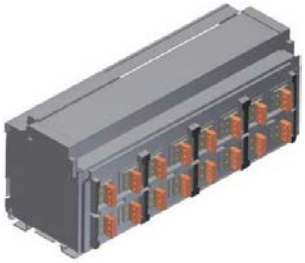


Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

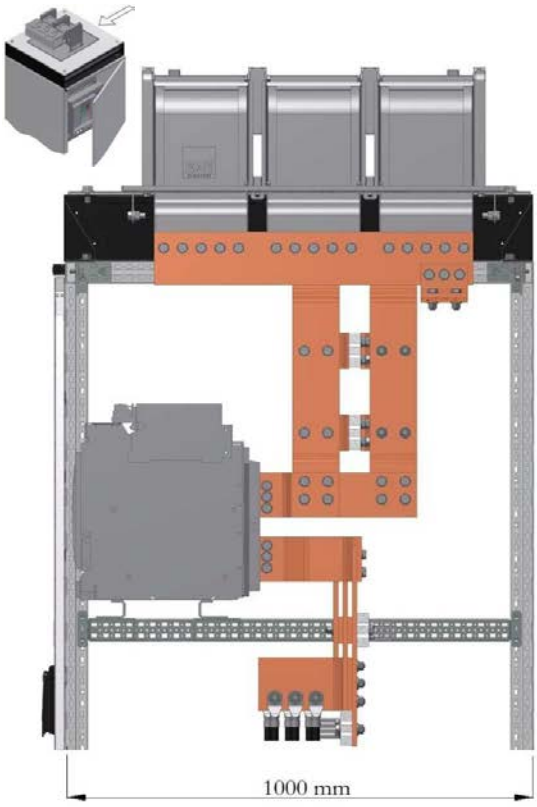
MODEL
032

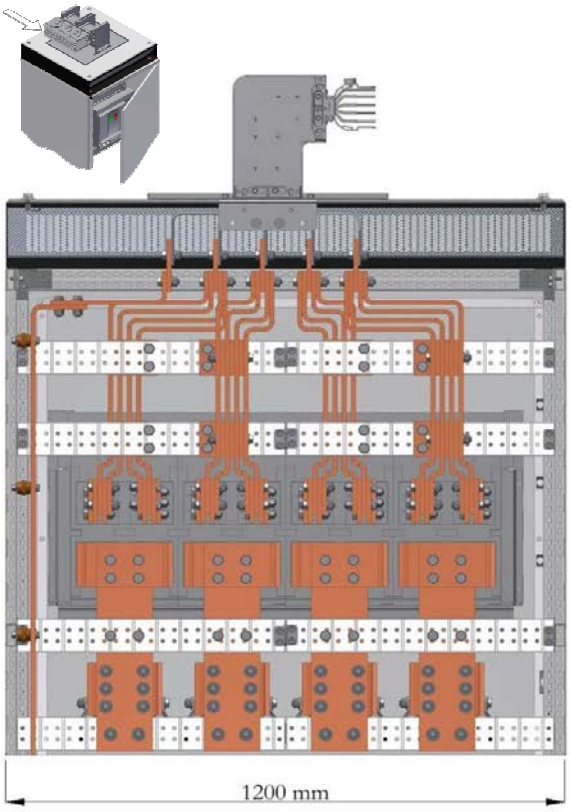
5000 A 4P

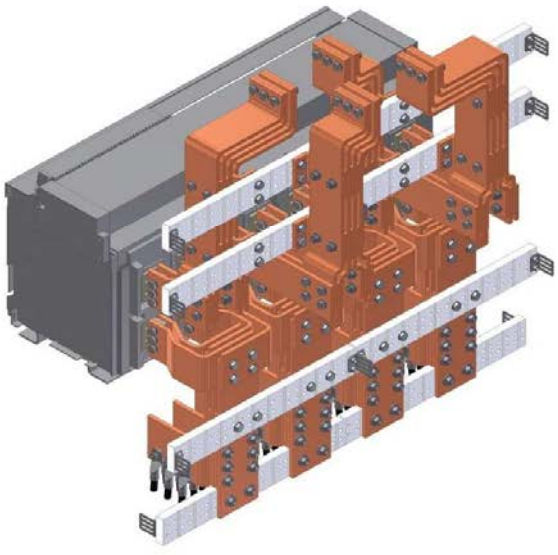


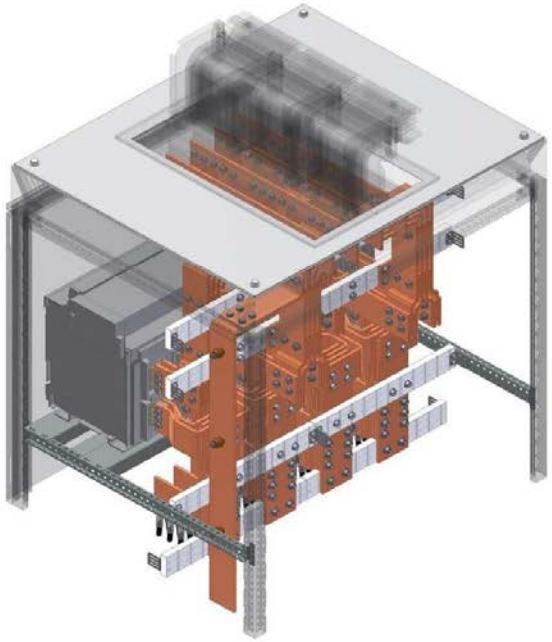
KXA



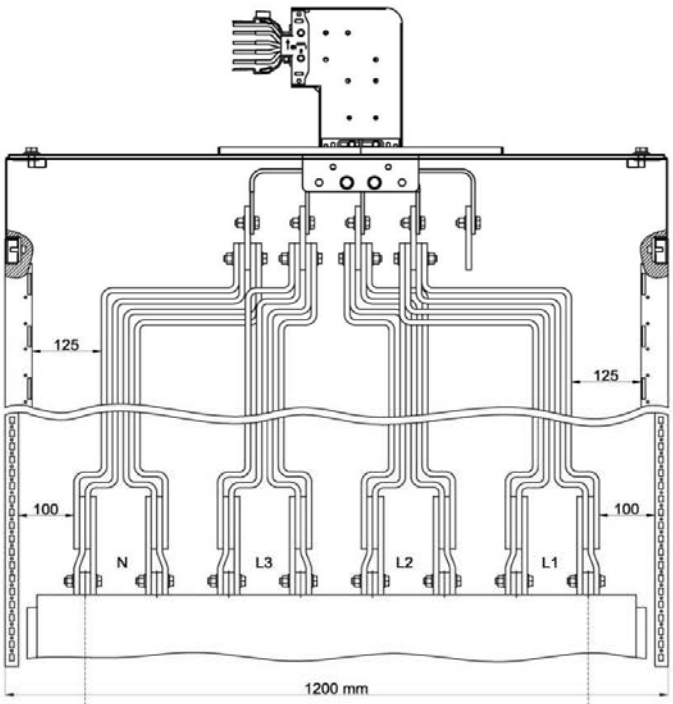


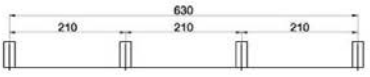




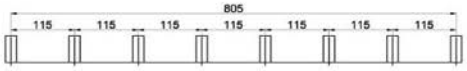


MODEL
032





SIEMENS SIZE3 (4000 A - 6300 A / 100kA)



GE ENTELLIGUARD Envelope 3 (5000 A / 85kA - 100kA - 150kA)

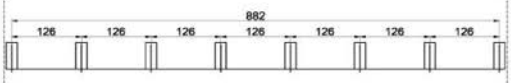
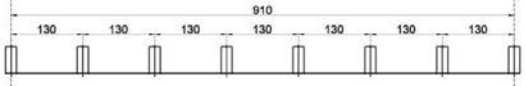
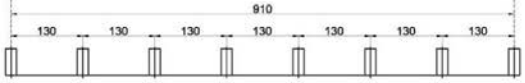


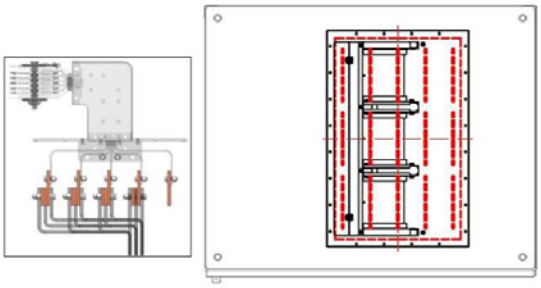
ABB E6.2 (4000 A - 5000 A - 6300 A / 100kA - 150kA - 200kA)

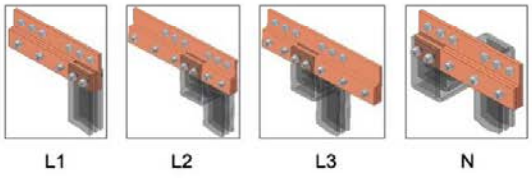


EATON IZM26 (5000 A)

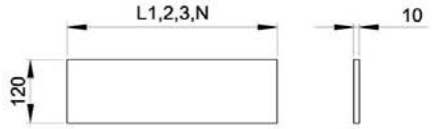


LEGRAND SIZE 3 (5000 A - 6300 A / 100kA)





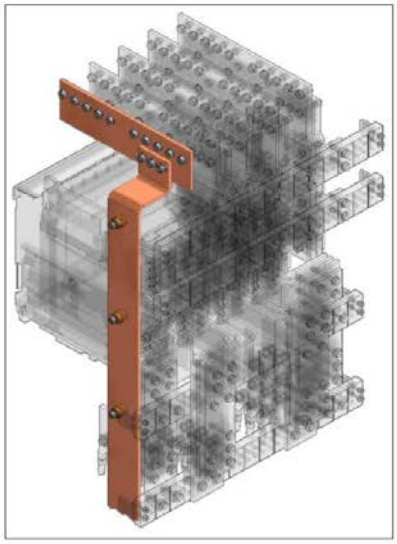
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
SALTER	KOD.	L1	L2	L3	N
SIEMENS	WL	680	680	680	680
CHINT	NA1				
GE	ENVELOPE 3				
ABB	Emax 2 / E6.2				
EATON	IZMX26				
LEGRAND	SIZE 3				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

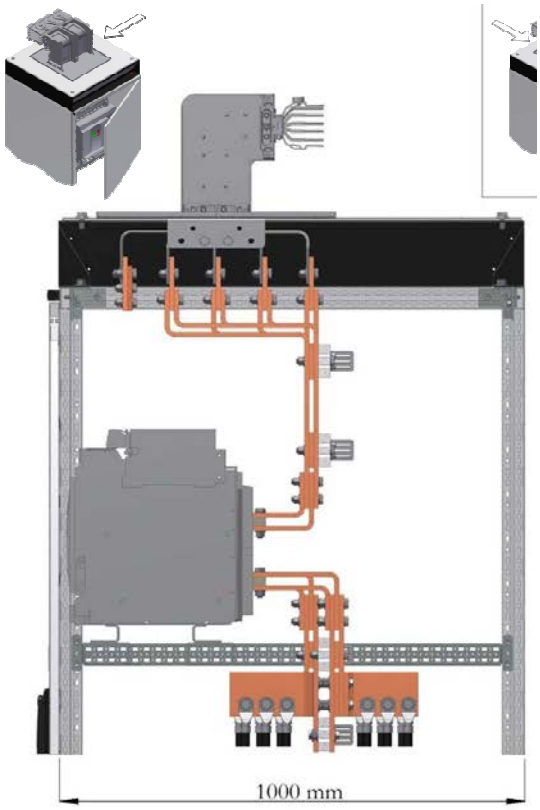
MODEL
033

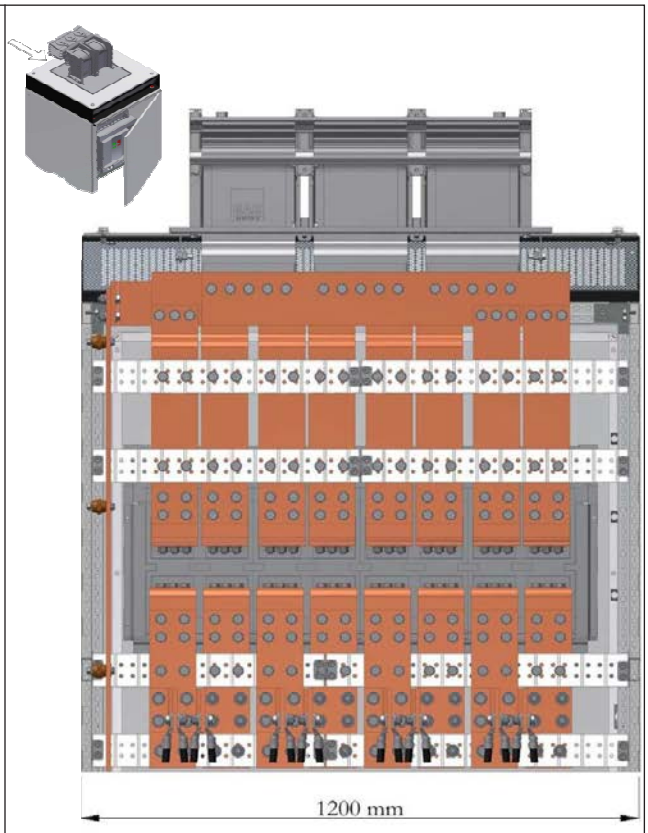
5000 A 4P

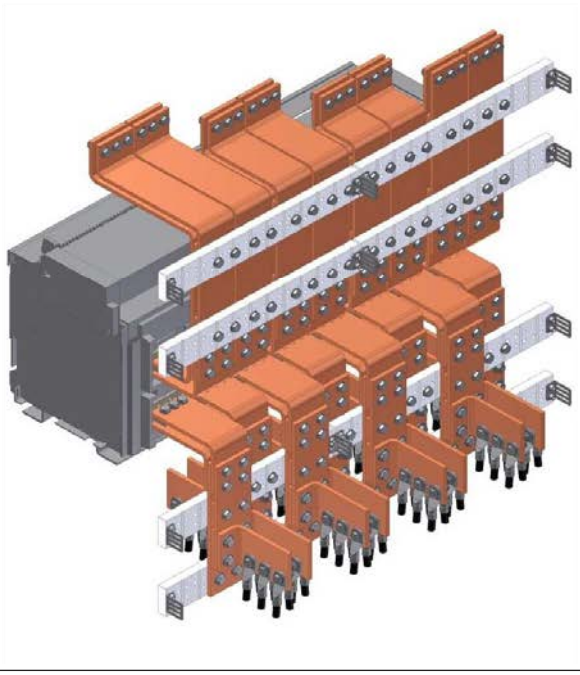


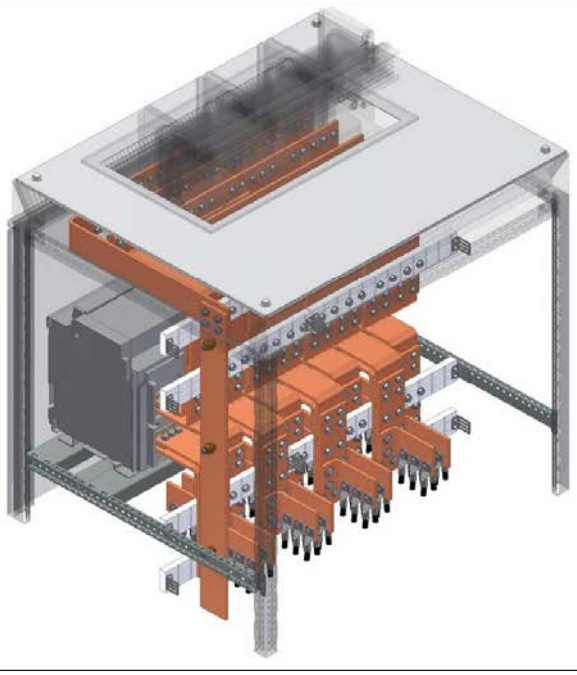
KXA



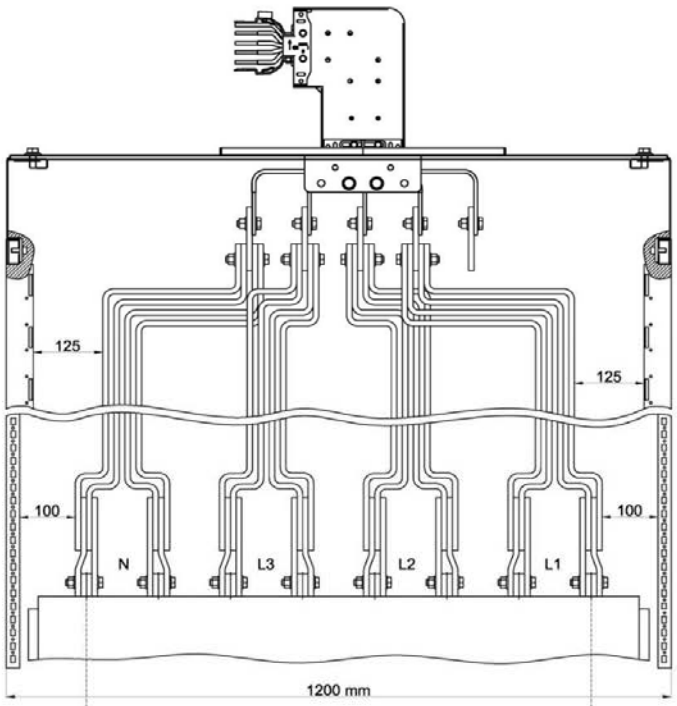


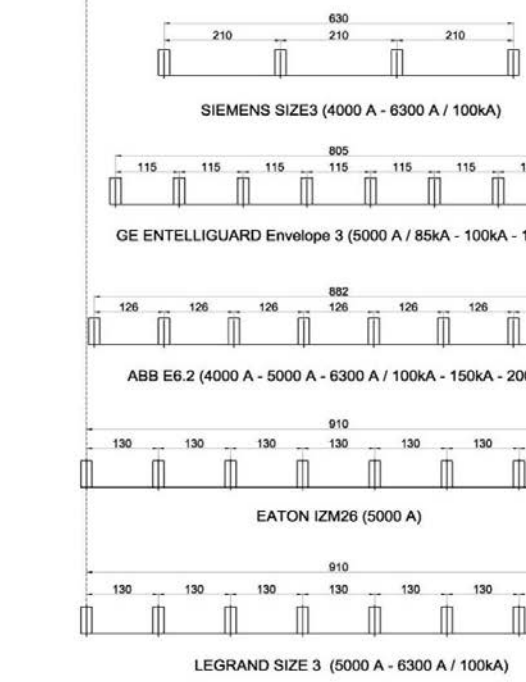


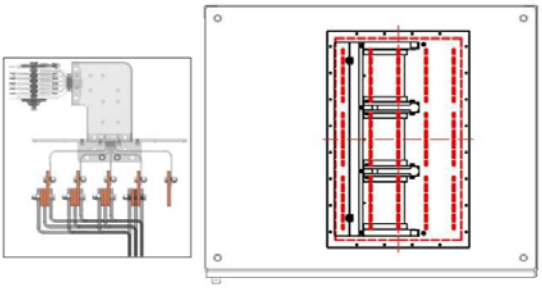


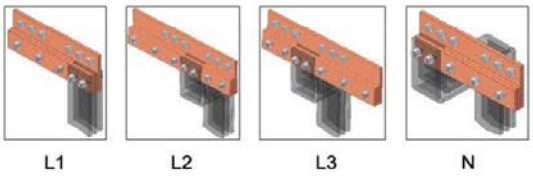


MODEL
033

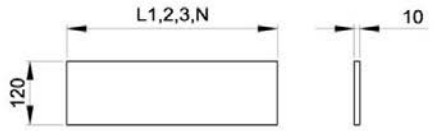








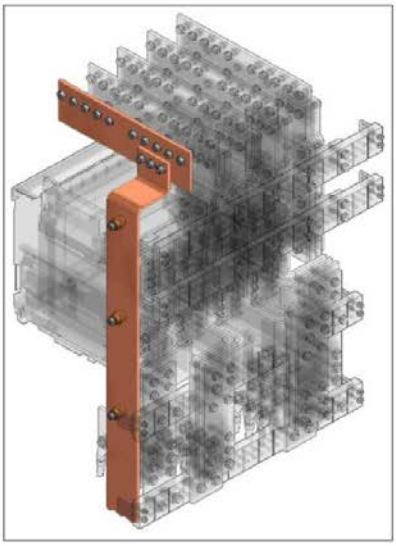
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
SIEMENS	WL	680	680	680	680
CHINT	NA1				
GE	ENVELOPE 3				
ABB	Emax 2 / E6.2				
EATON	IZMX26				
LEGRAND	SIZE 3				

Paralleling busbar minimum dimensions.

PE / N

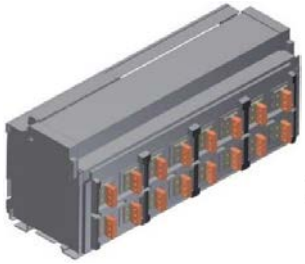


Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

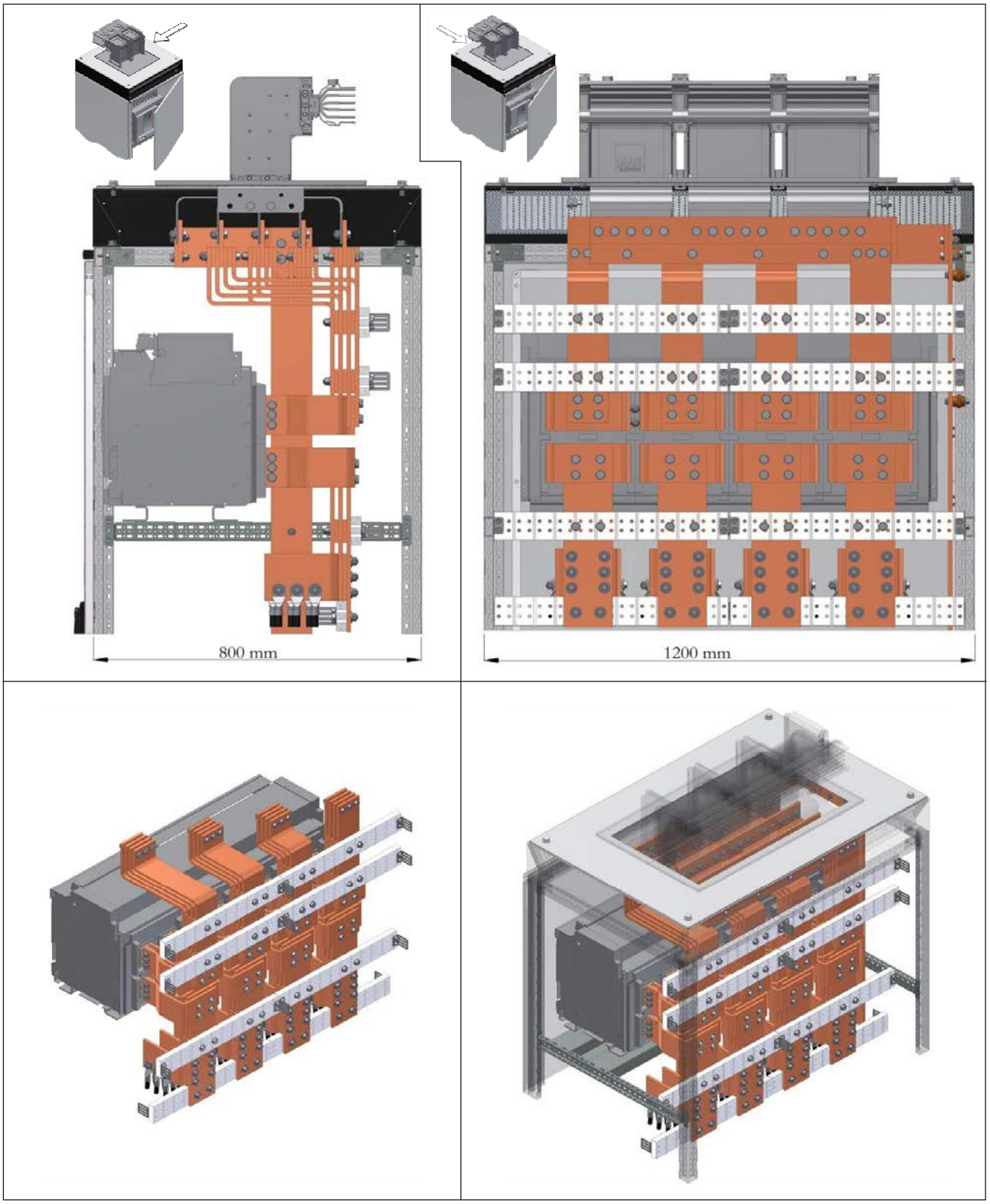
MODEL
034

5000 A 4P



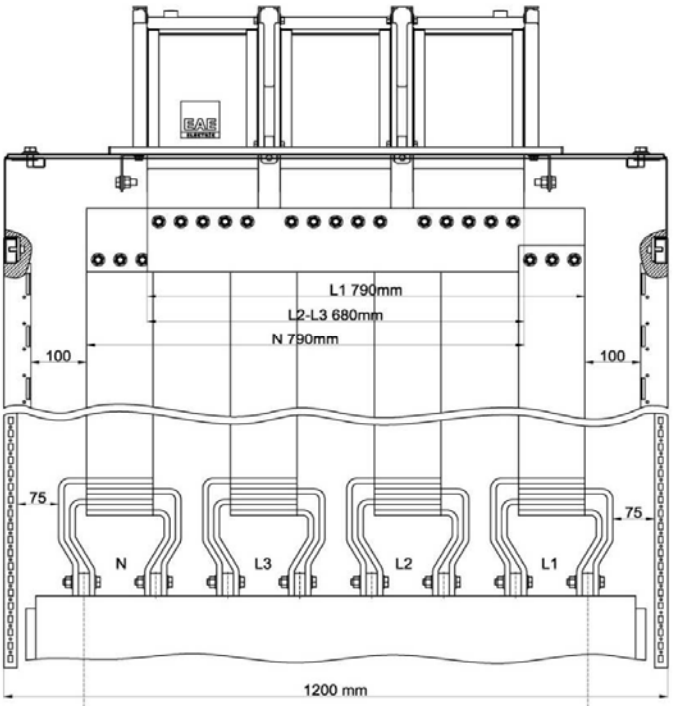
KXA

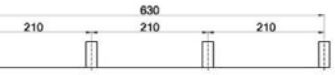




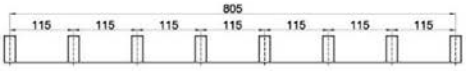
PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
034





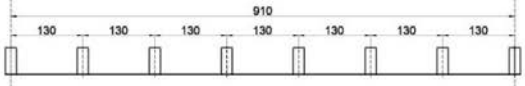
SIEMENS SIZE3 (4000 A - 6300 A / 100kA)



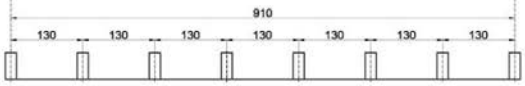
GE ENTELLIGUARD Envelope 3 (5000 A / 85kA - 100kA - 150kA)



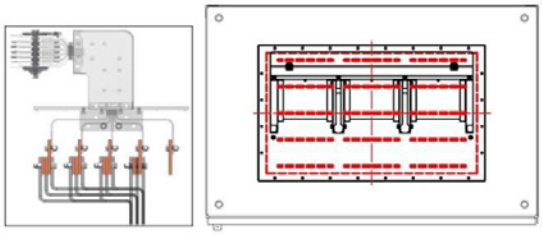
ABB E6.2 (4000 A - 5000 A - 6300 A / 100kA - 150kA - 200kA)

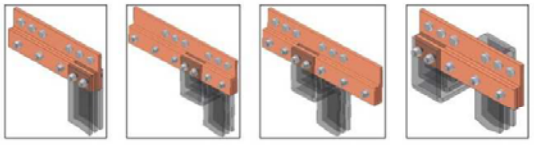


EATON IZM26 (5000 A)

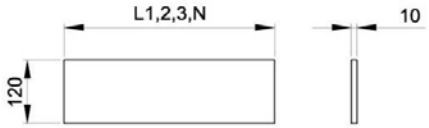


LEGRAND SIZE 3 (5000 A - 6300 A / 100kA)





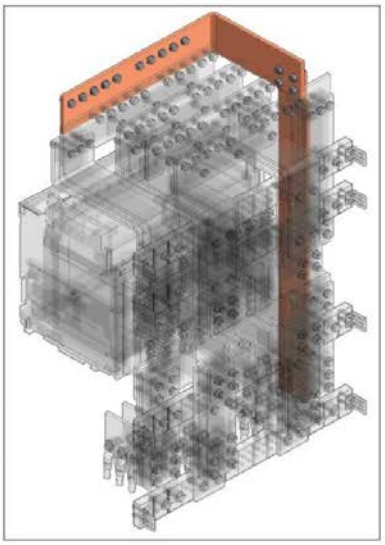
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
SIEMENS	WL	680	680	680	680
GE	ENVELOPE 3	740	680	680	740
ABB	Emax 2 / E6.2	790	680	680	790
EATON	IZMX26	790	680	680	790
LEGRAND	SIZE 3	790	680	680	790

Paralleling busbar minimum dimensions.

PE / N

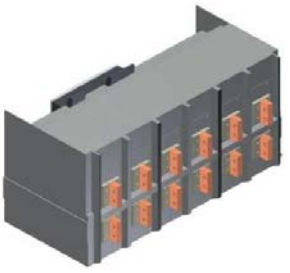


Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

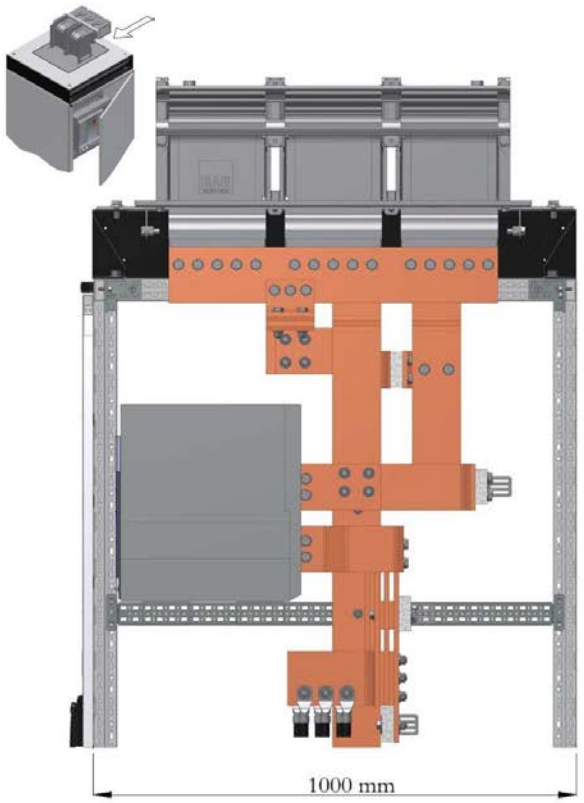
MODEL
035

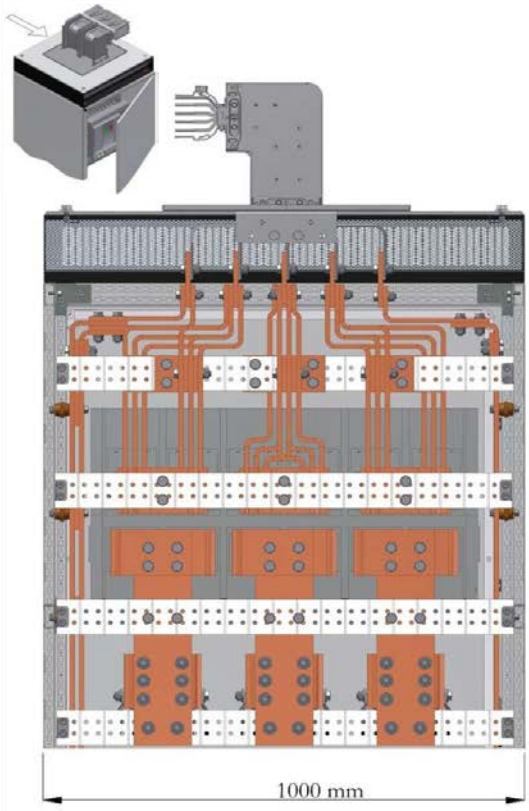
6300 A 3P

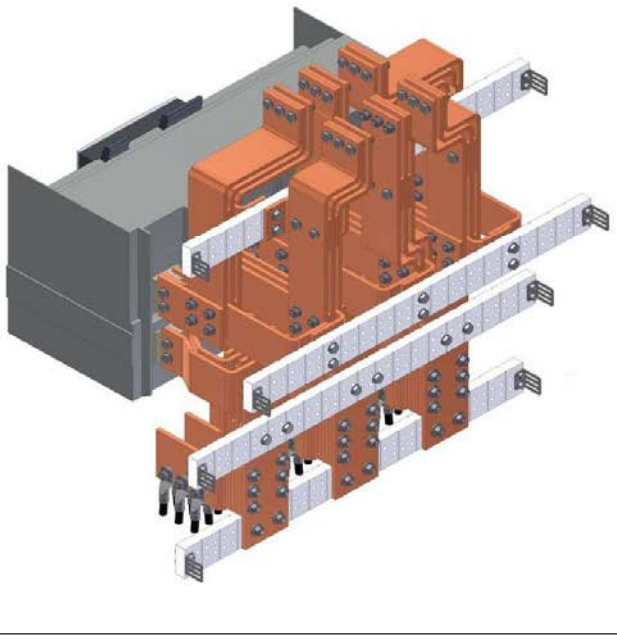


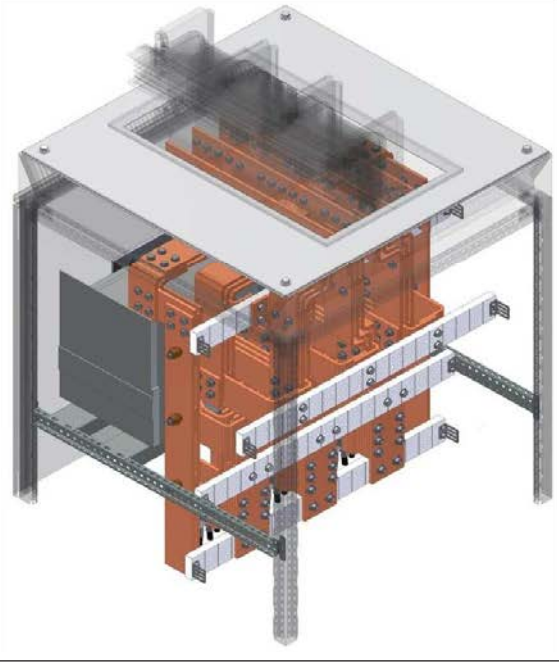
KXA



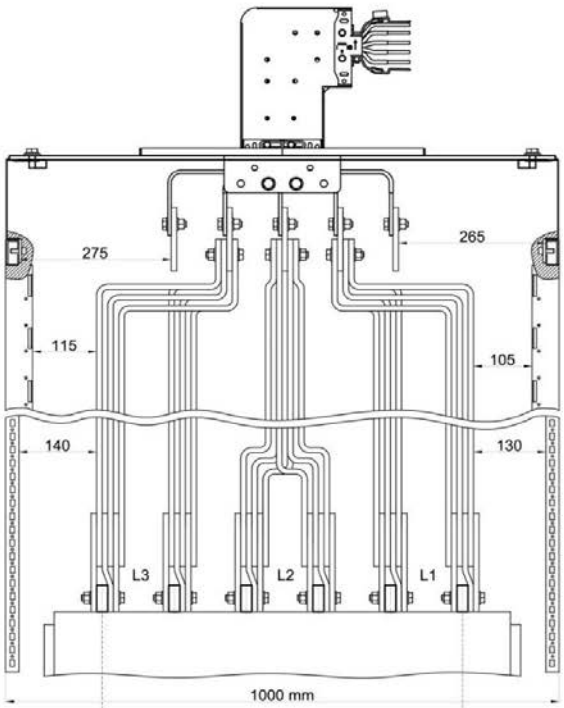


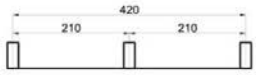




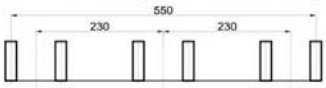


MODEL
035





SIEMENS SIZE3 (4000 A - 6300 A / 100kA)



GE ENTELLIGUARD Envelope 3 (6300 A / 100kA)

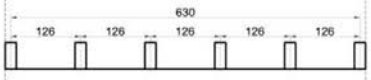
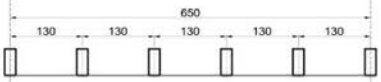
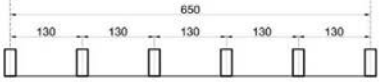


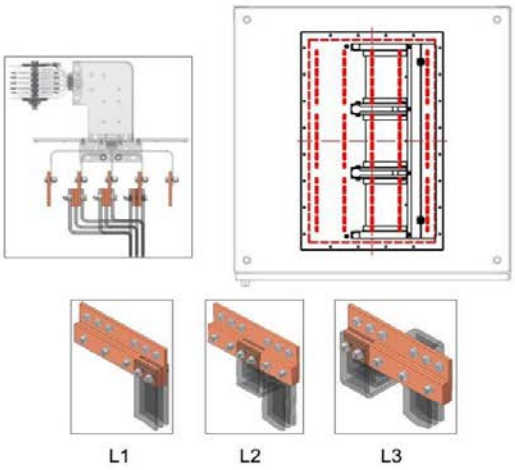
ABB E6.2 (4000 A - 5000 A - 6300 A / 100kA - 150kA - 200kA)



EATON IZM26 (6300 A)



LEGRAND SIZE 3 (5000 A - 6300 A / 100kA)



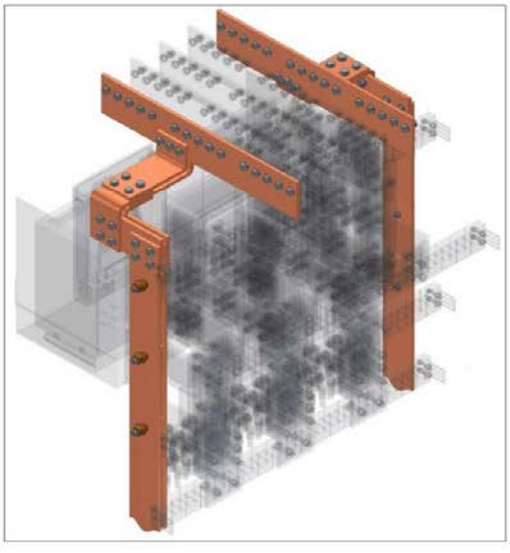
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
SIEMENS	WL	680	680	680
GE	ENVELOPE 3			
ABB	Emax 2 / E6.2			
EATON	IZMX26			
LEGRAND	SIZE 3			

Paralleling busbar minimum dimensions.

PE / N

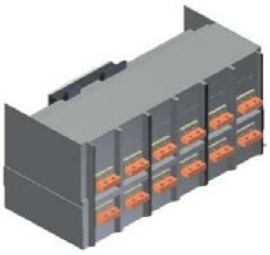


Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

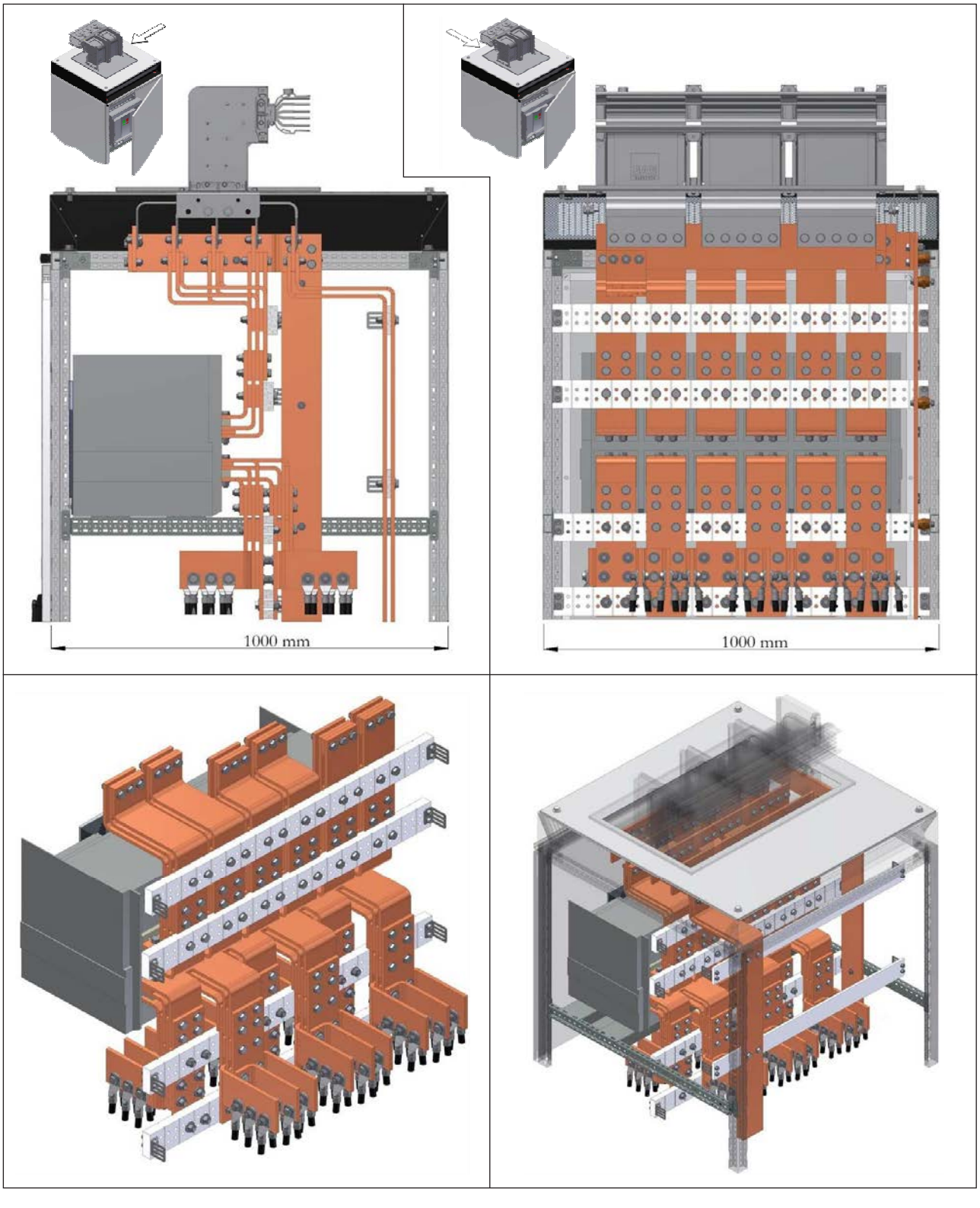
MODEL
036

6300 A 3P



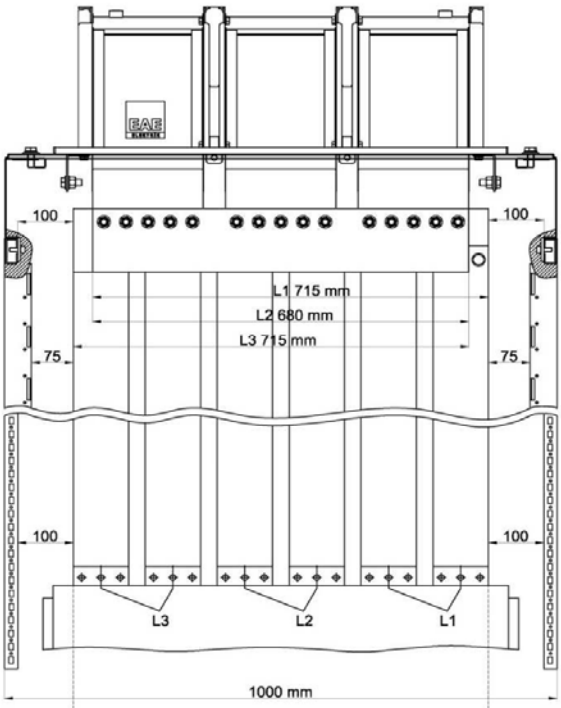
KXA

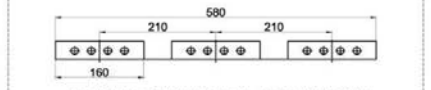




PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
036





SIEMENS SIZE3 (4000 A - 6300 A / 100kA)

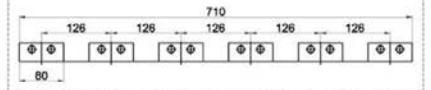
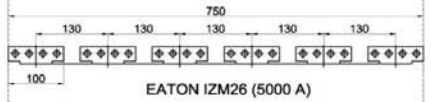
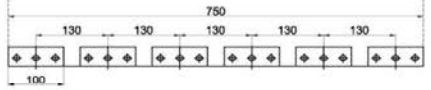


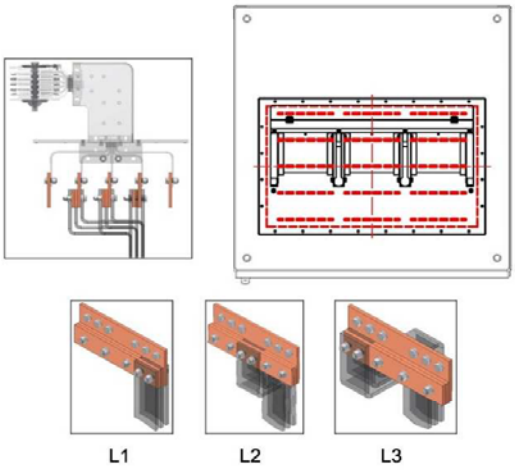
ABB E6.2 (4000 A - 5000 A - 6300 A / 100kA - 150kA - 200kA)



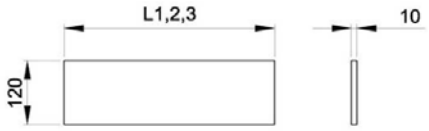
EATON IZM26 (5000 A)



LEGRAND SIZE 3 (5000 A - 6300 A / 100kA)



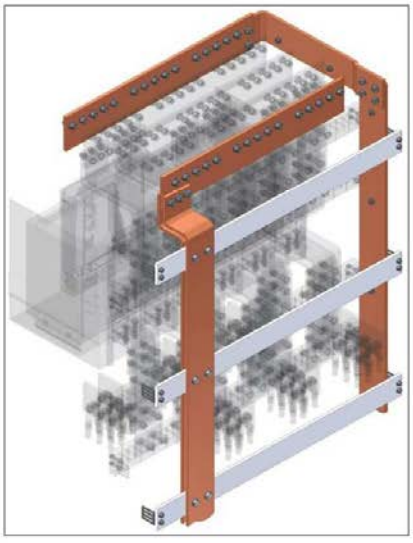
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
SIEMENS	WL	680	680	680
ABB	Emax 2 / E6.2	700	680	700
EATON	IZMX26	715	680	715
LEGRAND	SIZE 3			

Paralleling busbar minimum dimensions.

PE / N

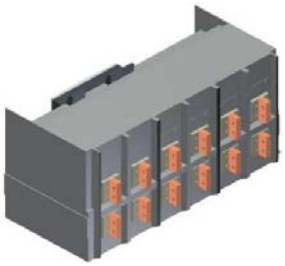


Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

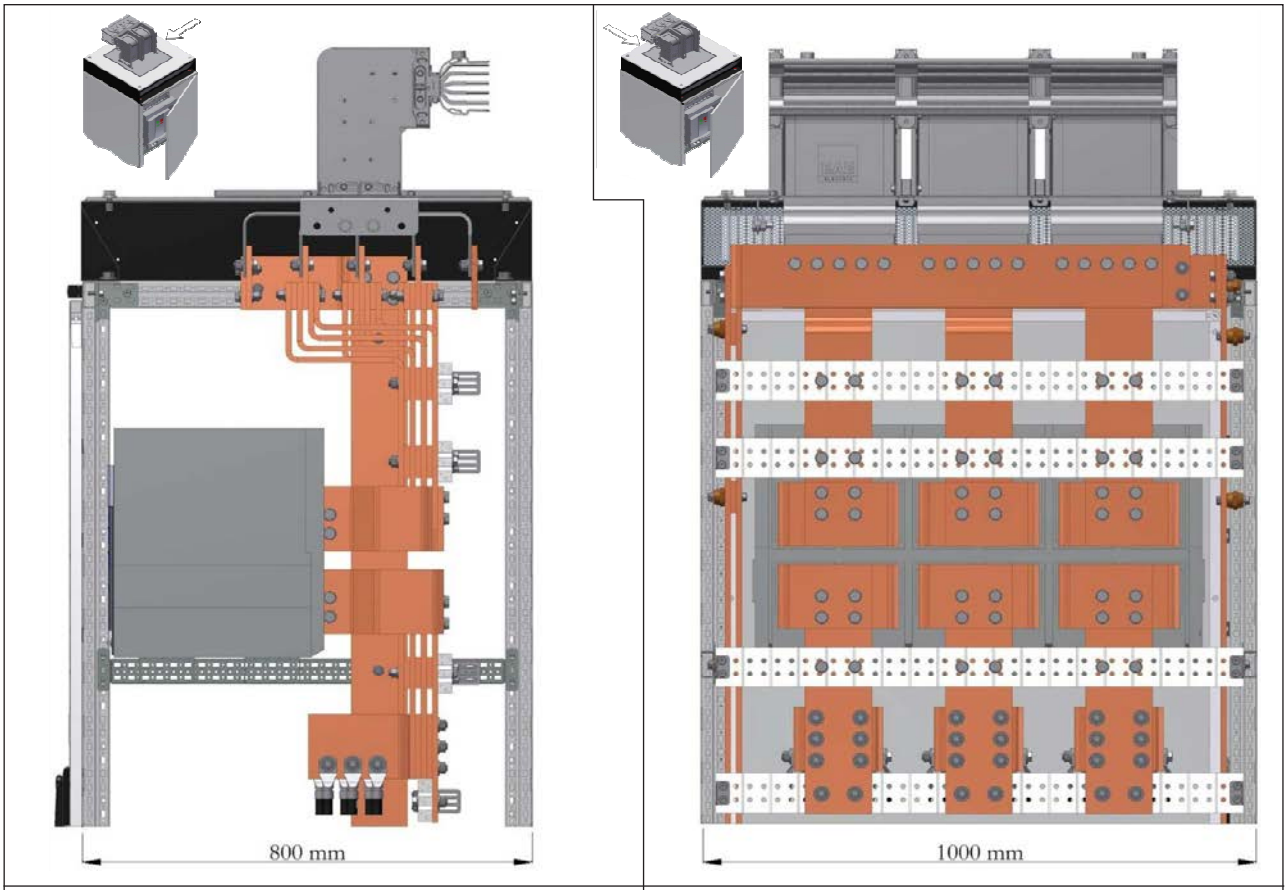
MODEL
037

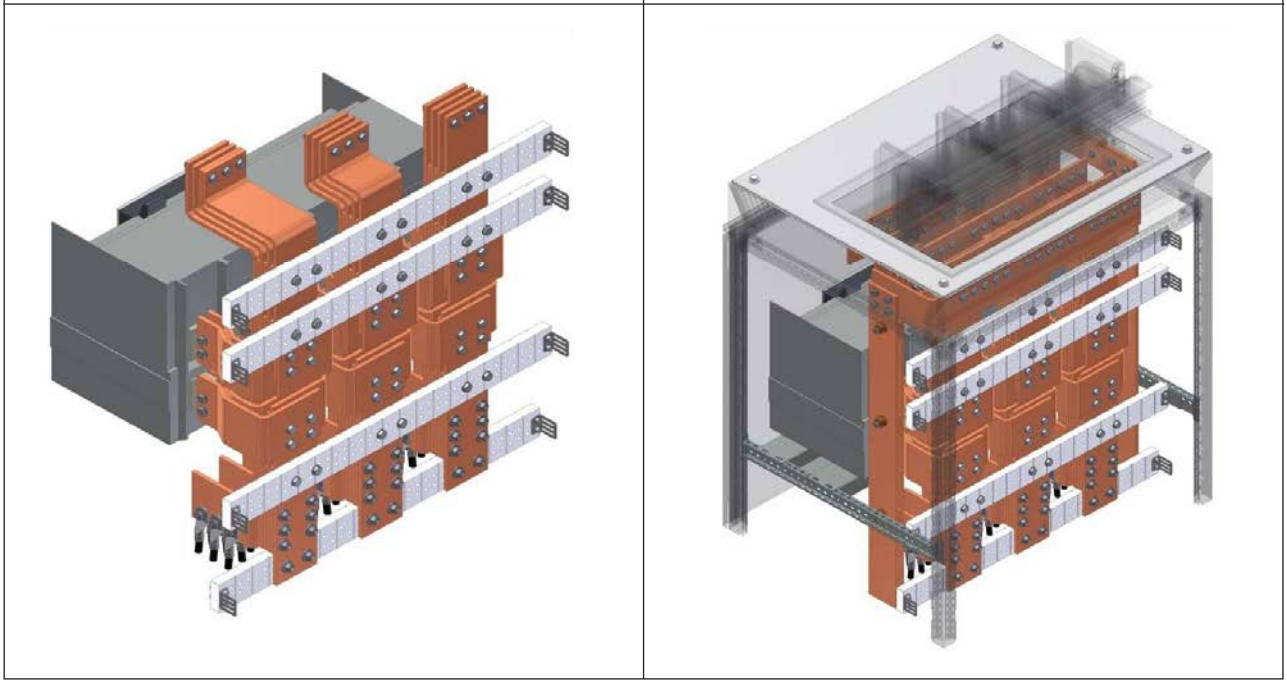
6300 A 3P



KXA

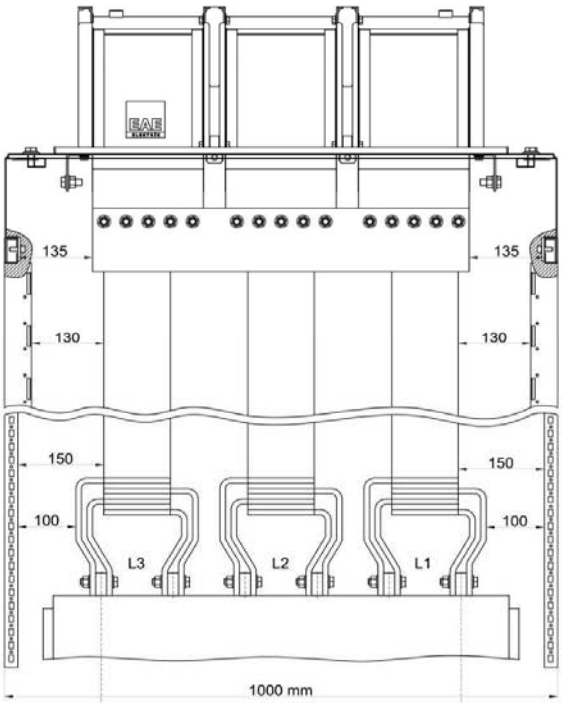


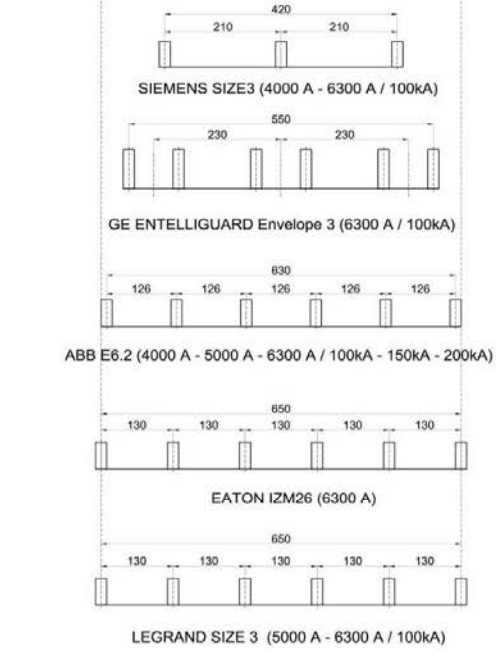


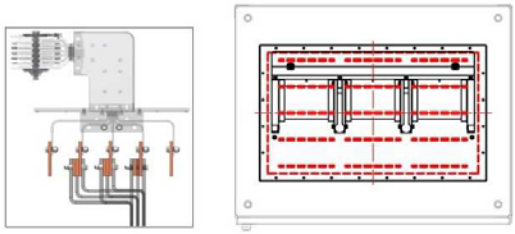


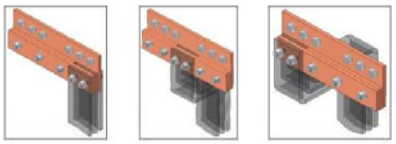
PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
037

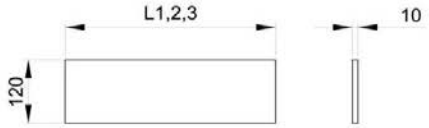






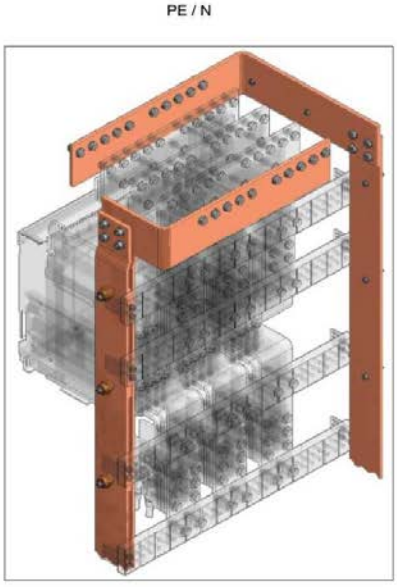


For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
SIEMENS	WL	680	680	680
GE	ENVELOPE 3			
ABB	Emax 2 / E6.2			
EATON	IZMX26			
LEGRAND	SIZE 3			

Paralleling busbar minimum dimensions.

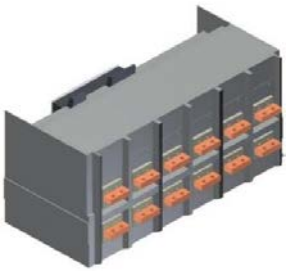


Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

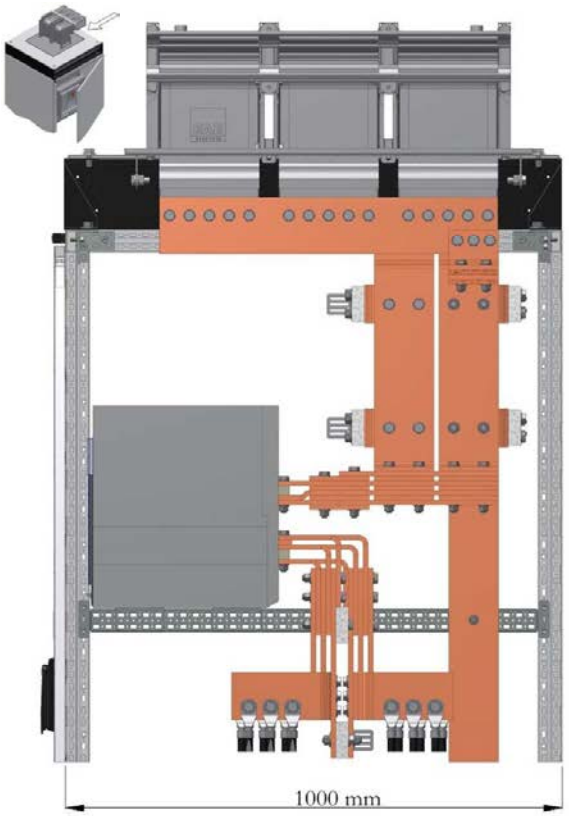
MODEL
038

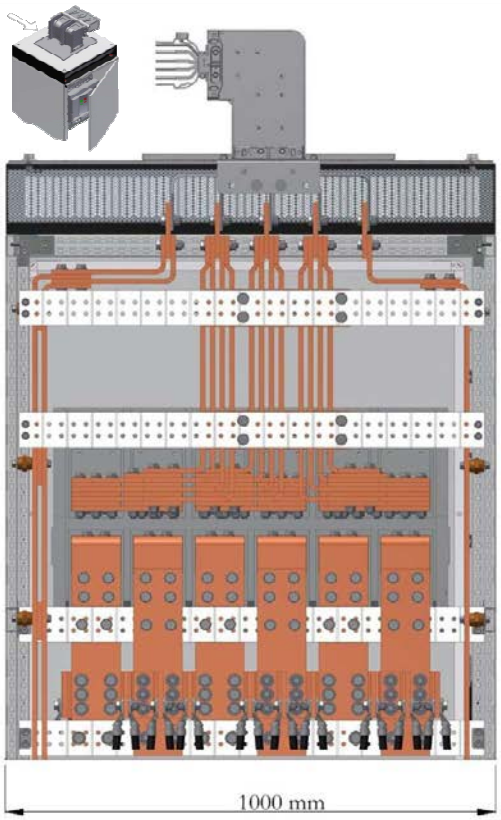
6300 A 3P

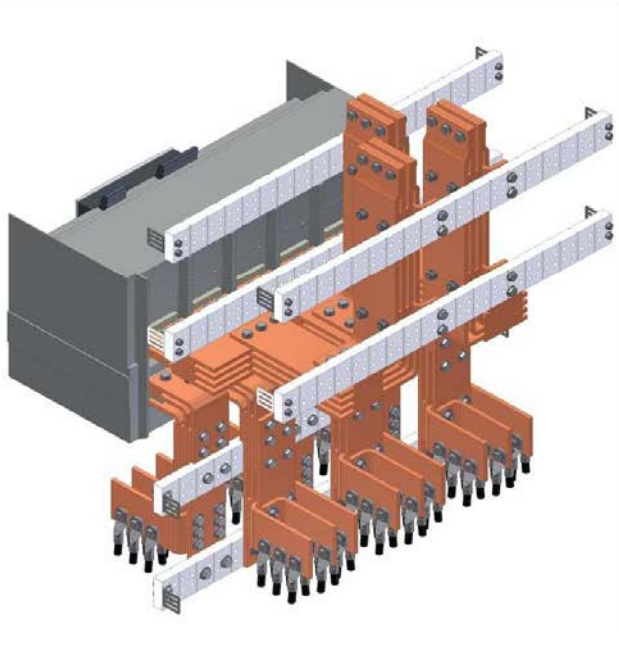


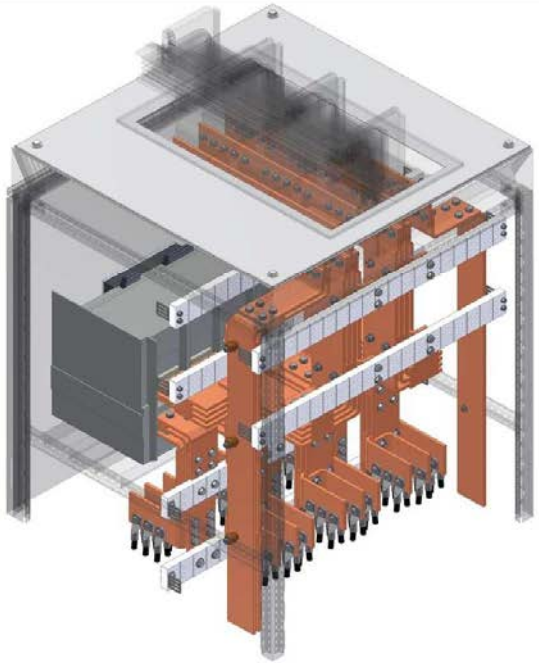
KXA



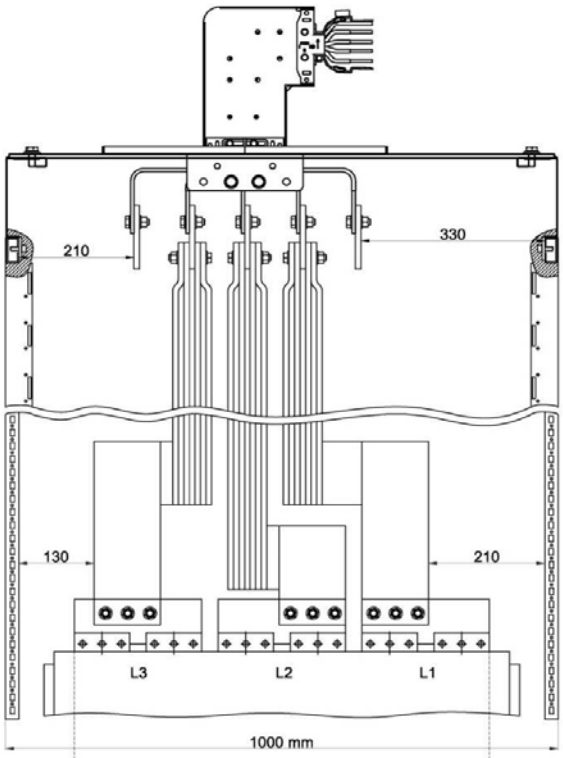


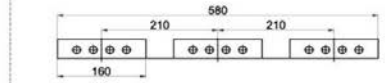






MODEL
038





SIEMENS SIZE3 (4000 A - 6300 A / 100kA)

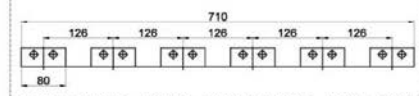
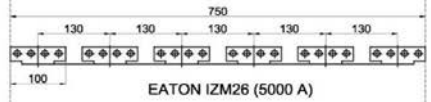
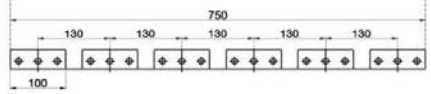


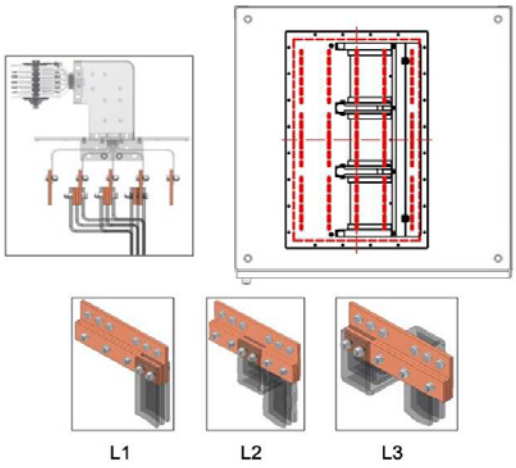
ABB E6.2 (4000 A - 5000 A - 6300 A / 100kA - 150kA - 200kA)



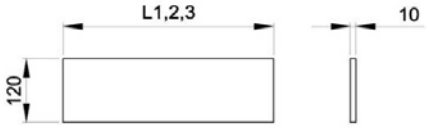
EATON IZM26 (5000 A)



LEGRAND SIZE 3 (5000 A - 6300 A / 100kA)



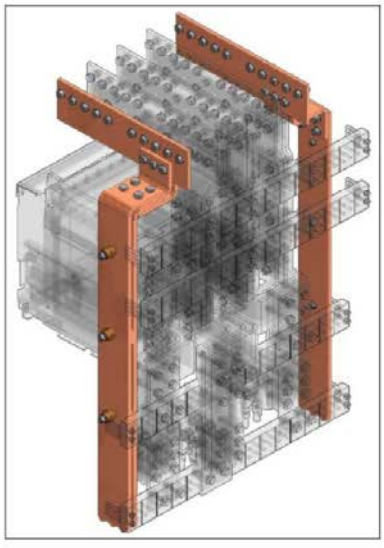
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)				
ŞALTER	KOD.	L1	L2	L3
SIEMENS	WL	680	680	680
ABB	Emax 2 / E6.2			
EATON	IZMX26			
LEGRAND	SIZE 3			

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

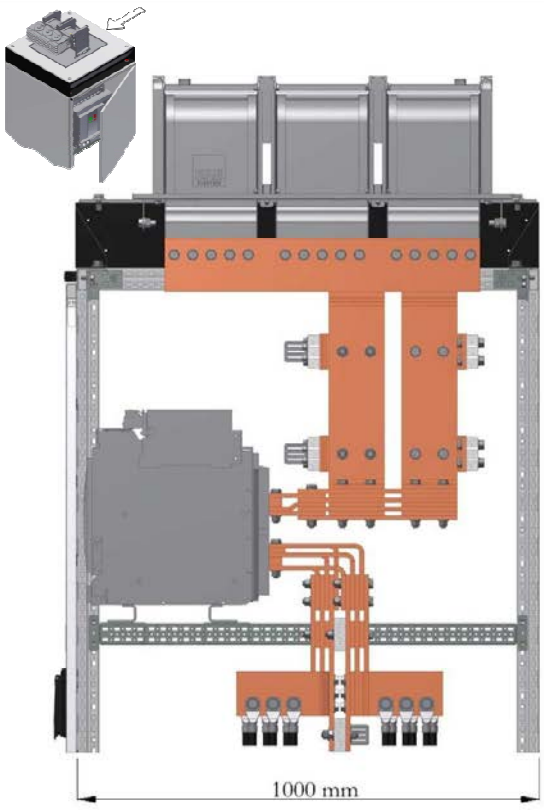
MODEL
039

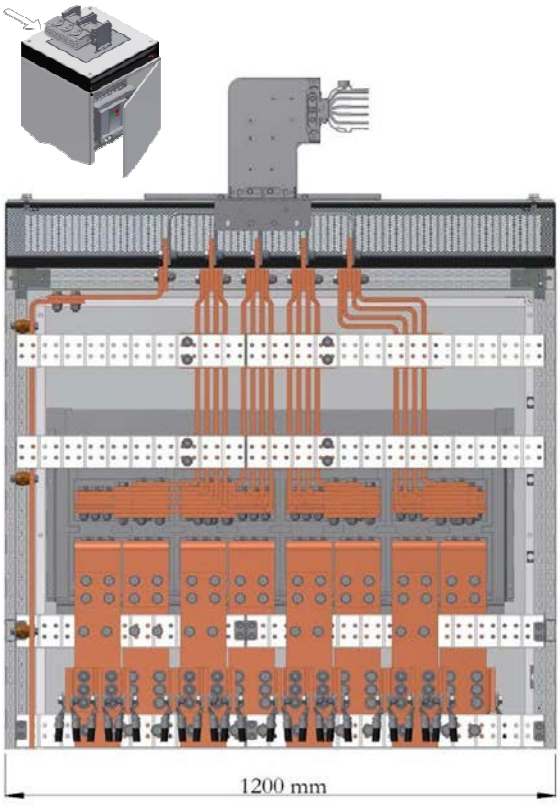
6300 A 4P

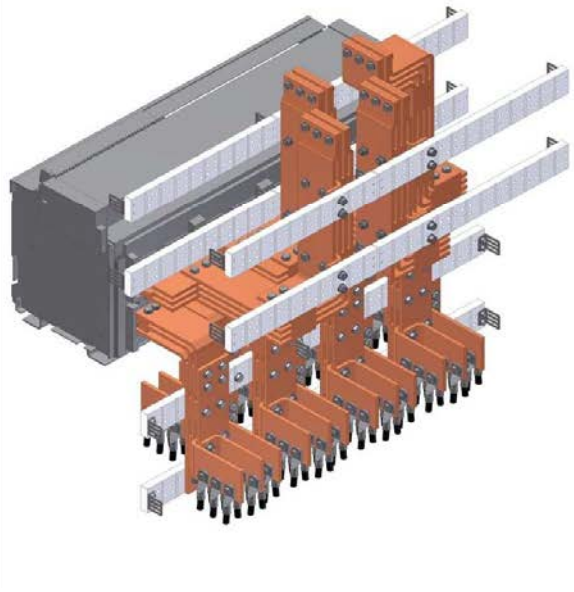


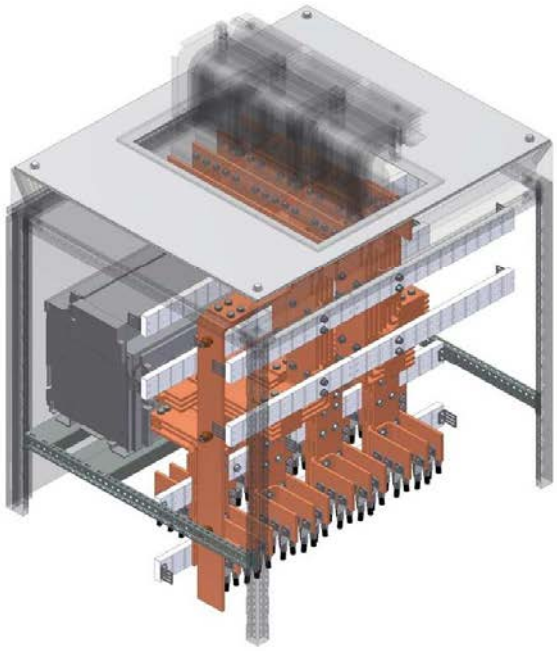
KXA



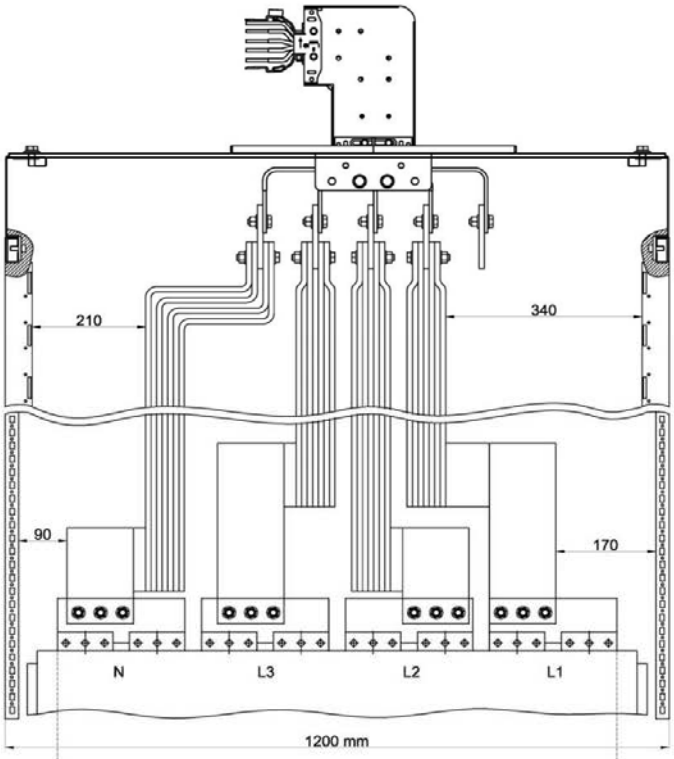


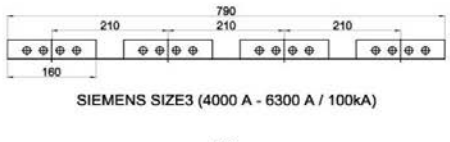






MODEL
039





SIEMENS SIZE3 (4000 A - 6300 A / 100kA)

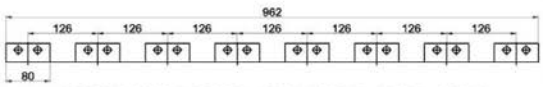
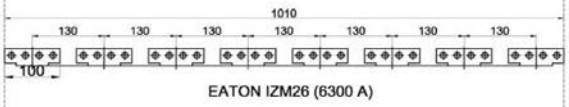
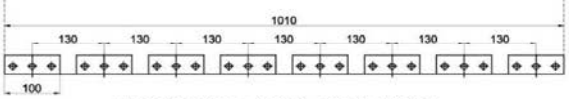


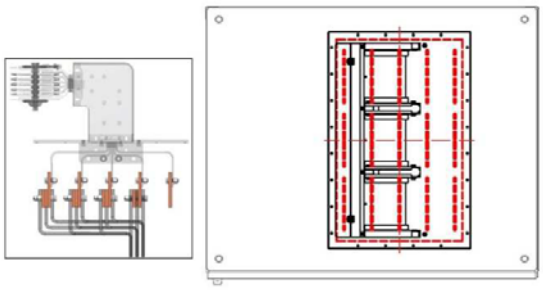
ABB E6.2 (4000 A - 5000 A - 6300 A / 100kA - 150kA - 200kA)



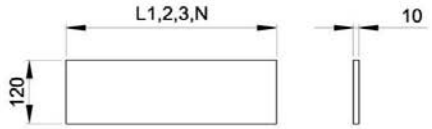
EATON IZM26 (6300 A)



LEGRAND SIZE 3 (5000 A - 6300 A / 100kA)



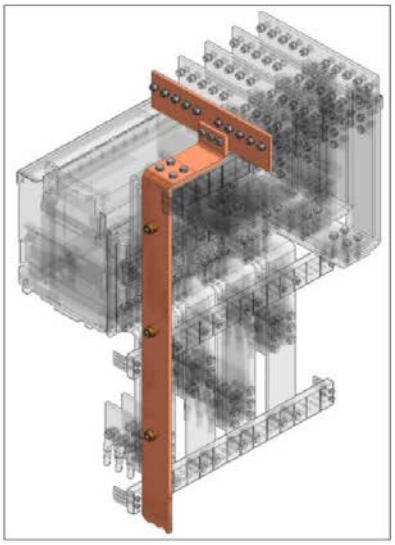
For details, please check busbar trunking paralleling applications



L1,2,3 (mm)					
SALTER	KOD.	L1	L2	L3	N
SIEMENS	WL	680	680	680	680
ABB	Emax 2 / E6.2				
EATON	IZMX26				
LEGRAND	SIZE 3				

Paralleling busbar minimum dimensions.

PE / N

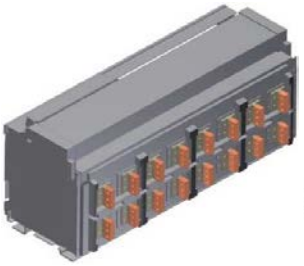


Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

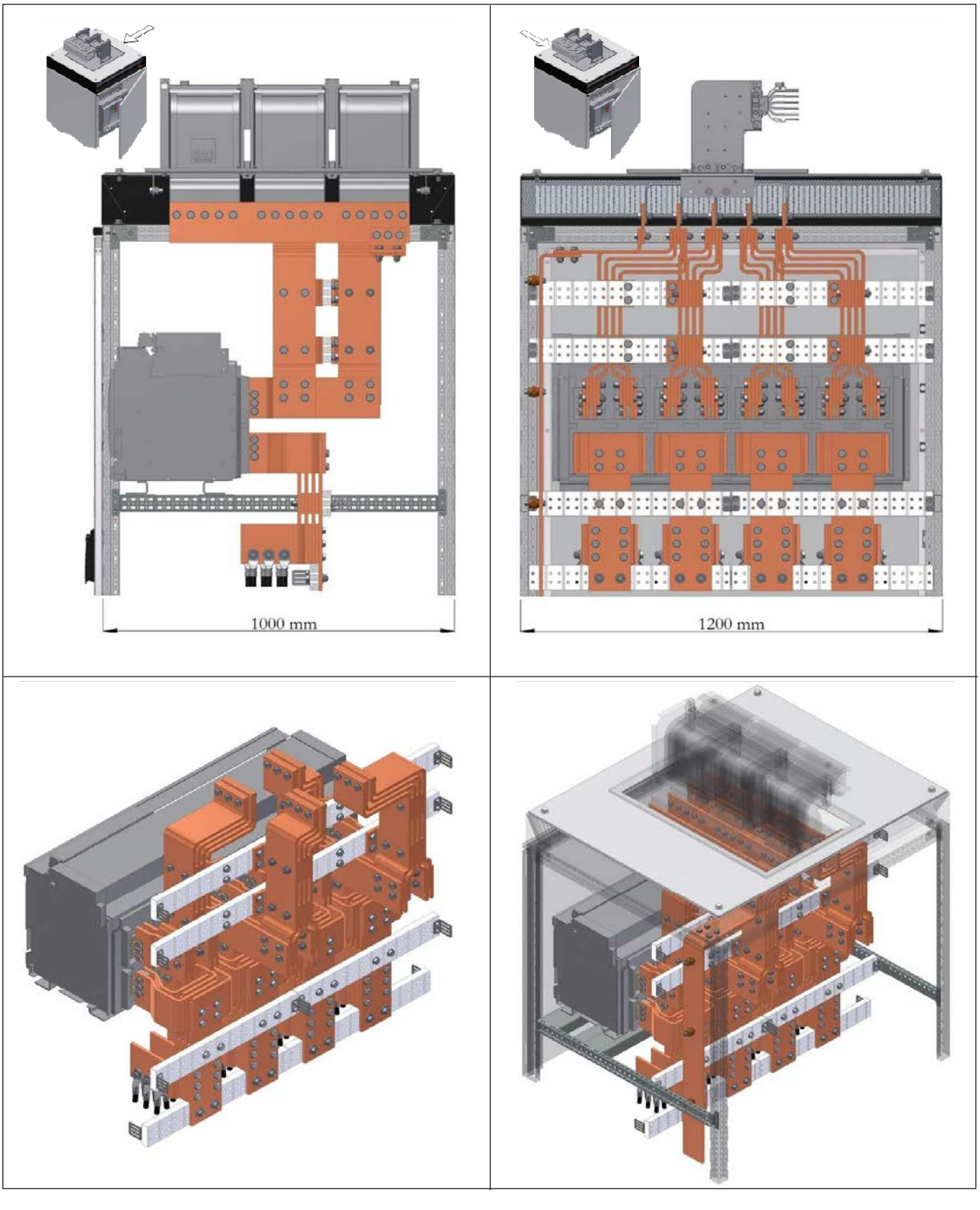
MODEL
040

6300 A 4P



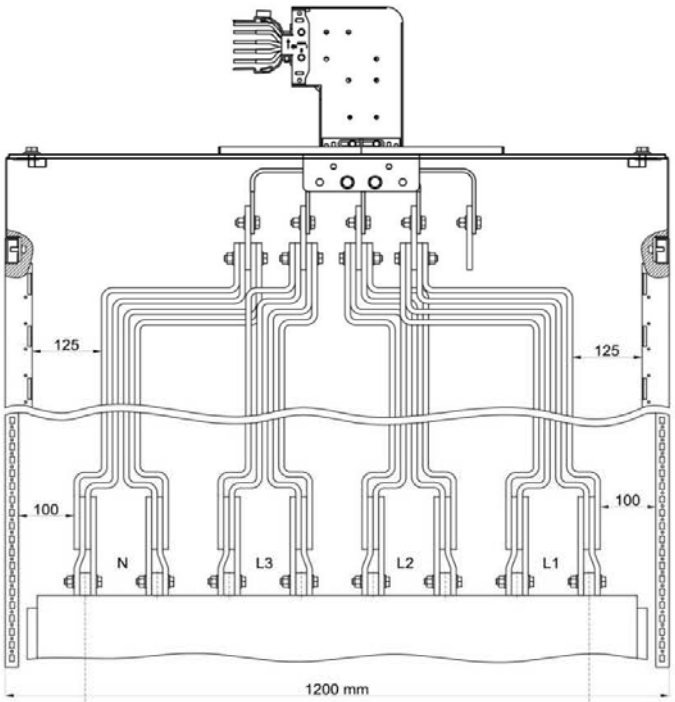
KXA





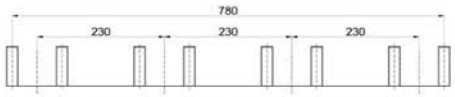
PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

MODEL
040





SIEMENS SIZE3 (4000 A - 6300 A / 100kA)



GE ENTELLIGUARD Envelope 3 (6300 A / 100kA)

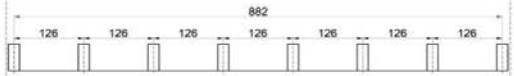
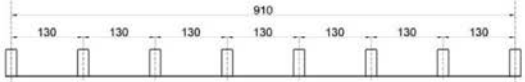
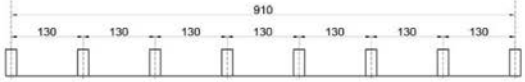


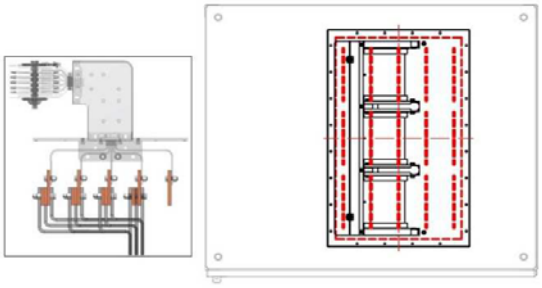
ABB E6.2 (4000 A - 5000 A - 6300 A / 100kA - 150kA - 200kA)

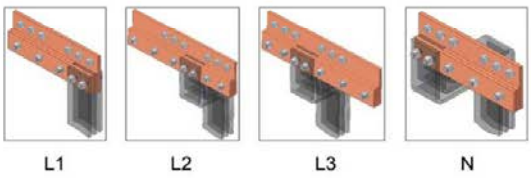


EATON IZM26 (6300 A)



LEGRAND SIZE 3 (5000 A - 6300 A / 100kA)





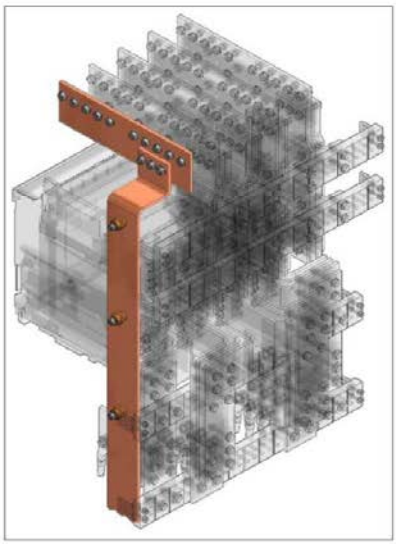
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
SIEMENS	WL	680	680	680	680
CHINT	NA1				
GE	ENVELOPE 3				
ABB	Emax 2 / E6.2				
EATON	IZMX26				
LEGRAND	SIZE 3				

Paralleling busbar minimum dimensions.

PE / N



Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

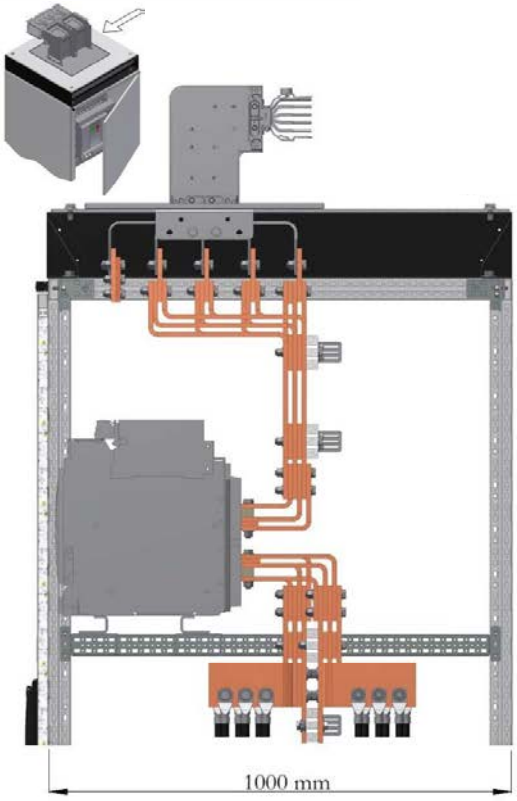
MODEL
041

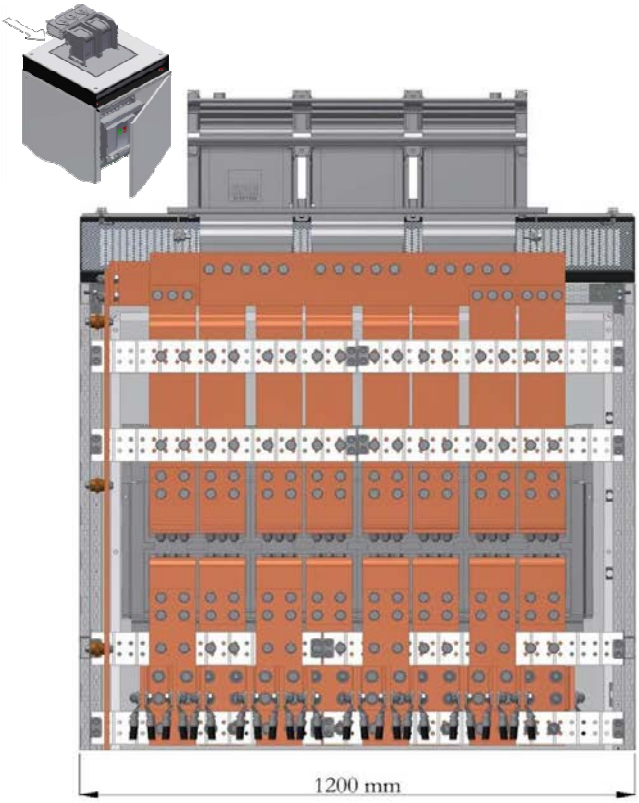
6300 A 4P

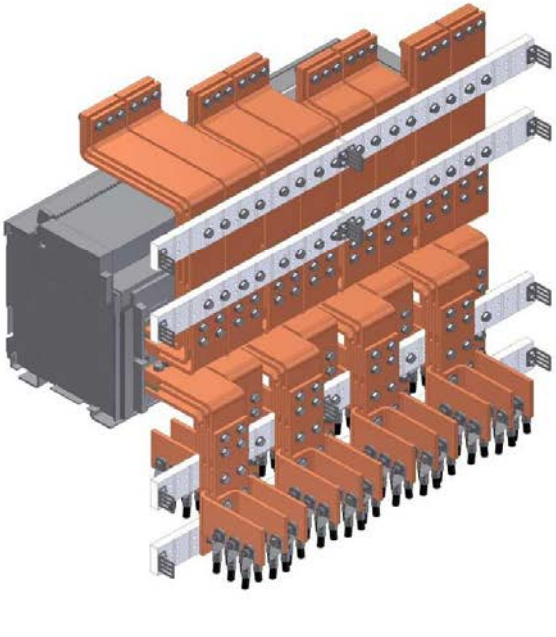


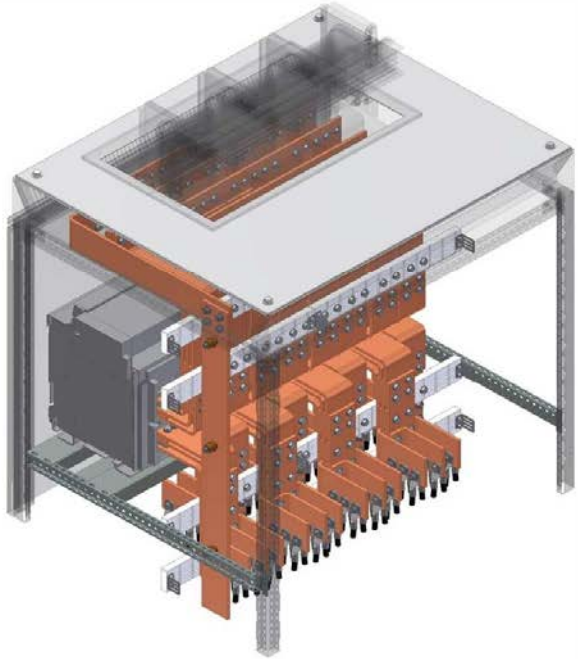
KXA





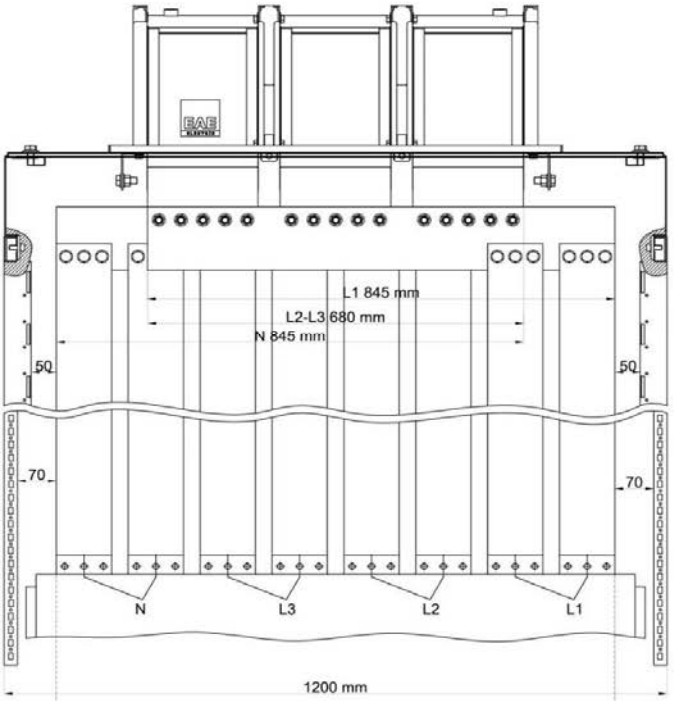


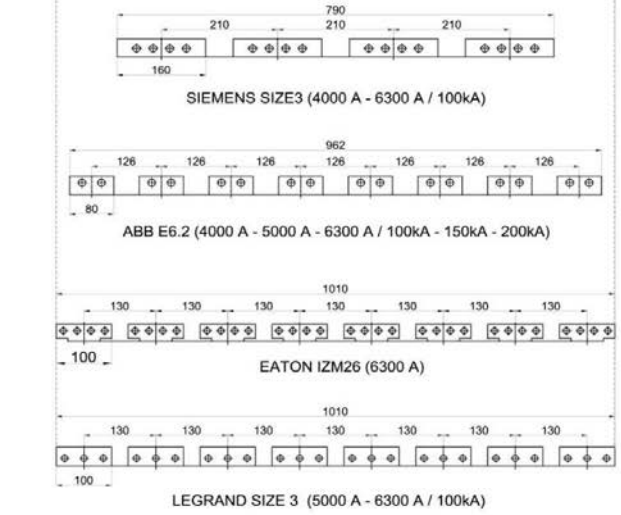


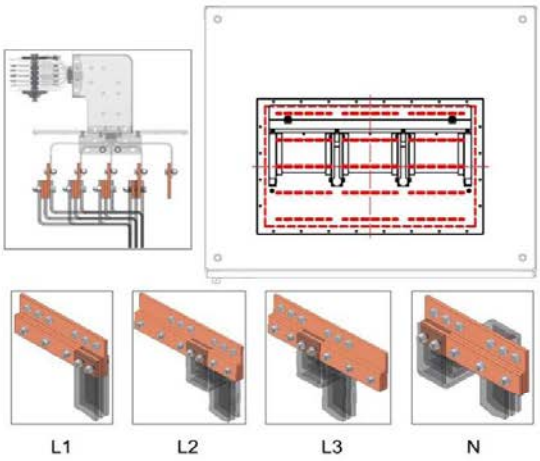


PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

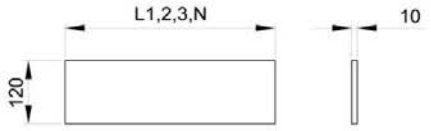
MODEL
041







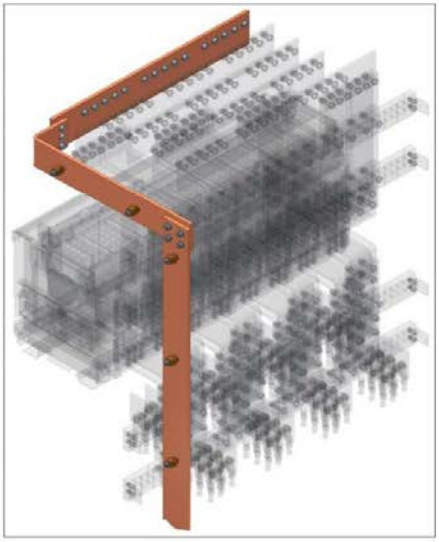
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
SIEMENS	WL	735	680	680	735
ABB	Emax 2 / E6.2	820	680	680	820
EATON	IZMX26	845	680	680	845
LEGRAND	SIZE 3	845	680	680	845

Paralleling busbar minimum dimensions.

PE / N

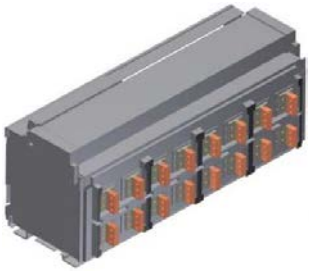


Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® AIR CIRCUIT BREAKER BUSBAR TRUNKING CONNECTION MODELS

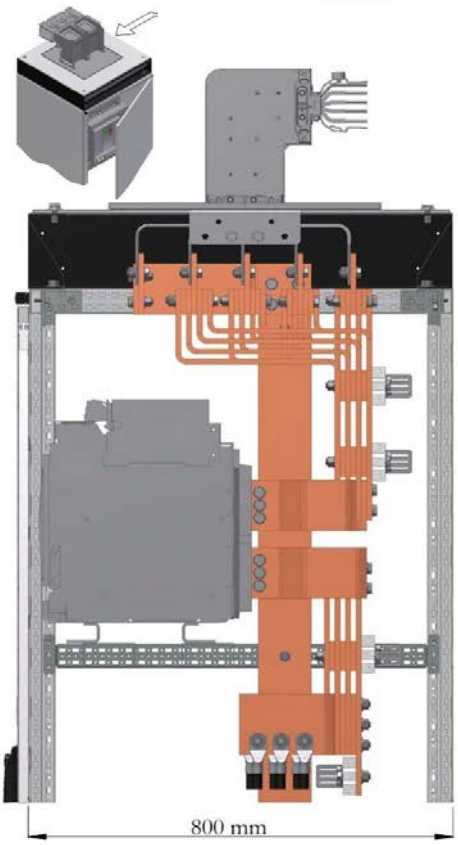
MODEL
042

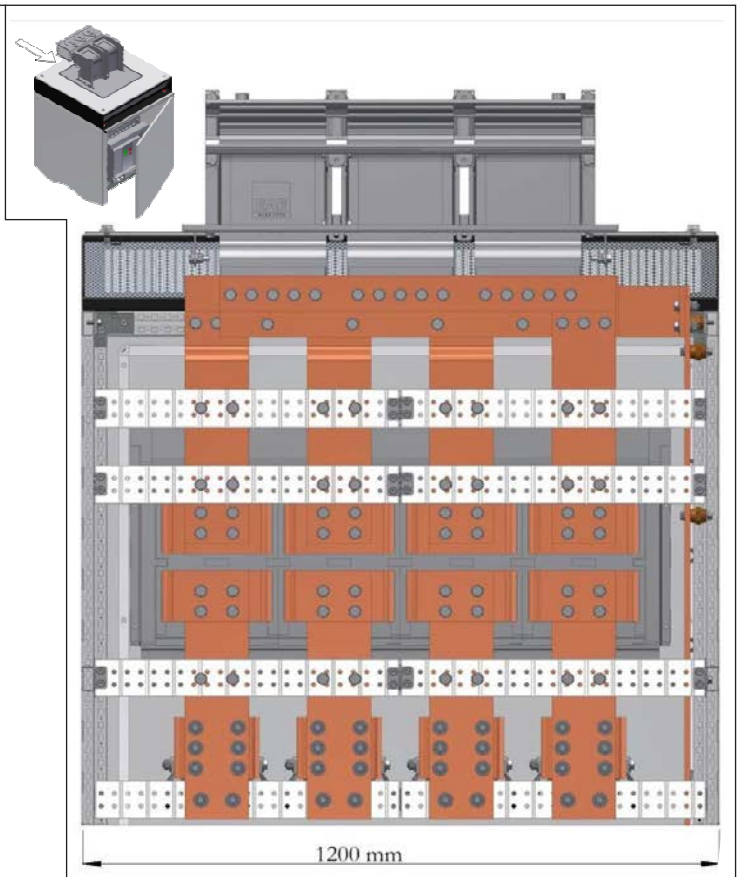
6300 A 4P

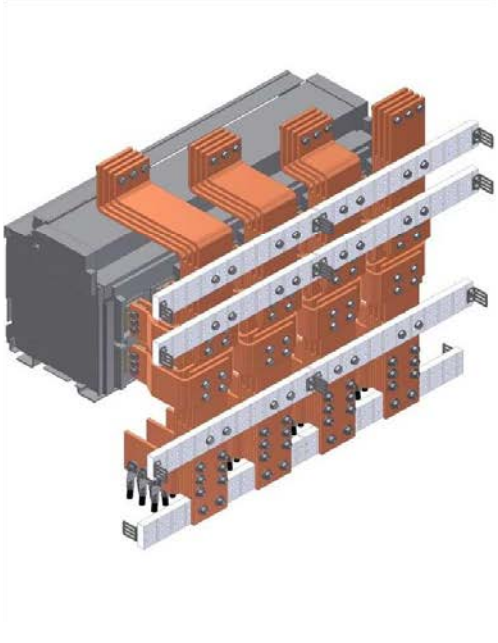


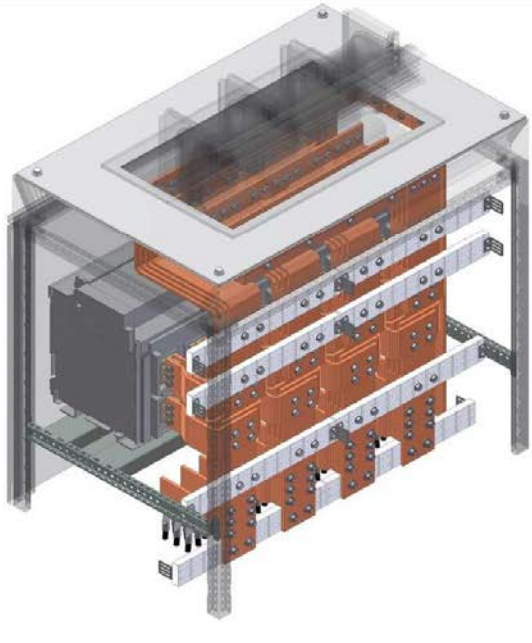
KXA



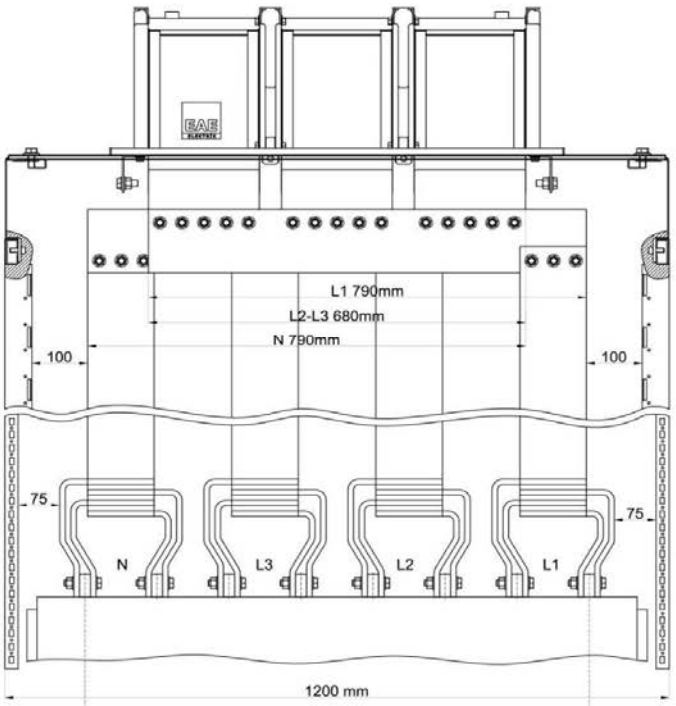


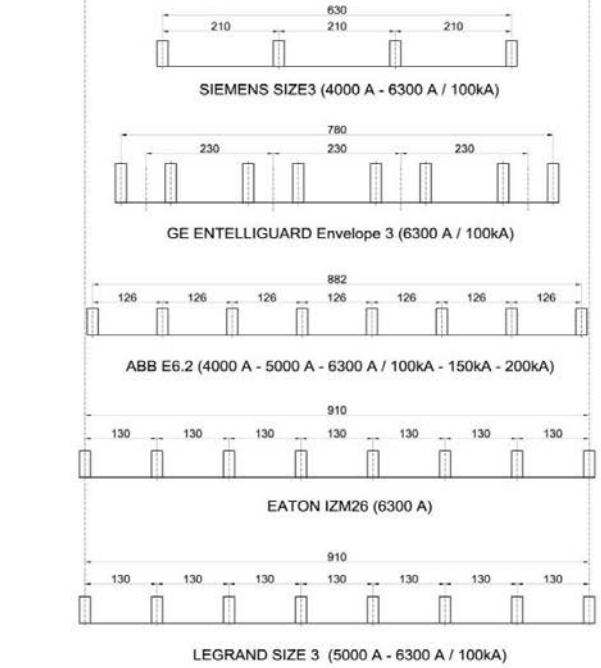


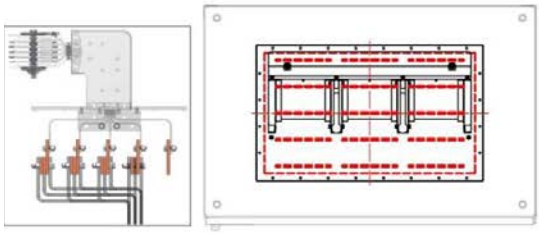


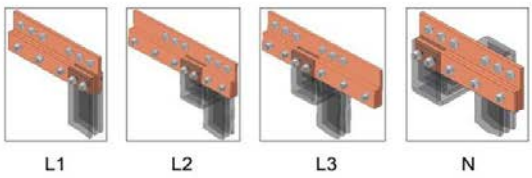


MODEL
042

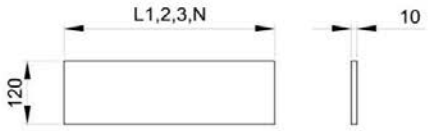








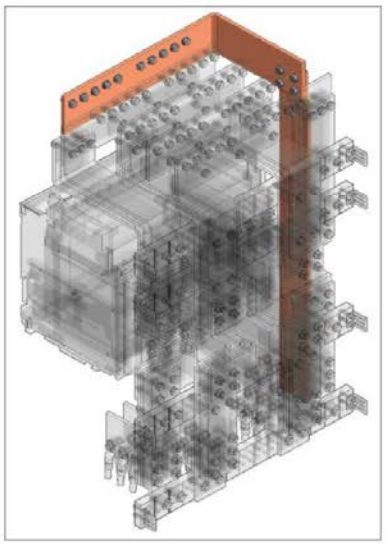
For details, please check busbar trunking paralleling applications



L1,2,3,N (mm)					
ŞALTER	KOD.	L1	L2	L3	N
SIEMENS	WL	680	680	680	680
GE	ENVELOPE 3	740	680	680	740
ABB	Emax 2 / E6.2	790	680	680	790
EATON	IZMX26	790	680	680	790
LEGRAND	SIZE 3	790	680	680	790

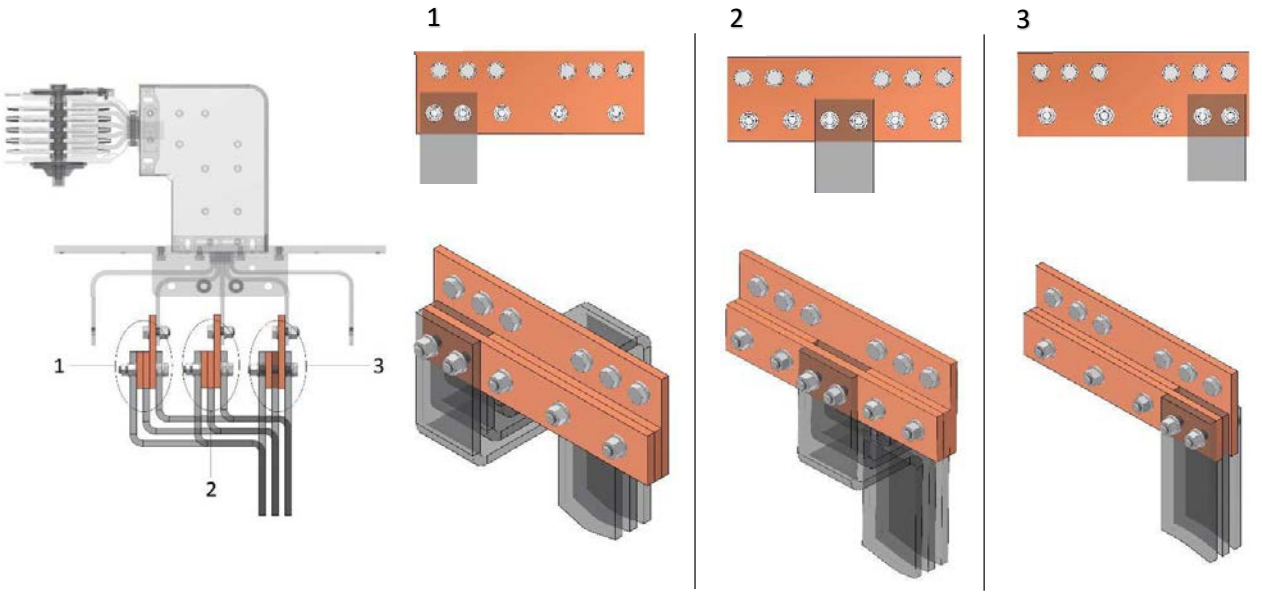
Paralleling busbar minimum dimensions.

PE / N



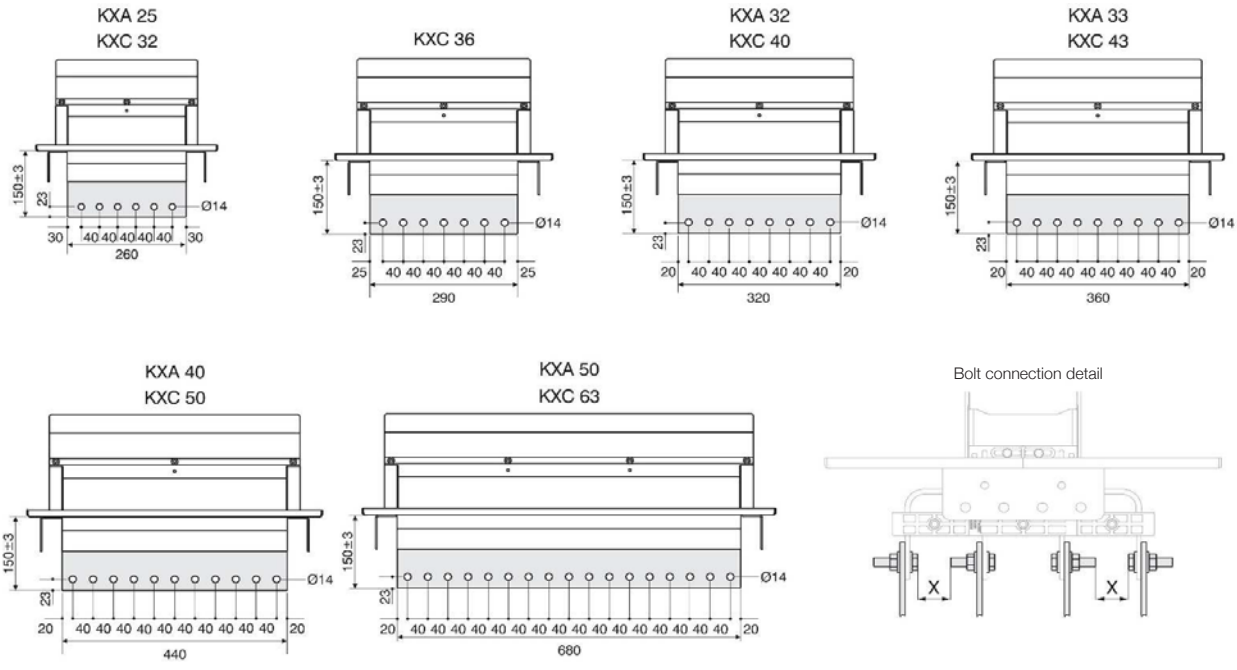
Unless otherwise indicated, given dimensions are in mm.

PANELMASTER® BUSBAR TRUNKING PARALLELING BUSBAR APPLICATION



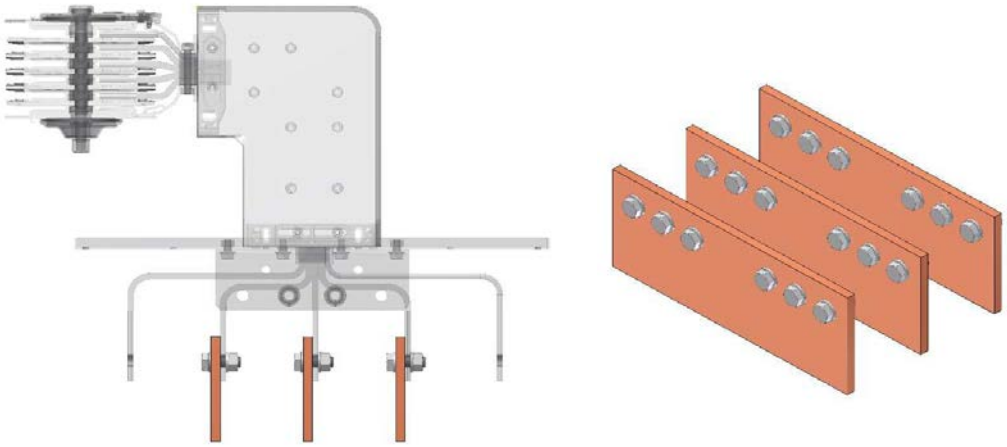
Rated Nominal Current	800 - 2000 A	2500 A	3200 - 4000 A	5000 A	6300 A
Paralelling Busbar Cross Section	1 x (100x10 mm)	1 x (120x10 mm)	1 x (120x10 mm) + 2 x (50x10 mm)	1 x (120x10 mm) + 2 x (60x10 mm)	2 x (120x10 mm) + 2 x (60x10 mm)

BUSBAR TRUNLING CONNECTION DETAILS

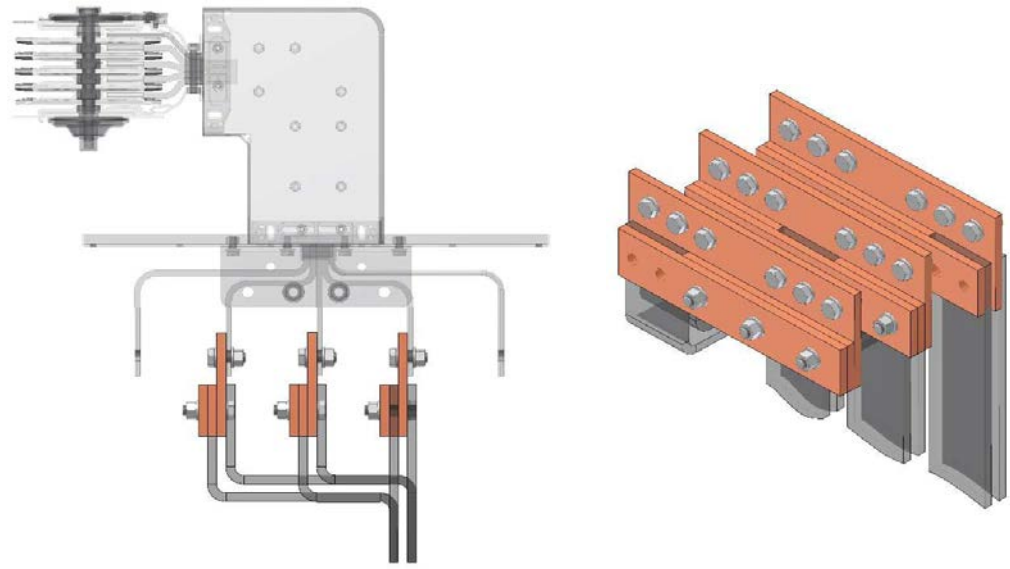


PANELMASTER® BUSBAR TRUNKING PARALLELING BUSBAR APPLICATION

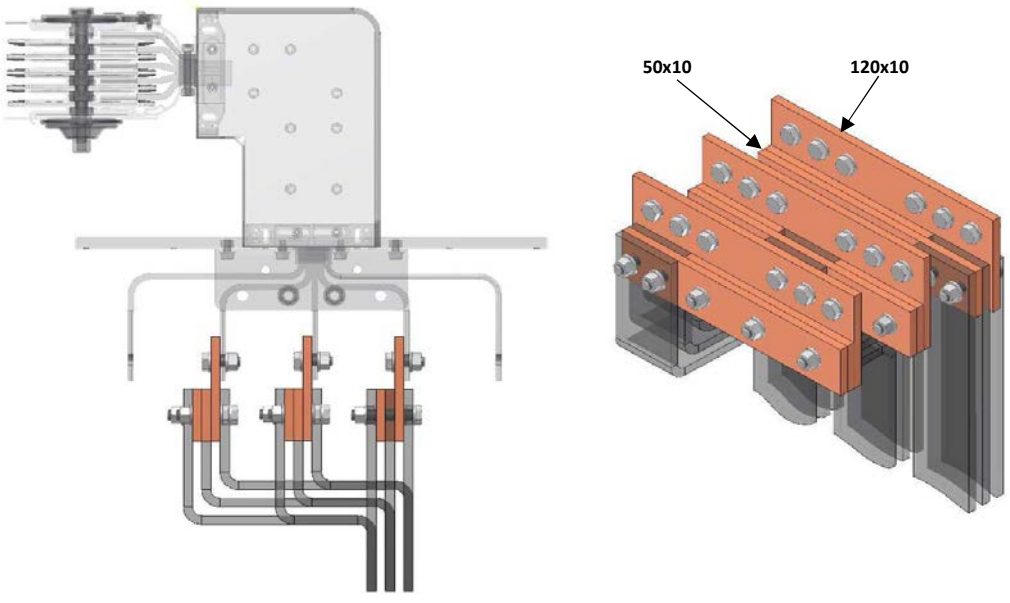
STEP 1



STEP 2

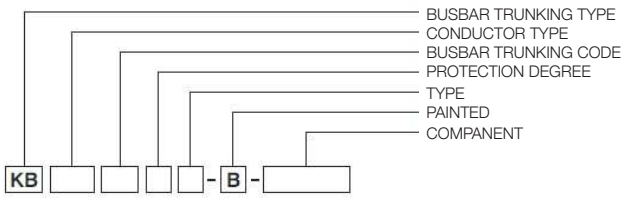


STEP 3



ELINEKB

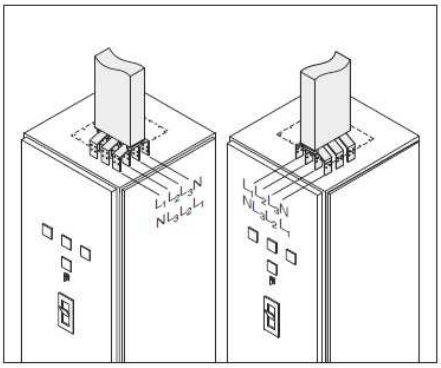
▶▶ Panel Connections

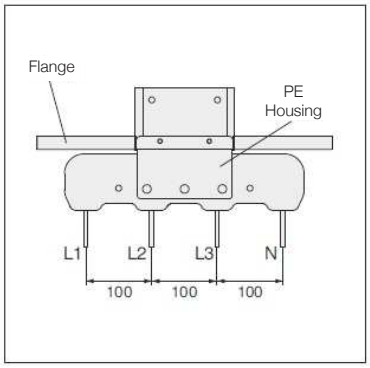


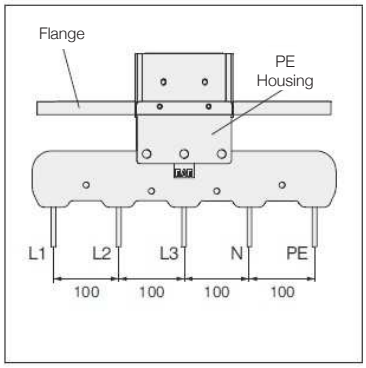
EAE ELEKTRİK

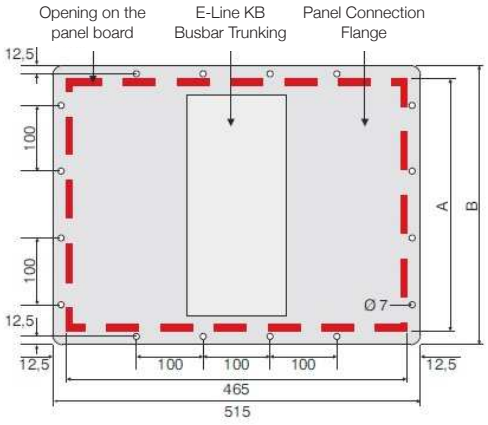
Panel Modules Flange Dimensions Table

Panel Connection Modules are supplied with suitable flange as standard.







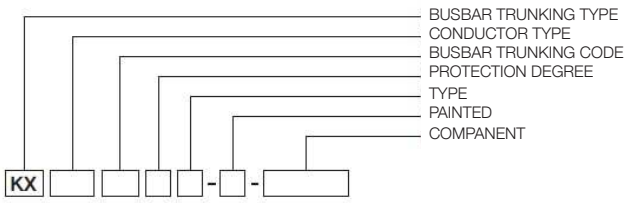


* Bolt and nut sets are delivered with related products as per below quantities.

Aluminium (Al)		Copper (Cu)						
Rated Current	Busbar Trunking Code	Rated Current	Busbar Trunking Code	Conductor Size	A (mm)	B (mm)	Number of the holes along B length	*M6 Bolt/Nut Set (Pcs)
-----	---	1000	10	6x75	175	225	3	20
800	08	1250	12	7x75	175	225	3	20
1000	10	1600	16	7x100	200	250	3	20
1250	12	2000	20	7x130	230	280	3	20
1600	13	2250	23	7x160	260	310	3	20
1600	16	2500	25	2(7x75)	295	345	4	24
2000	20	3000	30	2(7x100)	345	395	4	24
2500	25	3600	36	2(7x130)	405	455	4	24
3200	27	4250	42	2(7x160)	465	515	4	24
3100	30	4400	44	3(7x100)	495	545	6	30
4000	40	5300	53	3(7x130)	585	635	6	30
4250	41	6300	63	3(7x160)	675	725	8	30
5000	50	-----	---	4(7x130)	762	812	8	30

ELINEKX

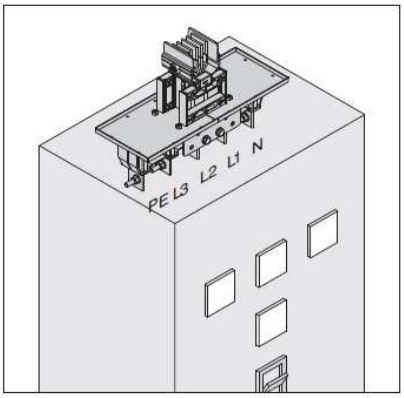
▶▶ Panel Connections

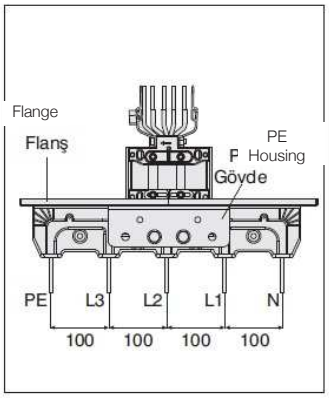


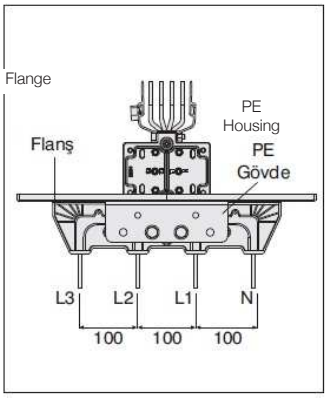
EAE ELEKTRİK

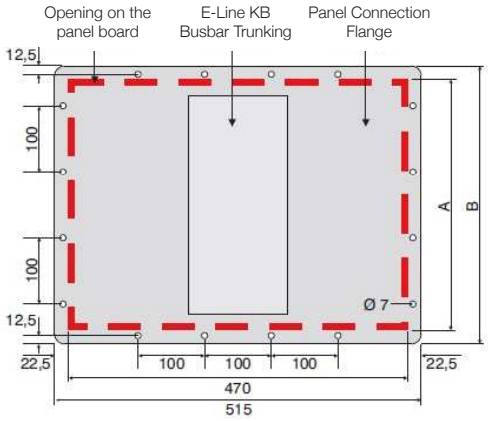
Panel Modules Flange Dimensions Table

Panel Connection Modules are supplied with suitable flange as standard.









* Bolt and nut sets are delivered with related products as per below quantities.

Aluminium (Al)		Copper (Cu)						
Rated Current	Busbar Trunking Code	Rated Current	Busbar Trunking Code	Conductor Size	A (mm)	B (mm)	Number of the holes along B length	*M6 Bolt/Nut Set (Pcs)
400	04	550	05	6x25	120	165	2	12
500	05	650	06	6x30	125	170	2	12
630	06	800	08	6x40	135	180	2	12
800	08	1000	10	6x55	150	195	2	12
-	-	1250	12	6x70	165	210	2	12
1000	10	1350	14	6x80	175	220	2	12
-	-	1600	17	6x95	190	235	3	14
1250	12	-	-	6x110	205	250	3	14
1350	14	2000	23	6x125	220	265	3	14
1600	17	-	-	6x160	255	300	3	14
2000	20	2500	25	6x200	295	340	4	16
2500	27	-	-	6x250	345	390	4	16
-	-	2000	22	2(6x55)	245	290	3	14
-	-	2500	27	2(6x70)	275	320	3	14
2500	25	3300	32	2(6x110)	355	400	4	16
-	-	3600	36	2(6x125)	385	430	4	16
3150	32	4000	40	2(6x140)	415	460	5	18
3200	33	-	-	2(6x160)	455	500	5	18
4000	40	5000	50	2(6x200)	535	580	6	20
5000	51	-	-	2(6x250)	635	680	7	22
-	-	6300	63	3(6x200)	775	820	8	24

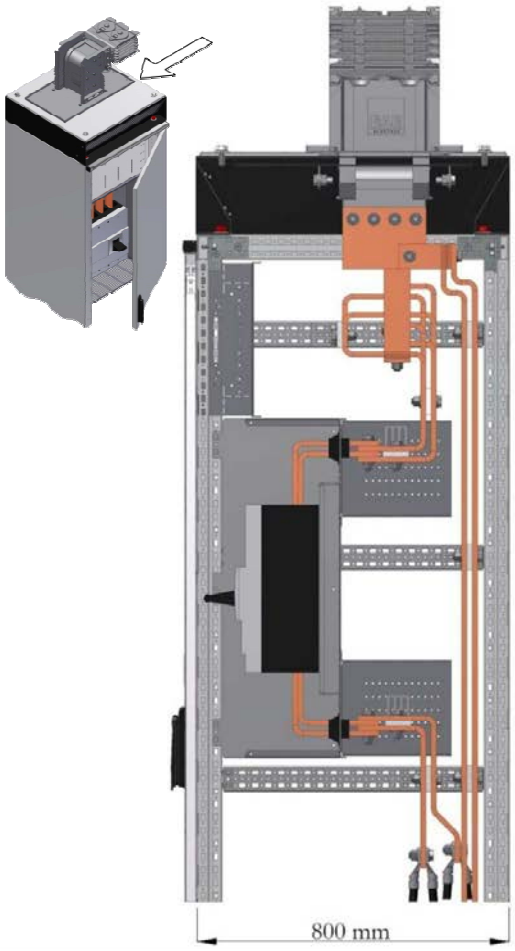
MODEL
043

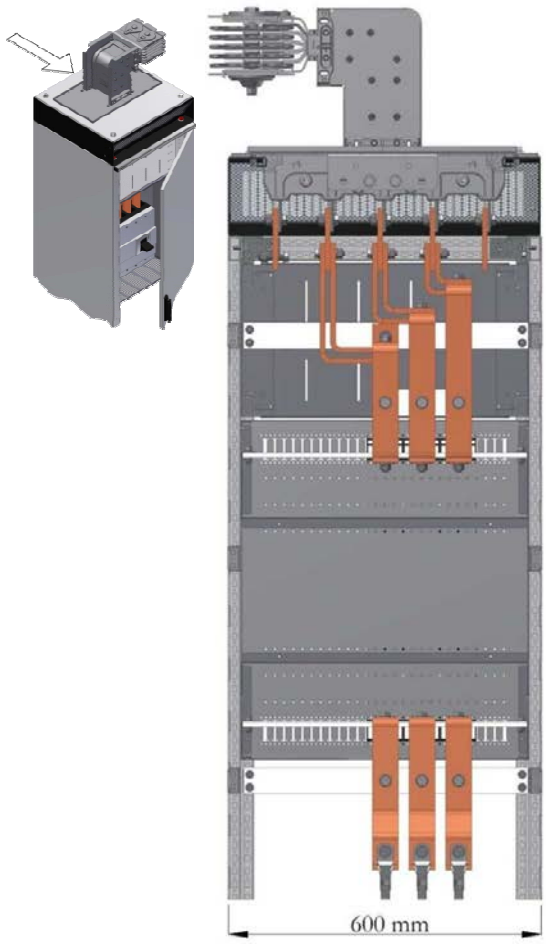
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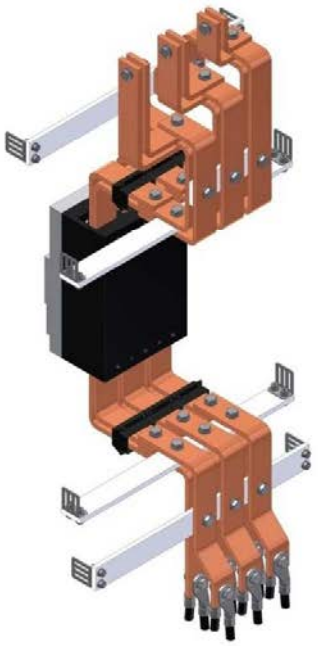


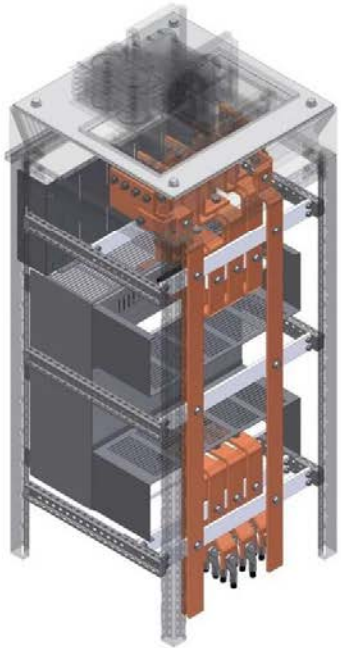
KXA











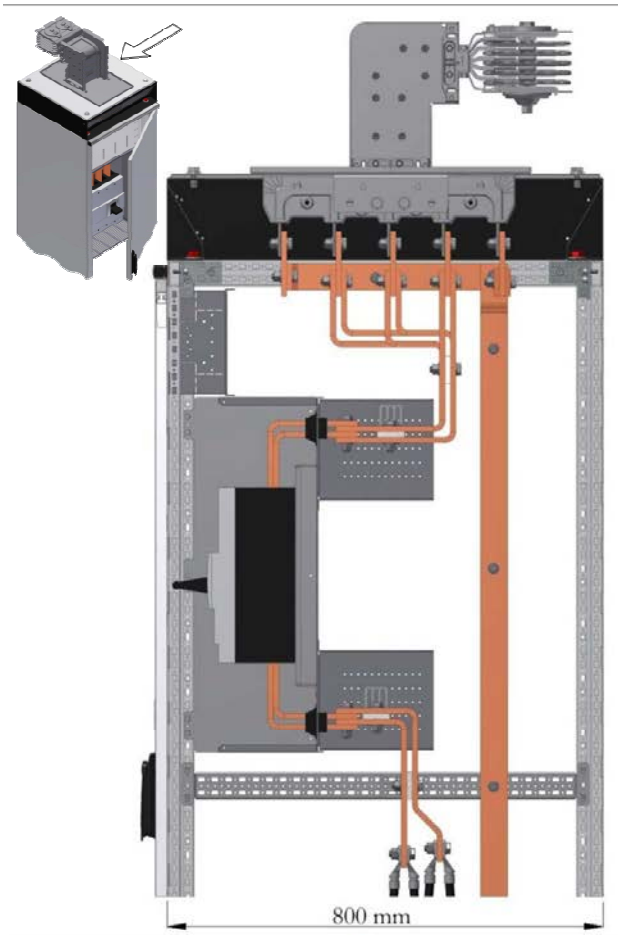
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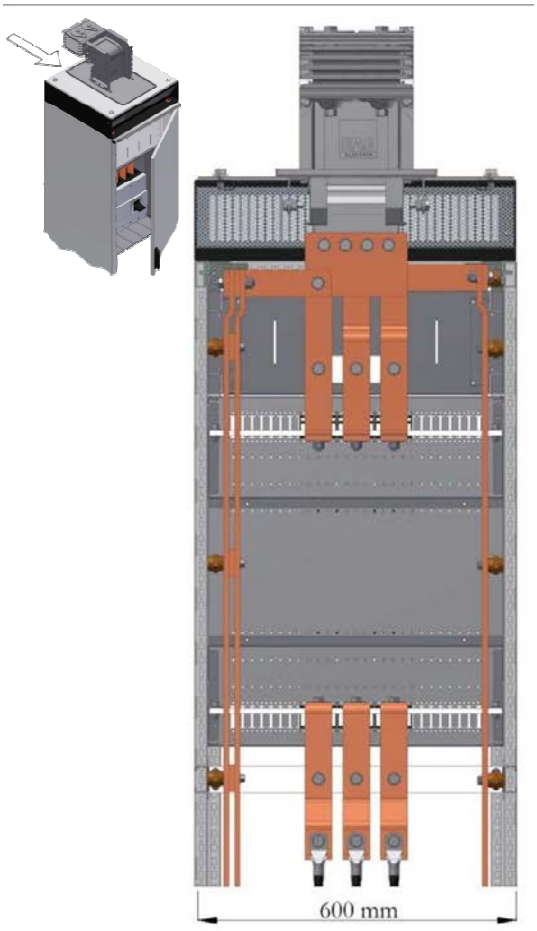
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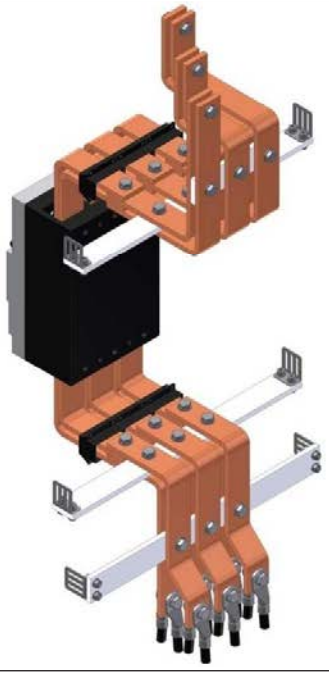


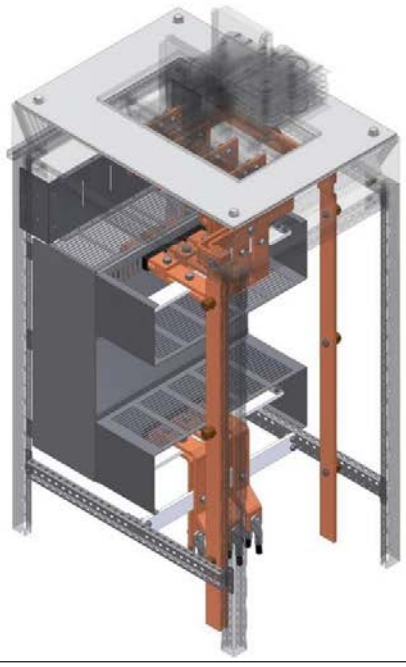
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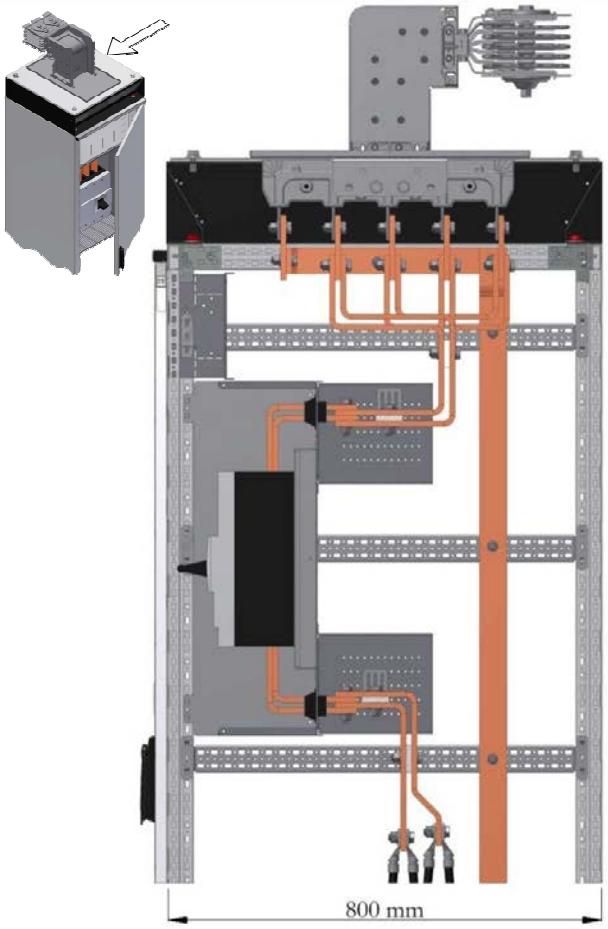
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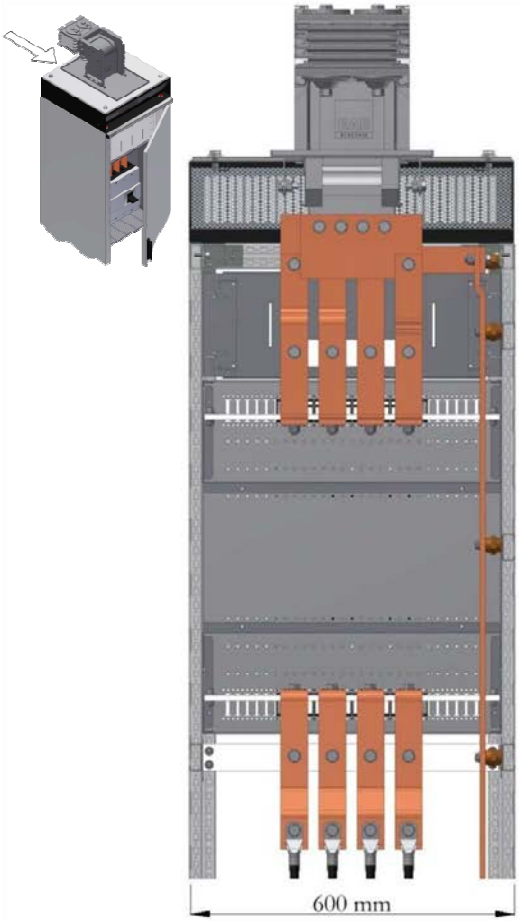
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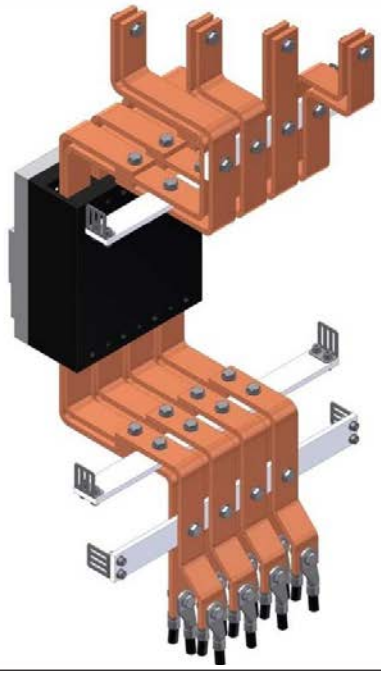


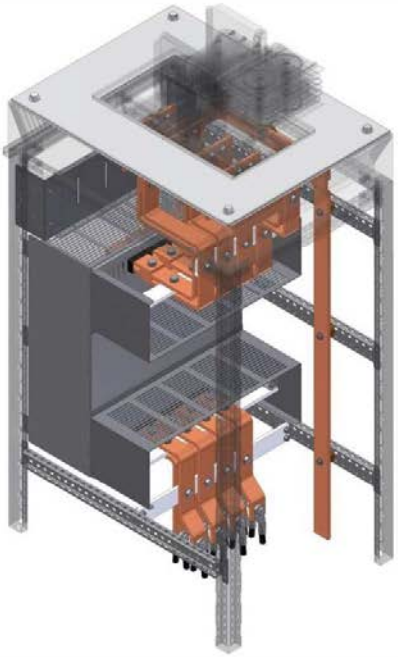
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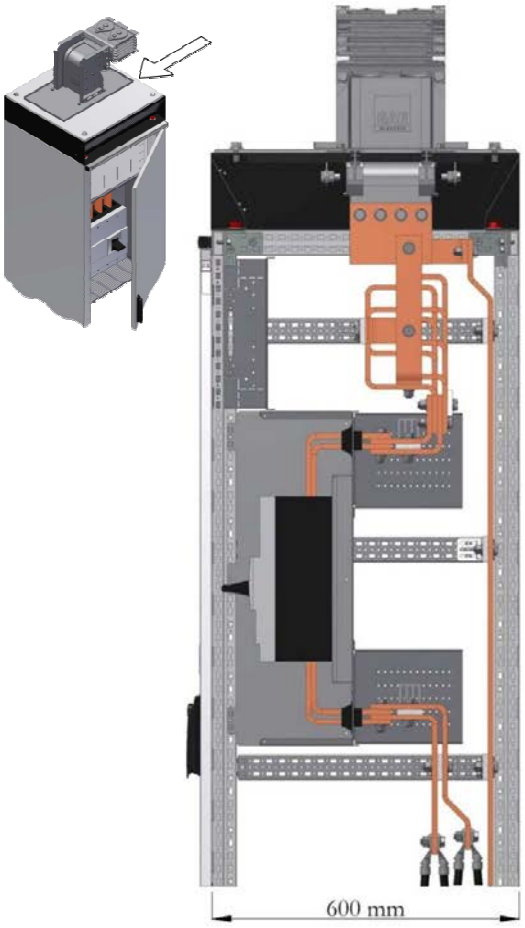
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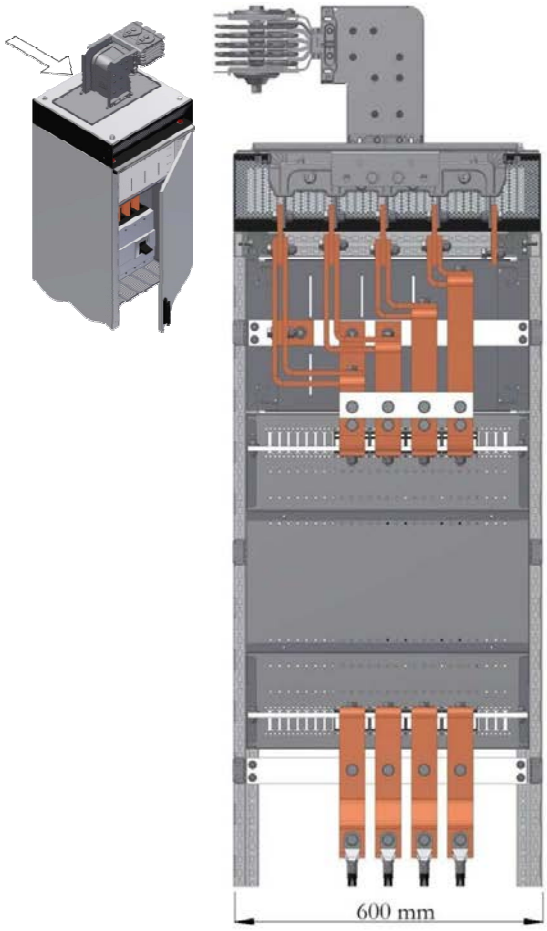
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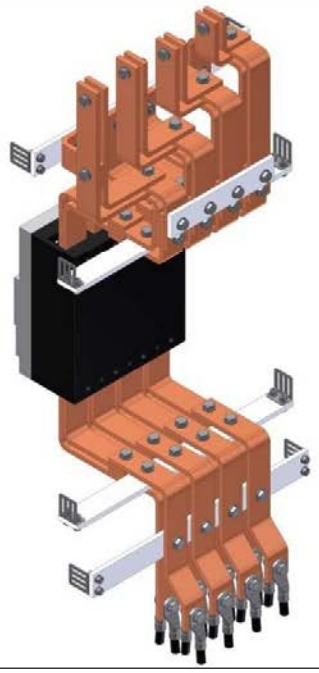


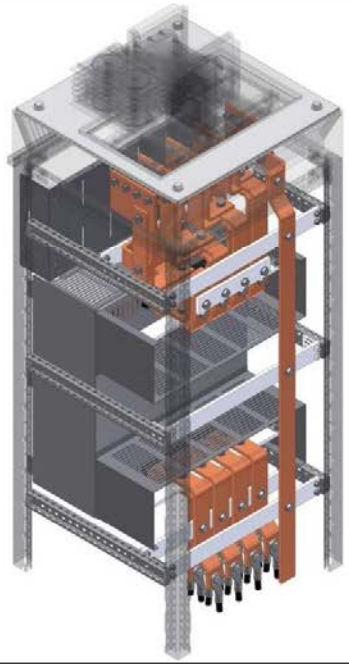
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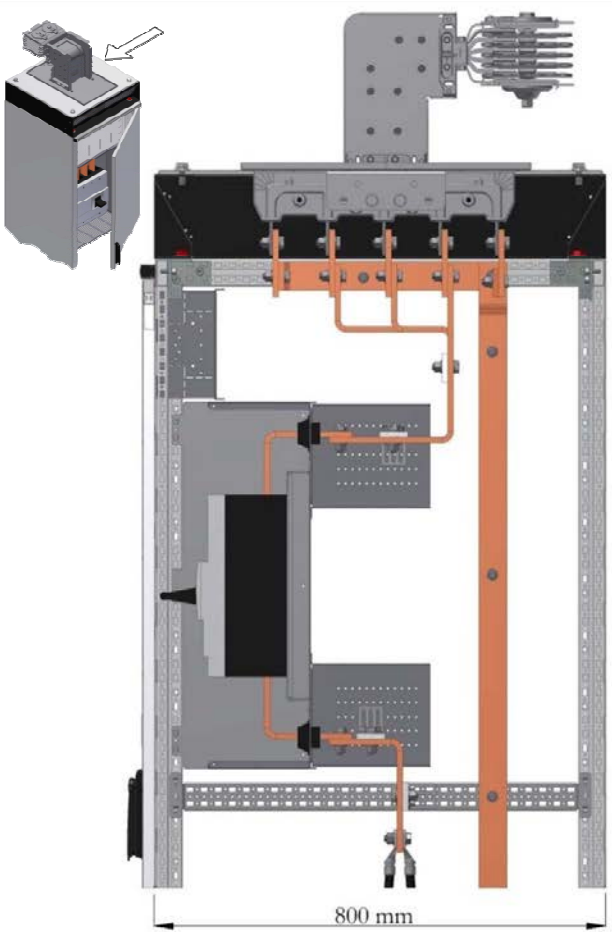
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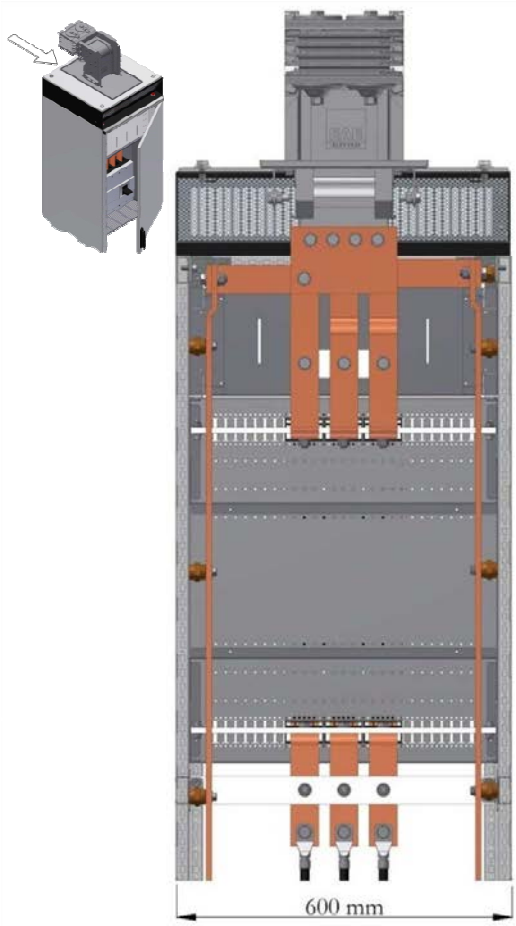
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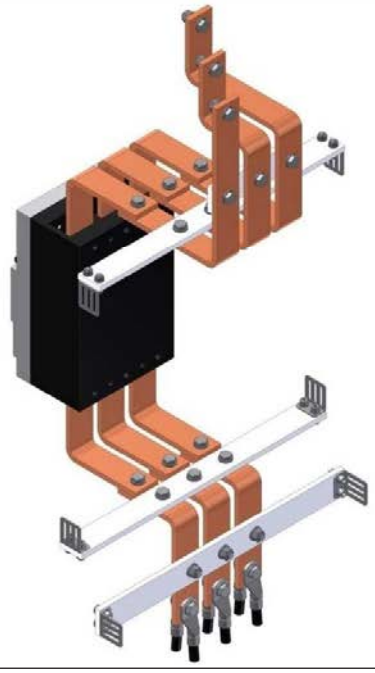


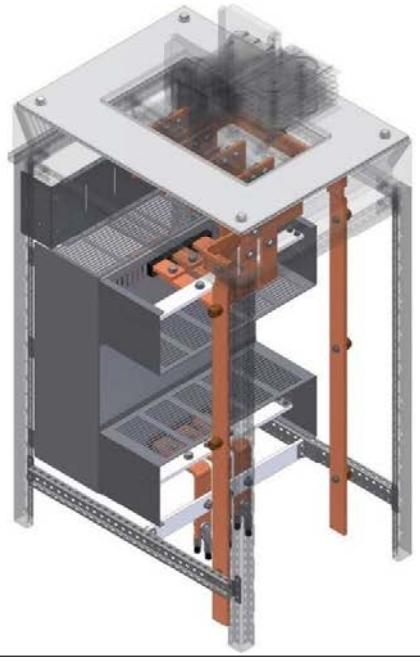
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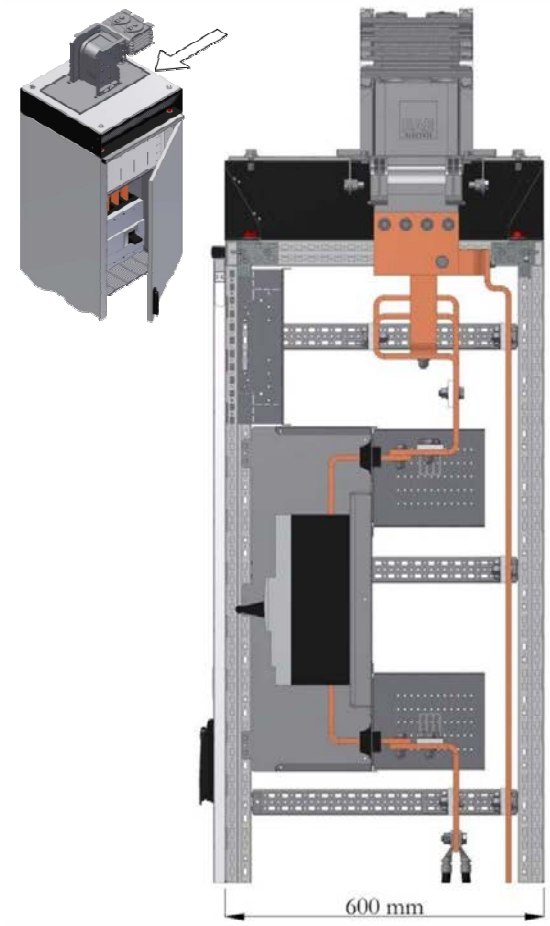
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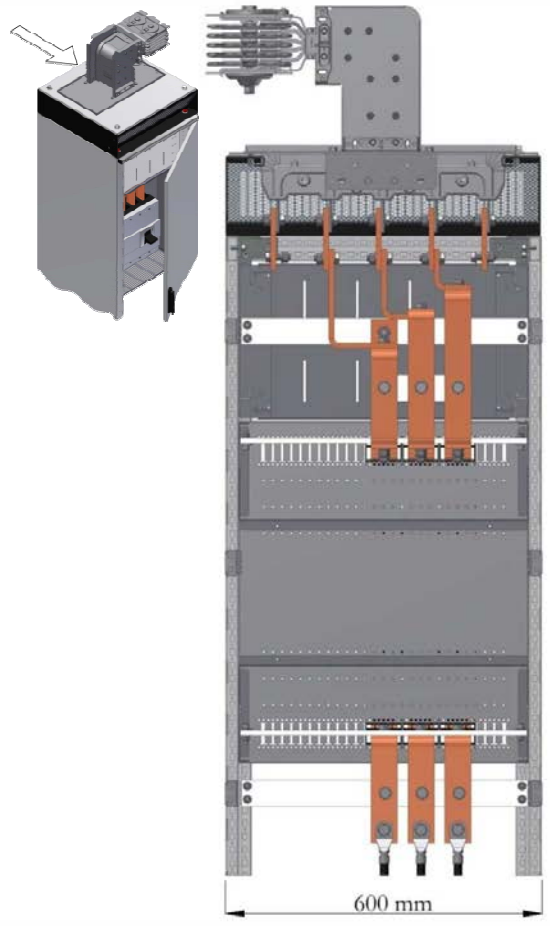
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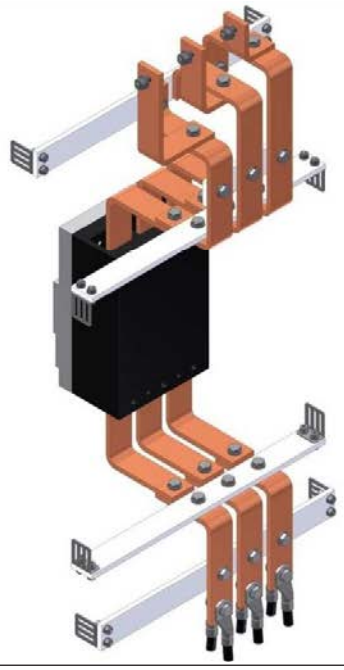


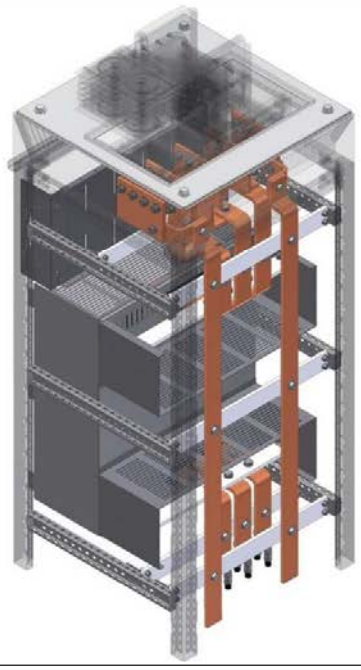
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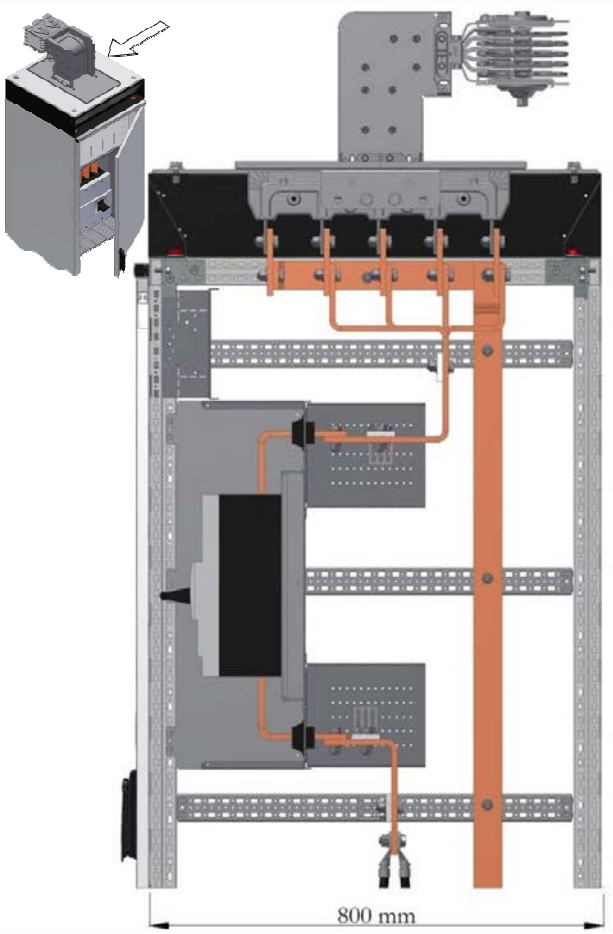
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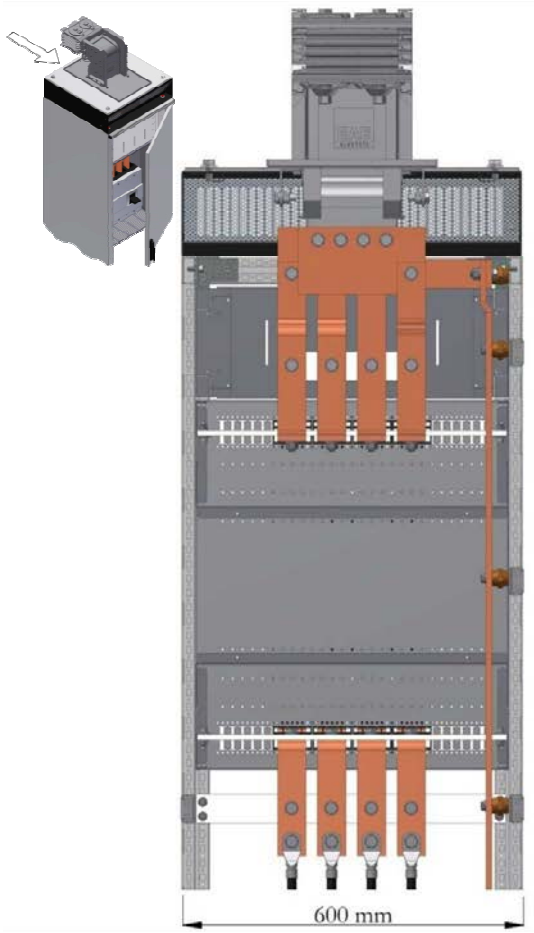
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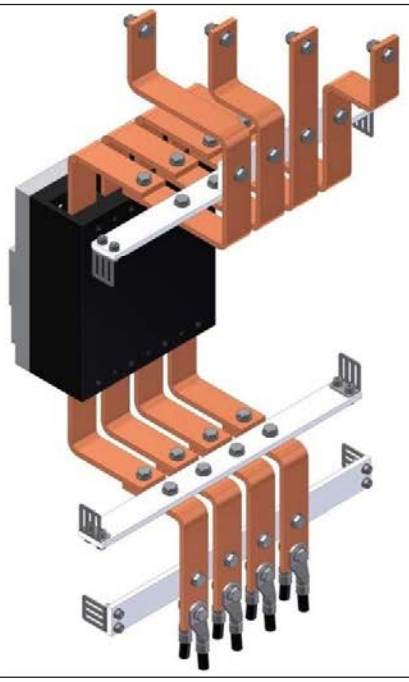


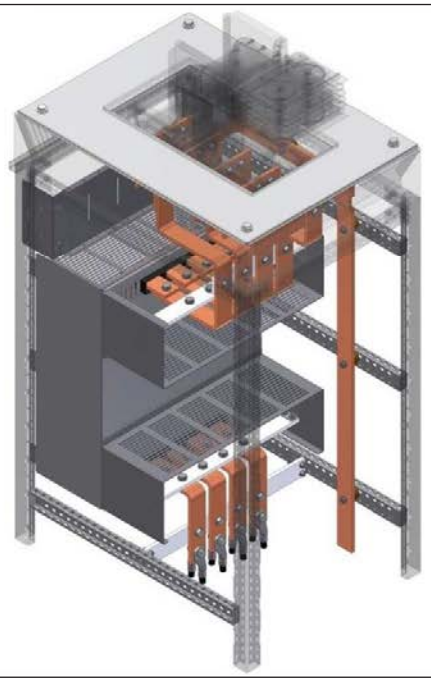
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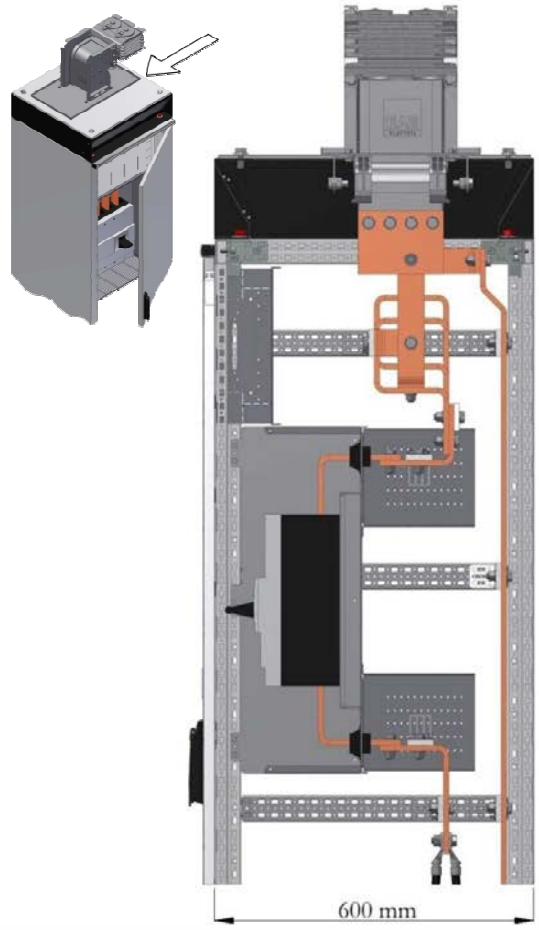
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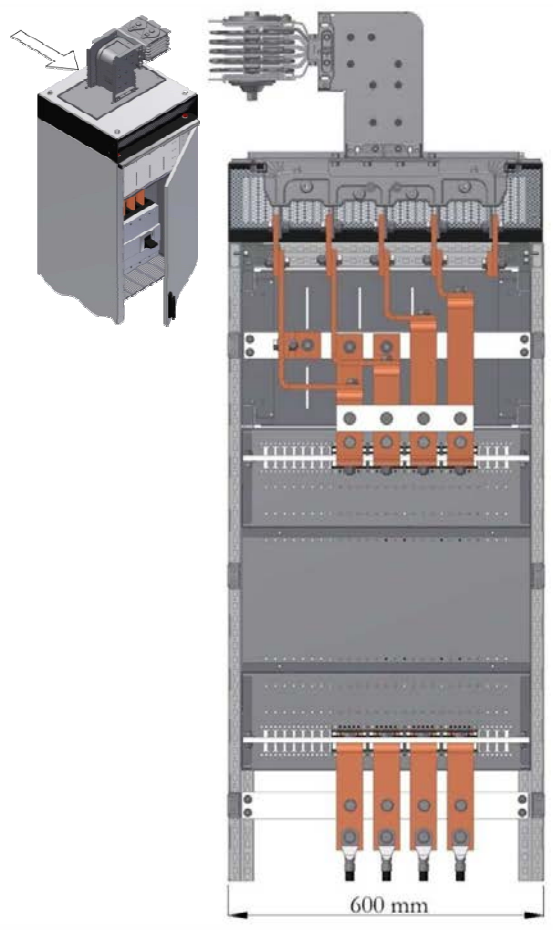
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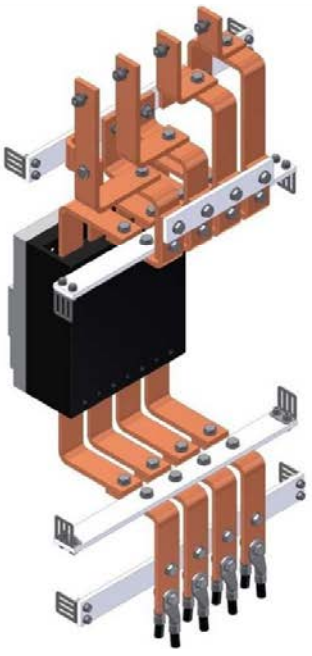


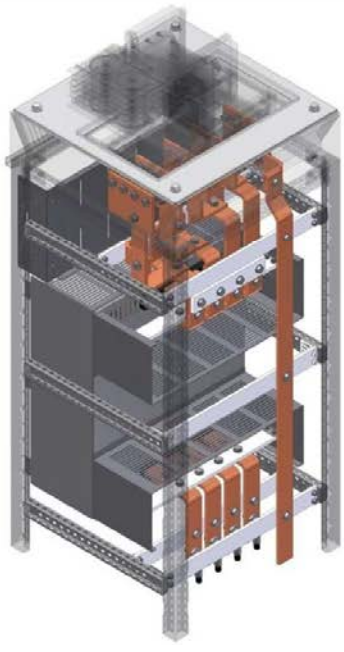
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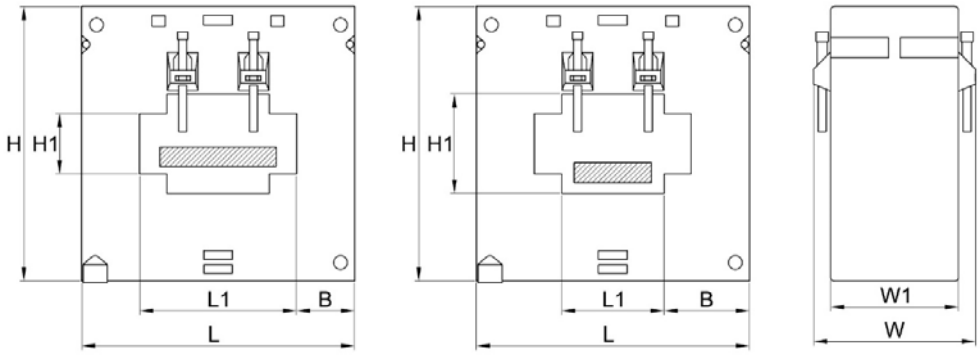






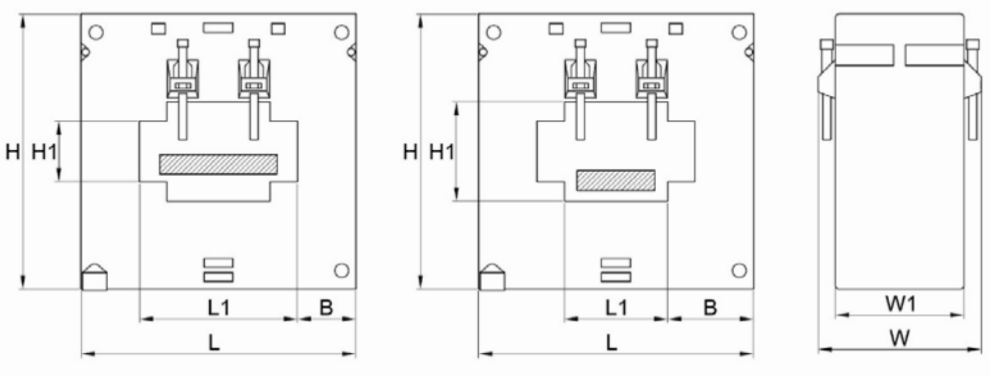


PANELMASTER® CURRENT TRANSFORMER APPLICATION TABLE



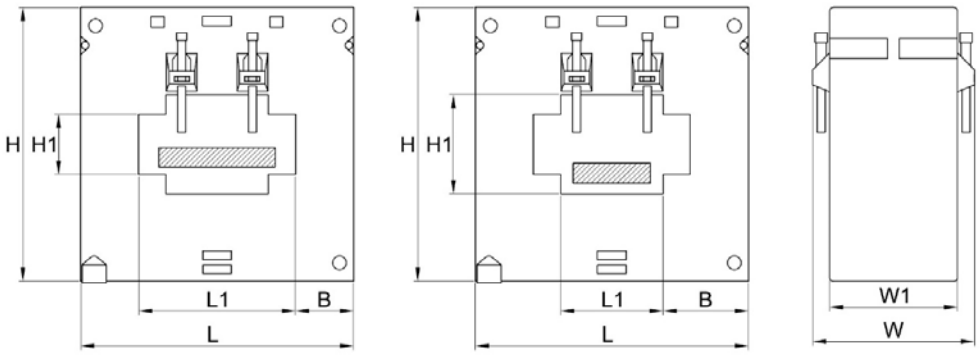
ALCE														
A50	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	81	-	-	-	-	-	-	-	-	-	-	-	-	-
L1	50	-	-	-	-	-	-	-	-	-	-	-	-	-
H	112	-	-	-	-	-	-	-	-	-	-	-	-	-
H1	10	-	-	-	-	-	-	-	-	-	-	-	-	-
W	70	-	-	-	-	-	-	-	-	-	-	-	-	-
W1	54	-	-	-	-	-	-	-	-	-	-	-	-	-
B	15.5	-	-	-	-	-	-	-	-	-	-	-	-	-
ADS62	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	82	82	82	82	82	82	82	82	82	-	-	-	-	-
L1	60	60	60	60	60	60	60	60	60	-	-	-	-	-
H	145	145	145	145	145	145	145	145	145	-	-	-	-	-
H1	31	31	31	31	31	31	31	31	31	-	-	-	-	-
W	75	75	75	75	75	75	75	75	75	-	-	-	-	-
W1	60	60	60	60	60	60	60	60	60	-	-	-	-	-
B	11	11	11	11	11	11	11	11	11	-	-	-	-	-
ADK6030	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	88	88	88	88	88	88	88	88	88	-	-	-	-	-
L1	60	60	60	60	60	60	60	60	60	-	-	-	-	-
H	128	128	128	128	128	128	128	128	128	-	-	-	-	-
H1	31,6	31,6	31,6	31,6	31,6	31,6	31,6	31,6	31,6	-	-	-	-	-
W	75	75	75	75	75	75	75	75	75	-	-	-	-	-
W1	60	60	60	60	60	60	60	60	60	-	-	-	-	-
B	13,5	13,5	13,5	13,5	13,5	13,5	13,5	13,5	13,5	-	-	-	-	-
ADB80	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	141	141	141	141	141	141	141	141	141	141	-	-	-	-
L1	53	81	53	53	53	53	53	53	81	81	-	-	-	-
H	154	154	154	154	154	154	154	154	154	154	-	-	-	-
H1	51	32	51	51	51	51	51	51	32	32	-	-	-	-
W	85	85	85	85	85	85	85	85	85	85	-	-	-	-
W1	66	66	66	66	66	66	66	66	66	66	-	-	-	-
B	43,5	30,5	43,5	43,5	43,5	43,5	43,5	43,5	30,5	30,5	-	-	-	-
ADS100	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	127	127	127	127	127	127	127	127	127	127	127	127	127	-
L1	100	100	100	100	100	100	100	100	100	100	100	100	100	-
H	174	174	174	174	174	174	174	174	174	174	174	174	174	-
H1	50	50	50	50	50	50	50	50	50	50	50	50	50	-
W	98	98	98	98	98	98	98	98	98	98	98	98	98	-
W1	61	61	61	61	61	61	61	61	61	61	61	61	61	-
B	14	14	14	14	14	14	14	14	14	14	14	14	14	-
ADB120	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	206	206	206	206	206	206	206	206	206	206	206	206	206	206
L1	120	120	120	120	120	120	120	120	120	120	120	120	120	120
H	206	206	206	206	206	206	206	206	206	206	206	206	206	206
H1	70	70	70	70	70	70	70	70	70	70	70	70	70	70
W	60	60	60	60	60	60	60	60	60	60	60	60	60	60
W1	80	80	80	80	80	80	80	80	80	80	80	80	80	80
B	43	43	43	43	43	43	43	43	43	43	43	43	43	43
ADB127	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	205	205	205	205	205	205	205	205	205	205	205	205	205	205
L1	125	125	125	125	125	125	125	125	125	125	125	125	125	125
H	257	257	257	257	257	257	257	257	257	257	257	257	257	257
H1	125	125	125	125	125	125	125	125	125	125	125	125	125	125
W	60	60	60	60	60	60	60	60	60	60	60	60	60	60
W1	76	76	76	76	76	76	76	76	76	76	76	76	76	76
B	40	40	40	40	40	40	40	40	40	40	40	40	40	40

PANELMASTER® CURRENT TRANSFORMER APPLICATION TABLE



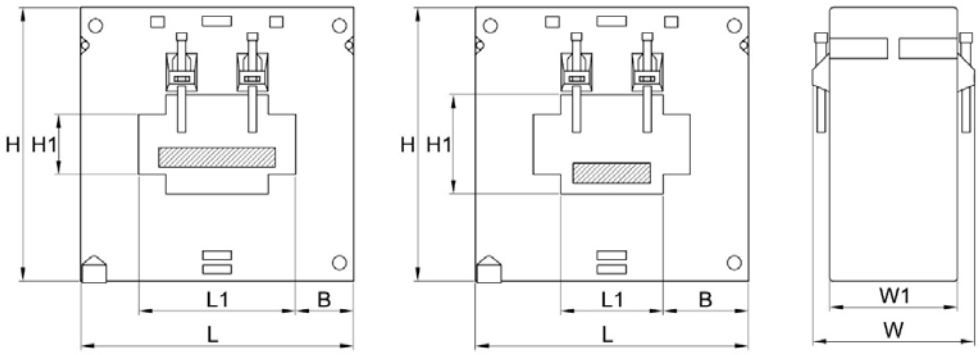
ENTES														
ENT. 60	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	110	110	110	110	110	110	110	-	-	-	-	-	-	-
L1	51	51	51	51	51	51	51	-	-	-	-	-	-	-
H	110	110	110	110	110	110	110	-	-	-	-	-	-	-
H1	50	32	50	50	50	50	50	-	-	-	-	-	-	-
W	60	60	60	60	60	60	60	-	-	-	-	-	-	-
W1	35	35	35	35	35	35	35	-	-	-	-	-	-	-
B	29,5	24,5	29,5	29,5	29,5	29,5	29,5	-	-	-	-	-	-	-
ENT. 80	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	127	127	127	127	127	127	127	127	-	-	-	-	-	-
L1	61	82	61	61	61	61	61	61	-	-	-	-	-	-
H	127	127	127	127	127	127	127	127	-	-	-	-	-	-
H1	50	28,5	50	50	50	50	50	50	-	-	-	-	-	-
W	60	60	60	60	60	60	60	60	-	-	-	-	-	-
W1	35	35	35	35	35	35	35	35	-	-	-	-	-	-
B	33	22,5	33	33	33	33	33	33	-	-	-	-	-	-
ENT. 100	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	156	156	156	156	156	156	156	156	156	156	156	156	156	-
L1	81	81	81	81	81	81	81	81	81	81	101	81	101	-
H	156	156	156	156	156	156	156	156	156	156	156	156	156	-
H1	71,5	71,5	71,5	71,5	71,5	71,5	71,5	71,5	71,5	71,5	61,5	71,5	61,5	-
W	60	60	60	60	60	60	60	60	60	60	60	60	60	-
W1	37,5	37,5	37,5	37,5	37,5	37,5	37,5	37,5	37,5	37,5	37,5	37,5	37,5	-
B	37,5	37,5	37,5	37,5	37,5	37,5	37,5	37,5	37,5	37,5	27,5	37,5	27,5	-
SEZGİN														
TO.60	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	110	110	110	110	110	110	110	-	-	-	-	-	-	-
L1	61	61	46	46	61	46	61	-	-	-	-	-	-	-
H	126	126	126	126	126	126	126	-	-	-	-	-	-	-
H1	35	35	45	45	35	45	35	-	-	-	-	-	-	-
W	54	54	54	54	54	54	54	-	-	-	-	-	-	-
W1	37	37	37	37	37	37	37	-	-	-	-	-	-	-
B	24,5	24,5	39,5	39,5	24,5	39,5	24,5	-	-	-	-	-	-	-
TO.80	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	-	-	-	-	-	-	-	127,5	-	-	-	-	-	-
L1	-	-	-	-	-	-	-	62	-	-	-	-	-	-
H	-	-	-	-	-	-	-	145	-	-	-	-	-	-
H1	-	-	-	-	-	-	-	62	-	-	-	-	-	-
W	-	-	-	-	-	-	-	54	-	-	-	-	-	-
W1	-	-	-	-	-	-	-	37	-	-	-	-	-	-
B	-	-	-	-	-	-	-	33	-	-	-	-	-	-
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	-	-	-	-	-	-	-	-	155	155	155	155	-	-
L1	-	-	-	-	-	-	-	-	62	82	102	82	-	-
H	-	-	-	-	-	-	-	-	174,5	174,5	174,5	174,5	-	-
H1	-	-	-	-	-	-	-	-	82	62	42	62	-	-
W	-	-	-	-	-	-	-	-	60	60	60	60	-	-
W1	-	-	-	-	-	-	-	-	41,5	41,5	41,5	41,5	-	-
B	-	-	-	-	-	-	-	-	46,5	36,5	26,5	36,5	-	-
TO.120	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	-	-	-	-	-	-	-	-	173	173	173	173	173	-
L1	-	-	-	-	-	-	-	-	62	82	102	82	102	-
H	-	-	-	-	-	-	-	-	190	190	190	190	190	-
H1	-	-	-	-	-	-	-	-	102	82	62	82	62	-
W	-	-	-	-	-	-	-	-	60	60	60	60	60	-
W1	-	-	-	-	-	-	-	-	41,5	41,5	41,5	41,5	41,5	-
B	-	-	-	-	-	-	-	-	55,5	45,5	35,5	45,5	35,5	-

PANELMASTER® CURRENT TRANSFORMER APPLICATION TABLE



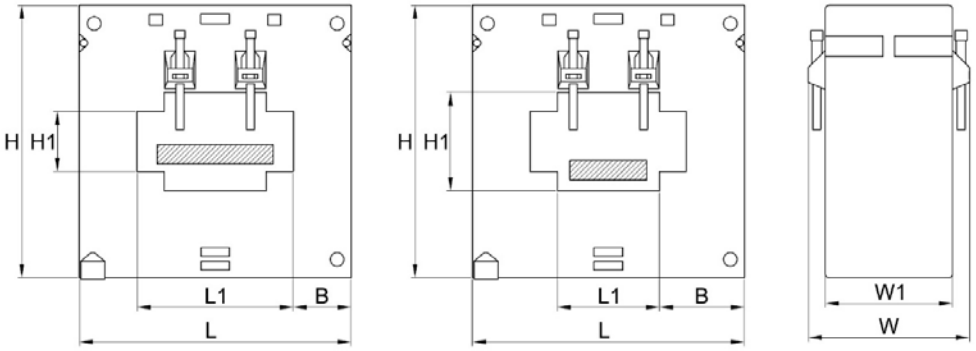
SİGMA														
A50	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	80	-	-	-	-	-	-	-	-	-	-	-	-	-
L1	51	-	-	-	-	-	-	-	-	-	-	-	-	-
H	100	-	-	-	-	-	-	-	-	-	-	-	-	-
H1	11	-	-	-	-	-	-	-	-	-	-	-	-	-
W	60/70/80	-	-	-	-	-	-	-	-	-	-	-	-	-
W1	40/50/60	-	-	-	-	-	-	-	-	-	-	-	-	-
B	14,5	-	-	-	-	-	-	-	-	-	-	-	-	-
ADS62	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	107	107	107	107	107	107	107	107	-	-	-	-	-	-
L1	52,5	62	52,5	52,5	52,5	52,5	52,5	52,5	-	-	-	-	-	-
H	132	132	132	132	132	132	132	132	-	-	-	-	-	-
H1	31	21	31	31	31	31	31	31	-	-	-	-	-	-
W	65	65	65	65	65	65	65	65	-	-	-	-	-	-
W1	45	45	45	45	45	45	45	45	-	-	-	-	-	-
B	27	22,5	27	27	27	27	27	27	-	-	-	-	-	-
ADK6030	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	145	145	145	145	145	145	145	145	145	145	-	-	-	-
L1	81,5/61,5	81,5/61,5	81,5/61,5	81,5/61,5	81,5/61,5	81,5/61,5	81,5/61,5	81,5/61,5	81,5/61,5	81,5	-	-	-	-
H	165	165	165	165	165	165	165	165	165	165	-	-	-	-
H1	31,5/40	31,5/40	31,5/40	31,5/40	31,5/40	31,5/40	31,5/40	31,5/40	31,5/40	31,5	-	-	-	-
W	70	70	70	70	70	70	70	70	70	70	-	-	-	-
W1	55	55	55	55	55	55	55	55	55	55	-	-	-	-
B	33/42	33/42	33/42	33/42	33/42	33/42	33/42	33/42	33/42	33	-	-	-	-
ADB80	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	145	145	145	145	145	145	145	145	145	145	145	-	-	-
L1	101,5	101,5	101,5	101,5	101,5	101,5	101,5	101,5	101,5	101,5	101,5	-	-	-
H	165	165	165	165	165	165	165	165	165	165	165	-	-	-
H1	31,5	31,5	31,5	31,5	31,5	31,5	31,5	31,5	31,5	31,5	31,5	-	-	-
W	70	70	70	70	70	70	70	70	70	70	70	-	-	-
W1	55	55	55	55	55	55	55	55	55	55	55	-	-	-
B	22	22	22	22	22	22	22	22	22	22	22	-	-	-
ADS100	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	-	-	-	-	-	190	190	190	190	190	190	190	190	-
L1	-	-	-	-	-	58,2	58,2	58,2	126,3	126,3	126,3	126,3	126,3	-
H	-	-	-	-	-	200	200	200	200	200	200	200	200	-
H1	-	-	-	-	-	126	126	126	58,2	58,2	58,2	58,2	58,2	-
W	-	-	-	-	-	75	75	75	75	75	75	75	75	-
W1	-	-	-	-	-	55	55	55	55	55	55	55	55	-
B	-	-	-	-	-	66	66	66	32	32	32	32	32	-

PANELMASTER® CURRENT TRANSFORMER APPLICATION TABLE



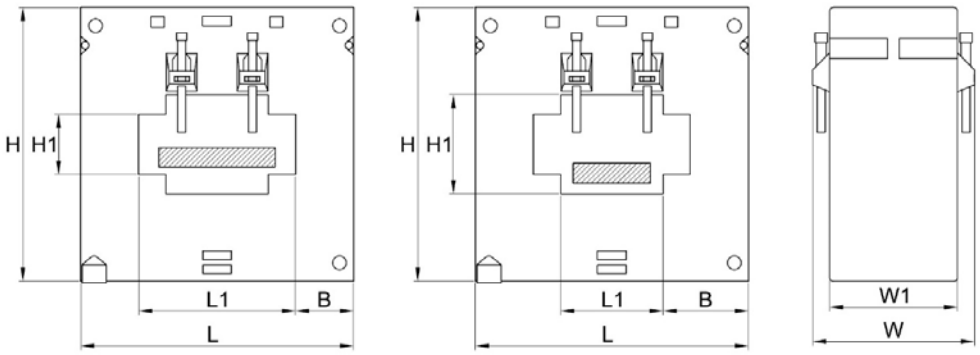
SOCOMEC														
TCB 26-40	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	86	-	-	-	-	-	-	-	-	-	-	-	-	-
L1	50,5	-	-	-	-	-	-	-	-	-	-	-	-	-
H	101,5	-	-	-	-	-	-	-	-	-	-	-	-	-
H1	12,5	-	-	-	-	-	-	-	-	-	-	-	-	-
W	65	-	-	-	-	-	-	-	-	-	-	-	-	-
W1	48	-	-	-	-	-	-	-	-	-	-	-	-	-
B	18	-	-	-	-	-	-	-	-	-	-	-	-	-
TCB 44-50	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	86	-	86	86	-	86	-	-	-	-	-	-	-	-
L1	50,5	-	40,5	40,5	-	40,5	-	-	-	-	-	-	-	-
H	101,5	-	101,5	101,5	-	101,5	-	-	-	-	-	-	-	-
H1	12,5	-	30,5	30,5	-	30,5	-	-	-	-	-	-	-	-
W	75	-	75	75	-	75	-	-	-	-	-	-	-	-
W1	58	-	58	58	-	58	-	-	-	-	-	-	-	-
B	18	-	23	23	-	23	-	-	-	-	-	-	-	-
TCB 44-63	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	96	96	96	96	96	96	96	96	-	-	-	-	-	-
L1	50,5	63,5	50,5	50,5	50,5	50,5	50,5	50,5	-	-	-	-	-	-
H	108,5	108,5	108,5	108,5	108,5	108,5	108,5	108,5	-	-	-	-	-	-
H1	30,5	10,5	30,5	30,5	30,5	30,5	30,5	30,5	-	-	-	-	-	-
W	75	75	75	75	75	75	75	75	-	-	-	-	-	-
W1	58	58	58	58	58	58	58	58	-	-	-	-	-	-
B	23	16	23	23	23	23	23	23	-	-	-	-	-	-
TCB 55 -80	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	120	120	120	120	120	120	120	120	120	-	-	-	-	-
L1	60,5	60,5	60,5	60,5	60,5	60,5	60,5	60,5	60,5	-	-	-	-	-
H	132	132	132	132	132	132	132	132	132	-	-	-	-	-
H1	31	31	31	31	31	31	31	31	31	-	-	-	-	-
W	60	60	60	60	60	60	60	60	60	-	-	-	-	-
W1	43	43	43	43	43	43	43	43	43	-	-	-	-	-
B	30	30	30	30	30	30	30	30	30	-	-	-	-	-
TCB 85-100	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	172	172	172	172	172	172	172	172	172	172	172	-	-	-
L1	81	81	81	81	81	81	81	81	81	81	101	-	-	-
H	187,5	187,5	187,5	187,5	187,5	187,5	187,5	187,5	187,5	187,5	187,5	-	-	-
H1	51	51	51	51	51	51	51	51	51	51	51	-	-	-
W	70	70	70	70	70	70	70	70	70	70	70	-	-	-
W1	52	52	52	52	52	52	52	52	52	52	52	-	-	-
B	45,5	45,5	45,5	45,5	45,5	45,5	45,5	45,5	45,5	45,5	35,5	-	-	-
TCB 100-125	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	172	172	172	172	172	172	172	172	172	172	172	172	172	-
L1	101	101	101	101	101	101	101	101	101	101	101	101	101	-
H	187,5	187,5	187,5	187,5	187,5	187,5	187,5	187,5	187,5	187,5	187,5	187,5	187,5	-
H1	51	51	51	51	51	51	51	51	51	51	51	51	51	-
W	70	70	70	70	70	70	70	70	70	70	70	70	70	-
W1	52	52	52	52	52	52	52	52	52	52	52	52	52	-
B	35,5	35,5	35,5	35,5	35,5	35,5	35,5	35,5	35,5	35,5	35,5	35,5	35,5	-

PANELMASTER® CURRENT TRANSFORMER APPLICATION TABLE



SOCOMEC														
TBA 60	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	88	88	88	88	88	88	88	88	88	-	-	-	-	-
L1	60,5	60,5	60,5	60,5	60,5	60,5	60,5	60,5	60,5	-	-	-	-	-
H	132	132	132	132	132	132	132	132	132	-	-	-	-	-
H1	31	31	31	31	31	31	31	31	31	-	-	-	-	-
W	95	95	95	95	95	95	95	95	95	-	-	-	-	-
W1	78	78	78	78	78	78	78	78	78	-	-	-	-	-
B	14	14	14	14	14	14	14	14	14	-	-	-	-	-
TBA 100 630-3000	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	129	129	129	129	129	129	129	129	129	129	129	129	-	-
L1	100,5	100,5	100,5	100,5	100,5	100,5	100,5	100,5	100,5	100,5	100,5	100,5	-	-
H	170	170	170	170	170	170	170	170	170	170	170	170	-	-
H1	55,5	55,5	55,5	55,5	55,5	55,5	55,5	55,5	55,5	55,5	55,5	55,5	-	-
W	95	95	95	95	95	95	95	95	95	95	95	95	-	-
W1	78	78	78	78	78	78	78	78	78	78	78	78	-	-
B	14	14	14	14	14	14	14	14	14	14	14	14	-	-
TBA 100 4000	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	-	-	-	-	-	-	-	-	-	-	-	-	129	-
L1	-	-	-	-	-	-	-	-	-	-	-	-	100,5	-
H	-	-	-	-	-	-	-	-	-	-	-	-	217	-
H1	-	-	-	-	-	-	-	-	-	-	-	-	55,5	-
W	-	-	-	-	-	-	-	-	-	-	-	-	95	-
W1	-	-	-	-	-	-	-	-	-	-	-	-	78	-
B	-	-	-	-	-	-	-	-	-	-	-	-	14	-
TBA 103	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	99	99	99	99	99	99	99	99	99	-	-	-	-	-
L1	41	41	41	41	41	41	41	41	41	-	-	-	-	-
H	150	150	150	150	150	150	150	150	150	-	-	-	-	-
H1	103	103	103	103	103	103	103	103	103	-	-	-	-	-
W	75	75	75	75	75	75	75	75	75	-	-	-	-	-
W1	58	58	58	58	58	58	58	58	58	-	-	-	-	-
B	29	29	29	29	29	29	29	29	29	-	-	-	-	-
TBA 127	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	100	100	100	100	100	100	100	-	100	100	100	-	-	-
L1	38	38	38	38	38	38	38	-	38	38	38	-	-	-
H	175	175	175	175	175	175	175	-	175	175	175	-	-	-
H1	128	128	128	128	128	128	128	-	128	128	128	-	-	-
W	73	73	73	73	73	73	73	-	73	73	73	-	-	-
W1	55	55	55	55	55	55	55	-	55	55	55	-	-	-
B	31	31	31	31	31	31	31	-	31	31	31	-	-	-

PANELMASTER® CURRENT TRANSFORMER APPLICATION TABLE



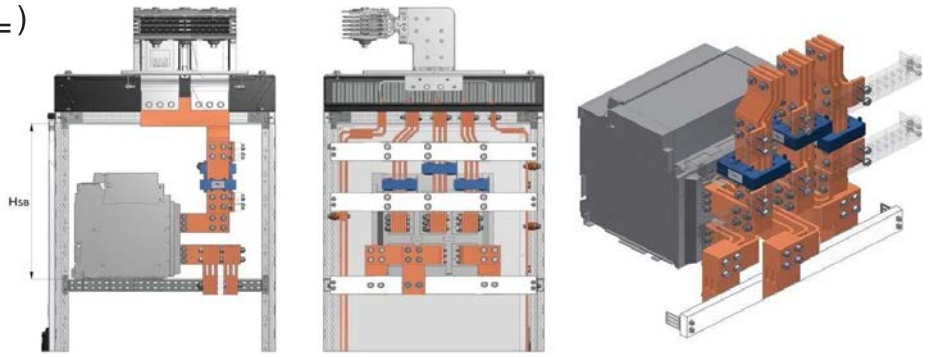
UNITRANS														
UN-530	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	85	-	85	85	85	85	85	85	-	-	-	-	-	-
L1	52	-	52	52	52	52	52	52	-	-	-	-	-	-
H	115	-	115	115	115	115	115	115	-	-	-	-	-	-
H1	32	-	32	32	32	32	32	32	-	-	-	-	-	-
W	54	-	54	54	54	54	54	54	-	-	-	-	-	-
W1	37	-	37	37	37	37	37	37	-	-	-	-	-	-
B	16,5	-	16,5	16,5	16,5	16,5	16,5	16,5	-	-	-	-	-	-
UN-630	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	85	85	85	85	85	85	85	85	85	-	-	-	-	-
L1	62	62	62	62	62	62	62	62	62	-	-	-	-	-
H	115	115	115	115	115	115	115	115	115	-	-	-	-	-
H1	32	32	32	32	32	32	32	32	32	-	-	-	-	-
W	54	54	54	54	54	54	54	54	54	-	-	-	-	-
W1	37	37	37	37	37	37	37	37	37	-	-	-	-	-
B	11,5	11,5	11,5	11,5	11,5	11,5	11,5	11,5	11,5	-	-	-	-	-
UN-130	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	128	128	128	128	128	128	128	128	128	128	128	-	-	-
L1	102	102	102	102	102	102	102	102	102	102	102	-	-	-
H	128	128	128	128	128	128	128	128	128	128	128	-	-	-
H1	32	32	32	32	32	32	32	32	32	32	32	-	-	-
W	57	57	57	57	57	57	57	57	57	57	57	-	-	-
W1	40	40	40	40	40	40	40	40	40	40	40	-	-	-
B	13	13	13	13	13	13	13	13	13	13	13	-	-	-
UN-150	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	128	128	128	128	128	128	128	128	128	128	128	128	128	-
L1	102	102	102	102	102	102	102	102	102	102	102	102	102	-
H	128	128	128	128	128	128	128	128	128	128	128	128	128	-
H1	52	52	52	52	52	52	52	52	52	52	52	52	52	-
W	57	57	57	57	57	57	57	57	57	57	57	57	57	-
W1	40	40	40	40	40	40	40	40	40	40	40	40	40	-
B	13	13	13	13	13	13	13	13	13	13	13	13	13	-
UN-125	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	145	145	145	145	145	145	145	145	145	145	145	145	145	-
L1	121	121	121	121	121	121	121	121	121	121	121	121	121	-
H	160	160	160	160	160	160	160	160	160	160	160	160	160	-
H1	51	51	51	51	51	51	51	51	51	51	51	51	51	-
W	57	57	57	57	57	57	57	57	57	57	57	57	57	-
W1	40	40	40	40	40	40	40	40	40	40	40	40	40	-
B	12	12	12	12	12	12	12	12	12	12	12	12	12	-
UN-127	**800 A**	**1000 A**				**1250 A**		**1600 A**	**2000 A**	**2500 A**		**3200 A**	**4000 A**	**5000 A**
BARA KESİTİ	50x10	60x10	2x(30x10)	2x(40x10)	2x(50x10)	2x(40x10)	2x(50x10)	2x(50x10)	2x(60x10)	2x(80x10)	2x(100x10)	3x(80x10)	3x(100x10)	2x2(100x10)
L	-	145	145	145	145	145	145	145	145	145	145	145	145	145
L1	-	121	121	121	121	121	121	121	121	121	121	121	121	121
H	-	160	160	160	160	160	160	160	160	160	160	160	160	160
H1	-	72	72	72	72	72	72	72	72	72	72	72	72	72
W	-	57	57	57	57	57	57	57	57	57	57	57	57	57
W1	-	40	40	40	40	40	40	40	40	40	40	40	40	40
B	-	12	12	12	12	12	12	12	12	12	12	12	12	12

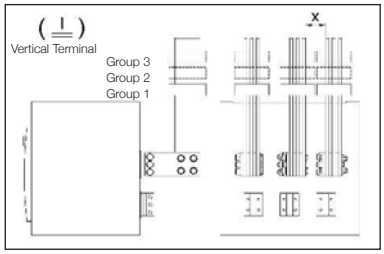
PANELMASTER® CURRENT TRANSFORMER APPLICATION TABLE

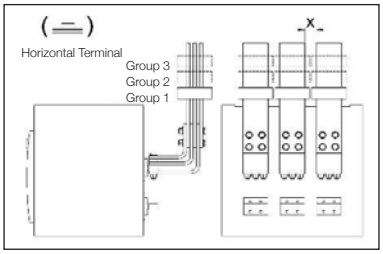
CURRENT		400 A - 2500 A								3200 A									4000 A				
POLE		3P				4P				4P					3P				4P				
*MODEL		001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019	020	021	022
BUSBAR TERMINAL		III	≡	III	≡	III	≡	III	≡	III	≡	III	III	≡	III	≡	III	≡	III	≡	III	III	≡
CB TERMINAL		|	|	—	—	|	|	—	—	|	|	—	—	—	|	|	—	—	|	|	—	—	—
ABB Hsb	Emax E1.2 Emax E2.2	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Emax E4.2	-	-	-	-	-	-	-	-	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	65 cm (1)	65 cm (1)	95 cm (4)	65 cm (1)	65 cm (1)
CHINT Hsb	NA1 1000 A NA1 2000 A	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	NA1 3200 A	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	-	-	-	-	-
	NA1 4000 A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65 cm (1)	65 cm (1)	95 cm (4)	65 cm (1)	65 cm (1)
EATON Hsb	IZMX 16	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IZMX 40	65 cm (1)	75 cm (2)	75 cm (2)	75 cm (2)	65 cm (1)	75 cm (2)	75 cm (2)	75 cm (2)	65 cm (1)	75 cm (2)	95 cm (4)	65 cm (1)	75 cm (2)	65 cm (1)	75 cm (2)	85 cm (3)	75 cm (2)	65 cm (1)	75 cm (2)	95 cm (4)	65 cm (1)	75 cm (2)
GE Hsb	EntelliGuard KASA 1	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EntelliGuard KASA 2	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	65 cm (1)	65 cm (1)	95 cm (4)	65 cm (1)	65 cm (1)
LEGRAND Hsb	DMX3 KASA 1	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (0)	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DMX3 KASA 2 SABİT TİP	-	-	-	-	-	-	-	-	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	65 cm (1)	65 cm (1)	95 cm (4)	65 cm (1)	65 cm (1)
	DMX3 KASA 2 ÇEKMECELİ TİP	-	-	-	-	-	-	-	-	65 cm (1)	75 cm (2)	85 cm (3)	65 cm (0)	75 cm (2)	65 cm (1)	75 cm (2)	85 cm (3)	75 cm (2)	65 cm (1)	75 cm (2)	95 cm (4)	65 cm (0)	75 cm (2)
MITSUBISHI Hsb	AE	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	65 cm (1)	65 cm (1)	95 cm (4)	65 cm (1)	65 cm (1)
SCHNEIDER Hsb	MVS	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	65 cm (1)	65 cm (1)	95 cm (4)	65 cm (1)	65 cm (1)
	NT06-NT16	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	NW08-NW32	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	-	-	-	-	-
	NW40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65 cm (1)	65 cm (1)	95 cm (4)	65 cm (1)	65 cm (1)
SIEMENS Hsb	3WL Size 1	65 cm (1)	65 cm (1)	75 cm (1)	65 cm (0)	65 cm (1)	65 cm (1)	75 cm (1)	65 cm (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3WL Size 2	65 cm (1)	65 cm (1)	75 cm (1)	65 cm (0)	65 cm (1)	65 cm (1)	75 cm (1)	65 cm (0)	65 cm (1)	65 cm (0)	85 cm (3)	65 cm (0)	65 cm (0)	65 cm (1)	65 cm (0)	85 cm (3)	65 cm (0)	65 cm (1)	65 cm (0)	95 cm (4)	65 cm (0)	65 cm (0)
	3WT Size 1	65 cm (1)	65 cm (1)	75 cm (1)	65 cm (0)	65 cm (1)	65 cm (1)	75 cm (1)	65 cm (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3WT Size 2	65 cm (1)	65 cm (1)	75 cm (1)	65 cm (0)	65 cm (1)	65 cm (1)	75 cm (1)	65 cm (0)	65 cm (1)	75 cm (2)	85 cm (3)	65 cm (0)	75 cm (2)	65 cm (1)	75 cm (2)	85 cm (3)	75 cm (2)	-	-	-	-	-
	3WT Size 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65 cm (1)	75 cm (2)	95 cm (4)	65 cm (0)	75 cm (2)

Example: Busbar vertical to door

(III)





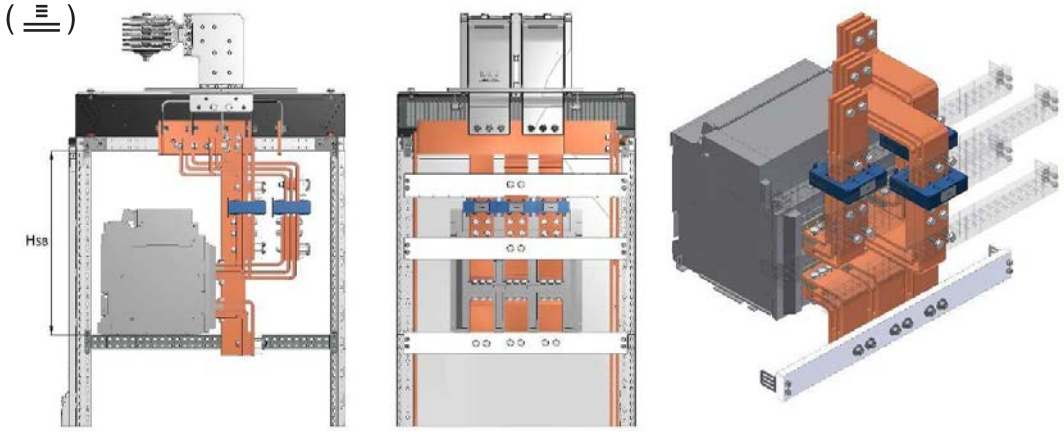


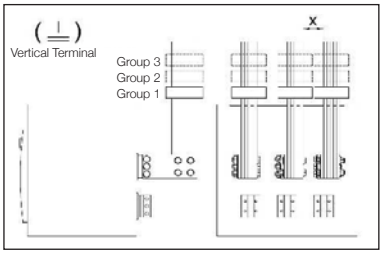
X : For distance between phase, please check Page 53-136
* : For Models please check Page 53-136
(0): Current transformer can not be applied to this model, without addingadditional height.
(1) : In this model, group 1 current transformer can be applied without adding additional height.
(2) : In this model, group 2 current transformer can be applied without adding additional height.
(3) : In this model, group 3 current transformer can be applied without adding additional height.
NOTE : For each stage current transformer, add 10 cm to the height of the module.

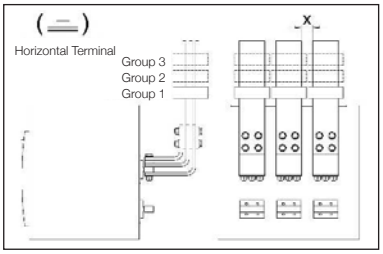
PANELMASTER® CURRENT TRANSFORMER APPLICATION TABLE

CURRENT		4000 A				5000 A								6300 A							
POLE		3P				3P				4P				3P				4P			
*MODEL		023	024	025	026	027	028	029	030	031	032	033	034	035	036	037	038	039	040	041	042
BUSBAR TERMINAL		III	≡	III	≡	≡	≡	III	III	III	III	≡	≡	III	≡	≡	III	III	III	≡	≡
CB TERMINAL		|	|	—	—	—	|	|	—	—	|	—	|	—	|	—	—	|	—	|
ABB Hsb	Emax E4.2	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Emax E6.2	-	-	-	-	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (0)	75 cm (0)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (0)	75 cm (0)	65 cm (1)	65 cm (1)	65 cm (1)
CHINT Hsb	NA1 4000 A	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	NA1 6300 A	-	-	-	-	65 cm (1)	75 cm (2)	65 cm (1)	75 cm (0)	75 cm (0)	65 cm (1)	65 cm (1)	75 cm (2)	-	-	-	-	-	-	-	-
EATON Hsb	IZMX 40	65 cm (1)	65 cm (1)	85 cm (3)	75 cm (2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IZM 26	-	-	-	-	75 cm (2)	75 cm (2)	75 cm (2)	75 cm (0)	75 cm (0)	75 cm (2)	75 cm (2)	75 cm (2)	75 cm (2)	75 cm (2)	75 cm (2)	75 cm (0)	75 cm (0)	75 cm (2)	75 cm (2)	75 cm (2)
GE Hsb	EntelliGuard KASA 2	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EntelliGuard KASA 3	-	-	-	-	65 cm (0)	65 cm (0)	65 cm (0)	75 cm (0)	75 cm (0)	65 cm (0)	65 cm (0)	65 cm (0)	65 cm (1)	65 cm (0)	65 cm (0)	75 cm (0)	75 cm (0)	65 cm (0)	65 cm (0)	65 cm (0)
LEGRAND Hsb	DMX3 KASA 2 SABİT TİP	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DMX3 KASA 2 ÇEKMECELİ TİP	65 cm (1)	75 cm (2)	85 cm (3)	75 cm (2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DMX3 KASA 3 SABİT TİP	-	-	-	-	65 cm (1)	75 cm (2)	65 cm (1)	75 cm (0)	75 cm (0)	65 cm (1)	65 cm (1)	75 cm (2)	65 cm (1)	75 cm (2)	75 cm (2)	75 cm (0)	75 cm (0)	65 cm (1)	75 cm (2)	75 cm (2)
	DMX3 KASA 3 ÇEKMECELİ TİP	-	-	-	-	65 cm (0)	75 cm (2)	65 cm (0)	75 cm (0)	75 cm (0)	65 cm (0)	65 cm (0)	75 cm (2)	65 cm (1)	75 cm (2)	75 cm (2)	75 cm (0)	75 cm (0)	65 cm 0)	75 cm (2)	75 cm (2)
MITSUBISHI Hsb	AE	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (0)	75 cm (0)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	65 cm (1)	75 cm (0)	75 cm (0)	65 cm (1)	65 cm (1)	65 cm (1)
SCHNEIDER Hsb	MVS	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	NW40	65 cm (1)	65 cm (1)	85 cm (3)	65 cm (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	NW40-NW63	-	-	-	-	65 cm (0)	65 cm (0)	65 cm (0)	75 cm (0)	75 cm (0)	65 cm (0)	65 cm (0)	65 cm (0)	65 cm (1)	65 cm (0)	65 cm (0)	75 cm (0)	75 cm (0)	65 cm (0)	65 cm (0)	65 cm (0)
SIEMENS Hsb	3WL Size 2	65 cm (1)	65 cm (0)	85 cm (3)	65 cm (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3WL Size 3	-	-	-	-	65 cm (0)	75 cm (2)	65 cm (0)	75 cm (0)	75 cm (0)	65 cm (0)	65 cm (0)	75 cm (2)	65 cm (0)	75 cm (2)	75 cm (2)	75 cm (0)	75 cm (0)	65 cm (0)	75 cm (2)	75 cm (2)
	3WT Size 3	65 cm (1)	75 cm (2)	85 cm (3)	75 cm (2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Example: Busbar parallel to door





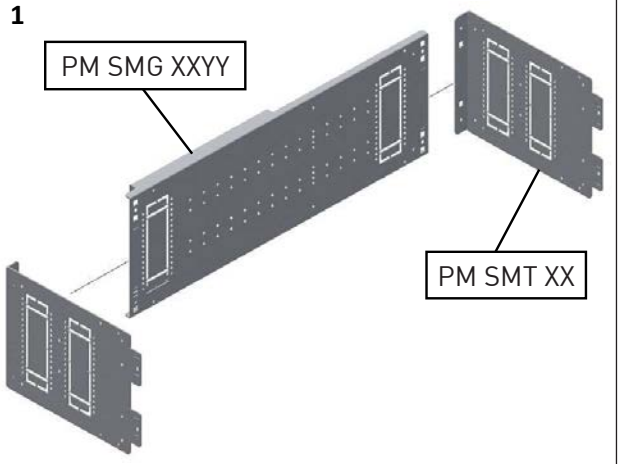


X : For distance between phase, please check Page 53-136
* : For Models please check Page 53-136
(0): Current transformer can not be applied to this model, without addingadditional height.
(1) : In this model, group 1 current transformer can be applied without adding additional height.
(2) : In this model, group 2 current transformer can be applied without adding additional height.
(3) : In this model, group 3 current transformer can be applied without adding additional height.
NOTE : For each stage current transformer, add 10 cm to the height of the module.

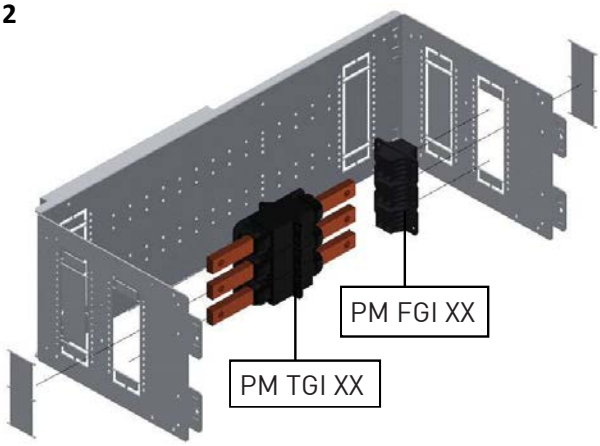
PANELMASTER® HORIZONTAL MCCB SEPARATION MODULE ASSEMBLY INSTRUCTION (FRONT ACCESS)

Preparation : In order to install **PM TGI XX** and **PM FGI XX** insulators, firstly, if required, breakable parts on **PM SMT XX** shall be broken. Sharp edges, if any, shall be smoothed and then insulators shall be fixed.

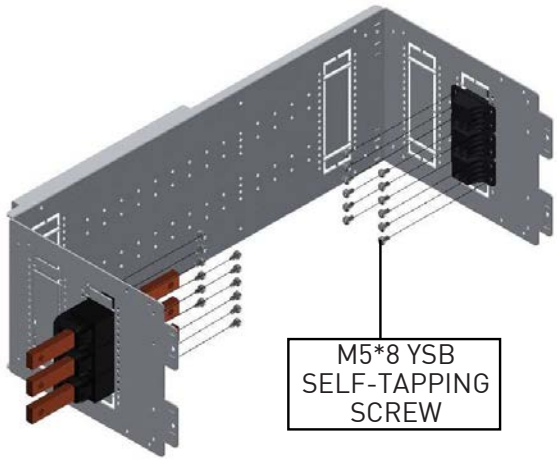
1



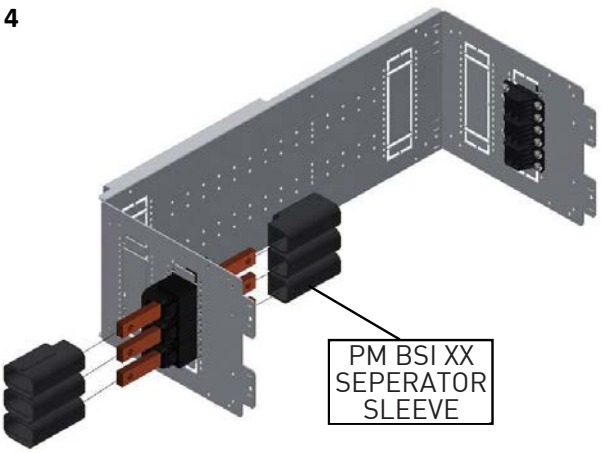
2



3

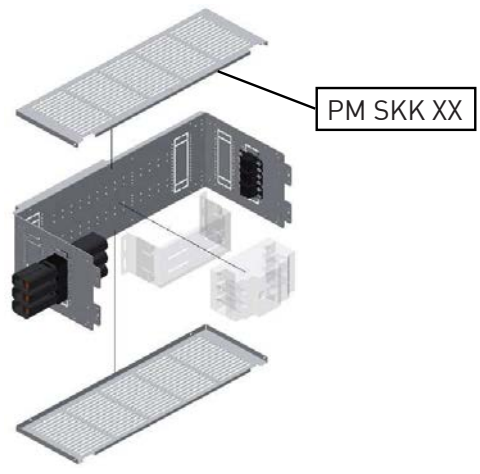


4

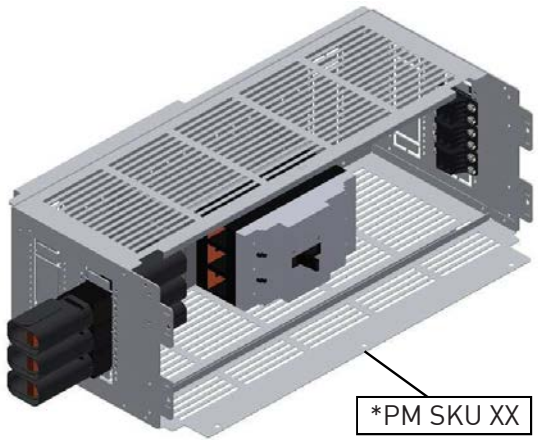


Step 2 : After Circuit Breaker Base Assembly and Circuit Breaker assembly, **PM SKK XX** is installed.

5



6

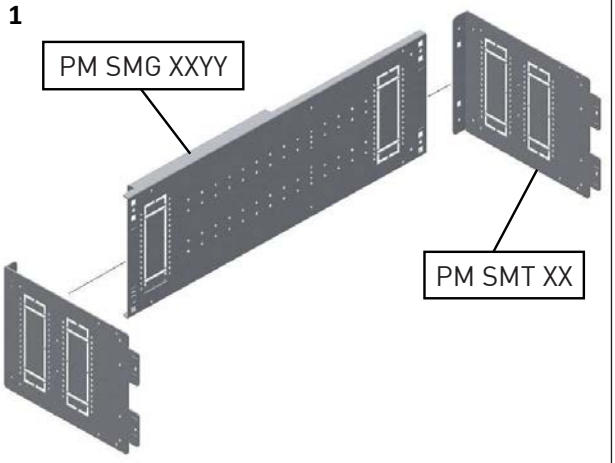


*PM SKU XX, used in partial door applications.

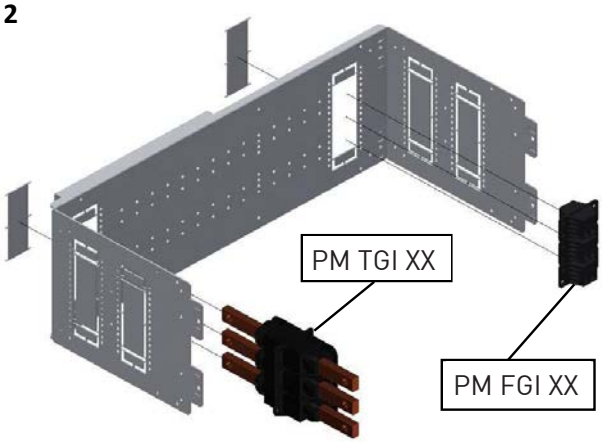
PANELMASTER® HORIZONTAL MCCB SEPARATION MODULE ASSEMBLY INSTRUCTION (BACK ACCESS)

Preparation : In order to install **PM TGI XX** and **PM FGI XX** insulators, firstly, if required, breakable parts on **PM SMT XX** shall be broken. Sharp edges, if any, shall be smoothed and then insulators shall be fixed.

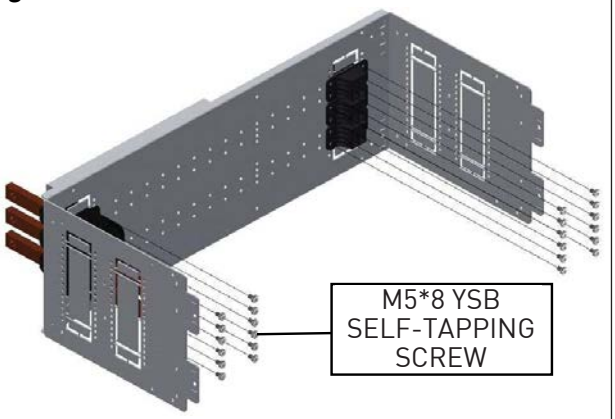
1



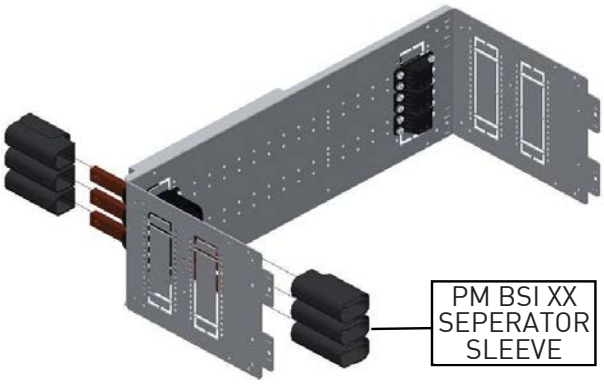
2



3

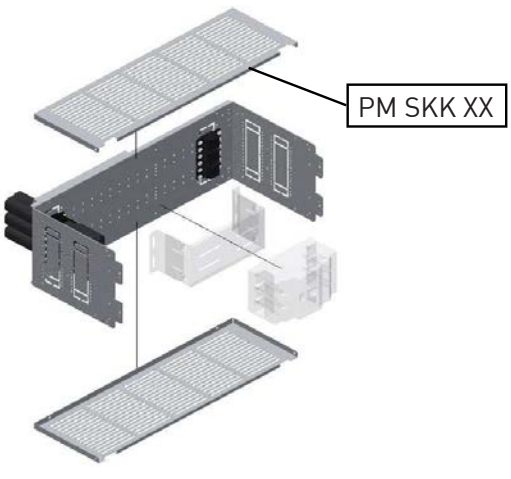


4

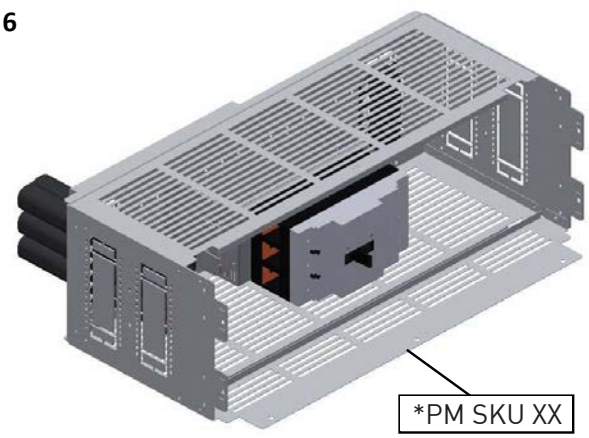


Step 2 : After Circuit Breaker Base and Circuit Breaker assembly, **PM SKK XX** is installed.

5



6

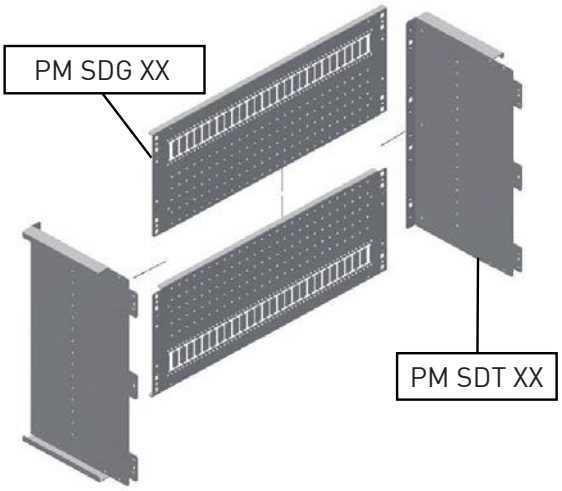


*PM SKU XX, used in partial door applications.

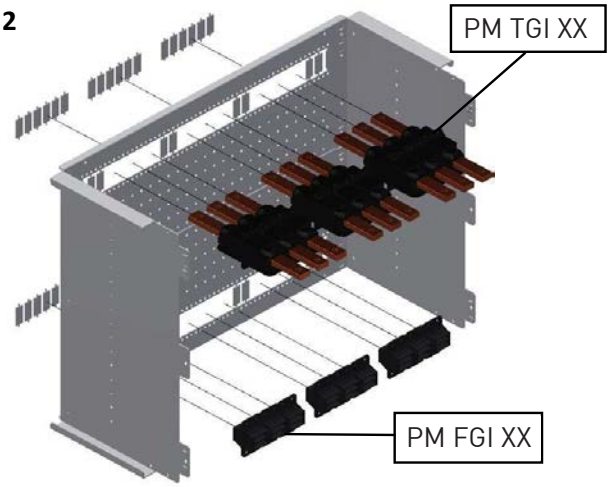
PANELMASTER® VERTICAL MMCB SEPARATION MODULE ASSEMBLY INSTRUCTION

Preparation : In order to install **PM TGI XX** and **PM FGI XX** insulators, firstly, if required, breakable parts on **PM SMT XX** shall be broken. Sharp edges, if any, shall be smoothed and then insulators shall be fixed.

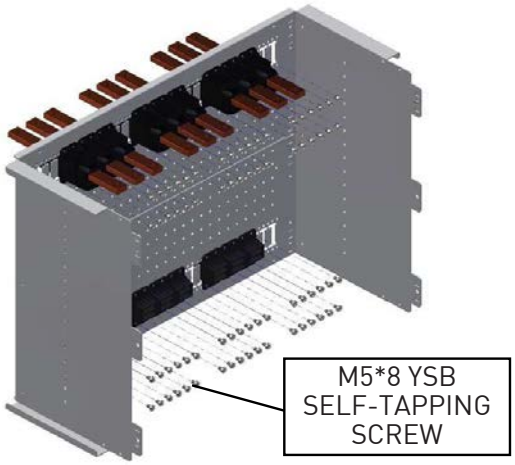
1



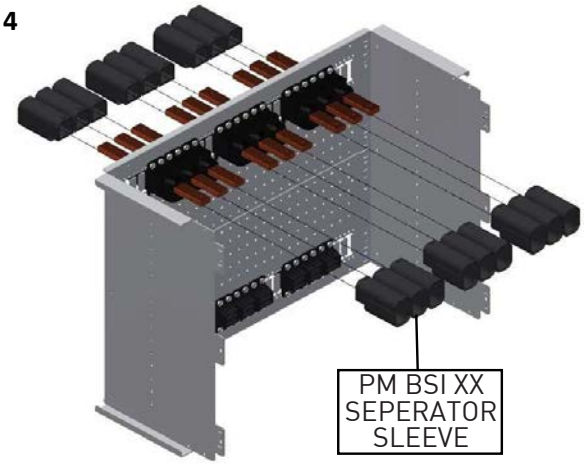
2



3

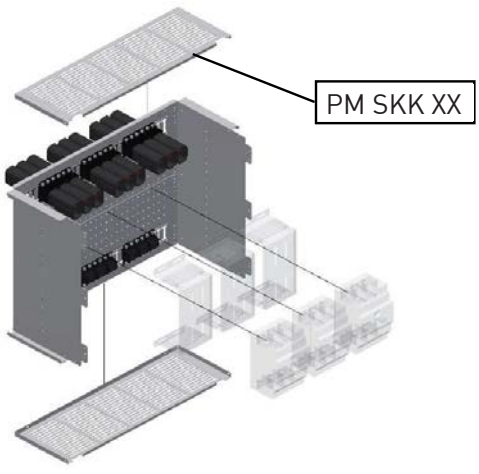


4

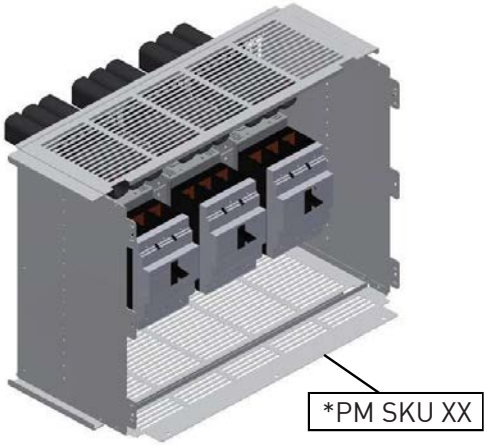


Step 2 : After Circuit Breaker Base Assembly and Circuit Breaker assembly, **PM SKK XX** is installed.

5



6

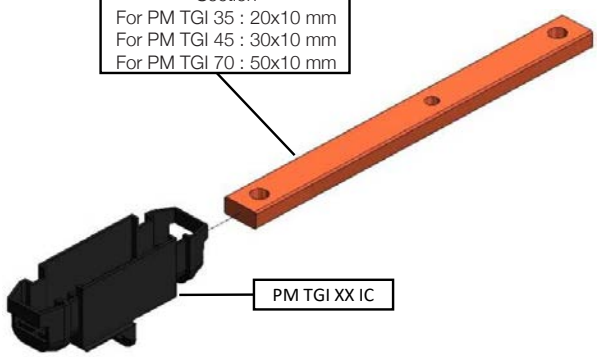


*PM SKU XX, used in partial door applications.

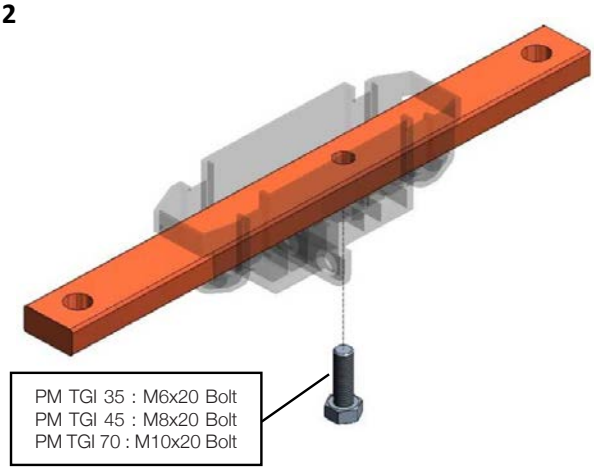
PANELMASTER® PM TGI XX TERMINAL GATE INSULATOR ASSEMBLY INSTRUCTION

Preparation : Copper conductor bar, which is designed to form a terminal is to be fixed on **PM TGI XX IC** by using nuts and bolts.

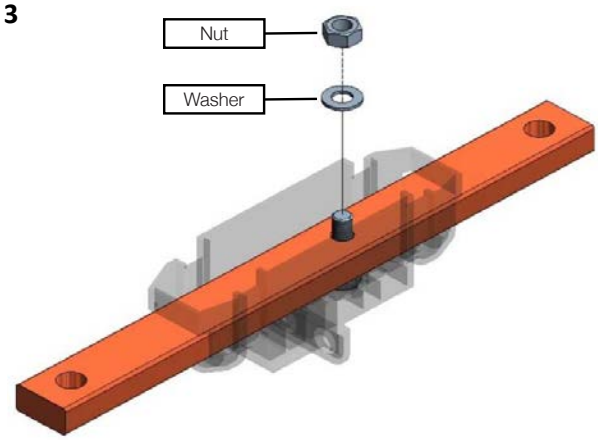
1



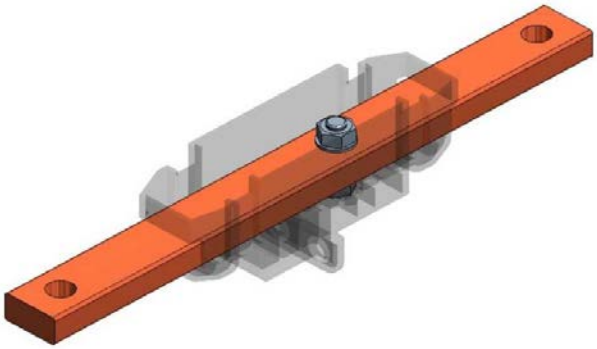
2



3

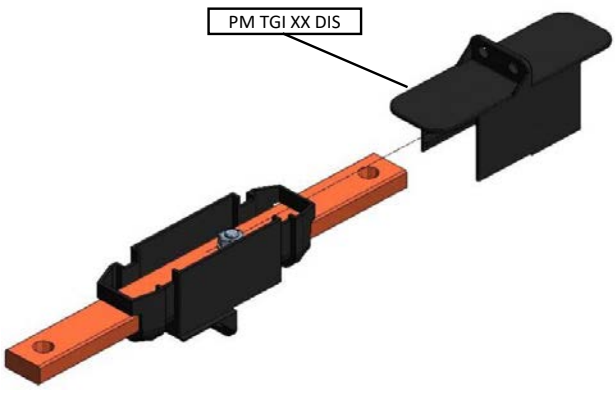


4

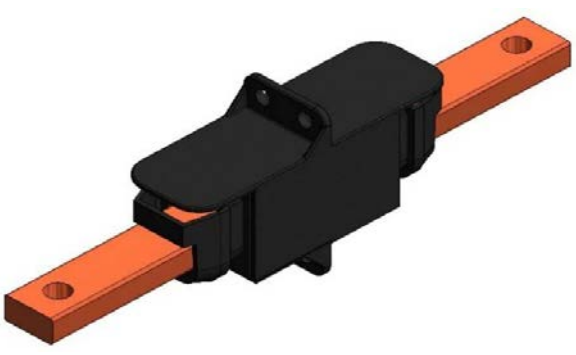


Step 2: PM TGI XX IC and **PM TGI XX DIS** are to be assembled by shifting one in other.

5



6



SPECIFICATIONS

Application	:	Indoor
Protection Class	:	IP55, IP41, IP31 (Depending on door type and ventilation module)
Framework	:	Painted, 2 mm galvanised steel sheet
Color	:	Epoxy - polyester powder paint
Paint	:	Standard RAL 7035
Operating temperature	:	-5°C, +40°C
Operating relative humidity	:	+20°C' de %90
		+40°C' de %50
Standards	:	IEC 61439-1/2, IEC 62208
		IEC 60529, IEC 62262
Form of internal seperation	:	Form 1, Form 2b (2a)
		Form 3b (3a), Form 4b (4a)

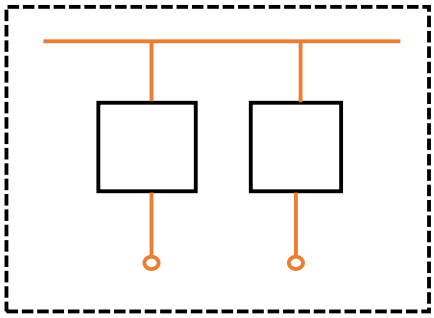
DIMENSIONS

Height	:	1800, 2000, 2200 mm
Width	:	300, 400, 500, 600,700, 800, 1000 mm
Depth	:	600, 800, 1000 mm

FORMS OF INTERNAL SEPARATION

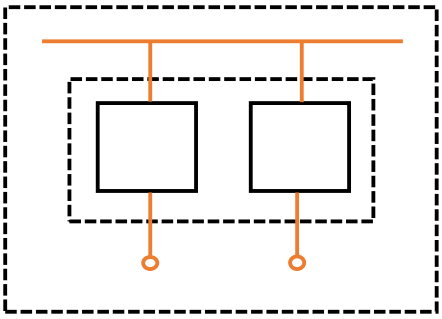
FORM 1

No internal separation



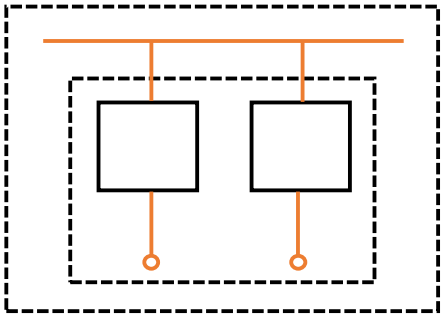
FORM 2a

Separation of busbars from functional units. Terminals not separated from busbars.



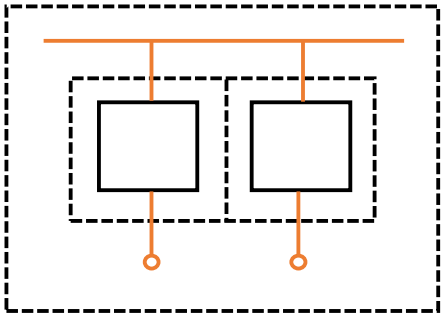
FORM 2b

Separation of busbar from funtional units and terminals. But functional units are not seperated from each other.



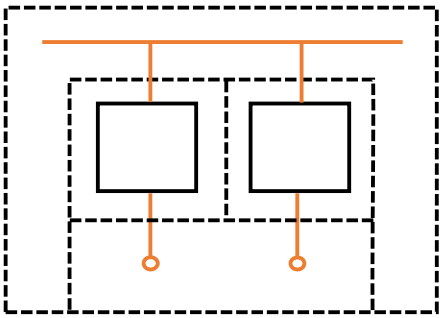
FORM 3a

Functional units separated from busbar and from eachother. But terminals are not separated from busbar.



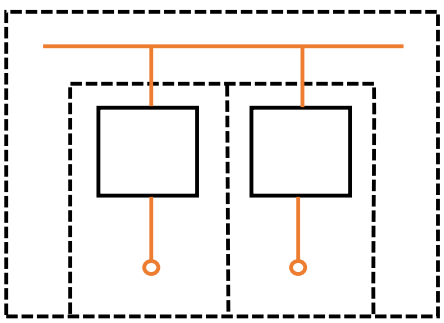
FORM 3b

Functional units separated from busbar and from eachother.Terminals are seperated from busbar but not from eachother.



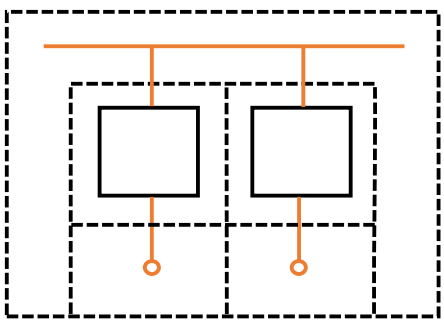
FORM 4a

Functional units separated from busbar and each other but related functional unit and its terminal is not separated from eachother.



FORM 4b

Functional units separated from busbar and eachother. Also related functional unit and its terminals are separated from each other.

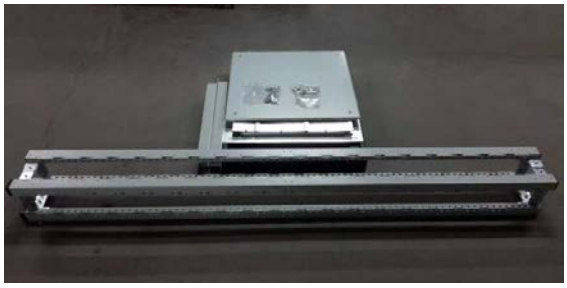


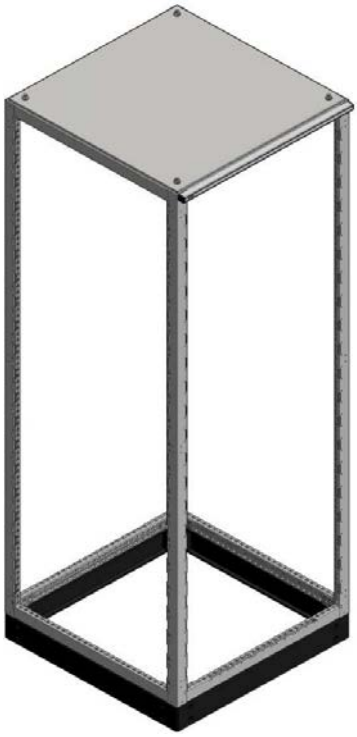


PANELMASTER® AIR CIRCUIT BREAKER ASSEMBLY STEPS

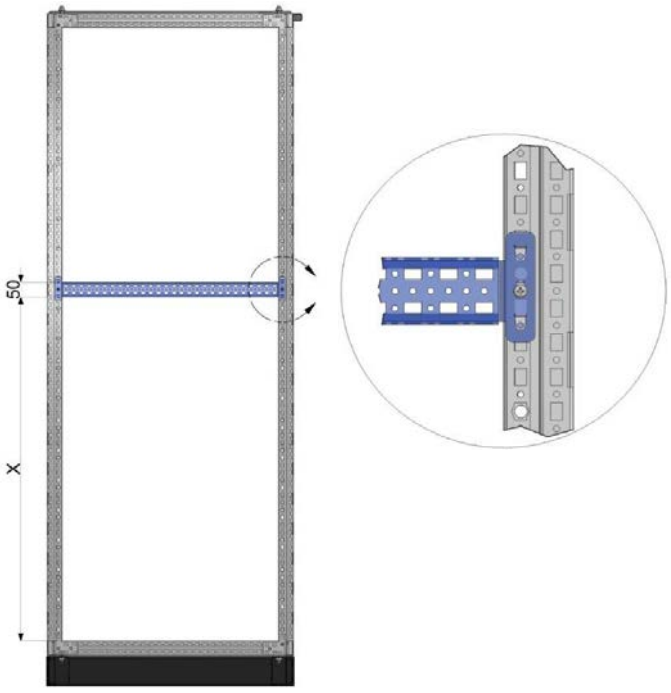
AIR CIRCUIT BREAKER ASSEMBLY

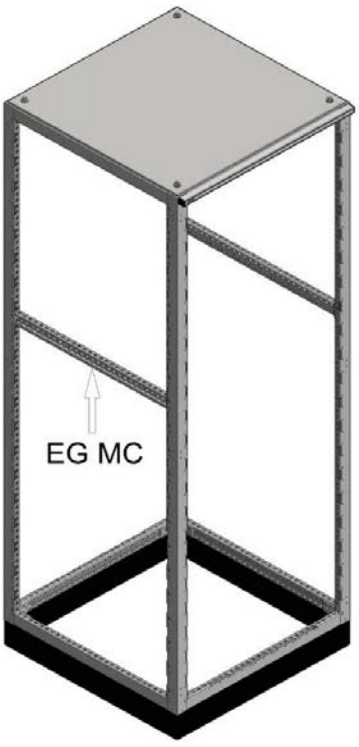
Step 1 : Assemble the framework.





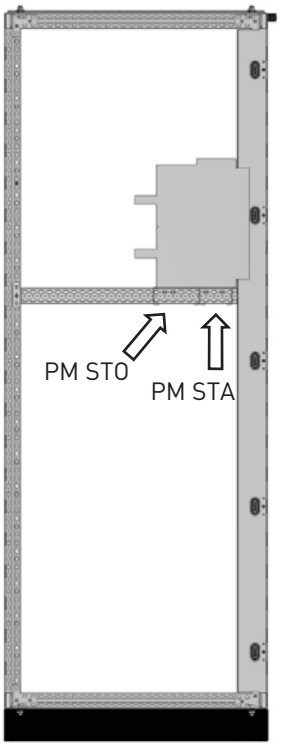
Step 2 : ACB carrier profiles (for 06 and 08 depth EG MC and for 10 depth EG ME profiles) shall be positioned at points shown on drawing which is specifically prepared accoring to recent project and fixed..

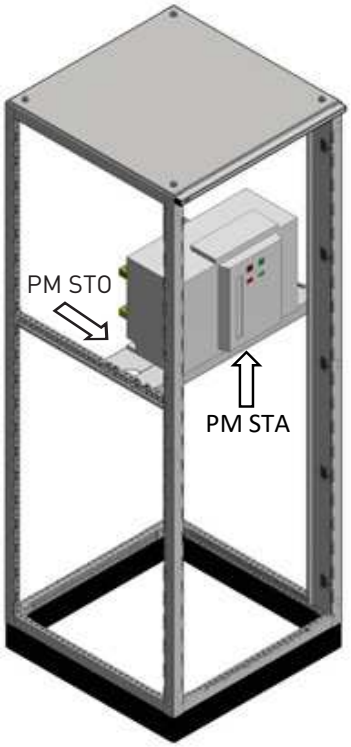




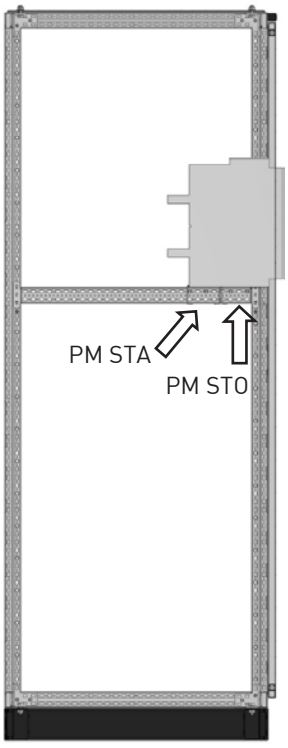
AIR CIRCUIT BREAKER ASSEMBLY

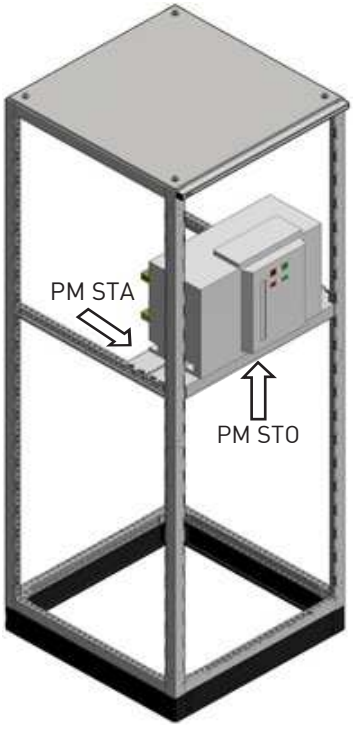
Step 3 : If switchgear is designed with front cover plates, ACB shall be positioned on PM STA and PM STO in such a way that PM STA is located on front side.





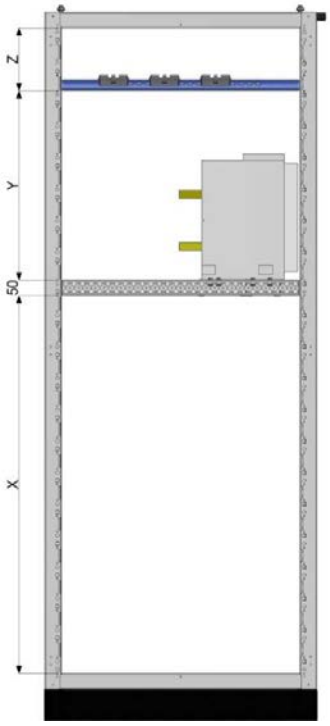
NOTE : If ACB face will be out of the door, ACB shall positioned on PM STA and PM STO in such a way that PM STO is located on front side.

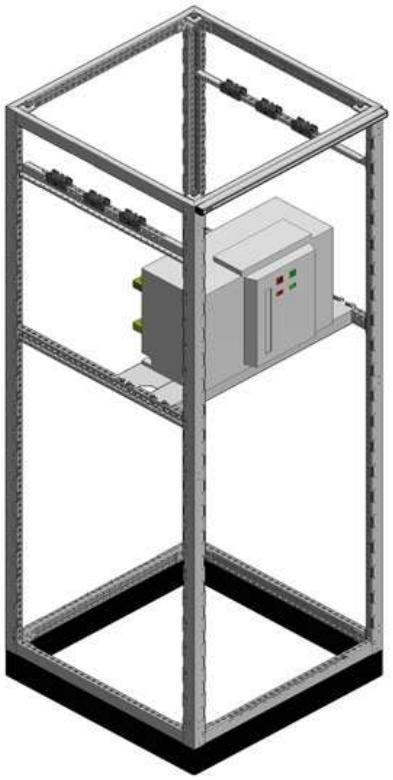


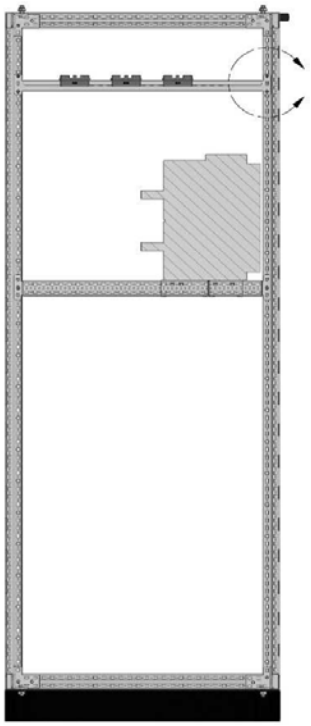


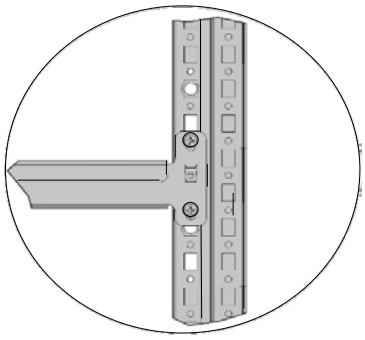
MAIN BUSBAR INSULATORS ASSEMBLY

Step 4 : Define the distance between main busbar phase conductors and position PM MTG insulators which carries the busbars, regarding to this distance.
Then, fix the insulator set based on the drawings which is specificially prepared according to recent project.





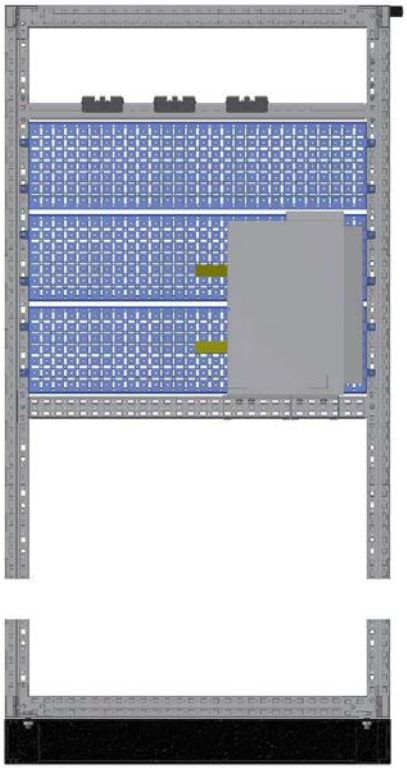


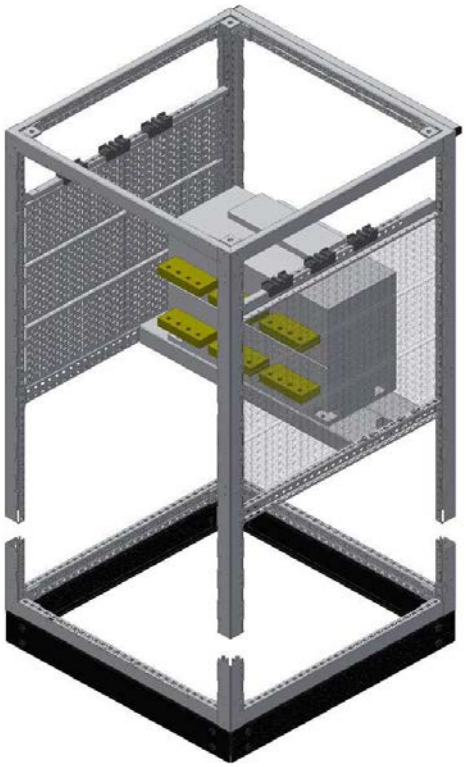


PANELMASTER® AIR CIRCUIT BREAKER ASSEMBLY STEPS

AIR CIRCUIT BREAKER SEPARATORS ASSEMBLY

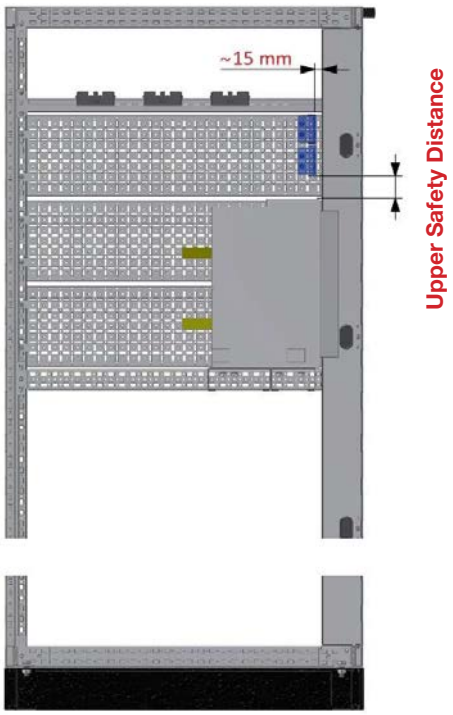
Step 5 : PM TFG (Terminal Form Sheets) shall be placed at right and left sides of the ACB as shown below.

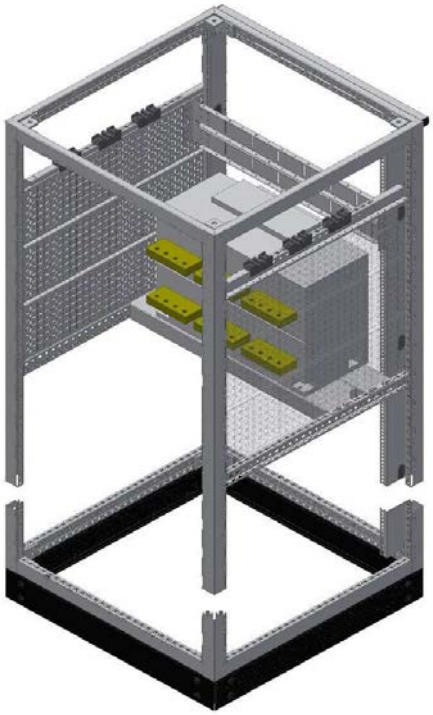




Step 6 : Fix first PM DFT then PM DF on upper side of ACB by taking care of upper safety distance* and distance to front plate/ door.

* Please check upper safety distances table for ACB's.

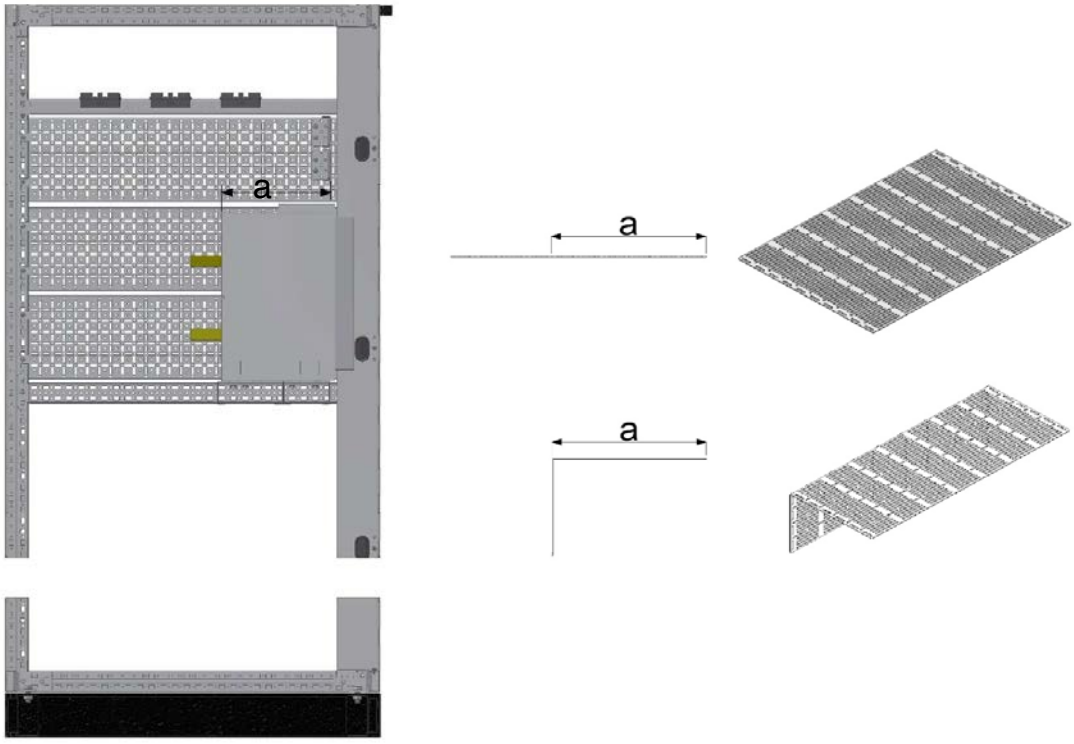




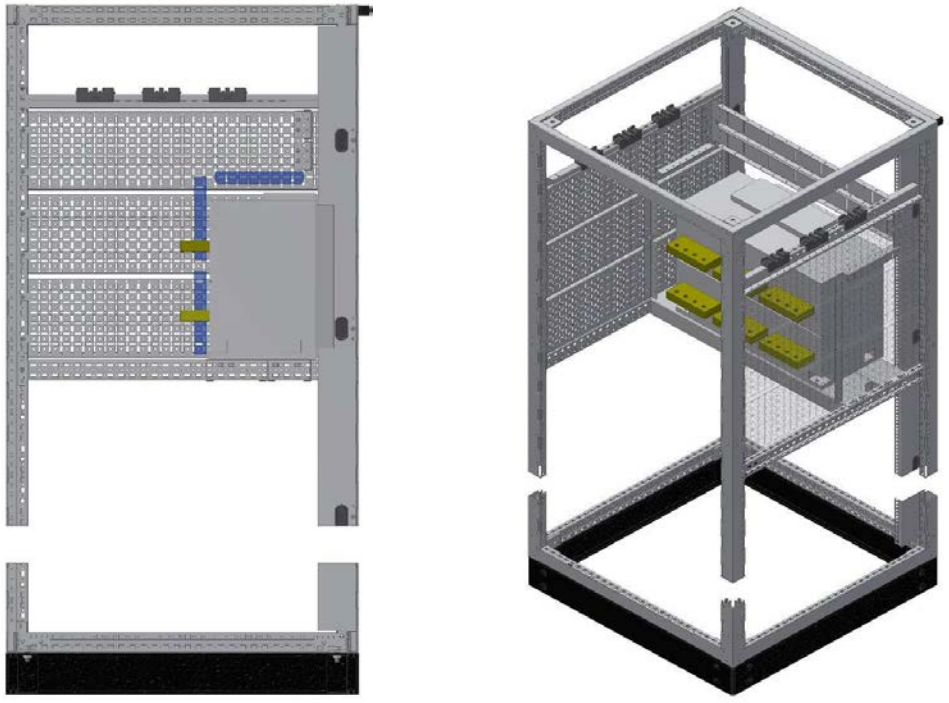
PANELMASTER® AIR CIRCUIT BREAKER ASSEMBLY STEPS

AIR CIRCUIT BREAKER SEPARATORS ASSEMBLY

Step 7 : PM SUF (transparent pollycarbonate) seperator, which will be formed by bending as shown below and fixed on upper side of ACB.
Remove the PM SUF seperator folio, then measure the distance (a) between PM DF to ACB's front upper edge,
Bend the PM SUF seperator accordingly.



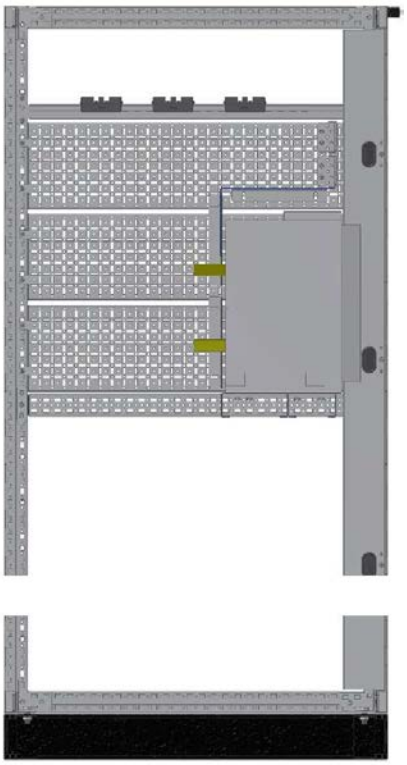
Step 8 : Place and fix PM SLT brackets to PM TFG profiles which are besides ACB.
PM SLT brackets are to be used to support PM SUF and PM SYF (transparent pollycarbonate) seperators.

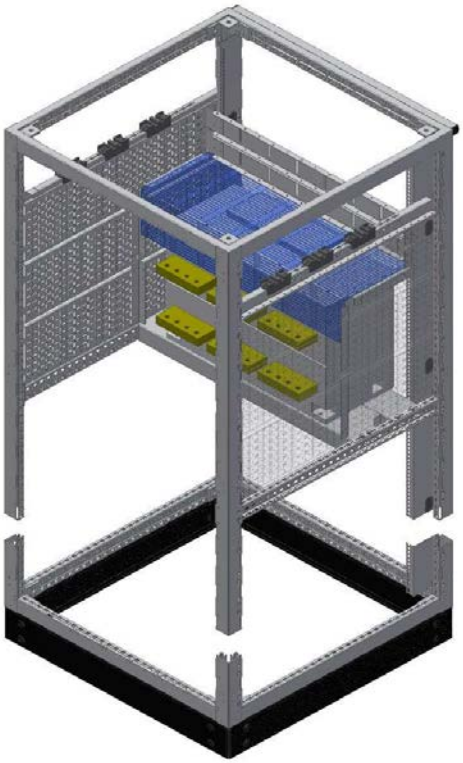


PANELMASTER® AIR CIRCUIT BREAKER ASSEMBLY STEPS

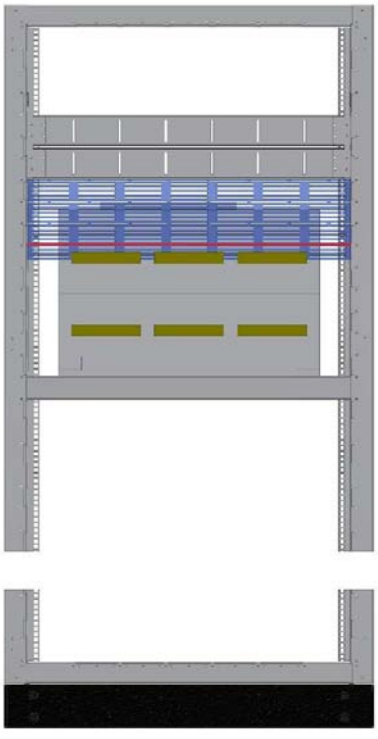
AIR CIRCUIT BREAKER SEPARATORS ASSEMBLY

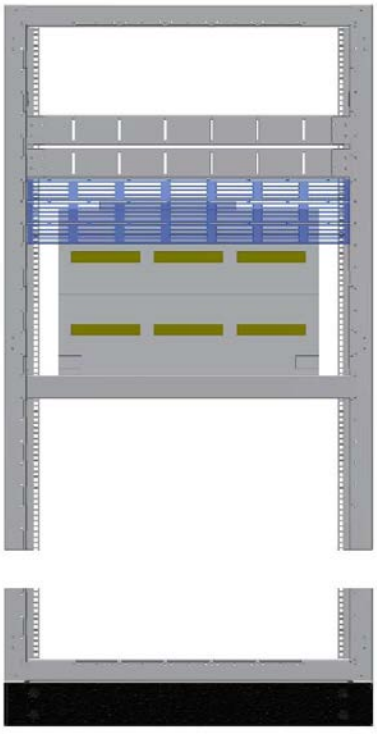
Step 9 : Fix the PM SUF seperator on upper side of ACB.





Step 10 : Cut the PM SUF accessory if it is longer than enough.
(Example; check the drawing below-left , seperator shall be cut at red-line shown since it is touching the terminals.)

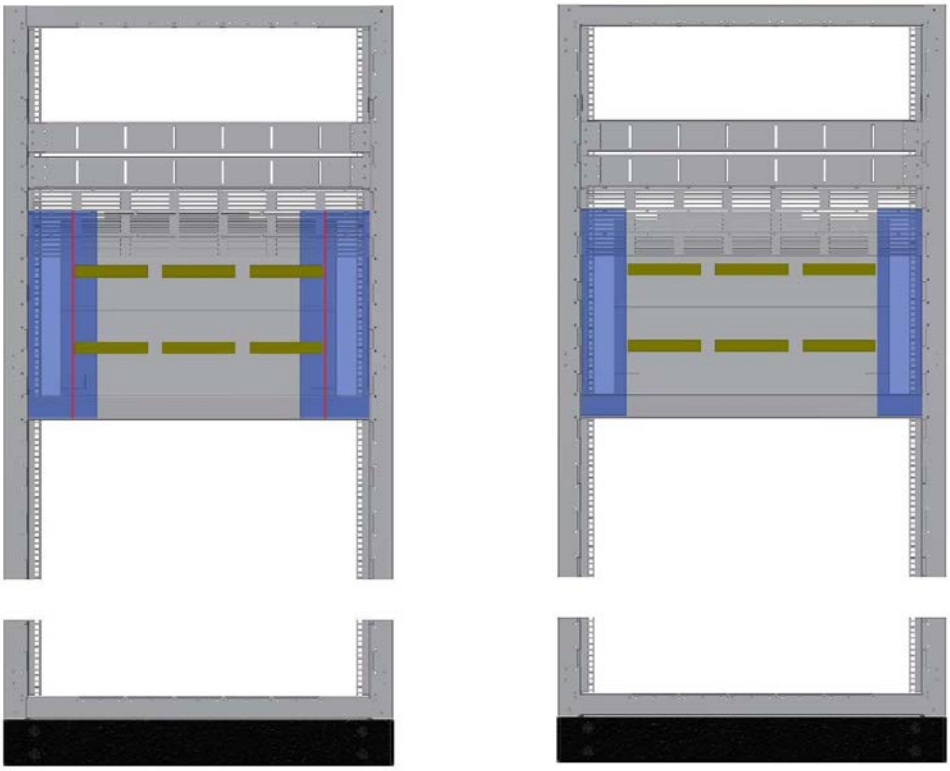




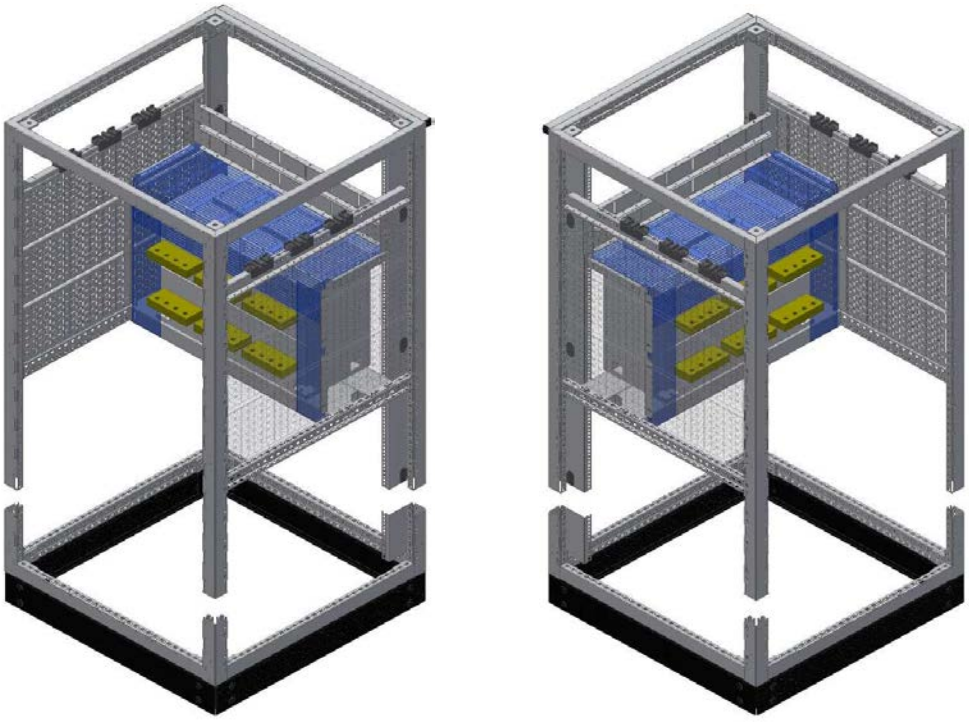
PANELMASTER® AIR CIRCUIT BREAKER ASSEMBLY STEPS

AIR CIRCUIT BREAKER SEPARATORS ASSEMBLY

Step 11 : Fix the PM SYF seperators to right and left side of ACB following placing and fixing PM SLT brackets.
If PM SYF seperators touch ACB terminals as indicated with red line at drawing below, cut and remove necessary parts.

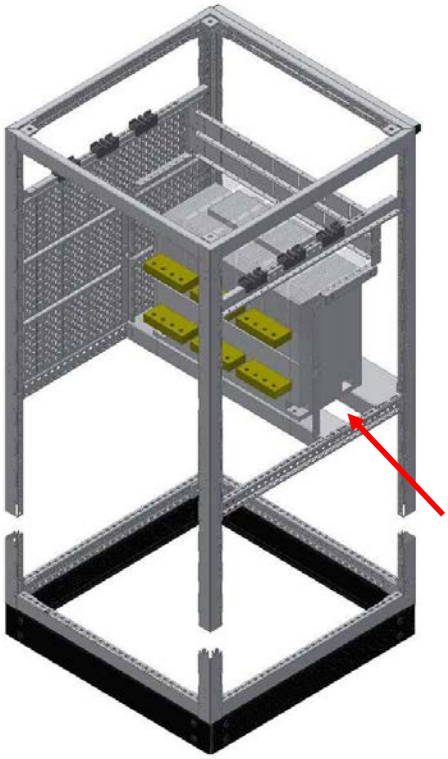


ACB back view, which is separated with PM SUF and PM SYF seperators.

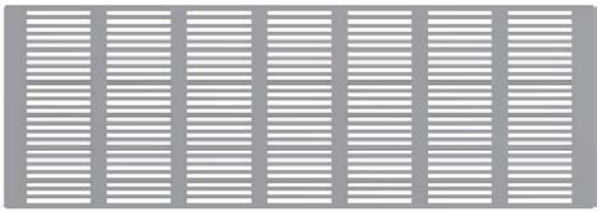


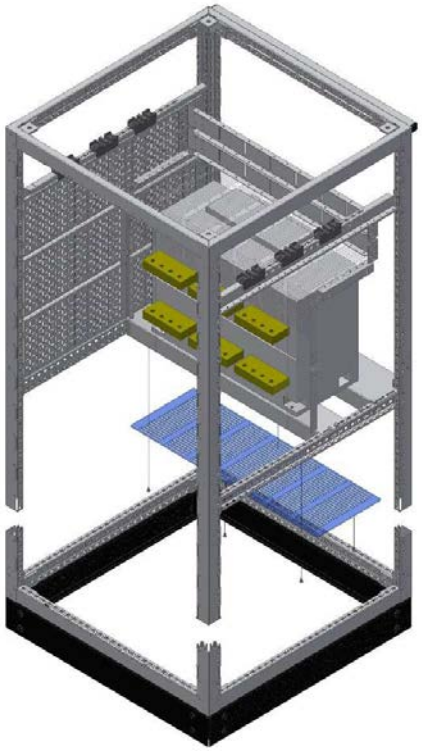
AIR CIRCUIT BREAKER SEPARATORS ASSEMBLY

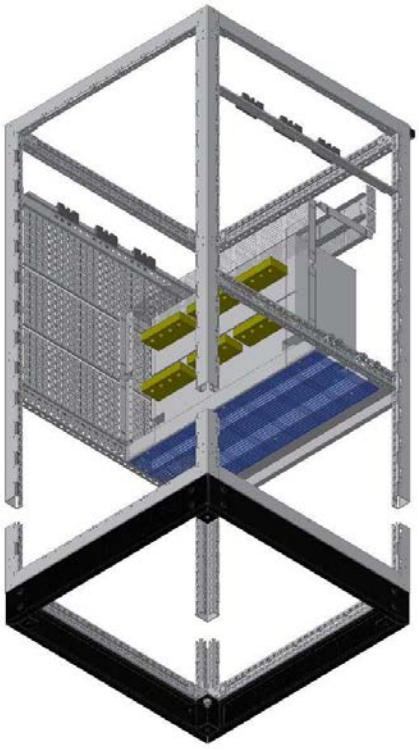
Step 12 : If there is a gap of more than 12 mm between ACB fixing profiles (PM STA and PM STO), close this gap from lower side using the PM SAF seperator.



PM SAF BOTTOM ACCESSORY



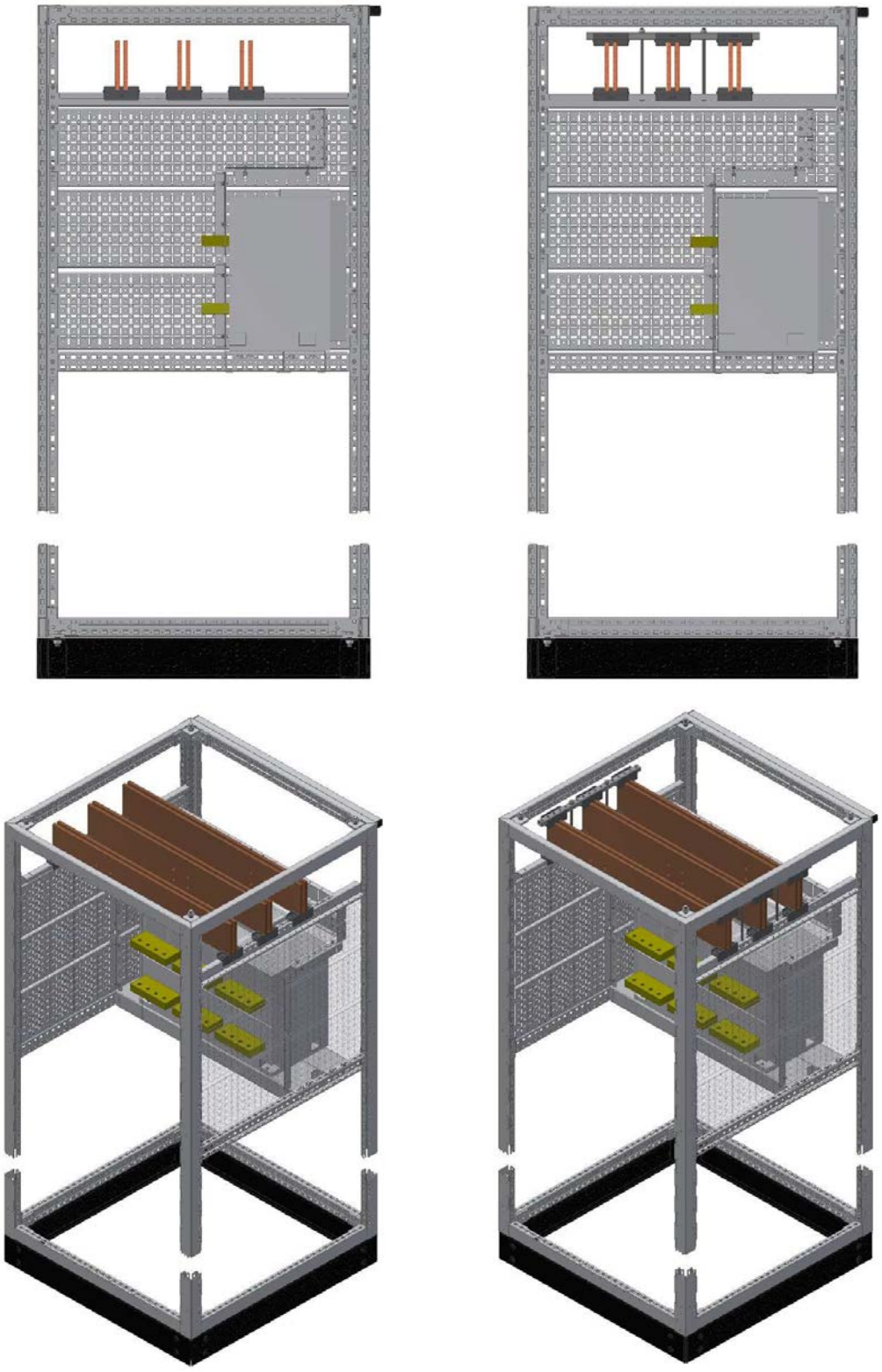




BOTTOM VIEW

AIR CIRCUIT BREAKER BUSBAR AND SUPPORT (INSULATOR) APPLICATIONS

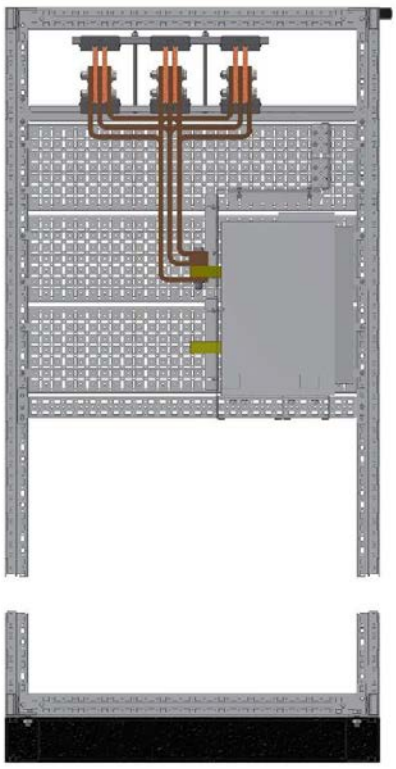
Step 13 : Position and fix main busbar, conductors and upper set of main busbar support (insulator), with stainless steel profile by using threaded rods..
*The foils of all foiled products should be removed.

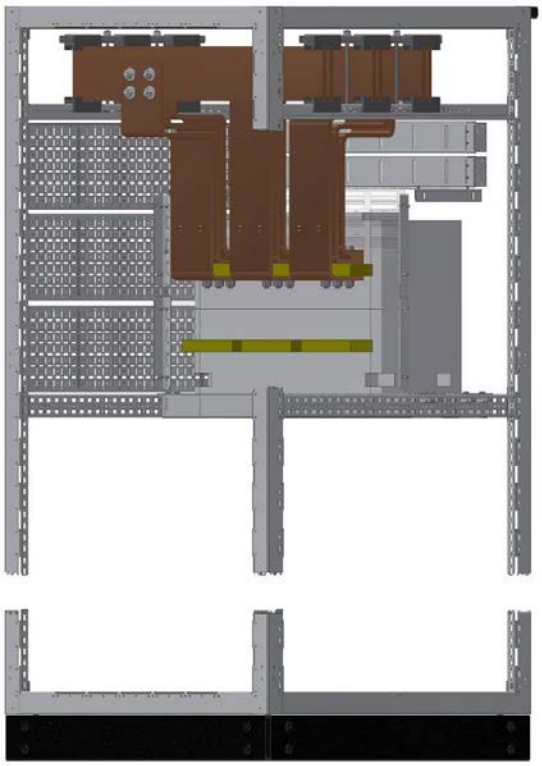


NOTE : Check support (insulator) intermediate distances for conformity to the PanelMaster® Supports Maximum Distance Table. Add support (insulator) sets if necessary.

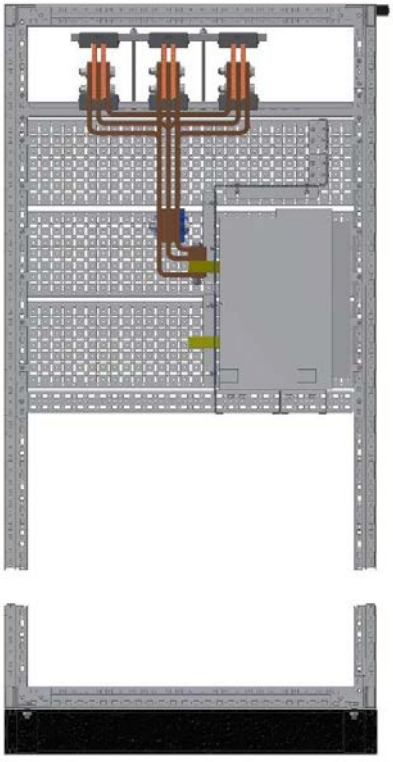
AIR CIRCUIT BREAKER BUSBAR AND SUPPORT (INSULATOR) APPLICATIONS

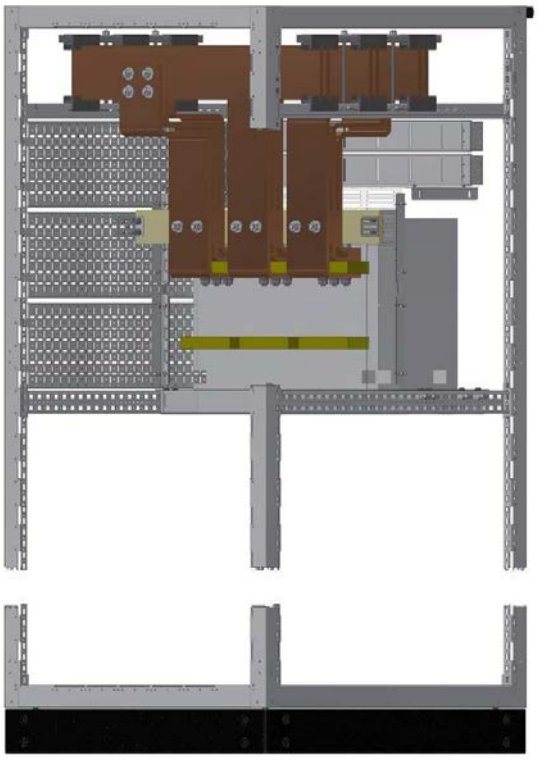
Step 14 : Manufacture and install copper conductor bars between ACB terminals and main busbar conductors.





Step 15 : At the first bend of copper conductor bars connecting CB and main busbar, the first support EB GF 75 shall be placed to protect the CB from short circuit-with EB GF 75 insulator

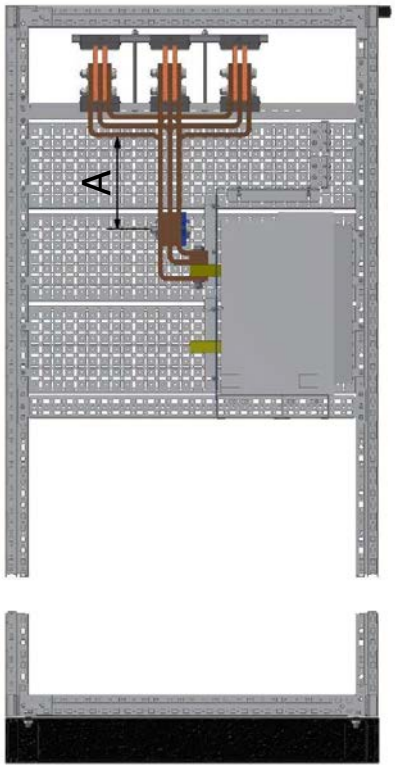


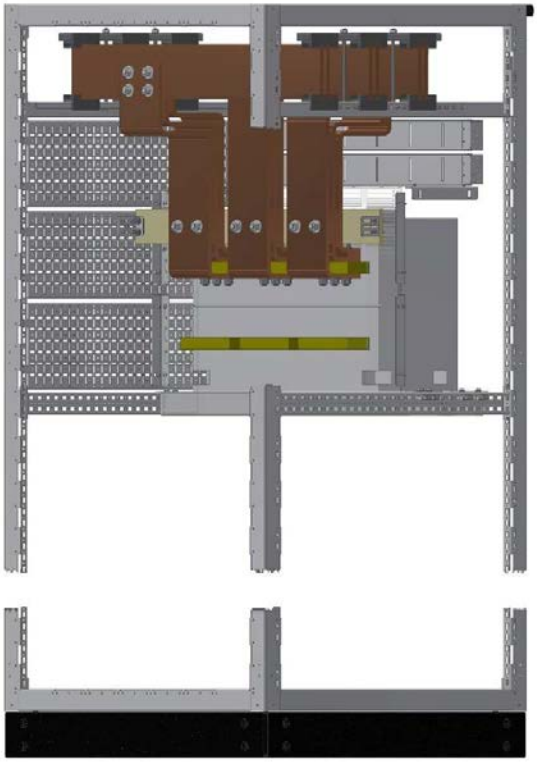


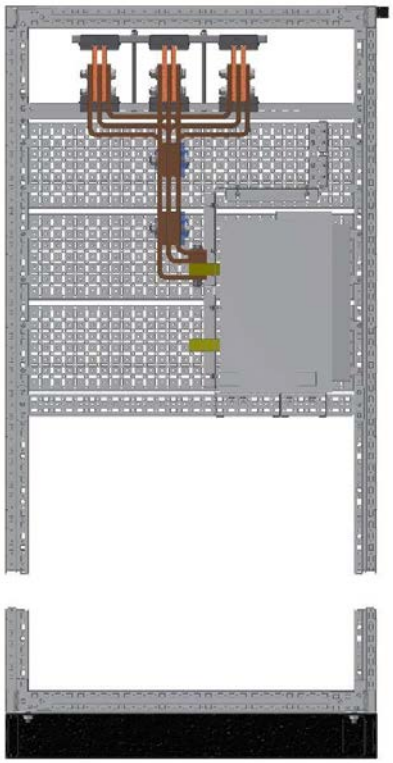
NOTE : Bending in terconnection bars between CB and the main busbar at the same depth allows easier support placing.

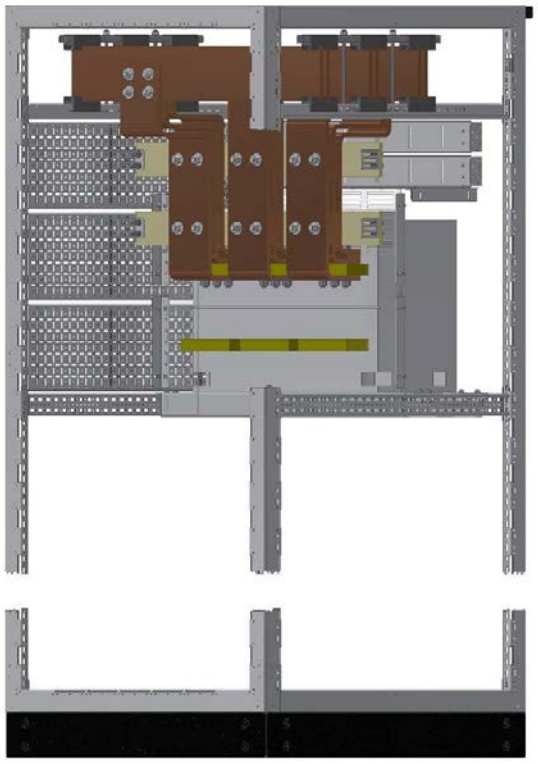
AIR CIRCUIT BREAKER BUSBAR AND SUPPORT (INSULATOR) APPLICATIONS

Step 16 : Measure the distance A shown below and add second support if necessary for matching short circuit withstand current.
A*: Please refer ACB interconnection Busbar Support Description. Page 41.



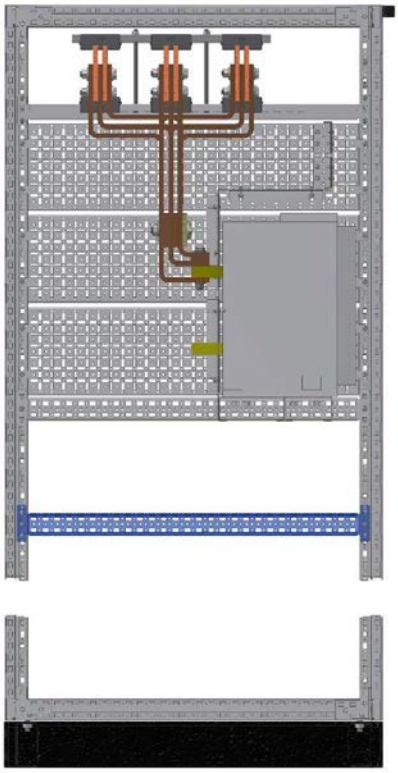


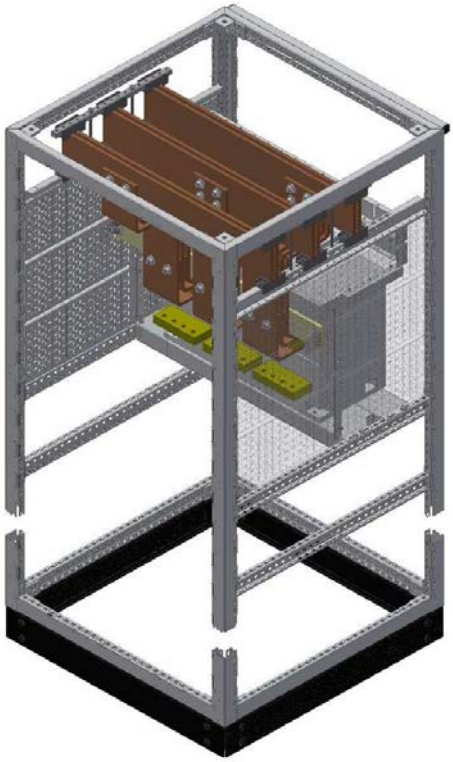




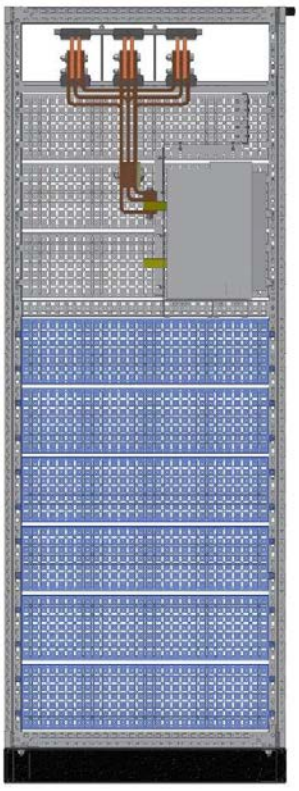
AIR CIRCUIT BREAKER BUSBAR AND SUPPORT (INSULATOR) APPLICATIONS

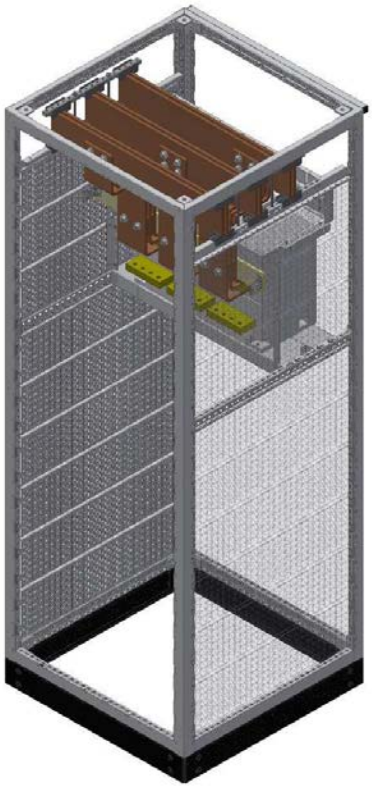
Step 17 : At Form 2b / 3b panels, in order to fix the cable connection terminals supports, EG MC profiles shall be used at sides to depth.





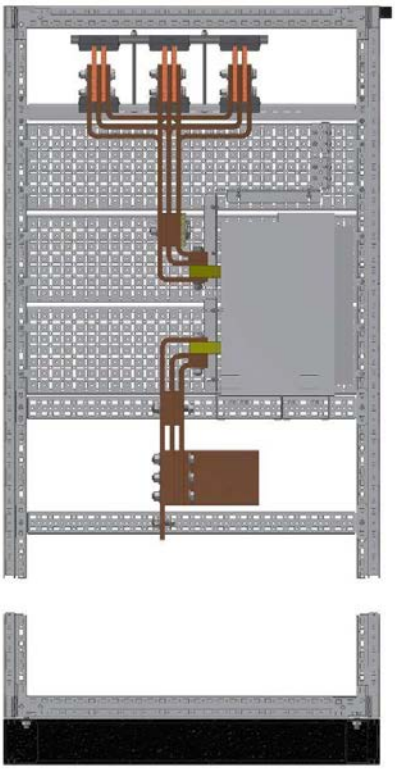
At Form 4b panels, use PM TFG profiles to fix cable connection terminal supports.

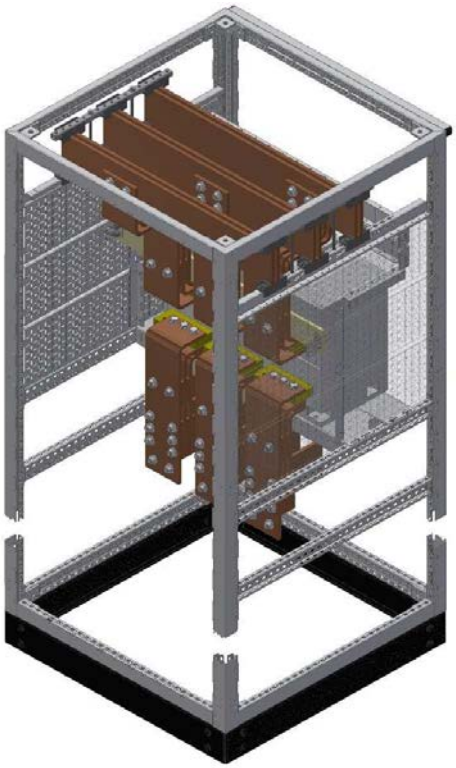




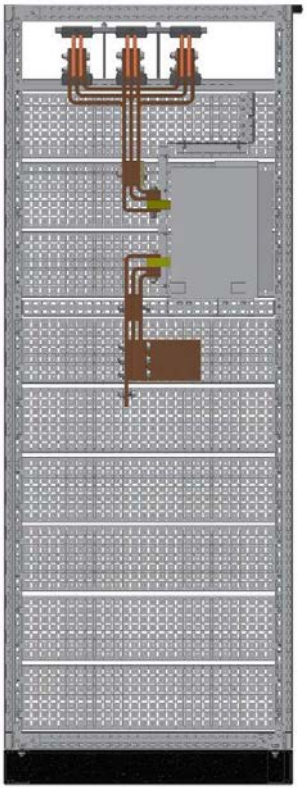
AIR CIRCUIT BREAKER BUSBAR AND SUPPORT (INSULATOR) APPLICATIONS

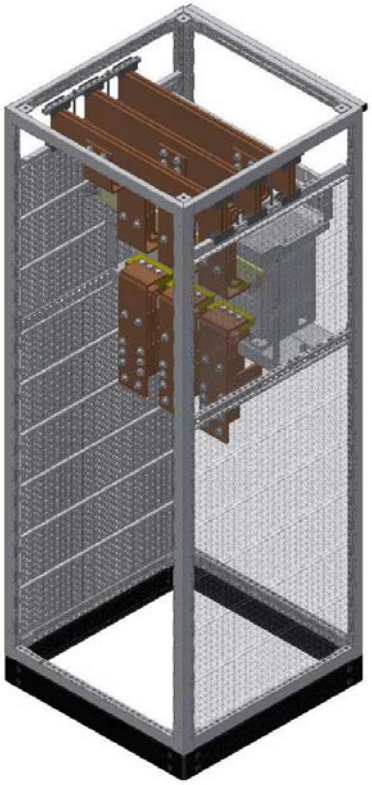
Step 18 : Manufacture and install ACB cable terminals and copper connection bars (Form 2b / Form 3b).





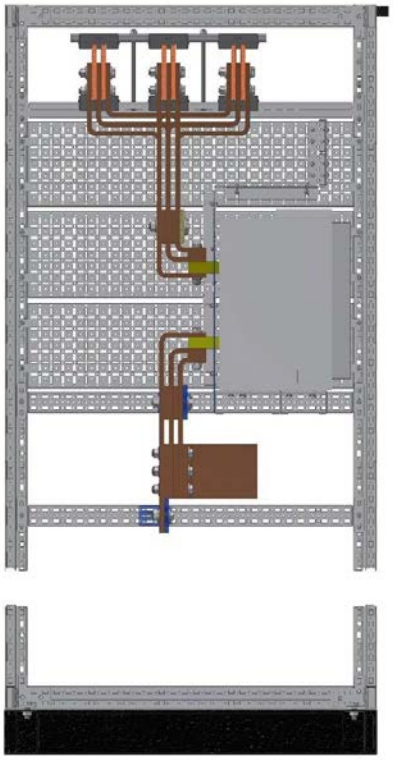
Manufacture and install ACB cable terminals and copper connection bars (Form 4b).

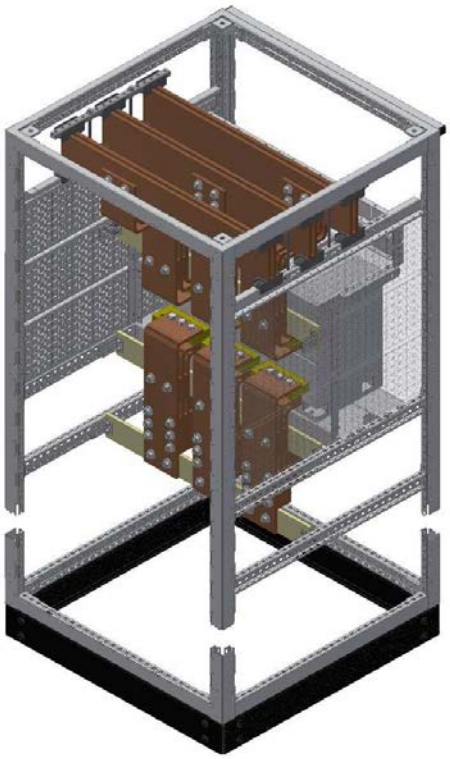




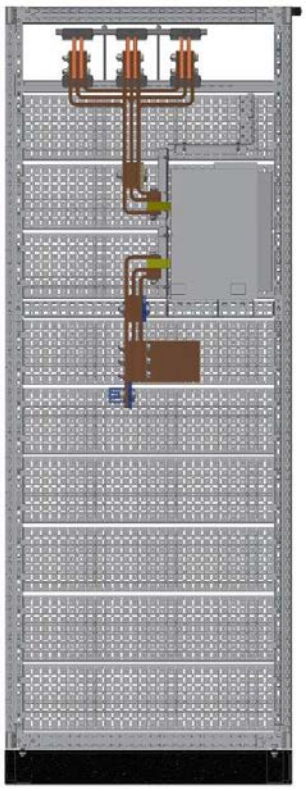
AIR CIRCUIT BREAKER BUSBAR AND SUPPORT (INSULATOR) APPLICATIONS

Step 19 : Fix EB GF 75 supports at CB - Cable terminal connection bar's first angle and at the end. (Form 2b/3b).





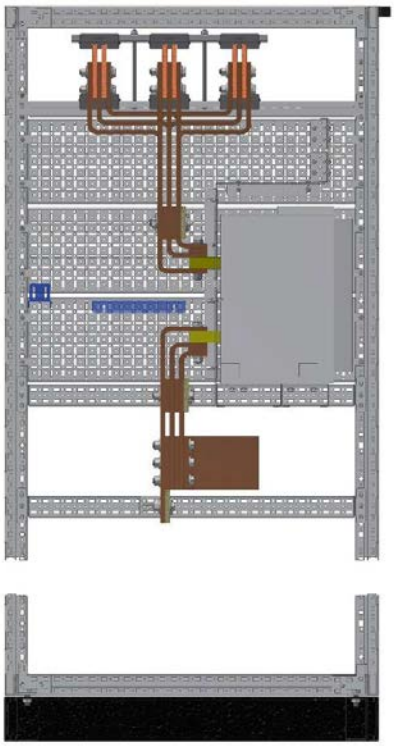
Form 4b

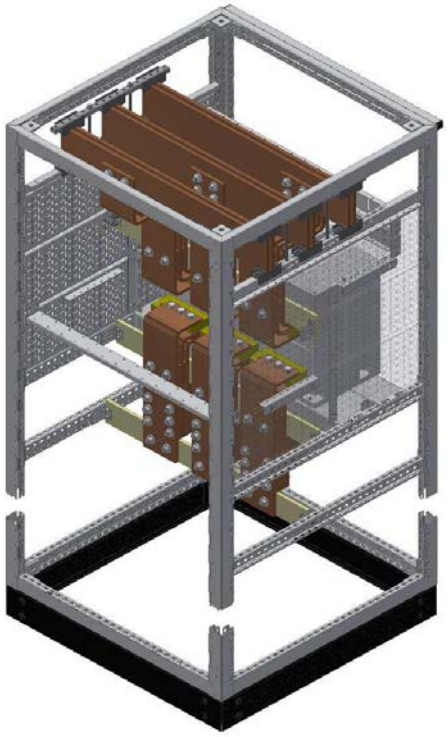




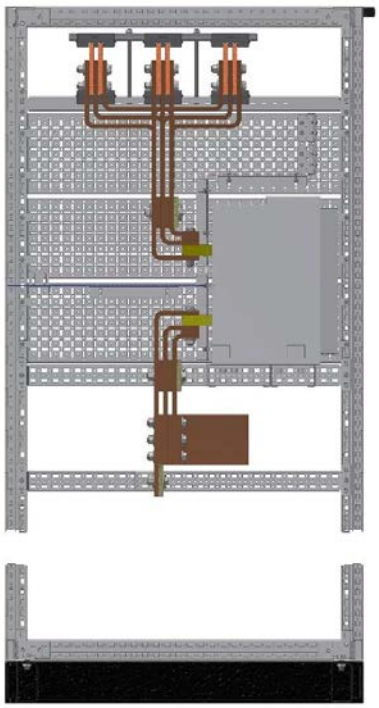
AIR CIRCUIT BREAKER BUSBAR AND SUPPORT (INSULATOR) APPLICATIONS

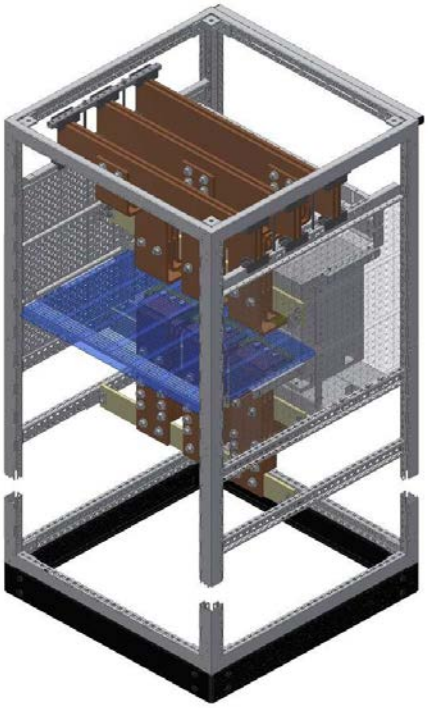
Step 20 : Fix PM SLT and PM SAT accessories to attach PM SAS/SAL (transparent policarbonate) seperators.
PM SAL/SAL is to be used to separate the input and output terminals of the ACB.





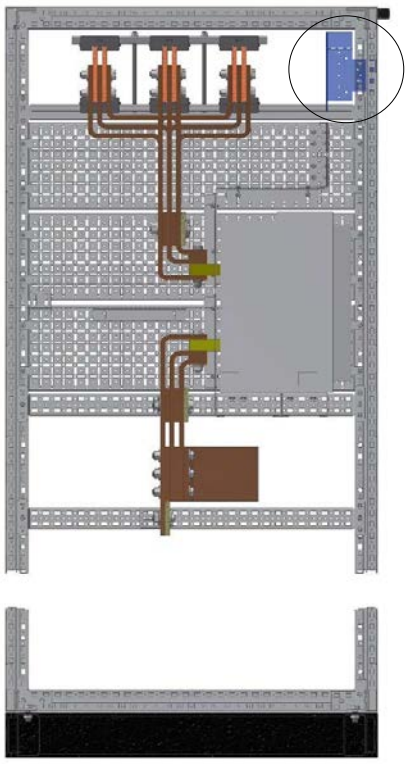
Step 21 : Fix the PM SAS (06-08 depth) or PM SAL (10 depth) seperators, which will be used to seperate incomming and outgoing terminals of ACB. Depending on the depth of the ACB PM SAS or PM SAL may be deeper(longer) than needed.
Cut the long part , if PM SAS or PM SAL seperators are longer than needed.

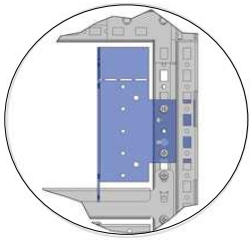


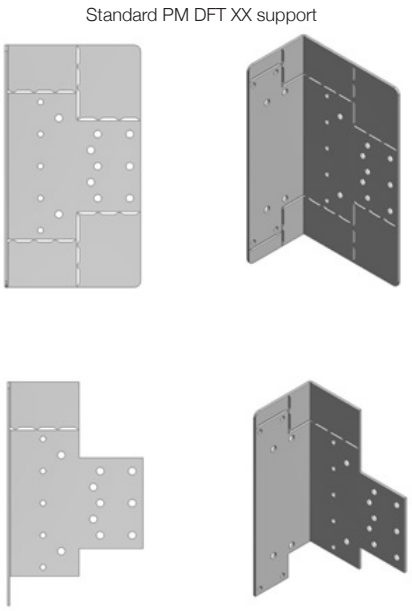


MAIN BUSBAR SEPARATION (FORM)

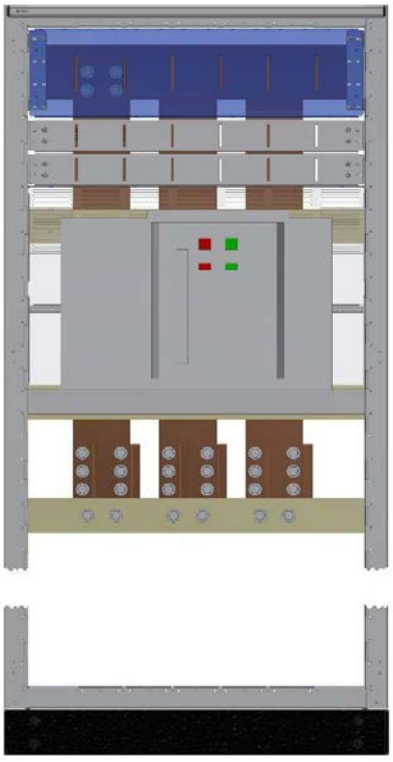
Step 22 : Fix PM DFT supports which are used to support main busbar front seperator PM DFG.
(Detach parts that prevent assembly with the help of a flat head screwdriver.).

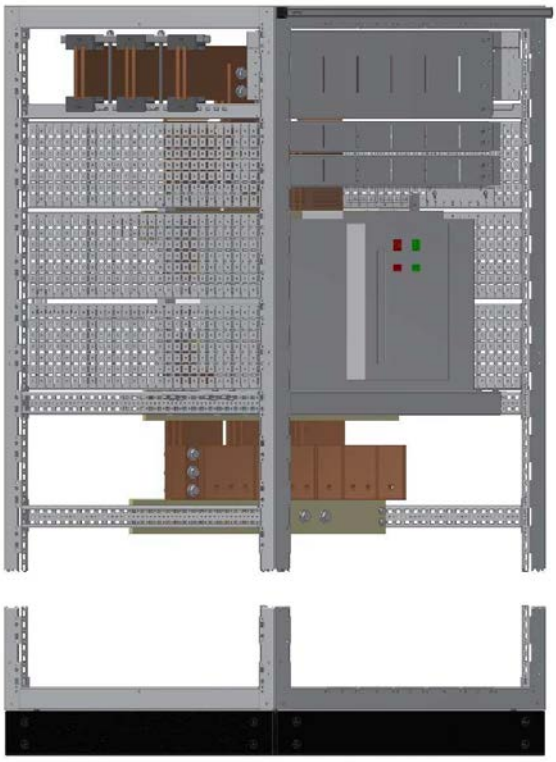






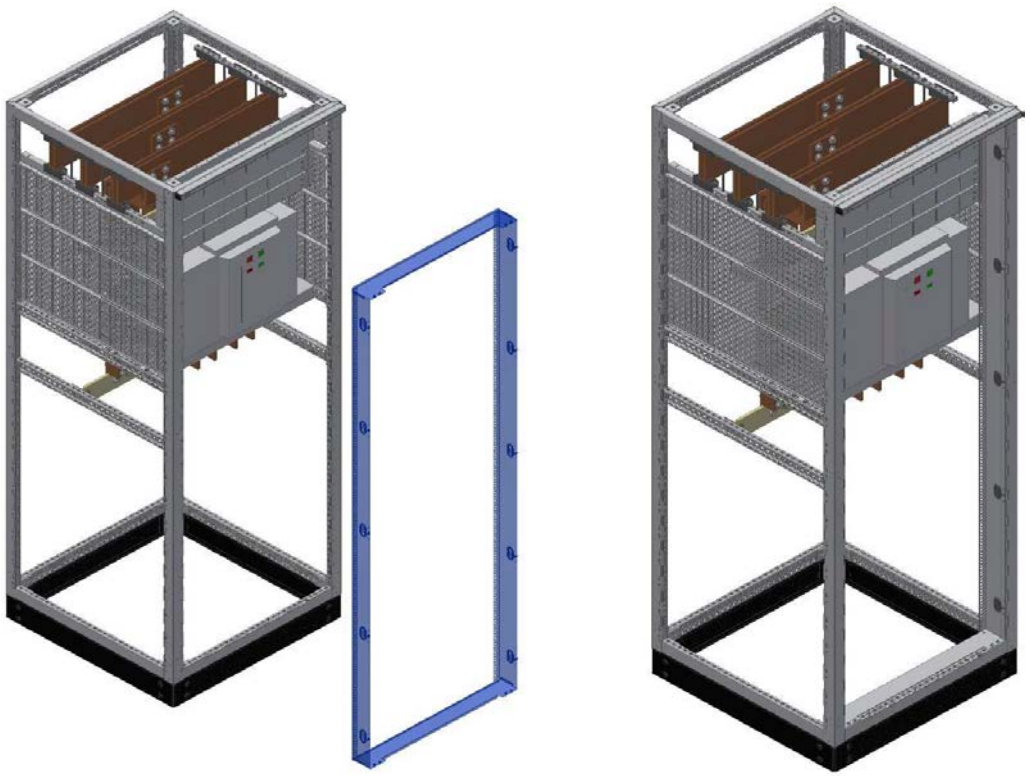
Step 23 : Fix PM DFG separator which will cover front of the main busbar.



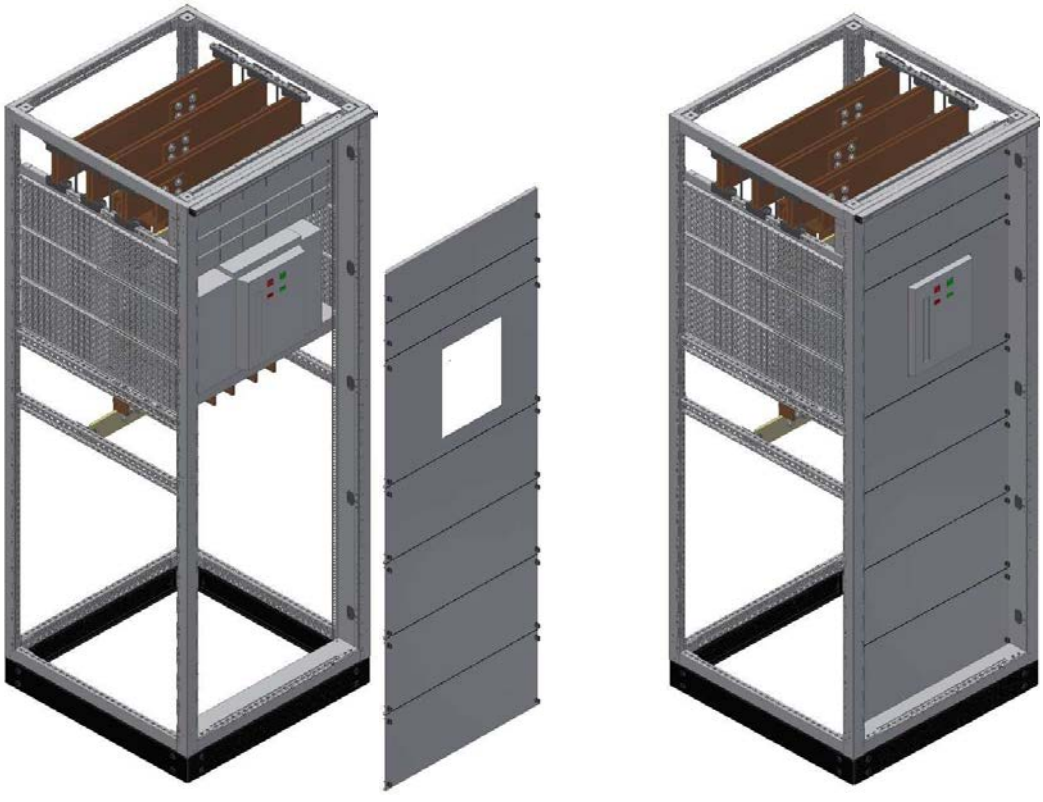


FRONT PLATE, DOOR AND FIXED COVER ASSEMBLY

Step 24 : If panel is designed with front plates, fix ES OSP and ES OSU front plate profiles.



Step 25 : Fix front plates according the project-specific front view drawing. If ACB face will be out of the plate, make necessary cuttings.



FRONT PLATE, DOOR AND FIXED COVER ASSEMBLY

Step 26 : Assemble door, side and back plates.



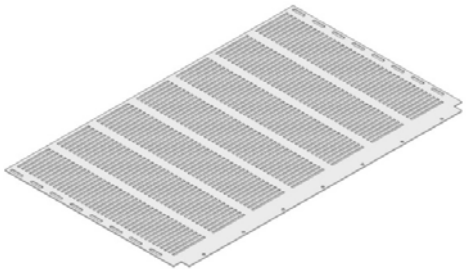


PANELMASTER® AIR CIRCUIT BREAKER ASSEMBLY PARTS



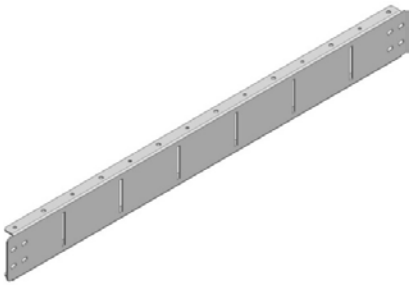
EG MC

EG MC profiles are used for fixing ACB carrier profiles (PM STA and PM STO). They are also used for installation of PM GF fixings in Form 2b applications. They are mounted between ES DP vertical profiles depth direction of the panel.



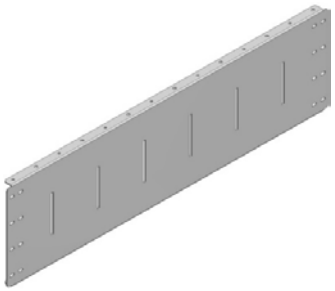
PM SAS - PM SAL

The PM SAS (transparent polycarbonate) separator is used at the rear of ACB's to separate input and output terminals of ACB's. Fixed on PM SAT profile and PM TFG profiles via PM SLT brackets.
* Foils shall be removed.
Note: PM SAS is used in 06 and 08 depth panels and PM SAL is used in 10 depth panels.



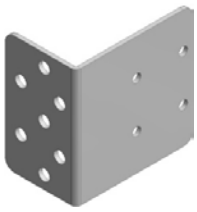
PM DFG 075

The PM DFG 075 accessory is used at the up side of ACB. There are 2 pieces per ACB. By checking upper security distance, one shall decide to use 1 or 2 pieces. They are mounted on PM TFG profiles or via PM DFT 075 brackets.



PM DFG

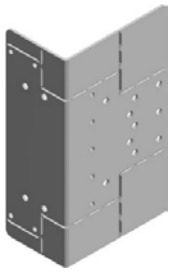
The PM DFG is used to prevent personnel from contacting the main busbar.It can also be used to close the front of the cable connection terminals in case of specific requirement of the end user.It is mounted to the vertical profiles PM SB or PM SBprofiles via PM DFT brackets.



PM DFT 075

PM DFT 075 bracket is used to fix the PM DFG 075 to ES DP vertical profiles or to PM SB breaker compartment profiles.

PANELMASTER® AIR CIRCUIT BREAKER ASSEMBLY PARTS



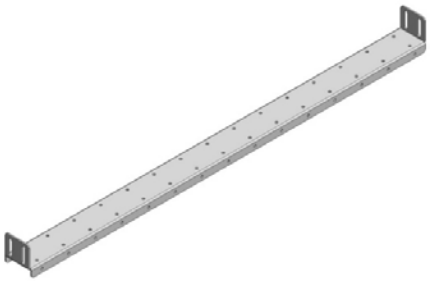
PM DFT

PM DFT support is used to fix PM DFG to ES DP vertical profiles or PM TFG. Breakable parts that prevent assembly can be removed by means of a flat head screwdriver.



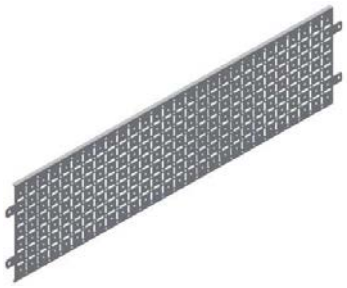
PM MTG

PM MTG profiles are made of 2 mm stainless steel which carries main busbar. PM MTG profiles are symmetric in design and are used at the right / left of panels. Mounted between ES DP vertical profiles in the depth direction of the panel.



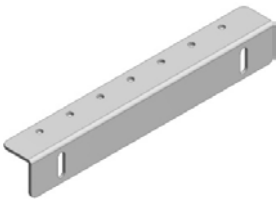
PM SAT

PM SAT profile is made of 2 mm galvanized sheet and used for fixing PM SAS (transparentpolycarbonate) separators. It is fixed at the rear side of the ACB, in the width direction of the panel, away from the terminals,to the PM TFG profiles.



PM TFG

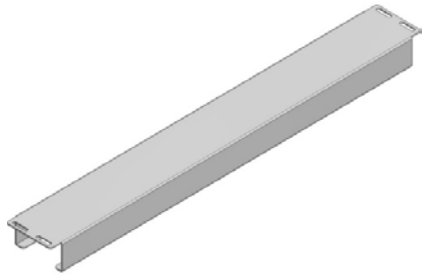
PM TFG profiles are located right and left of the ACB and used for fixing other seperation parts and PM GF supports. Furthermore, in Form 4b applications, placed to the right and left of the ACB cable terminals for seperation purposes.
It is fixed between ES-DP vertical profiles in the depth direction of the panel.



PM SLT

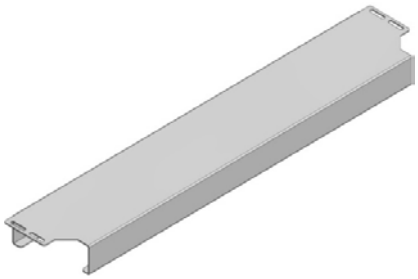
PM SLT bracket is used to mount PM SUF (transparent polycarbonate), PM SAS (transparent polycarbonate) and PM SYF (transparent polycarbonate) separators to PM TFG profiles. It is fixed on PM TFG profile and if necessary, on EG MC profile.

PANELMASTER® AIR CIRCUIT BREAKER ASSEMBLY PARTS



PM STA

PM STA ACB carrier profiles are used for mounting of ACB's. They are fixed on EG MC mounting profiles. PM STO profiles are used at the rear in partial door applications and at the front in ACB face exiting door applications.



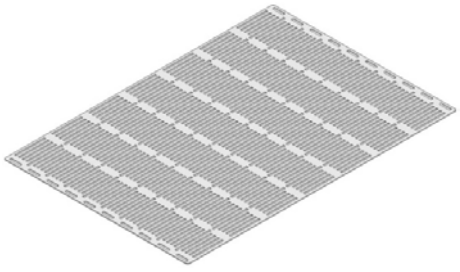
PM STO

PM STO ACB carrier profiles are used for mounting of ACB's. They are fixed on EG MC mounting profiles. PM STO profiles are used at the front in partial door applications and used at the back in ACB face exiting door applications.



PM SAF

The PM SAF separator is used to close the lower gap, if there is more than 12 mm space between PM STO and PM STA profiles. It is fixed under PM STO and PM STA profiles.



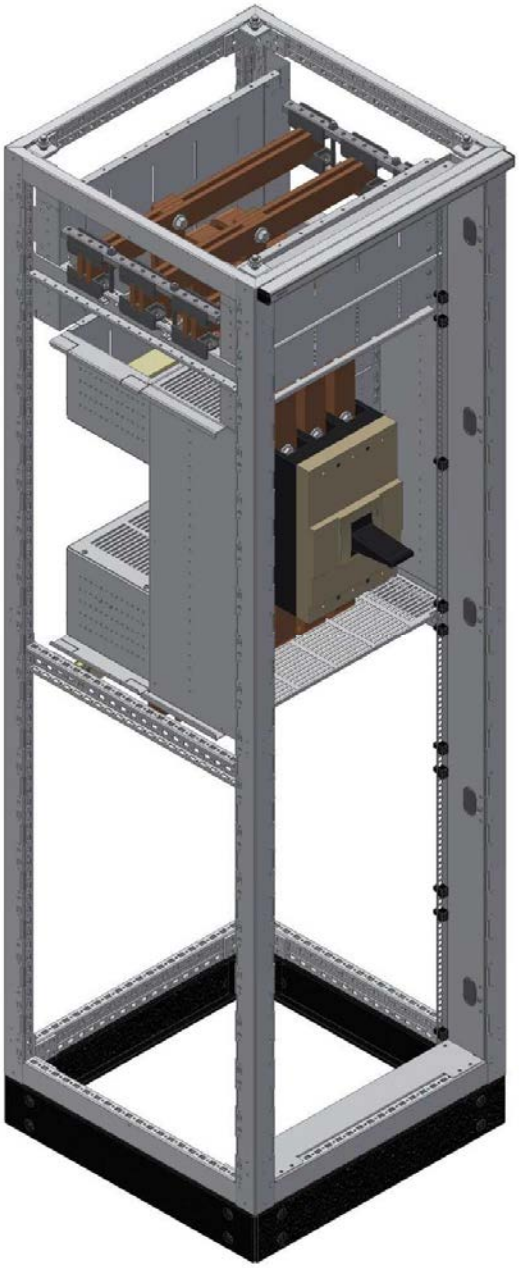
PM SUF

The PM SUF separator (transparent polycarbonate) is mounted on the PM TFG profiles by means of PM SLT brackets, over the ACB's. It is shipped flat and to be bended based on the distance between frontplate / front door and the back side of ACB. PM SUF shall not touch ACB's terminals. It shall be cut at necessary places.
* Foils shall be removed.



PM SYF

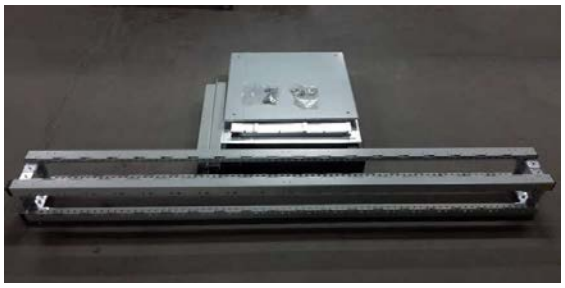
The PM SYF (transparent pollycarbon) separator is used to close the gap (if there is more than 12 mm space) between PM TFG and ACB. It is fixed on PM TFG profiles by means of PM SLT brackets. PM SY separator shall not touch the ACB's terminals; it shall be cut at necessary places to avoid this.* Foils should be removed.



PANELMASTER® MOULDED CASE CIRCUIT BREAKER ASSEMBLY STEPS

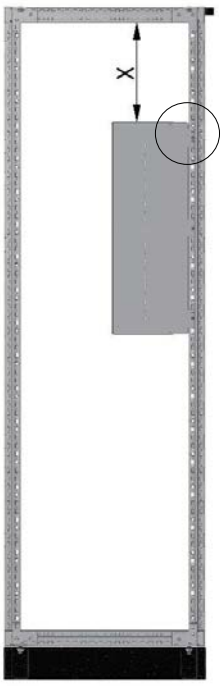
MOULDED CASE CIRCUIT BREAKER MODULE ASSEMBLY

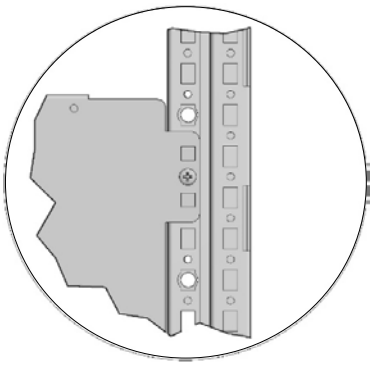
Step 1 : Assemble the framework.





Step 2 : Assemble PM SDT BRACKET according to the reference dimension specified in the drawing prepared specifically for recent project.

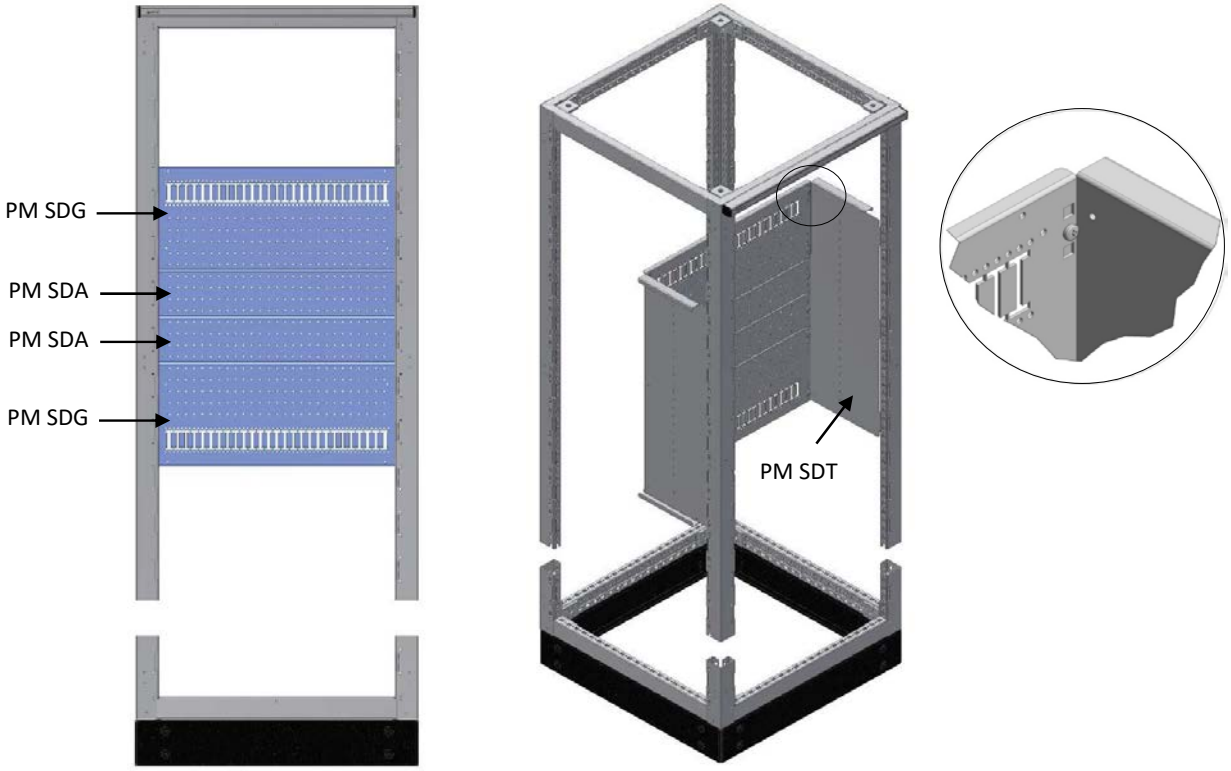




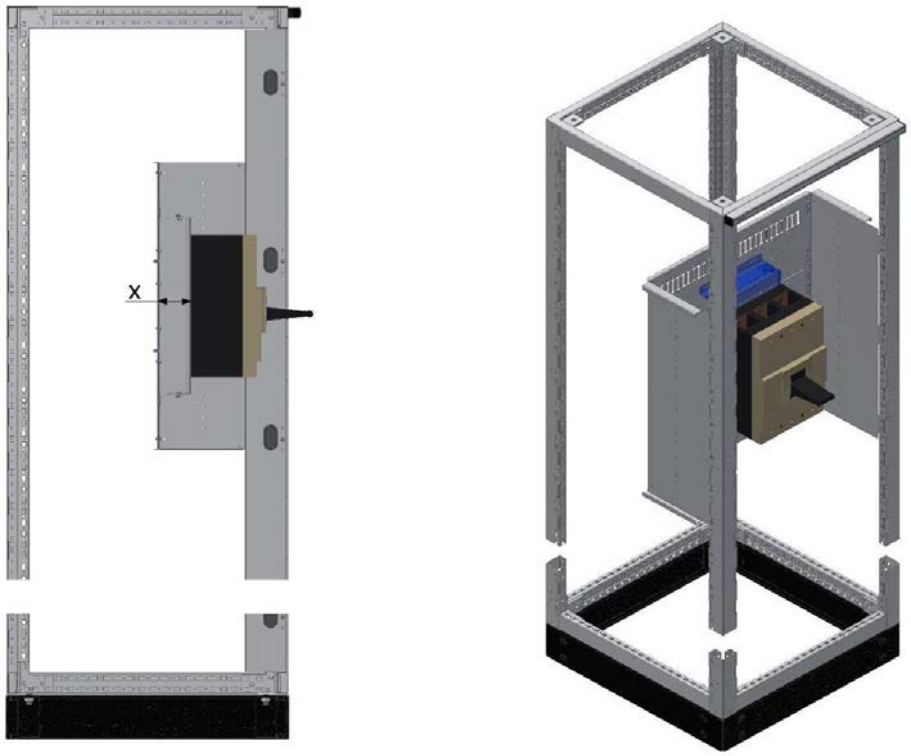


MOULDED CASE CIRCUIT BREAKER ASSEMBLY

Step 3 : Fix PM SDG and PM SDA to PM SDT as shown below.

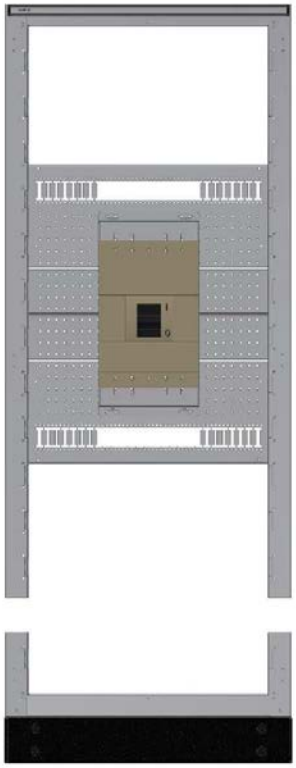


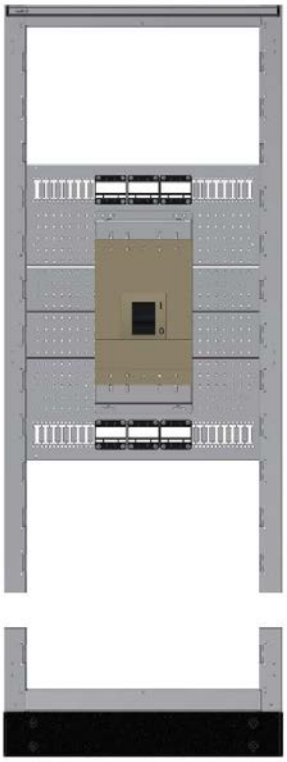
NOTE : Adjust the compact circuit breaker depth by using EG SY Adjustable MCCB Holder to match to front plate/door plane.

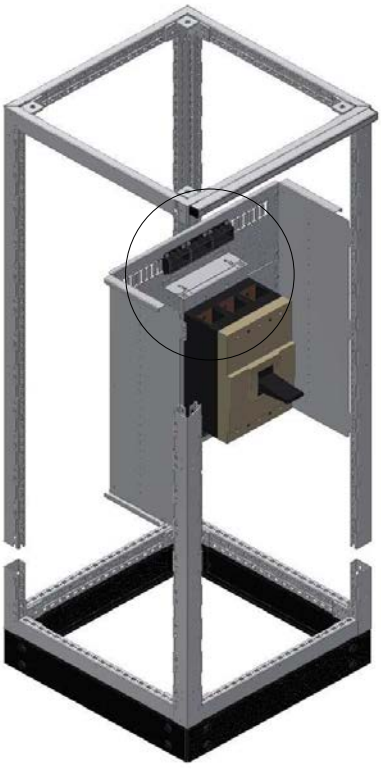


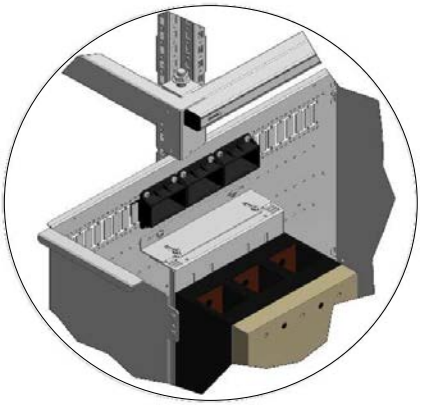
GATE INSULATORS ASSEMBLY

Step 4 : Before fixing PM TGI / PM FGI gate insulators, break neccessary parts of PM SM BODY based on CB width and position. Than fix gate insulators accordingly.



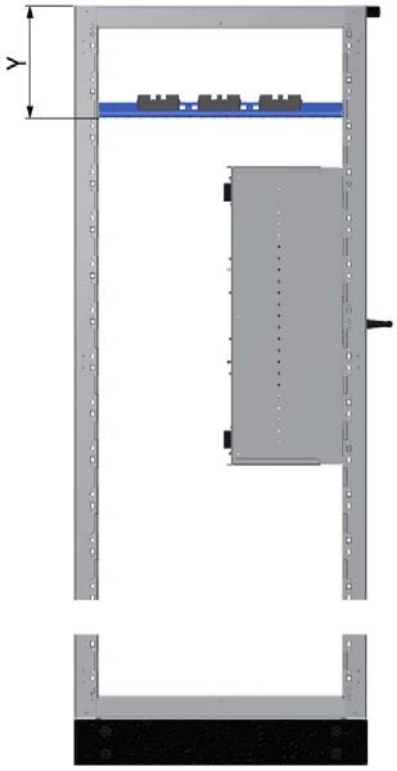


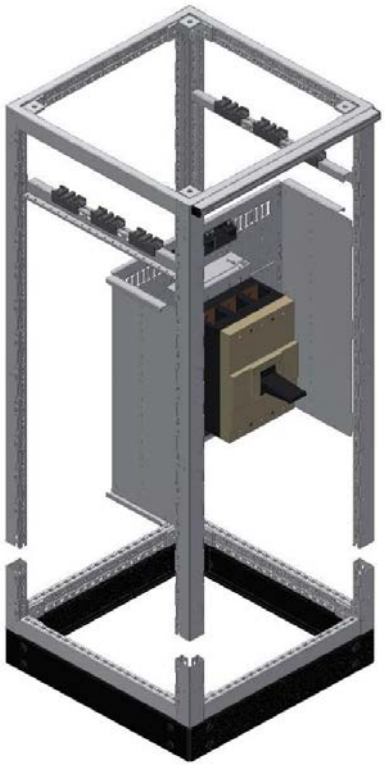


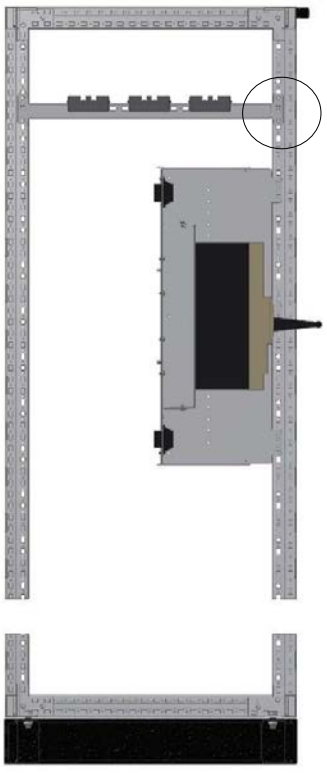


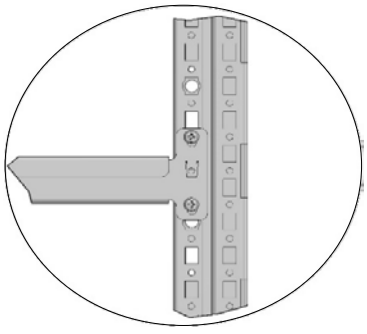
MAIN BUSBAR HOLDER PROFILES ASSEMBLY

Step 5 : Determine inter-conductor distance of main busbar phases and position supports(insulators) on PM MTG insulator profiles accordingly. PM MTG insulator profiles located on both sides are to be fixed at distance Y from top of the framework. Y can be taken from drawing, which is specifically prepared for recent project.



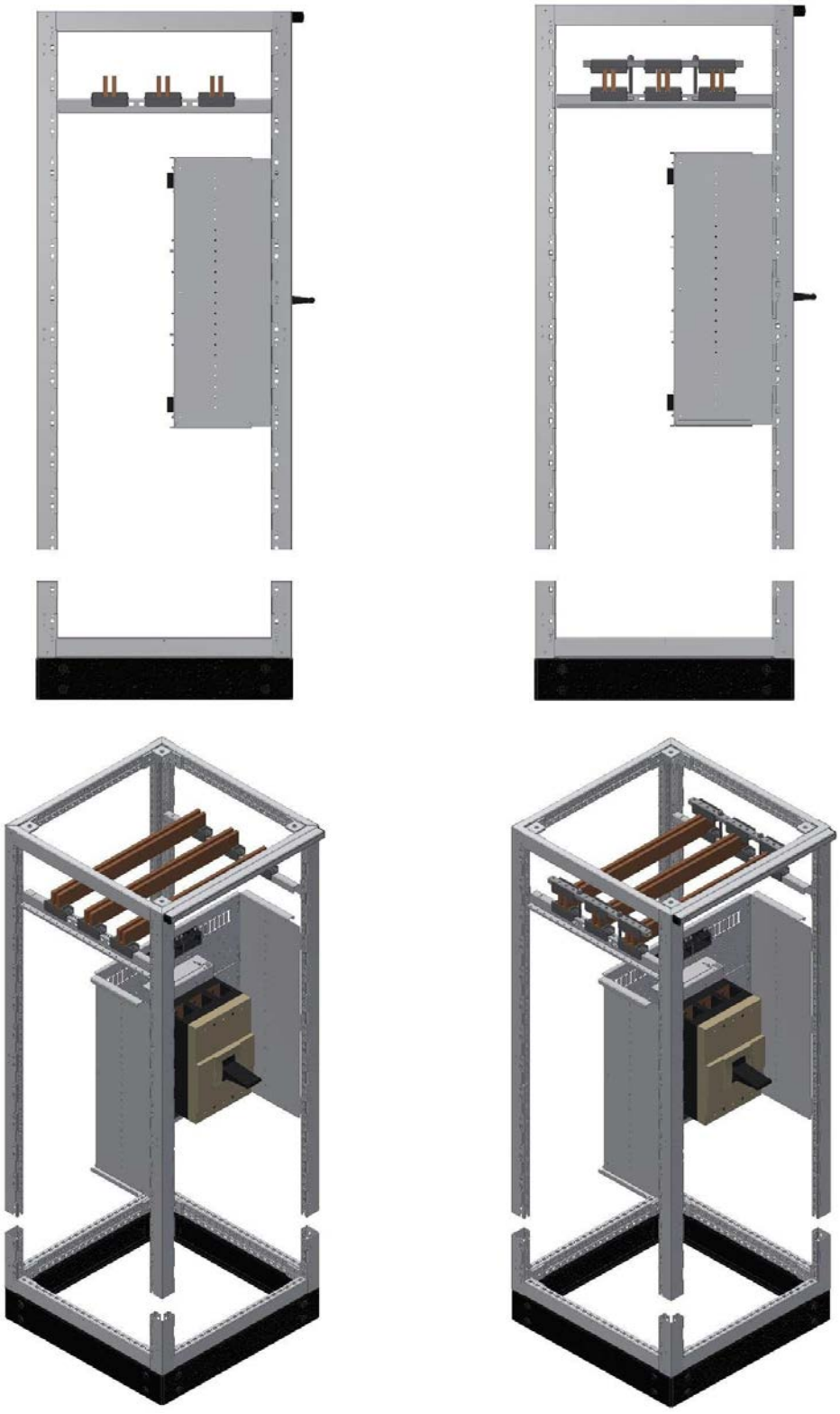






MOULDED CASE CIRCUIT BREAKERS BUSBAR AND SUPPORT APPLICATIONS

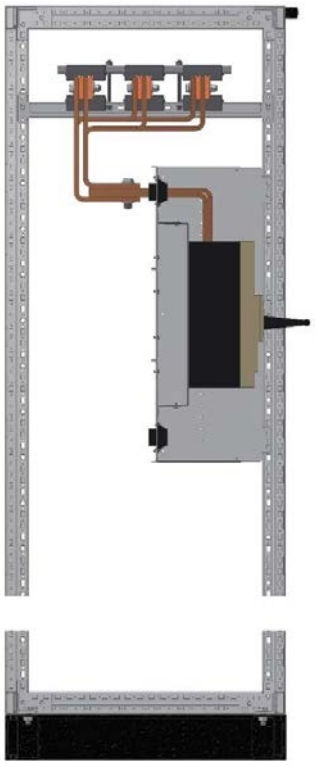
Step 6 : Position and fix main busbar conductors and upper set of main busbar support(insulator) with stainless steel profile by using threaded rods. Foils of all foiled products like stainless steel insulator profile are to be removed.

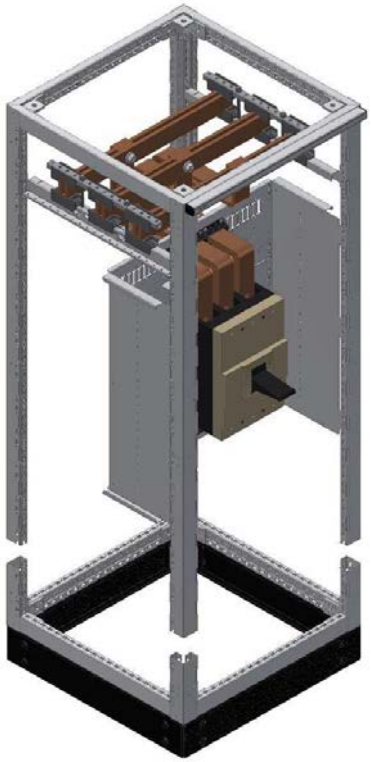


NOTE : Check support (insulator) inermediate distances for conformity to the PanelMaster Supports Maximum Distance Table. Add support (insulator) set if necessary.

MOULDED CASE CIRCUIT BREAKERS BUSBAR AND SUPPORT APPLICATIONS

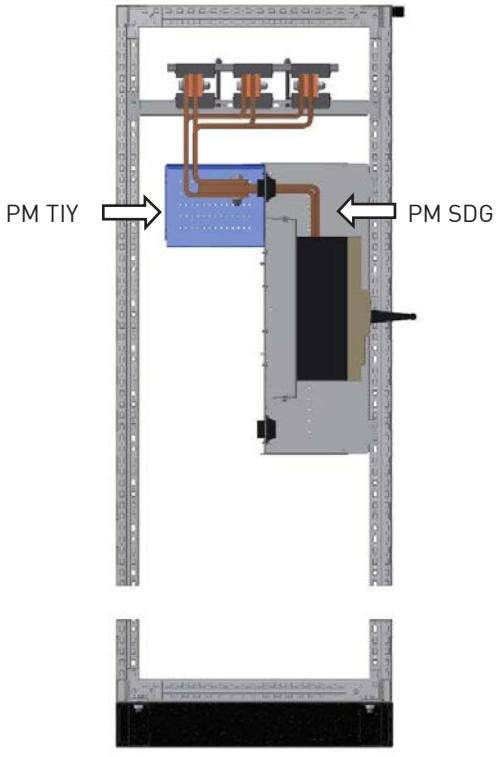
Step 7 : Manufacture and install copper conductor bars between Moulded Case Circuit Breaker and main busbar conductors.

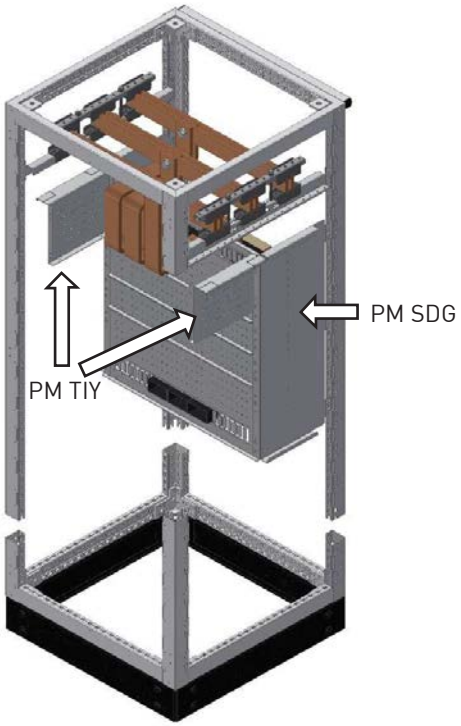




NOTE : Manufacturing MCCB main busbar interconnection copper bars by bending at the same depth distance enables easier supporting.

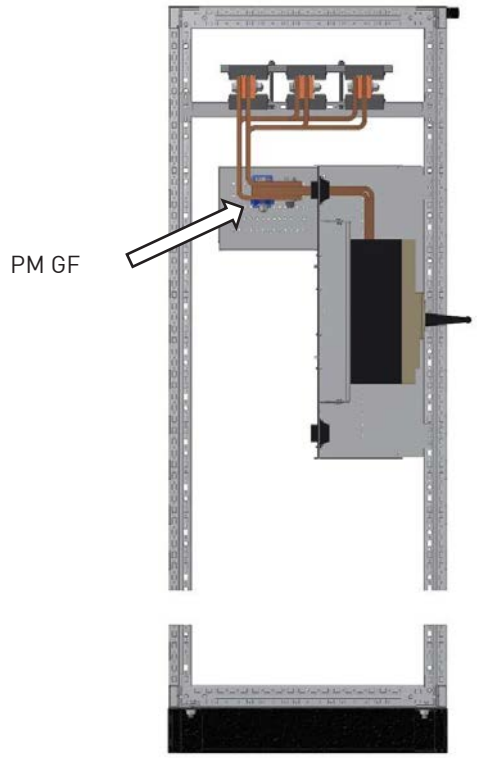
Step 8 : Assemble PM TIY to PM SDG.

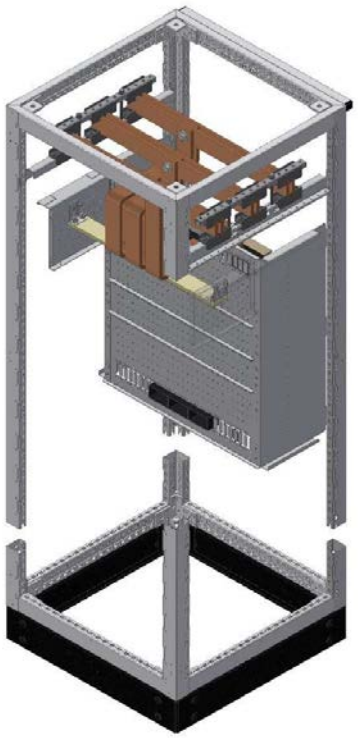




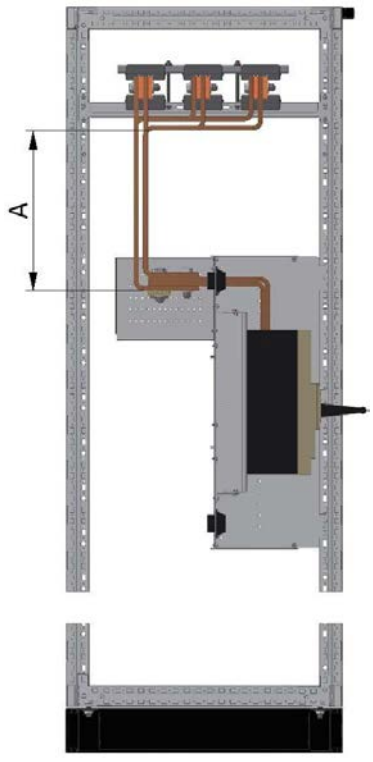
MOULDED CASE CIRCUIT BREAKERS BUSBAR AND SUPPORT APPLICATIONS

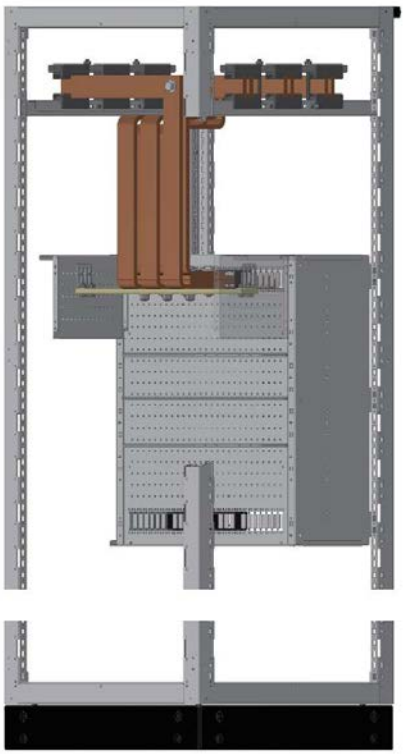
Step 9 : Position and fix PM GF 50 insulator at the second bend of copper conductor bars connecting MCCB and main busbar as shown in drawing. This is for protecting MCCB in case of short circuit.





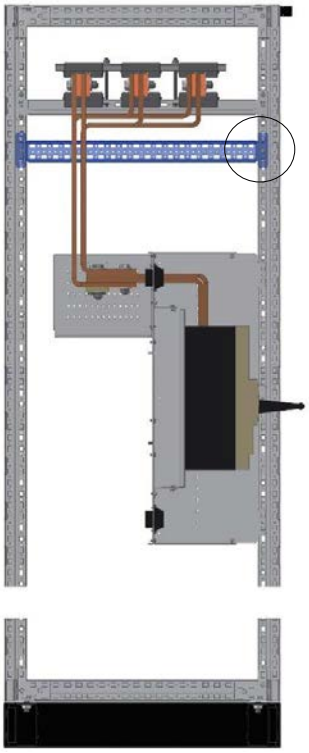
Step 10 : Measure the distance A shown below and add second support if necessary for matching short circuit withstand current. Please refer PanelMaster MCCB Interconnection Busbar Support Description. Page 40



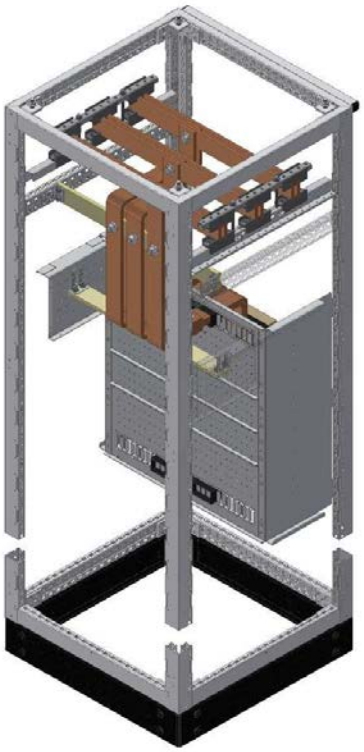


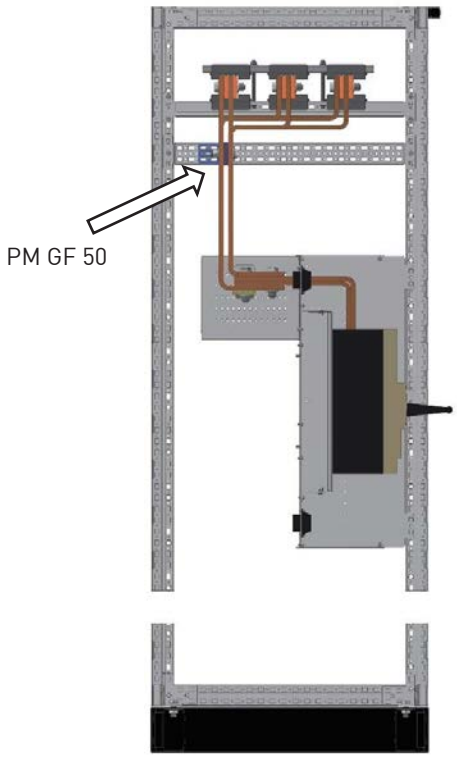
MOULDED CASE CIRCUIT BREAKERS BUSBAR AND SUPPORT APPLICATIONS

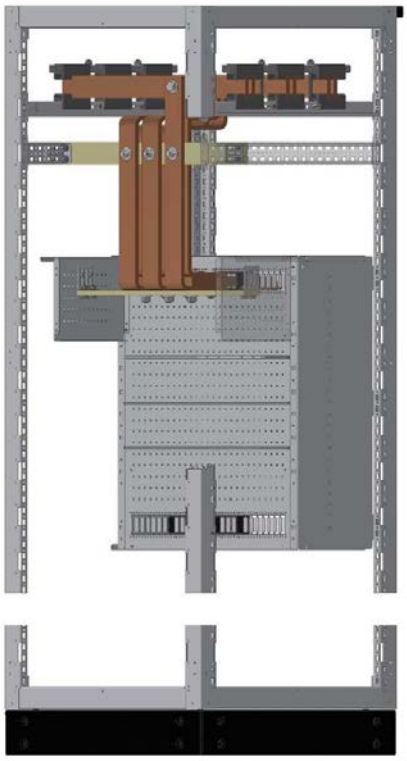
Step 11 : Fix the EG MC profiles (which are to be used to fix additional PM GF 50 insulators) between ES DP vertical profiles along the side-depth of the panel. Then fix PM GF 50 insulators on EG MC profiles.





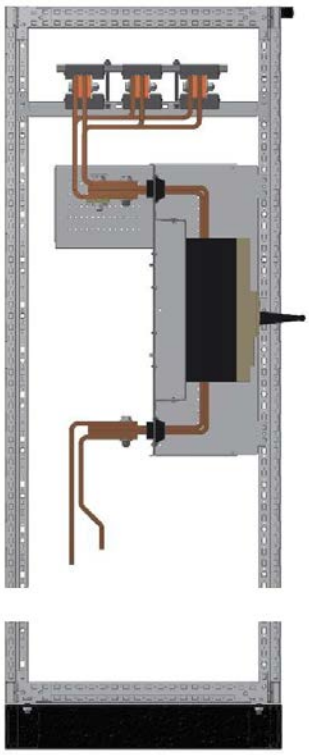


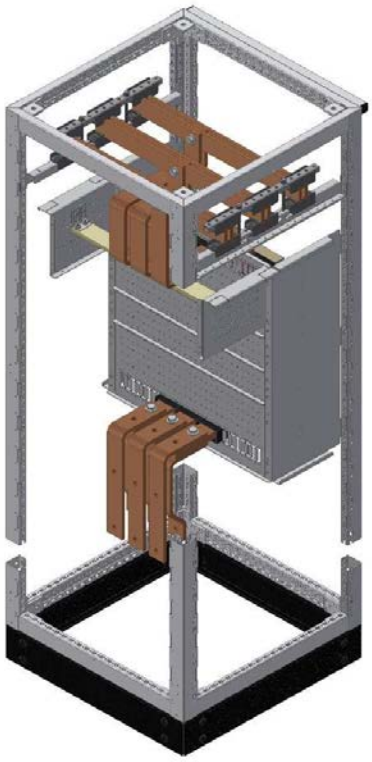




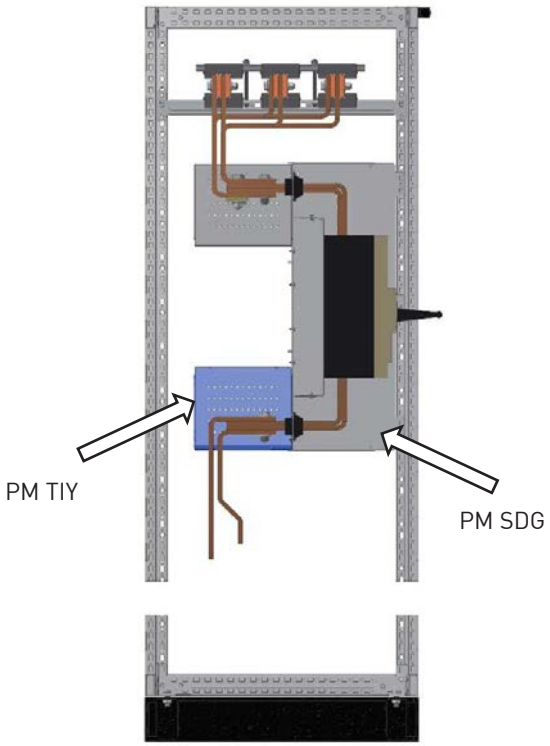
MOULDED CASE CIRCUIT BREAKERS BUSBAR AND SUPPORT APPLICATIONS

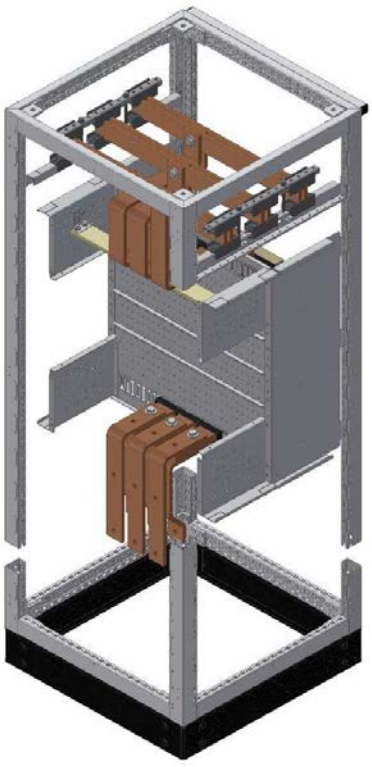
Step 12 : Manufacture and install Moulded Case Circuit Breaker Cable terminals and intermediate connection bars.





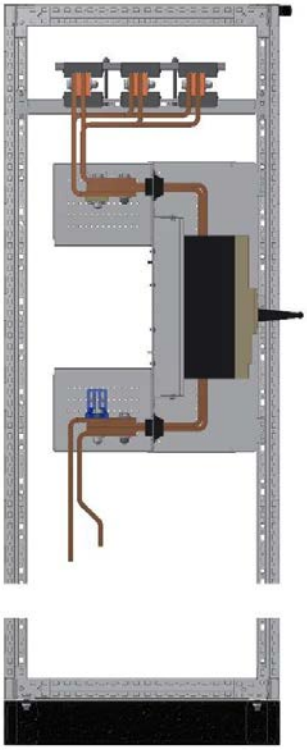
Step 13 : Fix PM TIY on PM SDG.

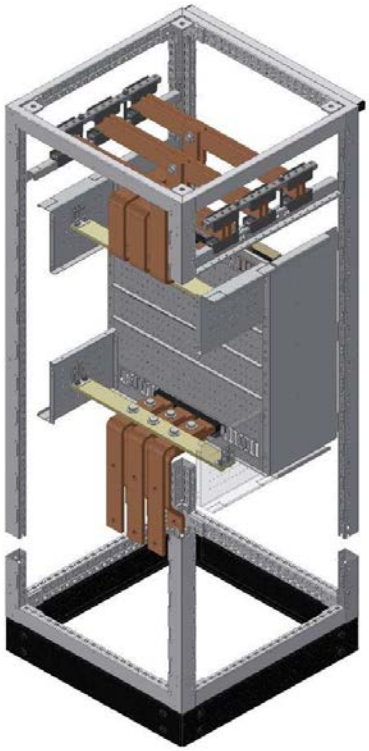




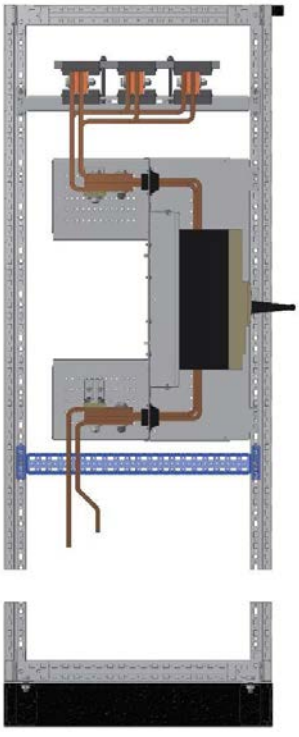
MOULDED CASE CIRCUIT BREAKERS BUSBAR AND SUPPORT APPLICATIONS

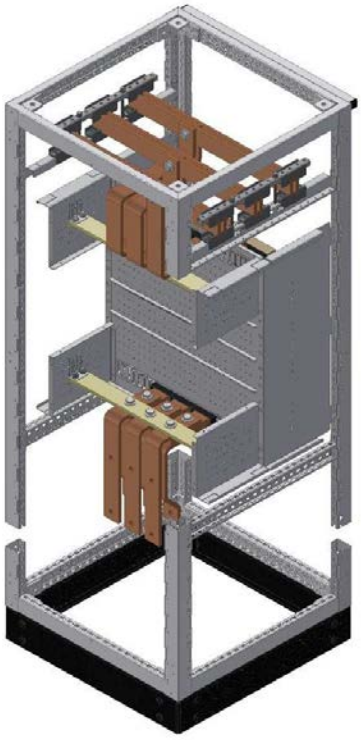
Step 14 : Position and fix PM GF 50 insulator at the second band of interconnection bars. This to protect the MCCB against possible short circuit.





Step 15 : Fix EG MC profiles between ES DP vertical profiles along side-depth of the panel. These are to be used to fix PM GF 50 insulator at cable connection side.

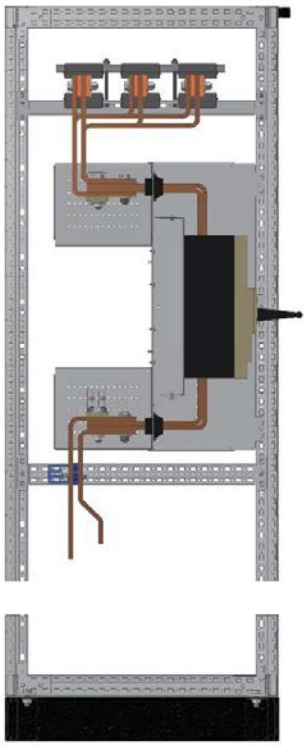


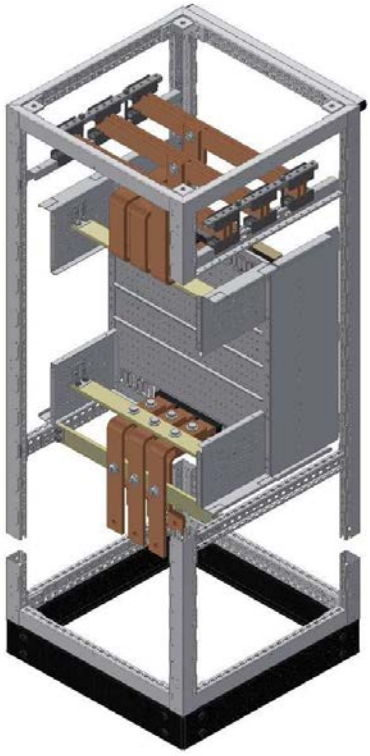


NOTE : Manufacturing MCCB main busbar interconnection copper bars by bending at the same depth distance enables easier supporting.

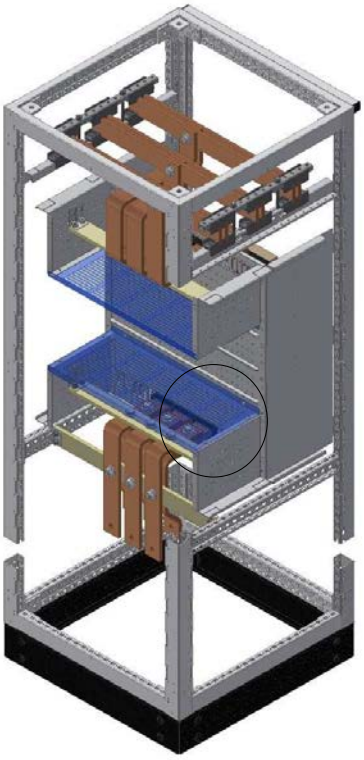
MOULDED CASE CIRCUIT BREAKER MODULE SEPARATION

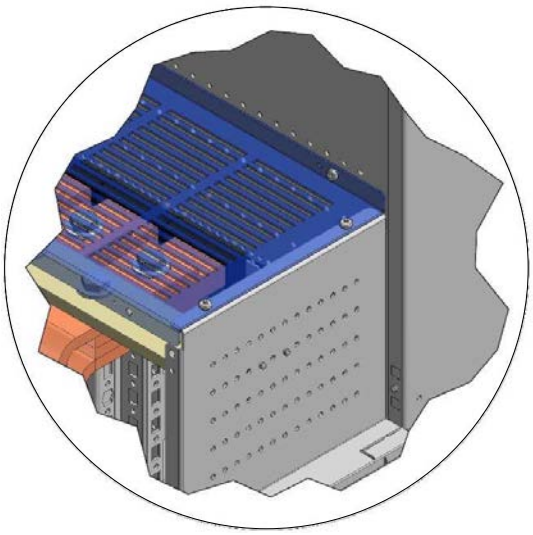
Step 16 : Fix necessary PM GF 50 support (insulator) at the end of cable connection terminals.





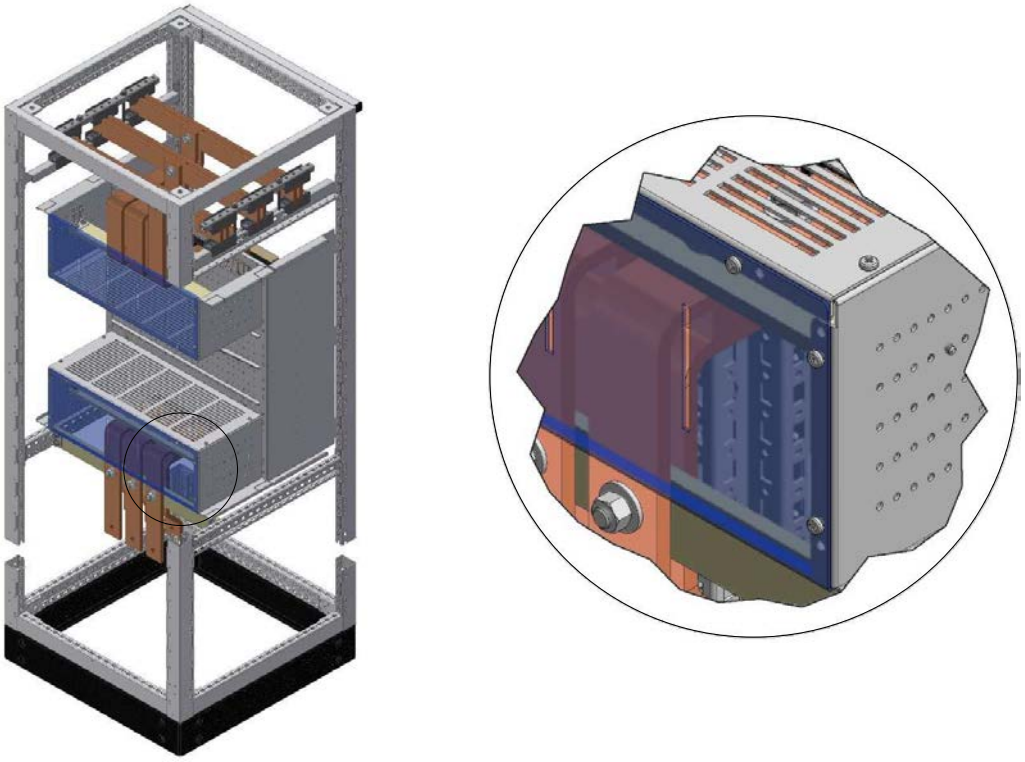
Step 17 : Fix PM TIG separator on PM TIY.



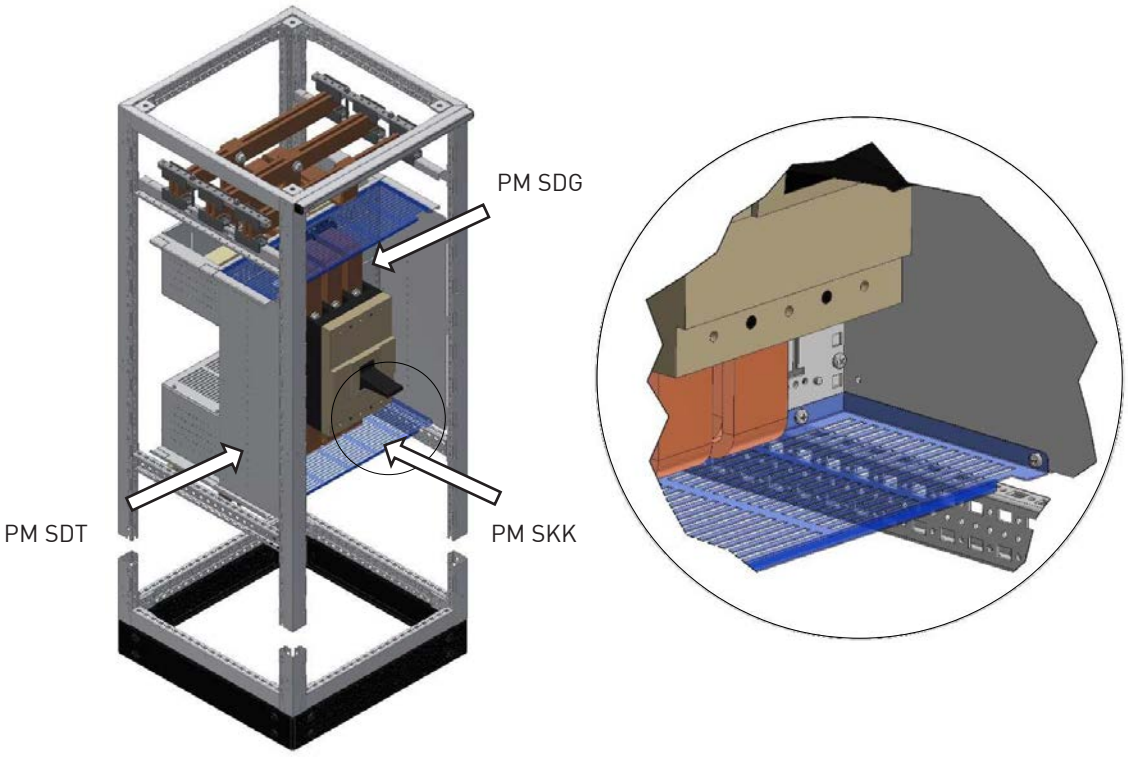


MOULDED CASE CIRCUIT BREAKER MODULE SEPARATION

Step 18 : Fix PM TIK seperator on PM TIY and PM TIG.

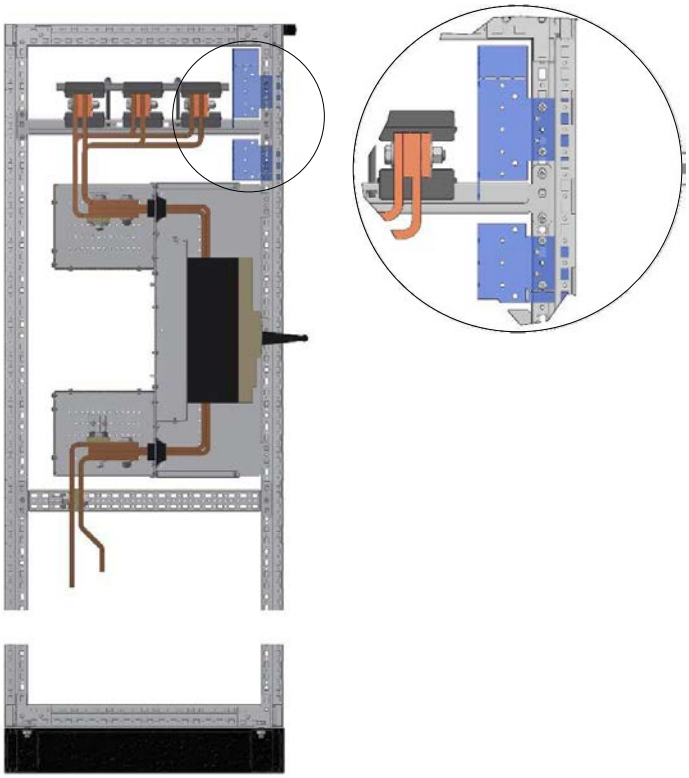


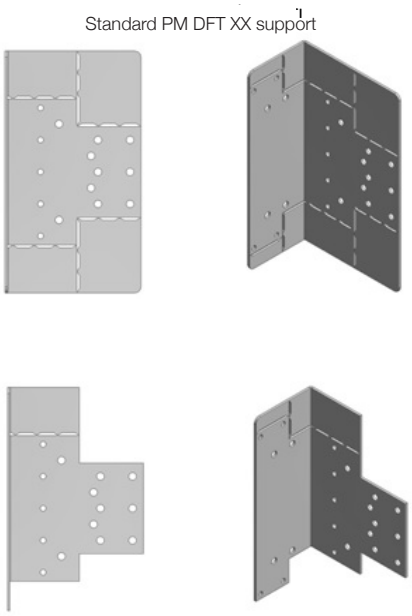
Step 19 : Fix PM SKK separator on PM SDT and PM SDG.



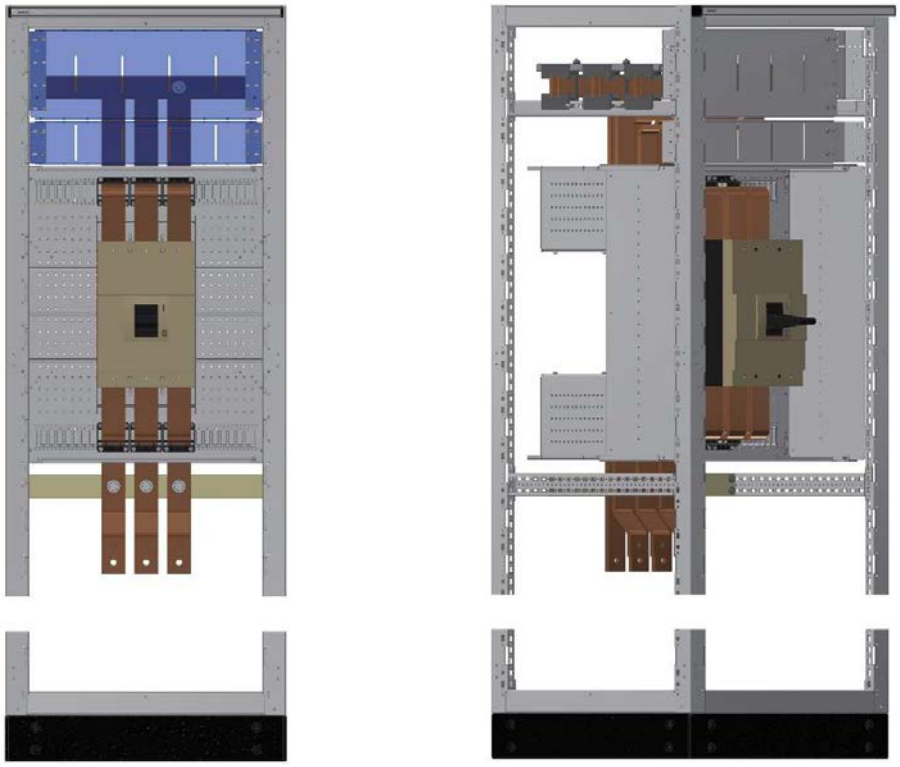
MAIN BUSBAR SEPARATION

Step 20 : Fix PM DFT supports which are used to support PM DFG main busbar front separator. (Detach parts which prevent assembly with the help of a flat head screwdriver)



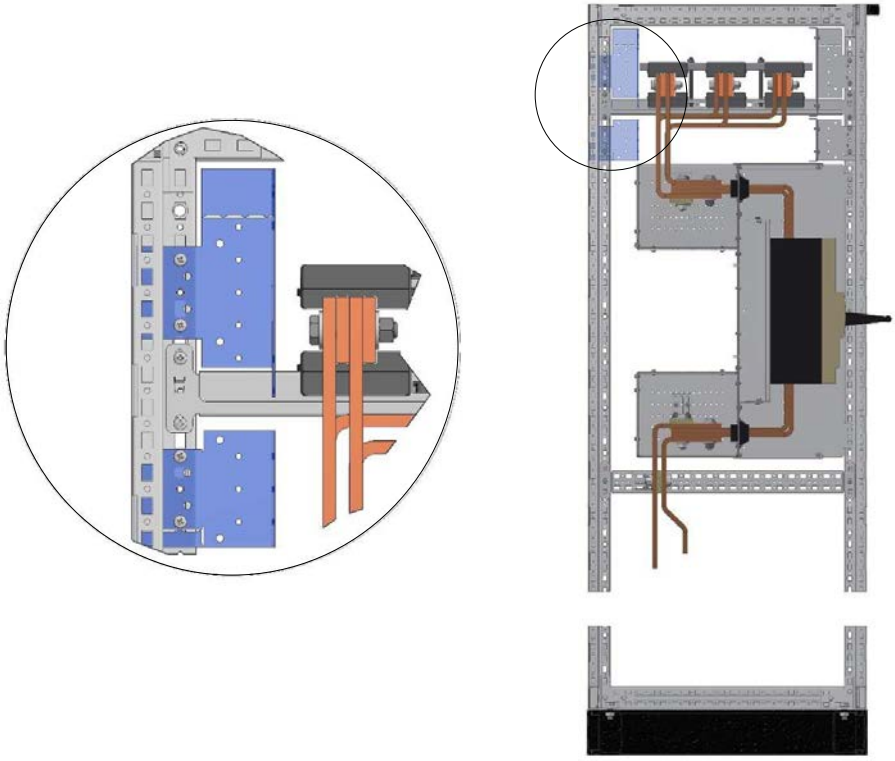


Step 21 : Fix PM DFG separator which will cover main busbar front side.

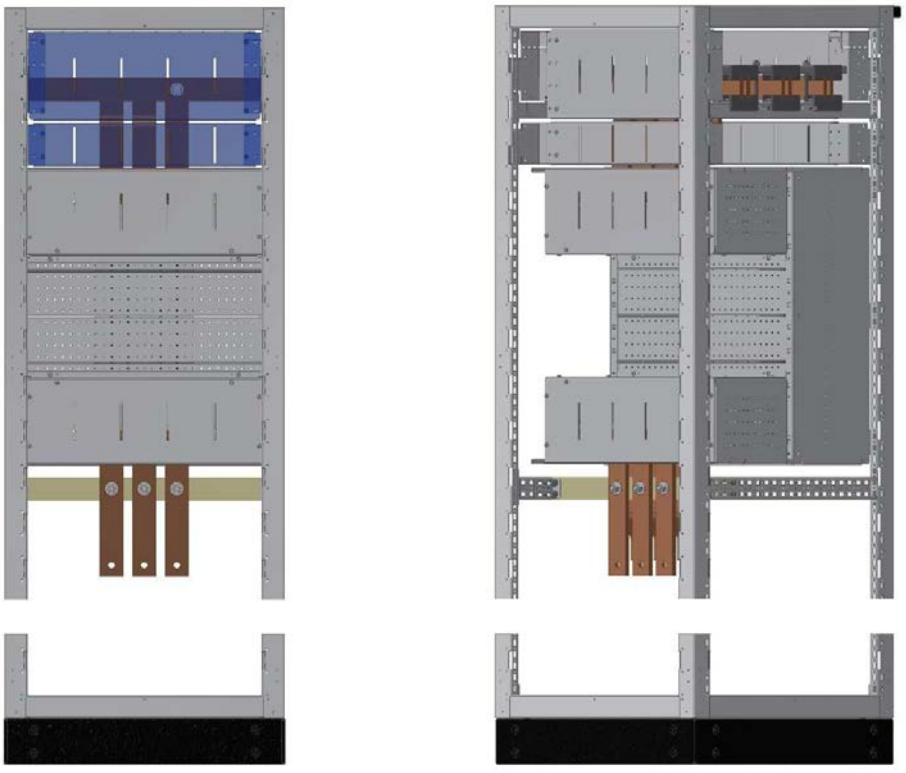


MAIN BUSBAR SEPARATION

Step 22 : Fix the PM DFT supports which are used to support PM DFG main busbar back separator.
(Detach the parts which prevent assembly with the help of a flathead screwdriver.)

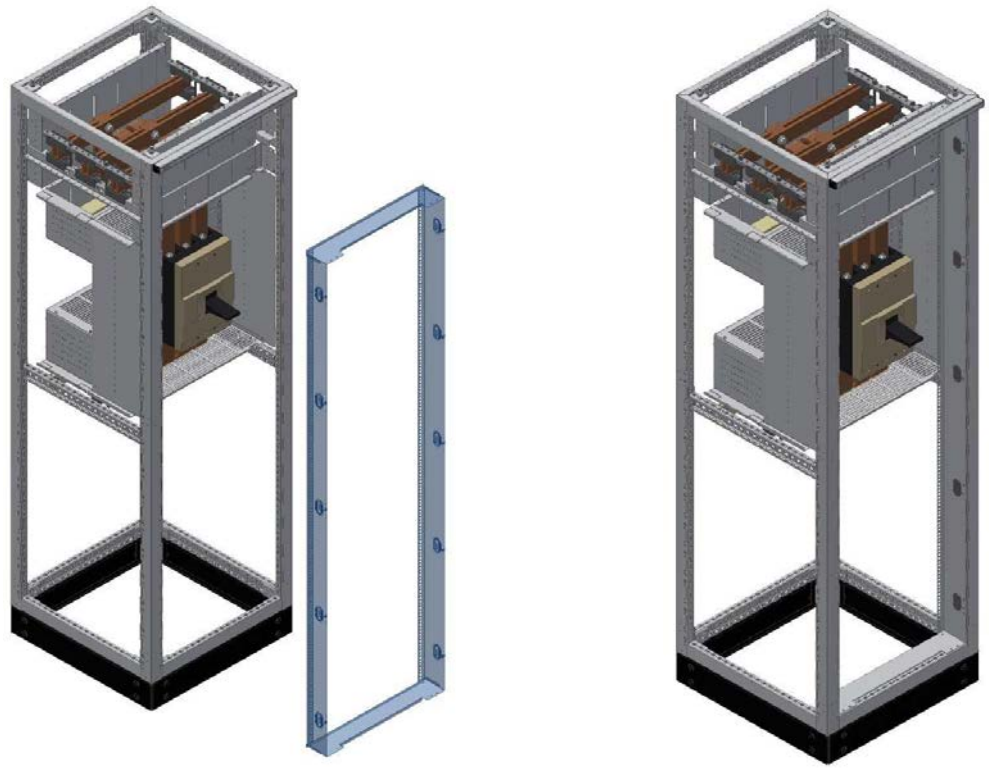


Step 23 : Fix PM DFG separators which will cover main busbar back side.

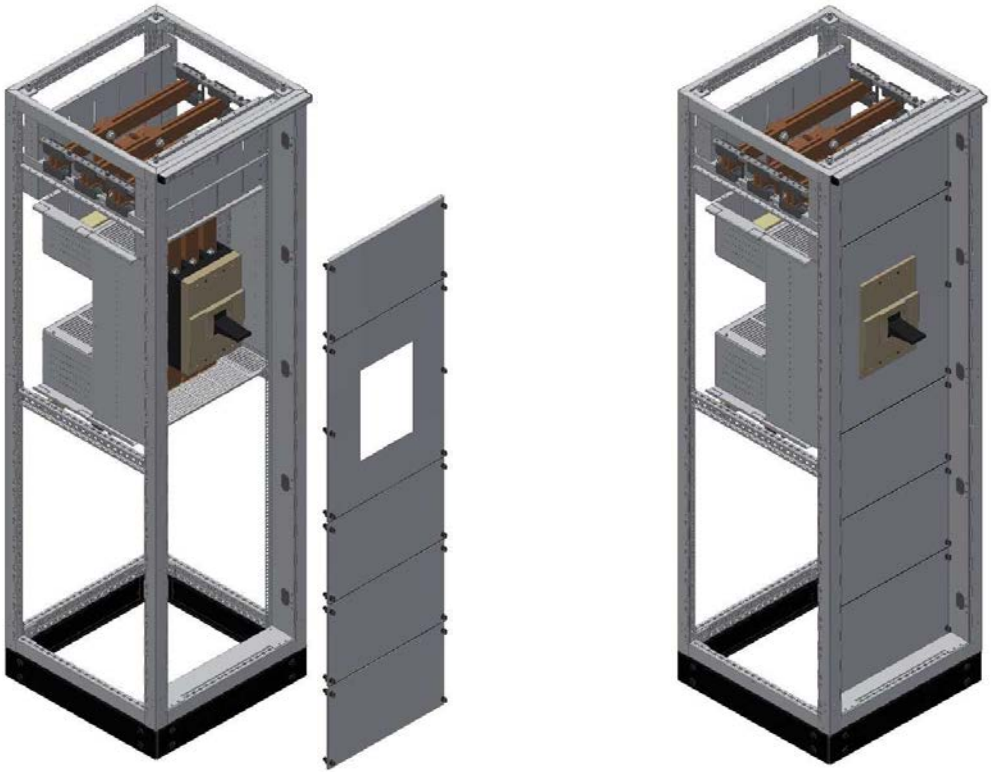


FRONT PLATE, DOOR AND FIX PLATE INSTALLATION

Step 24 : If Panel is designed with front plates fix ES OSP and ES OSU front plate profiles.



Step 25 : Place and fix front plates based on the project-specific front view. Cut and remove the necessary part of front plate, if MCCB face will be out of front plate.



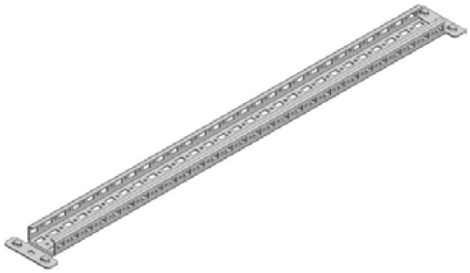
FRONT PLATE, DOOR AND FIX PLATE INSTALLATION

Step 26 : Assemble door, side and back plates.



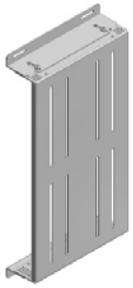


PANELMASTER® MOULDED CASE CIRCUIT BREAKER ASSEMBLY PARTS



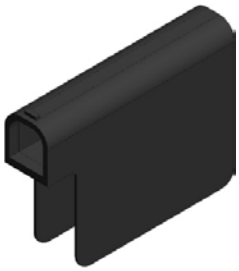
EG MC

EG MC mounting profiles are used for fixing PM GF 50 insulators at Form 2b/3b applications. They are fixed along side-depth of the panel, between ES DP vertical profiles.



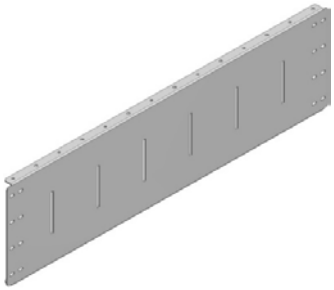
EG SY

EG SY adjustable MCCB holders are used to adjust the depth of the moulded case circuit breakres. Adjustment step is 5 mm on their assembly plane.



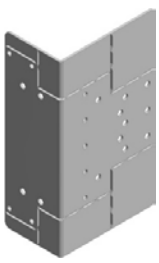
PM BSI

PM BSI separator family has 3 different sizes; PM BSI 35, PM BSI 45 and PM BSI 70. PM BSI separators are fixed on PM TGI gate insulators and used at Form 4b applications.
PM BSI 35 : Suitable for PM TGI 35;
PM BSI 45 : Suitable for PM TGI 45;
PM BSI 70 : Suitable for PM TGI 70.



PM DFG

PM DFG separators are used for separation of main busbar. If requested, they can be used to cover cable terminals. They are fixed by using PM DFT supports to ES DP vertical profiles or PM SB profiles.



PM DFT

PM DFT supports are used to install PM DFG separators(to ES DP vertical profiles) or PM SB circuit breaker separators. Detach the parts that prevent assembly by using flat-head screwdriver.

PANELMASTER® MOULDED CASE CIRCUIT BREAKER ASSEMBLY PARTS



PM FGI

PM FGI Gate Insulator family has 3 width sizes: PM FGI 35, PM FGI 45 and PM FGI 70. They are used at the energy incommings side of the circuit breaker.
PM FGI 35 : for 20x10 mm busbar;
PM FGI 45 : for 30x10 mm busbar;
PM FGI 70 : for 50x10 mm busbar.



PM MTG

Made of 2 mm thick stainless steel material PM MTG profiles are used to support main busbar. PM MTG profiles are symmetrical products. They are placed at right and left side. They are fixed along the side-depth of the panel between ES DP vertical profiles.



PM SDA

PM SDA is used to adapt module height by filling needed distance between two adjacent PM SDG. It is fixed on PM SDT.



PM SDG

PM SDG is fixed on PM SDT. Two asymmetric placed PM SDG together form the circuit breaker module. After Moulded Case Circuit Breaker positioning inside the module gate insulators are to be fixed. PM SDG has removable parts for placing and fixing gate insulators.



PM SKK

PM SKK separators are used on top and bottom side of the CB breaker module. If two CB modules are placed on top of each other so that there is no space between them, it is sufficient to install one PM SKK separator between two modules.

PANELMASTER® MOULDED CASE CIRCUIT BREAKER ASSEMBLY PARTS



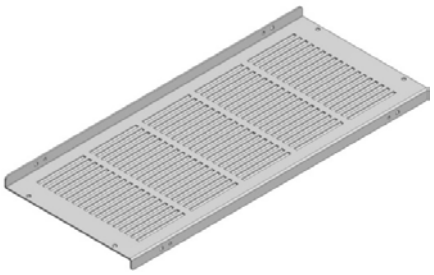
PM SDT

Together with PM SDA and PM SDG, PM SDT are used to form circuit breaker module.



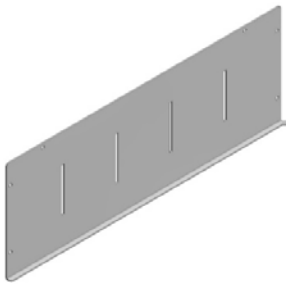
PM TGI

PM TGI Terminal Gate insulator family has 3 different width-sizes: PMTGI 35, PM TGI 45 and PM TGI 70. PM TGI gate insulators are used at the cable terminal side of the MCCB module.
PM TGI 35 : for 20x10 mm busbar;
PM TGI 45 : for 30x10 mm busbar;
PM TGI 70 : for 50x10 mm busbar.



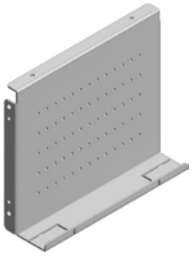
PM TIG

PM TIG separators are fixed on PM TIY and PM SD and used for horizontal separation of interconnecting conductor bars.



PM TIK

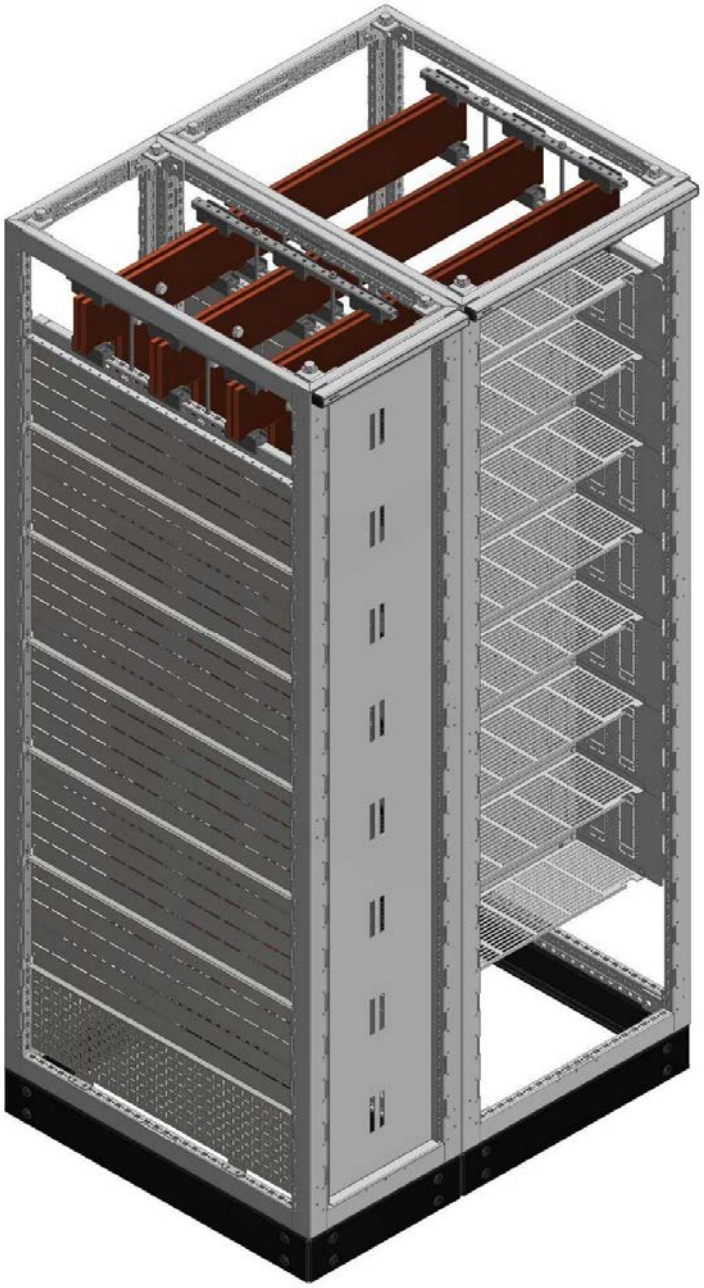
PM TIK separators are fixed on PM TIY and
PM TIG separator and used for vertical separation of interconnecting conductor bars.



PM TIY

PM TIY support is fixed on PM SDG. They are used for supporting PM GF insulators.

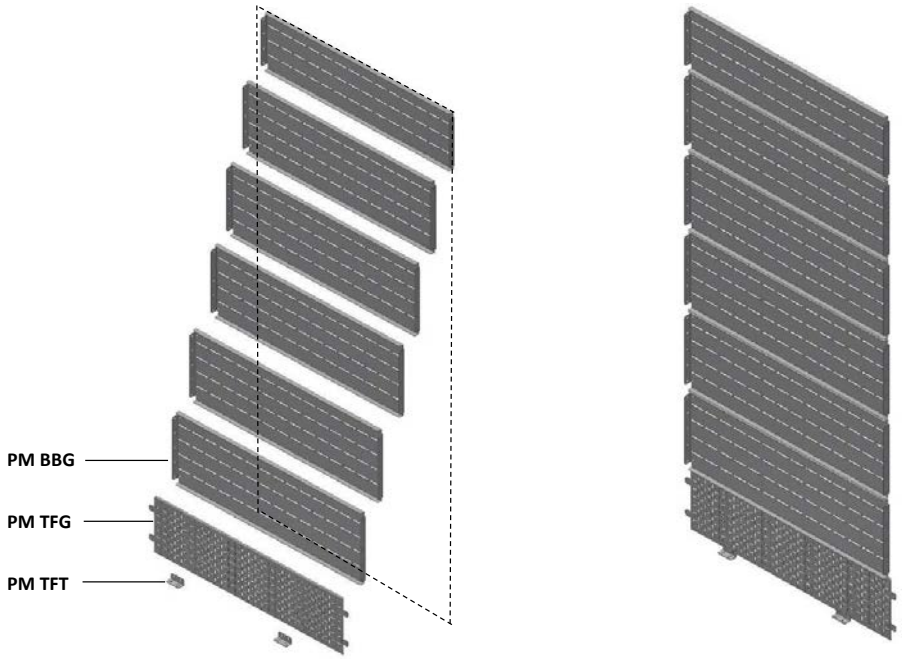
PANELMASTER® BUSBAR SECTION SEPARATION MODULE ASSEMBLY STEPS



PANELMASTER® BUSBAR SECTION SEPARATION MODULE ASSEMBLY STEPS

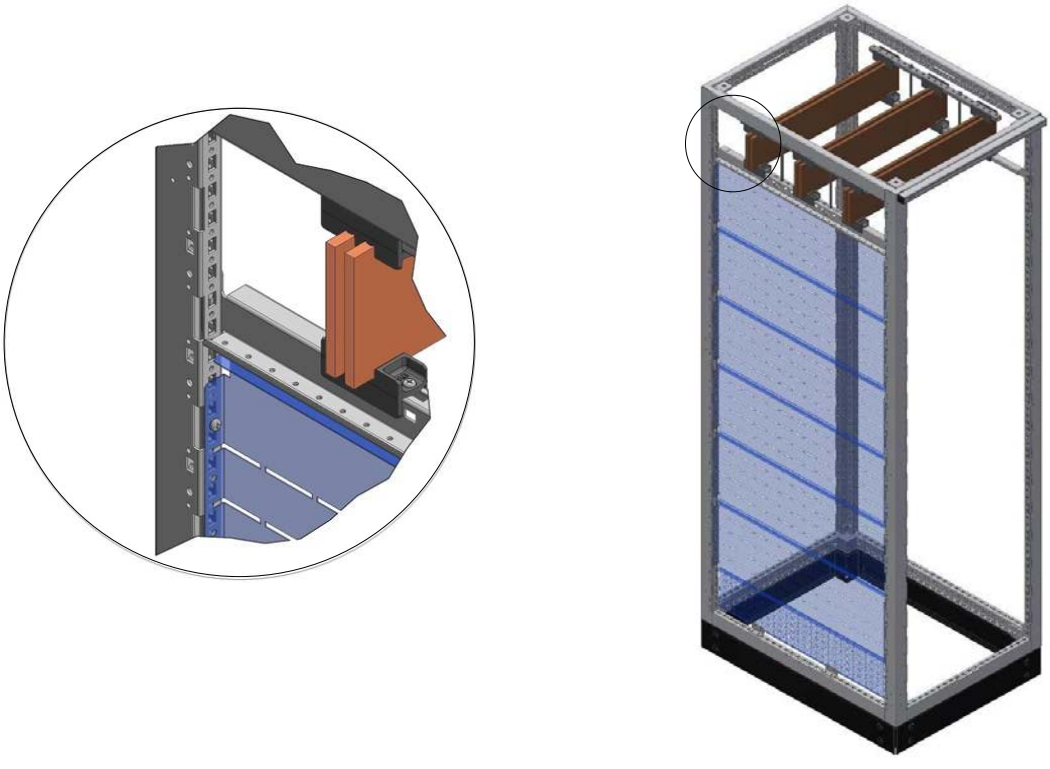
PM BB (BUSBAR SECTION SEPARATION) ASSEMBLY

Description : PM BB (Busbar Seperation Plate) is used to achieve separation laterally along the depth, if required.



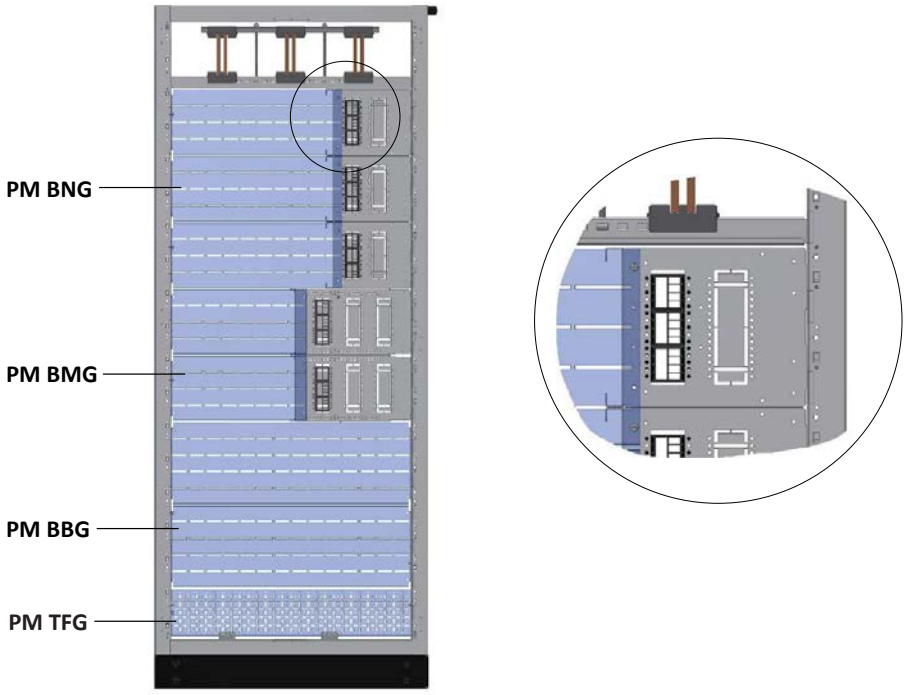
Step 1 :

Situation 1 : Fix PM BBG beginning from most upper position, just below the main busbar, down until most lower position to both ES DP vertical profiles at each end by using bolts.

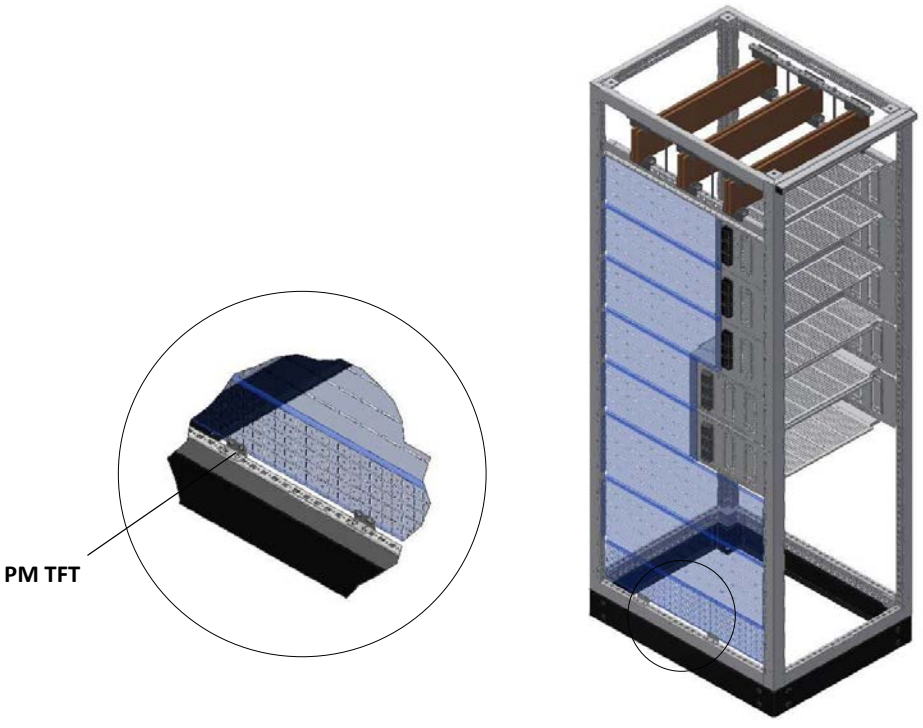


PM BN AND PM BB (VERTICAL CB MODULE AND MOTORISED CB MODULES SEPARATION) INSTALLATION

Situation 2 : Fix PM BNG and PM BMG separators to horizontal CB separation modules connection holes and ES DP vertical profiles.

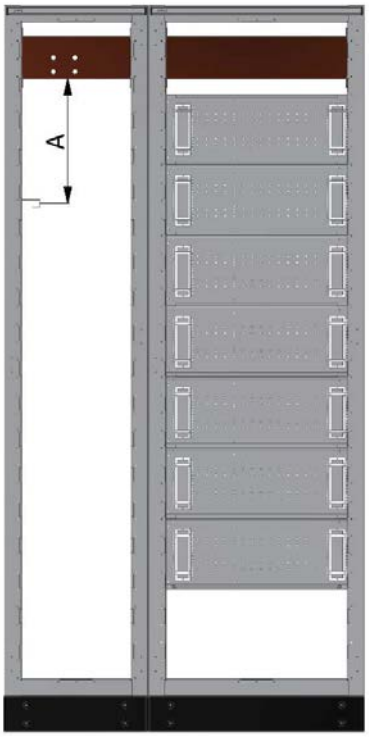


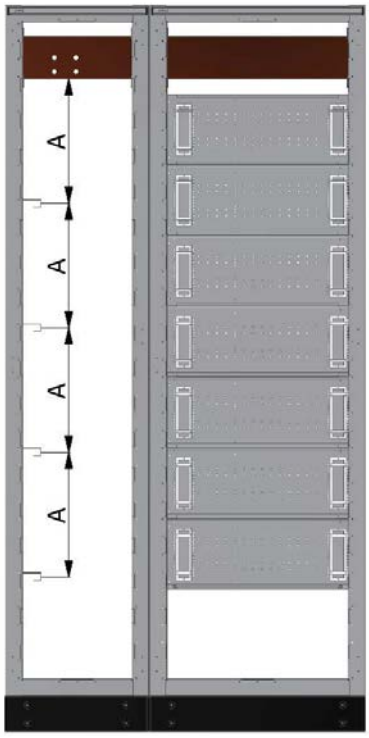
Situation 3 : Fixing PM TFT: PM TFT is used to fix TFG to the YP horizontal profile if PM TFG has been cut for earth and neutral conductors passage.

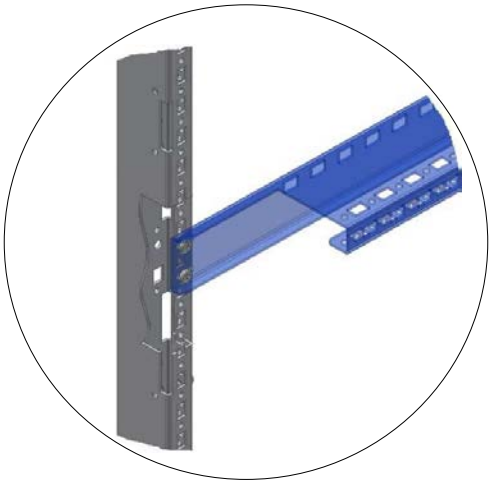


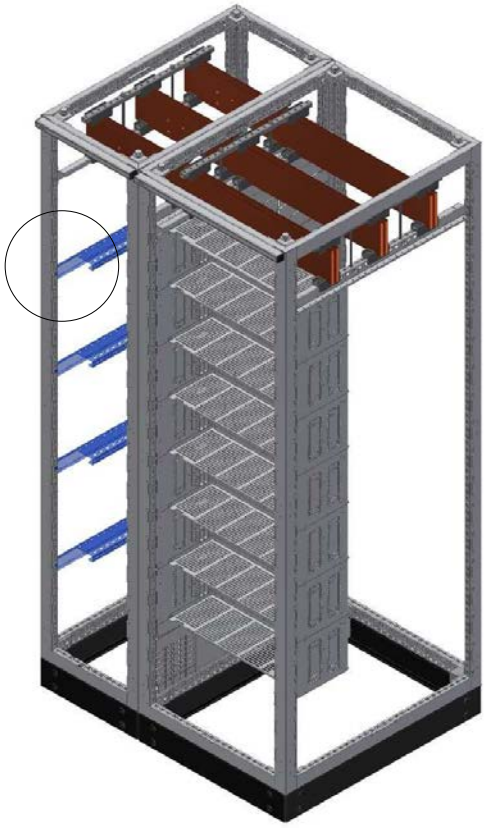
PM MPG (VERTICAL INSULATOR PROFILE) ASSEMBLY

Step 2 : Place and fix PM MPG profiles on both lateral ES DP vertical profiles by paying attention to support distance (A).





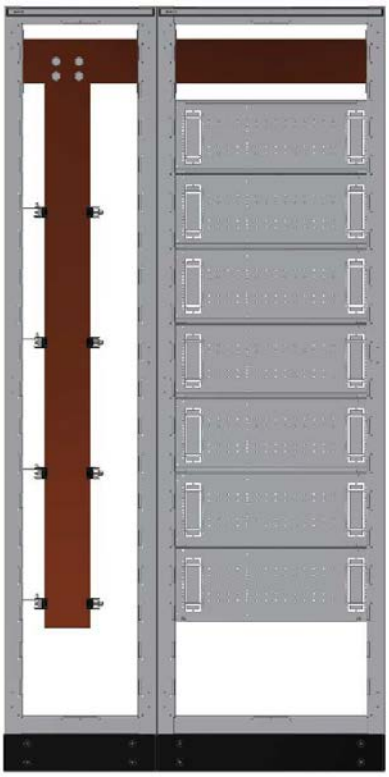


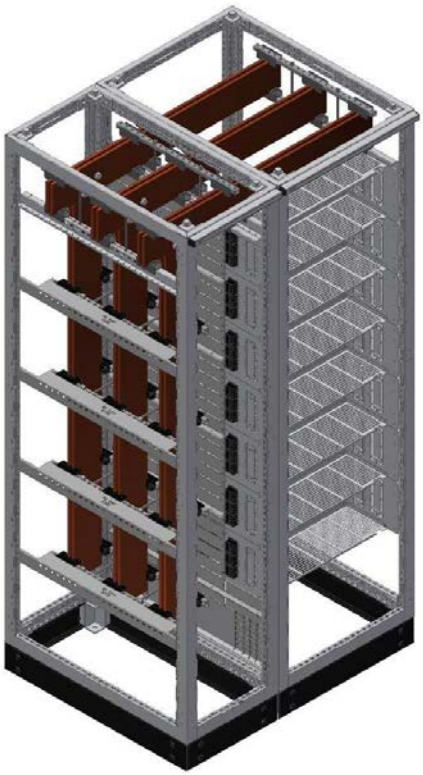


PANELMASTER® BUSBAR SECTION SEPARATION MODULES ASSEMBLY STEPS

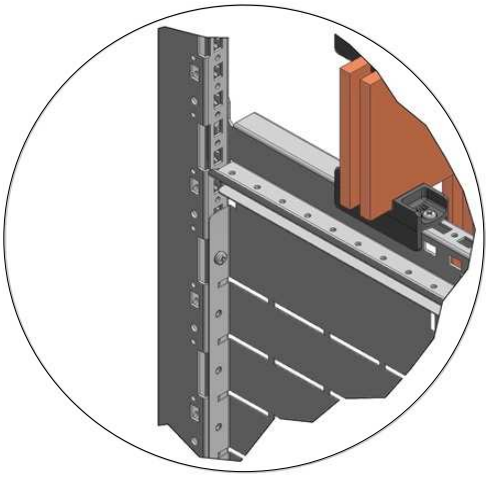
BUSBAR AND INSULATOR ASSEMBLY

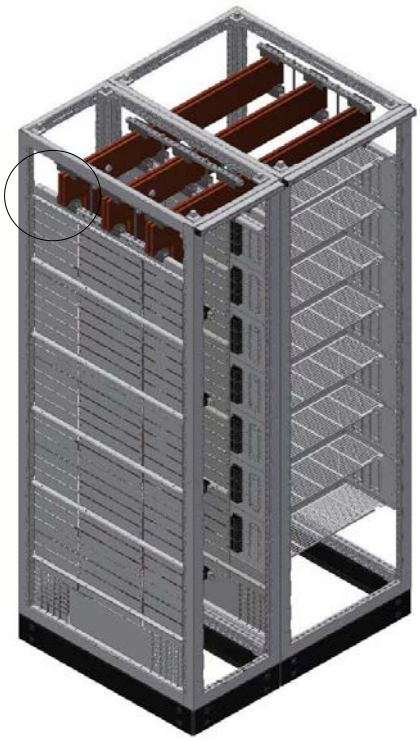
Step 3 : Fix distribution busbars, busbar insulators, stainless steel profiles and threated rods.
*All foiled products foils should be removed.





Step 4 : Fix PM BBG separators along the depth side of the panel.

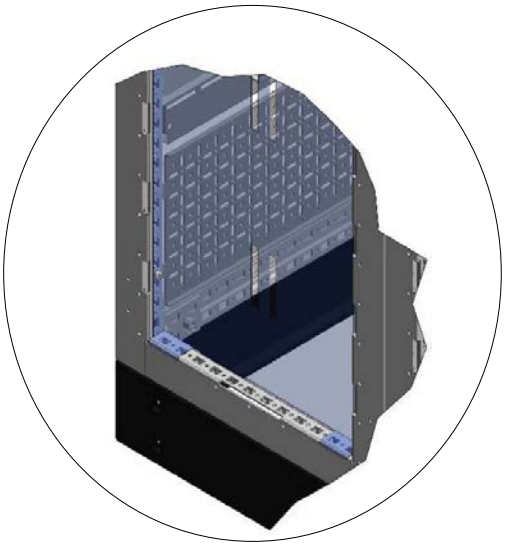


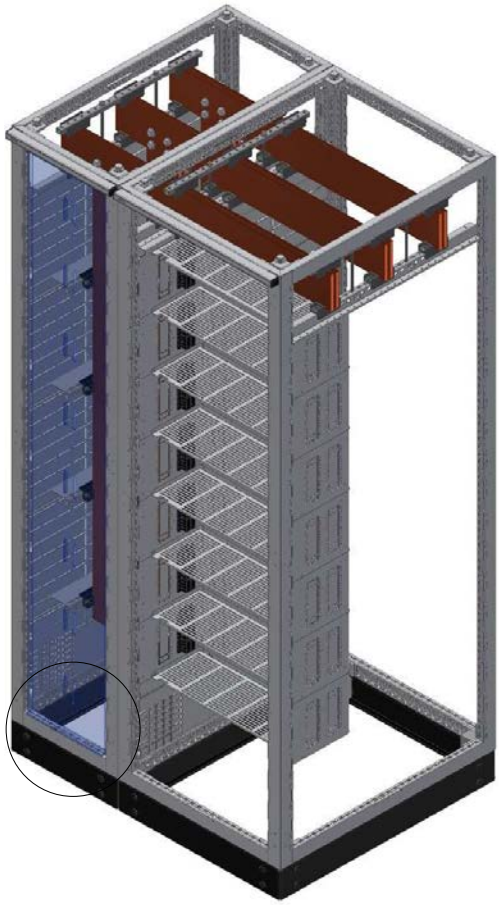


NOTE : If the first or last section of the panel is the busbar section, PM BB separators may not be used.

EG SO (FIXED COVER) ASSEMBLY

Step 5 : EG SO Fixed Cover is used to protect operators from accidentally touching live busbar.
If a door is used at back side EG SO Fixed Cover shall be used there also.





NOTE : EG SO is fixed to the panel at ES DP Vertical Profiles.

PANELMASTER® BUSBAR SECTION SEPARATION MODULE ACCESSORIES



EG SO

EG SO Fixed Cover is used to protect operators from accidentally touching live busbar. If a door is used at rear EG SO Fixed Cover shall be used there also. Otherwise, if EG SK Fixed Panel is used at rear, using EG SO is not necessary. EG SO is fixed to the panel at ES DP Vertical Profiles.



PM BB

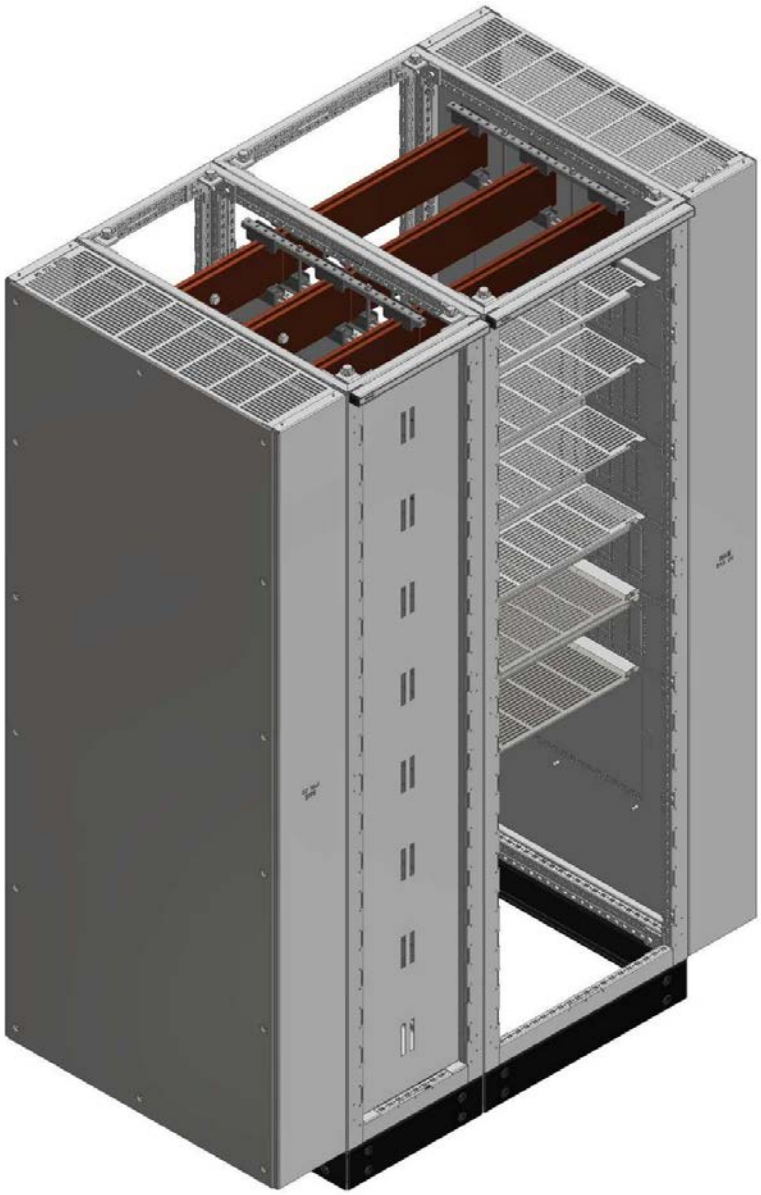
PM BB Busbar Section Separator is used when the panel needed to be separated laterally.
NOTE : In case some parts had to be cutted away remaining separator edge must be at least 25 mm distant from energized conductors.



PM MPG

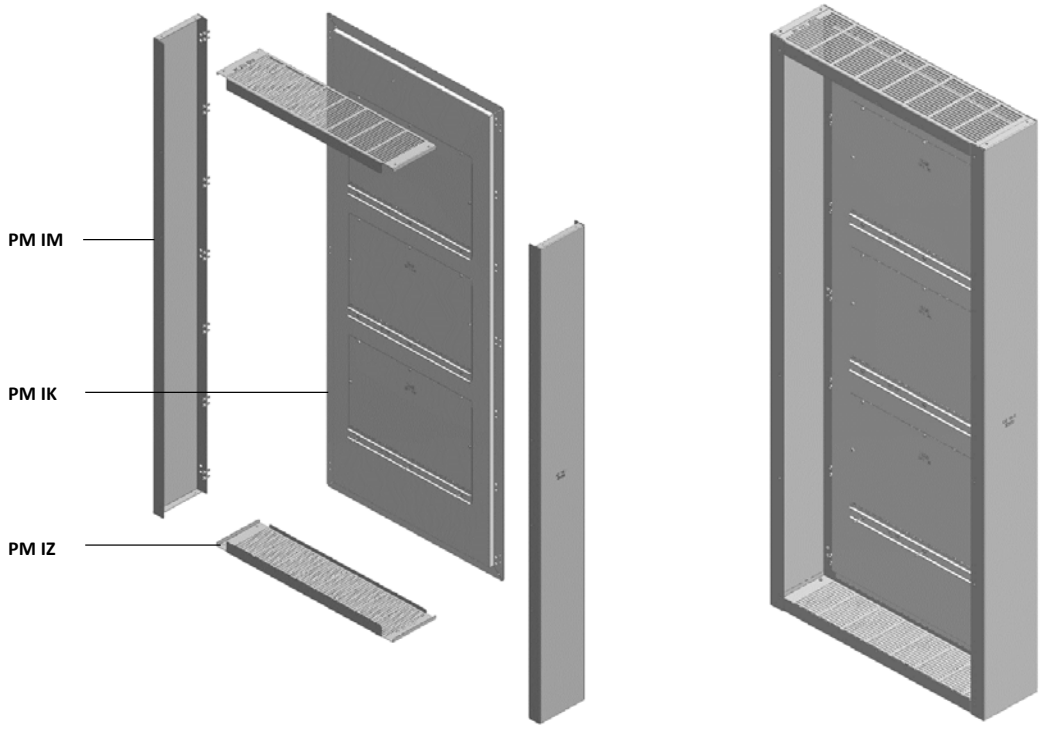
PM MPG vertical insulator profiles are used for the assembly of vertical busbar insulators. ES MPG is fixed between both lateral ES DP vertical profiles of the panel. They should be placed by paying attention to maximum insulator distances limited by short circuit current.
Pls. Check: PanelMaster Maximum Distance Between Supports (L) Table

PANELMASTER® INTERNAL ARC PROTECTION MODULES ASSEMBLY

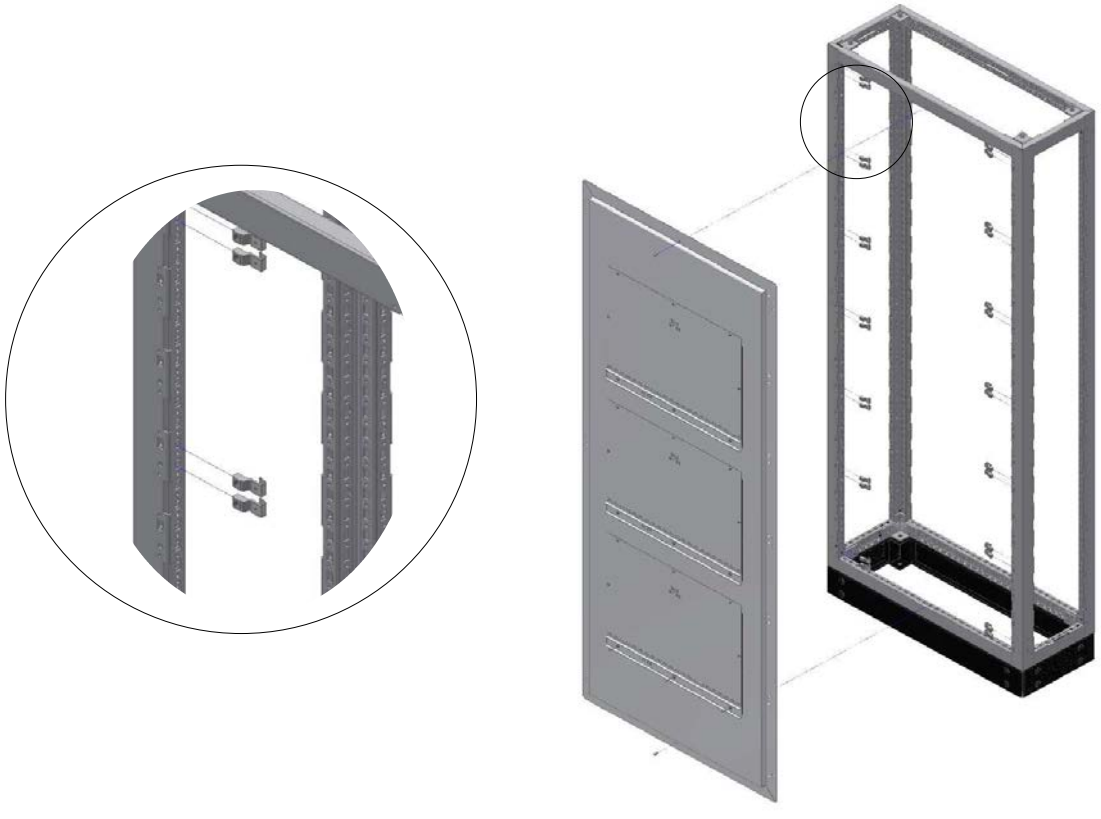


PM IB INSTALLATION

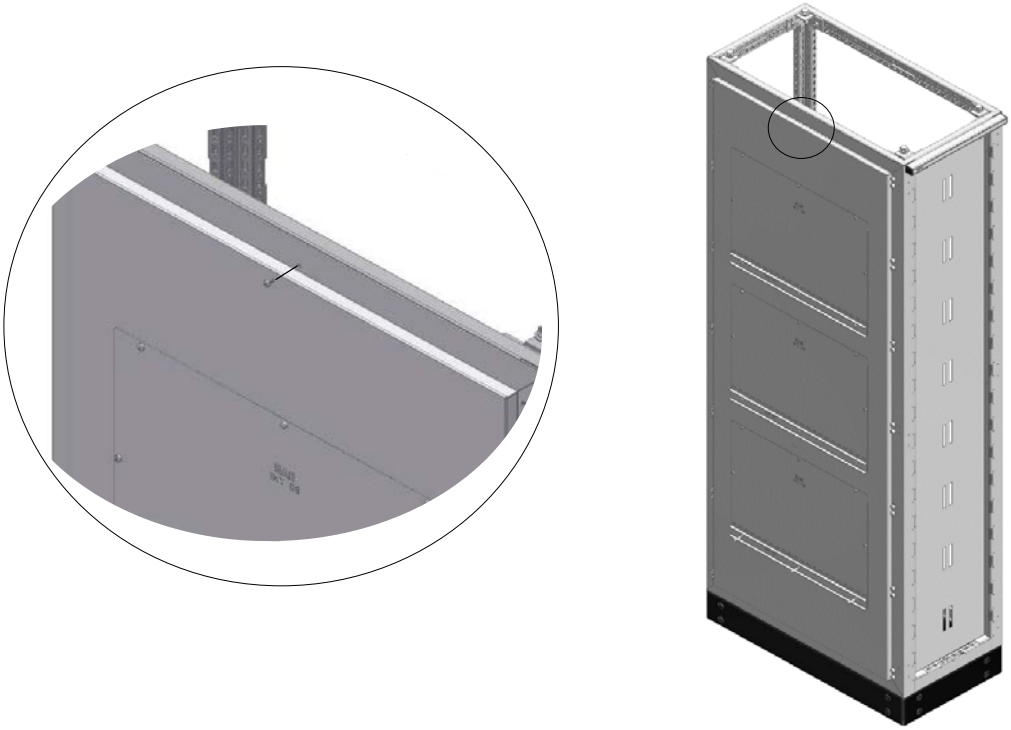
Description : Two sets of PM IB Arc Protection Module are used, at both ends of panel groups.
It consists of subparts named PM IK, PM IM and PM IZ.



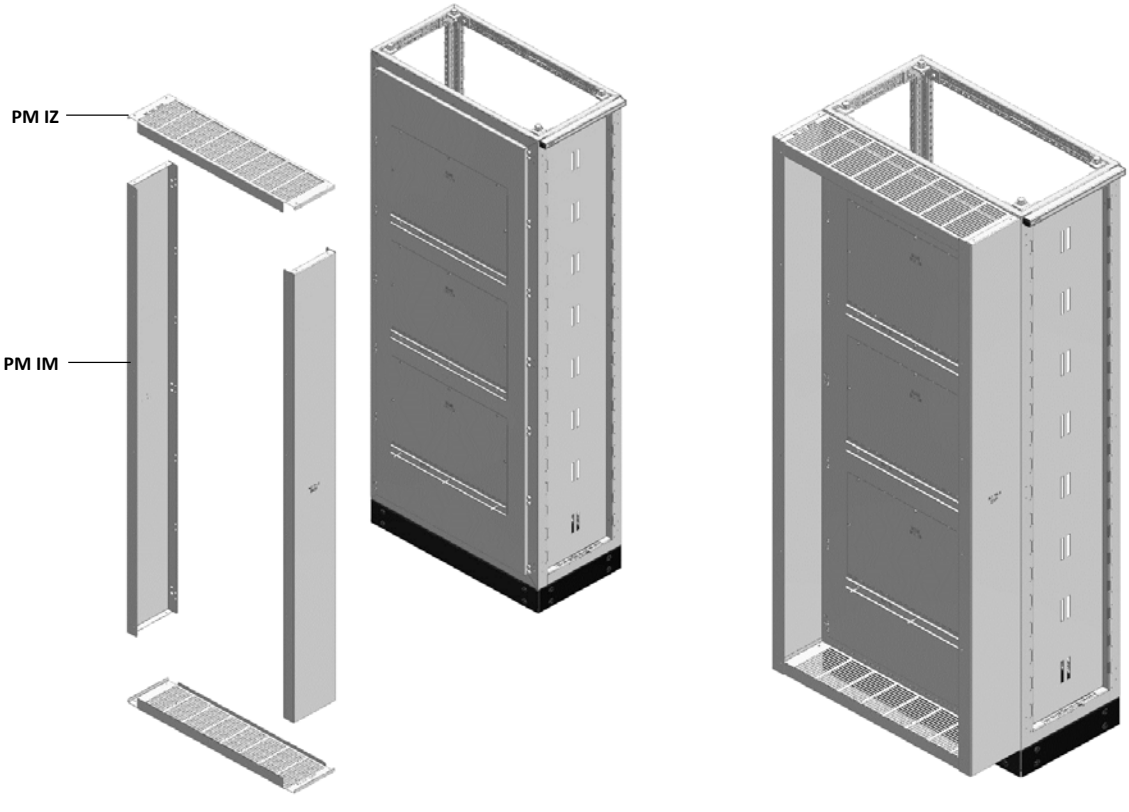
Step 1 : Before fixing PM IK, M8 Spring Nuts are to be placed at ES DP vertical profiles.



Step 2 : PM IK is fixed to the ES YP horizontal profiles with 2 pcs. M5x8 bolts, at top and bottom.



Step 3 : PM IM are fixed to M8 Spring Nuts that are attached to ES DP profiles by means of M8x20 bolts.
PM IZ are fixed on PM IM with M5x8 bolts.

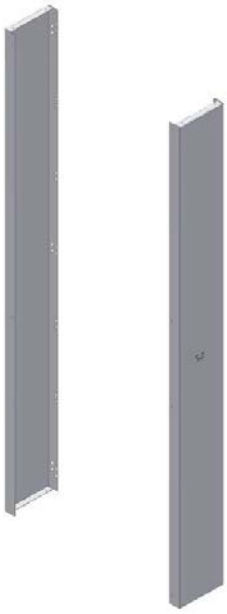


PANELMASTER® INTERNAL ARC PROTECTION MODULES ASSEMBLY



PM IK

It is delivered assembled (with arc-flaps)
Suitable panel heights; 18, 20 and 22
Suitable panel depths; 06, 08 and 10



PM IM

Set consist of 2 pcs PM IMG

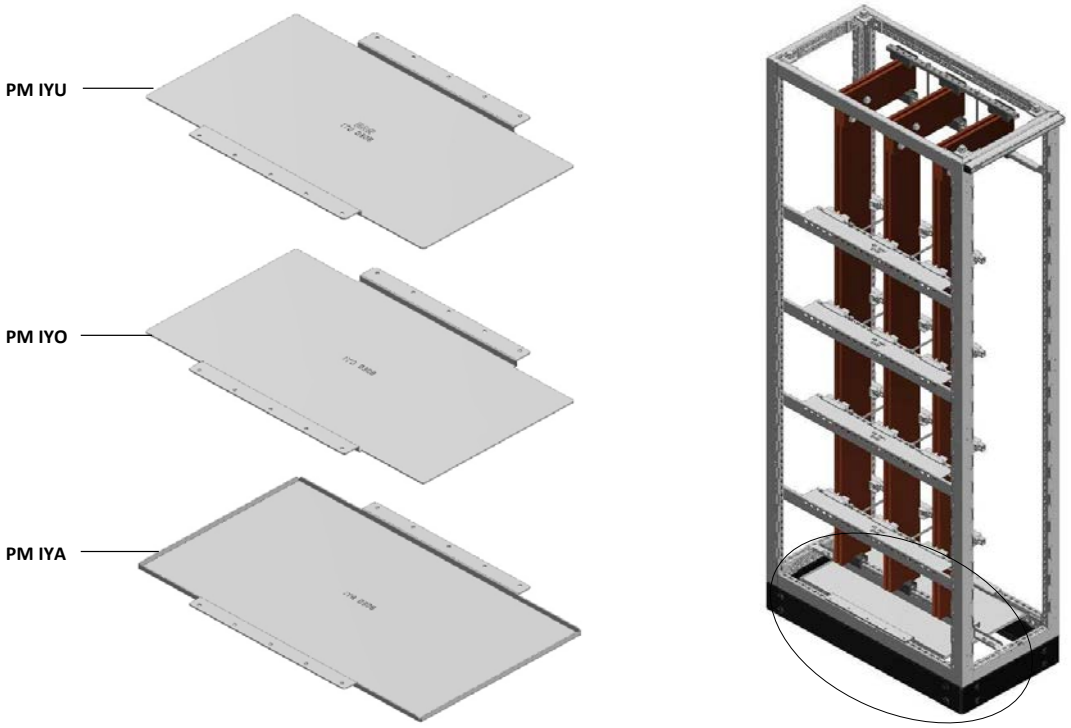


PM IZ

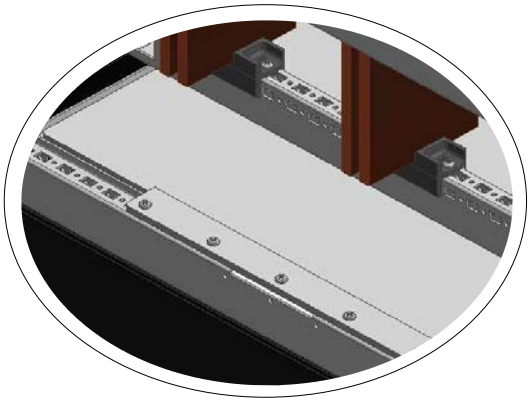
Set consist of 2 pcs PM IZG

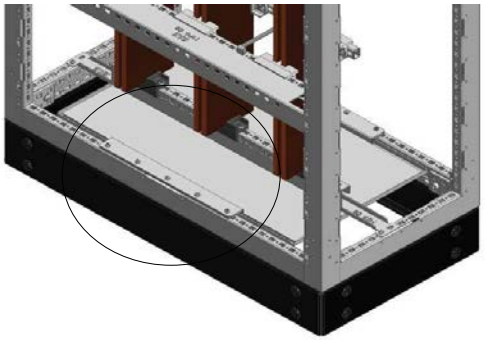
PM IY INSTALLATION

Description : Horizontal Arc Block Module PM IY is used in vertical distribution busbar sections.
It consists of subparts named PM IYA, PM IYO and PM IYU. All subparts are to be assembled as on top of each other in the order shown below.



Step 1 : PM IYA is placed at the bottom, PM IYO in the middle, and PM IYU is placed and fixed on top of both lateral ES YP Horizontal Profile with M5x12 bolts.





PANELMASTER® INTERNAL ARC PROTECTION MODULES ASSEMBLY FOR VERTICAL DISTRIBUTION BUSBARS



PM IYA

PM IYA takes 1st place during assembly.



PM IYO

PM IYO takes 2nd place during assembly.



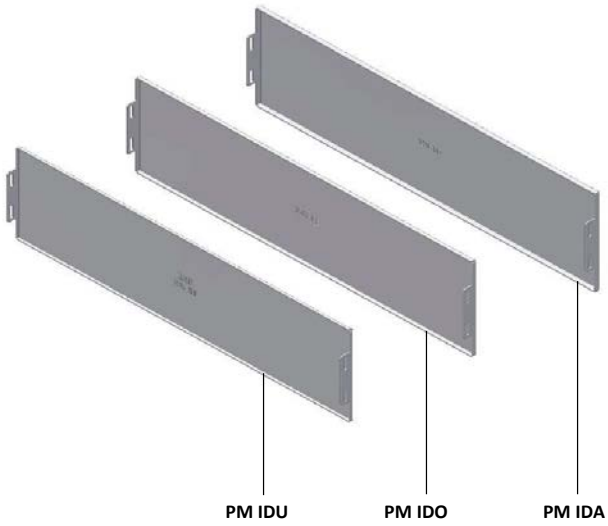
PM IYU

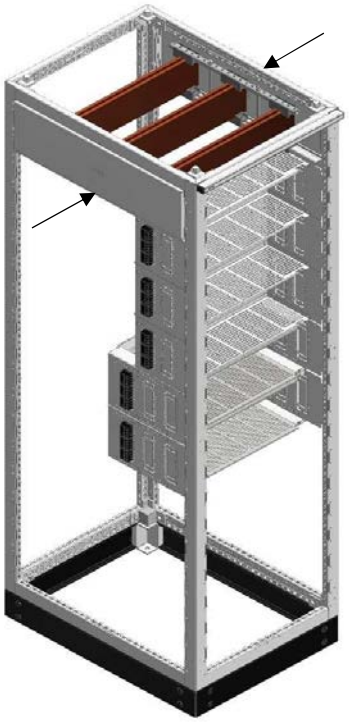
PM IYU takes 3rd place during assembly.

PANELMASTER® INTERNAL ARC PROTECTION MODULES ASSEMBLY FOR VERTICAL DISTRIBUTION BUSBARS

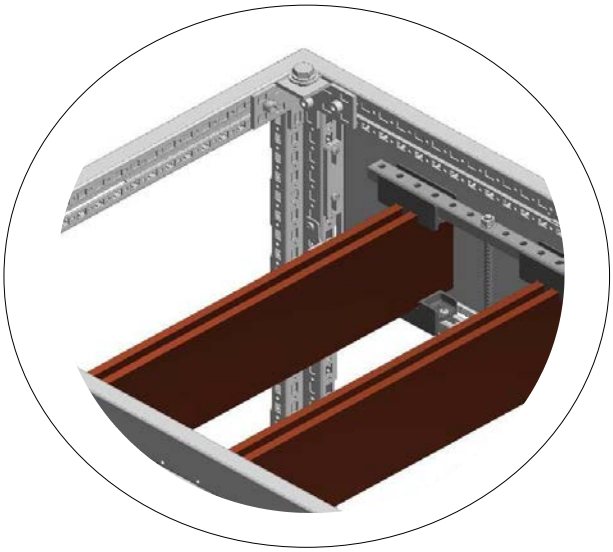
PM ID ASSEMBLY

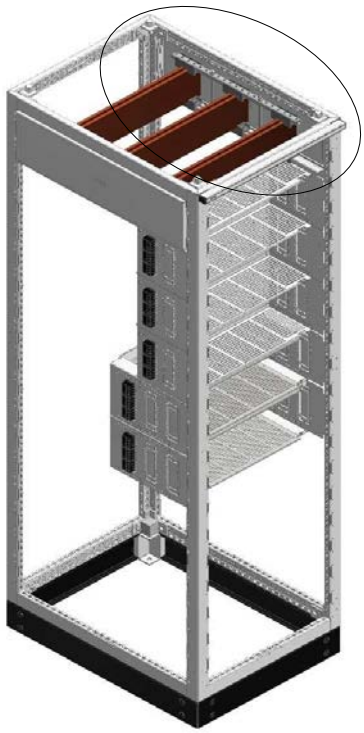
Definition : PM ID Vertical Arc Block Module is used at both endings of main busbars.
It consists of subparts named PM IDA, PM IDO and PM IDU. All subparts are to be assembled as one top of each other in the order shown below.



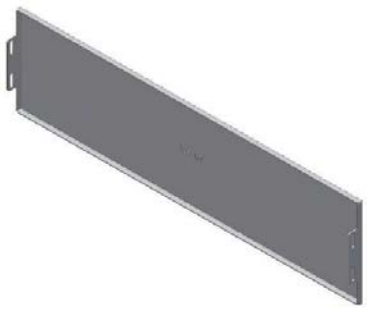


Step 1 : They are fixed on to ES DP Vertical Profile with M5x12 screws PM IDA is positioned at the most outer position and PM IDO is sandwiched between PM IDU and PM IDA, which is the most inner subpart.



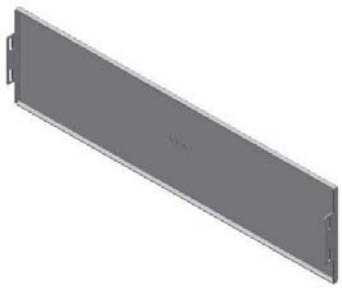


PANELMASTER® INTERNAL ARC MAIN BUSBAR STOPPER PROTECTION ACCESSORIES



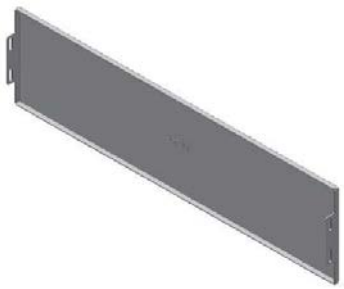
PM IDA

PM IDA accessory comes first during assembly, as the most outer subpart.



PM IDO

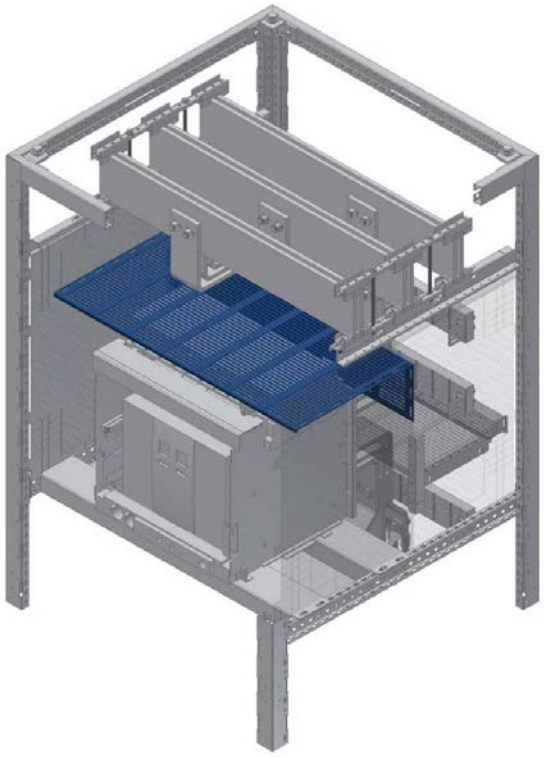
PM IDO accessory takes the 2nd place during assembly

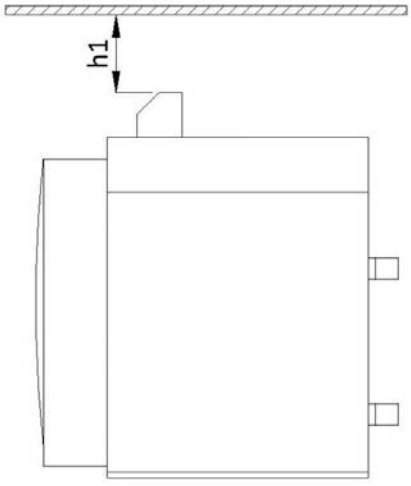


PM IDU

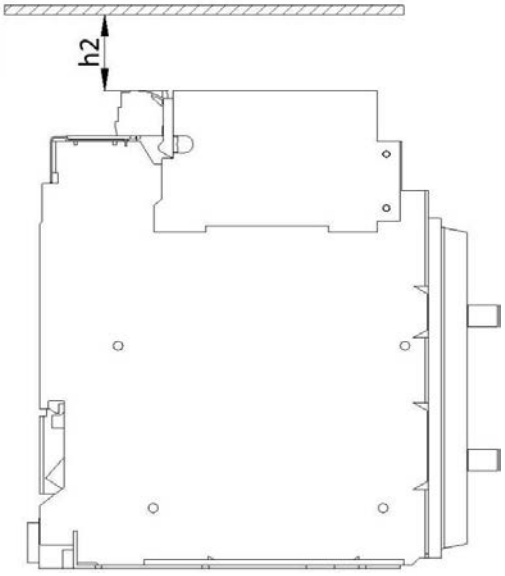
PM IDU is takes the 3th place during assembly as the most inner subpart.

PANELMASTER® AIR CIRCUIT BREAKERS NECESSARY UPPER SAFETY DISTANCES





Fixed type ACB



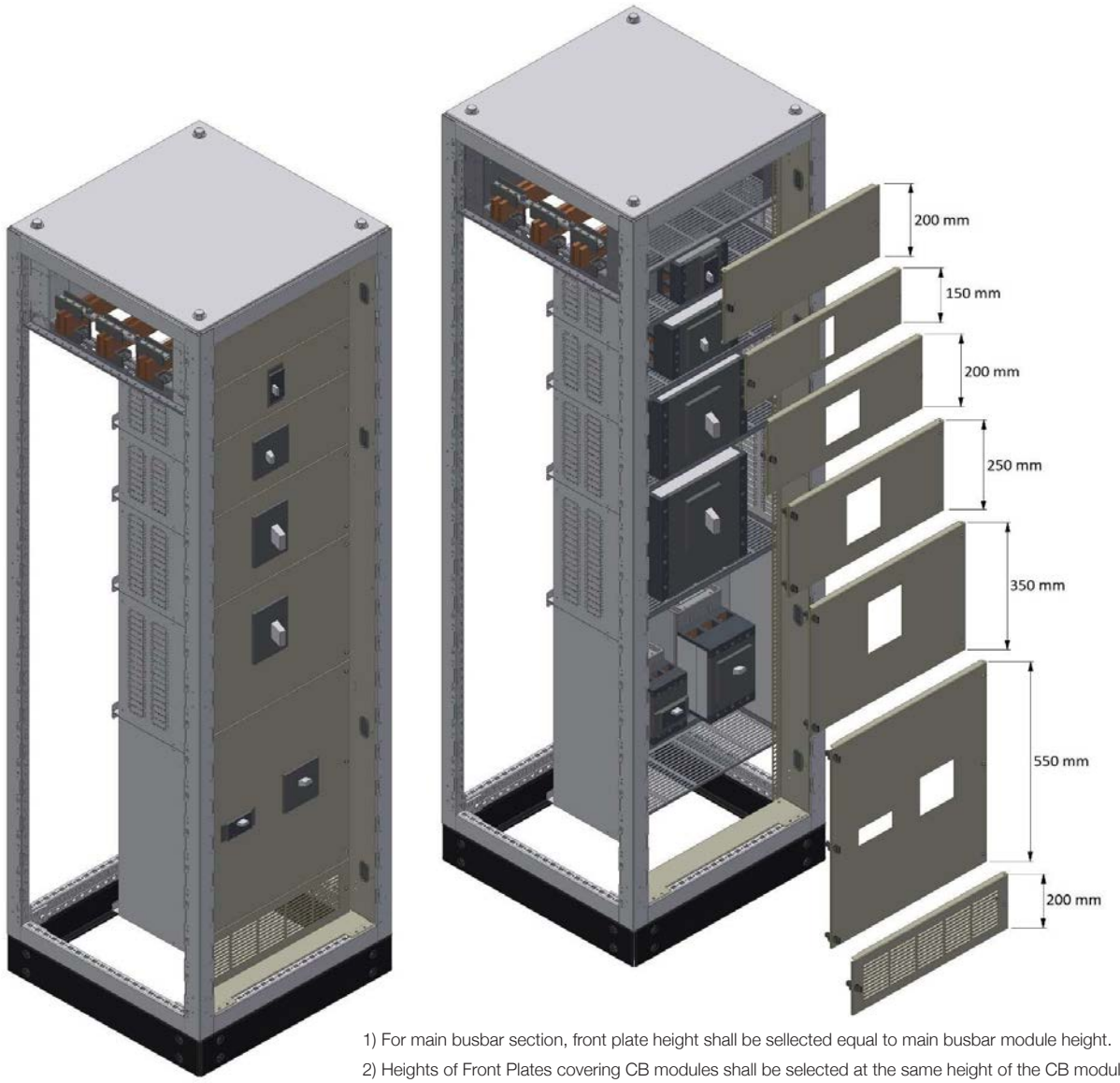
Withdrawable type ACB

	ABB	CHINT	EATON	GE	LEGRAND	MITSUBISHI ELECTRIC 630A-3200A	MITSUBISHI ELECTRIC 4000A-6300A	SCHNEIDER	SIEMENS
	mm	mm	mm	mm	mm	mm	mm	mm	mm
h1	41	100	60	56	66	100	200	50	75
h2	0	60	60	0	62,5	100	200	0	50

NOTE : Distances are the values to be used by assembly manufacturers during design phase.

PANELMASTER® FRONT PLATE AND CIRCUIT BREAKER FRAME APPLICATION DESCRIPTION

FRONT PLATE APPLICATION

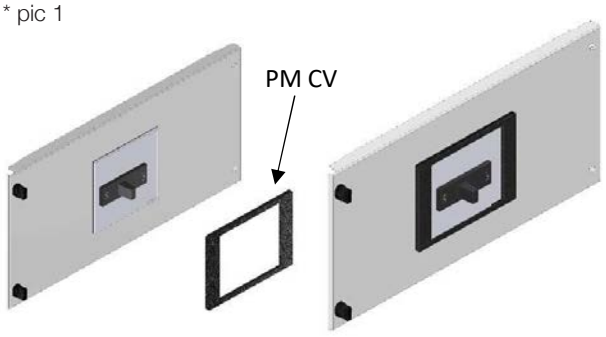


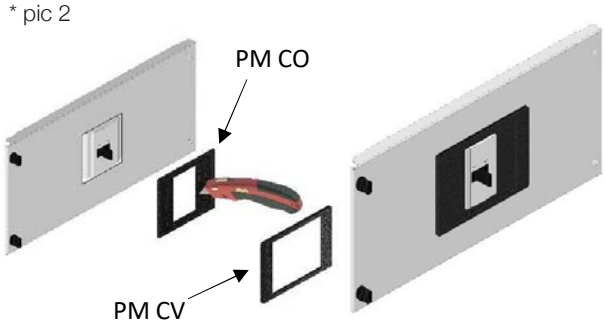
1) For main busbar section, front plate height shall be sellected equal to main busbar module height.

2) Heights of Front Plates covering CB modules shall be selected at the same height of the CB module.

CIRCUIT BREAKER FRAME APPLICATION

Up to 250 A - PM CV 105	Up to 250 A - PM CO 105
Up to 630 A - PM CV 140	Up to 630 A - PM CO 140
* pic 1	* pic 2





NOTE : For Schneider NSX Series compact circuit breakers “PM CV” can be used without integrating PM CO.
For other series and brands “PM CV and PM CO” shall be used together.

PANELMASTER® REACTIVE POWER CORRECTION PANELS APPLICATION RULES

When designing reactive power compensation circuits plant-specific conditions, for example, presence of harmonic generating equipment or large inductance motor loads should be taken in account.

In addition, proper selection of equipments in compliance with the circuit design has great importance in terms of operation continuity. For example; If it is predicted that the terminal voltage level will increase by design, capacitor or contactor should be selected accordingly.

Particular characteristic of compensation system, is directly effecting system contiunity and energy cost effectiveness. Considering this, compensation device manufacturers offers products with various additional features as and capabilities.

Due to the wide variety of devices, equipment types and many circuit design factors associated with compensation panels, It is not possible to cover all possible operational requirements by describing them in simple rules.

In this context, there is no compensation panel application described with typical circuit designs covered under PanelMaster design rules. However, the application described below is offered as a solution for compensation panels.

IEC 61921: 2017 Power capacitors - Low-voltage power factor correction banks which is the internationally applicable standardsetting out the guidelines for the manufacture and application of compensation panels. This standard is based on the Low Voltage Switching and Control Panels Standard IEC 61439: 2011 Part 1 - General Rules and Part 2 - Power Switching and Control Equipment, as well as providing additional explanations and rules specific to the compensation panel.

In this context, it is possible to operate the PanelMaster licensing procedure, which expresses compliance with IEC 61439-1 and 2 standards by including explanations and additional rules specific to compensation panels described in IEC 61921: 2017 standard. It is important to consider that any any engineering and control-concept application regarding circuit design and device selection will be out of scope. The rules and control steps that will be added to the compensation panels licensing procedure, (which are basically aim to guarantee qualification fundamental of panel manufacturing) are listed on the next page.

PANELMASTER® REACTIVE POWER CORRECTION PANELS APPLICATION RULES

1. Provisions to guarantee required discharge duration described in the specification by using internal or external discharge resistor. Will be verified.

2. Checking that the cables used for connection are dimensioned in accordance with the rated current and fault current. Will be carried out.

3. Checking that the power and control cables do not come into direct contact with capacitor housing. Will be carried out.

4. Where reactors (chokes and filters) are installed, power and control cables are to be kept as far as possible from these or at least kept away from their laminated steel cores. This conditions will be verified.

5. Labeling on the capacitor banks and panels will be checked. It will be ensured that the values mentioned in these labels are conforming to the standard.
   Informations required to be listed on the label or in technical data sheet.

   - Manufacturer's name
   - Product type
   - Production date
   - Rated reactive power, Qn, kVAr
   - Rated voltage, Un
   - Rated frequency, fn
   - Reference to IEC 61921
   - Steps in kvar
   - Series reactor value (or% reactance ratio or tuning frequency)
   - Minimum and maximum ambient temperature
   - Operating environment: Internal or external
   - Rated short-time withstand current (Icw)
   - Rated conditional short circuit current (Icc)
   - Maximum permissible current
   - Rated insulation voltage (Ui)
   - Rated impulse withstand voltage (Uimp)

6. It will be checked;
   Are capacitor units physically installed according to mounting instructions of their manufacturers? Some manufacturers does not allow horizontal positioning.

7. Temperature-rise calculations of panel builders will be verified.

8. If temperature-rise calculations include certain forced ventilation requirements, respective fan and filter units etc. will be checked.

PANELMASTER® REACTIVE POWER CORRECTION PANELS CABLE CROSS SECTIONS

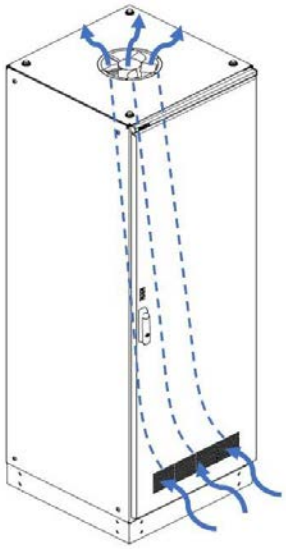
OPERATION VOLTAGE : 400 V		
Capacitor Power (kVAR)	**Nominal Current (A)**	**Cable Cross Section (mm^2)**
2,5	3,6	2,5
5	7,2	2,5
7,5	11	2,5
10	15	4
12,5	18	6
15	22	6
20	29	10
25	36	16
30	43	16
40	58	25
50	72	35
60	87	50
75	108	70

Given cable cross-sections are minimum values.

PANELMASTER® VENTILATION IN REACTIVE POWER CORRECTION PANELS

Reactive power correction panels are consist of capacitors, reactors, resistors, coils, etc. that can produce significant amounts of heat. Therefore, it is very important to dimension the ventilation system in panels correctly. Otherwise, overheating, may cause damage to present devices or components.

Ventilation rules are valid for normal operating conditions.
Normal operating conditions:



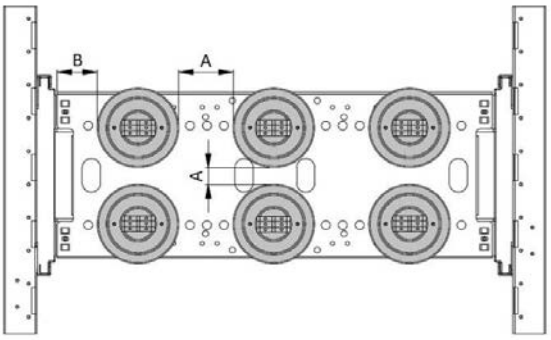
- Maximum ambient air temperature: +40°C
- Avarage air temperatuıre (during a 24 hour period): + 35°C
- Lower limit of ambient air temperature: -5°C
- Maximum plant site height: 2000 m

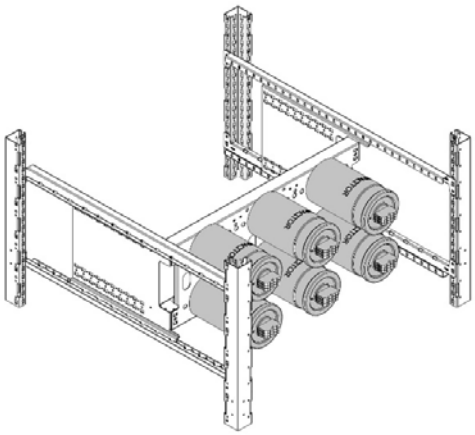
Ventilation Rules:

- Air flow in panels shall be from bottom to top.
- There shall be air inlet opening at the bottom of the panel and air outlet at the top (natural or forced ventilation).
- Inside and outside of the ventilation opening grids shall be prevented to be blocked.

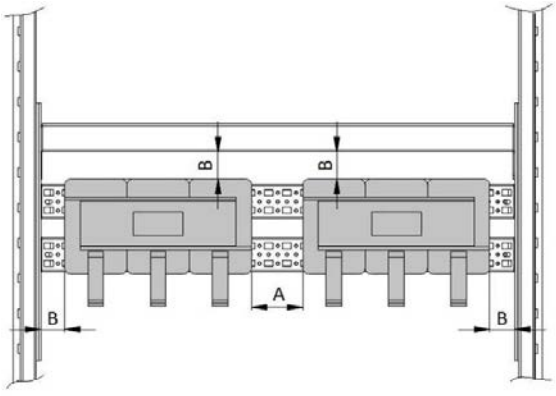
Product Positioning Rules:

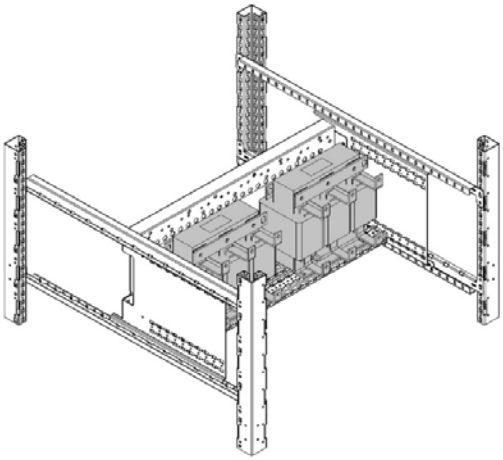
- There shall be at least A = 25 mm clearance between capacitors.
- There shall be at least B = 15 mm distance laterally between capacitors and the grounded metallic parts.





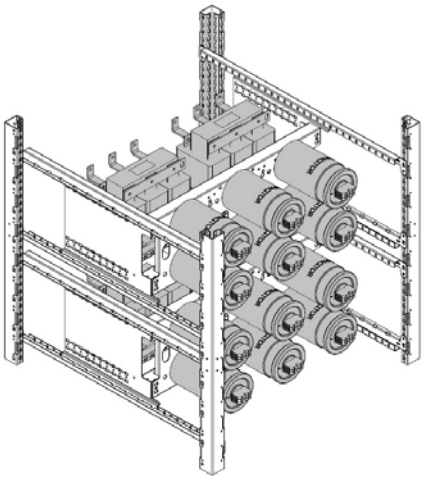
- The gap between two reactors shall be A = 70 mm.
- There shall be B = 30 mm distance laterally between the reactor core and the grounded metallic parts.

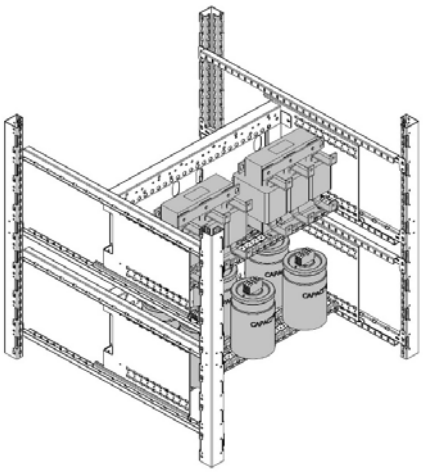




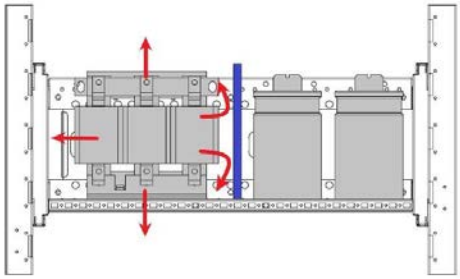
PANELMASTER® VENTILATION IN REACTIVE POWER CORRECTION PANELS

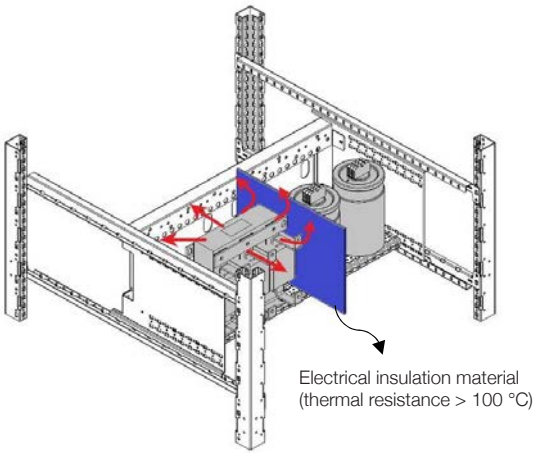
• Reactors shall be placed in separete section; if this is not possible they shall be placed over capacitors.





• If capacitors and the reactors are in the same section, they shall be separated from each other by a partition made of insulation material prevent heat transfer.





Ventilation Application:

The following ventilation applications shall be used for compensation panels, if they are placed in a 2000x600x800 mm cabinet.

Recommended ventilation application **for capacitor applications only :**

Reactive Power (kVAR)	Ventilation Feature	Ventilation Type
≤ 100 kVAR	Natural Ventilation	EG HM XX YY - Ventilation Module
100 kVAR <Q<300 kVAR	Forced Ventilation	EG FM Roof Fan Unit

Recommended ventilation application **for Capacitor + Reactor applications :**

Reactive Power (kVAR)	Ventilation Feature	Ventilation Type
≤ 300 kVAR	Forced Ventilation	EG FM Roof Fan Unit

Given information are recommandations. It is the responsibility of Panel Builder to select proper ventilation devices by applying appropriate ventilation calculations.

PANELMASTER® SEISMIC RULES

PanelMaster products and their seismic applications have been tested in internationally recognized accredited laboratories according to IEC 60068-3-3 and IEC 60980 standards, and their seismic resistance has been verified .





PanelMaster Floor Standing Type and Wall Mounted Type Panels.
IEC 60068-3-3 (Zone 4) Class: 0, IEC 60980 (Zone 4), for Nuclear Plants

TS EN IEC 60068-3-3 : 2019-12 - Table 3

Seismic activity zone	Zone 0	Zone 1	Zone 2	Zone 3	Zone 4
Ground acceleration, a_g (m/s²)	0	1	2	3	5

Below is a table of equivalence between seismic classifications depending on the peak ground acceleration value.

TS EN IEC 60068-3-3 : 2019-12 - Table 4

Seismic Activity Zone	Peak Ground Acceleration (PGA) (m/s²)	Modified Mercalli Index (MMI)	Richter scale
0	0.01	I	0 - 2
	0.01 - 0.02	II	1 - 2
	0.02 - 0.05	II	2 - 3
	0.05 - 0.1	IV	3 - 4
1	0.1 - 0.2	V	4 - 5
	0.2 - 0.5	VI	5 - 6
2	0.5 - 1	VII	5 - 7
3	1 - 2	VIII	6 - 8
4	2 - 5	IX	7 - 9
	5 - 10	X	8 or more than 8
	10 - 20	XI	
	more than 20	XII	

Qualification criteria:

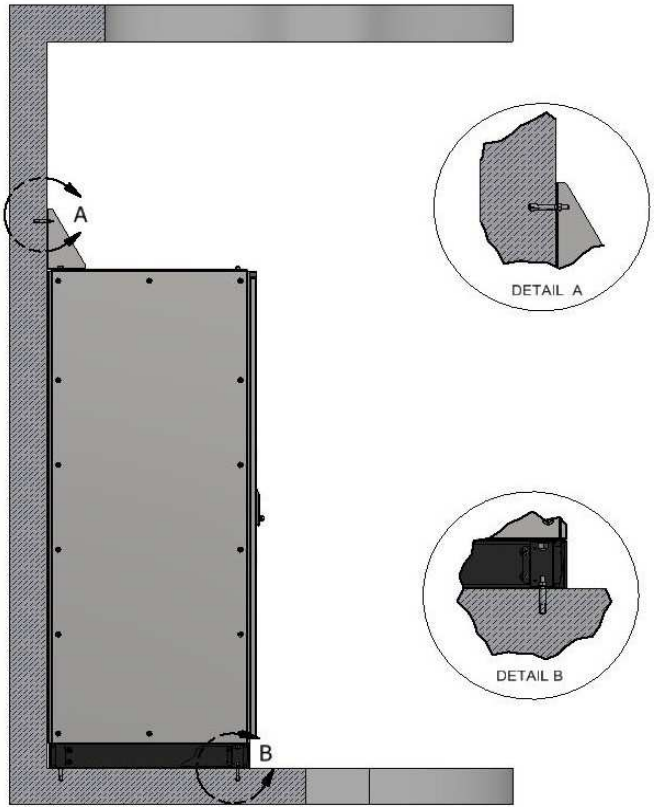
Criterion 0 : Equipment subjected to seismic testing which experienced no malfunction either during or after the test.

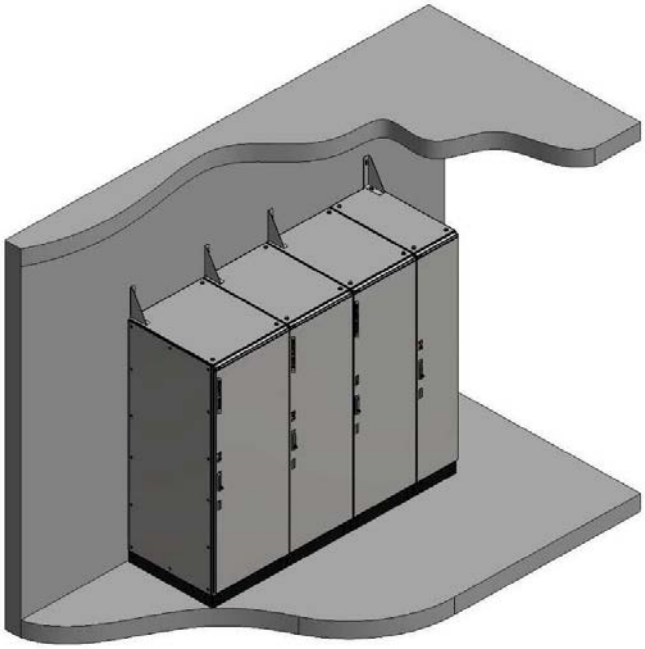
Criterion 1 : Equipment subjected to seismic testing which suffered a malfunction during the test but reverted to its correct state after the test.

Criterion 2 : Equipment subjected to seismic testing which experienced a malfunction during the test and required resetting or adjustment on completion of the test but required no replacement or repair.
It is very important that, Low voltage panels should be be tested and certified according to IEC 60068 standards for facilities located in earthquake risk areas in order to get uninterrupted energy.

PANELMASTER® SEISMIC MOUNTING RULES FOR STAND ALONE PANELS

RIGID MOUNTING FROM TOP

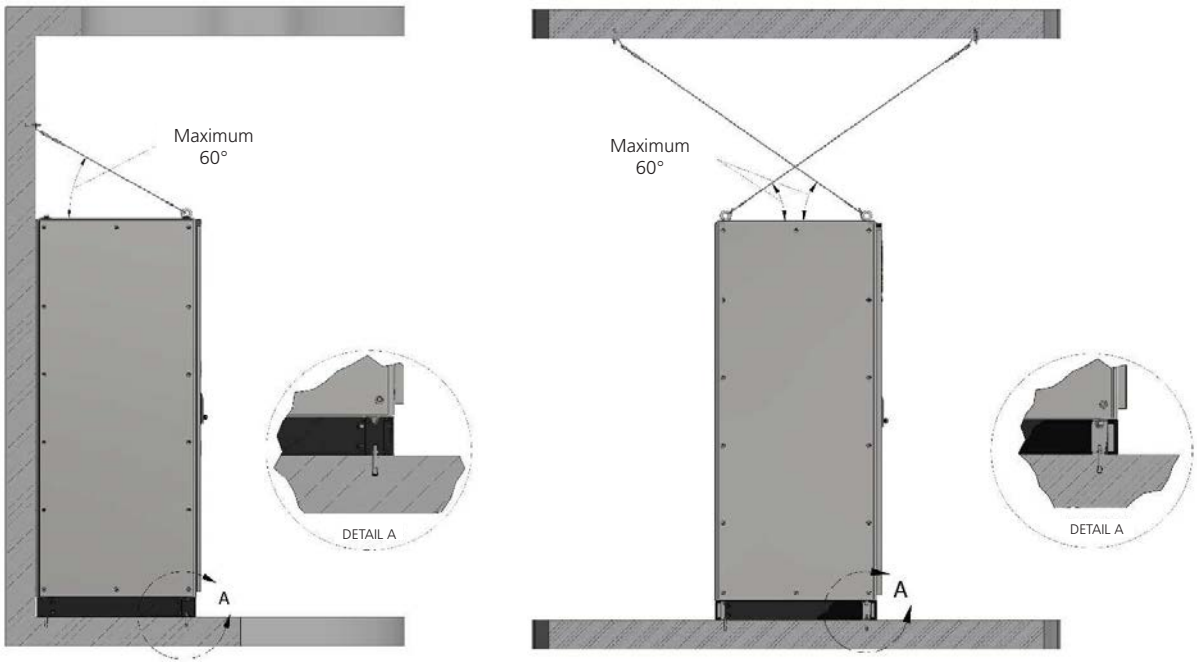


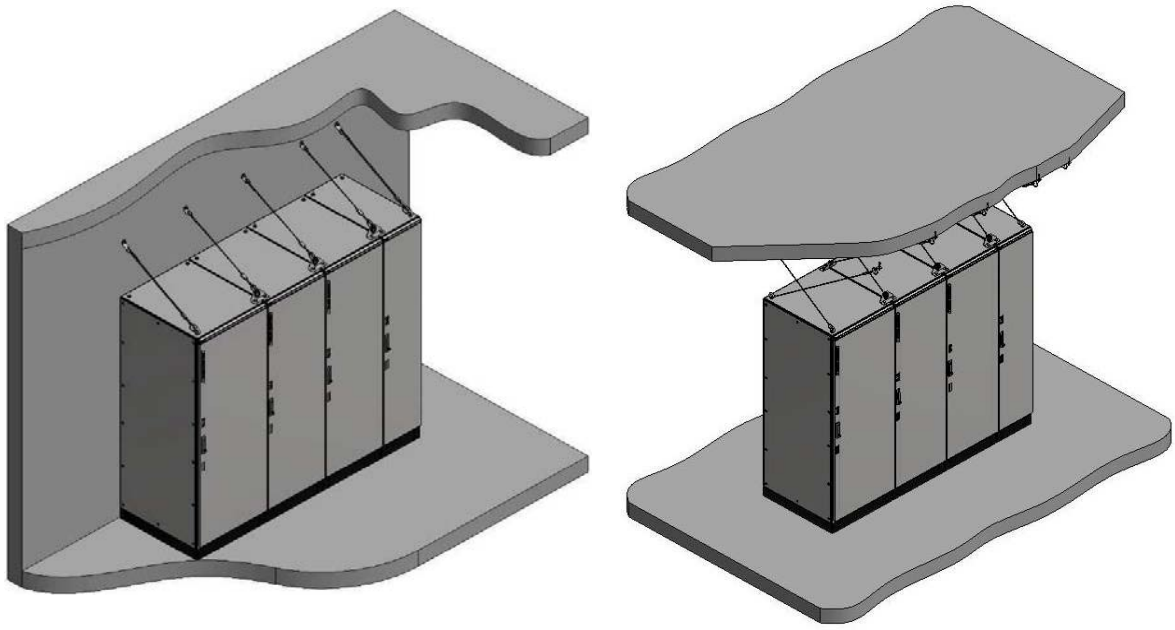


1. Each panel section will be fixed to the mounting floor with M12 anchor bolts with minimum 8.8 mechanical strength through 4 mounting holes in its base.
2. Each panel section will be fixed to the reinforced concrete building element by using M12 anchor bolts with strong brackets made of steel material of minimum 3 mm thickness from at least one of the upper lifting connection bolts.
3. It is assumed that structural elements which the connections are made have their own seismic strength.

PANELMASTER® SEISMIC MOUNTING RULES FOR STAND ALONE PANELS

STEEL WIRE CONNECTION FROM TOP





1. Each panel section will be fixed to the mounting floor with M12 anchor bolts with minimum 8.8 mechanical strength through 4 mounting holes in its base.
2. Each panel section will be fixed to the reinforced concrete building element by using minimum 4.8 mm diameter steel wire and M12 anchor bolts at carrying rings. Single carrying ring will be used in the first and last sections, and double carrying rings will be used in the intermediate sections.
3. The angle that the steel wire will create with the upper surface of the panel will not exceed 60°
4. It is assumed that structural elements which the connections are made have their own seismic strength.

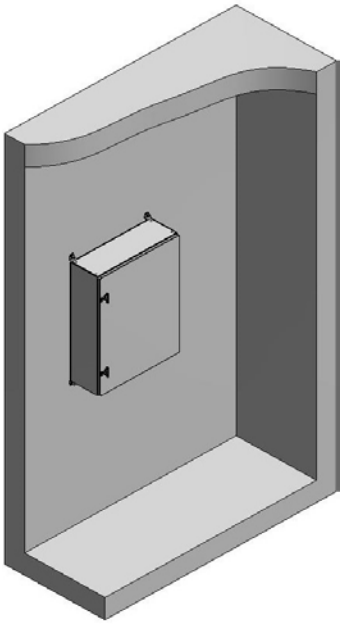
PANELMASTER® SEISMIC MOUNTING RULES FOR STAND ALONE PANELS

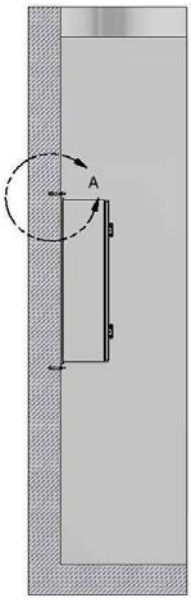
SEISMIC RULES FOR WALL MOUNDTED PANELS

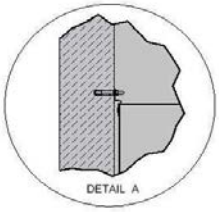
Concrete Wall

Wall mounted panels will be fixed to reinforced concrete walls by using 4xM8 anchor bolts with minimum 8.8 mechanical strength at connection brackets.

Application Example:



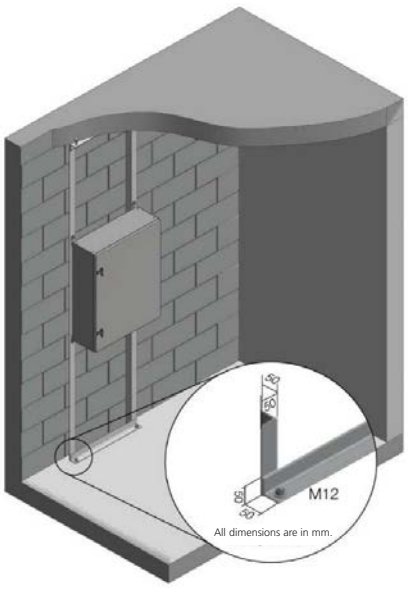




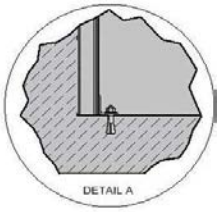
Non-Concrete Wall

Wall-mounted panels will not be directly fixed to non-reinforced concrete walls. In such cases, a steel carrier construction will be used (fixed between the concrete floor and the ceiling) and the connection brackets of the panel will be fixed to this construction by using 4 pieces of M8 bolts with mechanical strength of minimum 8.8.

Application Example:







PANELMASTER® CHECK-LIST

INSPECTION CHECK-LIST			
Switchgear Manufacturer	:		
Project Name	:		
Switchgear Name	:		
Section Name	:	Form of Seperation	:
Protection Class	:	Main Busbar Current	:
Short Circuit Current	:		

0 PRE-CHECKS		PASSED/YES	FAILED/NO
0-a	Check presence of single line diagrams, switchgear layout drawings and PanelMaster authorization letter.		
0-b	Check the manufactured switchgear is compatible to the switchgear layout drawings and section descriptions.		
0-c	Take front view picture of each section without cover plates, if exists, when the doors are open.		
1 VERIFICATION OF THE DEGREE OF PROTECTION OF THE ENCLOSURE		**PASSED/YES**	**FAILED/NO**
1-a	Check bottom plate presence, if switchgear protection degree is IP55.		
1-b	Check sealing washer presence on bolts fixing side/back panels, if switchgear protection degree is IP55.		
1-c	Check devices installed on the door comply with the IP protection class of the switchgear.		
1-d	Check that all outer cover/fixed panels and doors of the switchgear are complete.		
1-e	Check that ACB's and MCCB's manufacturer specific original front frames are used to frame the breakers front part, which can be seen from outside door or cover plates.		
2 CLEARANCES AND CREEPAGE DISTANCE VERIFICATION		**PASSED/YES**	**FAILED/NO**
2-a	Check if air to air distance, that can be measured by means of a caliper between the phase conductor and ground conductor at the bolts of the connection terminals, are greater than 25 mm.		
2-b	Check if air to air distance, that can be measured by means of a caliper between the phase conductors at the bolts of the connection terminals, are greater than 25 mm.		
2-c	Check if air to air distance, that can be measured by means of a caliper between the phase conductor and ground conductor at the joints of the main busbar, are greater than 25 mm.		
2-d	Check if air to air distance, that can be measured by means of a caliper between the phase conductors at the joints of the main busbar, are greater than 25 mm.		
2-e	Check presence of partitioning accessories; check their application; it shall be correct and complete as indicated in "PanelMaster Design and Application Rule Book", if partitioning requested. Also, check with finger probe, in case of doubt.		
2-f	Check if used insulator brand is EAE.		
2-g	Check screws used at the joints of the main busbar are fitted with an insulation cap on top.		
2-h	Check the distance between the main busbar ends and fixed side panels; it should be greater than 25 mm.		
2-ı	Check the distance between conductors of breaker - main busbar connections; it should be greater than, Rated Impulse Voltage (Uimp) : for 8 kV 12 mm for 12 kV 21 mm		
3 PROTECTION AGAINST TO ELECTRIC SHOCKS AND VERIFICATION OF THE INTEGRITY OF PROTECTIVE CIRCUITS		**PASSED/YES**	**FAILED/NO**
3-a	Check the cross section of the ground conductor; it should be compatible to the size specified at the "PanelMaster Design and Application Rule Book". Indicate the cross section.		
3-b	Check if the earth continuity measurement has been done for 10A. Test result should be less than 0.1Ω. Indicate the measured value.		
3-c	Check if grounding of front door is ensured. And check that the specific grounding conductor is used.		
3-d	Check if grounding of the side/back panel is ensured. Check that the specific grounding accessory is used.		
3-e	Check bonding copper between ground conductor and main frame for its conformity to "PanelMaster Design and Application Rule Book".		
3-f	Check if the grounding of the ACB housing is ensured as described in ACB manual.		

PANELMASTER® CHECK-LIST

4 VERIFICATION OF THE INCORPORATION OF BUILT-IN COMPONENTS		PASSED/YES	FAILED/NO
4-a	Check that the electrical and mechanical characteristics of the switching devices used in the switchgear are as specified in the single line diagram and switchgear layout drawings. Visual and manual inspection shall be done.In case of doubt, manufacturer's installation manual may be studied.		
4-b	Check mechanical connections of switching devices, components used in the switchgear for their stability.		
4-c	Check the distance between ACB's top surface and nearest partition accessory. Check if the distance complies with the "PanelMaster Design and Application Rule Book". Indicate the value.		
4-d	Check that the control circuit is protected by NH type fuses or cartridge fuses with appropriate short circuit current protection level.		
4-e	Check that surge arresters are protected with a suitable short circuit NH fuse or cartridge fuse.		
4-f	Check that terminal block is used for all incoming and outgoing of the control circuit wiring.		
5 VERIFICATION OF THE INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS		**PASSED/YES**	**FAILED/NO**
5-a	Test one of each type of belleville washer used for copper connection bolts for its functionality and quality by applying clamp test described in "PanelMaster Design and Application Rule Book". Use new washer for testing.		
5-b	Check the tightening torque of three samples per each size of bolts (i.e M8, M10, M12) per switchgear section with the test torque as specified in "PanelMaster Design and Application Rule".		
5-c	Check presence of marking which shows that each bolt is torqued properly.		
5-d	If the main busbar conductor cross-section is selected according to the IP31 protection degree, check that the front doors are selected with ventilation slots (door types D1, D3, etc.). And check that EG HM ventilation modules are used for each section of the switchgear.		
5-e	Check the cross section of the main busbar with caliper, for its conformance to "PanelMaster Design and Application Rule Book" with regard to current rating indicated in single line diagram. Indicate the main busbar cross section.		
5-f	Check sizes and geometry of bolts and holes used for busbar connections for their conformance to "PanelMaster Design and Application Rule Book", visually and/or with caliper in case of doubt.		
5-g	Check cross sections of the conductors (cables, flexible busbars, solid busbars) used for electrical connections of circuit breakers for conformance to "PanelMaster Design and Application Rule Book" with regard to current ratings indicated in single line diagram.Check visually or with caliper in case of doubt. Indicate the cross section value.		
5-h	Check that flexible busbar applications conform to "PanelMaster Design and Application Rule Book".		
5-i	Check support spacing of the conductors used for the connection between built-in components, switching devices and main busbar for conformance to "PanelMaster Design and Application Rule Book" with respect to the short circuit current level. Indicate the phase to phase distance "a" and support to support distance "L".		
5-j	Check support spacing of the conductors used for the connection of built-in components and cable terminals, with respect to short circuit current, according to support table at "PanelMaster Design and Application Rule Book". Indicate support to support distance "A".		
5-k	Check support spacing of the conductors used for the connection of built-in components and busbar terminal connection for conformance to "PanelMaster Design and application Rule Book" with respect to short circuit current level. Indicate support to support distance "A".		
5-l	Check that solid busbars have no mechanical strain over bushing insulators by uninstalling sample bushing insulator, in case solid copper is used together with busbar bushing insulators at the connection between built-in components and main busbar.		
5-m	Measure conductivity of used busbar copper. Indicate the value.		
6 VERIFICATION OF THE TERMINALS FOR EXTERNAL CONDUCTOR		**PASSED/YES**	**FAILED/NO**
6-a	Check hole dimensions and terminal structure of outgoing terminals for conformance to "PanelMaster Design and Application Rule Book". And check if outgoing terminals are suitable for the number of outgoing cables to be connected.		
7 VERIFICATION OF THE MECHANICAL OPERATION		**PASSED/YES**	**FAILED/NO**
7-a	Check each front door lock system is working properly and easily lock-in at all locking points without additional effort.		
7-b	Check that sample cover plates can be easily opened/closed.		
7-c	Check each of withdrawable or plug-in electrical device, component individually by mechanically operating, and confirm that they are operating properly.		
8 VERIFICATION OF THE DIELECTRIC CHARACTERISTICS		**PASSED/YES**	**FAILED/NO**
8-a	Check results of "verification of dielectric property routine tests" based on IEC 61439-1 standard, for main circuits clause 10 and for auxiliary circuits clause 11, results should be positive.		
9 VERIFICATION OF CONNECTION, OPERATING PERFORMANCE AND FUNCTION		**PASSED/YES**	**FAILED/NO**
9-a	Check the presence of the label which shows Panel Builder's name or commercial title, switchgear manufacturing date, applied standard of the switchgear and a CE mark which shows the EC-Conformity.		
9-b	Check presence of following values in technical documentation, Equipment; Rated Voltage (Un), Rated Impulse Withstand Voltage (Uimp), Rated Current (InA) Equipment Circuit; Rated Operational Voltage (Ue), Rated Insulation Voltage (Ui), Rated current (Inc), Rated Peak Withstand Current (Ipk)		
9-c	Check presence of the necessary danger warning labels and identification labels at phase / neutral / ground busbars		

PANELMASTER® CHECK-LIST

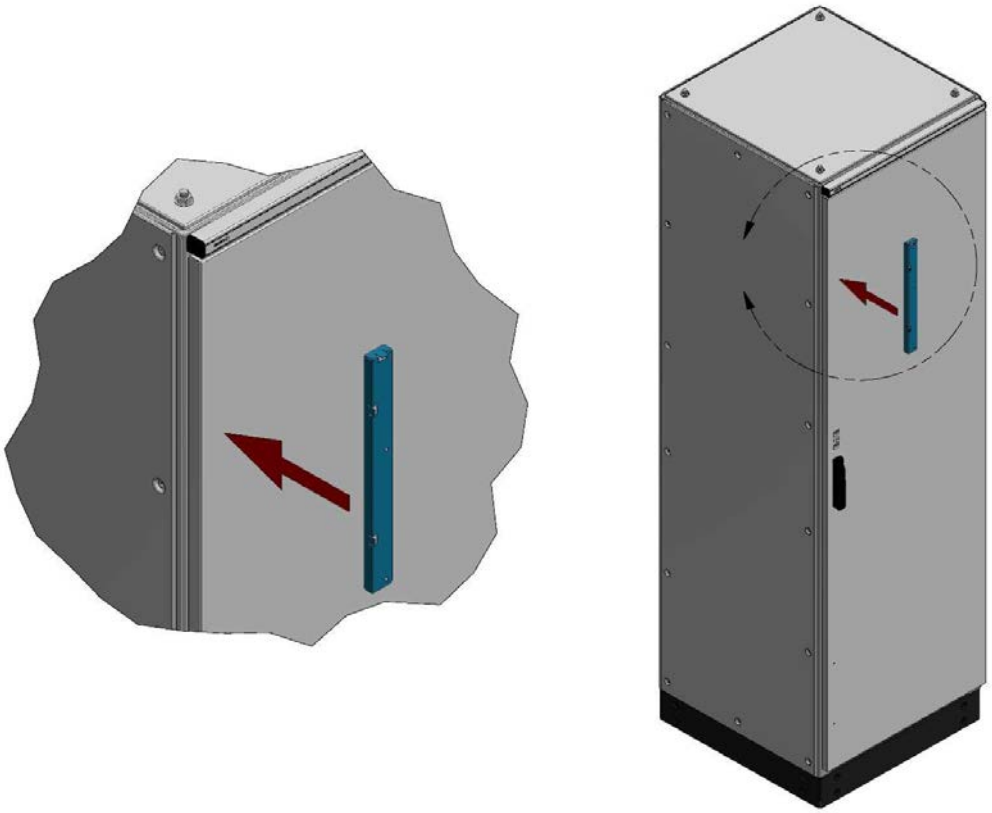
10 VERIFICATION OF SEISMIC PRECAUTIONS AND INTERNAL ARC PROTECTION		PASSED/YES	FAILED/NO
10-a	Check if passive internal arc protection accessories are installed in accordance with the “PanelMaster Design and Application Rule Book”, if passive internal arc protection is requested.		
10-b	Check if additional seismic base profiles are installed in accordance with the “PanelMaster Design and Application Rule Book”, if additional seismic protection is requested according to IEC 60068-3-3 aground over 0,66g.		
10-c	Check that EG HMT is used for each section with IP31 protection class.		
10-d	Check that EG AT 01 is used for each section with IP55 protection class, if seismic protection is requested according to IEC 60068 standard.		
11 ADDITIONAL CONDITIONS		**PASSED/YES**	**FAILED/NO**
11-a	Check that all cover plates are hinged type.		
11-b	Check that all breakers connections are covered with DF partition modules.		
11-c	Check that MCCB manufacturer’s original terminal covers are used on molded case circuit breakers, if required by form classification of the switchgear.		
11-d	Check that the solid copper busbar, if used for MCCB’s electrical connections either on supply side or load side is insulated, which remains live when the MCCB is in OFF position.		
11-e	Check that main busbar cross-section is not reduced and kept unchanged in all sections of the switchgear, if not indicated in switchgear single-line diagram.		
11-f	Check that molded case circuit breaker outgoings are separated with barriers, if required by form classification of the switchgear.		

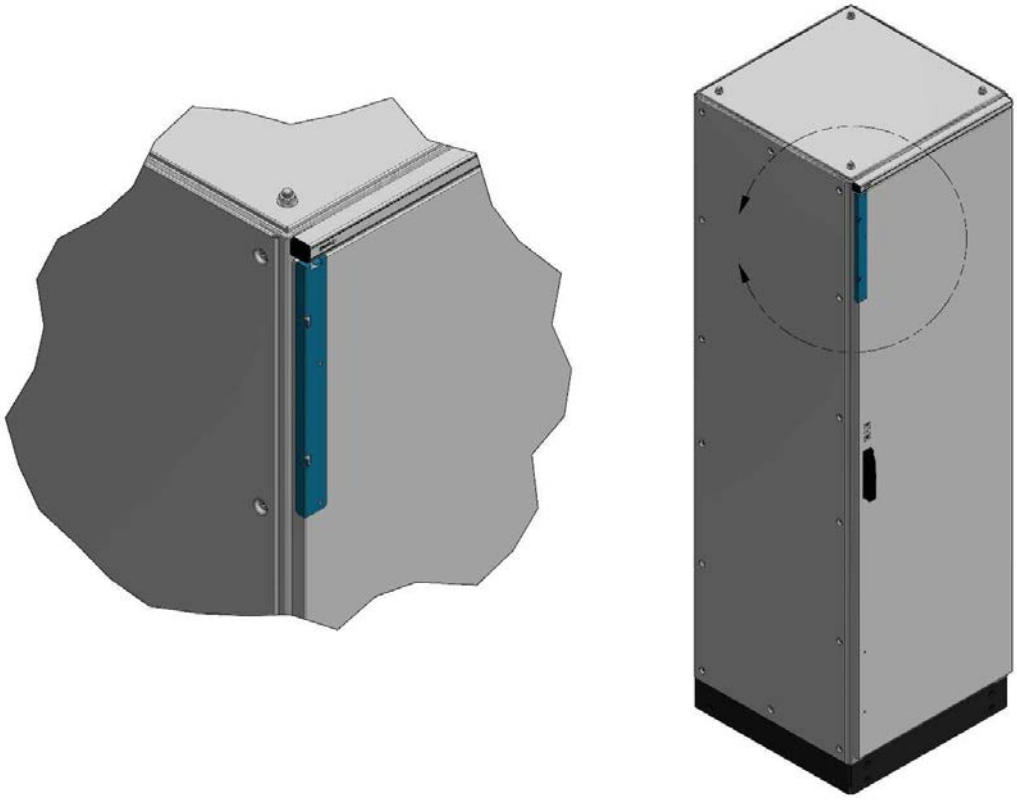
NOTES

CONTROLLED BY	Name - Surname Signiture	**APPROVED BY**	Name - Surname Signiture

PANELMASTER® FULL DOOR BADGE FIXING STEPS

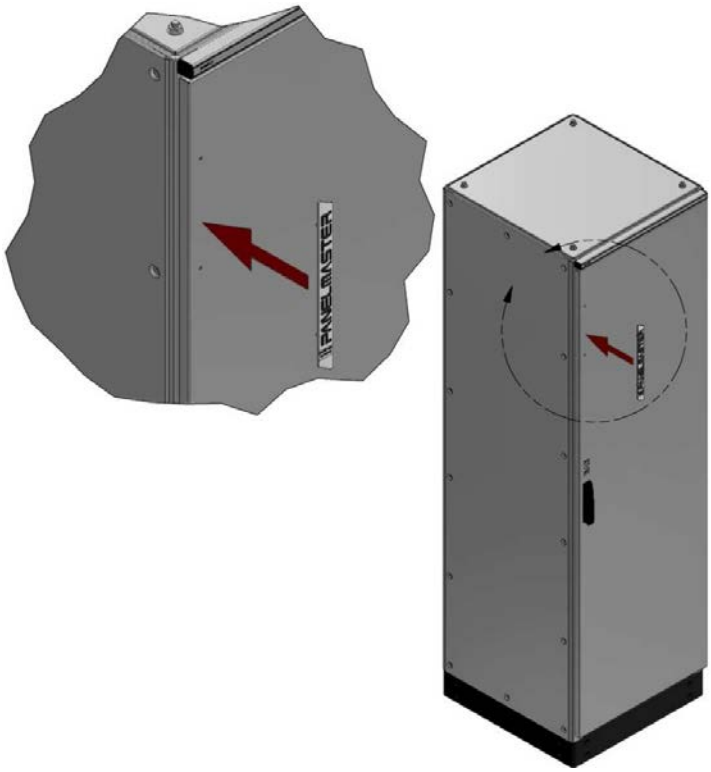
Step 1 : The PanelMaster badge fixing template is placed in the upper left corner (lock side) of the front door.

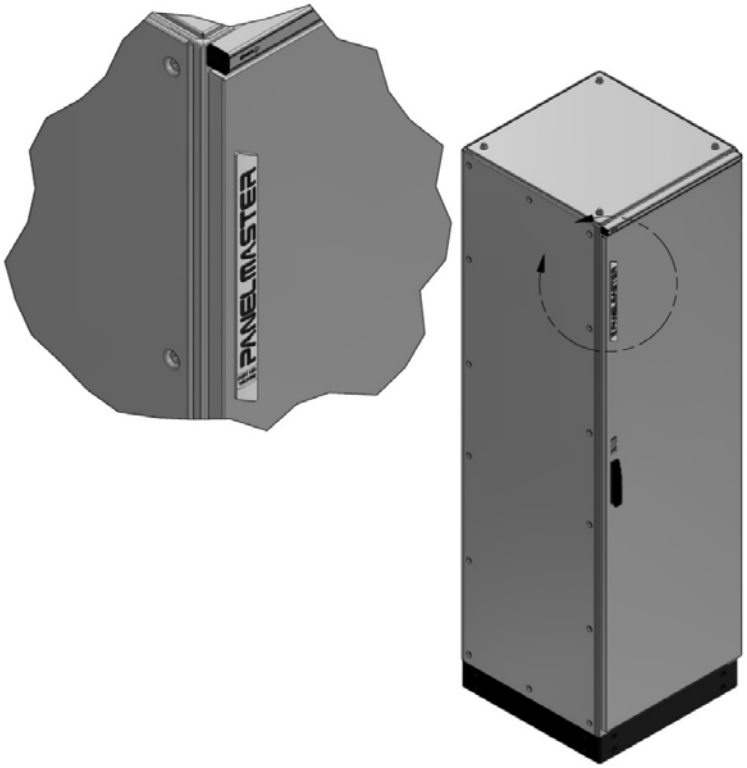




PANELMASTER® FULL DOOR BADGE FIXING STEPS

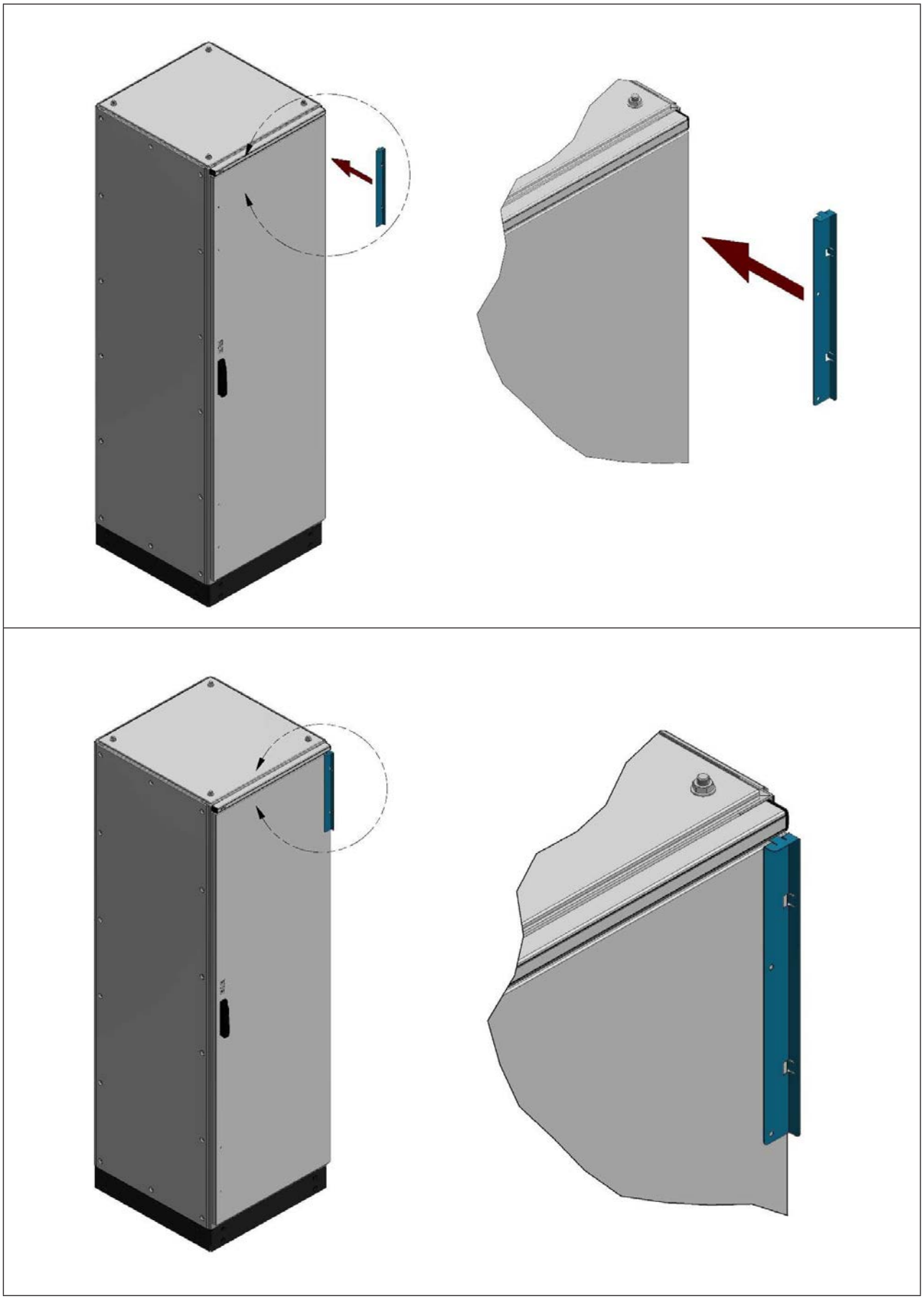
Step 2 : Necessary markings are to be made by using two Ø6,0 mm holes on the fixing template. Two Ø6,0 mm holes are to be drilled at marked points. After cleaning of drilled holes, the badge is placed in the drilled holes. Serial number shall be at bottom side.





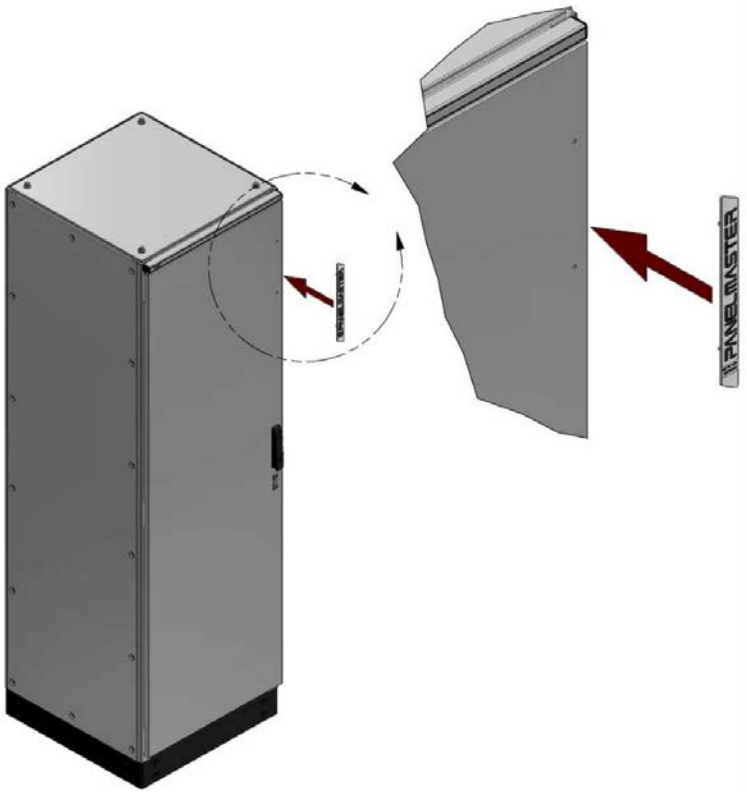
PANELMASTER® FULL DOOR BADGE FIXING STEPS

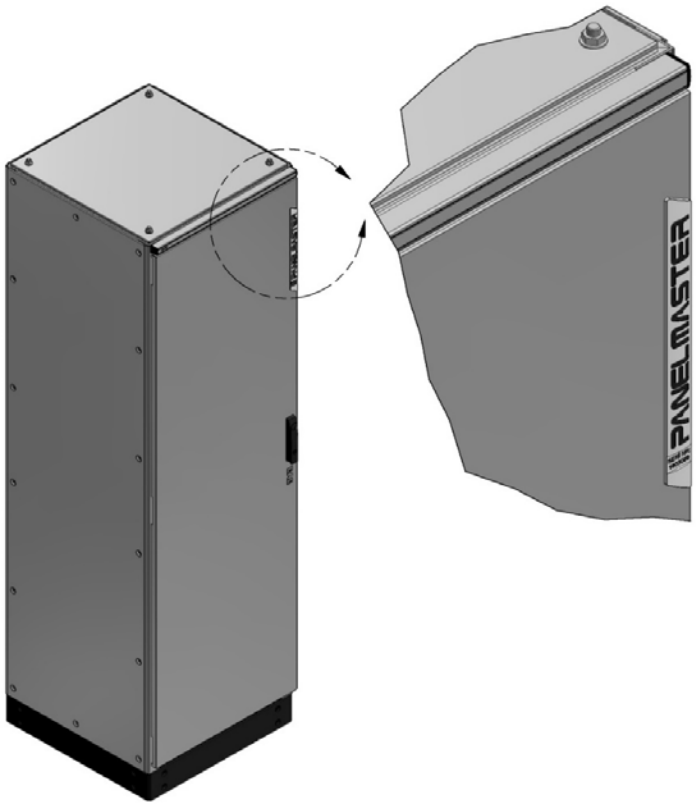
NOTE : If the front door lock is in the opposite side, the PanelMaster badge shall be fixed again on this side.
In this case, the back side of the badge fixing template will be used.



PANELMASTER® FULL DOOR BADGE FIXING STEPS

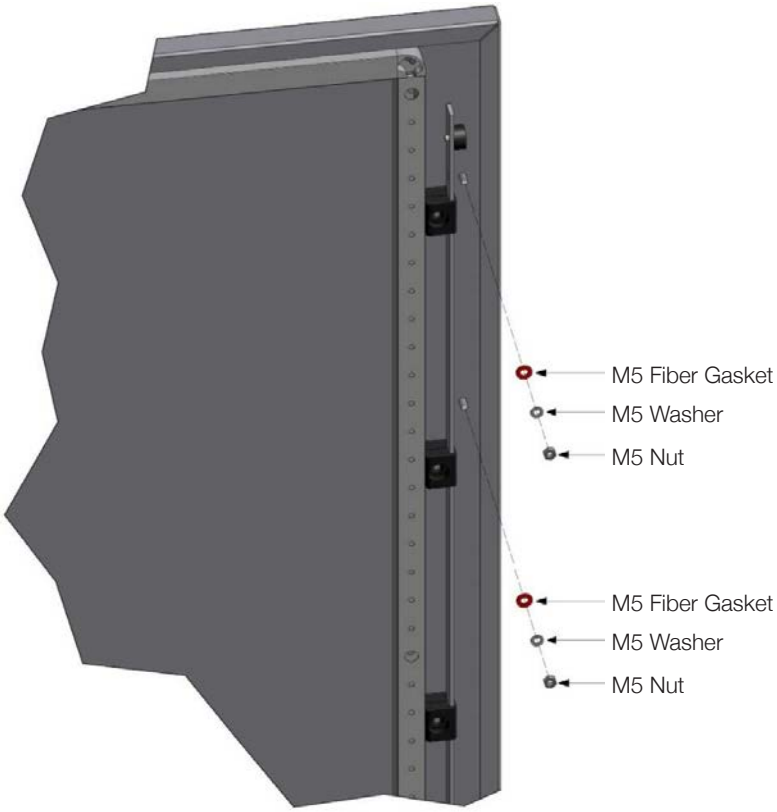
NOTE : Step 2 shall be applied for drilling and badge mounting.





PANELMASTER® FULL DOOR BADGE FIXING STEPS

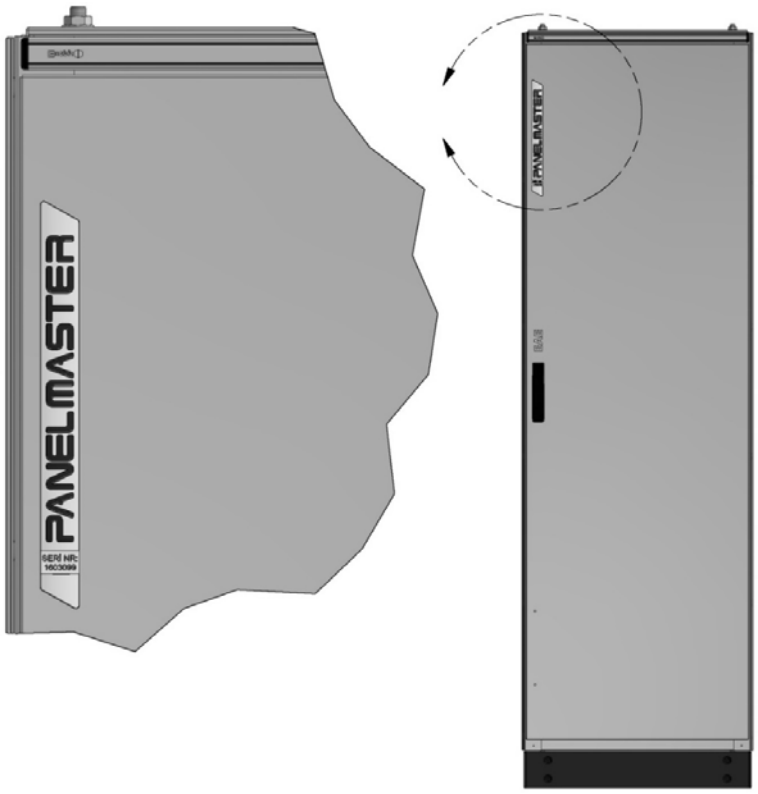
Step 3 : From the interior of the door, mounting is completed by fixing M5 fiber gasket, M5 washer and M5 nut in order.



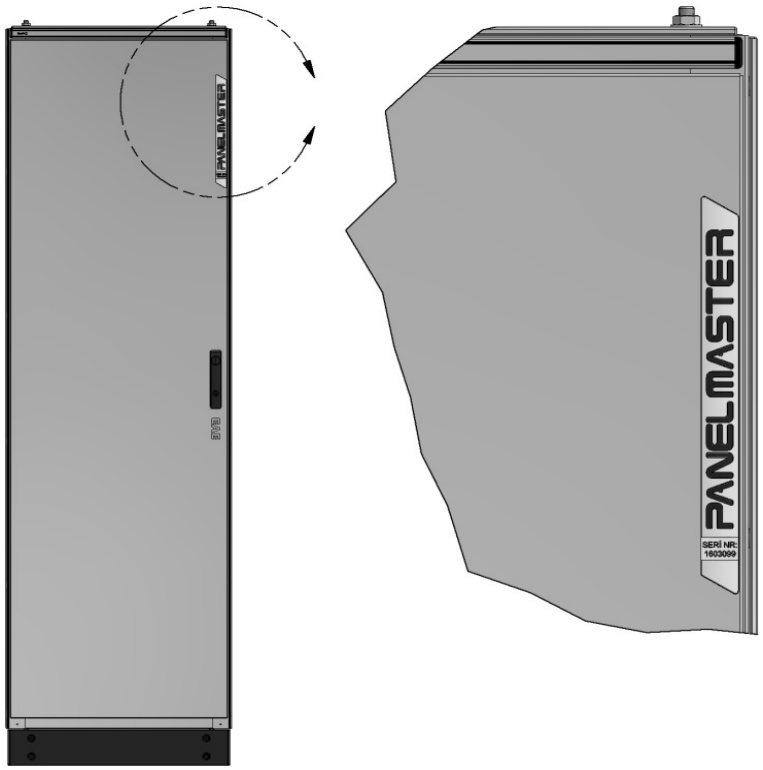


PANELMASTER® FULL DOOR BADGE FIXING STEPS

Sample 1 : Lock direction left.



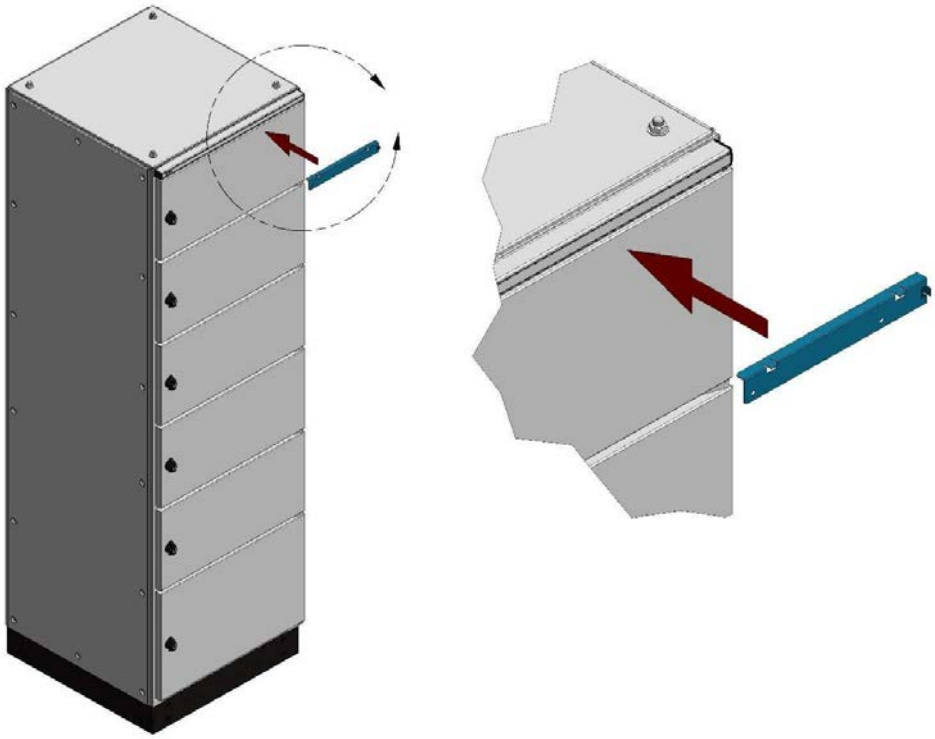
Sample 2 : Lock direction right.

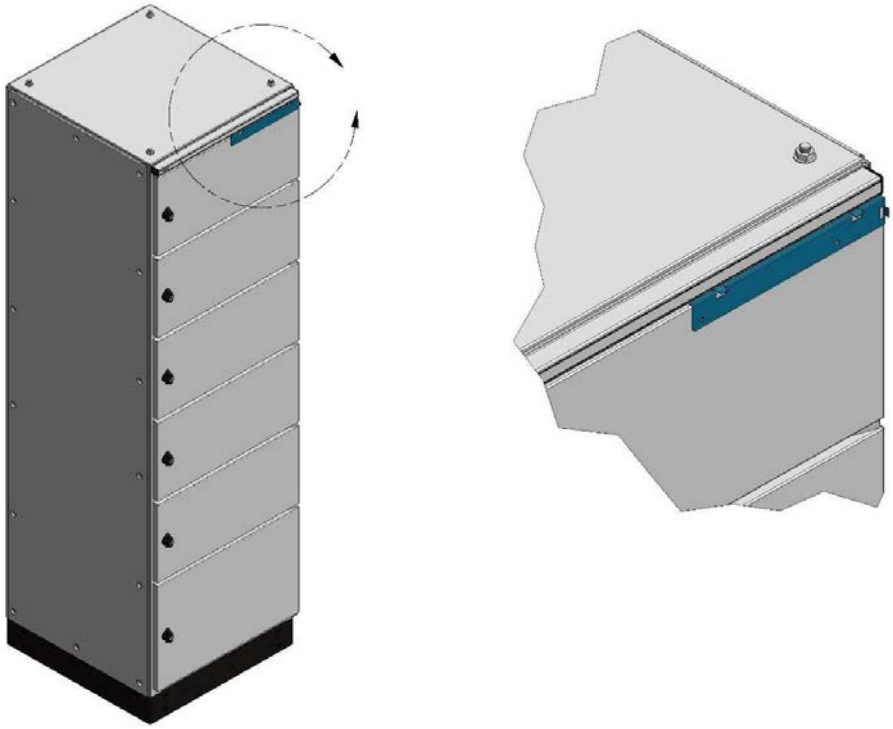


NOTE : The badges are not to be mounted on busbar section doors and cable section doors.

PANELMASTER® PARTIAL DOOR BADGE FIXING STEPS

Step 1 : The PanelMaster badge fixing template is to be is placed in the upper right corner (hinge side) of the partial door by taking care of having no gap on both perpendicular side surfaces. (Partial door and full door badge fixing templates are different from each other!)

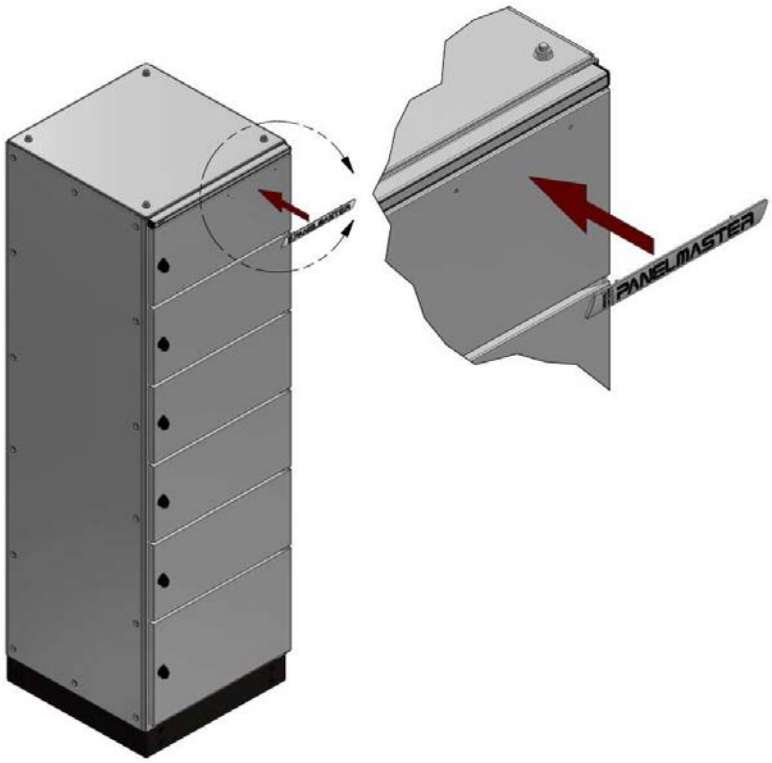


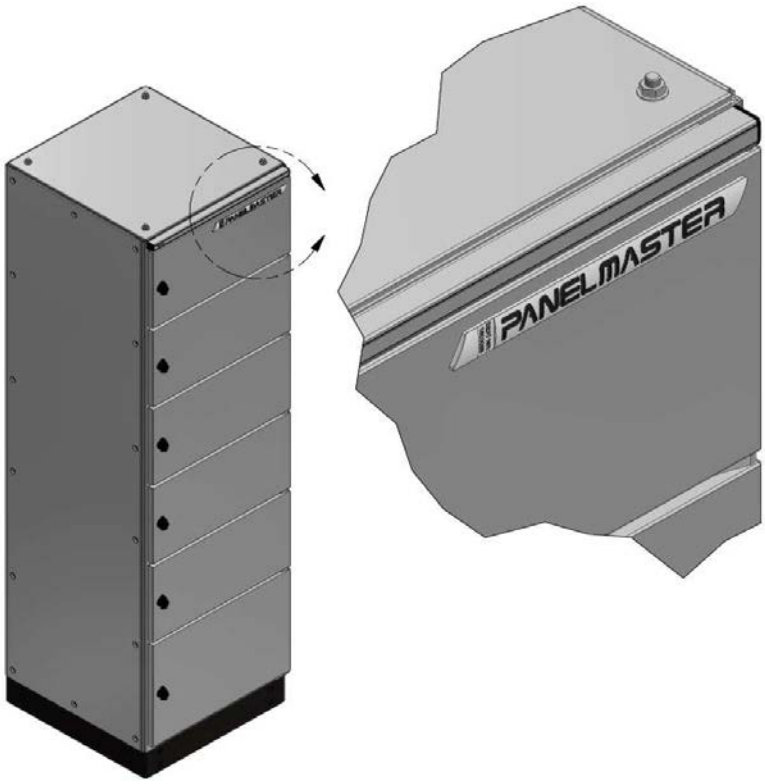


NOTE : If the partial doors opening directions are in the opposite direction, the PanelMaster badge must be installed on the hinge side of top door. In this case back side of the badge fixing template will be used.

PANELMASTER® PARTIAL DOOR BADGE FIXING STEPS

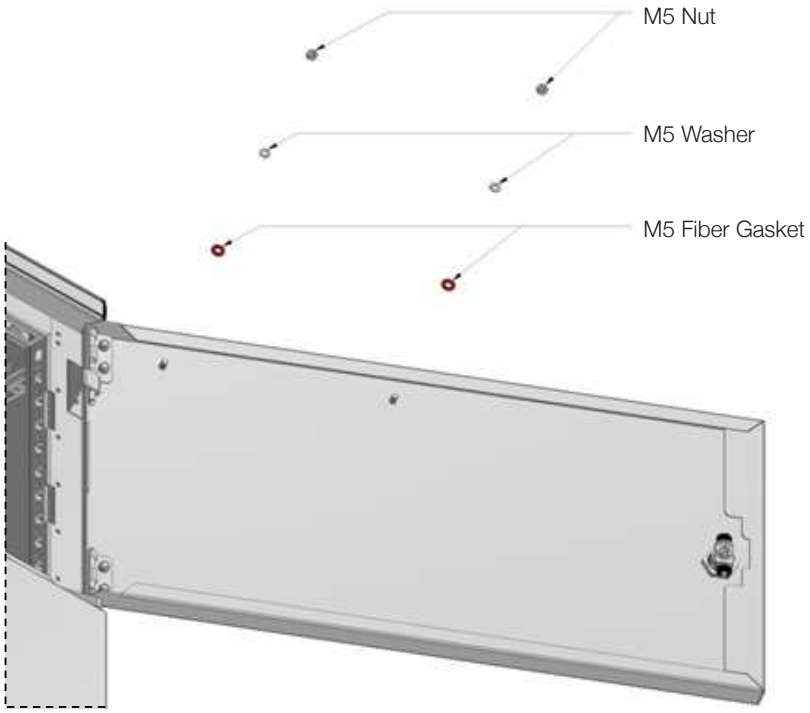
Step 2 : Necessary markings are to be made by using two Ø6,0 mm holes on the badge fixing template. Two ø6 holes are drilled at marked points. After cleaning of drilled holes, the badge is placed in the drilled holes. Serial number shall be at left side.

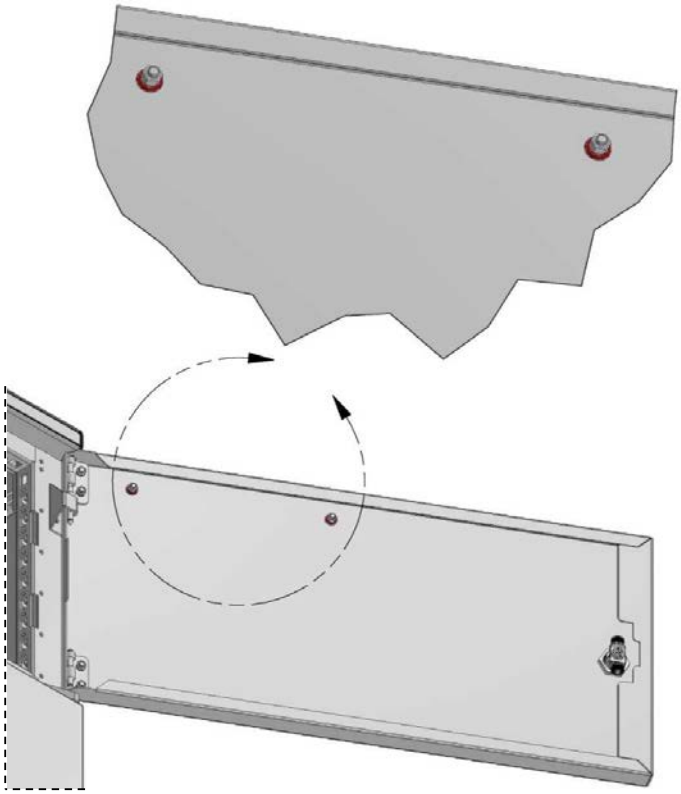




PANELMASTER® PARTIAL DOOR BADGE FIXING STEPS

Step 3 : From the interior of the door, mounting is completed by fixing M5 fiber gasket, M5 washer and M5 nut in order.





NOTE : The badges are not to be mounted on busbar section doors and cable section doors.

PANELMASTER® NETWORK FREQUENCY WITHSTAND VOLTAGE FOR CIRCUITS

TS EN 61439-1 Table 10 – Network frequency withstand voltage for main circuits (Item 10.9.2)		
Rated insulation voltage U_i (phase-phase a.c. or d.c.) V	**Dielectric test voltage a.a. effective V**	**Dielectric test voltage [b] d.c. V**
$U_i \leq 60$	1000	1415
$60 < U_i \leq 300$	1500	2120
$300 < U_i \leq 690$	1890	2670
$690 < U_i \leq 800$	2000	2830
$800 < U_i \leq 1000$	2200	3110
$1000 < U_i \leq 1500$ [a]	-	3820
[a] Only for d.c. [b] Test voltage based on IEC 60664-1 Item 4.1.2.3.1 third paragraph		

TS EN 61439-1 Table 11 – Network frequency withstand voltage for auxiliary or control circuits (Item 10.9.2)		
Rated withstand voltage U_i (phase-phase) V	**Dielectric test voltage a.a. effective V**	**-**
$U_i \leq 12$	250	-
$12 < U_i \leq 60$	500	-
$60 < U_i$	$2\ U_i + 1000$ Min 1500	-

PACKAGING, TRANSPORTATION AND STORAGE

General Information:

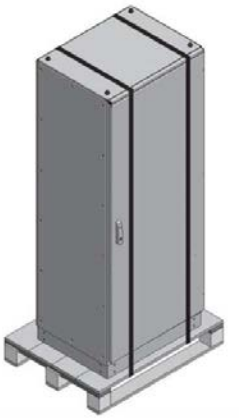
This manual only provides some of the various packaging, transport and storage options for your information. The packaging, transport and storage of PanelMaster panels can be carried out according to the information contained in this manual, unless a specific specification is given by customers.

Packaging:

All packaged products are subjected to vibration, pressure, as well as environmental effects, such as moisture, dust, dirt during transport. Packaging is done in order to reduce this effects. Considering all these factors, proper packaging ensures that the products arrive safely.

The material to be used for packaging (cardboard, wood, plywood, etc.) is determined according to the place of shipment and the selected transportation method. The packaging requirement of each order must be evaluated individually. When choosing packaging and pallets, attention must be paid to the correct size and sufficient robustness.

Basically, the packaging that can be applied for transportation operations, planned to be carried out by road within the country or short distances, given as follows:



- • Panels are placed on the pallet.
- • Device-mounted surfaces of panels are protected by adding styrofoam
- • All surfaces or edges of panels are protected by cardboard with appropriate thickness.
- • PE transparent foil is wrapped on the cardboard.
- • Then panels are fixed on pallets with help of plastic strips.

After packaging, the panels shall have the following minimum specifications.

- • Doors must be unable to open.
- • Panels shall be prevented from fall.
- • There shall be no protrusions such as busbar. Packaging shall be made as smooth as possible.
- • Packages shall have necessary labeling. Labels shall contain information identifying the identity of certain panel (order number, panel number, panel name, etc.) and panels shall be able to be identified without opening the package.
- • Lifting spot of the panels shall be easily detected. Also directional labeling, warning labels, etc. shall be on the package.

PACKAGING, TRANSPORTATION AND STORAGE

If the panel is very heavy or planned to be transported by ship, it is preferable to use wooden boxes to better protect it from impacts. Wooden boxes to be used shall comply with regulations of the destinated country. Necessary warning labels and information documents shall be on the package.

Priority shall be given to the use of recyclable and reusable materials for packaging. In some cases, fragile equipment can be disassembled and shipped separately to prevent damage during transport.

Transportation:

PanelMaster electrical panels can be transported as individual sections or in section sets up to 2250 mm width depending on site conditions. Panels shall be transported upright. Weights and center of gravity of the panels shall be considered during transportation. Detailed information on transport operations can be found in the document “E-Kabin Transport Instructions”.

Loading and unloading of panels can be done with crane or fork-lift.

Storage:

If panels are to be stored temporarily:

- Panel packages shall not be removed.
- Panels shall be stored vertically in a dry and dust-free indoor environment.
- Ensure that transport and storage environment complies with IEC 61439-1 clause 7.1.1.
- Condensation from sudden temperature changes shall be avoided.
- Panels shall not be stored outside closed areas.

Storage ambient conditions: (According to IEC 61439-1 Item 7.1.1)

Environmental parameter	**Unit**	**Indoor installations**	
		Lower limit	**Upper limit**
Ambient air temperature	°C	-5	+40 (average over a period of 24 h does not exceed 35 °C)
Relative humidity	%	5	95
Temperature change rate (average over a period of 5 min)	°C/min	0,5	
Altitude	m	Not specified	2000

If conditions during storage (temperature and humidity conditions) differ from those described above, special agreement must be made between panel manufacturer and customer.



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