

XL³

Efficient Distribution upto 4000A



DISTRIBUTION ENCLOSURES | SAFE AND TYPE TESTED

A complete solution for your distribution needs

be it residential, commercial, hospitality or industrial project





Enclosure with safety and flexibility

Today's fast growing businesses demand solutions that meet very high standards of quality and safety. Responding to these requirements of the market, Legrand introduces the new XL³ enclosure for the LV power distribution. With its extensive range, these enclosures meet your quality standards and provide real freedom and simplicity of installation.

The new XL³ range offers enclosures upto 4000 A. Available in 3 different widths and depths; it allows you to create the configuration you want. Since they are fully modular enclosures, there is no restriction

in terms of the space they occupy in an installation. They can be joined side by side or back to back to suit your requirements.

The freedom of distribution, either "standard or optimized", not only makes the assembly easy, but also enables you to save time during installation and maintenance.

These enclosures perfectly house the whole range of ACBs, MCCBs, Capacitors, MCBs, Metering devices and Other Modular products like VSP, MPCB etc offered by Legrand.

The XL³ range

4

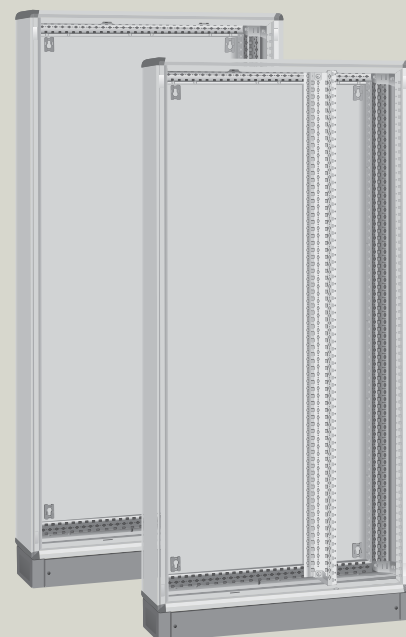
FOR ENCLOSURES UP TO 400 A

- IP 30 to IP 55 protection, IK 08
- 24 module capacity per row
- Reduced depth for optimum space saving
- Easy and reliable equipment installation due to the functional uprights integrated at the back of the cabinet
- Optimum use of wiring space: the cable sleeves can take DPX moulded case circuit breakers
- Possibility of joining (between 2 enclosures or between the enclosures and the cable sleeves) for greater wiring capacity
- Perfect finish and protection index IP 40 to IP 55 with the metallic or glass doors



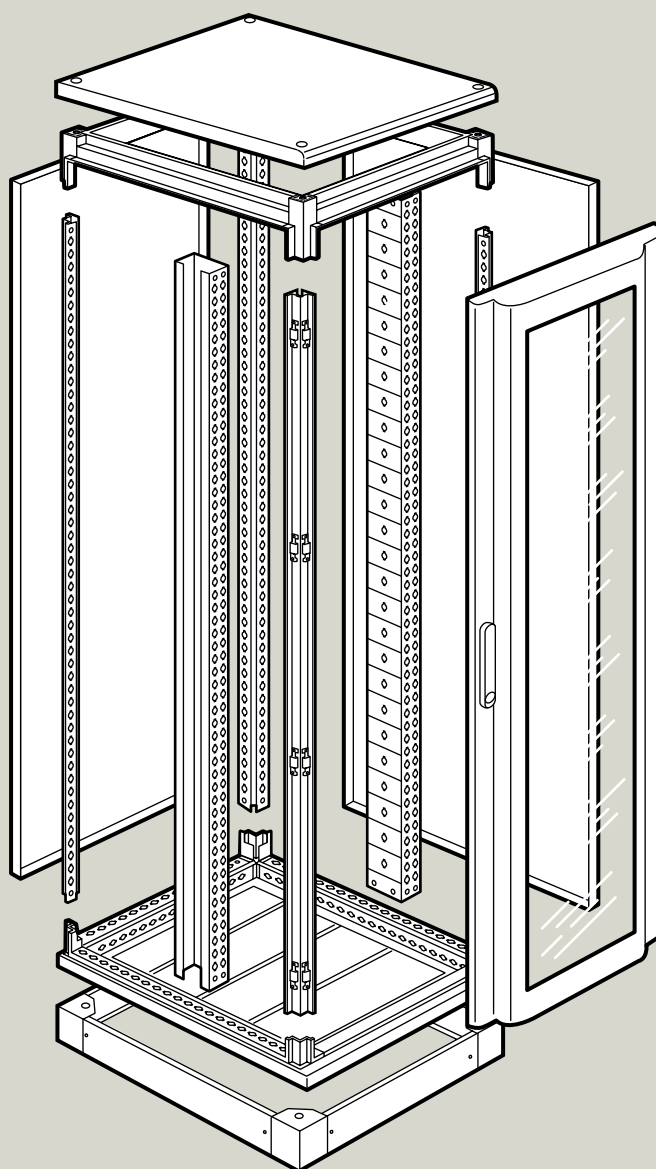
FOR ENCLOSURES UP TO 800 A

- IP 30 to IP 55 protection, IK 08
- 24 or 36 module capacity per row
- Easy and reliable equipment installation due to the functional uprights integrated at the back of the enclosure
- Optimum use of wiring space: the cable sleeves can take DPX moulded case circuit breakers
- Enclosures with 36 module capacity per row can integrate an internal cable sleeve (by moving to 24 modules per row)
- Possibility of joining (between 2 enclosures or between the enclosures and the cable ducts) for greater wiring capacity
- Perfect finish and protection index IP 40 to IP 55 with the metallic or glass doors
- All versions can be fitted with set of busbars at the side or at the back of the enclosure



FOR ENCLOSURES UP TO 4000 A

- IP 30 / IP 55 (with door and seal for joining)
- IK 08
- Fire resistance: 750°/30 s
- Short time withstand current I_{cw} : up to 110 kA (with 4000 A busbar)
- 3 widths
 - 475 mm
 - 725 mm
 - 975 mm
- Suitable for devices up to 4000 A
- 3 types of faceplate (¼ turn sealable, screw-mounting with or without hinge, with hinges and locks)
- Choice of distribution: standard or optimised
- Separation types: up to form 4b
- Colour: RAL 7035
- Conforms to standard IEC 61439-1

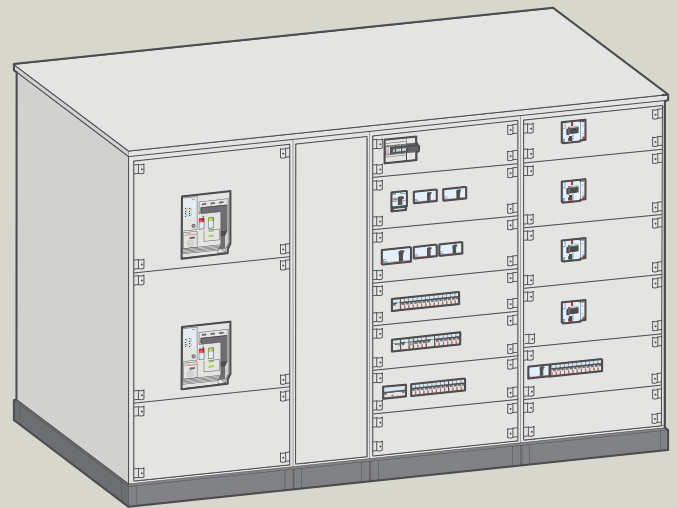


Reliability and safety

6

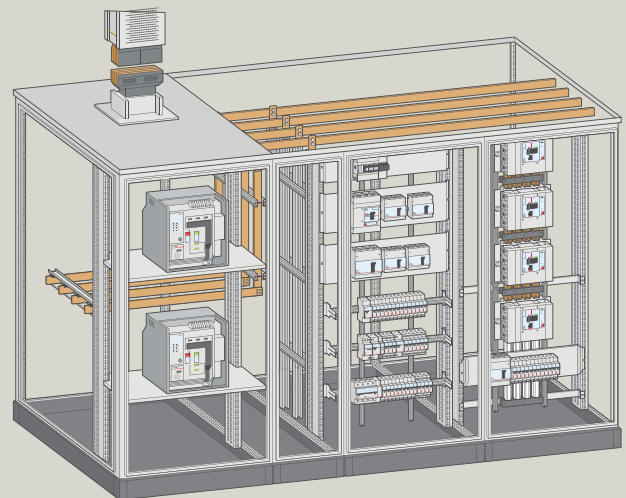
Fully type tested system as per IEC 61439-1

XL³ is tested as per IEC 61439-1 with Legrand breakers. It meets all the necessary quality standards and gives better reliability and safety.



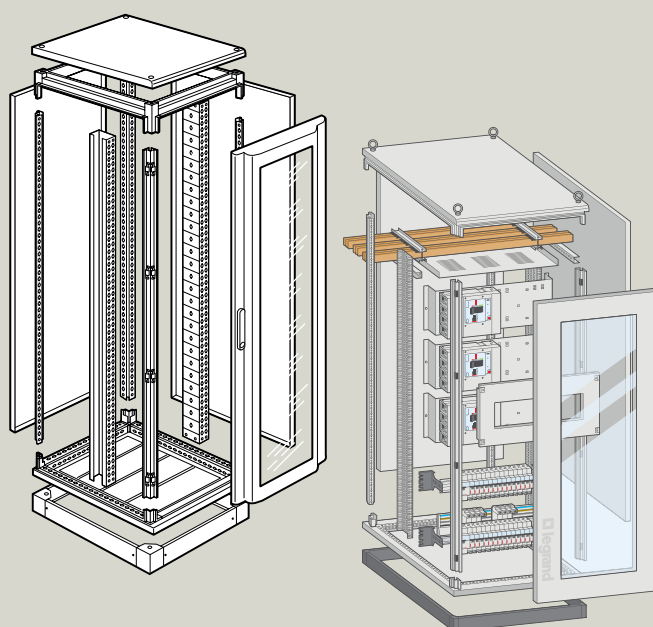
Short time current withstand capacity – 110 kA

The short time withstand capacity is 110 kA for 1 sec making the enclosure the most technical solution for all type of requirements and applications.



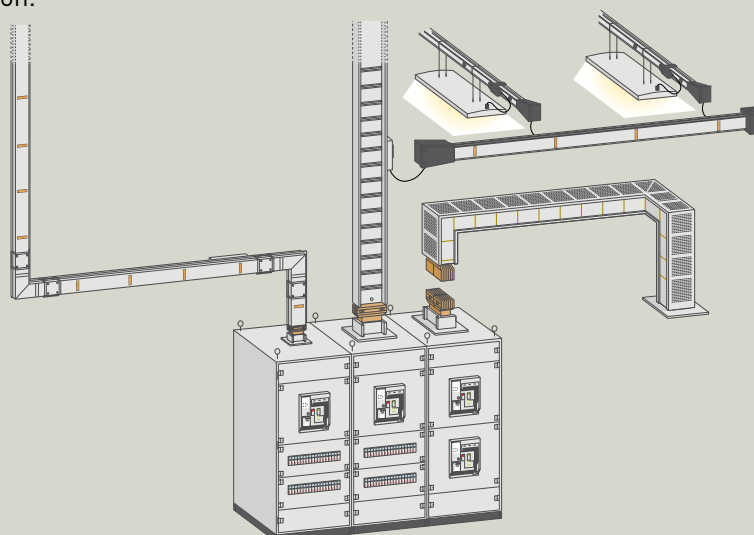
Completely bolted system for ease of assembly

The entire system is assembled with the help of bolts thus making its assembly fast. With this bolted system, various combinations can be possible and it also saves time during assembly, installation, maintenance and extension operations.



Design compatible with Zucchini busbar trunking system

Zucchini can be directly mounted on the top of the panel making entire solution an integrated solution.



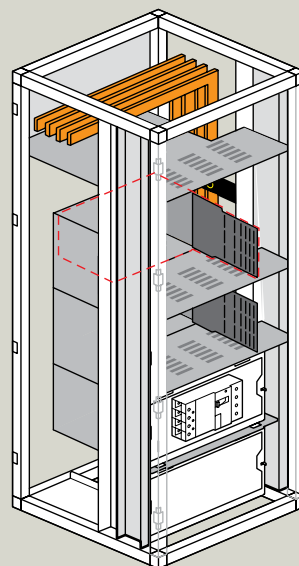
Flexibility & Adaptability

Modular design for numerous configurations as per requirements

Due to the modularity of the structure, it is possible to join enclosures side by side or back to back. Numerous configurations can therefore be created to meet the specific requirements of services areas. So, it is easy to make the configuration you want.

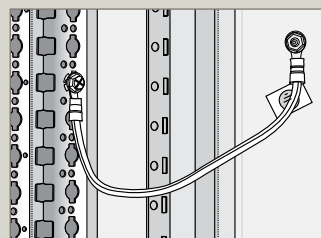
Design suitable for form 4b

The design is suitable for achieving form 4b thus making it a universal solution for all needs.

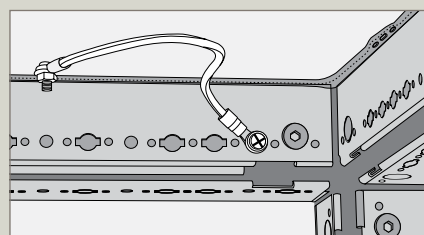
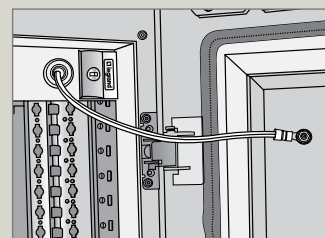


Permanent earthing for internal components as well as external faceplates

All metallic parts are permanently earthed making it safe for use during the operation. The uprights, doors, faceplates, side, back & top covers are earthed with earth link to the nearest earthing point. The earthing is not disconnected at any point of time during operation as well as during maintenance. It keeps the entire system equipotential.



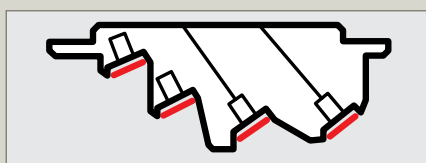
Internal earthing



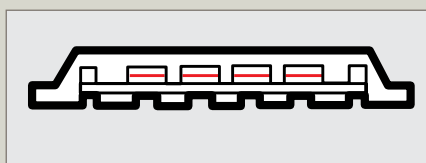
External earthing

Busbar supports of 5 types

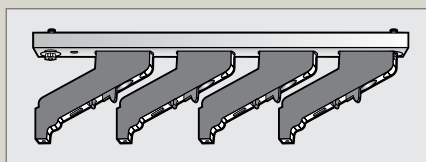
- a. ≤ 400 A
- b. ≤ 800 A
- c. ≤ 1000 A
- d. ≤ 1600 A
- e. ≤ 4000 A



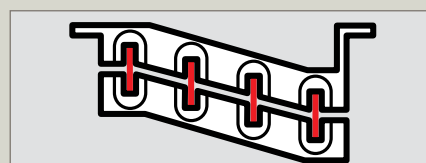
a



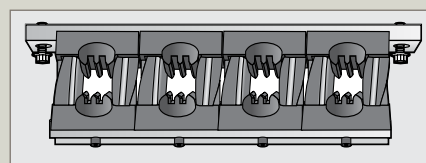
b



c



d



e



e

Busbar solution in Copper

System is available with Copper busbars.



Ease of Installation

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Adjustable cable gland plates

The wiring sleeves are provided at the bottom for all the cubicles with sliding plates. Sliding plates enable the size of the aperture to be adapted as per the size of the cable to be fed through.



Sliding plates enable the size of the aperture to be adapted to the quantity of cables to be fed through



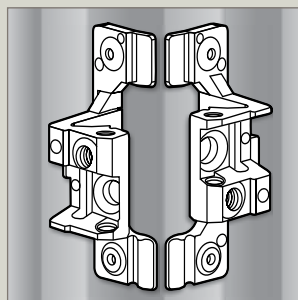
For bases whose width and depth are identical, the direction of the runners on the cable gland plate can be reversed



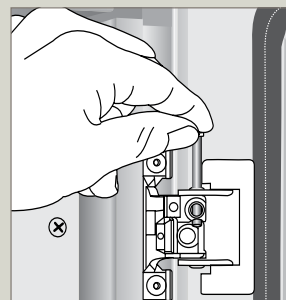
For enclosures whose width and depth are identical, the direction in which the compartment opens can be altered

Universal linking pieces to offer better flexibility

Linking pieces are used for mounting external doors for IP55, joining cubes and for mounting the side & back covers, thus making it universal.



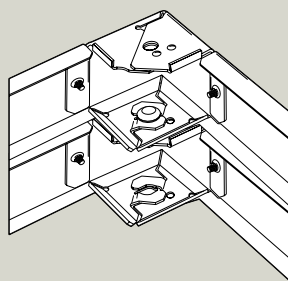
The linking pieces are also used for fixing panels and joining enclosures



Fitting the pin

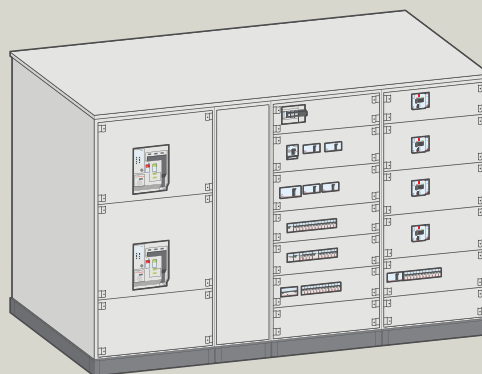
Adjustable plinth height for better spreading of cables

The plinth has got the height of 100 mm made of 4 corners and side plates. The side plates can be removed to make a path for cable entry. Plinths can be placed on top of each other for better spreading of the cables.



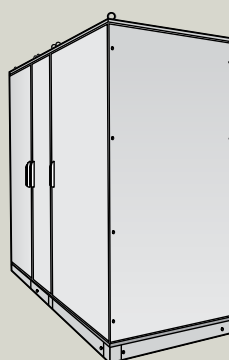
IP43 & IP55 degree of protection with IK08

Client can select the degree of protection as per the site needs thus not compromising on the safety parameters and the performance of the system.



IP55 solution with Metal as well as Glass door

Both metal and glass door options are available in IP55 offering wide variety of solution.



The rear panel and side panels can be replaced with doors



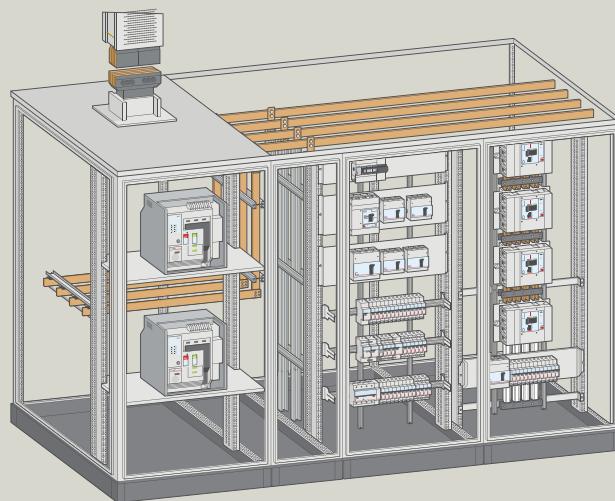
IP 55 protection is obtained by using a door

Freedom of configuration and distribution

Available in 3 sizes

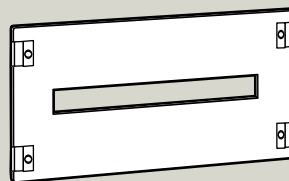
This allows you to create the configuration you want, according to your requirement and also enables you to accommodate it in the available space.

- a. Height – 1800 mm, 2000 mm & 2200 mm
- b. Depth – 475 mm, 725 mm & 975 mm
- c. Width - 475 mm, 725 mm & 975 mm

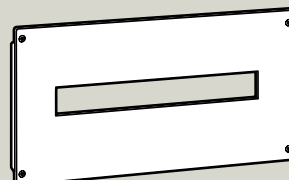


Faceplates of 3 types

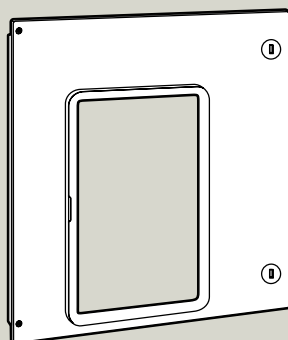
- a. ¼ turn sealable – Used for fixed type modular equipments
- b. Screw mounting w/o hinges – Used for non-openable equipments
- c. Screw mounting with hinges – Used for drawout type and openable equipments



These are specifically for fixed 24-module wide devices.



These are specifically for fixed 24-module and 36-module wide devices. They can be mounted on hinges (on the left or the right) for ease of working.



These are specifically for plug-in and draw-out devices in the DPX range, and all devices in the DMX³ range.

Various distribution options with standard busbars

XL³ 4000 enclosures offer you great freedom of choice for distribution. Numerous compositions of standard busbars enable all possible configurations up to 4000 A, in both enclosures and wiring sleeves

Standard distribution		
Standard busbars		Depth of enclosure (mm)
Horizontal main top or bottom		475
		725
		925
Horizontal transfer		725
		925
Lateral vertical in internal or external wiring sleeve		475
		725
		925
Lateral vertical in enclosure		725
		925
Vertical at the back of the enclosure		475
		725
		925
Horizontal at the back of the enclosure		475
		725
		925

flat copper bars selection

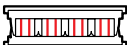
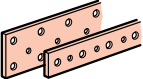
standard distribution

		≤ 400 A		≤ 800 A		≤ 1000 A			
Flat busbars supports									
Flat copper bars		Busbar current		Busbar current		Busbar current		Busbar current	
Busbar cross section (mm) (W x T)	Number of bars per pole / phase	I (A)		I (A)		I (A)		I (A)	
		IP30	IP43 / IP55	IP30	IP43 / IP55	IP30	IP43 / IP55	IP30	IP43 / IP55
18 x 4	1	245	200	245	200	245	200	-	-
25 x 4	1	280	250	-	-	-	-	-	-
25 x 5	1	330	270	330	270	330	270	-	-
32 x 5	1	450	400	450	400	450	400	-	-
50 x 5	1	-	-	-	-	700	630	700	630
	2	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-
63 x 5	1	-	-	-	-	800	700	800	700
	2	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-
75 x 5	1	-	-	-	-	-	-	950	850
	2	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-
80 x 5	1	-	-	-	-	-	-	1050	900
	2	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-
100 x 5	1	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-
125 x 5	1	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-
80 x 10	1	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-
100 x 10	1	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-
120 x 10	1	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-

Example : For current rating of 800 A, IP 43, panel
 Flat copper bear --> 75x5
 No of busbars / phase --> 1
 Busbar support --> 1600 A edgewise
 Busbar current capacity --> 850 A

Note: Above calculations are for copper busbars only with standard operating conditions like temperature, humidity etc.
 Busbar current to be derated as per the temperature and grade of the copper

Accuracy of dimensions = ± 2mm

			≤ 1600 A				≤ 4000 A			
Flat busbars supports			 Busbar mounting: edgewise		 Busbar mounting: flat		 Busbar mounting: edgewise		 Bus bar mounting: flat	
Flat copper bars	 Busbar cross section (mm) (W x T)	Number of bars per pole / phase	 I (A)		 I (A)		 I (A)		 I (A)	
			IP30	IP43 / IP55	IP30	IP43 / IP55	IP30	IP43 / IP55	IP30	IP43 / IP55
	18 x 4	1	-	-	-	-	-	-	-	-
	25 x 4	1	-	-	-	-	-	-	-	-
	25 x 5	1	-	-	-	-	-	-	-	-
	32 x 5	1	-	-	-	-	-	-	-	-
	50 x 5	1	700	630	430	350	700	630	500	420
		2	1150	1000	650	510	1180	1020	750	630
		3	-	-	-	-	1600	1380	1000	900
		4	-	-	-	-	2020	1720	1120	1000
	63 x 5	1	800	700	500	400	800	700	600	500
		2	1350	1150	770	590	1380	1180	750	630
		3	-	-	-	-	1900	1600	1100	1000
		4	-	-	-	-	2350	1950	1350	1200
	75 x 5	1	950	850	600	475	950	850	700	600
		2	1500	1300	890	700	1600	1400	1000	850
		3	-	-	-	-	2200	1900	1250	1100
		4	-	-	-	-	2700	2300	1600	1400
	80 x 5	1	1000	900	630	500	1000	900	750	630
		2	1650	1450	940	740	1700	1480	1050	900
		3	-	-	-	-	2350	2000	1300	1150
		4	-	-	-	-	2850	2400	1650	1450
	100 x 5	1	1250	1050	750	580	1250	1050	850	700
		2	1900	1600	1120	900	2050	1800	1200	1050
		3	-	-	-	-	2900	2450	1600	1400
		4	-	-	-	-	3500	2900	1900	1650
	125 x 5	1	-	-	-	-	1450	1270	1000	800
		2	-	-	-	-	2500	2150	1450	1250
		3	-	-	-	-	3450	2900	1800	1600
		4	-	-	-	-	4150	3450	2150	1950
	80 x 10	1	-	-	-	-	1460	1270	1150	950
		2	-	-	-	-	2500	2150	1700	1500
		3	-	-	-	-	3450	2900	2500	2000
	100 x 10	1	-	-	-	-	1750	1500	1350	1150
		2	-	-	-	-	3050	2550	2000	1650
		3	-	-	-	-	4150	3500	2900	2400
	120 x 10	1	-	-	-	-	2000	1750	1650	1450
		2	-	-	-	-	3600	2950	2500	2000
		3	-	-	-	-	4800	4000	3500	3000

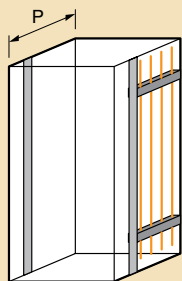
Busbar support

fitting the distribution systems

■ Standard distribution

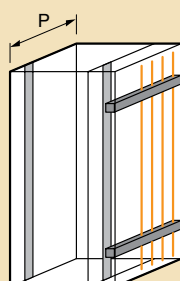
In < 800 A: Support

4 possibilities for assembly



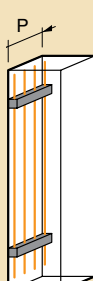
P = 975 / 725 mm

Lateral in enclosure



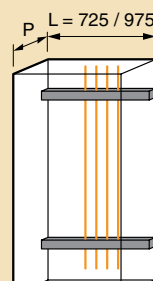
P = 975 / 725 / 475 mm

Lateral in internal wiring sleeve



P = 975 / 725 / 475 mm

Lateral in external wiring sleeve



P = 975 / 725 / 475 mm

At the back of the enclosure

■ Selection of bars

Bars Cross-section (mm)	I (A)	
	IP < 30	IP > 30
25 x 5	330	270
32 x 5	450	400
50 x 5	700	630
63 x 5	800	700

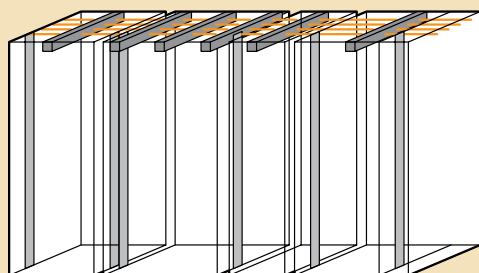
■ Maximum distance (in mm) between the supports according to the peak current (I_{pk})

Bars	25 x 5	32 x 5	50 x 5	63 x 5
I _{pk} (kA)	10	800	900	
	15	600	600	800
	20	450	500	700
	25	350	400	550
	30	300	400	450
	35	250	300	400
	40	200	250	300
	45	200	225	250
	50	150	200	200
	60	125	150	150
	70	100	150	150
	80			100

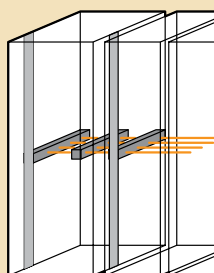
■ Standard distribution

In < 1600 A: support

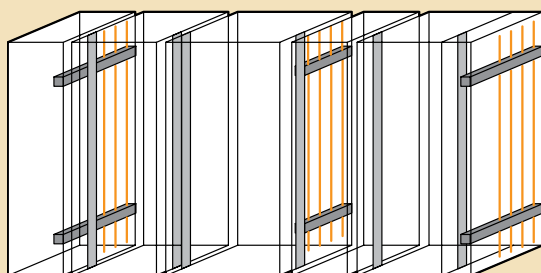
4 possibilities for assembly



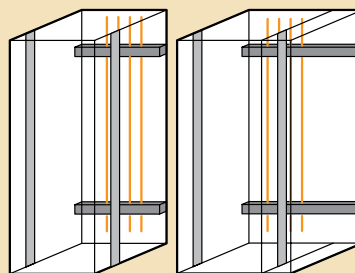
Top or bottom horizontal main busbar⁽¹⁾



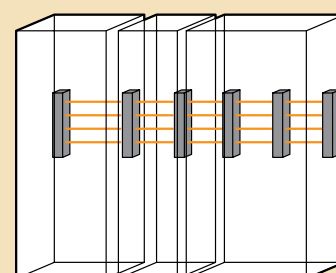
Transfer busbar



Side-mounted vertical busbars



Vertical busbar at the back



Main busbar at the back

Note: Above calculations are for copper busbars only

Accuracy of dimensions = ± 2mm

Busbar support

fitting the distribution systems (continued)

■ Selection of bars

Bars	I (A)							
	1 bar per pole				2 bars per pole			
	edgewise		flat		edgewise		flat	
Cross-section (mm)	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30
50 x 5	700	630	430	350	1150	1000	650	510
63 x 5	800	700	500	400	1350	1150	770	590
75 x 5	950	850	600	475	1500	1300	890	700
80 x 5	1000	900	630	500	1650	1450	940	740
100 x 5	1200	1050	750	580	1900	1600	1120	900

■ Maximum distance (in mm) between the supports according to the peak current (I_{pk})

I _{pk} (kA)	1 bar per pole					2 bars per pole				
	50 x 5	63 x 5	75 x 5	80 x 5	100 x 5	50 x 5	63 x 5	75 x 5	80 x 5	100 x 5
10	1000	1200	1200	1200	1200					
15	800	900	1000	1000	1200					
20	650	700	750	750	900					
25	500	600	600	600	700					
30	400	500	550	550	600	700	800			
35	350	450	450	450	550					
40	300	350	400	400	450	550	600	650	650	700
45	300	300	350	350	400					
50	250	250	300	300	350	450	500	500	500	550
60	200	250	250	250	300	350	400	400	400	450
70	150	200	250	250	250	250	350	350	350	400
80	100	150	200	200	200	250	300	300	300	300
90	100	150	200	200	200	200	250	300	300	300
100	100	150	150	150	150	200	200	250	250	250
110	100	100	150	150	150	150	200	200	200	200
120	100	100	100	100	100	150	150	200	200	200

Note: Above calculations are for copper busbars only

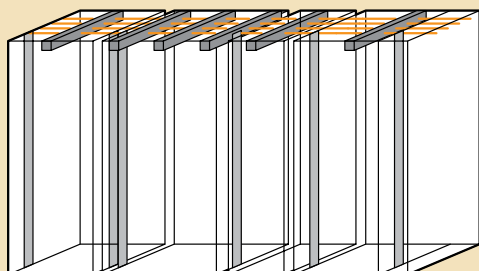
Accuracy of dimensions = ± 2mm

Busbar support

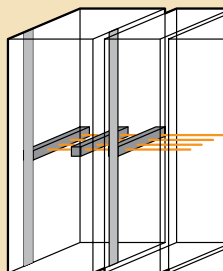
fitting the distribution systems (continued)

$I_n < 4000 \text{ A}$

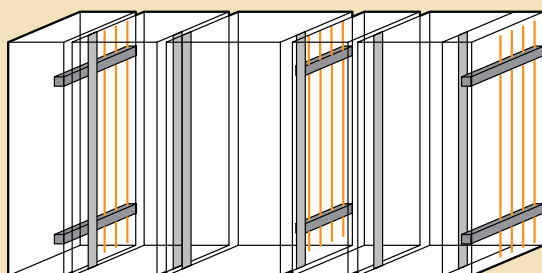
4 possibilities for assembly



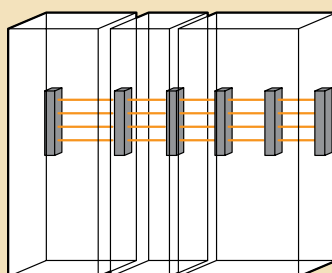
Top or bottom horizontal main busbar⁽¹⁾



Transfer busbar⁽²⁾



Side-mounted vertical busbars



Main busbar at the back

■ Selection of 5 mm thick bars

Bars	I (A)							
	1 bar per pole				2 bars per pole			
	edgewise		flat		edgewise		flat	
Cross-section (mm)	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30
50 x 5	700	630	500	420	1180	1020	750	630
63 x 5	800	700	600	500	1380	1180	750	630
75 x 5	950	850	700	600	1600	1400	1000	850
80 x 5	1000	900	750	630	1700	1480	1050	900
100 x 5	1200	1050	850	700	2050	1800	1200	1050
125 x 5	1450	1270	1150	950	2500	2150	1450	1250

Note: Above calculations are for copper busbars only

Accuracy of dimensions = ± 2mm

Busbar support

fitting the distribution systems (continued)

■ Maximum distance (in mm) between the supports according to the peak current (I_{pk})

I _{pk} (kA)	1 bar per pole					2 bars per pole				
	50 x 5	63 x 5	75 x 5 80 x 5	100 x 5	125 x 5	50 x 5	63 x 5	75 x 5 80 x 5	100 x 5	125 x 5
10	1550	1700	1700	1700	1700	1700	1700	1700	1700	1700
15	1050	1200	1350	1550	1700	1550	1700	1700	1700	1700
20	800	900	1000	1150	1350	1200	1350	1500	1700	1550
25	650	750	800	950	1100	950	1100	1200	1400	1100
30	550	600	700	800	900	800	900	1000	1150	1350
35	450	550	600	650	800	700	800	900	1000	1150
40	400	450	550	600	700	600	700	800	900	1000
45	350	400	450	550	600	550	600	700	800	900
50	350	350	450	500	550	500	550	650	700	800
60	300	300	350	400	450	400	450	550	600	700
70	250	250	300	350	400	350	400	450	500	650
80		250	250	300	350	300	350	400	450	550
90			250	250	300	300	300	350	400	500
100				250	300	250	300	300	350	500
110				250	250	250	250	300	350	450
120					250		250	250	300	450
130					250			250	300	400
140								250	250	400
150									250	350
160									250	350
170										350
180										300
190										
200										
210										
220										

Note: Above calculations are for copper busbars only

Busbar support
fitting the distribution systems (continued)

■ Selection of 5 mm thick bars

Bars	I (A)							
	3 bar per pole				4 bars per pole			
	edgewise		flat		edgewise		flat	
Cross-section (mm)	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30
50 x 5	1600	1380	1000	900	2020	1720	1120	1000
63 x 5	1900	1600	1100	1000	2350	1950	1350	1200
75 x 5	2200	1900	1250	1100	2700	2300	1600	1400
80 x 5	2350	2000	1300	1150	2850	2400	1650	1450
100 x 5	2900	2450	1600	1400	3500	2900	1900	1650
125 x 5	3450	2900	1800	1600	4150	3450	2150	1950

■ Maximum distance (in mm) between the supports according to the peak current (Ipk)

Ipk (kA)	3 bar per pole					4 bars per pole				
	50 x 5	63 x 5	75 x 5 80 x 5	100 x 5	125 x 5	50 x 5	63 x 5	75 x 5 80 x 5	100 x 5	125 x 5
10	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
15	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
20	1550	1700	1700	1700	1700	1700	1700	1700	1700	1700
25	1250	1450	1600	1700	1700	1550	1700	1700	1700	1700
30	1050	1200	1350	1550	1700	1300	1500	1700	1700	1700
35	900	1050	1150	1300	1500	1150	1250	1450	1650	1700
40	800	900	1050	1150	1300	1000	1100	1300	1450	1650
45	700	800	900	1050	1200	900	1000	1150	1300	1450
50	650	750	850	950	1050	800	900	1050	1150	1350
60	550	600	700	800	900	650	750	850	1000	1100
70	450	550	600	700	750	600	650	750	850	950
80	400	450	550	600	700	500	600	650	750	850
90	350	400	500	550	600	450	500	600	650	750
100	350	400	450	500	550	400	450	550	600	700
110	300	350	400	450	500	350	450	500	550	600
120	300	300	350	400	450	350	400	450	550	550
130	250	300	350	350	400	300	350	400	500	550
140	250	250	300	350	400	300	350	400	450	500
150	250	250	300	350	350	300	300	350	400	450
160		250	250	300	350	250	300	350	400	350
170		250	250	300	350	250	300	300	350	300
180			250	300	300	250	250	300	350	300
190			250	250	300	250	250	300	300	250
200				250	300		250	250	300	250
210				250	250		250	250	250	200
220				250	250			250	250	200

Note: Above calculations are for copper busbars only

Busbar support

fitting the distribution systems (continued)

■ Selection of 10 mm thick bars

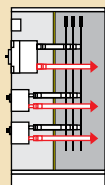
Bars	I (A)											
	1 bar per pole				2 bars per pole				3 bars per pole			
	edgewise		flat		edgewise		flat		edgewise		flat	
Cross-section (mm)	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30	IP ≤ 30	IP > 30
80 x 10	1460	1270	1150	950	2500	2150	1700	1500	3450	2900	2500	2000
100 x 10	1750	1500	1350	1150	3050	2550	2000	1650	4150	3500	2900	2400
120 x 10	2000	1750	1650	1450	3600	2920	2500	2000	4800	4000	3500	3000

■ Maximum distance (in mm) between the supports according to the peak current (Ipk)

Ipk (kA)	1 bar per pole			2 bars per pole			3 bars per pole		
	80 x 10	100 x 10	120 x 10	80 x 10	100 x 10	120 x 10	80 x 10	100 x 10	120 x 10
20	1700	1700	1700	1700	1700	1700	1700	1700	1700
25	1600	1700	1700	1700	1700	1700	1700	1700	1700
30	1350	1550	1700	1700	1700	1700	1700	1700	1700
35	1150	1300	1450	1700	1700	1700	1700	1700	1700
40	1050	1150	1300	1500	1700	1700	1700	1700	1700
45	900	1050	1150	1350	1550	1700	1700	1700	1700
50	850	950	1050	1200	1400	1550	1600	1700	1700
60	700	800	850	1000	1150	1300	1350	1550	1700
70	600	700	750	900	1000	1100	1150	1300	1500
80	550	600	650	750	900	1000	1000	1150	1300
90	500	550	600	700	800	900	900	1050	1100
100	450	500	550	600	700	800	850	900	950
110	400	450	500	550	650	750	750	800	800
120	350	400	450	550	600	650	700	750	750
130	350	350	400	500	550	600	650	700	700
140	300	350	400	450	500	600	600	650	650
150	300	350	350	450	500	550	550	650	600
160	250	300	350	400	450	500	550	600	500
170	250	300	300	350	450	500	500	500	500
180	250	300	300	350	400	450	500	450	450
190	250	250	300	350	400	450	450	400	400
200	200	250	300	300	350	400	450	400	400
210	200	250	250	300	350	350	400	350	350
220		250	250	300	350	300	350	300	300
230		200	250	300	300	300	300	300	300
240			200	250	300	250	300	250	250
250			200	250	300	250	250	250	250

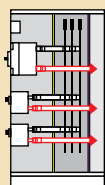
Note: Above calculations are for copper busbars only

■ Definitions (standard IEC 61439-2)



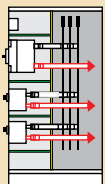
Form 2a

Separation of the busbars from the functional units
The terminals for external conductors do not need to be separated from the busbars



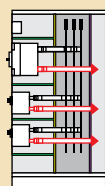
Form 2b

Separation of the busbars from the functional units
The terminals for external conductors are separated from the busbars



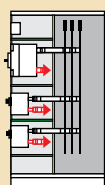
Form 3a

Separation of the busbars from the functional units,
separation of the terminals for external conductors from the functional units and separation of all the functional units from one another
The terminals for external conductors do not need to be separated from the busbars



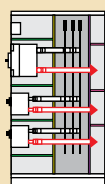
Form 3b

Separation of the busbars from the functional units and separation of all the functional units from one another
Separation of the terminals for external conductors from the functional units but not from each other
The terminals for external conductors do not need to be separated from the busbars



Form 4a

Separation of the busbars and the functional units and separation of all the functional units from one another, including the terminals for external conductors which are an integral part of the functional unit
The terminals for external conductors are in the same compartment as the functional unit
The terminals for external conductors are separated from the busbars

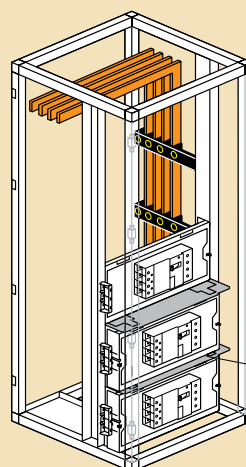


Form 4b

Separation of the busbars and the functional units and separation of all the functional units from one another, including the terminals for external conductors
The terminals for external conductors are not in the same compartment as the functional unit, but in individual, separate compartments

■ Rear terminals construction

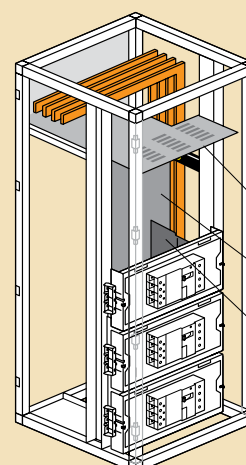
Form 2a



Form 2a is simply obtained by using adjustable horizontal plates
DPX must have rear terminals
The busbar must be installed behind the functional uprights
If the addition of further equipment in the enclosure is required, use solid plates
When there is a gap between 2 plates, horizontal divider must be used to prevent any contact with the rear busbar

Horizontal partitioning to fill the space between the plates

Form 2b



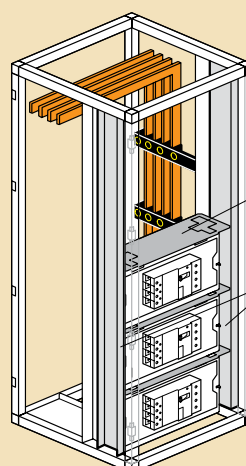
Separation of the busbars from the functional units
The terminals for external conductors are separated from the busbars
The vertical busbar is placed behind the functional uprights
The devices must be horizontal and with rear terminal connection

Horizontal busbar partitioning

Horizontal rear busbars partitioning

Divider for rear terminals

Form 3a



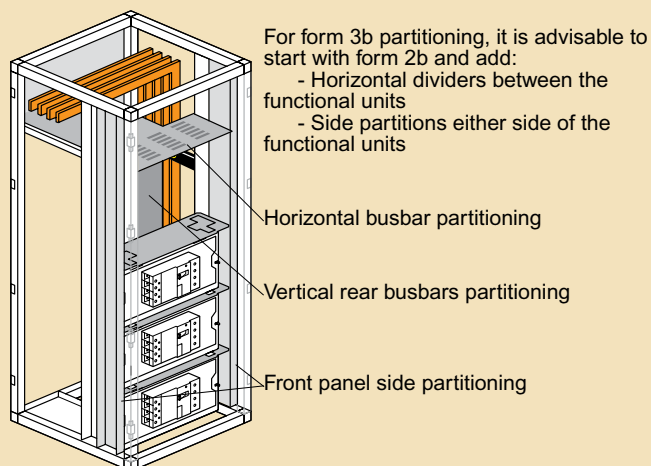
Form 3a is obtained from form 2a by adding horizontal dividers and front panel total dividers

Horizontal partitioning

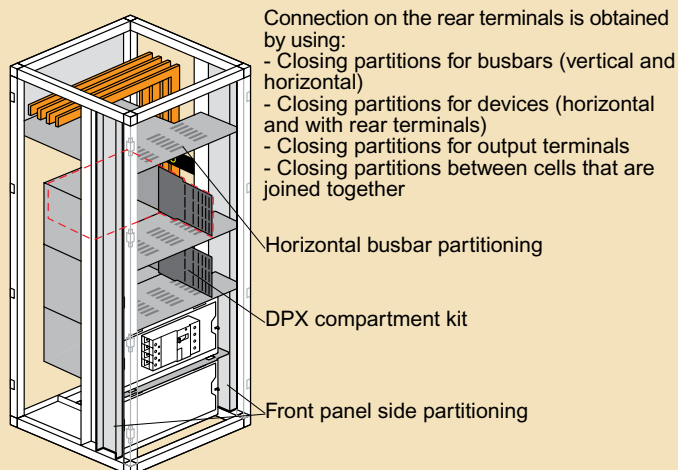
Front panel side partitioning

■ Rear terminals construction (continued)

Form 3b



Form 4b

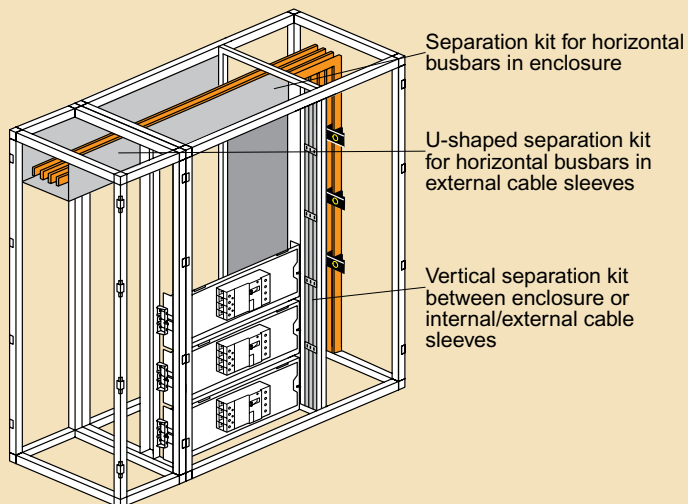


■ Front terminals construction

Form 2b

The vertical busbar is positioned in a cable sleeve then separated from the functional units using a vertical separation kit between the enclosure and the cable sleeve (the cables and flexible bars can be fed through the front part)

Use an L-shaped or U-shaped separation kit for the horizontal busbars. These kits consist of a rear part (height 200 or 300 mm) and a horizontal divider across the whole of the usable depth



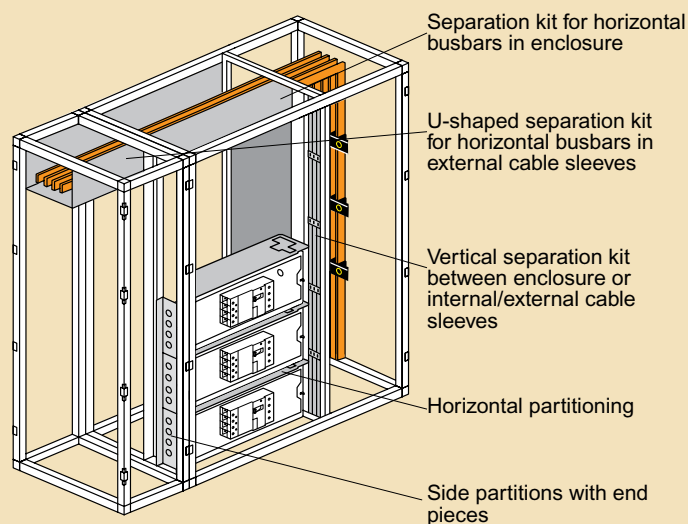
Forms 3b, 4a

For form 3b partitioning, it is advisable to start with form 2b and add:

- 1 - Horizontal dividers between the functional units
- 2 - Side partitions on either side of the functional units

In 4a form, the outgoing connections must be made within the functional units

Note: When connecting via front terminals, the incoming terminals must be fitted with terminal shield MCBs



Power & Protection components of XL³

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DMX³ ACB up to 4000 A

- Fixed and draw out version
- 3 breaking capacities: 50, 65, 100 kA
- Front connection of auxiliaries on dedicated terminal block



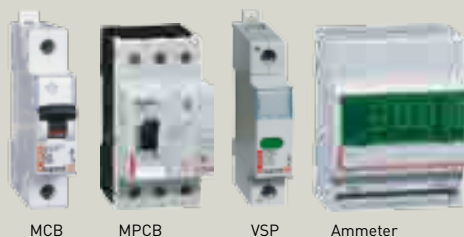
DPX³/DPX MCCB up to 1600 A

- Adjustable thermal magnetic & electronic release
- Breaking capacities: 16 kA to 100 kA
- Common auxiliaries for the entire range



Lexic MCBs, VSP, MPCB and metering devices

- Integrated label holder
- Energy efficient
- Large cable terminals
- IP 20 protection

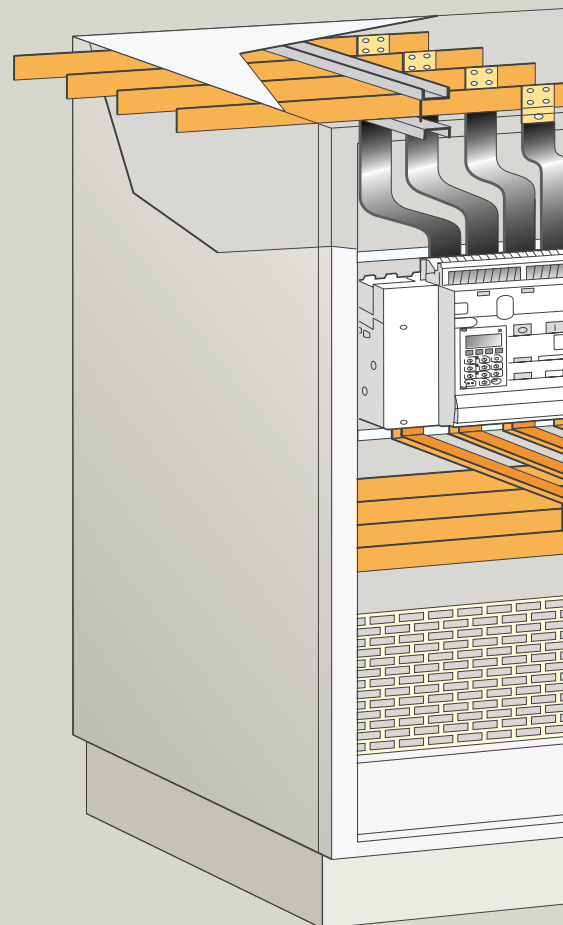


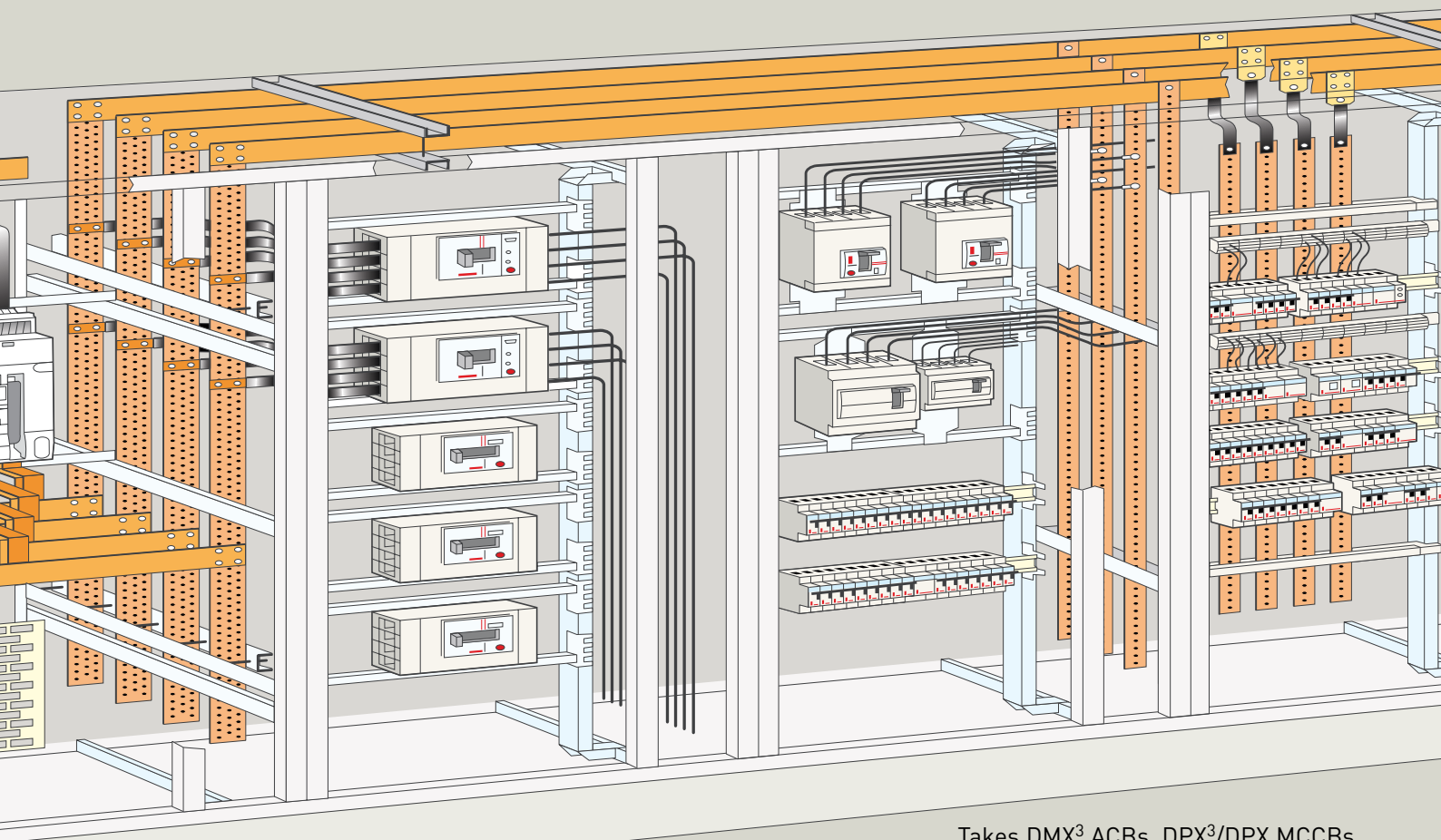
MCB

MPCB

VSP

Ammeter





Takes DMX³ ACBs, DPX³/DPX MCCBs,
Lexic MCBs, Other Modular
products upto 4000A



The type tests defined by standard IEC/EN 61439-1 are carried out officially by neutral organisations on representative assemblies of the usual wiring and device configurations.

These assemblies are called “Standard assemblies”.

They involve the following tests

1. Temperature rise limits
2. Dielectric properties
3. Short-circuit resistance
4. Effectiveness of the protective circuit
5. Clearances and creepage distances
6. Mechanical operation
7. Degree of protection (IP)
8. Strength of materials and parts

The enclosures fitted with Legrand circuit breakers are manufactured and tested in accordance with the standard.

The safety guaranteed by the certification of fitted XL³ enclosures

The 8 type tests in detail

1 Temperature rise limits

Temperature rise test on assemblies

This test checks that assemblies operate correctly under maximum operating conditions (current, number of devices, volume of enclosure).

It allows to define the heat balance elements for an average temperature rise in the air in assemblies of less than 30°C and a temperature rise in the terminals less than 70°C.

Temperature rise test on busbars

The various currents given for all the bar and distribution systems have been checked under the most severe conditions, according to the degree of ventilation of the enclosure (IP < 30 and IP > 30), so that the temperature rise of the bars does not exceed 65°C.

2 Dielectric properties

The dielectric tests check the insulation performance levels for the maximum operating voltage. They are carried out at the industrial frequency of 50 Hz and in the form of voltage waves simulating a lightning strike.

3 Short-circuit resistance

The tests carried out guarantee, in relation to thermal and electro dynamic stresses, the resistance of the busbars and their supports, the breaking devices and protection devices (DMX³/DPX/Lexic), and the enclosures.

4 Effectiveness of the protective circuit

The continuity of the protective circuit is a decisive factor for safety. It is checked:

- On the one hand in accordance with standard IEC/EN 61439-1 at a test current of 25 A between the terminal connecting the protective conductors and all the exposed conductive parts and
- Also in accordance with an additional Legrand test, at a high fault current capable of occurring in the event that a conductor becomes accidentally detached.

The protective circuits (conductors, terminals or collector bars) are sized and tested to withstand the maximum short-circuit thermal stress that could occur according to the current at the supply end of the assembly.

5 Clearances and creepage distances

The measurement procedures for the clearances and creepage distances are accurately covered in appendix F issued from standard IEC/EN 61439-1. The clearances and distances are measured between live parts with different polarities, and also between live parts and the exposed conductive parts.

When Legrand devices and equipment are installed in accordance with the specified conditions, the clearances and distances are observed for the insulation voltages of these devices.

Experience has shown that the greatest risk is in the wiring. Connections, bundles of conductors and busbars must be meticulously checked. Unsuitable connectors, bolted connections, joints and metal supports can reduce the initially planned insulation values.

6 Mechanical operation check

In accordance with the provisions of the standard, tests are carried out on parts and devices that are not subject to any specific requirements.

Correct mechanical operation and/or faceplate is checked by 50 operating cycles on draw-out racks and faceplate fixings.

7 Check of the degree of protection (IP)

The IP defines the ability to protect people and to prevent entry of solid objects (first number) and liquids (second number).

The additional letter indicates the protection against access to hazardous parts. Legrand offers a solution that is perfectly suited to all environments.

8 Strength of materials and parts

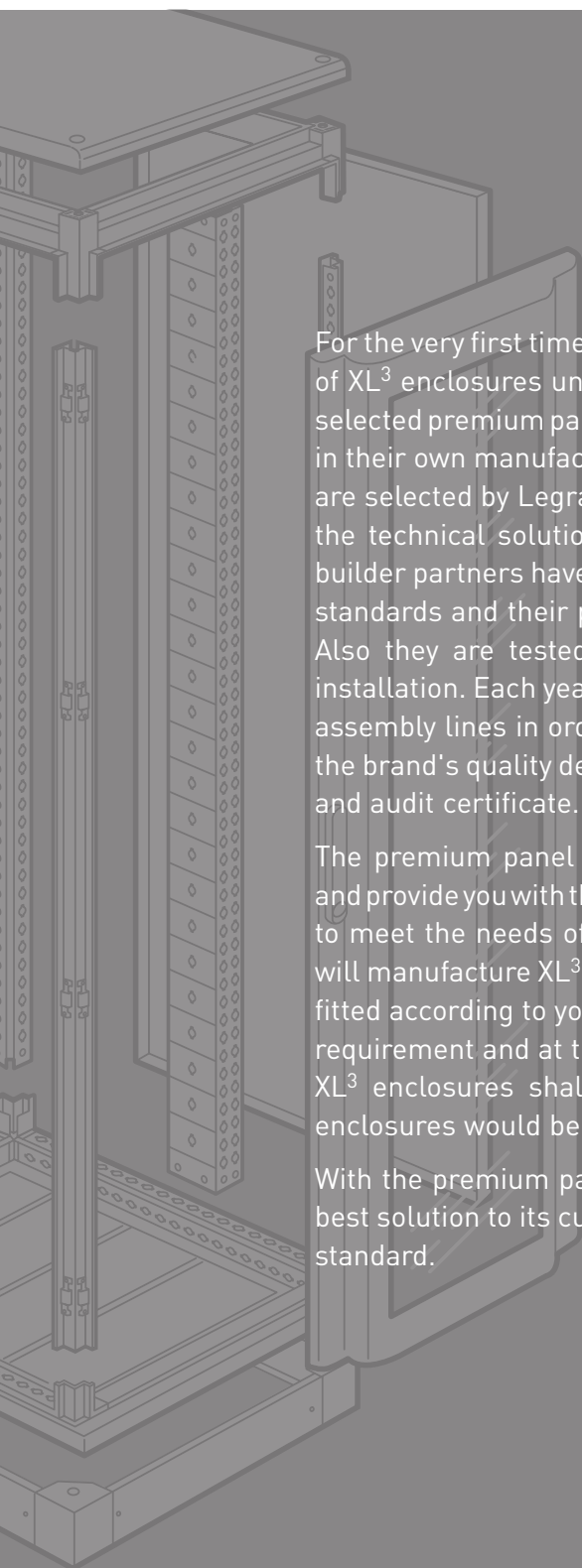
Assemblies shall be constructed of materials capable of withstanding the mechanical, electrical, thermal and environmental stresses that are likely to be encountered in specified service conditions. So test are made to check the protection against corrosion, the thermal stability, the mechanical strength, the lifting provision, the resistance to ultraviolet and the insulation of materials to heat and fire.

Quality Confirmation

CERTIFICATES



The premium panel builder partnership project



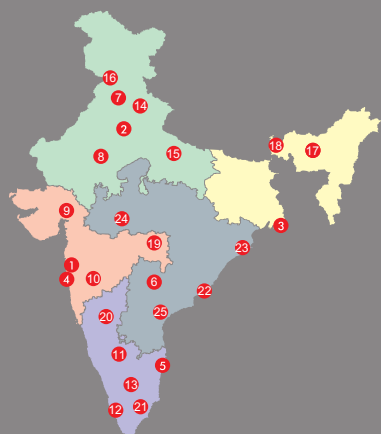
For the very first time, Legrand brings the concept of manufacturing of XL³ enclosures under Legrand License. Under this concept the selected premium panel builder partners shall manufacture XL³ enclosures in their own manufacturing facilities. The premium panel builder partners are selected by Legrand on the basis of their reputation and the quality of the technical solutions they offer to the market. These premium panel builder partners have been audited to check whether the structure, quality standards and their professional approach is in line with that of Legrand. Also they are tested and verified for the reliability & perfection of an installation. Each year, the Legrand experts will carry out the audit of their assembly lines in order to ensure that their know-how continues to meet the brand's quality demands. The partners are awarded License certificate and audit certificate.

The premium panel builder partners guarantee high quality enclosures and provide you with their expertise to make the most suitable configurations to meet the needs of all your sites. The premium panel builder partners will manufacture XL³ enclosures that are ready to be installed and are pre-fitted according to your requirement in order to best meet the time saving requirement and at the same time comply with the quality standards. The XL³ enclosures shall be delivered with Legrand components. The XL³ enclosures would be sold under the "License Legrand" brand.

With the premium panel builder partnership program Legrand offers the best solution to its customers that also meets the requirements of the IEC standard.

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NOTES



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- 61 & 62, 6th Floor, Kalpataru Square,
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Fax : (022) 3041 6201
Website : www.legrand.co.in

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Industrial Estate, Mathura Road,
NEW DELHI - 110 044.
Tel : (011) 2699 0028 / 29 / 30, 3990 2200
Fax : (011) 2699 0047
- Bhakta Towers, 2nd & 3rd Floor,
Plot No. KB 22, Salt Lake, Sector - 3
KOLKATA - 700 091.
Tel : (033) 4021 3535 / 36
Fax : (033) 4021 3537
- 34, Kalpataru Square, 3rd Floor,
Off Andheri - Kurla Road,
Andheri (East),
MUMBAI - 400 059.
Tel : (022) 3385 6200
Fax : (022) 3385 6201
- Gee Gee Universal,
8th Floor, Door No. 2, 18/1 & 18/2
McNichols Road, Chetput
CHENNAI - 600 031.
Tel : (044) 3024 7200, 2836 4165 / 67 / 68
Fax : (044) 2836 4169
- 205-208, 2nd Floor, Block - II,
White House, Kundan Bagh, Begumpet,
HYDERABAD - 500 016.
Tel : (040) 2341 4398 / 67
Fax : (040) 6636 6974

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- 507-510, Vth Floor,
Soni Paris Point,
Jai Singh Highway,
Banipark,
JAIPUR - 302 016.
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- 504, Sakar IV,
Opp. M. J. Library,
Ellis Bridge,
Ahmedabad - 380 006.
GUJARAT
Tel : (079) 2658 6561/2
Fax : (079) 2658 6563
- 402, Swastik Chambers,
Near Ashwamegh Marriage Hall,
Behind HP Petrol Pump,
Off Karve Road,
Erandwane,
PUNE - 411 004.
Tel : (020) 6729 5600 / 601
Fax : (020) 6729 5604
- 11nd Floor,
Al-Latheef Building
2/1, Union Street,
Off. Infantry Road,
BANGALORE - 560 001.
Tel : (080) 2286 1081, 4113 3293 / 4
Fax : (080) 2286 1078
- No. 36/2178,
Syda Building, 2nd Flr.,
Kaloore - Kadavanthra Road,
Kaloore,
KOCHI - 682 017.
Tel : (0484) 234 2921, 658 0921
Fax : (0484) 233 3921
- B-15,
Thirumalai Towers,
IV-D, Fourth Floor,
723, Avanashi Road,
COIMBATORE - 641 018.
Tel : (0422) 650 2728, 222 3634 / 0283
Fax : (0422) 222 3164

Area offices

- ABC Business Club 16,
Tagore Villa, Chakrata Road
DEHRADUN - 248 001. Uttaranchal.
Tel : (0135) 271 5189 / 248001
- Cabin No.104/105, Trade Point,
Ground Floor, Saran Chamber 1,
5, Park Road, Hazratganj
LUCKNOW - 226 001.
Tel : (0522) 223 9044 / 7285
Fax : (0522) 223 9124
- Cabin No. 9, Second Floor
Madhok Trade Centre,
Madhok Complex, Ferozpur Road
LUDHIANA - 141 001.
Tel/Fax No.: (0161) 277 0301 / 304
- House No. 97, Ground Floor,
Rajgarh Main Road,
Opp. City Heart Nursing Home
GUWAHATI - 781 007.
Tel : (0361) 245 8498
- 94, Udham Singh Sarani,
Ground Floor, Ashrampara,
SILIGURI - 734001
Tel : 94341 91635 / 98009 77780
- Plot No.95, II Floor, Shreyash Heights,
Ramdas Peth, VIP Road,
NAGPUR - 440 010.
Tel : (0712) 224 1790
Fax : (0712) 222 0113
- Prime Plaza, 2nd Floor,
1st Main, Girls High School Road,
Near PNB, Deshpande Nagar
HUBLI - 580029
Mobile Nos: 98807 64338 / 98807 64339
- Aparna Towers, 1st Flr. 2/3,
Bypass Road
MADURAI - 625 010.
Telefax : (0452) 435 5945
- 404, Eshwar Plaza,
Dwaraka Nagar, Main Road
VISHAKHAPATNAM - 530 020.
Telefax : (0891) 663 9363
- Plot No. 359, Saheed Nagar, 2nd floor,
BHUBANESWAR - 751 007.
Tel : (0674) 254 0623
- 204-205, Megapolis Square,
579, M G Road,
INDORE - 452 001.
Tel : (0731) 393 1650 / 51 / 52
Fax : (0731) 393 1653
- MF-2, Datta's Lords House,
Jammi Chettu Street,
VIJAYAWADA - 520 010.
Telefax : (0866) 669 9393

Technical assistance from Legrand

Telephonic technical assistance for selection of products, technical information, guidance, wiring diagrams and estimation is now made available to you at each Regional Office. Contact the Technical Officer of Legrand at the following telephone numbers

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