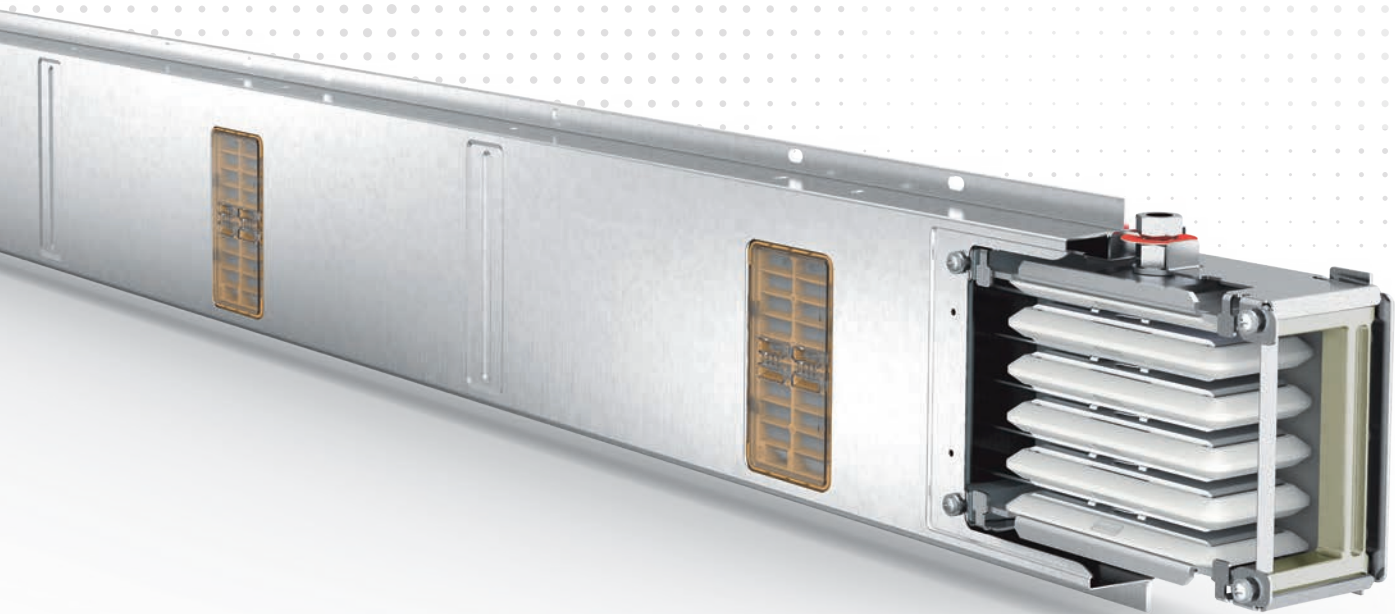


XCM

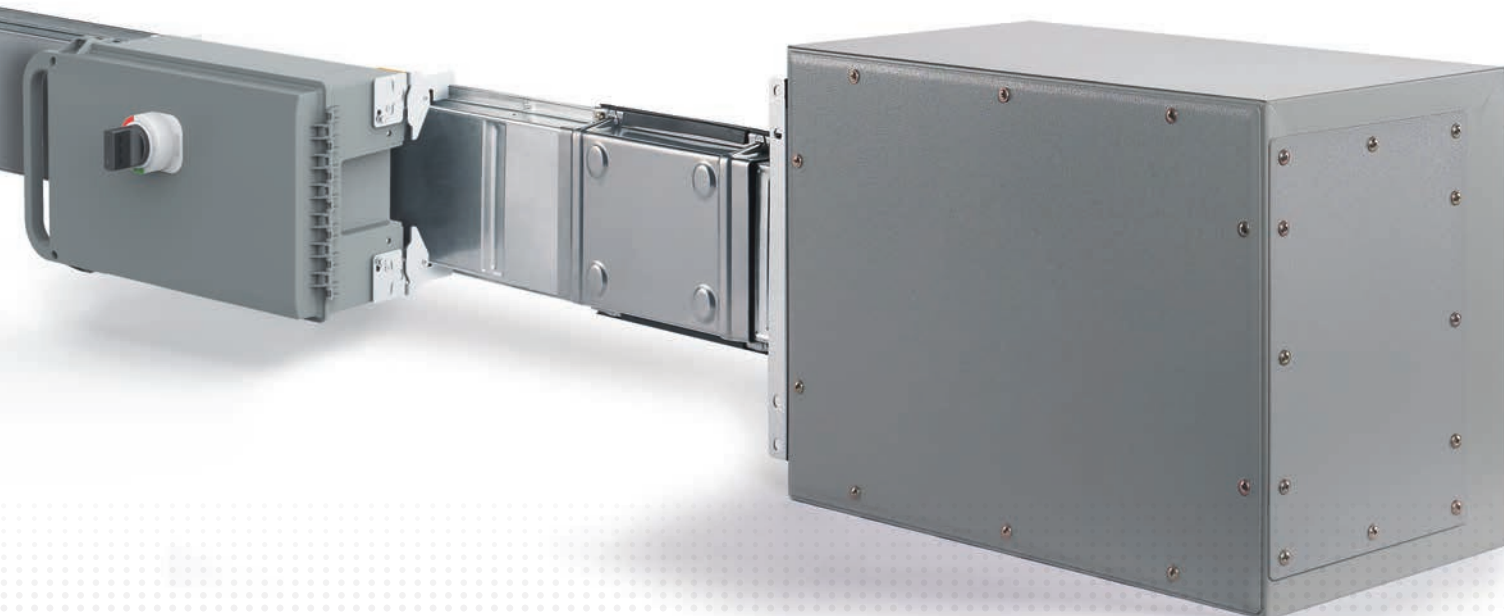


ZUCCHINI BUSBAR FOR MEDIUM POWER APPLICATIONS



GLOBAL SPECIALIST IN ELECTRICAL
AND DIGITAL BUILDING INFRASTRUCTURES

 **legrand**[®]



XCM BUSBAR

Performance
and functionality in
medium power

BUSBAR FROM 160 TO 1000 A

XCM is dedicated to the distribution of power in medium to large installations, including rising mains, in commercial and residential buildings.

Range

The main features of the **XCM range** are:

- speed, simplicity, and flexibility during the installation and design of busbar route;
- available in various sizes: from 160 A up to 1000 A with aluminium alloy conductors, and from 250 A to 1000 A with 99.9% electrolytic copper conductors;
- compliance with the IEC 61439-6 standard;
- reference ambient temperature 40 °C.

WIDE RANGE OF TAP-OFF BOXES

The range of tap-off boxes is capable of meeting all needs of the customer. Tap-off boxes from 32 A to 1000 A are available, inside which it is possible to house protection devices, such as fuses, MCBs, and/or MCCBs.

QUALITY MATERIAL

Each component is made using high quality materials, in compliance with technical and safety requirements. During each stage of the manufacturing process, maximum attention is given to each and every element.

STURDINESS AND FUNCTIONALITY

XCM busbars guarantee maximum system functionality thanks to careful design of the components, easy installation, and the construction characteristics, which make XCM busbars among the strongest on the market.

MAXIMUM ADVANTAGE IN DISTRIBUTION

The unique design of the XCM monobloc compensates the thermal expansion of conductors.

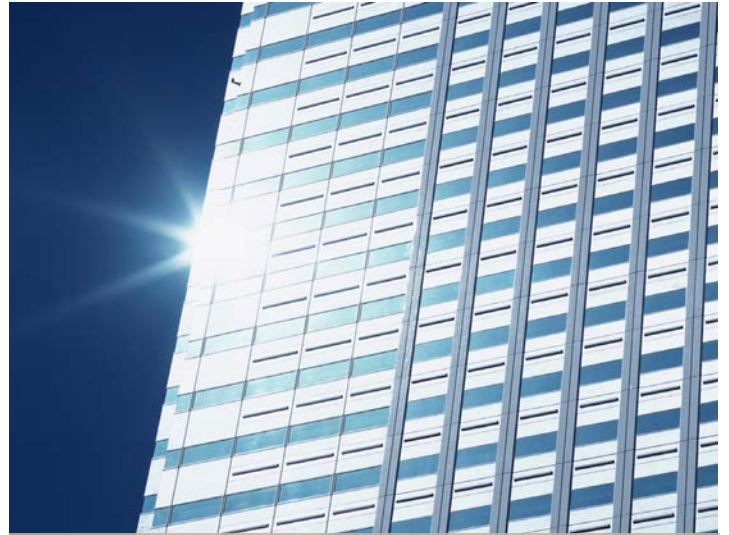
This is a key benefit for vertical (rising mains) applications as the system does not require busbar blocking elements, or thermal expansion elements.

Installation fields

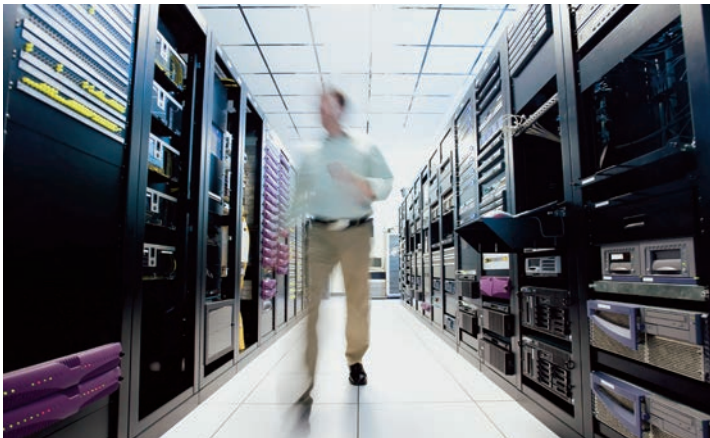
The typical applications for **XCM busbars** are:

- industry,
- commercial and residential,
- hospitals,
- data centre,
- shopping centres...

and everywhere there is the need for power distribution (up to 1000 A)



COMMERCIAL BUILDINGS



DATA CENTRE



INDUSTRIAL

Installation accessories



Feed unit



Feed Unit for switchboard and Transformers



Horizontal elbow



Vertical elbow



Intermediate feed unit



End cover



Fiberglass tap-off box

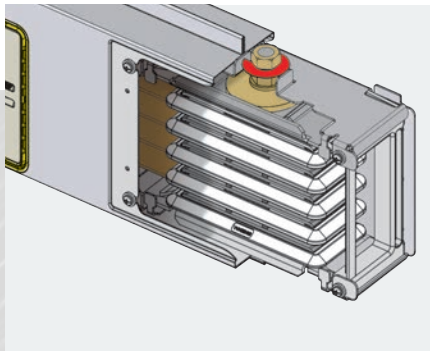


Metal tap-off box

FEATURES

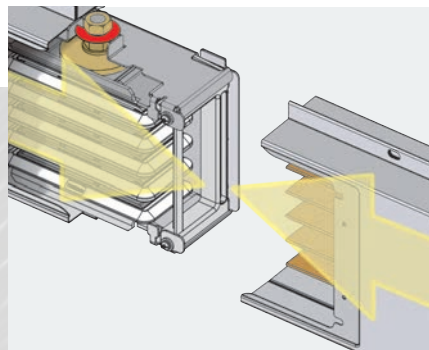
PRE-ASSEMBLED MONOBLOC

All trunking components (straight lengths, elbows, etc.) are provided with a pre-assembled monobloc which considerably speeds up the installation of the system and makes transportation and storage operations easier.



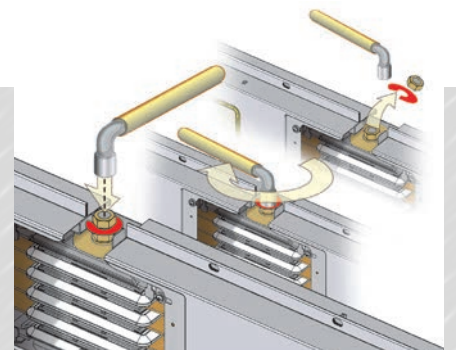
EXTREMELY FAST INSTALLATION

The monobloc and the shearhead bolt allow a very fast installation of the whole line



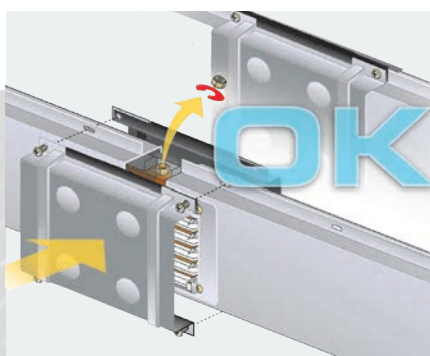
DYNAMOMETRIC MONOBLOC

Tighten the shearhead bolt on the monobloc until the head breaks to electrically connect the elements. The breakage of the nut head guarantees long-lasting reliability and safety. The connection is service free. In case of a future modification on the line, the monobloc must be retightened using the second nut head with a torque wrench at the correct settings (see installation manual).



CONNECTION FLANGES

If the monobloc has been tightened improperly, the head of the shearhead nut will prevent the mechanical coupling from closing. The connection flanges and the seals serve as a protection for the element during transportation and ensure their degree of protection as well as their mechanical rigidity when being installed.



PROTECTION DEGREE

The XCM system has a standard IP55 protection when installed with the plug outlet cover.



EXCELLENT FIRE RESISTANCE

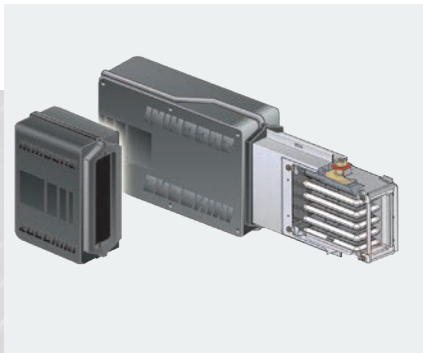
The XCM system has lengths provided with a fire barrier (EI according to EN 1366-3) and structures which guarantee a time resistance against propagation of flames, transmission of gases, and transmission of heat.

The fire load of XCM is extremely low compared to the quantity of plastic materials needed to insulate cables with the same capacity.



GLOW-WIRE TEST

All plastic materials are resistant and in compliance with the 'glow-wire' test (IEC EN61439-6).



VERSIONS

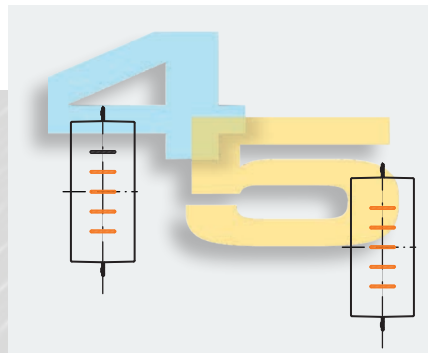
XCM is available in the following configurations:

3P + N + PE casing

3P + N + PE

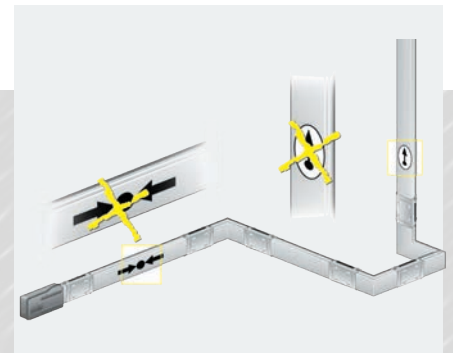
3P + N + FE + PE casing

All version are available in a painted version (RAL to be defined by the customer)



SIMPLE AND RELIABLE

The monobloc connection of the XCM line is able to compensate for any heat expansion affecting the conductors, thus avoiding the need to insert special expansion lengths even in considerably long systems. If the XCM line is installed vertically (riser main) there is no need to install busbar thrust units because the monobloc prevents the conductors from sliding.



MAXIMUM STRENGTH

The XCM range has been designed and manufactured with a strong casing. The degree of impact resistance of the casing which houses this line is the maximum stated in IEC EN60068-2-62: IK10.

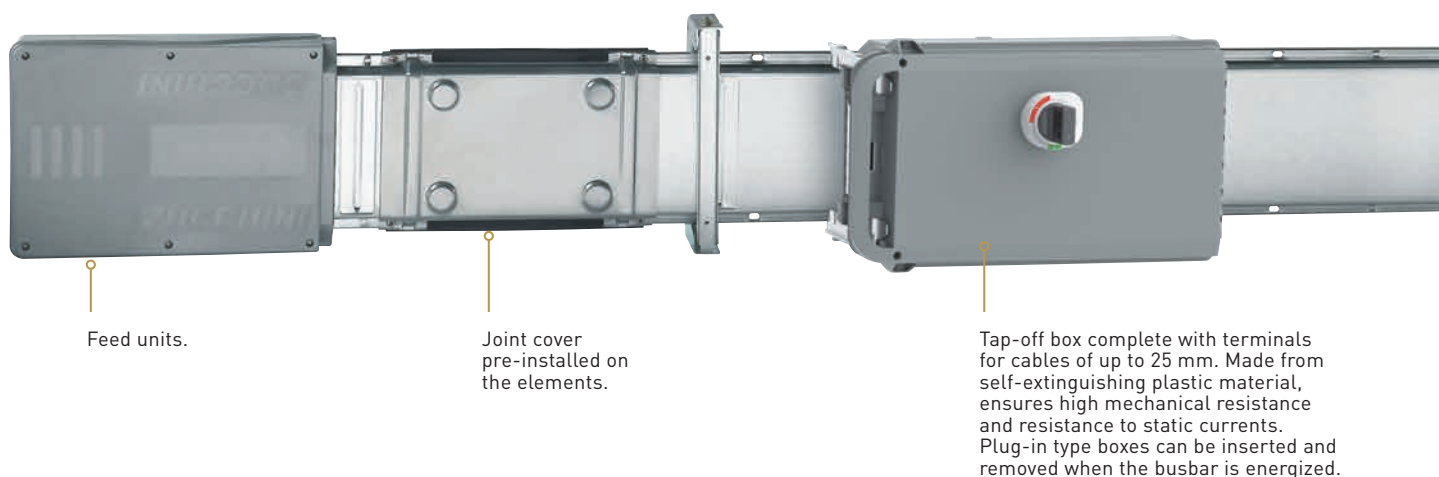


ALUMINIUM AND COPPER RATING

Al	160	250	315	400	500	630	800	1000
Cu	-	250	315	400	-	630	800	1000



TRUNKING COMPONENTS AND ADDITIONAL ACCESSORIES



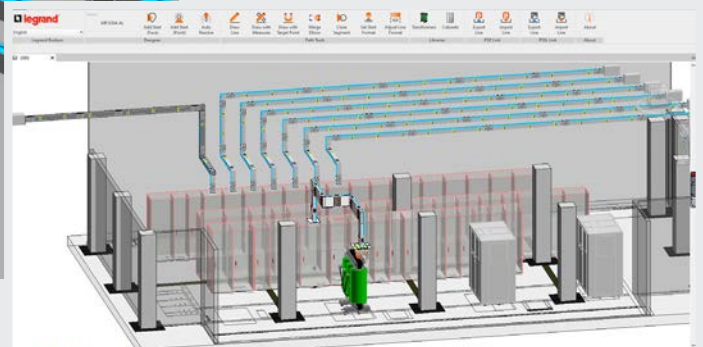
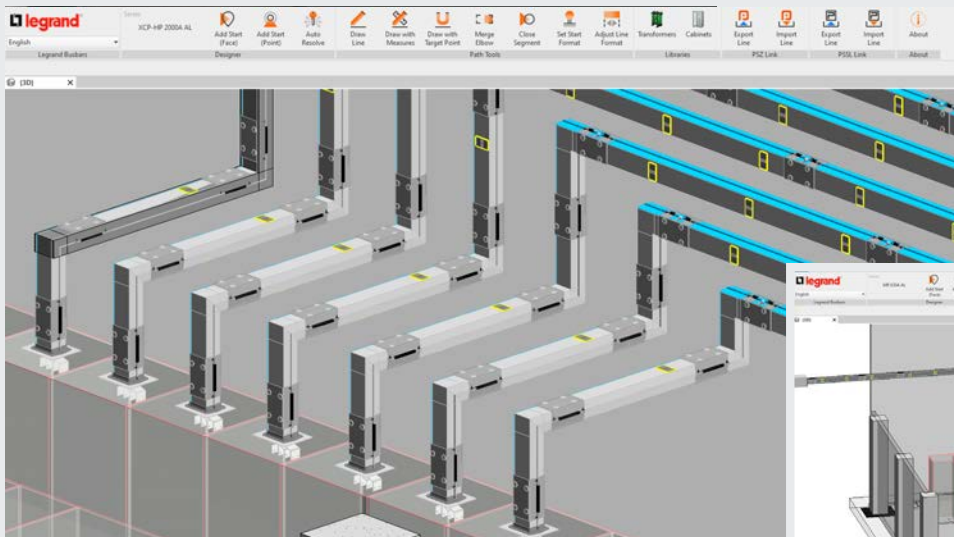
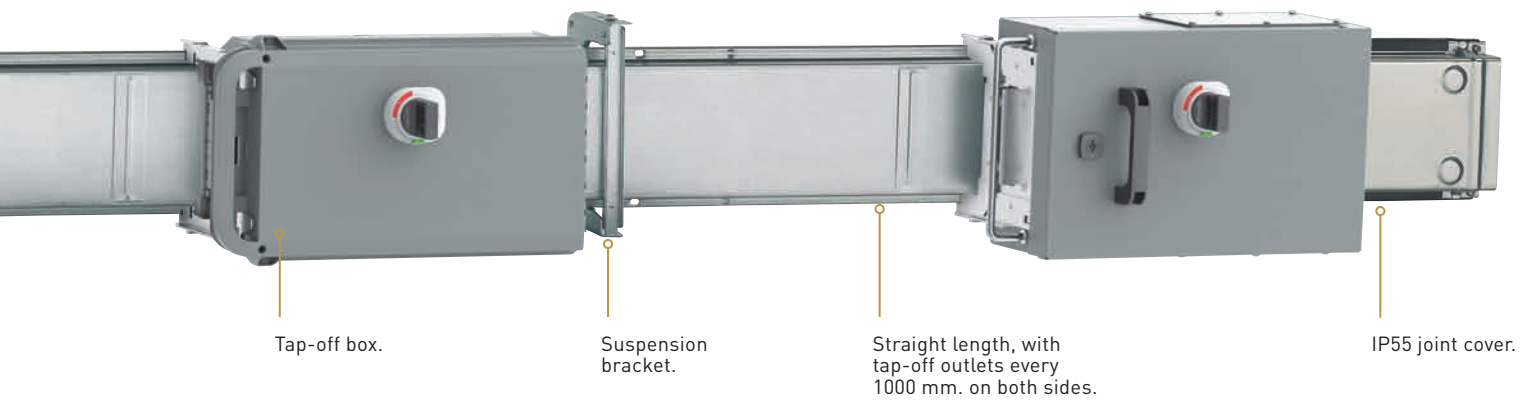
Depending on installation requirements Legrand can provide various technical solutions:

- a) 90° elbows: available for carrying out changes of direction both horizontally and vertically. There is a quick connection, as for the straight lengths. The standard degree of protection is IP55;
- b) Tees, crossovers and double elbows available. The standard degree of protection is IP55;
- c) straight elements with fire barrier (internal + external) EI.
Tested in laboratories (in compliance with Standards EN 1366-3) to confirm that, if correctly installed, they maintain the intrinsic fire-resistant properties of the wall;

d) straight lengths with 5 outlets on one side; they are ideal for riser mains;

e) straight lengths with 5+5 outlets on both sides; they are ideal for data centre solutions;

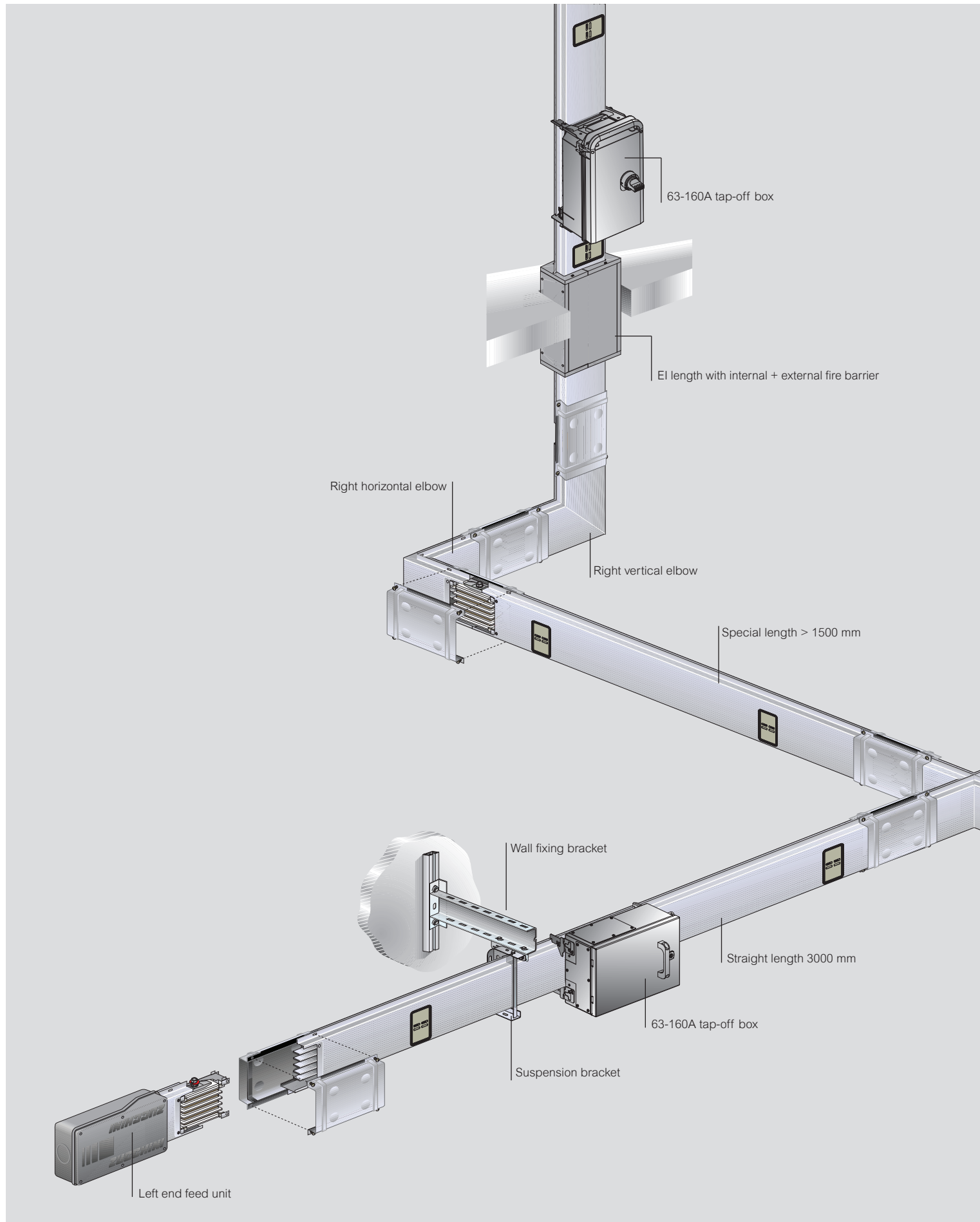
f) straight lengths with no outlets, used for energy transport only.

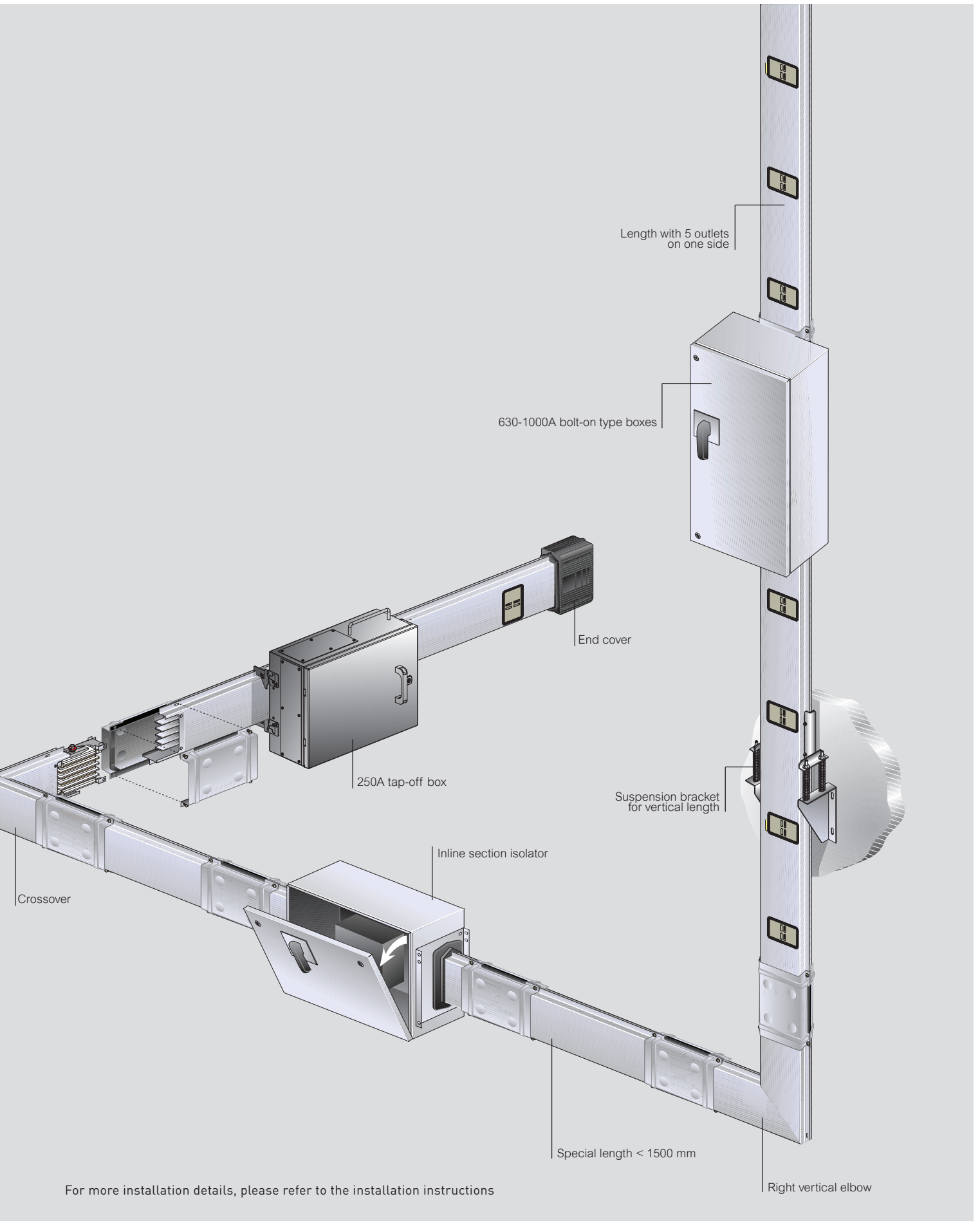


Examples of design with Revit

XCM 160 - 1000 A

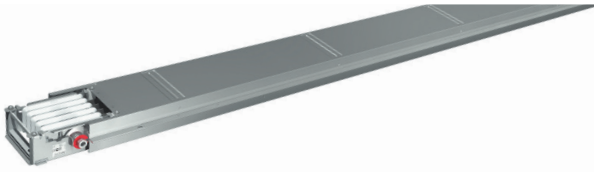
line route





XCM 160 - 1000 A

straight length

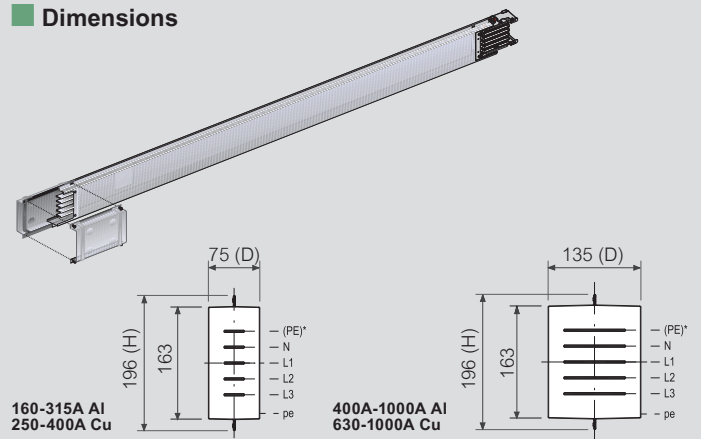


Reference standard: IEC 61439-6
 Reference temperature: 40 °C
 Protection degree: IP55
 Thickness: 0.8 mm;
 Dimension (LxH): 75-135x196mm;
 N° of conductors: 4 with equal section 3P+N or 5 (3P+N+PE)
 Conducting «flame retardant» in accordance with EN 60332-3
 Separation between the conductors by plastic insulators reinforced with fibreglass, guarantees a degree of V0 self-extinguishing (according to UL94) and conform to the glow-wire test according to IEC 60695-2-10

Pack	Cat.Nos		Straight lengths without outlets	
	Al	Cu	In (A)	L (mm)
1	53400111	-	160	600÷1500
1	53400112	56400112	250	
1	53400113	56400113	315	
1	53400114	56400114	400	
1	53400118	-	500	
1	53400115	56400115	630	
1	53400116	56400116	800	
1	53400117	56400117	1000	
1	53400121	-	160	1501÷2999
1	53400122	56400122	250	
1	53400123	56400123	315	
1	53400124	56400124	400	
1	53400128	-	500	
1	53400125	56400125	630	
1	53400126	56400126	800	
1	53400127	56400127	1000	
1	53400241	-	160	3000
1	53400242	56400242	250	
1	53400243	56400243	315	
1	53400244	56400244	400	
1	53400248	-	500	
1	53400245	56400245	630	
1	53400246	56400246	800	
1	53400247	56400247	1000	

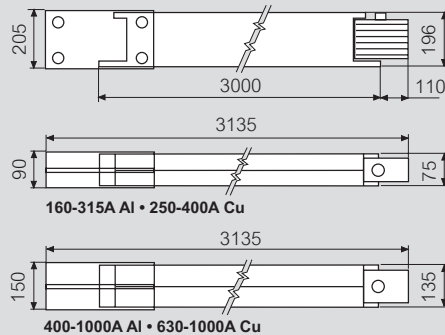
- 0 - 3P + N + PE casing
- 1 - 3P + N + PE*
- 2 - 3P + N + PE casing (painted version)
- 3 - 3P + N + PE (painted version)*
- * Item code-E5 = 3P + N + FE + PE casing

Dimensions

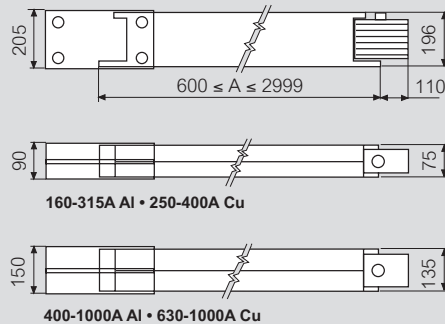


* for 3P+N+PE and 3P+N+FE+PE casing

For straight lengths = 3000 mm



For straight lengths at measurement from 600 mm to 2999 mm



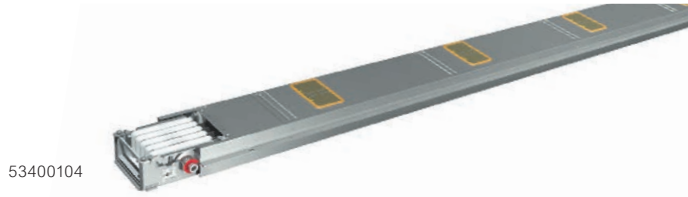
In your Purchase Order please specify the required length (see page: How to take measurements)

Al	Weight (kg)	Cu	Weight (kg)	In (A)
53400111	13.6	-	-	160
53400112	14.1	56400112	16.5	250
53400113	14.9	56400113	17.7	315
53400114	23.3	56400114	22.0	400
53400118	25.2	-	-	500
53400115	26.9	56400115	34.3	630
53400116	28.0	56400116	42.2	800
53400117	30.1	56400117	47.8	1000
53400121	13.6	-	-	160
53400122	14.1	56400122	16.5	250
53400123	14.9	56400123	17.7	315
53400124	23.3	56400124	22.0	400
53400128	25.2	-	-	500
53400125	26.9	56400125	34.3	630
53400126	28.0	56400126	42.2	800
53400127	30.1	56400127	47.8	1000
53400241	19.9	-	-	160
53400242	20.9	56400242	25.7	250
53400243	22.8	56400243	28.1	315
53400244	33.8	56400244	36.9	400
53400248	37.5	-	-	500
53400245	41.7	56400245	56.0	630
53400246	44.3	56400246	72.1	800
53400247	46.8	56400247	83.7	1000

In the case of transport of electric energy is recommended to use XCP busbar duct

XCM 160 - 1000 A

straight lengths (continued)

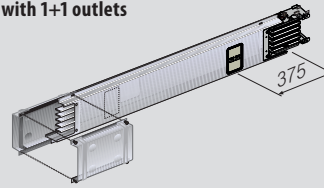


53400104

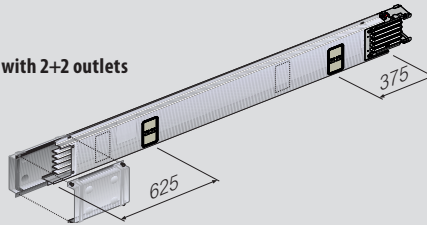
Pack	Cat.Nos		Straight lengths with outlets		
	Al	Cu	In (A)	L (mm)	N° windows
1	53400141	-	160	1000÷1500	1+1
1	53400142	56400142	250		
1	53400143	56400143	315		
1	53400144	56400144	400		
1	53400148	-	500		
1	53400145	56400145	630		
1	53400146	56400146	800		
1	53400147	56400147	1000		
1	53400151	-	160	1501÷2999	2+2
1	53400152	56400152	250		
1	53400153	56400153	315		
1	53400154	56400154	400		
1	53400158	-	500		
1	53400155	56400155	630		
1	53400156	56400156	800		
1	53400157	56400157	1000		
1	53400101	-	160	3000	3+3
1	53400102	56400102	250		
1	53400103	56400103	315		
1	53400104	56400104	400		
1	53400108	-	500		
1	53400105	56400105	630		
1	53400106	56400106	800		
1	53400107	56400107	1000		
1	53400251	-	160	3000	5
1	53400252	56400252	250		
1	53400253	56400253	315		
1	53400254	56400254	400		
1	53400258	-	500		
1	53400255	56400255	630		
1	53400256	56400256	800		
1	53400257	56400257	1000		

Dimensions

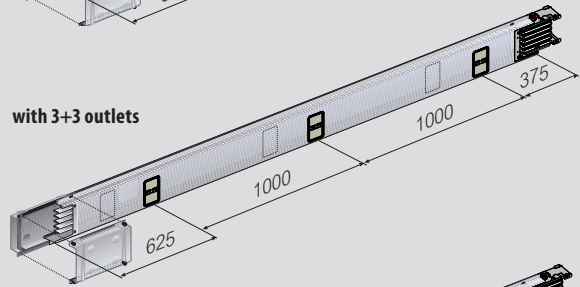
with 1+1 outlets



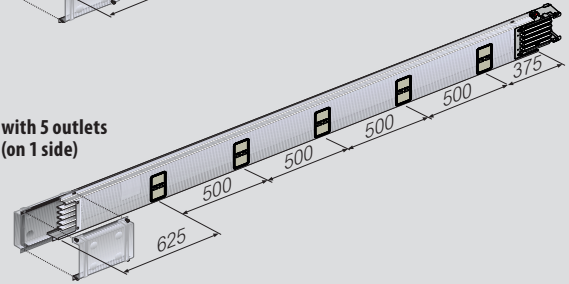
with 2+2 outlets



with 3+3 outlets



with 5 outlets (on 1 side)



1+1 outlets				2+2 outlets			
Al	Weight (kg)	Cu	Weight (kg)	Al	Weight (kg)	Cu	Weight (kg)
53400141	13.6	-	-	53400151	13.6	-	-
53400142	14.1	56400142	16.5	53400152	14.1	56400152	16.5
53400143	14.9	56400143	17.7	53400153	14.9	56400153	17.7
53400144	23.3	56400144	22.0	53400154	23.3	56400154	22.0
53400148	25.2	-	-	53400158	25.2	-	-
53400145	26.9	56400145	34.3	53400155	26.9	56400155	34.3
53400146	28.0	56400146	42.2	53400156	28.0	56400156	42.2
53400147	30.1	56400147	47.8	53400157	30.1	56400157	47.8

3+3 outlets				5 outlets on 1 side			
Al	Weight (kg)	Cu	Weight (kg)	Al	Weight (kg)	Cu	Weight (kg)
53400101	19.9	-	-	53400251	19.9	-	-
53400102	20.9	56400102	25.7	53400252	20.9	56400252	25.7
53400103	22.8	56400103	28.1	53400253	22.8	56400253	28.1
53400104	33.8	56400104	36.9	53400254	33.8	56400254	36.9
53400108	37.5	-	-	53400258	37.5	-	-
53400105	41.7	56400105	56.0	53400255	41.7	56400255	56.0
53400106	44.3	56400106	72.1	53400256	44.3	56400256	72.1
53400107	46.8	56400107	83.7	53400257	46.8	56400257	83.7

0 - 3P + N + PE casing

1 - 3P + N + PE*

2 - 3P + N + PE casing (painted version)

3 - 3P + N + PE (painted version)*

* Item code-E5 = 3P + N + FE + PE casing

XCM 160 - 1000 A

indoor applications - Data centre straight lengths (IP40)



Pack	Cat.Nos	Straight lengths			
		In (A)	L (mm)	N° outlets (STEP 600 mm)	Weight (kg)
	Al				
1	53400261-1200	160	1200	2+2	6,7
1	53400262-1200	250			7,4
1	53400263-1200	315			8,2
1	53400264-1200	400			12,6
1	53400268-1200	500			14,1
1	53400265-1200	630			15,7
1	53400266-1200	800			16,8
1	53400267-1200	1000			17,8
1	53400261-2400	160	2400	4+4	15,6
1	53400262-2400	250			17,1
1	53400263-2400	315			18,7
1	53400264-2400	400			27,5
1	53400268-2400	500			30,4
1	53400265-2400	630			33,8
1	53400266-2400	800			35,9
1	53400267-2400	1000			37,9
1	53400261	160	3000	5+5	20,1
1	53400262	250			22,0
1	53400263	315			23,9
1	53400264	400			34,9
1	53400268	500			38,6
1	53400265	630			42,8
1	53400266	800			45,4
1	53400267	1000			47,9

Pack	Cat.Nos	In (A)	L (mm)	N° outlets (STEP 800 mm)	Weight (kg)
1	53400271-1600	160	1600	2+2	9,3
1	53400272-1600	250			10,4
1	53400273-1600	315			11,4
1	53400274-1600	400			17,2
1	53400278-1600	500			19,2
1	53400275-1600	630			21,4
1	53400276-1600	800			22,8
1	53400277-1600	1000			24,2
1	53400271-2400	160	2400	3+3	15,6
1	53400272-2400	250			17,1
1	53400273-2400	315			18,7
1	53400274-2400	400			27,5
1	53400278-2400	500			30,4
1	53400275-2400	630			33,8
1	53400276-2400	800			35,9
1	53400277-2400	1000			37,9

For the version with copper conductors contact Legrand

The straight lengths for data centres are available with IP40 protection, which is suitable for installation in the white space.

For the bracket look at dedicated page 28-29.

Pack	Cat.Nos	End cover IP40	Weight (kg)
1	50403103	XCM end cover IP40 LOW	0,77
1	50403104	XCM end cover IP40 HIGH	1,13

LOW profile: from 160A to 315A Al HIGH profile: from 400A to 1000A Al
 from 250A to 400A Cu from 630A to 1000A Cu

For the FEED UNIT look at dedicated page 18.

Straight lengths have a distance between outlets of 600 mm or 800 mm; in this way tap-off boxes are centered with the cabinet containing racks they should be connected with.

It allows, in case of failure, rapid identification and intervention on the non-functioning rack. On the next page you can find an example of connection between the cabinet containing rack and straight lengths.

Standard tap-off boxes are also suitable for installation in data centres.

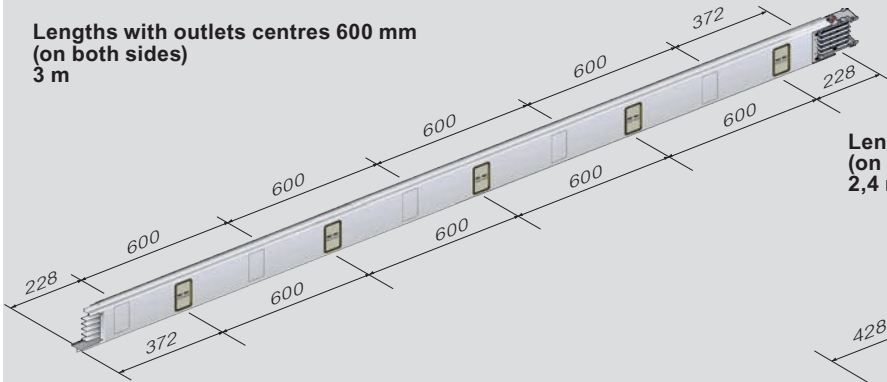
- 0** - 3P + N + PE casing
 - 1** - 3P + N + PE*
 - 2** - 3P + N + PE casing (painted version)
 - 3** - 3P + N + PE (painted version)*
- * Item code-**E5** = 3P + N + FE + PE casing

XCM 160 - 1000 A

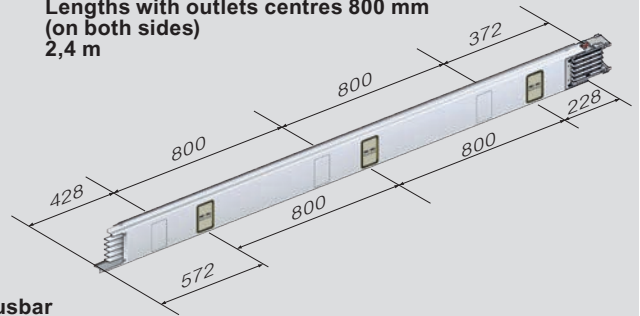
Data centre straight lengths and fire barrier EI

Dimensions

Lengths with outlets centres 600 mm
(on both sides)
3 m

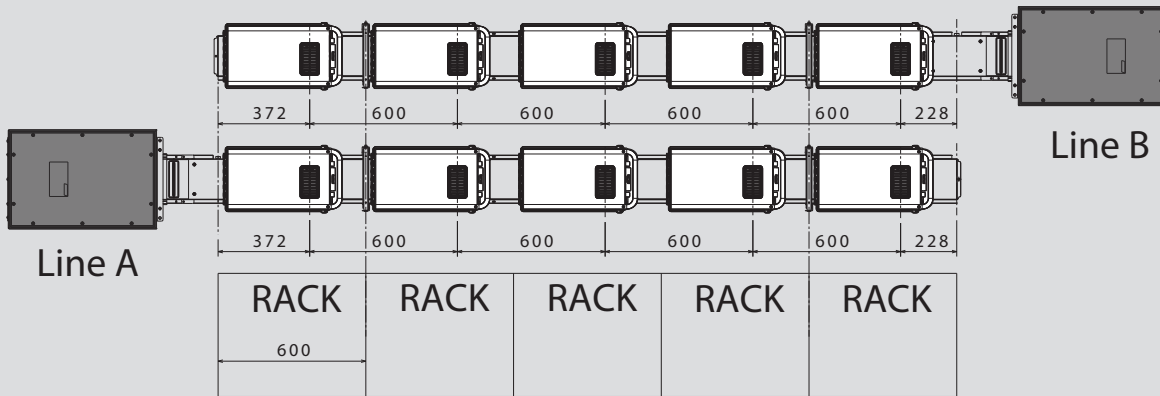


Lengths with outlets centres 800 mm
(on both sides)
2,4 m



Example of connection between the cabinet containing 600 mm rack and busbar

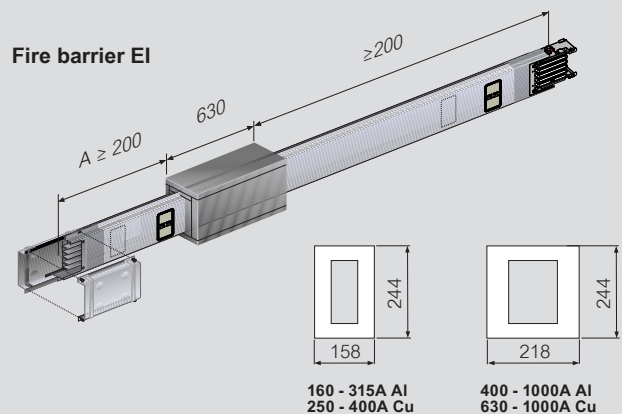
Straight lengths 3 m with 5 + 5 outlets centres 600 mm
Line A: FRONT side is dedicated to supply of power, BACK side for the backup.
Line B: FRONT and BACK side are dedicated for backup.



Fire barrier EI

Pack	Item				No. of conductors	In (A)
	Al		Cu			
	External	Internal	External	Internal		
1	554EFB01	564IFB01	-	-	4	160
1	554EFB01	564IFB02	554EFB01	564IFB01		250
1	554EFB01	564IFB03	554EFB01	564IFB02		315
1	554EFB02	564IFB04	554EFB01	564IFB05		400
1	554EFB02	564IFB06	-	-		500
1	554EFB02	564IFB07	554EFB02	564IFB04		630
1	554EFB02	564IFB08	554EFB02	564IFB06		800
1	554EFB02	564IFB09	554EFB02	564IFB07		1000
1	554EFB01	554IFB11	-	-		5
1	554EFB01	554IFB12	554EFB01	554IFB11	250	
1	554EFB01	554IFB13	554EFB01	554IFB12	315	
1	554EFB02	554IFB14	554EFB01	554IFB15	400	
1	554EFB02	554IFB16	-	-	500	
1	554EFB02	554IFB17	554EFB02	554IFB14	630	
1	554EFB02	554IFB18	554EFB02	554IFB16	800	
1	554EFB02	564IFB19	554EFB02	554IFB17	1000	

Dimensions



When ordering, specify the dimension A = mm of the element that will be equipped with the fire barrier

In your Purchase Order please specify the required position of the internal fire barrier. Take the measurement as shown in the Figure. The internal fire barrier is 630 mm long.

XCM 160 - 1000 A

elbows



Horizontal Elbow
53400301



Vertical Elbow
53400401

Pack	Cat.Nos				In (A)	Type
	Standard dimensions (300+300mm)		Bespoke dimensions* see dimension (mm) MIN & MAX			
	Al	Cu	Al	Cu		
1	53400301	-	53400321	-	160	Horizontal Right
1	53400302	56400302	53400322	56400322	250	
1	53400303	56400303	53400323	56400323	315	
1	53400304	56400304	53400324	56400324	400	
1	53400308	-	53400328	-	500	
1	53400305	56400305	53400325	56400325	630	
1	53400306	56400306	53400326	56400326	800	
1	53400307	56400307	53400327	56400327	1000	
1	53400311	-	53400331	-	160	Horizontal Left
1	53400312	56400312	53400332	56400332	250	
1	53400313	56400313	53400333	56400333	315	
1	53400314	56400314	53400334	56400334	400	
1	53400318	-	53400338	-	500	
1	53400315	56400315	53400335	56400335	630	
1	53400316	56400316	53400336	56400336	800	
1	53400317	56400317	53400337	56400337	1000	
1	53400401	-	53400421	-	160	Vertical Right
1	53400402	56400402	53400422	56400422	250	
1	53400403	56400403	53400423	56400423	315	
1	53400404	56400404	53400424	56400424	400	
1	53400408	-	53400428	-	500	
1	53400405	56400405	53400425	56400425	630	
1	53400406	56400406	53400426	56400426	800	
1	53400407	56400407	53400427	56400427	1000	
1	53400411	-	53400431	-	160	Vertical Left
1	53400412	56400412	53400432	56400432	250	
1	53400413	56400413	53400433	56400433	315	
1	53400414	56400414	53400434	56400434	400	
1	53400418	-	53400438	-	500	
1	53400415	56400415	53400435	56400435	630	
1	53400416	56400416	53400436	56400436	800	
1	53400417	56400417	53400437	56400437	1000	

0 - 3P + N + PE casing

1 - 3P + N + PE*

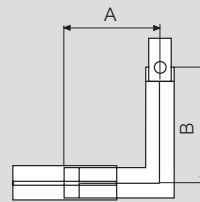
2 - 3P + N + PE casing (painted version)

3 - 3P + N + PE (painted version)*

* Item code-E5 = 3P + N + FE + PE casing

Dimensions

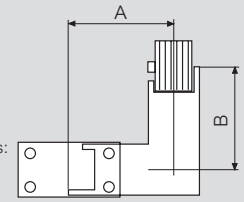
Horizontal Elbow



Standard dimensions:
A = 300 mm
B = 300 mm

Dimension (mm)	
A	B
MIN 250	MAX 899
MIN 250	MAX 899

Vertical Elbow



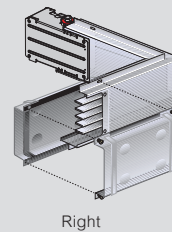
Dimension (mm)	
A	B
MIN 300	MAX 899
MIN 300	MAX 899

In (A)	Al Weight (kg)	Cu Weight (kg)
160	8.1	-
250	8.2	9.2
315	8.4	9.6
400	14.5	11.0
500	14.9	-
630	15.4	18.7
800	15.7	21.4
1000	16.0	23.3

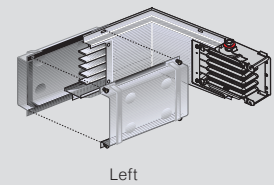
The weights indicated in the table refer to the standard elements (300 + 300 mm)

Type of elbows

Horizontal elbow

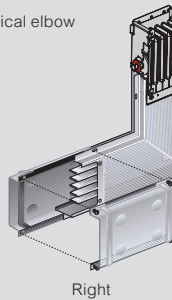


Right

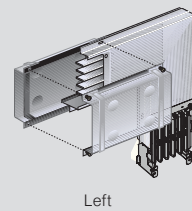


Left

Vertical elbow



Right



Left

* For all the non standard angles, it is possible to have only one of the two sides in size exceeding 600 mm. For example, when ordering a horizontal angle with size A=650 mm, the B size will have to be ≤ 600 mm

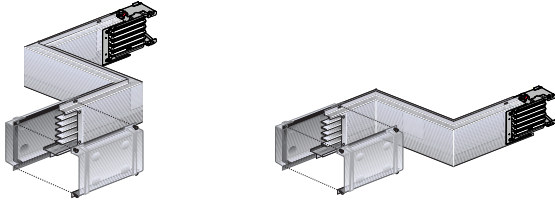
In your purchase order please specify the required length (see page: How to take measurements).

XCM 160 - 1000 A

elbows (continued)

Type of double elbows on request

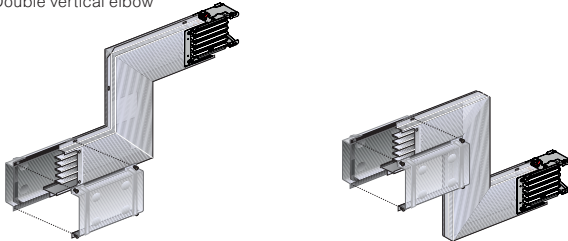
Double horizontal elbow



Right + Left

Left + Right

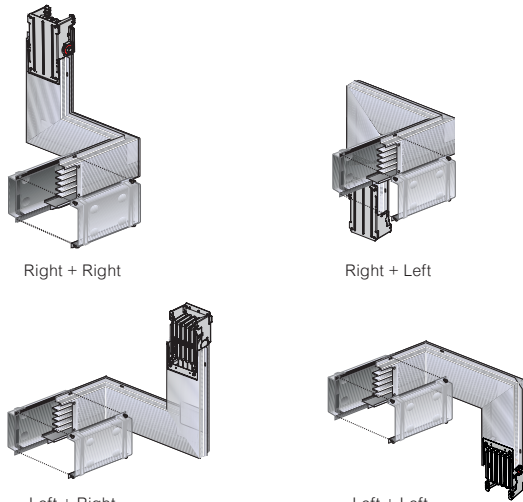
Double vertical elbow



Right + Left

Left + Right

Double horizontal elbow + vertical elbow



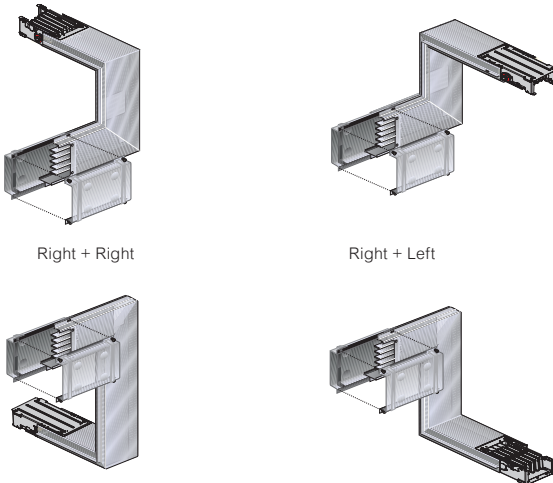
Right + Right

Right + Left

Left + Right

Left + Left

Double vertical elbow + horizontal elbow



Right + Right

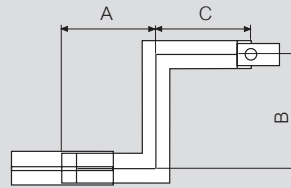
Right + Left

Left + Right

Left + Left

■ Dimensions

Double Horizontal

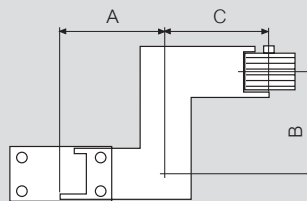


Dimension (mm)

	MIN	MAX
A	250	899
B	100	599
C	250	899

In (A)	Weight (kg) for Double Horizontal Double Vertical	
	Al	Cu
160	10.29	-
250	10.55	12.23
315	11.06	12.97
400	18.37	15.72
500	19.50	-
630	20.55	25.77
800	21.20	30.88
1000	21.80	34.55

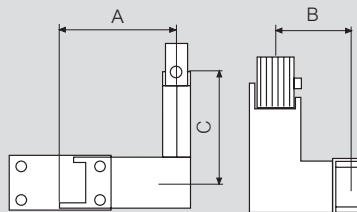
Double Vertical



Dimension (mm)

	MIN	MAX
A	300	899
B	100	599
C	300	899

Double Horizontal + Vertical

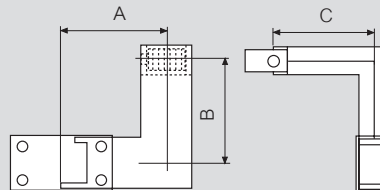


Dimension (mm)

	MIN	MAX
A	250	899
B	200	599
C	300	899

In (A)	Weight (kg) for Double Horizontal+Vertical and Double Vertical+Horizontal	
	Al	Cu
160	10.29	-
250	10.55	12.23
315	11.06	12.97
400	18.37	15.72
500	19.50	-
630	20.55	25.77
800	21.20	30.88
1000	21.80	34.55

Double Vertical + Horizontal



Dimension (mm)

	MIN	MAX
A	300	899
B	200	599
C	250	899

The weights indicated in the tables refer to the standard elements (300 + 300 + 300 mm)

* For all the non standard elbow, it is possible to have only one of the three sides in size exceeding 600 mm. For example, when ordering a double horizontal angle with size A=650 mm, the B and C size will have to be ≤ 600 mm

Special dimensions are available on request, please contact Legrand

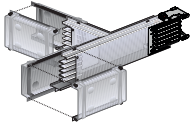



XCM 160 - 1000 A

horizontal "T" elements



53400711

The various versions allow any type of route and are different from the monoblocs position and branch point
Special dimensions are available on request

Pack	Cat.Nos		In (A)	Type
	Al	Cu		
	Horizontal standard T elements (300+300+300 mm)			
1	53400701	-	160	 Right 1
1	53400702	56400702	250	
1	53400703	56400703	315	
1	53400704	56400704	400	
1	53400708	-	500	
1	53400705	56400705	630	
1	53400706	56400706	800	
1	53400707	56400707	1000	
1	53400711	-	160	 Right 2
1	53400712	56400712	250	
1	53400713	56400713	315	
1	53400714	56400714	400	
1	53400718	-	500	
1	53400715	56400715	630	
1	53400716	56400716	800	
1	53400717	56400717	1000	
1	53400721	-	160	 Left 1
1	53400722	56400722	250	
1	53400723	56400723	315	
1	53400724	56400724	400	
1	53400728	-	500	
1	53400725	56400725	630	
1	53400726	56400726	800	
1	53400727	56400727	1000	
1	53400731	-	160	 Left 2
1	53400732	56400732	250	
1	53400733	56400733	315	
1	53400734	56400734	400	
1	53400738	-	500	
1	53400735	56400735	630	
1	53400736	56400736	800	
1	53400737	56400737	1000	

0 - 3P + N + PE casing

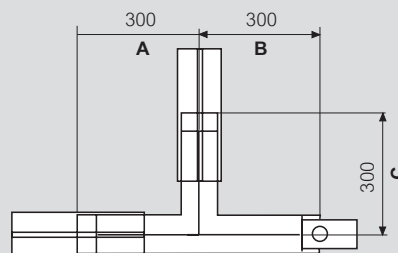
1 - 3P + N + PE*

2 - 3P + N + PE casing (painted version)

3 - 3P + N + PE (painted version)*

* Item code-E5 = 3P + N + FE + PE casing

■ Dimensions



Dimension (mm)	Min.	Max.
	A	300
B	300	899
C	300	899

In (A)	Weight (kg)	
	Al	Cu
160	11.2	-
250	11.4	12.8
315	11.8	13.4
400	18.4	15.7
500	19.5	-
630	20.0	24.4
800	20.5	28.5
1000	20.5	31.3

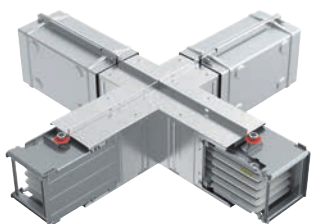
The weights indicated in the tables refer to the standard elements (300 + 300 + 300 mm)

* For non standard T elements, it is possible to have only one of the three sides in size exceeding 600 mm. For example, when ordering a horizontal T element with size A=650 mm, B and C sizes will have to be ≤ 600 mm

For horizontal "T" special dimensions (not standard) and vertical "T" elements, please contact Legrand

XCM 160 - 1000 A

crossovers



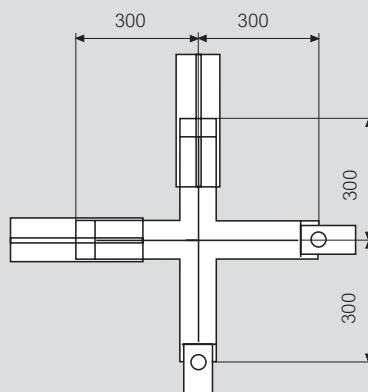
53403004

Pack	Cat.Nos		In (A)
	Al	Cu	
1	53403001	-	160
1	53403002	56403002	250
1	53403003	56403003	315
1	53403004	56403004	400
1	53403008	-	500
1	53403005	56403005	630
1	53403006	56403006	800
1	53403007	56403007	1000

**Standard crossovers
(300+300+300+300 mm)**

Special dimensions (not standard) are available on request, please contact Legrand

Dimensions



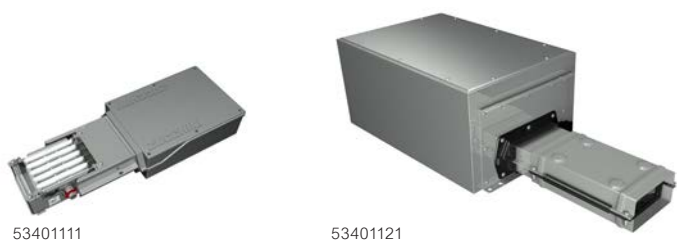
In (A)	Weight (kg)	
	Al	Cu
160	15.5	-
250	15.7	17.6
315	16.1	18.4
400	27.5	21.1
500	29.1	-
630	29.3	35.2
800	29.5	40.2
1000	29.9	43.7

The weights indicated in the tables refer to the standard elements (300 + 300 + 300 + 300 mm)

- 0 - 3P + N + PE casing
- 1 - 3P + N + PE*
- 2 - 3P + N + PE casing (painted version)
- 3 - 3P + N + PE (painted version)*
- * Item code-**E5** = 3P + N + FE + PE casing

XCM 160 - 1000 A

feed units



53401111

53401121



53403101

Pack	Cat.Nos		In (A)	Description	Type
	Al	Cu			
1	53401101	-	160		Right
1	53401102	56401102	250		Right
1	53401111	-	160		Left
1	53401112	56401112	250		Left
1	53401121	-	160		Right
1	53401122	56401122	250		
1	53401123	56401123	315		
1	53401124	56401124	400		
1	53401128	-	500		
1	53401125	56401125	630		
1	53401126	56401126	800		Left
1	53401127	56401127	1000		
1	53401131	-	160		
1	53401132	56401132	250		
1	53401133	56401133	315		
1	53401134	56401134	400		
1	53401138	-	500		
1	53401135	56401135	630	Intermediate	
1	53401136	56401136	800		
1	53401137	56401137	1000		
1	53401201	-	160		
1	53401202	56401202	250		
1	53401203	56401203	315		
1	53401204	56401204	400		
1	53401208	-	500		
1	53401205	56401205	630		
1	53401206	56401206	800		
1	53401207	56401207	1000		

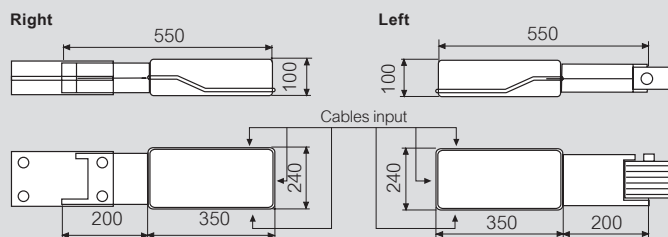
The box is shipped with its body part positioned inside to reduce its overall dimensions. Take it out and screw it into the position shown here. The dimensions of the bars and holes are described in the corresponding rating of the Board/Transformer on the next page.

End cover IP55*		
1	50403101	For bars in Cu of 250-315-400 A and Al 160-250-315 A
1	50403102	For bars in Cu of 630-800-1000 A and Al 400-500-630-800-1000 A

*Suitable for all XCM versions.
Ensures the closure and the IP55 degree of protection (EN 60529).

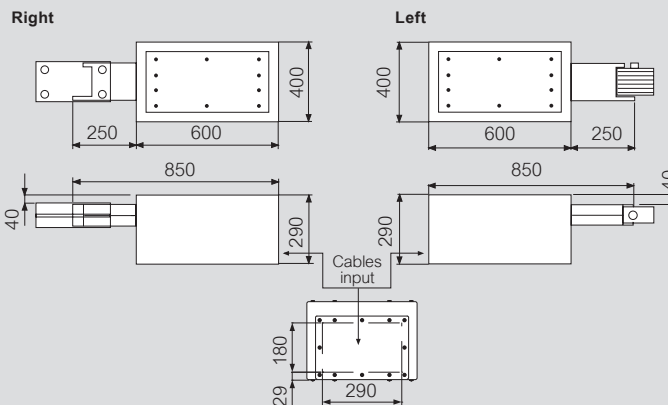
Dimensions

Plastic Feed unit



Item code Al	Weight (kg)	In (A)	Item code Cu	Weight (kg)	Cable connection: max. sect. (3x120mm ² + 1x70mm ²) or (3x150mm ²) max PG 48
53401101	5.70	160	-	-	
53401102	5.85	250	56401102	6.10	
53401111	6.80	160	-	-	
53401112	6.85	250	56401112	7.20	

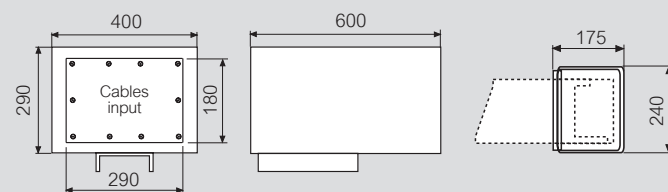
Metal Feed unit



Upon request, the feed units are available with AC23 switch disconnector installed

Item code Al	Weight (kg)	In (A)	Item code Cu	Weight (kg)
53401121	16.64	160	-	-
53401122	16.76	250	56401122	17.37
53401123	17.03	315	56401123	17.70
53401124	18.32	400	56401124	18.88
53401128	20.00	500	-	-
53401125	19.43	630	56401125	21.17
53401126	19.80	800	56401126	23.30
53401127	20.20	1000	56401127	24.83
53401131	17.74	160	-	-
53401132	17.76	250	56401132	18.47
53401133	17.83	315	56401133	18.70
53401134	23.22	400	56401134	19.58
53401138	23.20	500	-	-
53401135	23.63	630	56401135	26.07
53401136	23.70	800	56401136	27.80
53401137	24.00	1000	56401137	29.03

Intermediate Metal Feed unit



Item code Al	Weight (kg)	Item code Cu
53401201	17.3	-
53401202	18.4	56401202
53401203	17.0	56401203
53401204	22.06	56401204
53401208	22.65	-
53401205	23.24	56401205
53401206	23.02	56401206
53401207	24.70	56401207

Used to power a busbar from any intermediate point on the connection between two elements. The intermediate end feed unit is also used for reducing the voltage drop of the line

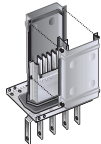
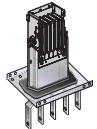
XCM 160 - 1000 A

feed units for Switchboard/ transformer



53401001

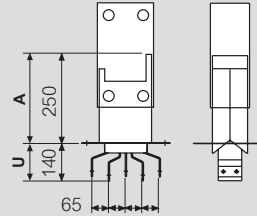
Feed unit for direct connection of the busbar to a switchboard or to the LV terminals of a distribution transformer.

Pack	Cat.Nos		In (A)	Description	Type
	Al	Cu			
1	53401001	-	160	 switchboard	Right
1	53401002	56401002	250		
1	53401003	56401003	315		
1	53401004	56401004	400		
1	53401008	-	500		
1	53401005	56401005	630		
1	53401006	56401006	800		
1	53401007	56401007	1000		
1	53401011	-	160	 switchboard	Left
1	53401012	56401012	250		
1	53401013	56401013	315		
1	53401014	56401014	400		
1	53401018	-	500		
1	53401015	56401015	630		
1	53401016	56401016	800		
1	53401017	56401017	1000		

Dimensions

Feed unit for switchboard/ transformer

Right



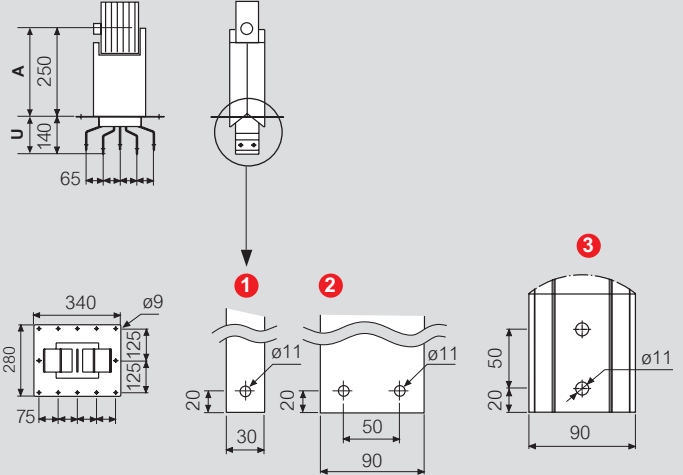
Dimension (mm)

	Min.	Max.
A	250	849
U	140*	200

*170 mm for In=1000 A

Item code Al	Weight (kg)	In (A)	Item code Cu	Weight (kg)
53401001	4.9	160	-	-
53401002	5.1	250	56401002	5.7
53401003	5.3	315	56401003	6.0
53401004	6.4	400	56401004	9.2
53401008	6.9	500	-	-
53401005	7.5	630	56401005	9.3
53401006	7.9	800	56401006	11.4
53401007	8.3	1000	56401007	12.9
53401011	6.0	160	-	-
53401012	6.1	250	56401012	6.7
53401013	6.2	315	56401013	7.0
53401014	11.3	400	56401014	7.8
53401018	11.4	500	-	-
53401015	11.7	630	56401015	14.2
53401016	11.8	800	56401016	15.9
53401017	12.5	1000	56401017	17.1

Left



	Al	Cu
XCM	160A	-
1	250A	250 A
	315A	315 A
	400A	400 A
2	500A	-
	630A	630 A
	800A	800 A
		1000 A
3	1000A	

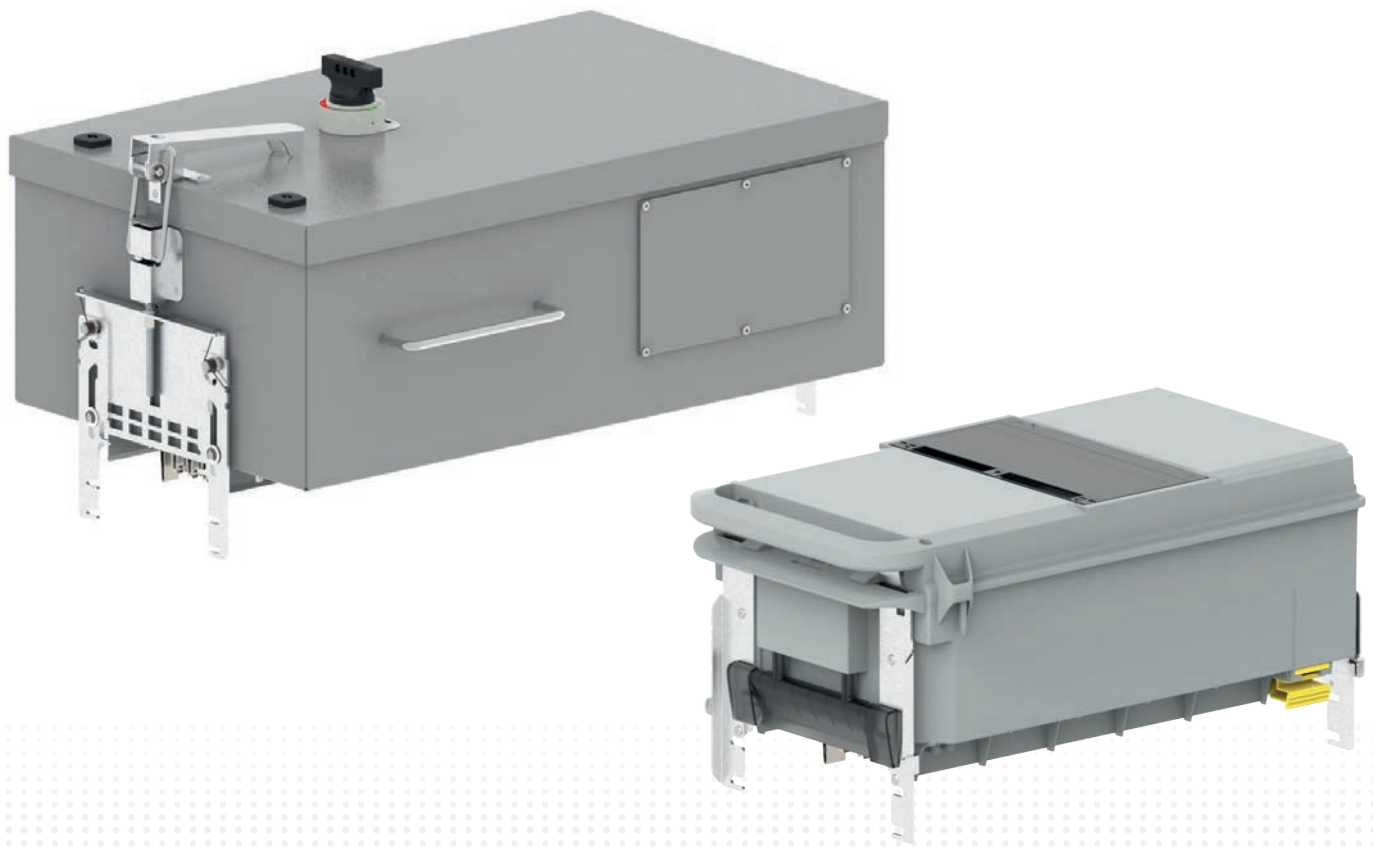
0 - 3P + N + PE casing

1 - 3P + N + PE*

2 - 3P + N + PE casing (painted version)

3 - 3P + N + PE (painted version)*

* Item code-E5 = 3P + N + FE + PE casing



TAP - OFF BOXES

The new range
of universal tap-off
boxes suitable for XCM
and XCP

TAP-OFF BOXES FROM 32 TO 630 A

Available in 2 different materials: fibreglass or metal sheet, both characterised by simple installation and fast connection thanks to the new layout of the hooks that offer safety and speed of assembly

XCM 160 - 1000 A

FIBREGLASS tap-off boxes - 32 A to 250 A : plug-in type



IP55.
Equipped with a sectioning cover. Can be installed and removed when the busbar is energized.
To be applied on lengths with any rating, with tap-off outlets.
The ratings go from 32 A to 250 A.

Item	Tap-off boxes DPX ³ ready*	
	Prepared for Legrand MCCB (not provided) and supplied 'ready for' DPX ³ , with rotary handle already installed on the cover and rotary mechanism inside the box.	
	In (A)	Type
50485231	63	2
50485232	160	2
50485333	250	3

Item	Tap-off boxes with fuse carriers		
	Equipped with fuse carriers. Fuses not included. For the selection of fuses, see Legrand catalogue		
	In (A)	Type	Fuse carrier
50485101	32	1	3xCH10
50485202	63	2	3xCH22
50485203	125/160	2	3xNH00
50485305	250	3	3xNH2

Item	Empty Tap-off boxes	
	In (A)	Type
50485111	32 A - blind cover	1L
50485121	32 A - 4 module	1L
50485131	32 A - 8 module	1L
50485212	63 A - 12 module	2
50485213	125/160 A - 12 module	2
50485222	63 A - blind cover	2
50485223	160 A - blind cover	2
50485241	63 A - 12 module + 2 P17 sockets place	2
50485242	160 A - 12 module + 2 P17 sockets place	2
50485314	250 A - 12+12 module	3
50485324	250 A - blind cover	3
50485343	250 A - 12 + 12 module +3 P17 sockets place	3



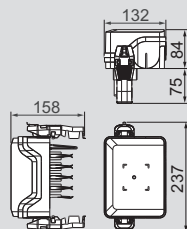
* DPX³: MCCB (Moulded Case Circuit Breaker not mounted and not supplied)

**Refer to XCM user installation manual for further mounting details

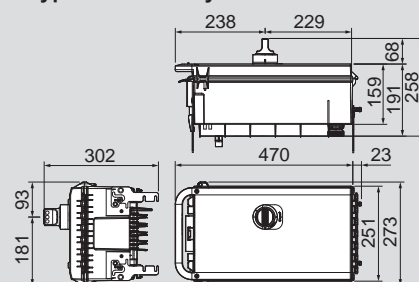
***For the size of the Type 2 and Type 3 terminals, see the metal boxes on the following pages with this rule:
plastic T2 terminals = metal T1 terminals
plastic T3 terminals = metal T2 terminals

Dimensions

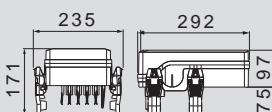
Type 1



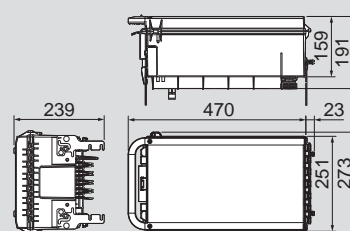
Type 2 DPX³ ready



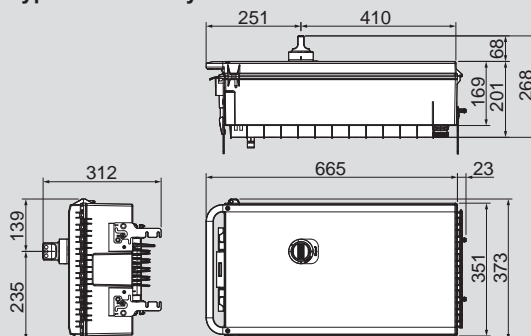
Type 1L



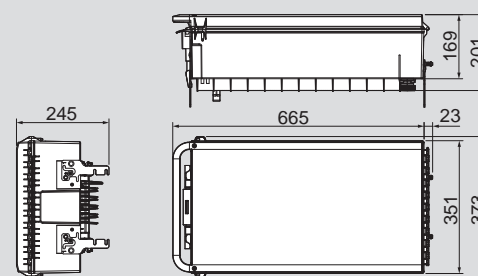
Type 2 empty /with fuse carriers



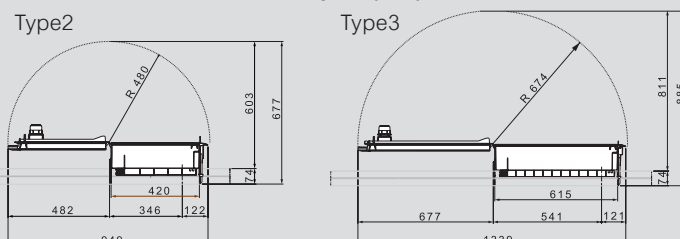
Type 3 DPX³ ready



Type 3 empty / with fuse carriers

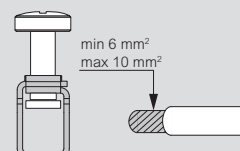


Total dimensions with cover open (mm) **



Terminal dimensions Type 1 (mm) ***

L3 L2 L1 N FE Pe



XCM 160 - 1000 A

METAL tap-off box Type 1 - 63 A to 160 A : plug-in type



IP55.
Equipped with a sectioning cover. Can be installed and removed when the busbar is energized.
To be applied on lengths with any rating, with tap-off outlets. These are the smallest metal tap-off boxes available and the rating is from 63 A to 160 A.

Item	Tap-off boxes DPX3 ready*
	Prepared for Legrand MCCB (not provided) and available in 2 versions, one with hinged cover and one with completely removable cover. Supplied 'ready for' DPX ³ , with rotary handle already installed on the cover and rotary mechanism inside the box.
	In (A)
50481721	63/125/160 A
50481731	63/125/160 A - removable cover

Item	Tap-off boxes with fuse carriers
	Equipped with fuse carriers. Fuses not included. For the selection of fuses, see Legrand catalogue
	In (A) Fuse carrier
50484021	63 3xNH00
50484022	125 3xNH00
50484023	160 3xNH00

Item	Tap-off boxes with switch fuse
	Equipped with a switch disconnecter (AC23) and a fuse carrier. The disconnecter switch is operated through a rotary handle on the cover (not shown in the picture). N.B. Cover with AC21A disconnection: it is not possible to open, close, install or pull out the tap-off box if the switch is in 'ON' position. Fuses not included. For the selection of fuses, see Legrand catalogue
	In (A) Fuse carrier
	63 3xNH000
	125 3xNH00
	160 3xNH00
	63 A - removable cover 3xNH000

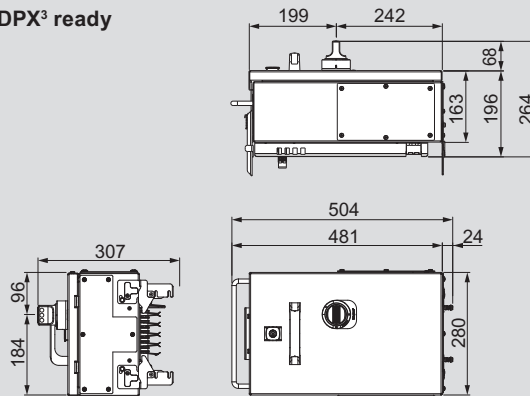
Item	Empty Tap-off boxes
	In (A)
50484002	63
50484003	125/160

Dimensions

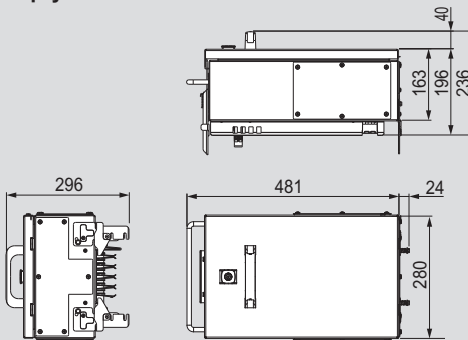
Type 1 (63 - 125 - 160 A)

Box dimensions (mm)

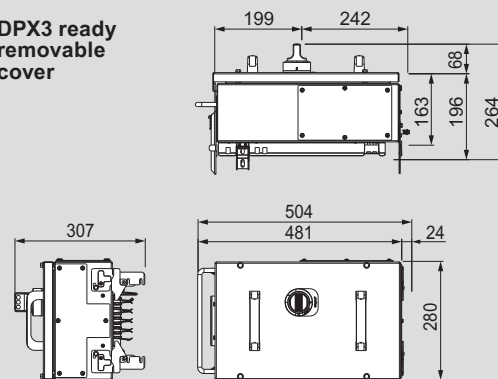
DPX³ ready



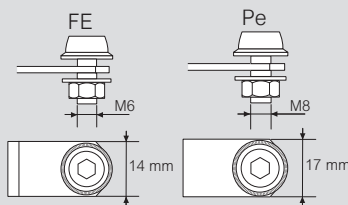
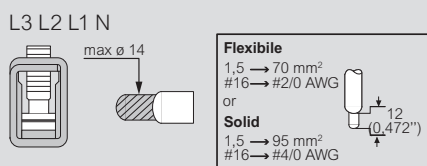
Empty and With fuse carriers 125/160 A



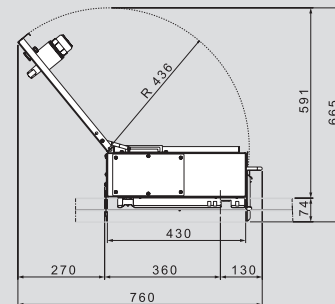
DPX³ ready removable cover



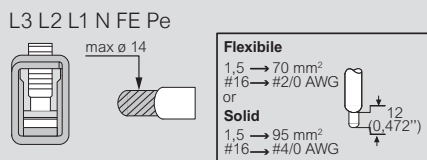
Terminal dimensions type 1 - DPX³ ready (mm)



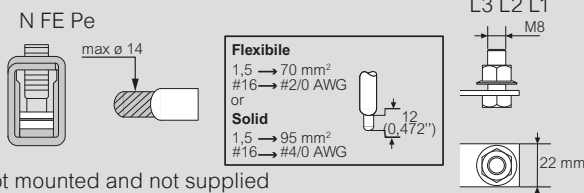
Total dimensions with cover open**



Terminal dimensions type 1 - empty (mm)



Terminal dimensions type 1 - fuse carriers (mm)



* DPX³: MCCB (Moulded Case Circuit Breaker) not mounted and not supplied

** Refer to XCM user installation manual for further mounting details

XCM 160 - 1000 A

METAL tap-off box Type 2 - 250 A: plug-in type



50481732

IP55.
Equipped with a sectioning cover. Can be installed and removed when the busbar is energized.
To be applied on lengths with any rating, with tap-off outlets.
These are the medium size metal tap-off boxes available and the rating is 250 A.

Item	Tap-off boxes DPX ³ ready*
	Prepared for Legrand MCCB (not provided) and available in 2 versions, one with hinged cover and one with completely removable cover.
	In (A)
50481722	250 A
50481724	250 A - DRXHP ready
50481732	250 A - removable cover
50481734	250 A - DRXHP ready removable cover

Item	Tap-off boxes with fuse carriers
	Equipped with fuse carriers. Fuses not included. For the selection of fuses, see Legrand catalogue
	In (A) Fuse carrier
50484024	250 3xNH2***

Item	Tap-off boxes with switch fuse
	Equipped with a switch disconnecter (AC23) and a fuse carrier. The disconnecter switch is operated through a rotary handle on the cover (not shown in the picture). N.B. Cover with AC21A disconnection: it is not possible to open, close, install or pull out the tap-off box if the switch is in 'ON' position. Fuses not included. For the selection of fuses, see Legrand catalogue
	In (A) Fuse carrier
	125 A - removable cover 3xNH00
	160 A - removable cover 3xNH00
	250 A - switch fuse 3xNH2***
	250 A - switch fuse removable cover 3xNH2***

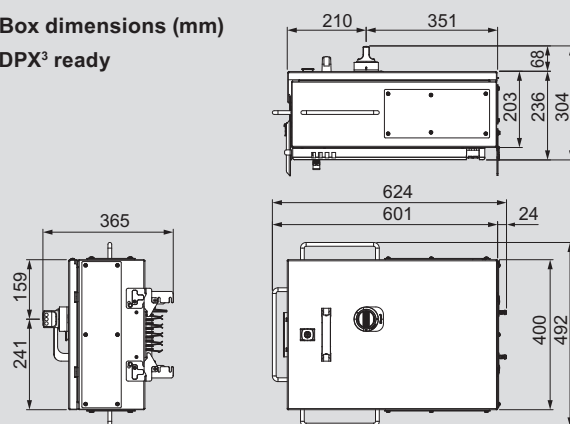
Item	Empty Tap-off boxes
	In (A)
50484005	250

Dimensions

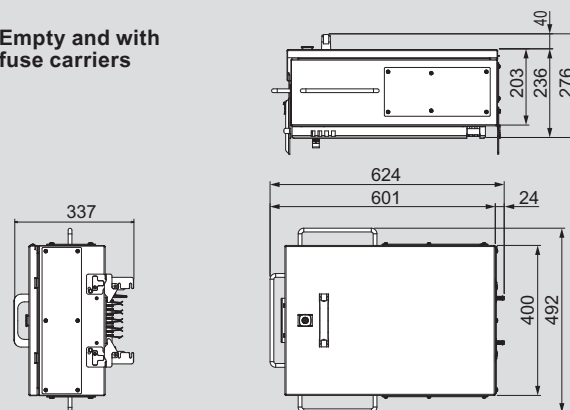
Type 2 (250A)

Box dimensions (mm)

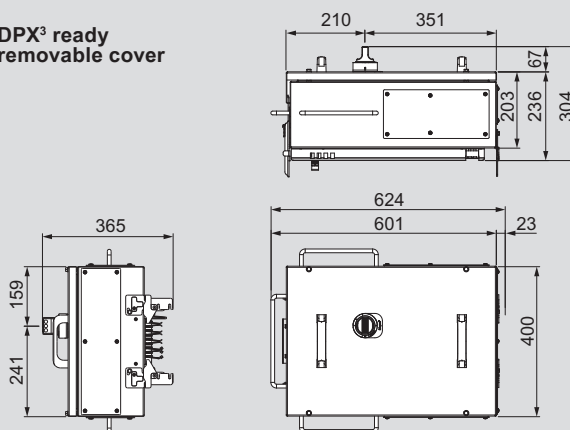
DPX³ ready



Empty and with fuse carriers

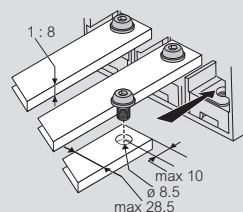


DPX³ ready removable cover



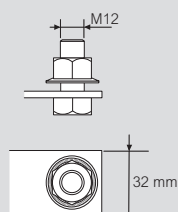
Terminal dimensions type 2 DPX³ ready and empty (mm)

L3 L2 L1 N FE Pe

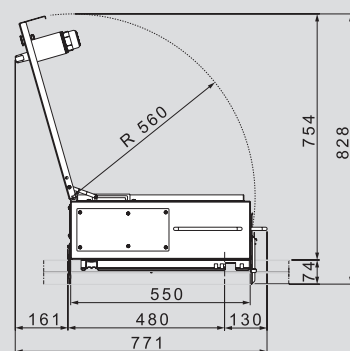


Terminal dimensions type 2 fuse carriers (mm)

L3 L2 L1 N FE Pe



Total dimensions with cover open (mm)**



* DPX³: MCCB (Moulded Case Circuit Breaker) not mounted and not supplied

Rotary handles for DPX³ already mounted

** Refer to XCM user installation manual for further mounting details

*** Also suitable for NH1

XCM 160 - 1000 A

METAL tap-off box Type 3 - 400 A to 630 A : plug-in type



50481733

IP55.
Equipped with a sectioning cover. Can be installed and removed when the busbar is energized.
To be applied on lengths with any rating, with tap-off outlets.
These are the largest size metal tap-off boxes available and the rating is 400 A or 630 A.

Item	Tap-off boxes DPX ³ ready*
	Prepared for Legrand MCCB (not provided) and available in 2 versions, one with hinged cover and one with completely removable cover.
	In (A)
50481723	400/630 A - DPX ³ ready
50481733	400/630 A - DPX ³ ready removable cover

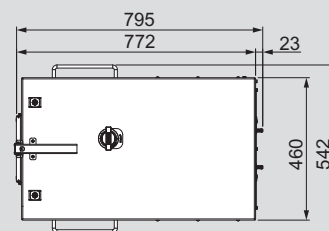
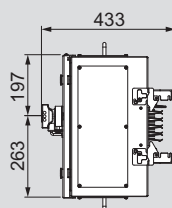
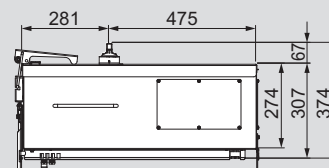
Item	Tap-off boxes with fuse carriers
	Equipped with fuse carriers. Fuses not included. For the selection of fuses, see Legrand catalogue
	In (A) Fuse carrier
50484025	400 3xNH2
50484026	630 3xNH3

Item	Tap-off boxes with switch fuse
	Equipped with a switch disconnecter (AC23) and a fuse carrier. The disconnecter switch is operated through a rotary handle on the cover (not shown in the picture). N.B. Cover with AC21A disconnection: it is not possible to open, close, install or pull out the tap-off box if the switch is in 'ON' position. Fuses not included. For the selection of fuses, see Legrand catalogue
	In (A) Fuse carrier
	400 A - switch fuse 3xNH2
	400 A - switch fuse removable cover 3xNH2
	630 A - switch fuse removable cover 3xNH3

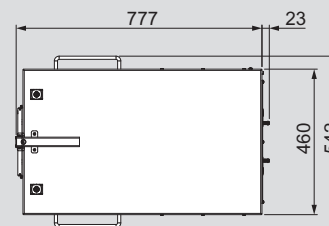
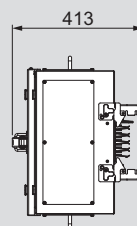
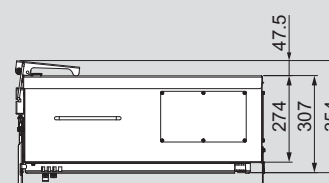
Item	Empty Tap-off boxes
	In (A)
50484006	630 A

Dimensions

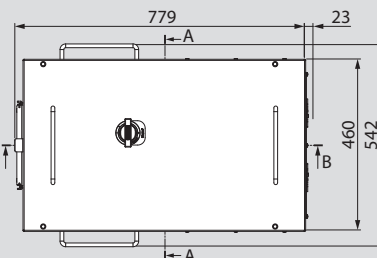
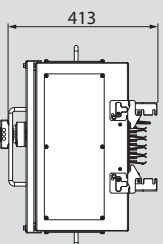
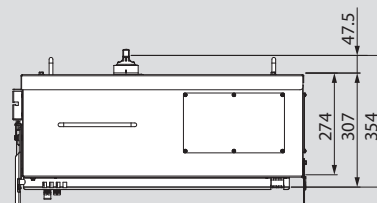
Type 3 (400 - 630 A)
Box dimensions (mm)
DPX³ ready



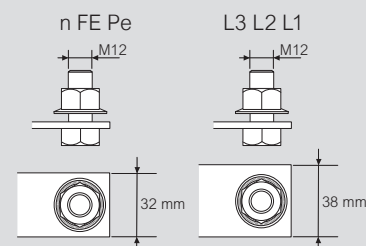
Empty and with fuse carriers



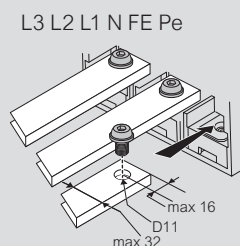
DPX³ ready removable cover



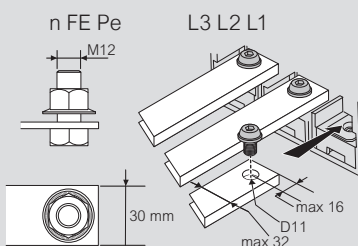
Terminal dimensions type 3 - fuse carriers (mm)



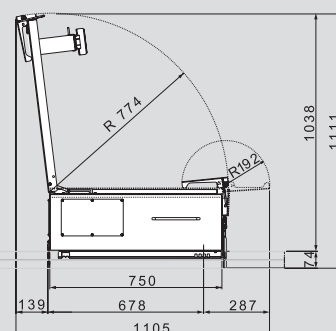
Terminal dimensions type 3 - empty (mm)



Terminal dimensions type 3 - DPX³ ready (mm)



Total dimensions with cover open (mm)**



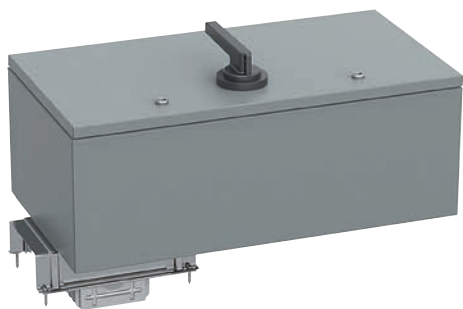
* DPX³: MCCB (Moulded Case Circuit Breaker) not mounted and not supplied

Rotary handles for DPX³ already mounted

** Refer to XCM user installation manual for further mounting details

XCM 160 - 1000 A

tap-off boxes bolt-on type

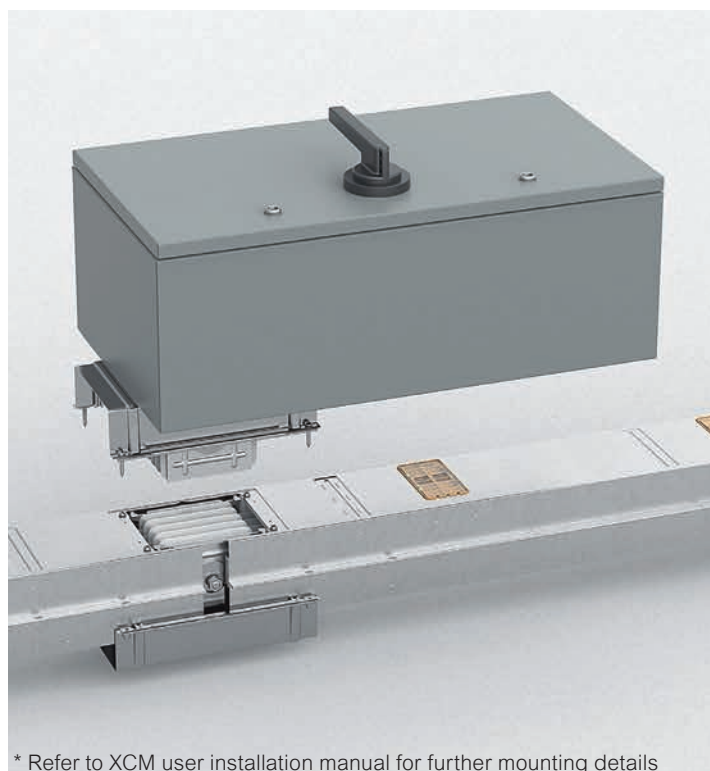


Bolt-on tap-off boxes
They are installed on the junction between 2 straight length.
As this connection affects live conductors, it can NOT be carried out when the line is energized - the line has to be isolated.

Pack	Cat.Nos			Tap-off boxes with fuse carrier		
	630	800	1000	Rating (A)	Circ. breaker	Fuse
1	53401801	53401802	53401803	630	AC23	NH3
1	-	53401804	53401805	800	AC23	NH4
1	-	-	53401806	1000	AC23	NH4
				Copper		
1	56401801	56401802	56401803	630	AC23	NH3
1	-	56401804	56401805	800	AC23	NH4
1	-	-	56401806	1000	AC23	NH4

Cable entry plate

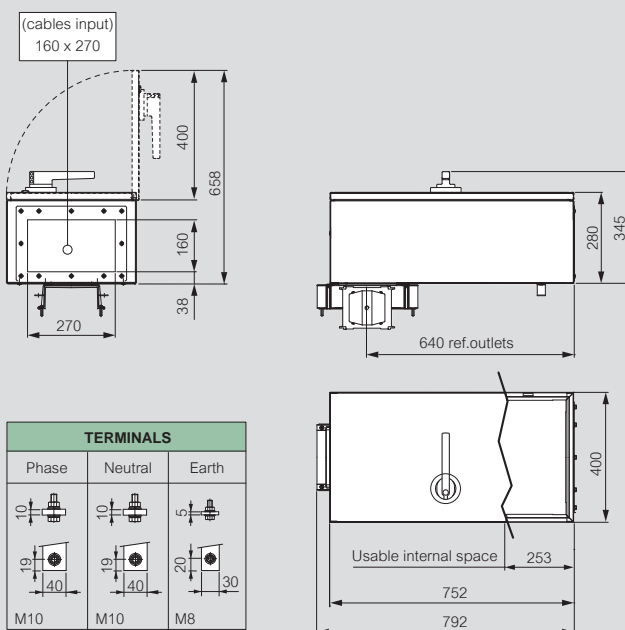
Type	Dimensions
630 A	160 x 270 mm
800-1000 A	210 x 380 mm



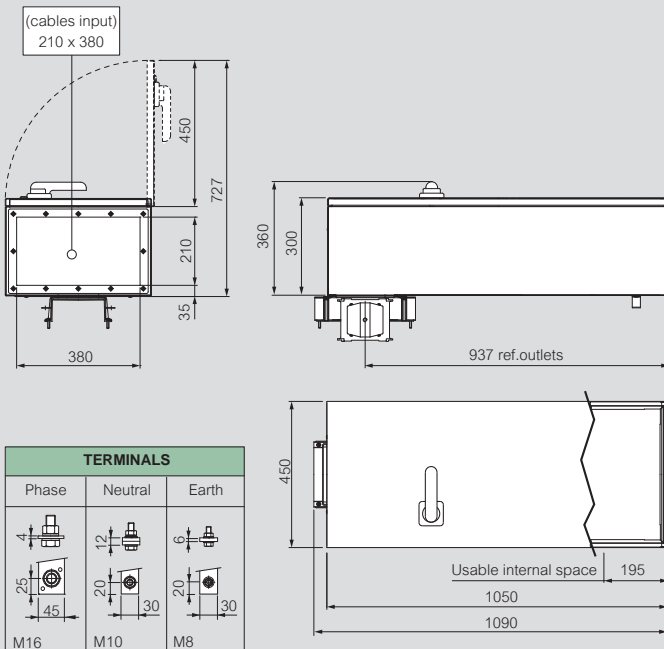
* Refer to XCM user installation manual for further mounting details

Dimensions

630 A*



800-1000 A*

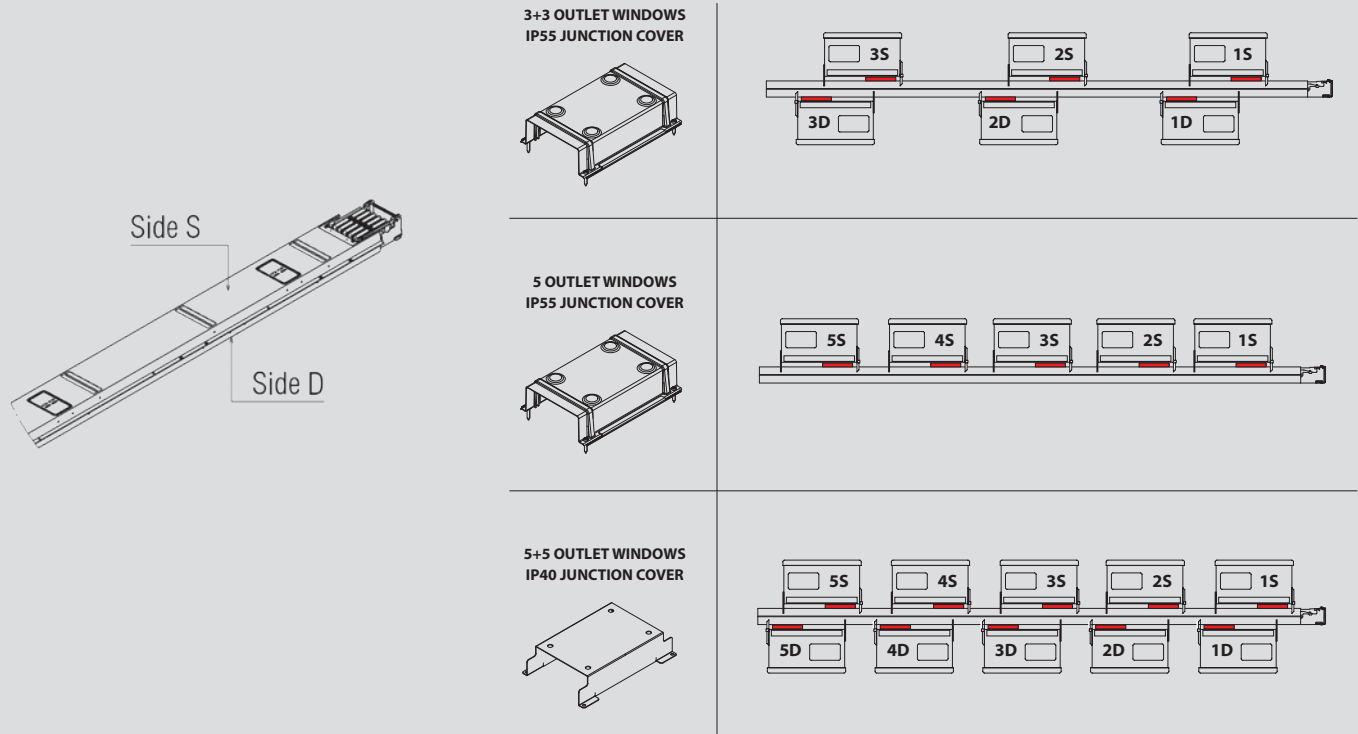


XCM 160 - 1000 A

tap-off boxes mounting

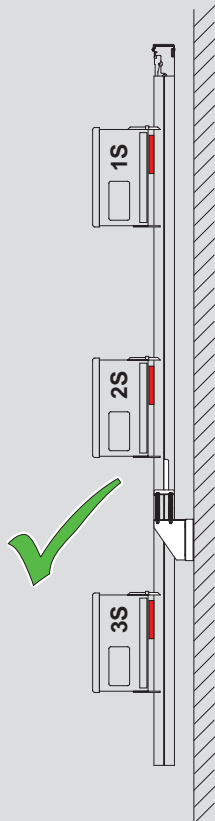
Not all boxes can be installed in any position. The following figures show where the various boxes may be installed on lengths with standard setup. The design of busbars and boxes can be developed using the Legrand busbar design tool.

Edgeways

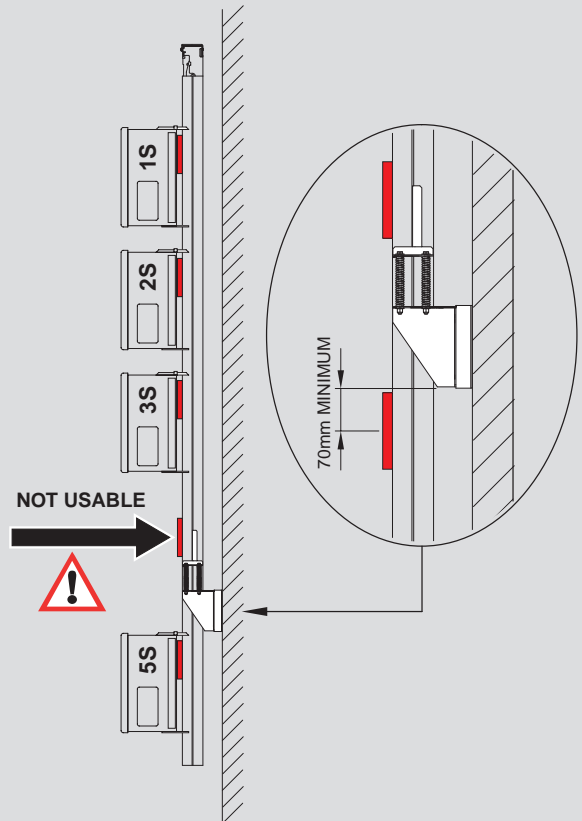


Rising mains

3+3 OUTLET WINDOWS



5 OUTLET WINDOWS



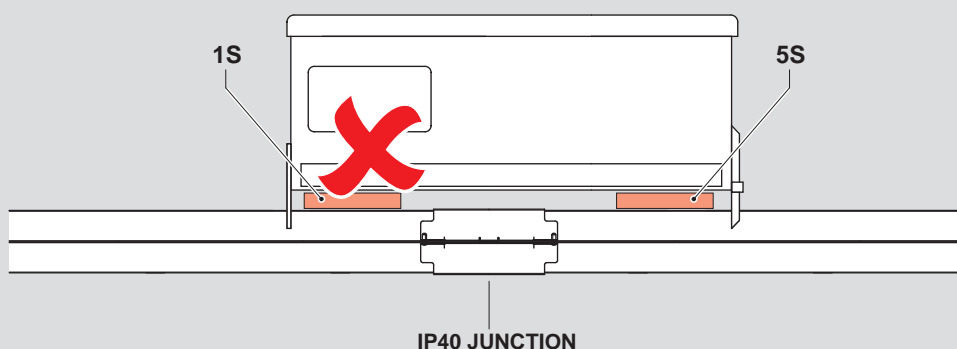
Refer to XCM user installation manual for further mounting details

XCM 160 - 1000 A

tap-off boxes mounting

ELEMENT TYPE	POSITION	TAP OFF BOX	
		METAL	PLASTIC
3+3 OUTLET WINDOWS	1S	size 1, size 2, size 3	size 1, size 2, size 3
	2S	size 1, size 2, size 3	size 1, size 2, size 3
	3S	size 1, size 2	size 1, size 2
	1D	size 1, size 2	size 1, size 2
	2D	size 1, size 2, size 3	size 1, size 2, size 3
	3D	size 1, size 2, size 3	size 1, size 2, size 3
5 OUTLET WINDOWS	1S	size 1, size 2, size 3	size 1, size 2, size 3
	2S	size 1	size 1, size 2
	3S	size 1, size 2, size 3	size 1, size 2, size 3
	4S	size 1	size 1, size 2
	5S	size 1	size 1, size 2
5+5 OUTLET WINDOWS	1S	size 1, size 2, size 3	size 1, size 2, size 3
	2S	size 1	size 1, size 2
	3S	size 1, size 2, size 3	size 1, size 2, size 3
	4S	size 1	size 1, size 2
	5S	size 1*, size 2*, size 3*	size 1*, size 2*, size 3*
	1D	size 1*, size 2*, size 3*	size 1*, size 2*, size 3*
	2D	size 1	size 1, size 2
	3D	size 1, size 2, size 3	size 1, size 2, size 3
	4D	size 1	size 1, size 2
	5D	size 1, size 2, size 3	size 1, size 2, size 3

* when mounted in this position the outlet window on next element will be unused.



XCM 160 - 1000 A

fixing accessories

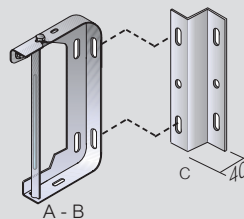


Pack	Cat.Nos	Suspension brackets
10	50632001	A Suspension brackets for bars up to 400A. Al: 160A-250A-315A Cu: 250A-315A-400A
10	50632003	B Suspension brackets for bars from 400A to 1000A. Al: 400A-500A-630A-800A-1000A Cu: 630A-800A-1000A
10	50632205	C Wall spacer, required when the bracket needs to be fixed directly to the wall (40 mm)
2	50403711	D Suspension bracket for vertical elements, suitable for riser mains up to 4 m and for weights up to 300 kg. It is to be used together with 50632001/3
2	50403712	E Suspension bracket with springs for riser mains. This bracket is used in vertical applications Use one bracket every 300 Kg (see weight busbars table).

Pack	Cat.Nos	Wall fixing bracket
4	50632212	Adjustable arm both in height and in depth. The bracket holder can be combined with the XCM - MS - TS brackets L= 0.45 m - max weight = 80 kg
4	50632213	Adjustable arm both in height and in depth. The bracket holder can be combined with the XCM - MS - TS brackets L= 0.55 m - max weight= 68 kg
2	50632214	Adjustable arm both in height and in depth. The bracket holder can be combined with the XCM - MS - TS brackets L= 0.75 m - max weight = 50 kg

Dimensions

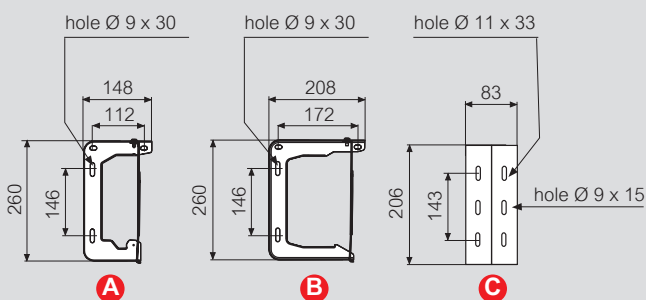
Brackets



Item code	Fig.	Weight (kg)
50632001	A	0.55
50632003	B	0.60
50632205	C	0.05

1 bracket for every 2 m of line

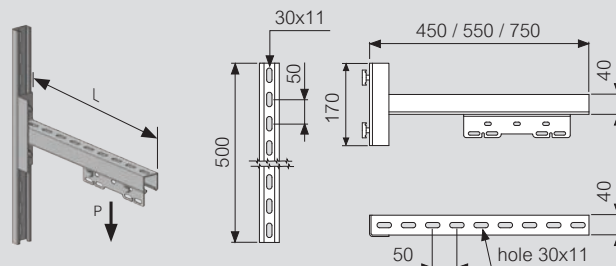
For more detail see page:
How to take measurements



Brackets for vertical elements

Item code	Weight (kg)	
50403711 D	1.05	1 bracket at the base of the riser mains max 4 m.
50403712 E	1.20	1 bracket every 300 kg

Wall fixing bracket



Item code	length	max weight	Weight (kg)
50632212	L= 0.45 m	p max = 80 kg	2.80
50632213	L= 0.55 m	p max = 68 kg	3.00
50632214	L= 0.75 m	p max = 50 kg	3.50

Definition of the maximum distance (Dmax) between two subsequent suspension bracket with springs

Depending on the capacity of the busbar, the quantity and the type of brackets being installed, checked that the selected distance (D) is the same or less than the maximum distance (Dmax) between two subsequent bracket with springs.

XCM 4 conductors			XCM 5 conductors		
In (A)	D max (m)		In (A)	D max (m)	
	Al	Cu		Al	Cu
160	19	-	160	19	-
250	19	17	250	18	16
315	18	16	315	17	15
400	15	13	400	15	12
500	14	-	500	13	-
630	13	10	630	12	9
800	13	9	800	12	8
1000	12	8	1000	11	7

The max load applicable to the brackets is 300 kg. The values in the table have been calculated taking into consideration, in addition to the weight of the busbar, also the estimated weight of the accessories (25 kg for each element).

XCM 160 - 1000 A

accessories



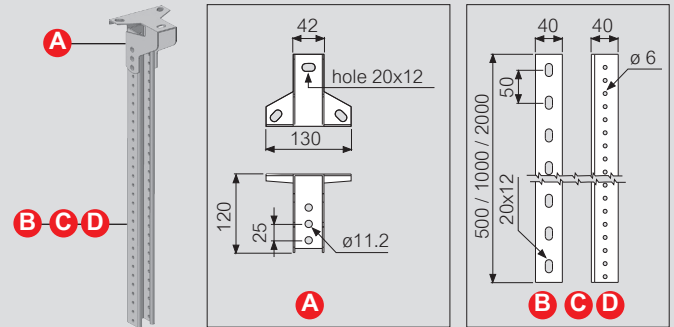
53403601

Pack	Cat.Nos	Fixing accessories
		Ceiling fixing bracket with a base to be fixed to the ceiling and a drilled u-shaped section bar available in various lengths the section bar holes are suitable for being installed with the XCM brackets
10	50632201	Ceiling flange
10	50632202	U-shaped bar L= 0.5 m
5	50632203	U-shaped bar L= 1 m
1	50632204	U-shaped bar L= 2 m
10	50632210	Beam fixing bracket. This bracket holder has a bracket and two clamps that are hooked to the wings of the beam
		Various accessories
6	53403601	Outlet cover (spare part*) Suitable for all XCM versions

* The outlet cover is pre-mounted on the windows of the XCM busbar. The code refers to a spare part.

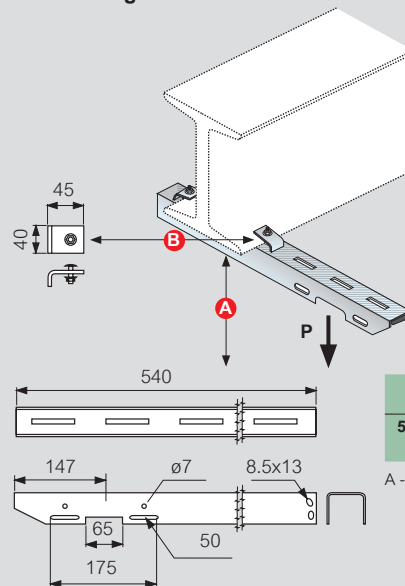
Dimensions

Ceiling fixing bracket



Item code	Description	Fig.	Weight (kg)
50632201	Ceiling flange	A	0.66
50632202	U-shaped bar L=0.5 m	B	1.0
50632203	U-shaped bar L=1 m	C	1.5
50632204	U-shaped bar L=2 m	D	2.0

Beam fixing bracket:



Item code	Fig.	Weight (kg)
50632210	A	0.90
	B	0.90

A - max weight = 65 kg

XCM 160 - 1000 A

technical informations

	In [A]	XCM - Al - 4 Conductors (3P+N+PE)								XCM - Cu - 4 Conductors (3P+N+PE)					
		160	250	315	400	500	630	800	1000	250	315	400	630	800	1000
Rated current	In [A]														
Overall dimension of the busbars	LxH [mm]	75x196				135x196				75x196			135x196		
Rated operational voltage	Ue (V)	1000								690					
Rated insulation voltage	Ui (V)	1000								690					
Frequency	f (Hz)	50													
Rated short-time current (1 s)	Icw [kA] _{rms}	15*	25*	25*	25	30	36	36	36	25*	25*	30*	36	36	36
Peak current	Ipk [kA]	30	53	53	53	63	76	76	76	53	53	63	76	76	76
Allowable specific energy for three-phase fault	I²t [M A²s]	23	63	63	625	900	1296	1296	1296	63	63	90	1296	1296	1296
Rated short-time current of the neutral bar (1 s)	Icn [kA] _{rms}	15*	25*	25*	25	30	36	36	36	25*	25*	30*	36	36	36
Peak current of the neutral bar	Ipk [kA]	28	49	49	49	59	70	70	70	53	53	63	76	76	76
Rated short-time current of the protective circuit (1 s)	Icw [kA] _{rms}	15*	15*	15*	13	13	13	13	13	15*	15*	15*	13	13	13
Peak current of the protective circuit	Ipk [kA]	30	30	30	26	26	26	26	26	30	30	30	26	26	26
Phase resistance at 20 °C	R ₂₀ [mΩ/m]	0.493	0.331	0.202	0.120	0.077	0.060	0.052	0.037	0.239	0.182	0.099	0.061	0.040	0.032
Phase reactance at 50 Hz	X [mΩ/m]	0.150	0.150	0.150	0.140	0.070	0.070	0.070	0.060	0.158	0.138	0.119	0.064	0.064	0.056
Phase impedance	Z [mΩ/m]	0.515	0.363	0.252	0.184	0.104	0.092	0.087	0.070	0.287	0.228	0.155	0.088	0.075	0.064
Phase resistance at thermal conditions	R [mΩ/m]	0.651	0.485	0.285	0.152	0.098	0.080	0.074	0.053	0.320	0.254	0.133	0.082	0.054	0.046
Phase impedance at thermal conditions	Z [mΩ/m]	0.668	0.507	0.322	0.207	0.120	0.106	0.102	0.080	0.357	0.289	0.179	0.104	0.084	0.073
Neutral resistance	R ₂₀ [mΩ/m]	0.493	0.331	0.202	0.120	0.077	0.060	0.052	0.037	0.239	0.182	0.099	0.061	0.040	0.032
Resistance of the protective bar	R _{PE} [mΩ/m]	0.310	0.310	0.310	0.257	0.257	0.257	0.257	0.257	0.310	0.310	0.310	0.257	0.257	0.257
Reactance of the protective bar at 50 Hz	X _{PE} [μΩ/μ]	0.220	0.220	0.220	0.180	0.180	0.180	0.180	0.180	0.220	0.220	0.220	0.180	0.180	0.180
Resistance of the fault loop	R ₀ [μΩ/μ]	0.803	0.641	0.512	0.377	0.334	0.317	0.309	0.294	0.549	0.492	0.409	0.318	0.297	0.289
Reactance of the fault loop	X ₀ [μΩ/μ]	0.370	0.370	0.370	0.320	0.250	0.250	0.250	0.240	0.378	0.358	0.339	0.244	0.244	0.236
Impedance of the fault loop	Z ₀ [μΩ/μ]	0.884	0.740	0.632	0.494	0.417	0.404	0.397	0.380	0.667	0.608	0.531	0.401	0.384	0.373
Zero-sequence short-circuit average resistance phase - N	R ₀ [μΩ/μ]	0.657	0.441	0.269	0.160	0.103	0.080	0.069	0.049	0.319	0.243	0.132	0.081	0.053	0.043
Zero-sequence short-circuit average reactance phase - N	X ₀ [μΩ/μ]	0.200	0.200	0.200	0.187	0.093	0.093	0.093	0.080	0.211	0.184	0.159	0.085	0.085	0.075
Zero-sequence short-circuit average impedance phase - N	Z ₀ [μΩ/μ]	0.687	0.485	0.335	0.246	0.139	0.123	0.116	0.094	0.382	0.305	0.206	0.118	0.101	0.086
Zero-sequence short-circuit average resistance phase - PE	R ₀ [μΩ/μ]	0.474	0.420	0.377	0.297	0.283	0.277	0.274	0.269	0.390	0.371	0.343	0.277	0.270	0.268
Zero-sequence short-circuit average reactance phase - PE	X ₀ [μΩ/μ]	0.270	0.270	0.270	0.227	0.203	0.203	0.203	0.200	0.273	0.266	0.260	0.201	0.201	0.199
Zero-sequence short-circuit average impedance phase - PE	Z ₀ [μΩ/μ]	0.546	0.500	0.464	0.374	0.348	0.344	0.341	0.335	0.476	0.457	0.430	0.342	0.337	0.334
Voltage drop with distributed load Δv [V/m²A]10 ⁻⁶	cosφ = 0.7	0.429	0.326	0.233	0.167	0.095	0.084	0.080	0.063	0.331	0.226	0.154	0.081	0.076	0.061
	cosφ = 0.75	0.446	0.336	0.237	0.167	0.096	0.084	0.079	0.062	0.340	0.230	0.155	0.081	0.076	0.060
	cosφ = 0.8	0.462	0.344	0.239	0.165	0.096	0.083	0.078	0.061	0.348	0.232	0.154	0.080	0.075	0.059
	cosφ = 0.85	0.477	0.351	0.239	0.162	0.095	0.082	0.076	0.059	0.355	0.234	0.153	0.079	0.073	0.057
	cosφ = 0.9	0.489	0.356	0.237	0.157	0.093	0.079	0.073	0.056	0.359	0.233	0.149	0.077	0.071	0.054
	cosφ = 0.95	0.497	0.357	0.231	0.148	0.089	0.075	0.068	0.051	0.359	0.228	0.142	0.073	0.067	0.050
	cosφ = 1	0.480	0.333	0.201	0.116	0.074	0.059	0.052	0.037	0.333	0.201	0.116	0.059	0.052	0.037
Weight	[kg/m]	7.1	7.6	8.3	11.0	12.7	14.0	15.0	17.0	9.5	10.4	14.3	19.8	25.4	29.5
Degree of protection	IP	55	55	55	55	55	55	55	55	55	55	55	55	55	55
Losses for the Joule effect at nominal current	P [W/m]	43	72	69	64	64	81	115	128	51	62	54	82	87	111
Ambient temperature min/MAX (daily average)**	[°C]	-5/70**	-5/70**	-5/70**	-5/70**	-5/70**	-5/70**	-5/70**	-5/70**	-5/70**	-5/70**	-5/70**	-5/70**	-5/70**	-5/70**

* Values referred to 0.1 s

Temperature rating schedule according to the room temperature

Ambient temperature (°C)	-5	0	10	15	20	25	30	35	40	45	50	55	60	65	70
Factor Kt	1,28	1,25	1,19	1,16	1,13	1,10	1,07	1,03	1	0,97	0,93	0,89	0,86	0,82	0,78

**For temperatures over 40°C it will be necessary to derate the busbar and for ambient temperatures under -5°C contact the technical support.

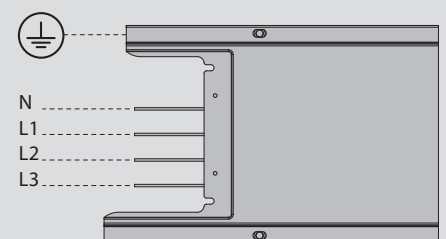
The data on this page refer to the 50 Hz frequency. For 60 Hz, please contact Legrand.

(**) **THREE-PHASE:** $\Delta V_{3f} = \sqrt{3}/2 \times (R_t \cos\phi + X \sin\phi)$
 $\Delta V_{3f}(In) = I \times L \times \Delta V_{3f}$ (knowing the current and length of the line)
 $\Delta V_{3f}(In)\% = (\Delta V_{3f}(In) / U_e) \times 100 (\%)$

To calculate the **ΔV1f (SINGLE-PHASE) on distributed load:**

$\Delta V_{1f} = 1/2 \times (2R_t \cos\phi + 2X \sin\phi)$
 $\Delta V_{1f}(In) = I \times L \times \Delta V_{1f}$ (knowing the current and length of the line)
 $\Delta V_{1f}(In)\% = (\Delta V_{1f}(In) / U_e) \times 100 (\%)$

I = operating current (A)
L = length (m)



XCM 4 conductors

XCM 160 - 1000 A

technical informations

Straight lengths

The components and the features of the XCM straight lengths are:

- a casing made of galvanized steel used as protective earth (PE);
- overall busbar dimensions: 75x196 and 135x196;
- painted casing available on request;
- number of conductors: 4 with the same section (3P+N) with PE made from the casing or 5 when using XCM (3P+N+PE), available in the aluminum or electrolytic copper version with 99.9% purity;
- conductors insulators are made by fiberglass reinforced plastic material, ensuring a V0 self-extinguishing degree (according to UL94), in compliance with the glow-wire test according to IEC 60695-2-10;
- tap-off outlets with a constant centre distance of 1 m on both sides of the busbar (3+3 outlets every 3m), set up for being connected to plug-in type tap-off boxes; These outlets open and close automatically when inserting or pulling out a tap-off box;
- monobloc electric junction system made with tin plated aluminium for XCM Al and copper for XCM Cu system to connect conductors and PE in a fast and reliable way. The monobloc has shearhead bolts with a preset torque setting which ensure good, long-lasting electrical continuity
- all components and accessories of the XCM line are IP55
- the whole busbar is fire retardant in compliance with the IEC 60332-3 standard

Feed units

Allows you to electrically power the XCM line through a cable line or directly connected to a distribution board. The 160 and 250A feed units have terminals for cables up to 150mm²; for higher ratings, the cable connection to the feed unit requires cable lugs to be fastened to the provided spreaders. The XCM line can be provided with intermediate feed units or end feed units with a switch-disconnector which allows you to isolate the whole line for carrying out maintenance operations or layout changes, if required

End cover

The end cover ensures the IP55 protection degree at the end of the line

Fixing supports

In order to fix the line to the structure of the building, directly or with wall / ceiling / beam supports, it is necessary to use the bracket supports or vertical suspension supports

Tap-off boxes

Used for energizing three-phase loads from 32A up to 1000A; they can be divided into two big categories:

1) Plug-in type tap-off boxes (from 32A up to 630A) with the following features:

- Intervention under load possible up to 32A;
- disconnection device integrated into the cover of the boxes with a rating from 63A to 630A, ensuring automatic absence of electric current when the cover is opened;
- possibility of padlocking box cover in the open/disconnected position so that all maintenance operations of the loads connected to it can be carried out safely;
- the supplied PE contact (protective conductor) is the first to make an electrical connection when inserting the box into the outlet and it is the last to disconnect when pulling it out;
- all insulating plastic components are in compliance with the IEC 60695-2-1 glow-wire test and rated V2 self-extinguishing according to the UL94;
- standard IP55 degree of protection without using additional accessories;
- availability of boxes in the following versions:
 - with a set of three fuse carriers
 - with Lexic MCBs
 - with industrial sockets and Schuko sockets
 - with AC23 switch disconnector and fuse carrier
 - for MCCBs.

2) Boxes bolted onto the connection (from 630A to 1000A) which include the following features:

- very easy, fast and reliable installation;
- high rated current;
- rigid connection to the busbar through the use of a monobloc junction similar to the straight element system;
- possibility of removing the boxes only when the busbar is not energized (isolated busbar);
- availability of boxes in the following versions:
 - AC23 switch disconnector and fuse carrier
 - for MCCBs

Product fully in compliance with the following Standards: IEC 61439 -6. The busbar trunking systems are fire retardant in compliance with IEC 20-22 (IEC 332-3: 1992).

Product suitable for these climates:

- IEC 60068 2-11: Environmental tests Part 2-11: Tests – Test Ka: Salt mist
- IEC 60068 2-30: Environmental tests Part 2-30: Tests – Test Db: Damp heat, cyclic(12 h + 12 h cycle)

Conversion table

Conductors	Case	Item code	
4	galvanized	---0----	
5	galvanized	---1----	
5	galvanized	---1-----E5	
4	painted	---2----	
5	painted	---3----	
5	painted	---3-----E5	

Note: item code **-E5** = 3P + N + FE + PE casing

Short circuit protection for LEGRAND'S product ranges ($I_n \leq 100A$)

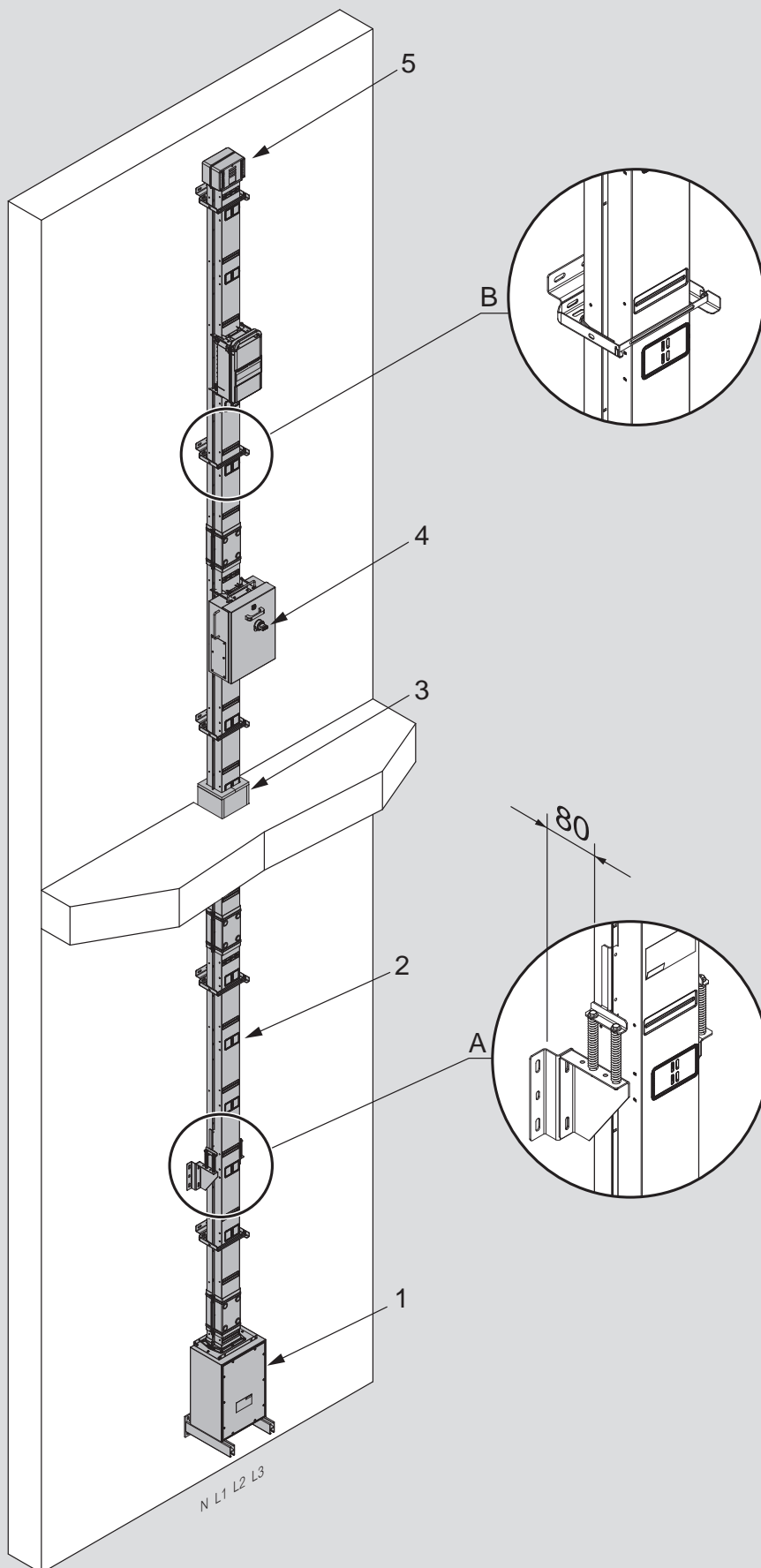
Legrand busbar trunking systems with a rated current lower than or equal to 100A are properly protected through an MCB (Modular Circuit Breaker) with a nominal current lower than or equal to that of the busbar. This protection is guaranteed up to the MCB breaking capacity

XCM 160 - 1000 A

How to design Rising mains

■ General rules for design of rising mains

- 1 - Use a LH end feed unit. This allows the Neutral bar to be positioned on the left side of the busbar, hence the cable exit of the tap-off boxes is located downwards
 - 2 - Use straight lengths with 5 outlets on one side
 - 3 - Use a straight element with fire barrier for each compartment floor. It is necessary to specify the position of the internal fire barrier before placing an order
 - 4 - The tap-off boxes can be installed in the tap-off outlets and near the connection between the lengths
 - 5 - At the end of the riser mains, position the IP55 end cover. Before installing the end cover remove the monobloc located on the last element
- A** - Use one or more suspension brackets for the vertical elements, according to the weight of the whole rising mains. For risers that are shorter than 4 meters, fix to the base with code 50403711; when longer, use a suspension bracket code 50403712 every 300 kg of rising main
- B** - Use a standard suspension bracket with a 40 mm spacer every 2 meters of rising mains



For more installation details, please refer to the installation instructions

XCM 160 - 1000 A

how to take measurements

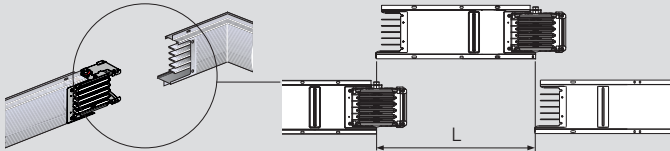
MEASURING BESPOKE DIMENSIONS

Straight lengths

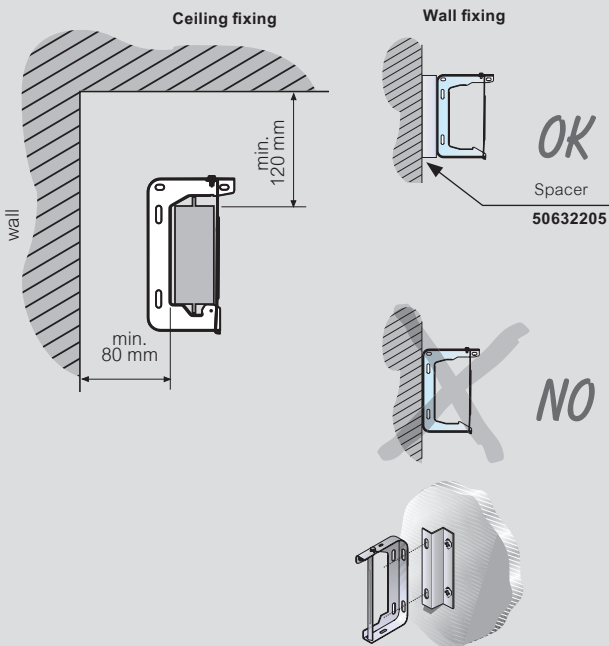
Always take measurements on the long side on the metal casing as shown in the figure. For simplicity's sake, it will be referred to as 'long casing'.



The dimension of the straight lengths can range from 600 mm to 3000 mm



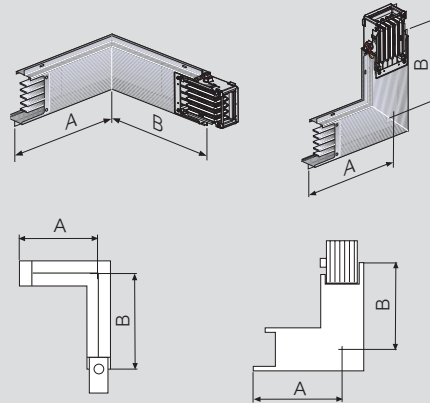
Minimum fixing distances



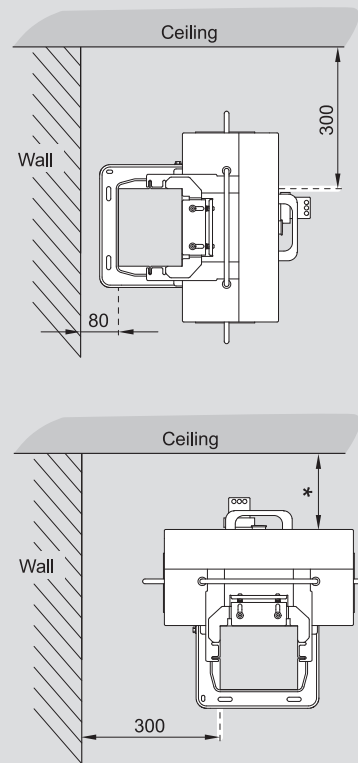
Do not fix the bracket directly on the wall. Use the special spacer 50632205

Elbows

When using elbows, the dimension should be measured from the long casing to the axis of the element



Minimum installation distance with tap-off boxes



* When there is a tap-off box installed above the busbar, check the overall dimension of the open cover of the tap-off unit used in the specific section.

Design example

Technical informations

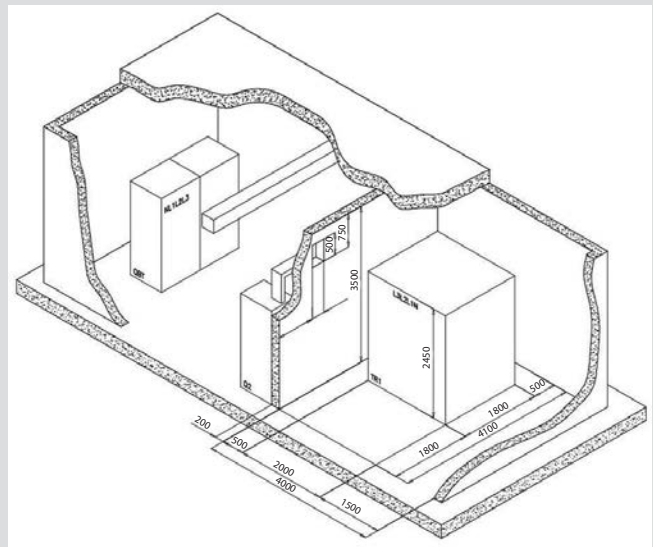
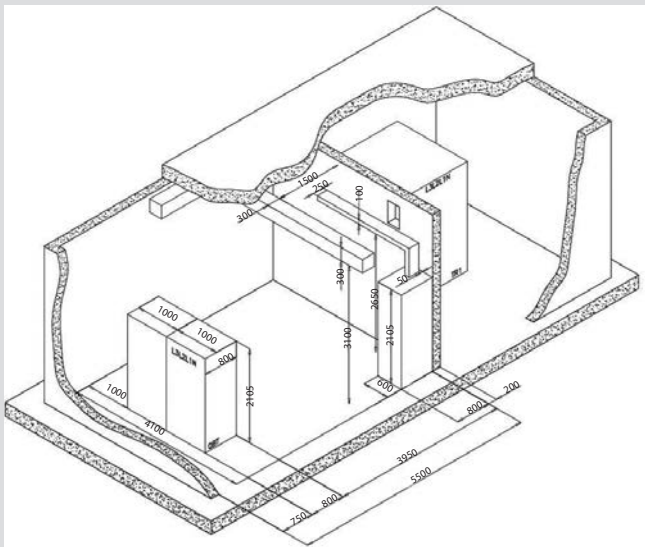
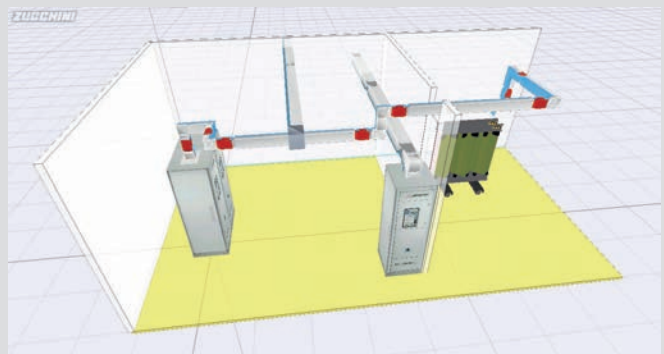
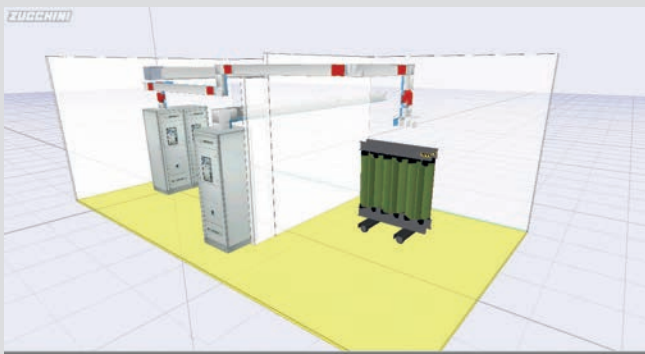
Thanks to the flexibility of the XCM line, the possibility of customising the system according to one's own requirements. It is therefore possible to request special products such as continuous current or particular frequency (60Hz) distribution systems, or, as it is the case for the food sector, with stainless steel casing

Possible special requirements:

- 200% neutral
- 5 conductor version with separate FE earth
- 3 conductor version
- painting in customised colour
- fitting with Al/Cu earth conductors
- F class insulation
- arrangement for continuous current systems
- stainless steel casing
- Aluminium casing

Below is the example of a system route.

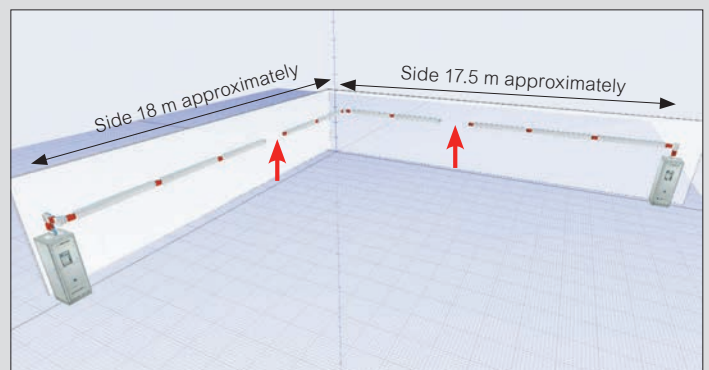
The figures below show the initial situation, listing all the measurements that must be known.



Route not completely defined

If the route cannot be defined with sufficient degree of precision, some parts may be left out and ordered at a later stage





In order to simplify the process of taking the necessary measurements for the definition of the completion items, it is recommended that the supply of all sections with direction changes is defined from the start, leaving the completion of straight section to a later stage



NOTE: The red arrows indicate the elements that can be dealt with at a later stage, and the correct layout of those supplied initially



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World Headquarters
and International Department
87045 Limoges Cedex - France
☎ : + 33 (0) 5 55 06 87 87
Fax: + 33 (0) 5 55 06 74 55