

# XCP

## ZUCCHINI BUSBAR FOR POWER APPLICATIONS



GLOBAL SPECIALIST IN ELECTRICAL  
AND DIGITAL BUILDING INFRASTRUCTURE

 **legrand**<sup>®</sup>



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# XCP IP55 busbar trunking



**XCP** is the new Zucchini busbar trunking system ranging from 630 A to 6300 A with an IP55\* degree of protection.

It is the most suitable solution for the transport and distribution of energy in industrial, commercial and service sector installations. The main features of the range are **SAFETY**, **FLEXIBILITY** and **SIMPLICITY**

**SAFETY**

**FLEXIBILITY**

**SIMPLICITY**

## **CERTIFICATION AND TESTS**

The busbar trunking has been tested and approved according to IEC 61439-6 Low voltage switchgear and controlgear assemblies. Part 6 refers to busbar trunking systems (busways)



## **Typical applications**

- Industry.
- Riser end feed units.
- Commercial and service sector buildings (banks, hospital, data center, business centres).



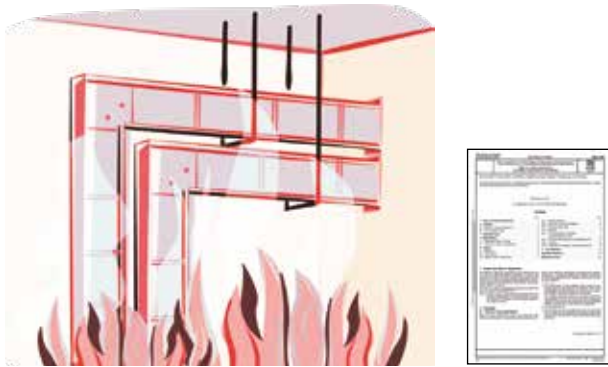
\*The standard degree of protection is IP55. IP65 is available by request for transport of energy.



# Safety

## Fire resistance

In installations where there is a high risk of fire, the XCP busbar trunking system solution can provide technical advantages. Thanks to the low fire load of the busbar, the safety of the building is much improved. XCP has been fire resistance tested in accordance with IEC 60331-1.



## Insulation technology

In order to achieve a superior quality and safety, XCP conductor bars are wrapped by two PET sheets, each of them is sufficient to ensure the full required dielectric level. PET is a non-hygroscopic thermoplastic polymer resin and therefore preserves its performance whatever the level of humidity. For more information about the characteristics of this material, see page 103.

## Maximum strength

The XCP range has been designed and manufactured for heavy industrial environments. The busbar is self-supporting and the degree of impact resistance of the casing which houses this line, is the maximum stated in IEC EN 60068-2-62: IK10.



## Electromagnetic emission

The ferromagnetic structure of the casing and the compactness of the bars significantly reduce the electromagnetic field emitted. The magnetic induction measured at 1 metre from the XCP busbar is much lower than  $3\mu\text{T}$  which represents the quality objective of several countries.

## Sprinkler proof

**Upon request it is possible to accessorise XCP with a sprinkler kit that makes the busbar system resistant to the sprinkler test.**

Tests under sprinkler conditions are available. For more information please contact Legrand



SPRINKLER KIT

## Resistance to seismic events

All busbar systems and their supports are tested with laboratory tests and guarantee, if the product is installed in accordance with the rule of art, the resistance to seismic events of territory. The XCP-S and XCP-HP ranges and the related tap-off boxes, have passed seismic tests at a value of ZPA 1.5g \* in accordance with IEEE Std 693-2018. Considering that:  $ZPA\ 1.5g = 1.5 \times 9.81\ \text{m/s}^2 = 14.71\ \text{m/s}^2$ . The maximum acceleration value obtained corresponds to extremely intense earthquakes.

# Flexibility

By using the outlet windows located on the straight elements, XCP provides high flexibility, both when planning (electrical engineer) and when installing the system (installer); they are also used for the unavoidable changes required by the electric system to adapt to the various needs of the end user during the life of the plant.

The XCP range provides all the necessary components needed for the installation of rising mains. This is an excellent solution for all high-rise buildings; residential or commercial blocks, hospitals and office blocks which have power distribution on every floor.



\* $g=9.81\text{m/s}^2$  (gravitational acceleration)

# Simplicity

With **XCP**, the design and installation of the power distribution line become quick and simple.

In order to facilitate and reduce the installation time, the elements are supplied with a monobloc which is pre-installed at the factory and the connections between them are keyed, which ensures that the installation of the components is in the correct position.



## PSZ software

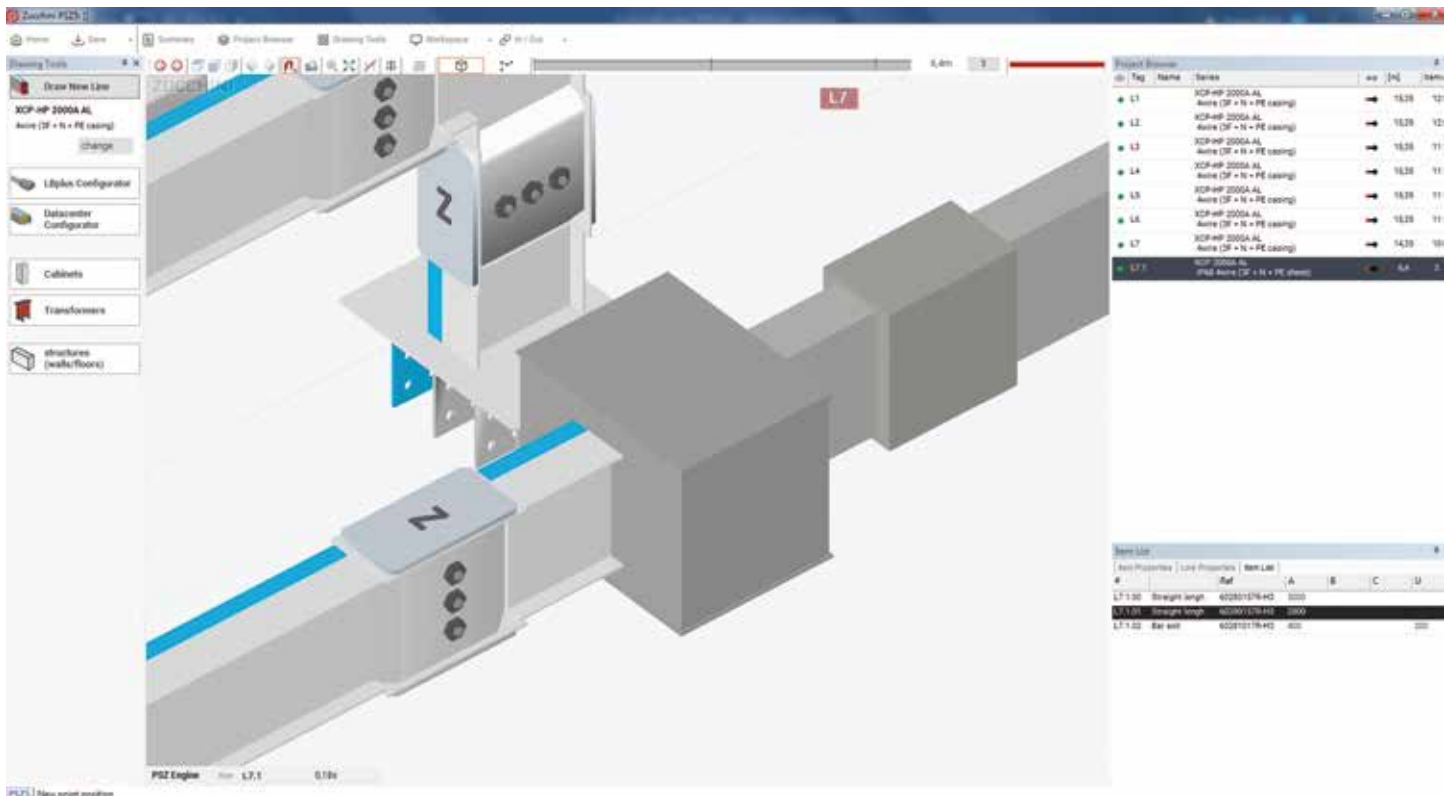
To guarantee a fast and accurate service to its customers, Legrand has developed **PSZ**, a proprietary software for the processing and realization of projects with busbar trunking.

This service supports the customer in detailed and complex projects.

PSZ transforms a graphic project into a list of materials, including mandatory accessories, to get an offer identical to the final design and it is fully compatible with **Autocad 2021** and **Revit 2021** (and previous versions of both programs).

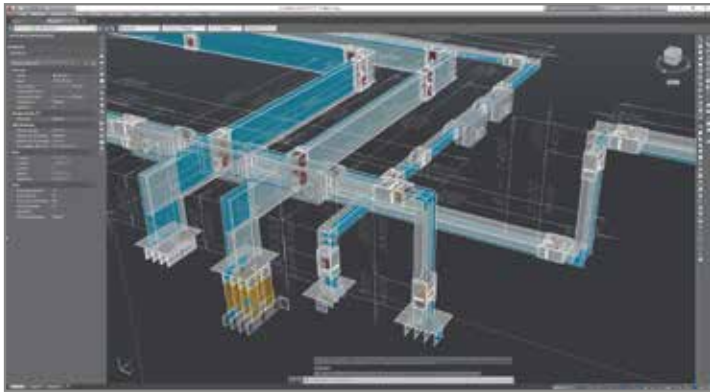
**With this software you can:**

- draw the layout of the distribution system;
- automatically obtain the material list (including accessories) from the drawing;
- export the drawing to Autocad® and Revit®\*\*

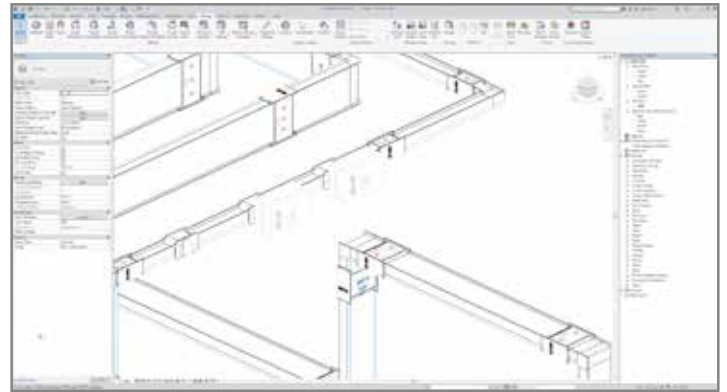


EXAMPLE OF A DRAWING USING LEGRAND SOFTWARE

With PSZ\* you can have a detailed list of the item codes that you find in this catalogue. Furthermore, the possibility to export the drawing to Autocad or Revit\*\*, allows you to enter the paths of the busbar directly into the design of the building and to follow any design changes quickly and professionally.



EXAMPLE OF A DRAWING EXPORT IN AUTOCAD

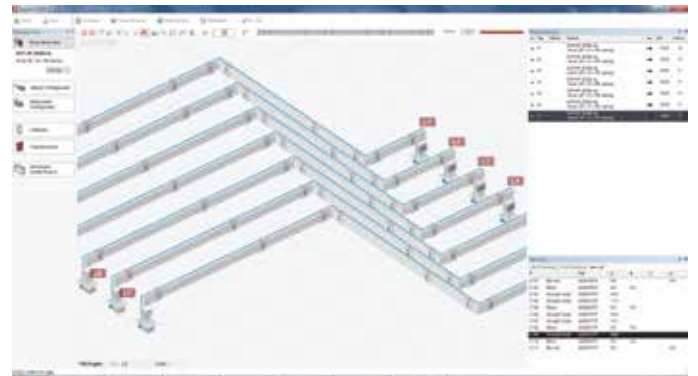


EXAMPLE OF THE DRAWING EXPORT IN REVIT

The new release of the program has been implemented with new features that make PSZ even more complete and high performing.



SPECIAL CONNECTION INTERFACES MANAGEMENT FUNCTIONS



THE POSSIBILITY TO MANAGE SINGLE PIECES THROUGH A NEW ALGORITHM WHICH IS ABLE TO OPTIMISE ROUTES

\*\* Autodesk Revit is a building information modeling software for architects, landscape architects, structural engineers, MEP engineers, designers and contractors. The software allows users to design a building structure and its components in 3D, annotate the model with 2D drafting elements, and access building information from the building model's database.

\* For more information about the request and use of the Legrand PSZ software, please contact Legrand

# RANGE

## features

### Xtra-compact design

**XCP** is available with aluminium or copper conductors and is characterised by a smart and extra-compact design.

The external dimensions do not change based on the number of conductors. The length and height change with the rating, but are the same for all three combinations of conductors (3 - 4 - 5 conductors) available.

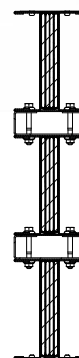


Often, for the transport and the distribution of high power (5000A Al /6300A Cu rated current), the energy distribution consists of a parallel of two independent busbars.

**With XCP multi-bar design is always supplied in a single structure** so as to be simpler to install compared to independent run designs.



STANDARD BUSBAR



XCP

XCP is available in aluminium versions (630 - 5000 A)  
or with copper conductors (800 - 6300 A)



Aluminium conductors



Copper conductors

# XCP-S and XCP-HP

## 2 product lines

The range of XCP busbars consists of two different product lines:

- XCP-S
- XCP-HP

While maintaining the same basic characteristics, such as the range of rated current, the construction materials and the same amount of accessories available, XCP-S and XCP-HP have different properties that make them able to satisfy all the demands of the world market.

**XCP-S** is the optimised solution for the most common performance requirements. The optimised sections of internal conductors allow this busbar to be lighter and more compact than XCP-HP, making it the right choice for standard applications.

LIGHTER

SMALLER

FOR STANDARD APPLICATIONS

**XCP-HP** is the busbar system characterised by higher performance on energy saving and higher short circuit withstand. It is designed to work at 50 °C of ambient temperature.

Thanks to these features, XCP-HP is the ideal solution for heavy duty applications, higher temperature environments and installations where high energy efficiency is required.

HIGHER PERFORMANCE

FOR HEAVY DUTY APPLICATIONS

NUMBER OF INTERNAL BARS OF XCP-S AND XCP-HP

RATED CURRENT	630 A	800 A	1000 A	1250 A	1600 A	2000 A	2500 A	3200 A	4000 A	5000 A	6300 A
XCP-S ALUMINIUM	SINGLE BAR configuration						DOUBLE BAR configuration			*	
XCP-S COPPER		SINGLE BAR configuration					DOUBLE BAR configuration				*
RATED CURRENT	630 A	800 A	1000 A	1250 A	1600 A	2000 A	2500 A	3200 A	4000 A	5000 A	6300 A
XCP-HP ALUMINIUM	SINGLE BAR configuration						DOUBLE BAR configuration			*	
XCP-HP COPPER		SINGLE BAR configuration					DOUBLE BAR configuration				*

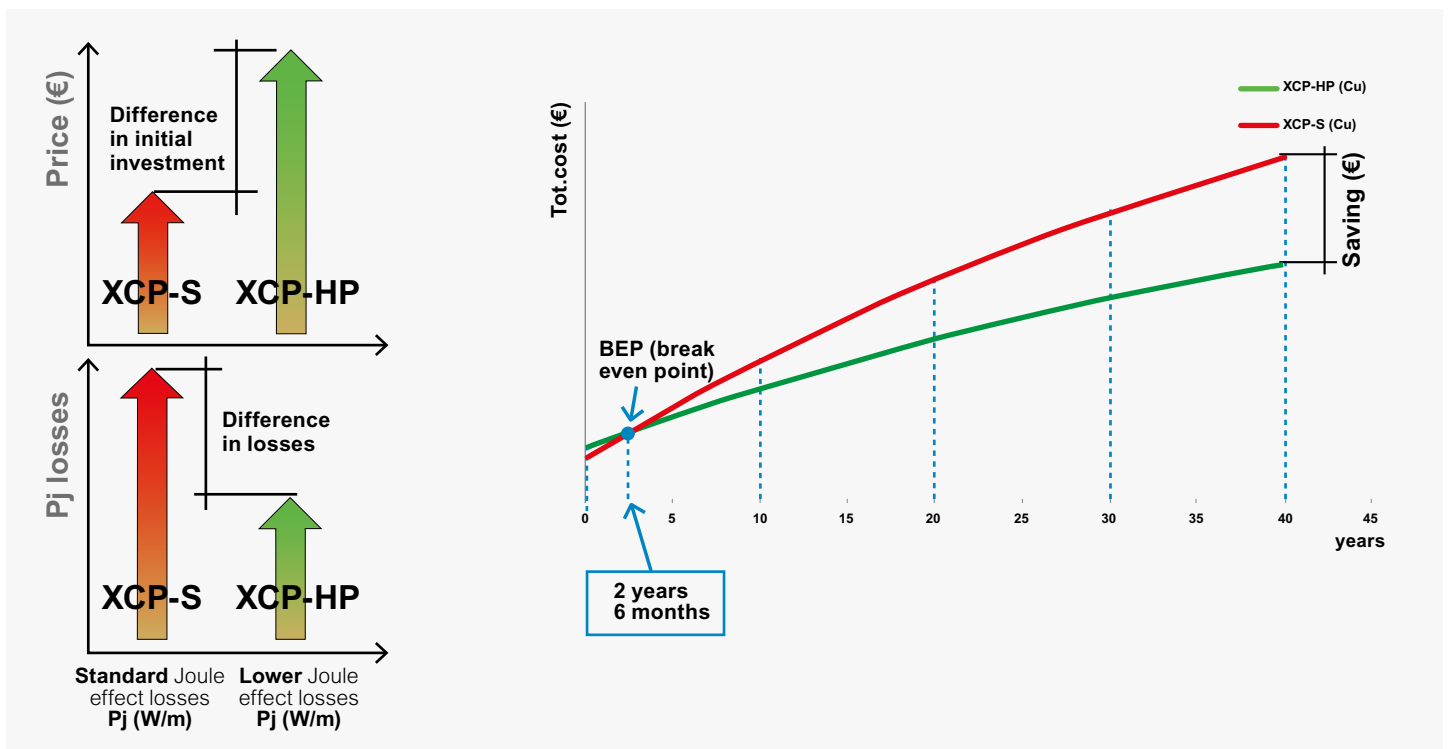
\* Triple bar

# XCP-S and XCP-HP 2 product lines

## Energy Saving

The two busbar ranges, XCP-S and XCP-HP, also differ in the loss values due to the Joule effect. XCP-HP has lower Joule losses compared to XCP-S and this feature means that in a relatively short time it will be possible to recover the additional cost invested in the purchase of a low loss busbar duct, compared to the cost of a standard loss busbar duct.

In the graph below you can see an indicative example of the possible economic savings in relation to the loss values of the busbar duct.



**Note:** The time required to reach the break even point changes depending on energy costs in the country in which the analysis is carried out.

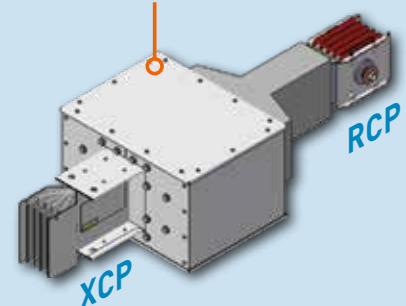
Total Ownership Costs = PURCHASE COST + OPERATING COST of the busbar

### XCP can be connected to the resin busbar RCP thanks to an adapter element.

This solution allows XCP to be used in hybrid systems where different degrees of protection are required.

It is possible to transition from the inside to the outside of a building by connecting the IP55 XCP busbar trunking with IP68 RCP resin busbar trunking using the adaptor element.

ADAPTER ELEMENT (IP55/65 TO IP68)





# RANGE composition

**XCP** includes all the necessary components to enable any path for the busbar run that the project requires.

## The busbar system is composed of:

### STRAIGHT ELEMENTS:

for transport and distribution (with tap-off outlets) of high-power energy.

### ADDITIONAL ELEMENTS:

able to meet any installation requirement (fire barrier, phase inversion...)

### ELBOWS:

able to meet any change of direction and plan with standard or special solutions.

### TAP-OFF BOXES:

for connecting and energising electric loads. Available in plug-in and bolt-on versions.

### CONNECTION INTERFACES:

for connecting the busbar to the electric board or transformer.

### FIXING SUPPORTS:

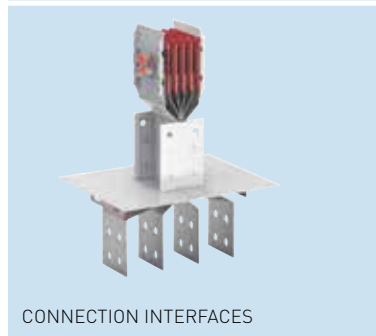
for fixing the busbar to the structure of the building, for horizontal and vertical installations and special applications (seismic areas).



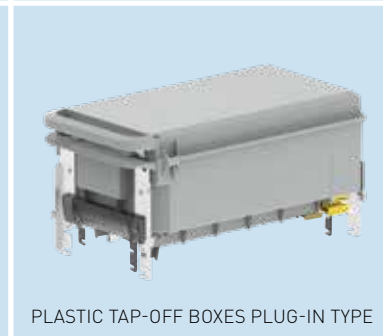
HORIZONTAL ELBOW WITH DOUBLE BAR



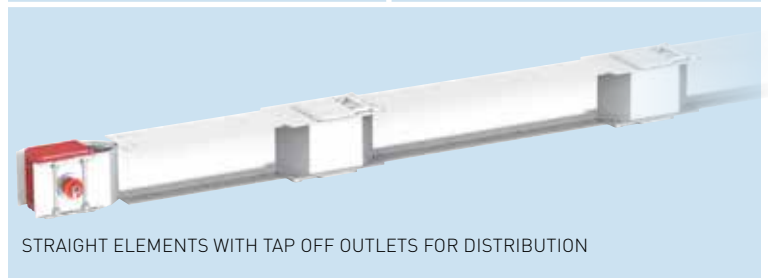
VERTICAL ELBOW WITH DOUBLE BAR



CONNECTION INTERFACES



PLASTIC TAP-OFF BOXES PLUG-IN TYPE



STRAIGHT ELEMENTS WITH TAP OFF OUTLETS FOR DISTRIBUTION

**IT IS POSSIBLE (ON REQUEST) TO HAVE XCP IN SPECIAL VERSIONS. BELOW YOU CAN SEE SOME EXAMPLES OF SPECIAL VERSION CODES AVAILABLE.**

Reference	Version description
64280102P	standard 4 conductors (3Ph + N + PE casing)
64280102P-R5	4 conductors RAL painted on request
64240102P	5 conductors (3Ph + N + FE + PE casing)
64250102P	double neutral
64280102P-3W	3 conductors (3Ph + PE casing)
64280102PF	Class F insulation (155 °C)
64280102P-RL	PEN conductor
64280102P-R3	with aluminum extra-ground (reinforced PE)
64280102P-R4	with copper extra-ground (reinforced PE)

### Conductor versions

- 3 conductors + PE: for applications where neutral distribution is not required
- 4 conductors + PE: with pariphase neutral
- 4 conductors + PE: with double neutral with respect to the phase section for applications with high values of third order harmonics (THD%)
- 5 conductors + PE: 3 phases + Neutral pariphase + FE functional earth + PE

### Versions of PE:

- PE1 with casing used as earth conductor
- PE2: with additional earth in copper plate
- PE3: with additional earth in aluminium plate

# PRODUCT news

## End feed unit for rising mains

New feed units are used at the start of the riser mains lines, when the busbar must be placed against the wall and powered using cables.

These new feed units allow you to install the product at a minimum distance of 40 mm from the wall.



## New monobloc

XCP is equipped with a new monobloc covered by a Legrand patent. This new monobloc ensures a better connection of the junction with less contact resistance.

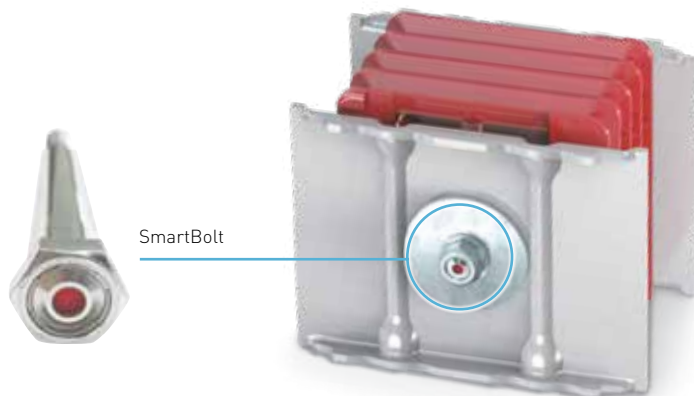
The insulation part of the monobloc is made by thermo-set insulation material Class F (155°C) and for each conductor there are two plates that assure the continuity between each conductor. A system of Belleville washers ensure the correct pressure during thermal expansion of the conductors. A double head nut breaks when it reaches the nominal torque (85 N•m). In the double/triple configurations, the monobloc ensures the current balancing on the same conductors.



DOUBLE HEAD NUT THAT BREAKS  
AT NOMINAL TORQUE (85 N•m)  
DURING 1st INSTALLATION

## SmartBolts®

SmartBolts are available on request. These bolts are equipped with a visual indication system that turns from red to black when you reach the right tightening torque (85 N•m). They are also useful after installation and during checks and maintenance operations because they allow you to see at a glance if a bolt has come loose or if it has lost the right torque by turning back to red.



SmartBolt



DTI (Direct Tension Indicating) SmartBolts are specialty fasteners with a built-in indicator that shows the tension that has been achieved as the bolt is installed.

# NEW FIBERGLASS AND METAL tap-off boxes

XCP distribution elements are equipped with new outlets suitable for the **new range of dedicated tap-off boxes**.

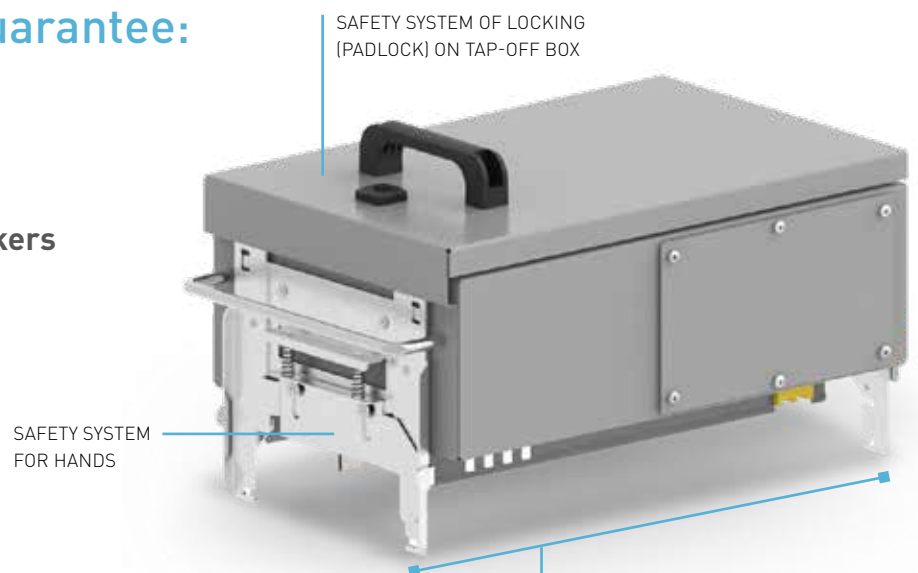
The new tap-off boxes are available in two different construction materials:

- 25% fiberglass with rating up to 250 A, plug-in type (to be installed on outlets)
- with metal sheet case, with rating up to 630 A for plug-in type (to be installed on outlets) and up to 1250 A for bolt-on type (to be installed on the junction)

They are **universal** and therefore **can be used on both (XCP-S and XCP-HP) product lines**.

## The new tap-off boxes guarantee:

- Safety
- Optimised dimensions
- Reduced maintenance costs
- Ready for MCB/MCCB circuit breakers



NEW CONNECTION SYSTEM.  
SAFE AND FAST TO ASSEMBLE

The new design of the outlets enables the installation of fiberglass plastic tap-off boxes in addition to the metal version.

**The degree of protection of the outlets and the system is IP 55.**



Tap-off boxes for XCP are available in two different materials: **fiberglass and metal sheet**, both characterised by a simple installation and fast connection thanks to the new layout of hooks that offer safety and speed of assembly.

Tap-off boxes can be installed and removed when the busbar is energised and it can be used for DPX<sup>3</sup> moulded case circuit breakers.

## Fiberglass version:

- Range from 32 A to 250 A
- Optimised installation of Legrand circuit breakers (MCCB)
- Optimised for P17 Tempra Pro CEE sockets
- Ready for data center applications
- Empty or with fuse carrier version available
- Total insulation (no metallic parts from inside to outside)
- Plug-in / Plug-out under live voltage

## Metal version:

- Range from 63 A to 630 A
- Optimised installation of Legrand circuit breakers (MCB/MCCB)
- Optimised for P17 Tempra Pro CEE sockets
- Ready for data center applications
- Empty or with fuse carrier version available
- Equipped with:
  - anti manoeuvre security system
  - anti accidental closing and opening of the box
  - unlooseable screws
  - blocked opened cover
  - safer vertical installation (the cover remains in an open position)
- Plug-in / Plug-out under live voltage



PLASTIC VERSION FROM 32 A TO 250 A



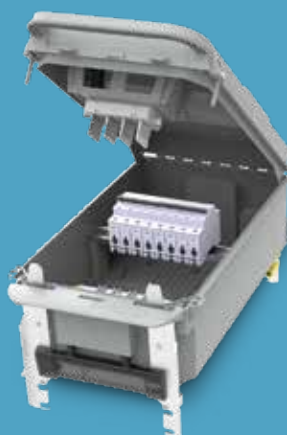
METAL VERSION FROM 63 A TO 630 A

## How to accessorise tap-off boxes

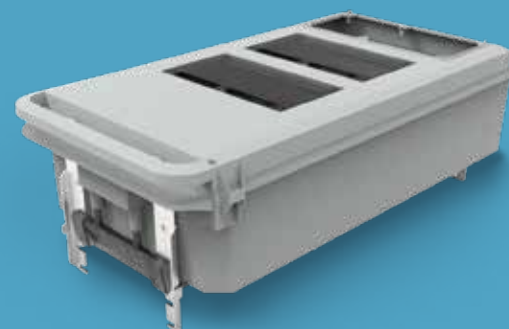
Tap-off boxes are ready to had equipment with Legrand circuit breakers and industrial sockets\*.



DPX<sup>3</sup> DIN MODULES

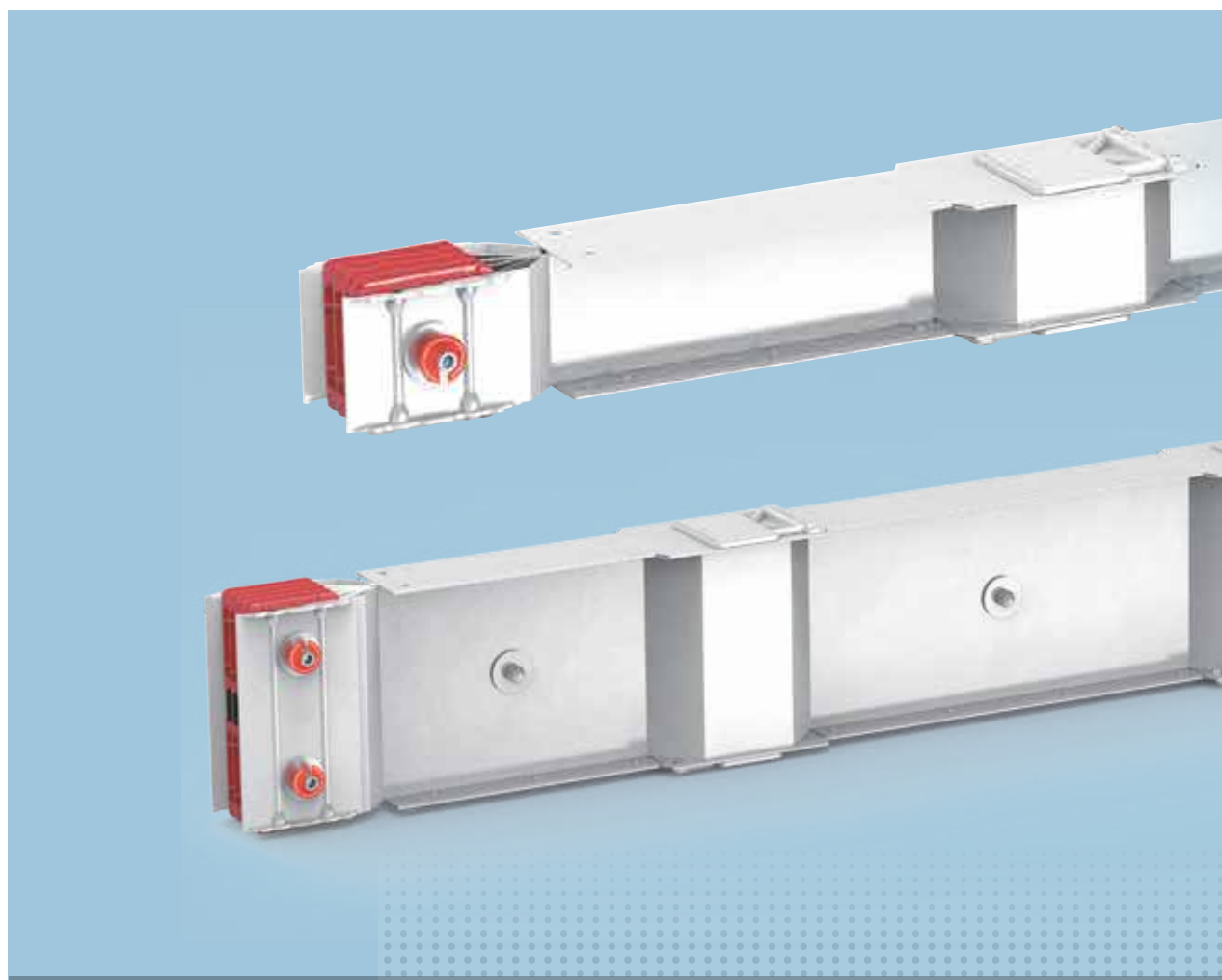


P17 SOCKETS



\*Accessories not supplied. To be purchased separately

# SELECTION GUIDE



## CONTENTS

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16	Selection of the busbar trunking system based on voltage drop
17	Short circuit withstand
19	Harmonics
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## Selection of the busbar based on the rated transformer data

### Technical information

During the planning concept of the power supply system, it is necessary to consider the technical specifications and standards of single items, but also well fix the technology and economy correlations. Each piece of electrical equipment (transformers, panel boards, busbars, protection devices) must be selected after correct dimensioning in order to represent a coherent selection to the complete system. All the component must be correctly dimensioned to support loads peak in the event of a fault or during rated current operations.

RATED CURRENTS AND SHORT-CIRCUIT CURRENTS OF STANDARD TRANSFORMERS						
Rated power [kVA]	Rated voltage Un					
	400V, 50Hz			690V, 50Hz		
	Rated short circuit voltage Uk		Rated short circuit voltage Uk			
		4%	6%		4%	6%
Rated power [kVA]	Rated current In [A]	Short circuit current Ik [kA]		Rated current In [A]	Short circuit current Ik [kA]	
400	577	14,4	9,6	335	8,4	5,6
500	722	18,0	12,0	418	10,5	7,0
630	909	22,7	15,2	527	13,2	8,8
800	1.155	28,9	19,2	669	16,7	11,2
1000	1.443	36,1	24,1	837	20,9	13,9
1250	1.804	45,1	30,1	1046	26,1	17,4
1600	2.309	57,7	38,5	1339	33,5	22,3
2000	2.887	72,2	48,1	1673	41,8	27,9
2500	3.608	90,2	60,1	2092	52,3	34,9
3150	4.547	113,7	75,8	2636	65,9	43,9
4000	5.774	144,3	96,2	3347	83,7	55,8

$$I_n = \frac{P}{\sqrt{3} \cdot U_n} \leftrightarrow P = I_n \cdot \sqrt{3} \cdot U_n \quad I_k = \frac{I_n}{U_k} \leftrightarrow I_n \cdot I_k = I_k \cdot U_n$$

Crossing busbars datasheet with previous chart, the proper busbar trunking systems can be selected. First selection parameter for appropriate busbar is linked to transformer's rated current In (lower than rated current of selected busbar). Second parameter to be evaluated is short-circuit rating of busbar trunking system, which usually must be higher than transformer's peak short-circuit current Ik.

**NOTE:** previous consideration applies if just a single transformer is used for LV supply. For system with ring, meshed network or with transformers connected in parallel, the short-circuit current Ik increases (i.e. Ik double if two transformers in parallel).

### Selection example:

As practical example, given a transformer  
 $P = 1000 \text{ kVA}$   
 $U_k = 6\%$   
 $U_n = 400 \text{ V}$   
 from previous calculation and table,

$$I_n = \frac{P}{\sqrt{3} \cdot U_n} \rightarrow I_n = \frac{1000000}{\sqrt{3} \cdot 400} = 1443 \text{ A ;}$$

$$I_k = \frac{I_n}{U_k} \rightarrow I_k = \frac{1443}{6\% \cdot 1000} = 24,05 \text{ kA}$$

from here:

possible choice of XCP-S (50 Hz, Al, 4C) having In=1600A and short-circuit rating Icw = 42 kA or XCP-HP (50 Hz, Al, 4C) having In=1600A and short-circuit rating Icw = 70 kA

## Temperature impact on the rating of the busbar trunking system

### Technical information

The ambient temperature where the busbar trunking system is installed impacts on its rating. During the design stages, it will be necessary to multiply the rating value at the reference temperature by a correction coefficient referred to the final operating temperature.

All Legrand products have been sized and tested for an average ambient temperature specific for each line. For installation in environments with different average daily temperatures, the rated current of the busbar must be multiplied by a k1 factor, which gives the correct value to consider.

$$I_2 = I_1 \cdot Kt$$

Where:

- $I_1$  is the current that the busbar trunking system can carry for an indefinite time at its reference temperature
- $Kt$  is the correction coefficient for ambient temperature values other than the reference temperature, as shown in the following table

#### KT CORRECTION COEFFICIENT FOR AMBIENT TEMPERATURE

##### XCP-S

Ambient temperature [°C]

-5	0	5	10	15	20	25	30	35	40	45	50
1,24	1,21	1,18	1,15	1,12	1,09	1,06	1,03	1	0,97	0,93	0,90

kt thermal correction factor

##### XCP-HP (Al)

Ambient temperature [°C]

-5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70
1,38	1,34	1,31	1,28	1,25	1,21	1,18	1,15	1,11	1,07	1,04	1	0,96	0,92	0,88	0,84

kt thermal correction factor

##### XCP-HP (Cu)

Ambient temperature [°C]

-5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70
1,43	1,40	1,37	1,33	1,30	1,26	1,23	1,19	1,16	1,12	1,08	1,04	1	0,96	0,92	0,87

kt thermal correction factor



# Joule effect losses in busbar

## Technical information

Losses due to the Joule effect are essentially caused by the electrical resistance of the busbar. Lost energy is transformed into heat and contributes to the heating of the conduit of the environment. The calculation of power loss is a useful data for correct sizing of the building air conditioning system.

Three-phase regime losses are:

$$P_j = \frac{3 \cdot R_t \cdot I_b^2 \cdot L}{1000}$$

In one-phase regime:

$$P_j = \frac{2 \cdot R_t \cdot I_b^2 \cdot L}{1000}$$

Where:

$I_b$  = Utilisation current (A)

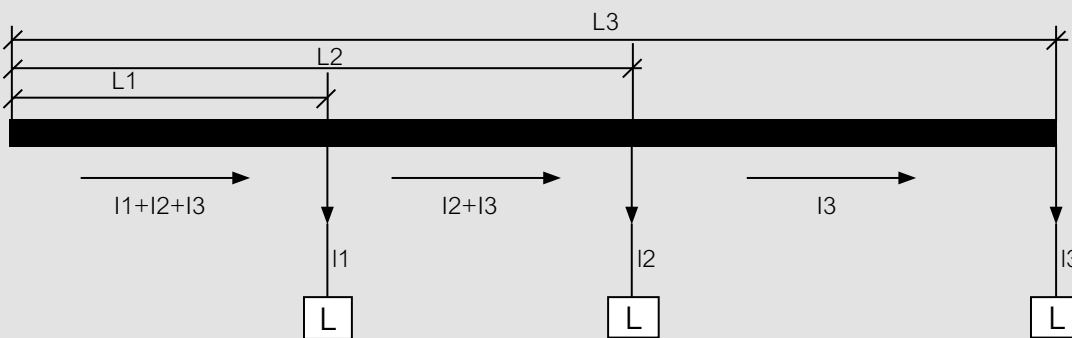
$R_t$  = Phase resistance for unit of length of the busbar trunking system, measured at thermal regime (mΩ/m)

$L$  = Busbar length (m)

For accurate calculation, losses must be assessed trunk by trunk taking into account the transiting currents; for example, in the case of the distribution of the loads represented in the figure one has:

	Length	Transiting current	Losses
1st trunk	L1	I1+I2+I3	$P1 = 3R_t L1 (I1+I2+I3)^2$
2nd trunk	L2-L1	I2+I3	$P2 = 3R_t (L2-L1) (I2+I3)^2$
3rd trunk	L3-L2	I3	$P3 = 3R_t (L3-L2) (I3)^2$

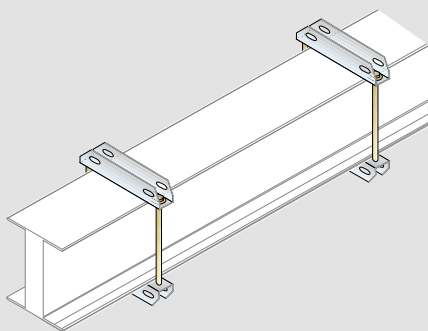
Total losses in the busbar trunking system  $P_t = P1+P2+P3$



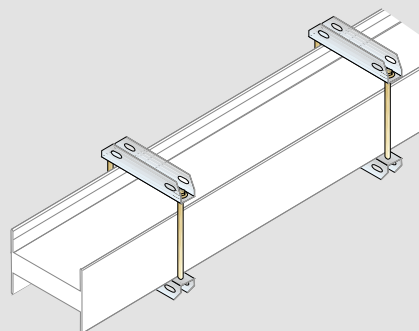
## Losses based on the installation method

Thermal dispersion, rating and IP protection degree are independent from the type of installation (edgewise, flat, vertical)

This means that it is possible to install the XCP busbar trunking system as preferred, without having to consider a possible system downgrade



Edgewise element



Flat element

# Selection of the busbar trunking system based on voltage drop

## Technical information

If the line is particularly long (> 100 m), it will be necessary to check the value of the voltage drop. For systems with power factor (cosφm) not lower than 0.8 the voltage loss can be calculated using the following formulas:

### THREE PHASE SYSTEM

$$\Delta v = \frac{b \cdot \sqrt{3} \cdot I_b \cdot L \cdot (R_t \cdot \cos\phi_m + x \cdot \sin\phi_m)}{1000}$$

### SINGLE PHASE SYSTEM

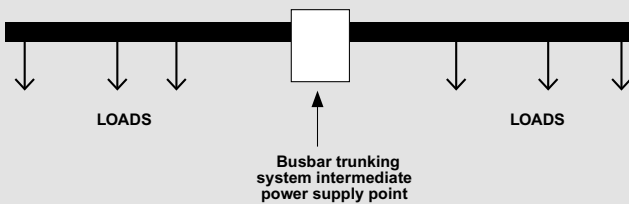
$$\Delta v = \frac{b \cdot 2 \cdot I_b \cdot L \cdot (R_t \cdot \cos\phi_m + x \cdot \sin\phi_m)}{1000}$$

The percentage voltage drop can be obtained from:

$$\Delta v\% = \frac{\Delta v}{V_r} \cdot 100$$

Where Vr is the system rated voltage

In order to limit the voltage drop in case of very long busbar trunking systems, it is possible to allow for a power supply at an intermediate position, rather than at the terminal point



## Calculation of the voltage drop with loads not evenly distributed

In case the load cannot be considered evenly distributed, the voltage drop may be determined more accurately using the relationships shown below

For the distribution of three-phase loads, the voltage drop can be calculated using the following formula, on the assumption (generally verified) that the section of the busbar trunking system is consistent:

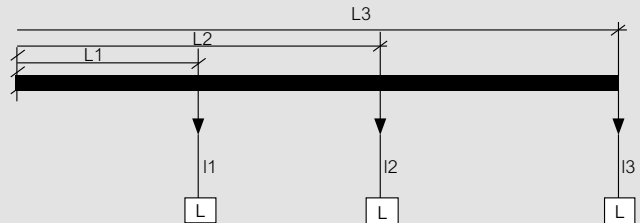
$$\Delta v = \sqrt{3} [R_t (I1L1 \cos\phi_1 + I2L2 \cos\phi_2 + I3L3 \cos\phi_3) + x (I1L1 \sin\phi_1 + I2L2 \sin\phi_2 + I3L3 \sin\phi_3)]$$

In general terms this becomes:

$$\Delta v = \frac{\sqrt{3} (R_t \cdot \sum I_i \cdot L_i \cdot \cos\phi_{mi} + x \cdot \sum I_i \cdot L_i \cdot \sin\phi_{mi})}{1.000}$$

If the three-phase system and the power factor are not lower than cosφ = 0.7, the voltage loss may be calculated using the voltage drop coefficient shown in table 1

$$\Delta v\% = 2b \cdot \frac{k \cdot I_b \cdot L}{V_n} \cdot 100$$



The current distribution factor "b" depends on how the circuit is fed and on the distribution of the electric loads along the busbar:

Table 1 - The distribution factor of the current "b"

<b>b = 1</b>	Supplies at one end and load at the end of the line	
<b>b = 1/2</b>	Supplies at one end and with load evenly distributed	
<b>b = 1/4</b>	Supplies at both ends and with load evenly distributed	
<b>b = 1/4</b>	Central supply with loads at both ends	
<b>b = 1/8</b>	Central supply with load distributed evenly	

Example: XCP 2000A AI for riser mains feed

- I<sub>b</sub>** = 1600A operating current
- b** = 1/2 load evenly distributed
- k** = 27.3 see technical data table (XCP 2000 A AI cosφ = 0.85)
- cosφ** = 0.85
- L** = 100 m line length
- V<sub>n</sub>** = 400 V operating voltage

$$\Delta v\% = \frac{27.3 \cdot 10^6 \cdot 1600 \cdot 100}{400} \cdot 100 = 1.09\%$$

### Legend:

- I<sub>b</sub>** = the current that supplies the busbar [A]
- V<sub>n</sub>** = the voltage power supply of the busbar [V]
- L** = the length of the busbar [m]
- Δv%** = the voltage drop percentage
- b** = the distribution factor of the current
- k** = corresponding voltage drop factor a cosφ [V/m/A] (see technical data table)
- cosφ m** = Average power factor of the loads
- x** = phase reactance by unit of length of the busbar (mΩ/m)
- R<sub>t</sub>** = phase resistance by unit of length of the busbar (mΩ/m)
- cosφ mi** = i-th load average power factor
- I<sub>i</sub>** = i-th load current (A)
- L<sub>i</sub>** = distance of the i-th load from the origin of the busbar trunking system

# Short circuit withstand

## Technical information

The IEC 64-8 standard indicates that, for the protection of the circuits of the system, it is necessary to allow for devices aimed at interrupting short circuit currents before these become dangerous due to the thermal and mechanical effects generated in the conductors and the connections. In order to size the electric system and the protection devices correctly, it is necessary to know the value of the estimated short circuit current at the point where this is to be created. This value enables in fact to correctly select protection devices based on their own tripping and closing powers, and to check the resistance to electro-dynamic stress of the busbar supports installed in control panels, and/or of the busbar trunking systems.

## Characterisation of short circuit current

The estimated short circuit current at a point of the user system is the current that would occur if in the considered point a connection of negligible resistance was created between conductors under voltage. The magnitude of this current is an estimated value that represents the worst possible condition (null fault impedance, tripping time long enough to enable the current to reach the maximum theoretical values). In reality, the short circuit always occurs with significantly lower effective current values.

The intensity of the estimated short circuit current essentially depends on the following factors:

- Power of the cabin transformer, meaning that the higher is the power, the higher is the current;
- length of the line upstream

In three-phase circuits with neutral it is possible to have three different types of short circuit:

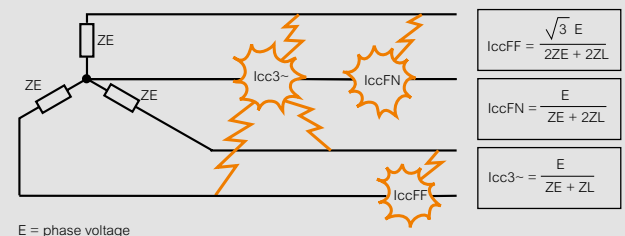
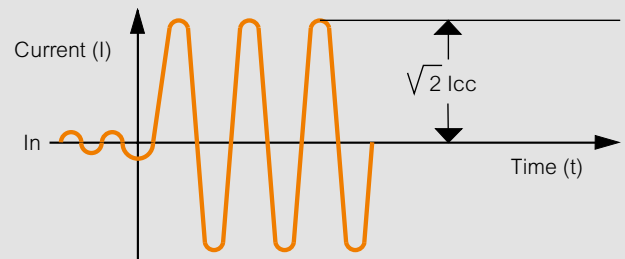
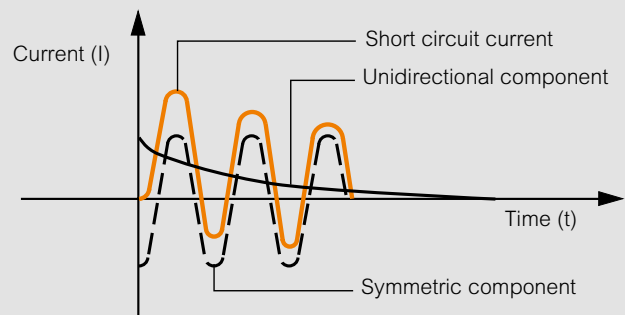
- phase-phase;
- phase-neutral;
- balanced three-phase (most demanding condition)

The formula for the calculation of the symmetric component is:

$$\overline{i_{cc}} = \frac{\overline{E}}{2Z_E + Z_L}$$

Where:

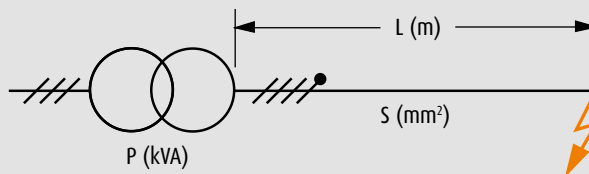
- **E** is the phase voltage;
- **Z<sub>E</sub>** is the secondary equivalent impedance of the TRANSFORMER measured between the phase and the neutral;
- **Z<sub>L</sub>** is the impedance of the phase conductor only



## Short circuit withstand (continued)

### Analytical determination of short circuit currents

In order to calculate the value of the estimated short circuit current at any point of the circuit, it is sufficient to apply the formulas shown below, knowing the impedance calculated at the origin of the system up to the point being assessed  
 In the formulas shown below, the value of the short circuit power is considered infinite and the short circuit impedance is equal to 0.  
 This makes it possible to define short circuit current values higher than the actual ones, but generally acceptable.



Line resistance $RL = r \cdot L$	<b>RL</b> = resistance of the line upstream (m) <b>r</b> = specific line resistance (m/m) <b>L</b> = upstream line length (m)
Line reactance $XL = x \cdot L$	<b>XL</b> = upstream line reactance (m) <b>x</b> = specific line reactance (m/m)
TRANSFORMER resistance $RE = \frac{1000 P_{cu}}{3I_n^2}$	<b>RE</b> = transformer secondary equivalent resistance (m) <b>P<sub>cu</sub></b> = transformer COPPER losses (W) <b>I<sub>n</sub></b> = transformer Rated current (A)
TRANSFORMER impedance $ZE = \frac{V_{cc}\% V^2c}{100 P}$	<b>ZE</b> = transformer secondary equivalent impedance (m) <b>V<sub>c</sub></b> = phase voltage (V) <b>V<sub>cc</sub>%</b> = percentage short circuit voltage <b>P</b> = transformer power (kVA)
TRANSFORMER reactance $XE = \sqrt{ZE^2 - RE^2}$	<b>XE</b> = transformer secondary equivalent reactance (m)
Short circuit impedance $Z_{cc} = \sqrt{(RL + RE)^2 + (XL + XE)^2}$	<b>Z<sub>cc</sub></b> = total short circuit impedance (m)
Estimated short circuit current $I_{cc} = \frac{V_{cc}}{\sqrt{3 \cdot Z_{cc}}}$	<b>I<sub>cc</sub></b> = symmetric component of the short circuit current (kA)

#### XCP-S 4C (AL)

	I <sub>n</sub> [A]	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Rated current	I <sub>n</sub> [A]	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Rated short-time current (1 s)	I <sub>cw</sub> [kA] <sub>rms</sub>	25*	25*	36	42	42	50	65	80	100	120
Peak current	I <sub>pk</sub> [kA]	53	53	76	88	88	105	143	176	220	264
Rated short-time current of the neutral bar (1 s)	I <sub>cn</sub> [kA] <sub>rms</sub>	15*	15*	22	25	25	30	39	48	60	72
Peak current of the neutral bar	I <sub>pn</sub> [kA]	30	30	46	53	53	63	82	101	132	158

#### XCP-S 4C (CU)

	I <sub>n</sub> [A]	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Rated current	I <sub>n</sub> [A]	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Rated short-time current (1 s)	I <sub>cw</sub> [kA] <sub>rms</sub>	25	36	42	42	50	65	80	100	120	150
Peak current	I <sub>pk</sub> [kA]	53	78	88	88	105	143	176	220	264	330
Rated short-time current of the neutral bar (1 s)	I <sub>cn</sub> [kA] <sub>rms</sub>	15	22	25	25	30	39	48	60	72	90
Peak current of the neutral bar	I <sub>pn</sub> [kA]	30	46	53	53	63	82	101	132	158	198

\* I<sub>cn</sub> value at 0,5 s.

#### XCP-HP 4C (AL)

	I <sub>n</sub> [A]	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Rated current	I <sub>n</sub> [A]	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Rated short-time current (1 s)	I <sub>cw</sub> [kA] <sub>rms</sub>	36	36	50	70	70	85	120	120	150	150
Peak current	I <sub>pk</sub> [kA]	76	76	105	154	154	187	264	264	330	330
Rated short-time current of the neutral bar (1 s)	I <sub>cn</sub> [kA] <sub>rms</sub>	22	22	30	42	42	51	72	72	90	90
Peak current of the neutral bar	I <sub>pn</sub> [kA]	45	45	63	88	88	112	158	158	198	198

#### XCP-HP 4C (CU)

	I <sub>n</sub> [A]	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Rated current	I <sub>n</sub> [A]	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Rated short-time current (1 s)	I <sub>cw</sub> [kA] <sub>rms</sub>	36	50	70	70	85	120	120	150	150	150
Peak current	I <sub>pk</sub> [kA]	76	105	154	154	187	264	264	330	330	330
Rated short-time current of the neutral bar (1 s)	I <sub>cn</sub> [kA] <sub>rms</sub>	22	30	42	42	51	72	72	90	90	90
Peak current of the neutral bar	I <sub>pn</sub> [kA]	45	63	88	88	112	158	158	198	198	198

# Harmonics

## Technical information

In a distribution system, currents and voltages should have a perfectly sinusoidal shape. However, in practice the equipment contains electric devices such as changeover devices or dimmers that make the load not linear

The currents absorbed, although at regular intervals and with frequencies equal to that of the rated voltage, sometime have a non-sinusoidal wave form, which has the following negative effects:

- worsening of the power factor;
- heating of the neutral;
- additional losses in electric machinery (transformers and motors);
- instable operation of the protection elements (thermal magnetic and earth leakage circuit breakers)

In industrial plants these conditions have been occurring for a long time. However, they are now occurring more and more in service sector distribution systems, where, from backbone distribution (which uses three-phase lines), one-phase loads are often distributed, which contributes to increasing the unbalance of the electric system

Each type of non-sinusoidal periodical wave may be split into a more or less large number of sinusoids (called harmonic components), which frequency a whole multiple of the frequency of the wave shape observed

A deformed current at a frequency of 50 Hz, like for example that represented by the red line on the figure, consists of many sinusoidal currents with frequency of 50 Hz (fundamental), 100 Hz (second harmonic components), 150 Hz (third harmonics), and so on

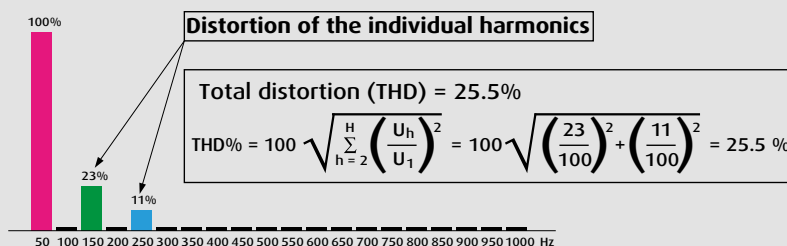
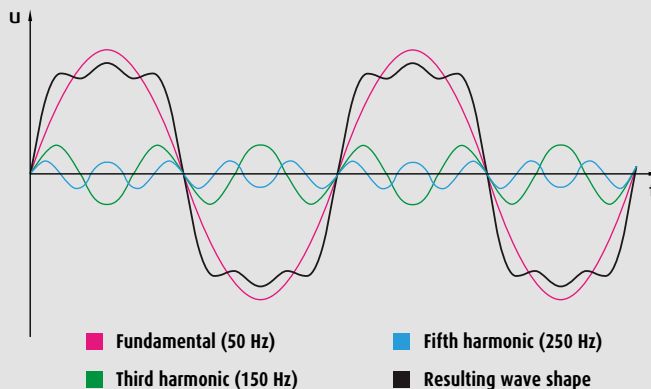
The presence of current harmonics represents an important problem, causing overload conditions both on phase conductors, and on any neutral conductor, and results in the reduction of the conductor permitted load

## Choice of the rating when in the presence of harmonics

When in the presence of harmonics, and when using the chosen Int rated current, the XCP busbar to be used shall have the rating specified in the table below

Rated current [A]	630	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
XCP busbar to be used:											
THD ≤ 15%	630	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
15% < THD ≤ 33%	800	1000	1250	1600	2000	2500	3200	4000	5000	6300	-
THD > 33%	1000	1250	1600	2000	2500	3200	4000	5000	6300	-	-

Measurement of harmonic distortion carried out with a network analyser



A solution to guarantee protection against overloads due to the presence of harmonics, is the choice of XCP busbars equipped with double neutral

## Degrees of protection

### IP: degree of protection provided against intrusion


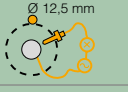


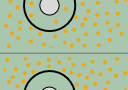

#### IP

The protection enclosures are classified (IEC 60529) according to their degree of protection against weather conditions and external agents. The degree of protection is indicated by two digits (protection against solid bodies and liquids) following the symbol IP

To increase the ease of choice of the most suitable busbar, in according to installation requirements, below there is a summary of their performance, based on the IP degree of protection according to the IEC 60529 standard



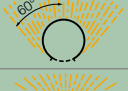
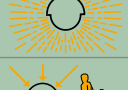

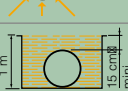
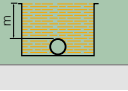

#### 1<sup>st</sup> digit IP

##### Protection against penetration of solid bodies

	<b>0</b>	No protection
	<b>1</b>	Protection against solid bodies larger than 50 mm (e.g.: accidental contact)
	<b>2</b>	Protection against solid bodies larger than 12 mm (e.g.: finger)
	<b>3</b>	Protection against solid bodies larger than 2.5 mm
	<b>4</b>	Protection against solid bodies larger than 1 mm
	<b>5</b>	Protection against dust
	<b>6</b>	Complete protection against dust

#### 2<sup>nd</sup> digit IP

##### Protection against penetration of liquids

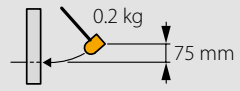
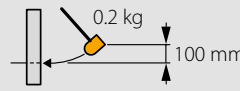
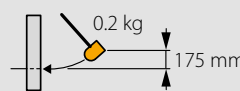

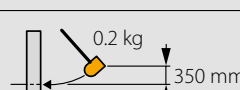



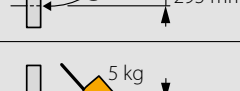

	<b>0</b>	No protection
	<b>1</b>	Protection against vertically-falling drops of water (condensation)
	<b>2</b>	Protection against drops of water falling up to 15° from the vertical
	<b>3</b>	Protection against drops of water up to 60° from the vertical
	<b>4</b>	Protection against sprays of water from all directions
	<b>5</b>	Protection against jets of water from all directions
	<b>6</b>	Protection against jets of water (similar force to heavy seas)
	<b>7</b>	Protection against effects of immersion
	<b>8</b>	Protection against effects of immersion under pressure

## Degrees of protection

### IK: degree of protection of equipment against mechanical impact

#### IK

Standard IEC 62262 defines an IK code that characterises the aptitude of equipment to resist mechanical impacts on all sides

IK	Test	Impact energy (In Joules)
IK 00		0
IK 01		0.15
IK 02		0.2
IK 03		0.35
IK 04		0.5
IK 05		0.7
IK 06		1
IK 07		2
IK 08		5
IK 09		10
IK 10		20





# XCP-S

The light and compact power solutions, optimised for standard applications

## BUSBAR FROM 630 TO 6300 A

**XCP-S** is an extra compact and light busbar trunking system. It is the range used for transport and distribution of high power, and is also highly valued in rising mains. The applications include all industrial, commercial and service sector buildings (factories, banks, trade and business centres, hospitals, data centres, etc.)

# Xtra Compact (XCP-S)

## straight elements



64280100P

### XCP-S Line:

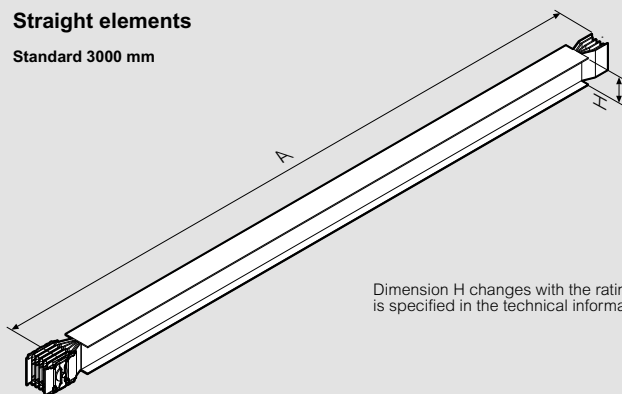
Reference standard: IEC 61439-6. Reference temperature: 35 °C.  
 Protection degree: IP55. Thickness of metal sheet: 1.5 mm.  
 N° of conductors: 3, 4 or 5. Painted: RAL 7035. Halogen Free.  
 The insulation between bars is ensured by a double sheet made with polyester film class B(130°C), class F (155°C) thermal resistance available on request. All plastic components have a V1 self-extinguishing degree (as per UL94); they are fire retardant and comply with the glow-wire test according to standards.

Item		Straight elements for transport	
Al	Cu	In (A)	A (mm)
64280100P	-	630	3000
64280101P	67280100P	800	
64280102P	67280101P	1000	
64280104P	67280103P	1250	
64280106P	67280105P	1600	
64280107P	67280106P	2000	
64390104P	67390104P	2500	
64390106P	67390105P	3200	
64390107P	67390106P	4000	
64390108P	67390108P	5000	
-	67390109P	6300	500-1000
64280110P	-	630	
64280111P	67280110P	800	
64280112P	67280111P	1000	
64280114P	67280113P	1250	
64280116P	67280115P	1600	
64280117P	67280116P	2000	
64390114P	67390114P	2500	
64390116P	67390115P	3200	
64390117P	67390116P	4000	
64390118P	67390118P	5000	1001-1500
-	67390119P	6300	
64280170P	-	630	
64280171P	67280170P	800	
64280172P	67280171P	1000	
64280174P	67280173P	1250	
64280176P	67280175P	1600	
64280177P	67280176P	2000	
64390174P	67390174P	2500	
64390176P	67390175P	3200	
64390177P	67390176P	4000	1501-2000
64390178P	67390178P	5000	
-	67390179P	6300	
64280120P	-	630	
64280121P	67280120P	800	
64280122P	67280121P	1000	
64280124P	67280123P	1250	
64280126P	67280125P	1600	
64280127P	67280126P	2000	
64390124P	67390124P	2500	
64390126P	67390125P	3200	
64390127P	67390126P	4000	2001-2500
64390128P	67390128P	5000	
-	67390129P	6300	
64280180P	-	630	
64280181P	67280180P	800	
64280182P	67280181P	1000	
64280184P	67280183P	1250	
64280186P	67280185P	1600	
64280187P	67280186P	2000	
64390184P	67390184P	2500	
64390186P	67390185P	3200	
64390187P	67390186P	4000	
64390188P	67390188P	5000	2501-2999
-	67390189P	6300	

### Dimensions

#### Straight elements

Standard 3000 mm



Dimension H changes with the ratings and is specified in the technical information

#### MIN AND MAX DIMENSIONS OF SINGLE AND DOUBLE BAR

Aluminium (Al)	630A – 5000A
Copper (Cu)	800A – 6300A
(L) min/MAX [mm]	500/3000

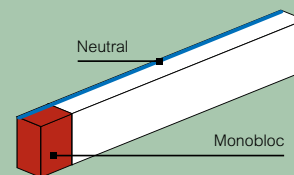
Straight elements are available on request only for transport of energy:

Al: 5000A

Cu: 6300A

#### Notes

The product versions in this catalogue will be simplified as shown opposite, highlighting the part with the monobloc installed in red and the neutral side in blue. In this catalogue, the measurements shown refer to the element centre distance



The range is also available in different versions on request: (5 conductors with dedicated PE conductor, double neutral and more others...)

Item		Straight elements for transport	
Al	Cu	In (A)	A (mm)
64280150P	-	630	2501-2999
64280151P	67280150P	800	
64280152P	67280151P	1000	
64280154P	67280153P	1250	
64280156P	67280155P	1600	
64280157P	67280156P	2000	
64390154P	67390154P	2500	
64390156P	67390155P	3200	
64390157P	67390156P	4000	
64390158P	67390158P	5000	
-	67390159P	6300	



**Single bar:**  
630A-2000A (Al)  
800A-2000A (Cu)

**Double bar:**  
2500A-4000A (Al)  
2500A-5000A (Cu)

**Triple bar:**  
5000A (Al)  
6300A (Cu)

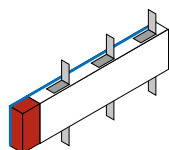
# Xtra Compact (XCP-S)

## straight elements



64280130P

Item		Straight elements for distribution		
Al	Cu	In (A)	N° outlets	A (mm)
*64280130P	-	630		
*64280131P	*67280130P	800	3+3 **	3000
64280132P	*67280131P	1000		
64280134P	67280133P	1250		
64280136P	67280135P	1600		
64280137P	67280136P	2000		
64390134P	67390134P	2500		
64390136P	67390135P	3200		
64390137P	67390136P	4000		
64390138P	67390138P	5000		
-	67390139P	6300		
*64280970P	-	630	1+1	1001-1500
*64280971P	*67280970P	800		
64280972P	*67280971P	1000		
64280974P	67280973P	1250		
64280976P	67280975P	1600		
64280977P	67280976P	2000		
64390974P	67390974P	2500		
64390976P	67390975P	3200		
64390977P	67390976P	4000		
64390978P	67390978P	5000		
-	67390979P	6300	at request: outlets in special position 1+1 only combination	
*64280920P	-	630	2+2 **	1501-2000
*64280921P	*67280920P	800		
64280922P	*67280921P	1000		
64280924P	67280923P	1250		
64280926P	67280925P	1600		
64280927P	67280926P	2000		
64390924P	67390924P	2500		
64390926P	67390925P	3200		
64390927P	67390926P	4000		
64390928P	67390928P	5000		
-	67390929P	6300		
*64280980P	-	630	2+2 **	2001-2500
*64280981P	*67280980P	800		
64280982P	*67280981P	1000		
64280984P	67280983P	1250		
64280986P	67280985P	1600		
64280987P	67280986P	2000		
64390984P	67390984P	2500		
64390986P	67390985P	3200		
64390987P	67390986P	4000		
64390988P	67390988P	5000		
-	67390989P	6300		
*64280950P	-	630	3+3 **	2501-2999
*64280951P	*67280950P	800		
64280952P	*67280951P	1000		
64280954P	67280953P	1250		
64280956P	67280955P	1600		
64280957P	67280956P	2000		
64390954P	67390954P	2500		
64390956P	67390955P	3200		
64390957P	67390956P	4000		
64390958P	67390958P	5000		
-	67390959P	6300		



### Dimensions

#### Straight elements for distribution

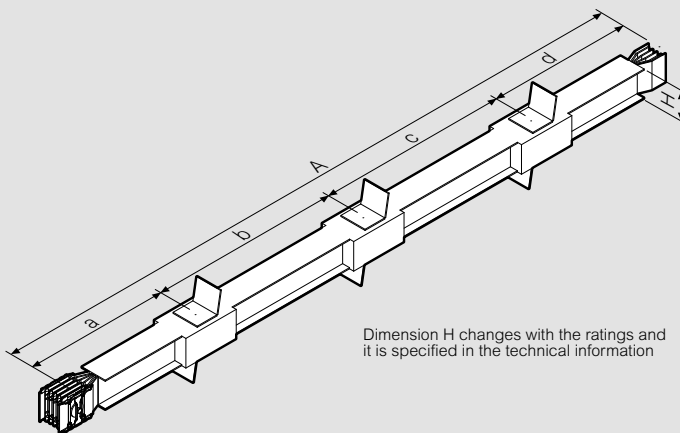
- Straight elements for plug-in type tap-off boxes
- Standard 3000 mm
- Tap-off outlets on both sides

These straight elements enable the application of plug-in boxes on dedicated outlets

Available in lengths from 1 to 3 meters, these elements have respectively 1, 2 and 3 outlets at preset distances with centre distances of 850 mm on both sides.

(\*) The exception to these are 630-800 A elements with aluminium conductors (Al) and 800-1000 A elements with copper conductors (Cu), where distributions are only available on the top side (in standard execution) for example "3+0"

On request, the length of the elements and the number and position of distribution outlets may be different from the standards measures.



Dimension H changes with the ratings and it is specified in the technical information

#### MIN AND MAX DIMENSIONS OF SINGLE AND DOUBLE BAR

Aluminium (Al)	630A – 5000A
Copper (Cu)	800A – 6300A
(L) min/MAX [mm]	1001 ***/3000

(\*\*\*) Lengths from 1001 mm to 1250 mm can only be installed with type 1 and 3 plug-in boxes.

From 1250 mm to 3000 mm it is possible to install all types of plug-in boxes. Compatible boxes are listed in dedicated chapter. See page 96.

(\*\*) on request it is possible to have other combinations of outlets:

- length: 1501÷2000 - outlets: (1+1)
- length: 2001÷2500 - outlets: (1+1)
- length: 2501÷2999 - outlets: (1+1) and (2+2)
- length: 3000 - outlets: (1+1) and (2+2)

Possibility to have outlets in special position

For a correct evaluation of the number of outlets, take into account the length of the element and the size of the boxes to be installed.

# Xtra Compact (XCP-S)

straight elements



673IFB01

Item		Fire barrier elements S120 E1120 (EN 1366-3)	
When the busbar trunking system crosses fire resistant walls or ceilings, it must be fitted with appropriate fire barriers. The fire barrier is 630 mm (Al) and 1000 mm (Cu) long and must always be positioned in the middle of the fire resistant wall or ceiling crossed by the busbar. After crossing fire resistant walls or ceilings, any cavity must be sealed with material meeting current regulations for the required building fire resistance class.			
Al	Cu	In (A)	Type
673IFB01	-	630	internal fire barrier
673IFB01	673IFB01	800	
*	673IFB01	1000	
*	*	1250 – 2000	
673IFB01	673IFB01	2500 – 4000	
*	673IFB01	5000	
-	*	6300	
672EFB01	-	630	external fire barrier
672EFB01	672EFB51	800 – 1000	
672EFB02	672EFB51	1250	
672EFB03	672EFB52	1600	
672EFB04	672EFB53	2000	
673EFB02	673EFB51	2500	
673EFB03	673EFB52	3200	
673EFB04	673EFB53	4000	
673EFB05	673EFB54	5000	
-	673EFB55	6300	

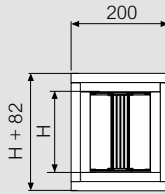
\*There are no air gaps inside these busbar therefore there is no need to add internal fire barriers.



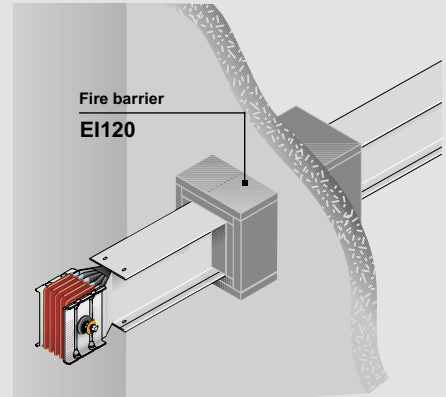
Fire resistance tested

## Dimensions

### Fire barrier elements E1120 (EN 1366-3)



**Fire barrier sizes**  
Dimension H changes with the rating; it is specified in the technical information



For some ratings it is necessary to have an internal fire barrier fitted at the factory following the guidelines on the table. It is therefore necessary to indicate at the order stage which elements will cross fire resistant walls or ceilings

Figure 1 minimum straight dimensions

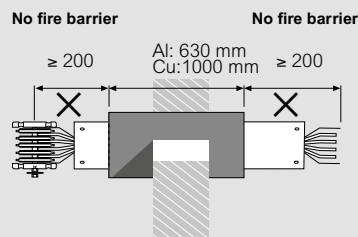
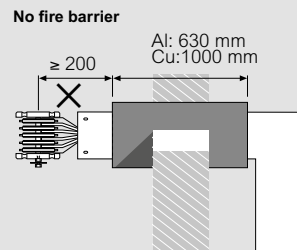


Figure 2 minimum dimensions in an elbow



USE OF INTERNAL OR EXTERNAL BARRIER					
Al			Cu		
In (A)	Internal	External	In (A)	Internal	External
630-800	✓	✓	800-1000	✓	✓
1000-2000	-	✓	1250-2000	-	✓
2500-4000	✓	✓	2500-5000	✓	✓
5000	-	✓	6300	-	✓

The external fire barrier can be used on any trunking component in compliance with the operating instructions specified in figures 1 and 2

To comply to the Certification of fire resistance it is necessary to install both the internal\* and external fire barriers supplied by Legrand.

\* Internal barriers on some ratings are not required

Single bar:	Double bar:	Triple bar:
630A-2000A (Al) 800A-2000A (Cu)	2500A-4000A (Al) 2500A-5000A (Cu)	5000A (Al) 6300A (Cu)

# Xtra Compact (XCP-S)

## straight elements

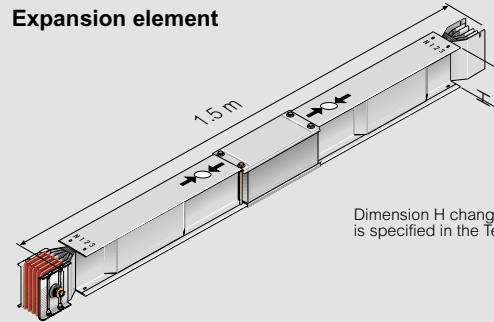


64280200P

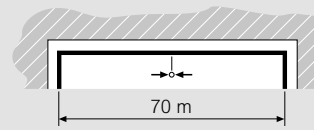
Item		Expansion element	
		<p>Due to being subjected to temperature changes, both the busbar and the building suffer thermal expansions. The expansion element can absorb expansion and contraction of both the busbar trunking system section and the building, up to the maximum permitted length (<math>\pm 50</math> mm approx.). The expansion element must be fitted near the expansion joints of the building and in straight sections of the line (horizontal and/or vertical) longer than 40 m. For straight line sections longer than 40 m, expansion elements must be fitted in a way that splits the path into equal sections not longer than 40 m. XCP-S busbar trunking system elements are designed to compensate for thermal expansion if the straight sections of the installation are less than 40 m; in this case no expansion element is necessary.</p>	
Al	Cu	In (A)	Length
64280200P	-	630	1.5 m
64280201P	67280200P	800	
64280202P	67280201P	1000	
64280204P	67280203P	1250	
64280206P	67280205P	1600	
64280207P	67280206P	2000	
64390204P	67390204P	2500	
64390206P	67390205P	3200	
64390207P	67390206P	4000	
64390208P	67390208P	5000	
-	67390209P	6300	

### Dimensions

#### Expansion element

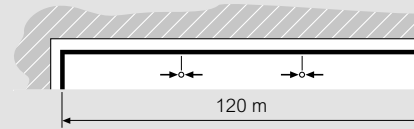


Dimension H changes with the ratings and is specified in the Technical information



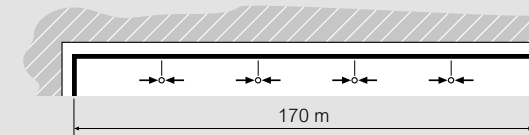
#### Example:

Straight section length 70 m = n°1 expansion element in the centre of the line



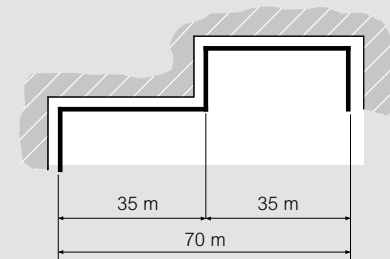
#### Example:

Straight section length 120 m = n°2 expansion elements, one every 40 m



#### Example:

Straight section length 170 m = no. 4 expansion elements, one every 34 m



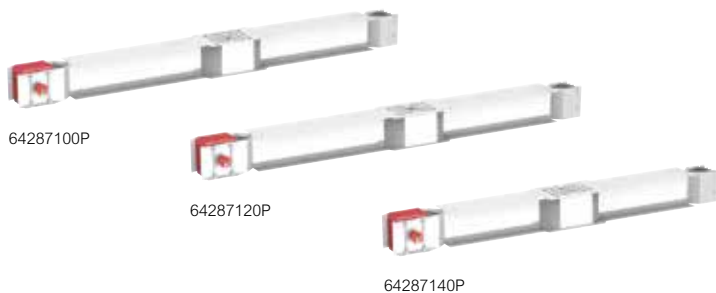
#### Example:

Section length 70 m. When the section is not straight, no expansion element is necessary



# Xtra Compact (XCP-S)

straight elements



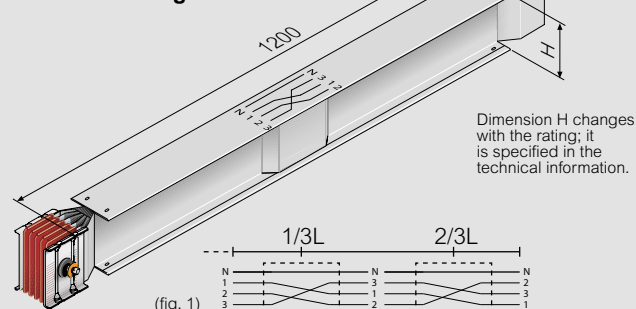
Item		Phase balancing	
Al	Cu	In (A)	
64287100P	-	630	Straight elements with phase balancing are used to reduce and balance mutual phase reactance and impedance in case of long lines. In particular long sections (> 100 metres) it is recommended that two transposition elements are fitted (one at one third and one at two thirds of the path), to balance the system electric impedance: In this way, it will be possible to have along the installation path all the possible combinations, of reciprocal positions among phases, minimising load losses (Fig.1). If it's necessary to have the same phase sequence at the start and the end, use 3 phase balancing elements (fig.2).
64287101P	67287100P	800	
64287102P	67287101P	1000	
64287104P	67287103P	1250	
64287106P	67287105P	1600	
64287107P	67287106P	2000	
64397104P	67397104P	2500	
64397106P	67397105P	3200	
64397107P	67397106P	4000	
64397108P	67397108P	5000	
-	67397109P	6300	

Item		Phase inversion	
Al	Cu	In (A)	
64287120P	-	630	The function of this element is to completely reverse the positions of the phases and the neutral. It is normally used in the connection between the transformer and the electric board, or in the connection between electric boards, when the starting sequence is different to the arrival sequence
64287121P	67287120P	800	
64287122P	67287121P	1000	
64287124P	67287123P	1250	
64287126P	67287125P	1600	
64287127P	67287126P	2000	
64397124P	67397124P	2500	
64397126P	67397125P	3200	
64397127P	67397126P	4000	
64397128P	67397128P	5000	
-	67397129P	6300	

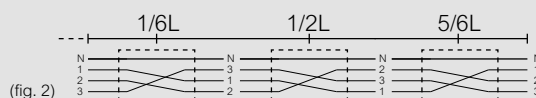
Item		Element with neutral rotation	
Al	Cu	In (A)	
64287140P	-	630	The straight element with neutral rotation is used to adapt the sequence of the busbar phases to the sequence of the connections required at the ends of the connections, should these be different. In the connection between electric boards, the neutral jump is normally used, as only the neutral position is normally identified
64287141P	67287140P	800	
64287142P	67287141P	1000	
64287144P	67287143P	1250	
64287146P	67287145P	1600	
64287147P	67287146P	2000	
64397144P	67397144P	2500	
64397146P	67397145P	3200	
64397147P	67397146P	4000	
64397148P	67397148P	5000	
-	67397149P	6300	

## Dimensions

### Phase balancing 1200 mm



Electric diagram: 2 elements offer all the possible reciprocal positions among the phases along the line.

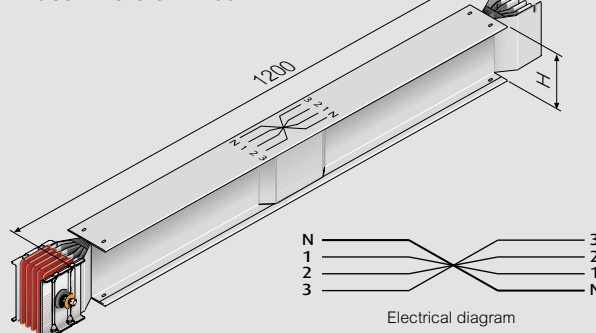


If it's necessary to have the same phase sequence at the start and the end, use 3 phase balancing elements.

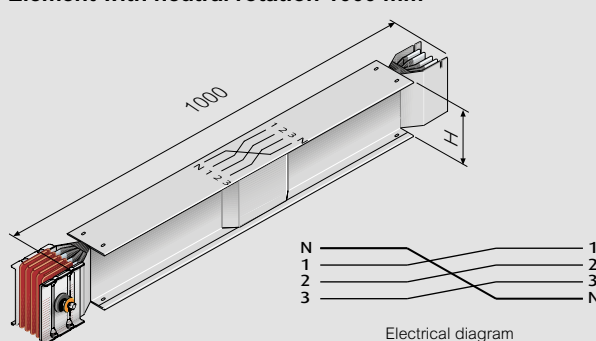
In particularly long carrying sections ( $L > 100$  meters) it is recommended to insert 2 elements: (one placed at  $1/3$  and one placed at  $2/3$  of the trunking path) to balance the electric impedance of the system. "L" is the total length of the path.

For example, in a line exceeding 300 m it is recommended that one phase transposition is fitted at 100 m, and another one at 200 m.

### Phase Inversion 1200 mm



### Element with neutral rotation 1000 mm



When the position of neutral of the distribution board phases is different from that of the transformer, it is possible to use an element that allows a neutral rotation only.

**Warning:** Use phase inversion and neutral rotation elements ONLY for energy transport paths, and not for derivations (do not use it when the line includes straight elements with derivations, or when they are provided for tap-off boxes even if bolted on the junction). The position of all the conductors, including the neutral, changes, and may cause serious problems on a connected load, if one is not fully aware that the phase sequence and the position of the neutral DO NOT comply with those indicated in the pre-printed labels.

Single bar:	Double bar:	Triple bar:
630A-2000A (Al)	2500A-4000A (Al)	5000A (Al)
800A-2000A (Cu)	2500A-5000A (Cu)	6300A (Cu)



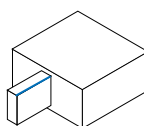
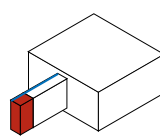
# Xtra Compact (XCP-S)

## feed unit



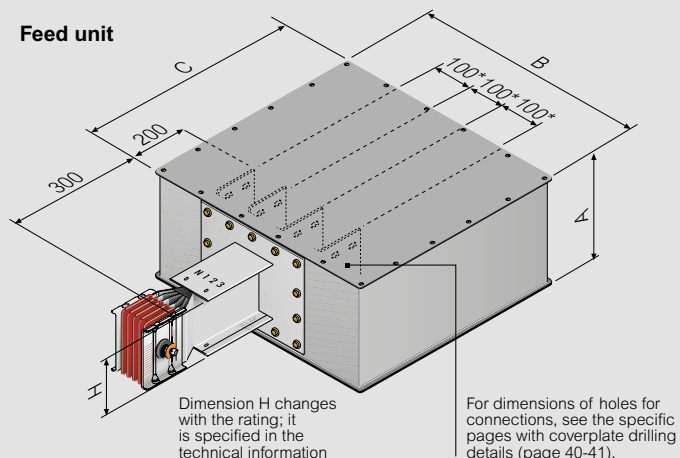
64281106P

The feed units are used at the end of the lines, when the busbar must be powered using cables.  
 Right-hand feed units do not come with a Monobloc but left-hand feed units come with a pre-fitted Monobloc.  
 They are available with non-standard execution, on request.  
 End feed units for single bar busbars are supplied with an aluminium blind back closing plate. For double bar busbar trunking systems the plates are 2. Both versions are fitted with 2 extra side steel flanges and 2 inspection steel flanges (dark grey colour).  
 The cable is connected directly to the busbars using bolts.  
 For more information on board/busbar connection see the tables (Dimensions For The Box).  
 To feed the power supply cable through the back power supply flanges it will be necessary to drill a hole in case of single bar and two holes in case of double bar. The size of the holes is 170 x 410 mm.

Item		Feed unit		In (A)	Type
Al	Cu				
64281100P	-			630	Right type 2 
64281101P	67281100P			800	
64281102P	67281101P			1000	
64281104P	67281103P			1250	
64281106P	67281105P			1600	
64281107P	67281106P			2000	
64391104P	67391104P			2500	
64391106P	67391105P			3200	
64391107P	67391106P			4000	
64391108P	67391108P			5000	
-	67391109P			6300	
64281110P	-			630	Left type 1 
64281111P	67281110P			800	
64281112P	67281111P			1000	
64281114P	67281113P			1250	
64281116P	67281115P			1600	
64281117P	67281116P			2000	
64391114P	67391114P			2500	
64391116P	67391115P			3200	
64391117P	67391116P			4000	
64391118P	67391118P			5000	
-	67391119P			6300	

### Dimensions

#### Feed unit



\* 120 mm for 6300 A (Cu) and 5000 A (Al)

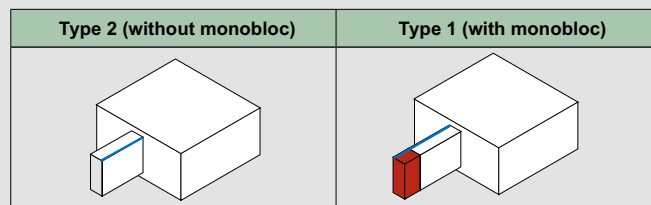
#### Rear cable input

Aluminium gland plate(s) for cable entry 170 x 410 mm  
 Single bar: 1 plate  
 Double bar: 2 plates

#### Dimensions FOR THE BOX

	630A÷1250A	1600A÷2000A	2500A÷4000A	6300A
<b>Al</b>				
<b>Cu</b>	800A÷1250A	1600A÷2000A	2500A÷5000A	6300A
(A) [mm]	320	320	600	815
(B) [mm]	615	615	615	615
(C) [mm]	610	810	810	810

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



#### CONNECTIONS

Load (A)	The copper (Cu) phase section is rounded up (mm <sup>2</sup> )	No. of connection holes for each busbar conductor	No. of one-pole cables that can be connected to each phase	
630				
800	600	4	4x150	2x300
1000				
1250				
1600	700	4	4x240	3x300
2000	850	8	4x240	3x300
2500	1100	8	5x240	4x300
3200	1400	8	6x240	5x300
4000	1700	16	8x240	6x300
5000	2100	16	9x240	7x300
6300	3000	16	14x240	10x300

# Xtra Compact (XCP-S)

## rising mains feed unit



67281133P

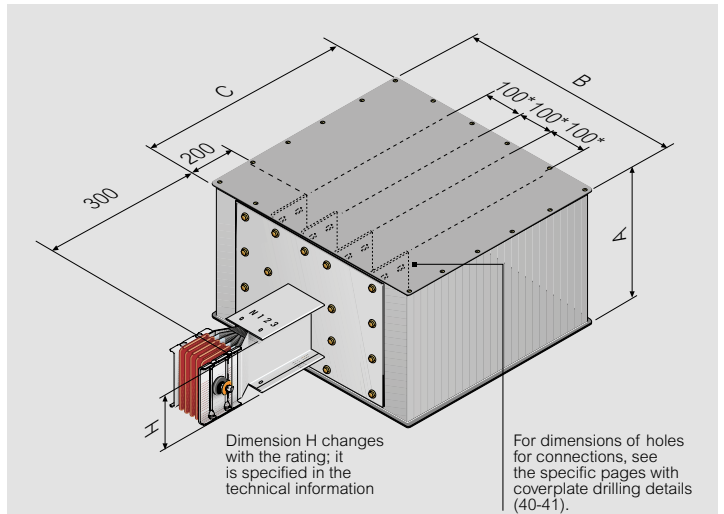
The rising mains feed units are used at the departure of the riser mains lines, when the busbar must be placed close to the wall and powered using cables. They **allow the busbar to be installed 40 mm away from the wall**. Right-hand feed units do not come with a Monobloc but left-hand feed units come with a pre-fitted Monobloc.

They are available with non-standard execution, on request.

End feed units for single bar busbars are supplied with an aluminium blind back closing plate. For double bar busbar trunking systems the plates are 2. Both versions are fitted with 2 extra side steel flanges and 2 inspection steel flanges (dark grey colour). The cable is connected directly to the busbars using bolts.

For more information on board/busbar connection see the tables below (Dimensions For The Box).

To feed the power supply cable through the back power supply flanges it will be necessary to drill a hole in case of single bar and two holes in case of double bar. The size of the holes is 170 x 410 mm.



\* 120 mm for 6300 A (Cu) and 5000 A (Al)

### Rear cable input

Aluminium gland plate(s) for cable entry 170 x 410 mm

Single bar: 1 plate

Double bar: 2 plates

Item		Rising mains feed unit	
Al	Cu	In (A)	Type
64281120P	-	630	Right type 2 
64281121P	67281120P	800	
64281122P	67281121P	1000	
64281124P	67281123P	1250	
64281126P	67281125P	1600	
64281127P	67281126P	2000	
64391124P	67391124P	2500	
64391126P	67391125P	3200	Left type 1 
64391127P	67391126P	4000	
64391128P	67391128P	5000	
-	67391129P	6300	
64281130P	-	630	
64281131P	67281130P	800	
64281132P	67281131P	1000	
64281134P	67281133P	1250	
64281136P	67281135P	1600	
64281137P	67281136P	2000	
64391134P	67391134P	2500	
64391136P	67391135P	3200	
64391137P	67391136P	4000	
64391138P	67391138P	5000	
-	67391139P	6300	

Dimensions FOR THE BOX				
Al	630A÷1250A	1600A÷2000A	2500A÷4000A	
Cu	800A÷1250A	1600A÷2000A	2500A÷5000A	6300A
(A) [mm]	320	320	600	815
(B) [mm]	615	615	615	615
(C) [mm]	610	810	810	810

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

Type 2 (without monobloc)	Type 1 (with monobloc)

CONNECTIONS				
Load (A)	The copper (Cu) phase section is rounded up (mm <sup>2</sup> )	No. of connection holes for each busbar conductor	No. of one-pole cables that can be connected to each phase	
630	600	4	4x150	2x300
800				
1000				
1250	700	4	4x240	3x300
1600	850	8	4x240	3x300
2000	1100	8	5x240	4x300
2500	1400	8	6x240	5x300
3200	1700	16	8x240	6x300
4000	2100	16	9x240	7x300
5000	3000	16	14x240	10x300

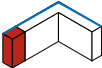
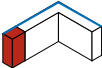


Single bar:	Double bar:	Triple bar:
630A-2000A (Al)	2500A-4000A (Al)	5000A (Al)
800A-2000A (Cu)	2500A-5000A (Cu)	6300A (Cu)

# Xtra Compact (XCP-S)

## elbows



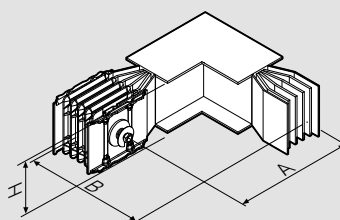
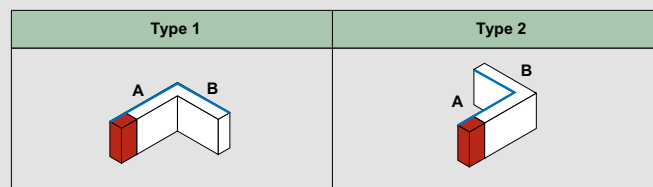
64280306P

Item		Horizontal elbow				
Al	Cu	In (A)	Type	Type		
64280300P	-	630	 Right Type 1	Standard		
64280301P	67280300P	800				
64280302P	67280301P	1000				
64280304P	67280303P	1250				
64280306P	67280305P	1600				
64280307P	67280306P	2000				
64390304P	67390304P	2500				
64390306P	67390305P	3200				
64390307P	67390306P	4000				
64390308P	67390308P	5000				
-	67390309P	6300				
64280320P	-	630			 Right Type 1	Special lengths
64280321P	67280320P	800				
64280322P	67280321P	1000				
64280324P	67280323P	1250				
64280326P	67280325P	1600				
64280327P	67280326P	2000				
64390324P	67390324P	2500				
64390326P	67390325P	3200				
64390327P	67390326P	4000				
64390328P	67390328P	5000				
-	67390329P	6300				
64280310P	-	630	 Left Type 2	Standard		
64280311P	67280310P	800				
64280312P	67280311P	1000				
64280314P	67280313P	1250				
64280316P	67280315P	1600				
64280317P	67280316P	2000				
64390314P	67390314P	2500				
64390316P	67390315P	3200				
64390317P	67390316P	4000				
64390318P	67390318P	5000				
-	67390319P	6300				
64280330P	-	630			 Left Type 2	Special lengths
64280331P	67280330P	800				
64280332P	67280331P	1000				
64280334P	67280333P	1250				
64280336P	67280335P	1600				
64280337P	67280336P	2000				
64390334P	67390334P	2500				
64390336P	67390335P	3200				
64390337P	67390336P	4000				
64390338P	67390338P	5000				
-	67390339P	6300				

### ■ Dimensions

#### Horizontal elbow

In order to define the type of horizontal elbow required, consider to place the element "edgewise" (conductors perpendicular to the ground). In this configuration "horizontal" elbows enable a path variation which is parallel to the ground. When the neutral busbar conductor faces the outside of the elbow, there will be a Right horizontal elbow (type 1) Contrariwise, with the neutral busbar conductor facing the inside of the elbow there will be a Left horizontal elbow (type 2)



The dimensions refer to the standard elements. Single/double/triple bar (A+B): 300+300 mm

MIN AND MAX DIMENSIONS	
Single bar min/MAX	
A	250/1299*
B	250/1299*
Double bar min/MAX	
A	250/1299*
B	250/1299*
Triple bar min/MAX	
A	250/999*
B	250/999*

Dimension H changes with the rating; it is specified in the technical information

Non-standard elements "Special" (with measurements that are different from those show in the figure) are referred to the Min and Max dimensions specified in the table


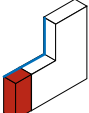
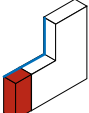
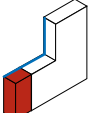
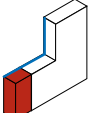
\* For all the non standard horizontal elbows (special), it is possible to have only one of the two sides in size exceeding 600 mm. For example, when ordering a horizontal elbow with size A=1000 mm, the B size will have to be ≤ 600 mm

# Xtra Compact (XCP-S)

## elbows



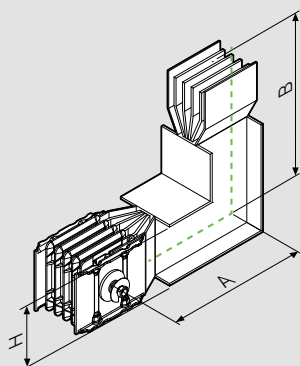
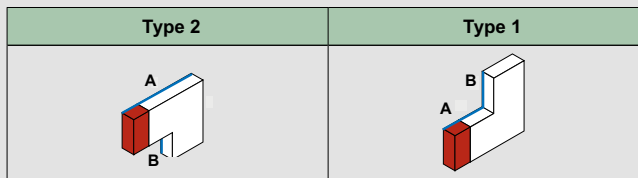
67280415P

Item		Vertical elbow		
Al	Cu	In (A)	Type	Type
64280400P	-	630	 Right Type 2	Standard
64280401P	67280400P	800		
64280402P	67280401P	1000		
64280404P	67280403P	1250		
64280406P	67280405P	1600		
64280407P	67280406P	2000		
64390404P	67390404P	2500		
64390406P	67390405P	3200		
64390407P	67390406P	4000		
64390408P	67390408P	5000		
-	67390409P	6300	 Left Type 1	Special length
64280420P	-	630		
64280421P	67280420P	800		
64280422P	67280421P	1000		
64280424P	67280423P	1250		
64280426P	67280425P	1600		
64280427P	67280426P	2000		
64390424P	67390424P	2500		
64390426P	67390425P	3200		
64390427P	67390426P	4000		
64390428P	67390428P	5000	 Left Type 1	Standard
-	67390429P	6300		
64280410P	-	630		
64280411P	67280410P	800		
64280412P	67280411P	1000		
64280414P	67280413P	1250		
64280416P	67280415P	1600		
64280417P	67280416P	2000		
64390414P	67390414P	2500		
64390416P	67390415P	3200		
64390417P	67390416P	4000		
64390418P	67390418P	5000	 Left Type 1	Special length
-	67390419P	6300		
64280430P	-	630		
64280431P	67280430P	800		
64280432P	67280431P	1000		
64280434P	67280433P	1250		
64280436P	67280435P	1600		
64280437P	67280436P	2000		
64390434P	67390434P	2500		
64390436P	67390435P	3200		
64390437P	67390436P	4000		
64390438P	67390438P	5000	 Left Type 1	Standard
-	67390439P	6300		

### ■ Dimensions

#### Vertical elbow

In order to define the type of vertical elbow, it is necessary to still place the element "edgewise" (conductors perpendicular to the ground), with the section with Monobloc facing the observer and the section without facing up. In this configuration, vertical "elbows" enable an up or down facing variation. If the neutral is on the left side, there will be a left vertical elbow (Type 1). If, on the other side, it is on the right side, there will be a right vertical elbow (Type 2)



MIN AND MAX DIMENSIONS	
Single bar min/MAX	
A	250/1299*
B	250/1299*
Double bar min/MAX	
A	340/1449*
B	340/1449*
Triple bar min/MAX	
A	485/1199*
B	485/1199*

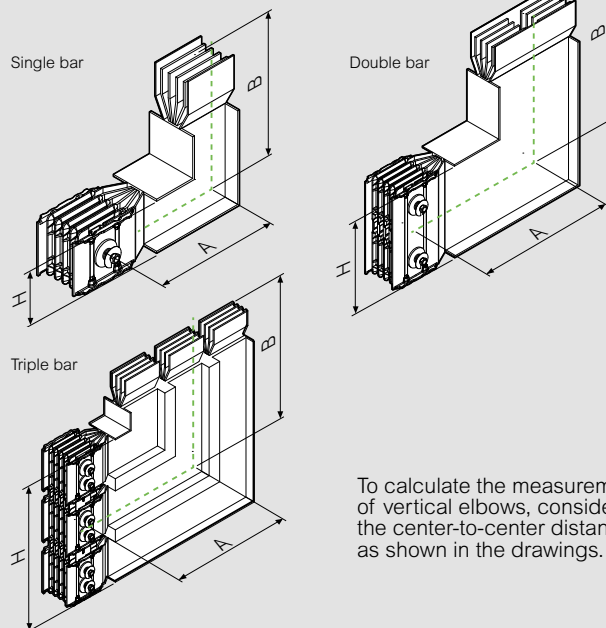
Dimension H changes with the rating; it is specified in the technical information

The dimensions are referred to the standard elements.  
 Single bar (A+B) : 300+300 mm  
 Double bar (A+B) : 450+450 mm  
 Triple bar (A+B) : 500+500 mm

Non-standard elements "Special" (with measurements that are different from those show in the figure) are referred to the Min and Max dimensions specified in the table

\* For all the non standard vertical elbows (special), it is possible to have only one of the two sides in size exceeding 600 mm. For example, when ordering a vertical elbow with size A=1000 mm, the B size will have to be ≤ 600 mm

#### How to measure vertical angles



To calculate the measurements of vertical elbows, consider the center-to-center distance as shown in the drawings.

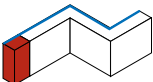
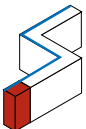
# Xtra Compact (XCP-S)

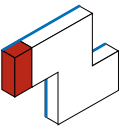
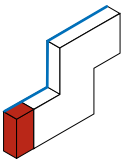
## elbows



64280346P

64280456P

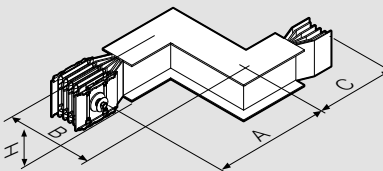
Item		Double horizontal elbow	
Al	Cu	ln (A)	Type
64280340P	-	630	 Right Type 1
64280341P	67280340P	800	
64280342P	67280341P	1000	
64280344P	67280343P	1250	
64280346P	67280345P	1600	
64280347P	67280346P	2000	
64390344P	67390344P	2500	
64390346P	67390345P	3200	
64390347P	67390346P	4000	
64390348P	67390348P	5000	
-	67390349P	6300	
64280350P	-	630	 Left Type 2
64280351P	67280350P	800	
64280352P	67280351P	1000	
64280354P	67280353P	1250	
64280356P	67280355P	1600	
64280357P	67280356P	2000	
64390354P	67390354P	2500	
64390356P	67390355P	3200	
64390357P	67390356P	4000	
64390358P	67390358P	5000	
-	67390359P	6300	

Item		Double vertical elbow	
Al	Cu	ln (A)	Type
64280440P	-	630	 Right Type 2
64280441P	67280440P	800	
64280442P	67280441P	1000	
64280444P	67280443P	1250	
64280446P	67280445P	1600	
64280447P	67280446P	2000	
64390444P	67390444P	2500	
64390446P	67390445P	3200	
64390447P	67390446P	4000	
64390448P	67390448P	5000	
-	67390449P	6300	
64280450P	-	630	 Left Type 1
64280451P	67280450P	800	
64280452P	67280451P	1000	
64280454P	67280453P	1250	
64280456P	67280455P	1600	
64280457P	67280456P	2000	
64390454P	67390454P	2500	
64390456P	67390455P	3200	
64390457P	67390456P	4000	
64390458P	67390458P	5000	
-	67390459P	6300	

### Dimensions

#### Double horizontal elbow

Double horizontal elbows are the union of two horizontal elbows; in order to define the type, it is enough to observe them starting from the Monobloc; if the first elbow met is left, we will have a double horizontal elbow left + right (Type 2). Contrariwise, if the first elbow met is right, we will have a double horizontal elbow right + left (Type 1)

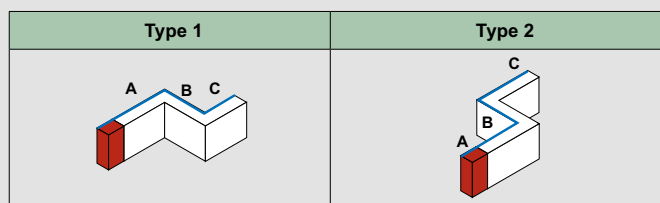


#### MIN AND MAX DIMENSIONS

Single bar min/MAX	
A	250/1299*
B	50/599*
C	250/1299*
Double bar min/MAX	
A	250/1299*
B	50/599*
C	250/1299*
Triple bar min/MAX	
A	250/999*
B	50/599*
C	250/999*

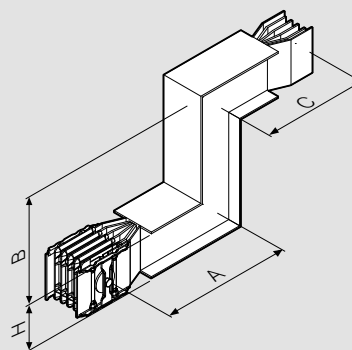
The dimensions are referred to the standard elements.  
Single/double/triple bar (A+B+C):  
300+300+300 mm

Dimension H changes with the rating; it is specified in the technical information



#### Double vertical elbow

Double vertical elbows are the union of two vertical elbows; in order to define the type, it is enough to observe them starting from the Monobloc; if the first elbow met is left, we will have a double vertical elbow left + right (Type 1). Contrariwise, if the first elbow met is right, we will have a double vertical elbow right + left (Type 2)

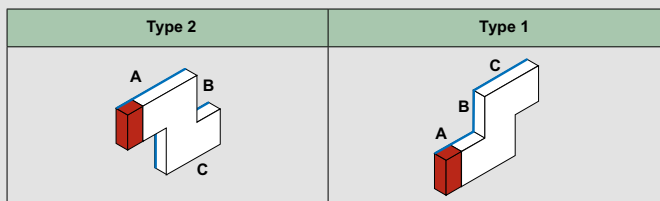


#### MIN AND MAX DIMENSIONS


Single bar min/MAX	
A	250/1299*
B	50/599*
C	250/1299*
Double bar min/MAX	
A	340/1449*
B	50/899*
C	340/1449*
Triple bar min/MAX	
A	485/1199*
B	50/999*
C	485/1199*

Dimension H changes with the rating; it is specified in the technical information

The dimensions are referred to the standard elements.  
Single bar (A+B+C): 300+300+300 mm  
Double bar (A+B+C): 450+450+450 mm  
Triple bar (A+B+C): 500+500+500 mm



Non-standard elements "Special" (with measurements that are different from those show in the figure) are referred to the Min and Max dimensions specified in the table

 \* Warning: for safety reasons in production and also to help in the installation, if one dimension is pulled close to the maximum length (i.e. A=1100 mm) then the other two dimensions should be kept as close as possible to their standard lengths (i.e. B=300 mm, C=310 mm)

Single bar:	Double bar:	Triple bar:
630A-2000A (Al) 800A-2000A (Cu)	2500A-4000A (Al) 2500A-5000A (Cu)	5000A (Al) 6300A (Cu)



# Xtra Compact (XCP-S)

## elbows



64280606P

Item		Double elbow horizontal + vertical	
Al	Cu	In (A)	Type
64280600P	-	630	<p>Type 1</p>
64280601P	67280600P	800	
64280602P	67280601P	1000	
64280604P	67280603P	1250	
64280606P	67280605P	1600	
64280607P	67280606P	2000	
64390604P	67390604P	2500	
64390606P	67390605P	3200	
64390607P	67390606P	4000	
64390608P	67390608P	5000	
-	67390609P	6300	<p>Type 2</p>
64280610P	-	630	
64280611P	67280610P	800	
64280612P	67280611P	1000	
64280614P	67280613P	1250	
64280616P	67280615P	1600	
64280617P	67280616P	2000	
64390614P	67390614P	2500	
64390616P	67390615P	3200	
64390617P	67390616P	4000	
64390618P	67390618P	5000	<p>Type 3</p>
-	67390619P	6300	
64280620P	-	630	
64280621P	67280620P	800	
64280622P	67280621P	1000	
64280624P	67280623P	1250	
64280626P	67280625P	1600	
64280627P	67280626P	2000	
64390624P	67390624P	2500	
64390626P	67390625P	3200	
64390627P	67390626P	4000	<p>Type 4</p>
64390628P	67390628P	5000	
-	67390629P	6300	
64280630P	-	630	
64280631P	67280630P	800	
64280632P	67280631P	1000	
64280634P	67280633P	1250	
64280636P	67280635P	1600	
64280637P	67280636P	2000	
64390634P	67390634P	2500	
64390636P	67390635P	3200	
64390637P	67390636P	4000	
64390638P	67390638P	5000	
-	67390639P	6300	

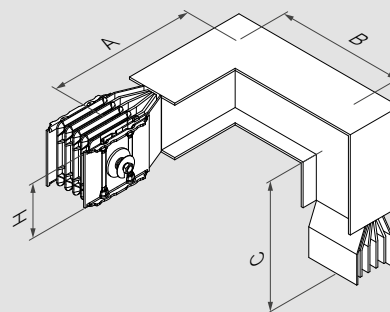
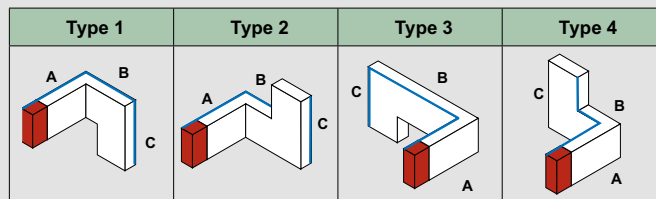
### Dimensions

#### Double elbow horizontal + vertical

Double elbows horizontal + vertical are the union of a horizontal and a vertical elbow, placed in succession starting from the side with Monobloc.

Depending on the type of elbows, the double horizontal + vertical elbow may be of four different types:

- Double elbow Horizontal RH + Vertical RH (Type 1)
- Double elbow Horizontal RH + Vertical LH (Type 2)
- Double elbow Horizontal LH + Vertical RH (Type 3)
- Double elbow Horizontal LH + Vertical LH (Type 4)



#### MIN AND MAX DIMENSIONS OF SINGLE

Single bar min/MAX	
A	250/1299*
B	150/599*
C	250/1299*
Double bar min/MAX	
A	250/1299*
B	235/899*
C	340/1449*
Triple bar min/MAX	
A	250/999*
B	380/799*
C	485/999*

The dimensions are referred to the standard elements  
 Single bar (A+B+C): 300+300+300 mm  
 Double bar (A+B+C): 300+450+450 mm  
 Triple bar (A+B+C): 300+500+500 mm

Dimension H changes with the rating; it is specified in the technical information

Non-standard elements "Special" (with measurements that are different from those show in the figure) are referred to the Min and Max dimensions specified in the table.

\* Warning: for safety reasons in production and also to help in the installation, if one dimension is pulled close to the maximum length (i.e. A=1100 mm) then the other two dimensions should be kept as close as possible to their standard lengths (i.e. B=300 mm, C=310 mm).

**Note:**  
 RH - Right  
 LH - Left



**Single bar:**  
 630A-2000A (Al)  
 800A-2000A (Cu)

**Double bar:**  
 2500A-4000A (Al)  
 2500A-5000A (Cu)

**Triple bar:**  
 5000A (Al)  
 6300A (Cu)



# Xtra Compact (XCP-S)

## elbows



64280506P

Item		Double elbow vertical + horizontal		
Al	Cu	In (A)	Type	
64280500P	-	630	<p>Type 1</p>	
64280501P	67280500P	800		
64280502P	67280501P	1000		
64280504P	67280503P	1250		
64280506P	67280505P	1600		
64280507P	67280506P	2000		
64390504P	67390504P	2500		
64390506P	67390505P	3200		
64390507P	67390506P	4000		
64390508P	67390508P	5000		
-	67390509P	6300		
64280510P	-	630	<p>Type 2</p>	
64280511P	67280510P	800		
64280512P	67280511P	1000		
64280514P	67280513P	1250		
64280516P	67280515P	1600		
64280517P	67280516P	2000		
64390514P	67390514P	2500		
64390516P	67390515P	3200		
64390517P	67390516P	4000		
64390518P	67390518P	5000		
-	67390519P	6300		
64280520P	-	630	<p>Type 3</p>	
64280521P	67280520P	800		
64280522P	67280521P	1000		
64280524P	67280523P	1250		
64280526P	67280525P	1600		
64280527P	67280526P	2000		
64390524P	67390524P	2500		
64390526P	67390525P	3200		
64390527P	67390526P	4000		
64390528P	67390528P	5000		
-	67390529P	6300		
64280530P	-	630	<p>Type 4</p>	
64280531P	67280530P	800		
64280532P	67280531P	1000		
64280534P	67280533P	1250		
64280536P	67280535P	1600		
64280537P	67280536P	2000		
64390534P	67390534P	2500		
64390536P	67390535P	3200		
64390537P	67390536P	4000		
64390538P	67390538P	5000		
-	67390539P	6300		

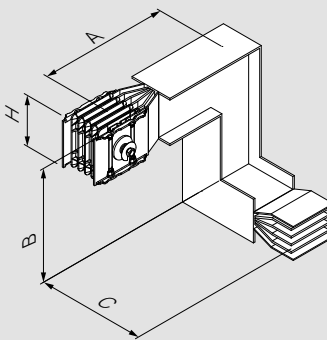
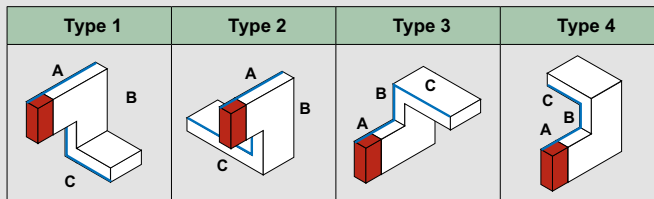
### ■ Dimensions

#### Double elbow vertical + horizontal

Double elbows vertical + horizontal are the union of a vertical and a horizontal elbow, placed in succession starting from the side with Monobloc

Depending on the type of elbows, the double vertical + horizontal elbow may be of four different types:

- Double elbow vertical RH + horizontal RH (Type 1)
- Double elbow vertical RH + horizontal LH (Type 2)
- Double elbow vertical LH + horizontal RH (Type 3)
- Double elbow vertical LH + horizontal LH (Type 4)



#### MIN AND MAX DIMENSIONS

##### Single bar min/MAX

A	250/1299*
B	150/599*
C	250/1299*

##### Double bar min/MAX

A	340/1449*
B	325/899*
C	250/1299*

##### Triple bar min/MAX

A	485/1199*
B	380/799*
C	250/999*

Dimension H changes with the rating; it is specified in the technical information

The dimensions are referred to the standard elements.

Single bar (A+B+C): 300+300+300 mm

Double bar (A+B+C): 450+450+300 mm

Triple bar (A+B+C): 500+500+300 mm

Non-standard elements "Special" (with measurements that are different from those show in the figure) are referred to the Min and Max dimensions specified in the table.



\* Warning: for safety reasons in production and also to help in the installation, if one dimension is pulled close to the maximum length (i.e. A=1100 mm) then the other two dimensions should be kept as close as possible to their standard lengths (i.e. B=300 mm, C=310 mm)

#### Note:

RH - Right

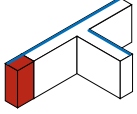
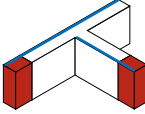
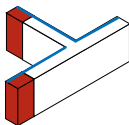
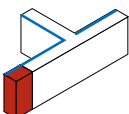
LH - Left

# Xtra Compact (XCP-S)

## T elements



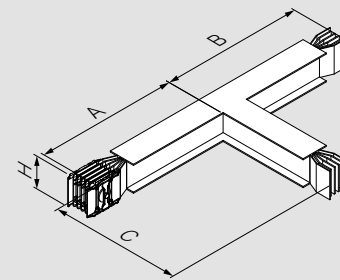
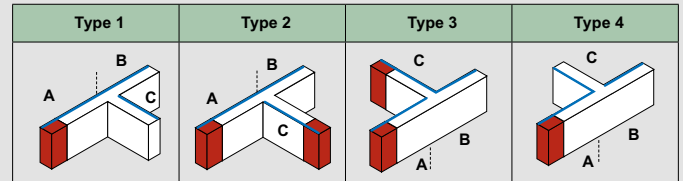
64280706P

Item		Horizontal T element	
Al	Cu	In (A)	Type
64280700P	-	630	 Type 1
64280701P	67280700P	800	
64280702P	67280701P	1000	
64280704P	67280703P	1250	
64280706P	67280705P	1600	
64280707P	67280706P	2000	
64390704P	67390704P	2500	
64390706P	67390705P	3200	
64390707P	67390706P	4000	
64390708P	67390708P	5000	
-	67390709P	6300	
64280710P	-	630	 Type 2
64280711P	67280710P	800	
64280712P	67280711P	1000	
64280714P	67280713P	1250	
64280716P	67280715P	1600	
64280717P	67280716P	2000	
64390714P	67390714P	2500	
64390716P	67390715P	3200	
64390717P	67390716P	4000	
64390718P	67390718P	5000	
-	67390719P	6300	
64280720P	-	630	 Type 3
64280721P	67280720P	800	
64280722P	67280721P	1000	
64280724P	67280723P	1250	
64280726P	67280725P	1600	
64280727P	67280726P	2000	
64390724P	67390724P	2500	
64390726P	67390725P	3200	
64390727P	67390726P	4000	
64390728P	67390728P	5000	
-	67390729P	6300	
64280730P	-	630	 Type 4
64280731P	67280730P	800	
64280732P	67280731P	1000	
64280734P	67280733P	1250	
64280736P	67280735P	1600	
64280737P	67280736P	2000	
64390734P	67390734P	2500	
64390736P	67390735P	3200	
64390737P	67390736P	4000	
64390738P	67390738P	5000	
-	67390739P	6300	

### Dimensions

#### Horizontal T element

T-elements can be used to split the line in two branches, adding together the effect of two diverging elbows. There are four types of horizontal "T" elements, as shown below.



MIN AND MAX DIMENSIONS	
Single bar min/MAX	
A	600/1449*
B	600/1449*
C	600/1449*
Double bar min/MAX	
A	600/1449*
B	600/1449*
C	600/1449*
Triple bar min/MAX	
A	600/1449*
B	600/1449*
C	600/1449*

The dimensions are referred to the standard elements. Single/double/triple bar (A+B+C): 600+600+600 mm

Dimension H changes with the rating; it is specified in the technical information

Non-standard elements "Special" (with measurements that are different from those shown in the figure) are referred to the Min and Max dimensions specified in the table.

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

#### Note:

Only in special cases, where it is not possible to use the standard element, it is possible to have only one of three arms with a minimum dimension of 300mm.

For more information please contact Legrand



**Single bar:**  
630A-2000A (Al)  
800A-2000A (Cu)

**Double bar:**  
2500A-4000A (Al)  
2500A-5000A (Cu)

**Triple bar:**  
5000A (Al)  
6300A (Cu)

# Xtra Compact (XCP-S)

## T elements



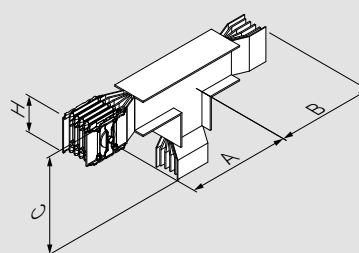
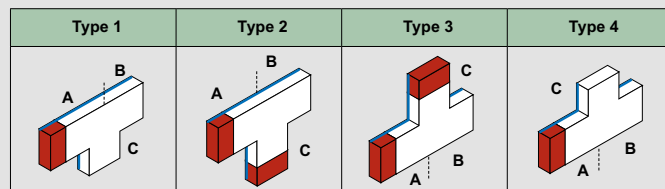
64280806P

Item		Vertical t element		Type
Al	Cu	In (A)		
64280800P	-	630		<p>Type 1</p>
64280801P	67280800P	800		
64280802P	67280801P	1000		
64280804P	67280803P	1250		
64280806P	67280805P	1600		
64280807P	67280806P	2000		
64390804P	67390804P	2500		
64390806P	67390805P	3200		
64390807P	67390806P	4000		
64390808P	67390808P	5000		
-	67390809P	6300		<p>Type 2</p>
64280810P	-	630		
64280811P	67280810P	800		
64280812P	67280811P	1000		
64280814P	67280813P	1250		
64280816P	67280815P	1600		
64280817P	67280816P	2000		
64390814P	67390814P	2500		
64390816P	67390815P	3200		
64390817P	67390816P	4000		
64390818P	67390818P	5000		
-	67390819P	6300		<p>Type 3</p>
64280820P	-	630		
64280821P	67280820P	800		
64280822P	67280821P	1000		
64280824P	67280823P	1250		
64280826P	67280825P	1600		
64280827P	67280826P	2000		
64390824P	67390824P	2500		
64390826P	67390825P	3200		
64390827P	67390826P	4000		
64390828P	67390828P	5000		
-	67390829P	6300		<p>Type 4</p>
64280830P	-	630		
64280831P	67280830P	800		
64280832P	67280831P	1000		
64280834P	67280833P	1250		
64280836P	67280835P	1600		
64280837P	67280836P	2000		
64390834P	67390834P	2500		
64390836P	67390835P	3200		
64390837P	67390836P	4000		
64390838P	67390838P	5000		
-	67390839P	6300		

### ■ Dimensions

#### Vertical T element

T-elements can be used to split the line in two branches, adding together the effect of two diverging elbows. There are four types of verticals "T" elements, as shown below



MIN AND MAX DIMENSIONS	
Single bar min/MAX	
A	300/1299*
B	300/1299*
C	300/1299*
Double bar min/MAX	
A	450/1449*
B	450/1449*
C	450/1449*
Triple bar min/MAX	
A	485/1449*
B	485/1449*
C	485/1449*

Dimension H changes with the rating; it is specified in the technical information

The dimensions are referred to the standard elements  
 Single bar (A+B+C): 300+300+300 mm  
 Double bar (A+B+C): 600+600+600 mm  
 Triple bar (A+B+C): 600+600+600 mm

Non-standard elements "Special" (with measurements that are different from those shown in the figure) are referred to the Min and Max dimensions specified in the table


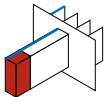
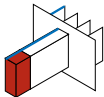
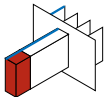
\* For all the non standard Vertical T elements (special), it is possible to have only one of the three sides in size exceeding 600 mm. For example, when ordering a T vertical element with size A=650 mm, the B and C size will have to be ≤600 mm

# Xtra Compact (XCP-S)

connection interfaces with exit bars



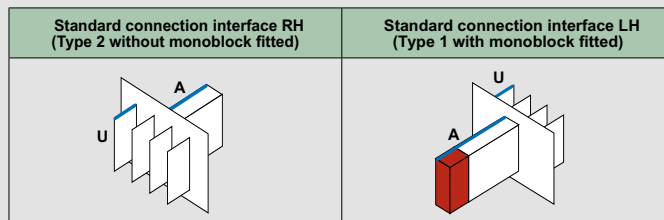
64281016P

Item		Connection interfaces with exit bars for panel boards		
Al	Cu	In (A)	Type	Type
64281000P	-	630	 Right Type 2	Standard
64281001P	67281000P	800		
64281002P	67281001P	1000		
64281004P	67281003P	1250		
64281006P	67281005P	1600		
64281007P	67281006P	2000		
64391004P	67391004P	2500		
64391006P	67391005P	3200		
64391007P	67391006P	4000		
64391008P	67391008P	5000		
-	67391009P	6300	 Left Type 1	Standard
64281020P	-	630		
64281021P	67281020P	800		
64281022P	67281021P	1000		
64281024P	67281023P	1250		
64281026P	67281025P	1600		
64281027P	67281026P	2000		
64391024P	67391024P	2500		
64391026P	67391025P	3200		
64391027P	67391026P	4000		
64391028P	67391028P	5000	 Left Type 1	Special
-	67391029P	6300		
64281010P	-	630		
64281011P	67281010P	800		
64281012P	67281011P	1000		
64281014P	67281013P	1250		
64281016P	67281015P	1600		
64281017P	67281016P	2000		
64391014P	67391014P	2500		
64391016P	67391015P	3200		
64391017P	67391016P	4000		
64391018P	67391018P	5000		
-	67391019P	6300		
64281030P	-	630	 Left Type 1	Special
64281031P	67281030P	800		
64281032P	67281031P	1000		
64281034P	67281033P	1250		
64281036P	67281035P	1600		
64281037P	67281036P	2000		
64391034P	67391034P	2500		
64391036P	67391035P	3200		
64391037P	67391036P	4000		
64391038P	67391038P	5000		
-	67391039P	6300		

## Dimensions

### Connection interfaces with exit bars

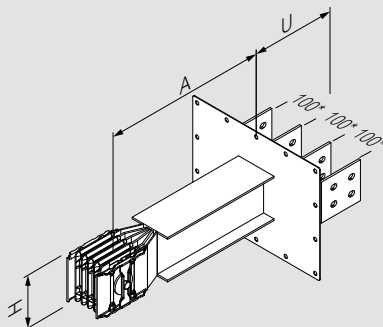
Standard connection interfaces are used at the end of the lines to connect the busbar to boards or transformers. They are available in right (without Monobloc) and left (with Monobloc fitted) versions. The drawings below refer to the standard versions. Different combinations are available on request (e.g.: length, centre distance between bar conductors, drilling, etc.)



**Note:**  
RH - Right  
LH - Left

### Standard connection interface

See on page 40-41 the drawings with all drilling details for dimensions of coverplate (1) and bars (2)



MIN AND MAX DIMENSIONS	
Single bar min/MAX	
U	150/400
A	200/1299
Double bar min/MAX	
U	150/400
A	200/1299
Triple bar min/MAX	
U	150/400
A	200/1299

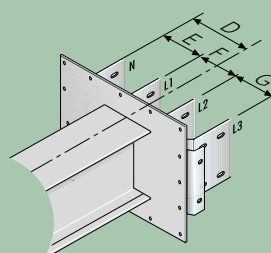
Dimension H changes with the rating; it is specified in the technical information

The dimensions are referred to the standard elements.  
Single/double/triple bar (U+A): 200+300 mm

\* 120 mm for 6300 A (Cu) and 5000 A (Al)

Non-standard elements "Special" (with measurements that are different from those show in the figure) are referred to the Min and Max dimensions specified in the table.

### Special connection interface with not standard interaxes



Dimensioning indications to be provided when using a non-standard centre distance

# Xtra Compact (XCP-S)

connection interfaces with exit bars



6428T016P

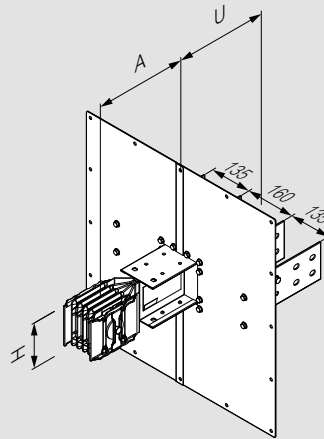
Item		Connection interfaces with exit bars for transformers*		
Al	Cu	In (A)	Type	Type
6428T000P	-	630		
6428T001P	6728T000P	800		
6428T002P	6728T001P	1000		CRT
6428T004P	6728T003P	1250		
6428T006P	6728T005P	1600		
6428T007P	6728T006P	2000		
6439T004P	6739T004P	2500		
6439T006P	6739T005P	3200	Right Type 2	
6439T007P	6739T006P	4000		
6439T008P	6739T008P	5000		
-	6739T009P	6300		
6428T010P	-	630		
6428T011P	6728T010P	800		
6428T012P	6728T011P	1000		CRT
6428T014P	6728T013P	1250		
6428T016P	6728T015P	1600		
6428T017P	6728T016P	2000		
6439T014P	6739T014P	2500		
6439T016P	6739T015P	3200	Left Type 1	
6439T017P	6739T016P	4000		
6439T018P	6739T018P	5000		
-	6739T019P	6300		

\* cast resin, air insulated or oil filled transformers

## Dimensions

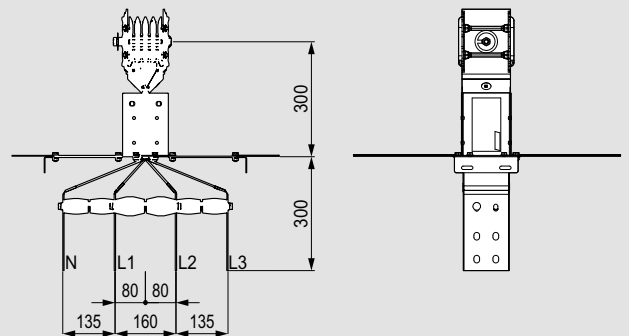
### Connection interfaces with exit bars

Special connection interfaces are used at the end of the lines to connect the busbar to dry transformers. They are available in right (without Monobloc) and left (with Monobloc fitted) versions. The drawings below refer to the standard versions. Different combinations are available on request (e.g.: length, centre distance between bar conductors, drilling, etc.)

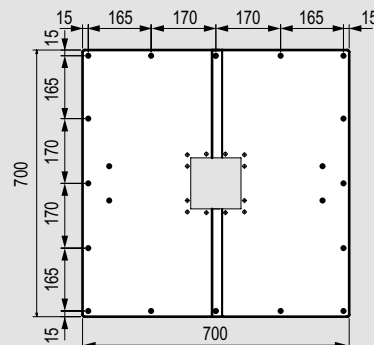


MIN AND MAX DIMENSIONS	
Single bar min/MAX	
U	300/400
A	200/1299
Double bar min/MAX	
U	300/400
A	200/1299
Triple bar min/MAX	
U	300/400
A	200/1299

Dimension H changes with the rating; it is specified in the technical information



### Flange size details

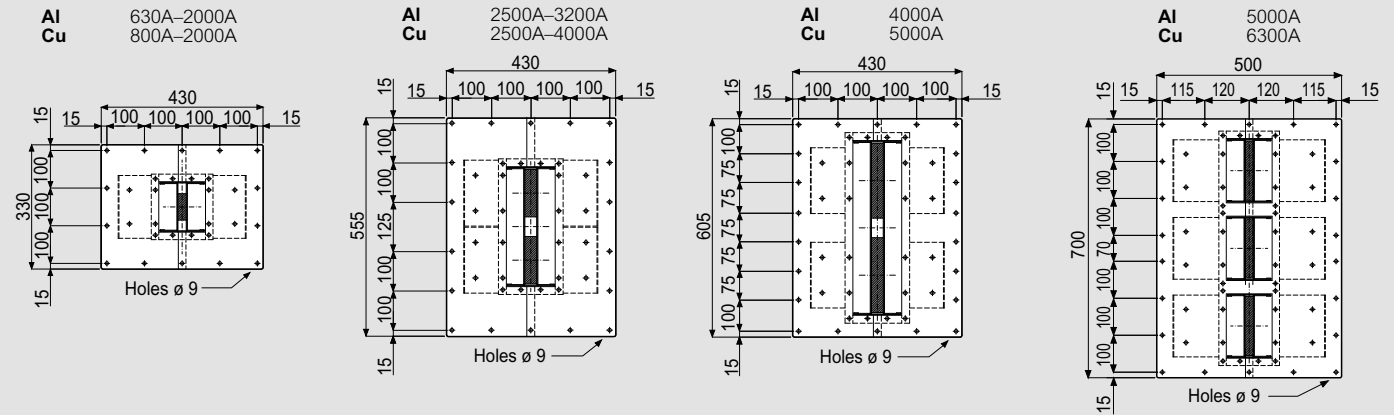


Single bar:	Double bar:	Triple bar:
630A-2000A (Al)	2500A-4000A (Al)	5000A (Al)
800A-2000A (Cu)	2500A-5000A (Cu)	6300A (Cu)

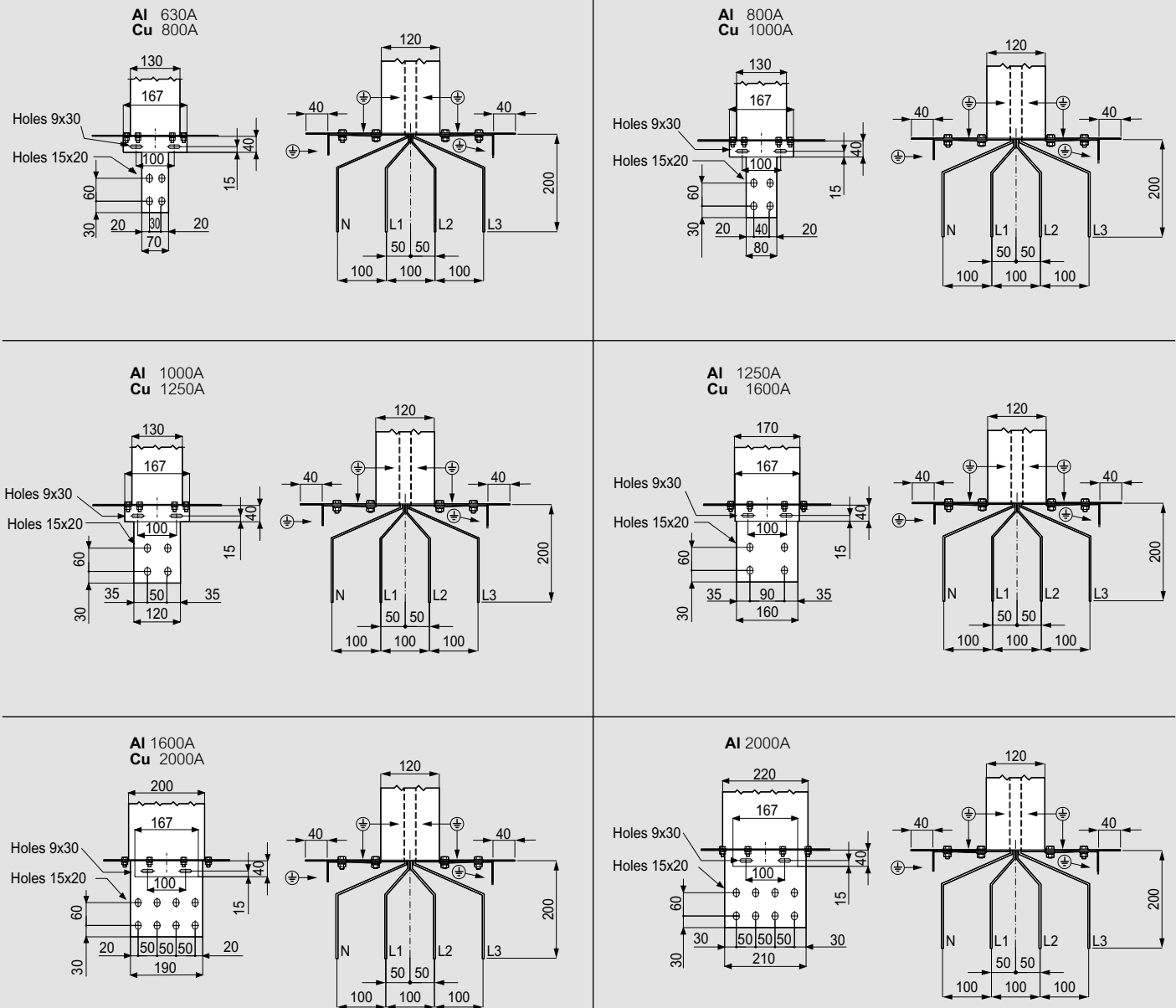
# Xtra Compact (XCP-S)

## dimensions

### Coverplate drilling details (1)



### Bar drilling details (2) Side and front view

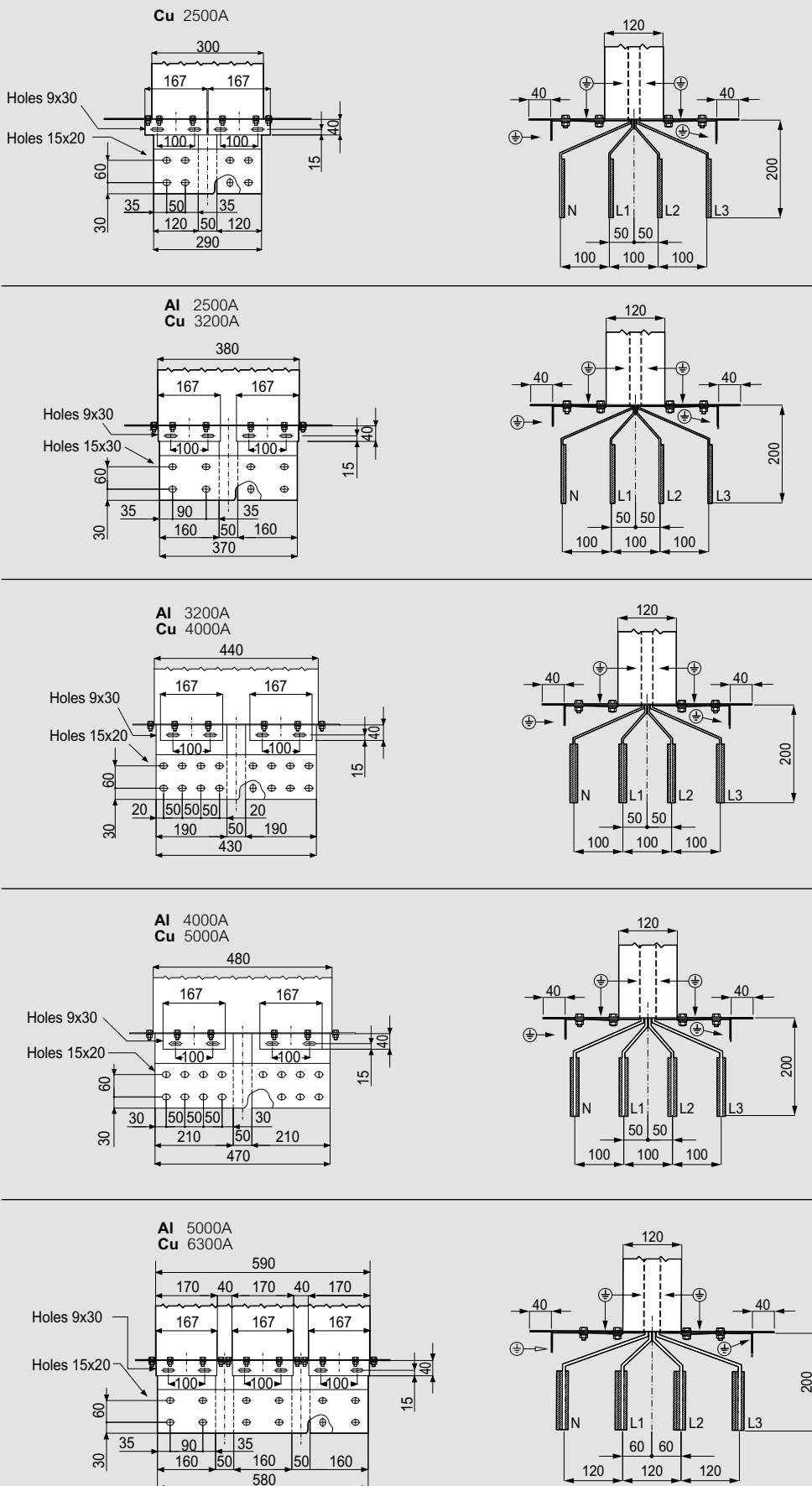




# Xtra Compact (XCP-S)

## dimensions

### ■ Bar drilling details (2) Side and front view



# Xtra Compact (XCP-S)

## technical information

### General features

XCP-S line is available in the standard range: From **630A to 5000A with aluminum alloy** conductors and **from 800A to 6300A with copper conductors**. The extra-compact dimensions of the XCP-S enhance its **resistance to short circuit stresses**; in addition, they can reduce the impedance of the circuit by controlling the voltage drops and allow for the installation of high power electrical systems, even in extremely confined spaces. XCP-S is available with a **wide selection of tap-off boxes that range from 63A up to 1250A**, thus allowing you to locally protect and feed different types of loads by housing protective devices such as fuses, MCCBs and motorised switches. XCP-S is not only in **compliance with the harmonised Standards IEC EN 61439-6** but also answers specifically to many clients needs for more severe conditions of use. Thus **the rated current** of Legrand's busbar trunking systems is **always referred to the average ambient temperature of 35 °C**. The nominal range of all XCP-S is guaranteed both for horizontal installations (flat and edgewise) and for vertical installations without derating. XCP-S busbar trunking systems are designed so that they can be **maintenance-free**, except for the periodic and compulsory inspections required by the Standard IEC 60364. The tightening torque inspection of the junction can be carried out by qualified personnel, even when the busbar is energised.

### Structural features

The outer casing of the XCP-S line consists of four C-ribbed section bars, bordered and riveted (thickness 1.5mm), with **excellent mechanical, electric** and heat loss efficiency. **The sheet metal is made of galvanized steel**, treated according to UNI EN10327 and **painted with RAL7035 resins** with a **high resistance to chemical agents**. **The standard degree of protection is IP55, on request IP65 (only for transport of energy)**; with certain accessories, it can also be installed outdoors.

The busbar conductors have a rectangular cross section with rounded corners; there are two versions:

- **Electrolytic copper ETP 99.9 UNI EN 13601**
- **Aluminum alloy** treated over the entire surface with **5 galvanic processes** (copper plating + tin plating)

The insulation between bars is ensured by a **double sheath made with polyester film** (total thickness 2x0.19 mm) **class B (130°C)**, (total thickness 2x0.23 mm) **class F (155°C)** thermal resistance available on request. All plastic components have a **V1 self-extinguishing degree**; they are fire retardant and comply with the glow-wire test according to standards. The XCP-S line is **Halogen Free**. In order to facilitate storage operations especially to reduce the installation time, the straight elements, trunking **components** as well as all the components of the XCP-S line are **supplied with a monobloc pre-installed at the factory**. The junction contact is ensured by **tin plated aluminium for XCP-S Al and copper for XCP-S Cu** for each phase, insulated with **red class F thermosetting plastic material**.

The **monobloc** has **shear head bolts**: after tightening the nuts with a standard wrench, the outer head will break at the correct torque value, hence giving you the certainty that the connection has been made properly so as to guarantee safety and maximum performance over time.

Finally, in order to completely verify the insulation level, every finished product undergoes an **insulation test** (phase-phase, phase-PE) at the factory with a test voltage of 3500 Vac for 1.5 seconds. The test is performed on the finished product, completely assembled. IP55 and IP65 is intended for internal use only, for outdoor applications a canopy designed by us or RCP resin IP68 busbar is needed.

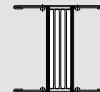
RATED CURRENT OF XCP-S BARS (A)											
Al	630	800	1000	1250	1600	2000	2500	3200	4000	5000	
Single bar						Double bar			Triple bar		
Cu		800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Single bar						Double bar			Triple bar		

### Standard versions:

**XCP-S line with 4 conductors**  
**3P+N+PE, 3P+PE, 3P+FE+PE, 3L+PE, 3L+N+FE+PE**

Note: For dimension H, see technical data section  
 PE: Protection Earth  
 FE: Functional Earth (Clean Earth)

Edgewise position    Flat position

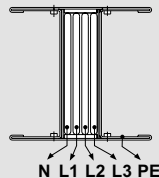


single bar

double bar

triple bar

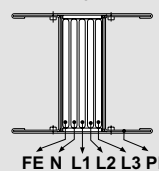
Phase sequence



**XCP-S 5 line with 5 conductors**  
**3P+N+FE+PE**

Note: For dimension H, see technical data section  
 PE: Protection Earth  
 FE: Functional Earth (Clean Earth)

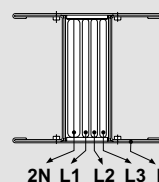
Phase sequence



**XCP-S 2N 200% neutral line**  
**3P+2N+PE**

Note: For dimension H, see technical data section  
 PE: Protection Earth  
 2N : 200% neutral

Phase sequence



### GENERAL CORRECTION FACTOR FOR AMBIENT TEMPERATURES (Kt)

#### XCP-S (AL - CU)

Daily avg Ambient temperature	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
Kt factor	1,24	1,21	1,18	1,15	1,12	1,09	1,06	1,03	1	0,97	0,93	0,90



Special versions on request

# Xtra Compact (XCP-S)

## technical data

### XCP-S Al (4 Conductors)

3P+N+PE	In [A]	SINGLE BAR						DOUBLE BAR			TRIPLE BAR
		630	800	1000	1250	1600	2000	2500	3200	4000	5000
Overall dimension of the busbars	L x H [mm]	120 x 130	120 x 130	120 x 130	120 x 170	120 x 200	120 x 220	120 x 380	120 x 440	120 x 480	120 x 590
Rated operational voltage	Ue [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	Ui [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	Icw [kA] <sub>rms</sub>	25***	25***	36	42	42	50	65	80	100	120
Peak current	Ipk [kA]	53	53	76	88	88	105	143	176	220	264
Allowable specific energy for three-phase fault	I²t [MA²s]	312	312	1296	1764	1764	2500	4225	6400	10000	14400
Rated short-time current of the neutral bar (1 s)	Icw [kA] <sub>rms</sub>	15***	15***	22	25	25	30	39	48	60	72
Peak current of the neutral bar	Ipk [kA]	30	30	46	53	53	63	82	101	132	158
Rated short-time current of the protective circuit (1 s)	Icw [kA] <sub>rms</sub>	15***	15***	22	25	25	30	39	48	60	72
Peak current of the protective circuit	Ipk [kA]	30	30	46	53	53	63	82	101	132	158
Phase resistance at 20°C	R20 [mΩ/m]	0,140	0,092	0,077	0,057	0,041	0,029	0,029	0,021	0,014	0,011
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,016	0,015	0,014	0,011	0,007	0,006	0,005
Phase impedance	Z [mΩ/m]	0,142	0,094	0,079	0,060	0,044	0,032	0,031	0,022	0,016	0,012
Phase resistance at thermal conditions	R [mΩ/m]	0,185	0,122	0,104	0,080	0,058	0,040	0,041	0,030	0,021	0,015
Phase impedance at thermal conditions	Z [mΩ/m]	0,186	0,123	0,105	0,081	0,059	0,043	0,042	0,031	0,022	0,016
Neutral resistance	R20 [mΩ/m]	0,140	0,092	0,077	0,057	0,041	0,029	0,029	0,021	0,014	0,011
Resistance of the protective bar (PE 1)	RPE [mΩ/m]	0,132	0,132	0,132	0,119	0,110	0,106	0,078	0,071	0,067	0,040
Resistance of the protective bar (PE 2)	RPE [mΩ/m]	0,049	0,049	0,049	0,038	0,032	0,025	0,021	0,017	0,016	0,013
Resistance of the protective bar (PE 3)	RPE [mΩ/m]	0,084	0,084	0,084	0,064	0,054	0,049	0,035	0,029	0,026	0,021
Reactance of the protective bar	XPE [mΩ/m]	0,080	0,078	0,078	0,048	0,039	0,028	0,020	0,015	0,016	0,014
Resistance of the fault loop (PE 1)	Ro [mΩ/m]	0,272	0,224	0,208	0,176	0,152	0,135	0,107	0,092	0,082	0,051
Resistance of the fault loop (PE 2)	Ro [mΩ/m]	0,190	0,142	0,126	0,095	0,073	0,054	0,049	0,038	0,030	0,023
Resistance of the fault loop (PE 3)	Ro [mΩ/m]	0,224	0,176	0,161	0,121	0,096	0,078	0,064	0,050	0,040	0,032
Reactance of the fault loop (50hz)	Xo [mΩ/m]	0,10	0,10	0,10	0,06	0,05	0,04	0,03	0,02	0,02	0,02
Impedance of the fault loop (PE 1)	Zo [mΩ/m]	0,291	0,243	0,229	0,188	0,161	0,142	0,111	0,094	0,085	0,054
Impedance of the fault loop (PE 2)	Zo [mΩ/m]	0,216	0,171	0,158	0,115	0,091	0,069	0,058	0,044	0,037	0,030
Impedance of the fault loop (PE 3)	Zo [mΩ/m]	0,247	0,200	0,187	0,137	0,110	0,089	0,071	0,054	0,046	0,037
Zero-sequence short-circuit average resistance phase - N	Ro [mΩ/m]	0,187	0,123	0,102	0,077	0,055	0,039	0,038	0,028	0,019	0,014
Zero-sequence short-circuit average reactance phase - N	Xo [mΩ/m]	0,031	0,023	0,023	0,021	0,020	0,019	0,015	0,009	0,008	0,007
Zero-sequence short-circuit average impedance phase - N	Zo [mΩ/m]	0,189	0,125	0,105	0,080	0,059	0,043	0,041	0,029	0,021	0,016
Zero-sequence short-circuit average resistance phase - PE	Ro [mΩ/m]	0,178	0,162	0,157	0,138	0,124	0,116	0,088	0,078	0,072	0,044
Zero-sequence short-circuit average reactance phase - PE	Xo [mΩ/m]	0,031	0,023	0,023	0,021	0,020	0,019	0,015	0,009	0,008	0,007
Zero-sequence short-circuit average impedance phase - PE	Zo [mΩ/m]	0,181	0,164	0,159	0,140	0,126	0,117	0,089	0,079	0,073	0,044
Voltage drop with distributed load ΔV [V/(m*A)]10 <sup>-6</sup>	cosφ = 0,70	126,3	84,4	73,4	58,1	44,1	33,2	31,5	22,4	16,3	12,4
	cosφ = 0,75	133,3	88,9	77,1	60,8	45,9	34,3	32,8	23,3	17,0	12,9
	cosφ = 0,80	140,1	93,3	80,7	63,4	47,6	35,3	34,0	24,2	17,6	13,3
	cosφ = 0,85	146,6	97,5	84,1	65,9	49,2	36,1	35,1	25,1	18,1	13,6
	cosφ = 0,90	152,8	101,5	87,3	68,0	50,5	36,8	36,0	25,8	18,5	13,9
	cosφ = 0,95	158,4	104,9	90,0	69,8	51,4	37,0	36,5	26,4	18,8	14,0
cosφ = 1,00	160,2	105,6	89,9	68,9	49,8	35,0	35,3	25,8	18,0	13,3	
Weight (PE 1)	p [kg/m]	14,3	15,6	16,0	18,9	22,5	27,4	34,1	41,5	50,4	88,3
Weight (PE 2)	p [kg/m]	17,6	18,9	19,3	23,3	27,7	33,9	42,1	51,0	61,0	101,4
Weight (PE 3)	p [kg/m]	15,4	16,7	17,1	20,3	24,2	29,2	36,7	44,6	54,0	92,6
Fire load	[kWh/m]	4,5	5,5	5,5	6,0	8,5	10,5	16,0	19,0	21,0	21,0
Degree of protection	IP	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	P [W/m]	220	234	311	373	442	485	765	914	1000	1154
Ambient temperature min/ MAX (daily average)	[°C]	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50

\* IP65 for feeder lines is available by request

\*\* Class F available under request

\*\*\* Icw value at 0,5 s.

For temperatures over 35°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.



PE 1  
Standard version



PE 2  
Extra earth - COPPER



PE 3  
Extra earth - ALUMINUM  
XCP Al 3L+N+50%PE  
(available on request)

# Xtra Compact (XCP-S)

## technical data

### XCP-S AI (5 Conductors - clean earth)

3P+N+PE+FE	In [A]	SINGLE BAR						DOUBLE BAR			TRIPLE BAR
		630	800	1000	1250	1600	2000	2500	3200	4000	5000
Overall dimension of the busbars	L x H [mm]	120 x 130	120 x 130	120 x 130	120 x 170	120 x 200	120 x 220	120 x 380	120 x 440	120 x 480	120 x 590
Rated operational voltage	Ue [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	Ui [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	Icw [kA] <sub>rms</sub>	25***	25***	36	42	42	50	65	80	100	120
Peak current	Ipk [kA]	53	53	76	88	88	105	143	176	220	264
Allowable specific energy for three-phase fault	I²t [MA²s]	312	312	1296	1764	1764	2500	4225	6400	10000	14400
Rated short-time current of the neutral bar (1 s)	Icw [kA] <sub>rms</sub>	15***	15***	22	25	25	30	39	48	60	72
Peak current of the neutral bar	Ipk [kA]	30	30	46	53	53	63	82	101	132	158
Rated short-time current of the protective circuit (1 s)	Icw [kA] <sub>rms</sub>	15***	15***	22	25	25	30	39	48	60	72
Peak current of the protective circuit	Ipk [kA]	30	30	46	53	53	63	82	101	132	158
Phase resistance at 20°C	R20 [mΩ/m]	0,140	0,092	0,077	0,057	0,041	0,029	0,029	0,021	0,014	0,011
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,016	0,015	0,014	0,011	0,007	0,006	0,005
Phase impedance	Z [mΩ/m]	0,142	0,094	0,079	0,060	0,044	0,032	0,031	0,022	0,016	0,012
Phase resistance at thermal conditions	R [mΩ/m]	0,185	0,122	0,104	0,080	0,058	0,040	0,041	0,030	0,021	0,015
Phase impedance at thermal conditions	Z [mΩ/m]	0,186	0,123	0,105	0,081	0,059	0,043	0,042	0,031	0,022	0,016
Neutral resistance	R20 [mΩ/m]	0,140	0,092	0,077	0,057	0,041	0,029	0,029	0,021	0,014	0,011
Functional Earth resistance (FE)	R20 [mΩ/m]	0,140	0,092	0,077	0,057	0,041	0,029	0,029	0,021	0,014	0,011
Functional Earth reactance (FE)	X [mΩ/m]	0,023	0,017	0,017	0,016	0,015	0,014	0,011	0,007	0,006	0,005
Resistance of the protective bar (PE 1)	RPE [mΩ/m]	0,132	0,132	0,132	0,119	0,110	0,106	0,078	0,071	0,067	0,040
Resistance of the protective bar (PE 2)	RPE [mΩ/m]	0,049	0,049	0,049	0,038	0,032	0,025	0,021	0,017	0,016	0,013
Resistance of the protective bar (PE 3)	RPE [mΩ/m]	0,084	0,084	0,084	0,064	0,054	0,049	0,035	0,029	0,026	0,021
Reactance of the protective bar	XPE [mΩ/m]	0,080	0,078	0,078	0,048	0,039	0,028	0,020	0,015	0,016	0,014
Resistance of the fault loop (PE 1)	Ro [mΩ/m]	0,208	0,146	0,125	0,096	0,071	0,052	0,050	0,037	0,026	0,019
Resistance of the fault loop (PE 2)	Ro [mΩ/m]	0,177	0,124	0,107	0,080	0,059	0,042	0,041	0,030	0,022	0,016
Resistance of the fault loop (PE 3)	Ro [mΩ/m]	0,193	0,136	0,117	0,088	0,065	0,047	0,044	0,033	0,024	0,018
Reactance of the fault loop (50hz)	Xo [mΩ/m]	0,10	0,10	0,10	0,06	0,05	0,04	0,03	0,02	0,02	0,02
Impedance of the fault loop (PE 1)	Zo [mΩ/m]	0,232	0,174	0,157	0,116	0,089	0,067	0,059	0,043	0,034	0,027
Impedance of the fault loop (PE 2)	Zo [mΩ/m]	0,205	0,156	0,143	0,103	0,080	0,060	0,051	0,037	0,031	0,025
Impedance of the fault loop (PE 3)	Zo [mΩ/m]	0,218	0,166	0,151	0,109	0,084	0,063	0,054	0,039	0,032	0,026
Zero-sequence short-circuit average resistance phase - N	Ro [mΩ/m]	0,187	0,123	0,102	0,077	0,055	0,039	0,038	0,028	0,019	0,014
Zero-sequence short-circuit average reactance phase - N	Xo [mΩ/m]	0,031	0,023	0,023	0,021	0,020	0,019	0,015	0,009	0,008	0,007
Zero-sequence short-circuit average impedance phase - N	Zo [mΩ/m]	0,189	0,125	0,105	0,080	0,059	0,043	0,041	0,029	0,021	0,016
Zero-sequence short-circuit average resistance phase - PE	Ro [mΩ/m]	0,187	0,123	0,102	0,077	0,055	0,039	0,038	0,028	0,019	0,014
Zero-sequence short-circuit average reactance phase - PE	Xo [mΩ/m]	0,031	0,023	0,023	0,021	0,020	0,019	0,015	0,009	0,008	0,007
Zero-sequence short-circuit average impedance phase - PE	Zo [mΩ/m]	0,189	0,125	0,105	0,080	0,059	0,043	0,041	0,029	0,021	0,016
Voltage drop with distributed load ΔV [V/(m*A)]10 <sup>-6</sup>	cosφ = 0,70	126,3	84,4	73,4	58,1	44,1	33,2	31,5	22,4	16,3	12,4
	cosφ = 0,75	133,3	88,9	77,1	60,8	45,9	34,3	32,8	23,3	17,0	12,9
	cosφ = 0,80	140,1	93,3	80,7	63,4	47,6	35,3	34,0	24,2	17,6	13,3
	cosφ = 0,85	146,6	97,5	84,1	65,9	49,2	36,1	35,1	25,1	18,1	13,6
	cosφ = 0,90	152,8	101,5	87,3	68,0	50,5	36,8	36,0	25,8	18,5	13,9
	cosφ = 0,95	158,4	104,9	90,0	69,8	51,4	37,0	36,5	26,4	18,8	14,0
cosφ = 1,00	160,2	105,6	89,9	68,9	49,8	35,0	35,3	25,8	18,0	13,3	
Weight (PE 1)	p [kg/m]	15,3	17,0	17,6	20,9	25,2	31,1	38,3	47,1	58,0	98,2
Weight (PE 2)	p [kg/m]	18,6	20,3	20,9	25,3	30,3	37,6	46,3	56,6	68,6	111,3
Weight (PE 3)	p [kg/m]	16,4	18,0	18,7	22,3	26,9	33,0	40,9	50,2	61,5	102,5
Fire load	[kWh/m]	5,6	6,9	6,9	7,5	10,6	13,1	20,0	23,8	26,3	27,3
Degree of protection	IP	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	P [W/m]	220	234	311	373	442	485	765	914	1000	1154
Ambient temperature min/ MAX (daily average)	[°C]	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50

\* IP65 for feeder lines is available by request

\*\* Class F available under request

\*\*\* Icw value at 0,5 s.

For temperatures over 35°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.



PE 1  
Standard version



PE 2  
Extra earth - COPPER



PE 3  
Extra earth - ALUMINUM  
XCP AI 3L+N+50%PE  
(available on request)

# Xtra Compact (XCP-S)

## technical data

### XCP-S AI (5 Conductors - double neutral)

3P+2N+PE		SINGLE BAR						DOUBLE BAR			TRIPLE BAR
		630	800	1000	1250	1600	2000	2500	3200	4000	5000
Rated current	In [A]										
Overall dimension of the busbars	L x H [mm]	120 x 130	120 x 130	120 x 130	120 x 170	120 x 200	120 x 220	120 x 380	120 x 440	120 x 480	120 x 590
Rated operational voltage	Ue [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	Ui [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	Icw [kA] <sub>rms</sub>	25***	25***	36	42	42	50	65	80	100	120
Peak current	Ipk [kA]	53	53	76	88	88	105	143	176	220	264
Allowable specific energy for three-phase fault	I²t [MA²s]	312	312	1296	1764	1764	2500	4225	6400	10000	14400
Rated short-time current of the neutral bar (1 s)	Icw [kA] <sub>rms</sub>	15***	15***	22	25	25	30	39	48	60	72
Peak current of the neutral bar	Ipk [kA]	30	30	46	53	53	63	82	101	132	158
Rated short-time current of the protective circuit (1 s)	Icw [kA] <sub>rms</sub>	15***	15***	22	25	25	30	39	48	60	72
Peak current of the protective circuit	Ipk [kA]	30	30	46	53	53	63	82	101	132	158
Phase resistance at 20°C	R20 [mΩ/m]	0,140	0,092	0,077	0,057	0,041	0,029	0,029	0,021	0,014	0,011
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,016	0,015	0,014	0,011	0,007	0,006	0,005
Phase impedance	Z [mΩ/m]	0,142	0,094	0,079	0,060	0,044	0,032	0,031	0,022	0,016	0,012
Phase resistance at thermal conditions	R [mΩ/m]	0,185	0,122	0,104	0,080	0,058	0,040	0,041	0,030	0,021	0,015
Phase impedance at thermal conditions	Z [mΩ/m]	0,186	0,123	0,105	0,081	0,059	0,043	0,042	0,031	0,022	0,016
Neutral resistance	R20 [mΩ/m]	0,070	0,046	0,038	0,029	0,021	0,014	0,014	0,010	0,007	0,005
Resistance of the protective bar (PE 1)	RPE [mΩ/m]	0,132	0,132	0,132	0,119	0,110	0,106	0,078	0,071	0,067	0,040
Resistance of the protective bar (PE 2)	RPE [mΩ/m]	0,049	0,049	0,049	0,038	0,032	0,025	0,021	0,017	0,016	0,013
Resistance of the protective bar (PE 3)	RPE [mΩ/m]	0,084	0,084	0,084	0,064	0,054	0,049	0,035	0,029	0,026	0,021
Reactance of the protective bar	XPE [mΩ/m]	0,080	0,078	0,078	0,048	0,039	0,028	0,020	0,015	0,016	0,014
Resistance of the fault loop (PE 1)	Ro [mΩ/m]	0,272	0,224	0,208	0,176	0,152	0,135	0,107	0,092	0,082	0,051
Resistance of the fault loop (PE 2)	Ro [mΩ/m]	0,190	0,142	0,126	0,095	0,073	0,054	0,049	0,038	0,030	0,023
Resistance of the fault loop (PE 3)	Ro [mΩ/m]	0,224	0,176	0,161	0,121	0,096	0,078	0,064	0,050	0,040	0,032
Reactance of the fault loop (50hz)	Xo [mΩ/m]	0,10	0,10	0,10	0,06	0,05	0,04	0,03	0,02	0,02	0,02
Impedance of the fault loop (PE 1)	Zo [mΩ/m]	0,291	0,243	0,229	0,188	0,161	0,142	0,111	0,094	0,085	0,054
Impedance of the fault loop (PE 2)	Zo [mΩ/m]	0,216	0,171	0,158	0,115	0,091	0,069	0,058	0,044	0,037	0,030
Impedance of the fault loop (PE 3)	Zo [mΩ/m]	0,247	0,200	0,187	0,137	0,110	0,089	0,071	0,054	0,046	0,037
Zero-sequence short-circuit average resistance phase - N	Ro [mΩ/m]	0,117	0,077	0,064	0,048	0,034	0,024	0,024	0,017	0,012	0,009
Zero-sequence short-circuit average reactance phase - N	Xo [mΩ/m]	0,019	0,014	0,014	0,013	0,013	0,012	0,009	0,006	0,005	0,004
Zero-sequence short-circuit average impedance phase - N	Zo [mΩ/m]	0,118	0,078	0,066	0,050	0,037	0,027	0,026	0,018	0,013	0,010
Zero-sequence short-circuit average resistance phase - PE	Ro [mΩ/m]	0,178	0,162	0,157	0,138	0,124	0,116	0,088	0,078	0,072	0,044
Zero-sequence short-circuit average reactance phase - PE	Xo [mΩ/m]	0,031	0,023	0,023	0,021	0,020	0,019	0,015	0,009	0,008	0,007
Zero-sequence short-circuit average impedance phase - PE	Zo [mΩ/m]	0,181	0,164	0,159	0,140	0,126	0,117	0,089	0,079	0,073	0,044
Voltage drop with distributed load ΔV [V/(m²A)]10 <sup>-6</sup>	cosφ = 0,70	126,3	84,4	73,4	58,1	44,1	33,2	31,5	22,4	16,3	12,4
	cosφ = 0,75	133,3	88,9	77,1	60,8	45,9	34,3	32,8	23,3	17,0	12,9
	cosφ = 0,80	140,1	93,3	80,7	63,4	47,6	35,3	34,0	24,2	17,6	13,3
	cosφ = 0,85	146,6	97,5	84,1	65,9	49,2	36,1	35,1	25,1	18,1	13,6
	cosφ = 0,90	152,8	101,5	87,3	68,0	50,5	36,8	36,0	25,8	18,5	13,9
	cosφ = 0,95	158,4	104,9	90,0	69,8	51,4	37,0	36,5	26,4	18,8	14,0
	cosφ = 1,00	160,2	105,6	89,9	68,9	49,8	35,0	35,3	25,8	18,0	13,3
Weight (PE 1)	p [kg/m]	15,3	17,0	17,6	20,9	25,2	31,1	38,3	47,1	58,0	98,2
Weight (PE 2)	p [kg/m]	18,6	20,3	20,9	25,3	30,3	37,6	46,3	56,6	68,6	111,3
Weight (PE 3)	p [kg/m]	16,4	18,0	18,7	22,3	26,9	33,0	40,9	50,2	61,5	102,5
Fire load	[kWh/m]	5,6	6,9	6,9	7,5	10,6	13,1	20,0	23,8	26,3	27,3
Degree of protection	IP	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	P [W/m]	220	234	311	373	442	485	765	914	1000	1154
Ambient temperature min/ MAX (daily average)	[°C]	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50

\* IP65 for feeder lines is available by request

\*\* Class F available under request

\*\*\* Icw value at 0,5 s.

For temperatures over 35°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.



PE 1  
Standard version



PE 2  
Extra earth - COPPER



PE 3  
Extra earth - ALUMINUM  
XCP AI 3L+N+50%PE  
(available on request)

# Xtra Compact (XCP-S)

## technical data

### XCP-S AI (3 Conductors)

3P+PE		SINGLE BAR						DOUBLE BAR			TRIPLE BAR
		630	800	1000	1250	1600	2000	2500	3200	4000	5000
Rated current	$I_n$ [A]	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Overall dimension of the busbars	L x H [mm]	120 x 130	120 x 130	120 x 130	120 x 170	120 x 200	120 x 220	120 x 380	120 x 440	120 x 480	120 x 590
Rated operational voltage	$U_e$ [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	$U_i$ [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	$I_{cw}$ [kA] <sub>rms</sub>	25***	25***	36	42	42	50	65	80	100	120
Peak current	$I_{pk}$ [kA]	53	53	76	88	88	105	143	176	220	264
Allowable specific energy for three-phase fault	$I^2t$ [MA <sup>2</sup> s]	312	312	1296	1764	1764	2500	4225	6400	10000	14400
Rated short-time current of the protective circuit (1 s)	$I_{cw}$ [kA] <sub>rms</sub>	15***	15***	22	25	25	30	39	48	60	72
Peak current of the protective circuit	$I_{pk}$ [kA]	30	30	46	53	53	63	82	101	132	158
Phase resistance at 20°C	$R_{20}$ [mΩ/m]	0,140	0,092	0,077	0,057	0,041	0,029	0,029	0,021	0,014	0,011
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,016	0,015	0,014	0,011	0,007	0,006	0,005
Phase impedance	Z [mΩ/m]	0,142	0,094	0,079	0,060	0,044	0,032	0,031	0,022	0,016	0,012
Phase resistance at thermal conditions	R [mΩ/m]	0,185	0,122	0,104	0,080	0,058	0,040	0,041	0,030	0,021	0,015
Phase impedance at thermal conditions	Z [mΩ/m]	0,186	0,123	0,105	0,081	0,059	0,043	0,042	0,031	0,022	0,016
Resistance of the protective bar (PE 1)	$R_{PE}$ [mΩ/m]	0,132	0,132	0,132	0,119	0,110	0,106	0,078	0,071	0,067	0,040
Resistance of the protective bar (PE 2)	$R_{PE}$ [mΩ/m]	0,049	0,049	0,049	0,038	0,032	0,025	0,021	0,017	0,016	0,013
Resistance of the protective bar (PE 3)	$R_{PE}$ [mΩ/m]	0,084	0,084	0,084	0,064	0,054	0,049	0,035	0,029	0,026	0,021
Reactance of the protective bar	$X_{PE}$ [mΩ/m]	0,080	0,078	0,078	0,048	0,039	0,028	0,020	0,015	0,016	0,014
Resistance of the fault loop (PE 1)	$R_o$ [mΩ/m]	0,272	0,224	0,208	0,176	0,152	0,135	0,107	0,092	0,082	0,051
Resistance of the fault loop (PE 2)	$R_o$ [mΩ/m]	0,190	0,142	0,126	0,095	0,073	0,054	0,049	0,038	0,030	0,023
Resistance of the fault loop (PE 3)	$R_o$ [mΩ/m]	0,224	0,176	0,161	0,121	0,096	0,078	0,064	0,050	0,040	0,032
Reactance of the fault loop (50hz)	$X_o$ [mΩ/m]	0,10	0,10	0,10	0,06	0,05	0,04	0,03	0,02	0,02	0,02
Impedance of the fault loop (PE 1)	$Z_o$ [mΩ/m]	0,291	0,243	0,229	0,188	0,161	0,142	0,111	0,094	0,085	0,054
Impedance of the fault loop (PE 2)	$Z_o$ [mΩ/m]	0,216	0,171	0,158	0,115	0,091	0,069	0,058	0,044	0,037	0,030
Impedance of the fault loop (PE 3)	$Z_o$ [mΩ/m]	0,247	0,200	0,187	0,137	0,110	0,089	0,071	0,054	0,046	0,037
Zero-sequence short-circuit average resistance phase - PE	$R_o$ [mΩ/m]	0,178	0,162	0,157	0,138	0,124	0,116	0,088	0,078	0,072	0,044
Zero-sequence short-circuit average reactance phase - PE	$X_o$ [mΩ/m]	0,031	0,023	0,023	0,021	0,020	0,019	0,015	0,009	0,008	0,007
Zero-sequence short-circuit average impedance phase - PE	$Z_o$ [mΩ/m]	0,181	0,164	0,159	0,140	0,126	0,117	0,089	0,079	0,073	0,044
Voltage drop with distributed load $\Delta V$ [V/(m <sup>2</sup> A)]10 <sup>-6</sup>	$\cos\phi = 0,70$	126,3	84,4	73,4	58,1	44,1	33,2	31,5	22,4	16,3	12,4
	$\cos\phi = 0,75$	133,3	88,9	77,1	60,8	45,9	34,3	32,8	23,3	17,0	12,9
	$\cos\phi = 0,80$	140,1	93,3	80,7	63,4	47,6	35,3	34,0	24,2	17,6	13,3
	$\cos\phi = 0,85$	146,6	97,5	84,1	65,9	49,2	36,1	35,1	25,1	18,1	13,6
	$\cos\phi = 0,90$	152,8	101,5	87,3	68,0	50,5	36,8	36,0	25,8	18,5	13,9
	$\cos\phi = 0,95$	158,4	104,9	90,0	69,8	51,4	37,0	36,5	26,4	18,8	14,0
$\cos\phi = 1,00$	160,2	105,6	89,9	68,9	49,8	35,0	35,3	25,8	18,0	13,3	
Weight (PE 1)	$\rho$ [kg/m]	13,3	14,2	14,5	16,9	19,8	23,6	29,9	35,9	42,9	78,4
Weight (PE 2)	$\rho$ [kg/m]	16,6	17,5	17,8	21,3	25,0	30,1	37,9	45,4	53,4	91,5
Weight (PE 3)	$\rho$ [kg/m]	14,3	15,3	15,5	18,3	21,5	25,5	32,5	39,0	46,4	82,7
Fire load	[kWh/m]	3,4	4,1	4,1	4,5	6,4	7,9	12,0	14,3	15,8	14,8
Degree of protection	IP	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	P [W/m]	220	234	311	373	442	485	765	914	1000	1154
Ambient temperature min/ MAX (daily average)**	[°C]	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50

\* IP65 for feeder lines is available by request  
 \*\* Class F available under request  
 \*\*\*  $I_{cw}$  value at 0,5 s.

For temperatures over 35°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.



PE 1  
Standard version



PE 2  
Extra earth - COPPER



PE 3  
Extra earth - ALUMINUM  
XCP AI 3L+N+50%PE  
(available on request)



# Xtra Compact (XCP-S)

## technical data

### XCP-S CU (4 Conductors)

3P+N+PE		SINGLE BAR					DOUBLE BAR				TRIPLE BAR
		800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Rated current	$I_n$ [A]										
Overall dimension of the busbars	L x H [mm]	120 x 130	120 x 130	120 x 130	120 x 170	120 x 200	120 x 300	120 x 380	120 x 440	120 x 480	120 x 590
Rated operational voltage	$U_e$ [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	$U_i$ [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	$I_{CW}$ [kA] <sub>rms</sub>	25	36	42	42	50	65	80	100	120	150
Peak current	$I_{pk}$ [kA]	53	76	88	88	105	143	176	220	264	330
Allowable specific energy for three-phase fault	$I^2t$ [MA <sup>2</sup> s]	625	1296	1764	1764	2500	4225	6400	10000	14400	22500
Rated short-time current of the neutral bar (1 s)	$I_{CW}$ [kA] <sub>rms</sub>	15	22	25	25	30	39	48	60	72	90
Peak current of the neutral bar	$I_{pk}$ [kA]	30	46	53	53	63	82	101	132	158	198
Rated short-time current of the protective circuit (1 s)	$I_{CW}$ [kA] <sub>rms</sub>	15	22	25	25	30	39	48	60	72	90
Peak current of the protective circuit	$I_{pk}$ [kA]	30	46	53	53	63	82	101	132	158	198
Phase resistance at 20°C	$R_{20}$ [mΩ/m]	0,077	0,058	0,045	0,034	0,024	0,021	0,017	0,012	0,008	0,0062
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,007	0,006	0,006	0,0050
Phase impedance	Z [mΩ/m]	0,080	0,061	0,048	0,037	0,028	0,024	0,018	0,014	0,010	0,0079
Phase resistance at thermal conditions	R [mΩ/m]	0,100	0,081	0,061	0,045	0,034	0,029	0,024	0,017	0,011	0,0085
Phase impedance at thermal conditions	Z [mΩ/m]	0,103	0,082	0,063	0,048	0,036	0,031	0,025	0,018	0,012	0,0099
Neutral resistance	$R_{20}$ [mΩ/m]	0,077	0,058	0,045	0,034	0,024	0,021	0,017	0,012	0,008	0,0062
Resistance of the protective bar (PE 1)	$R_{PE}$ [mΩ/m]	0,132	0,132	0,132	0,119	0,110	0,090	0,078	0,071	0,067	0,0402
Resistance of the protective bar (PE 2)	$R_{PE}$ [mΩ/m]	0,049	0,049	0,049	0,038	0,032	0,025	0,021	0,017	0,016	0,0125
Resistance of the protective bar (PE 3)	$R_{PE}$ [mΩ/m]	0,084	0,084	0,084	0,064	0,054	0,042	0,035	0,029	0,026	0,0213
Reactance of the protective bar	$X_{PE}$ [mΩ/m]	0,054	0,054	0,054	0,044	0,044	0,032	0,022	0,017	0,016	0,0140
Resistance of the fault loop (PE 1)	$R_o$ [mΩ/m]	0,209	0,190	0,176	0,153	0,135	0,111	0,095	0,083	0,075	0,0464
Resistance of the fault loop (PE 2)	$R_o$ [mΩ/m]	0,126	0,108	0,094	0,072	0,056	0,046	0,038	0,029	0,023	0,0187
Resistance of the fault loop (PE 3)	$R_o$ [mΩ/m]	0,161	0,143	0,129	0,098	0,079	0,063	0,052	0,041	0,033	0,0275
Reactance of the fault loop (50hz)	$X_o$ [mΩ/m]	0,08	0,07	0,07	0,06	0,06	0,04	0,03	0,02	0,02	0,02
Impedance of the fault loop (PE 1)	$Z_o$ [mΩ/m]	0,222	0,203	0,190	0,164	0,147	0,119	0,099	0,087	0,078	0,0501
Impedance of the fault loop (PE 2)	$Z_o$ [mΩ/m]	0,148	0,129	0,118	0,093	0,081	0,063	0,047	0,037	0,032	0,0267
Impedance of the fault loop (PE 3)	$Z_o$ [mΩ/m]	0,179	0,159	0,147	0,114	0,098	0,076	0,059	0,047	0,040	0,0334
Zero-sequence short-circuit average resistance phase - N	$R_o$ [mΩ/m]	0,103	0,078	0,060	0,045	0,033	0,028	0,023	0,016	0,010	0,0082
Zero-sequence short-circuit average reactance phase - N	$X_o$ [mΩ/m]	0,031	0,023	0,023	0,020	0,019	0,015	0,009	0,008	0,008	0,0067
Zero-sequence short-circuit average impedance phase - N	$Z_o$ [mΩ/m]	0,107	0,081	0,064	0,050	0,038	0,032	0,025	0,018	0,013	0,0106
Zero-sequence short-circuit average resistance phase - PE	$R_o$ [mΩ/m]	0,157	0,151	0,147	0,130	0,118	0,097	0,084	0,075	0,070	0,0423
Zero-sequence short-circuit average reactance phase - PE	$X_o$ [mΩ/m]	0,062	0,060	0,060	0,049	0,049	0,036	0,024	0,019	0,018	0,0157
Zero-sequence short-circuit average impedance phase - PE	$Z_o$ [mΩ/m]	0,169	0,163	0,158	0,139	0,128	0,103	0,087	0,078	0,072	0,0451
Voltage drop with distributed load $\Delta V$ [V/(m <sup>2</sup> A)]10 <sup>-6</sup>	$\cos\phi = 0,70$	75,1	59,5	47,2	36,7	29,0	24,5	19,2	14,1	10,3	8,3
	$\cos\phi = 0,75$	78,4	62,2	49,1	37,9	29,9	25,3	19,9	14,6	10,5	8,4
	$\cos\phi = 0,80$	81,5	64,8	50,8	39,1	30,6	25,9	20,6	15,0	10,7	8,5
	$\cos\phi = 0,85$	84,4	67,2	52,3	40,1	31,1	26,5	21,2	15,4	10,7	8,6
	$\cos\phi = 0,90$	86,9	69,3	53,6	40,9	31,5	26,9	21,7	15,6	10,7	8,5
	$\cos\phi = 0,95$	88,8	71,0	54,4	41,2	31,4	27,0	22,0	15,7	10,6	8,4
$\cos\phi = 1,00$	86,9	69,9	52,4	39,1	29,1	25,3	21,2	14,8	9,4	7,4	
Weight (PE 1)	p [kg/m]	21,2	23,8	26,9	33,5	42,5	51,0	63,0	80,9	114,9	165,1
Weight (PE 2)	p [kg/m]	24,5	27,1	30,2	37,8	47,6	57,7	71,0	90,4	125,4	178,2
Weight (PE 3)	p [kg/m]	22,3	24,9	28,0	34,9	44,2	53,2	65,6	84,0	118,4	169,3
Fire load	[kWh/m]	4,5	5,5	5,5	8,0	8,2	10,5	16,0	19,0	21,0	22,0
Degree of protection	IP	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	P [W/m]	193	242	284	347	403	547	752	823	816	1015
Ambient temperature min/MAX (daily average)	[°C]	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50

\* IP65 for feeder lines is available by request

\*\* Class F available under request

For temperatures over 35°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.



PE 1  
Standard version



PE 2  
Extra earth - COPPER XCP Cu 3L+N+50%PE  
(tinned copper conductors  
available on request)



PE 3  
Extra earth - ALUMINUM

# Xtra Compact (XCP-S)

## technical data (continued)

### XCP-S CU (5 Conductors - clean earth)

3P+N+PE+FE		SINGLE BAR					DOUBLE BAR				TRIPLE BAR
Rated current	In [A]	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Overall dimension of the busbars	L x H [mm]	120 x 130	120 x 130	120 x 130	120 x 170	120 x 200	120 x 300	120 x 380	120 x 440	120 x 480	120 x 590
Rated operational voltage	Ue [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	Ui [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	I <sub>cw</sub> [kA] <sub>rms</sub>	25	36	42	42	50	65	80	100	120	150
Peak current	I <sub>pk</sub> [kA]	53	76	88	88	105	143	176	220	264	330
Allowable specific energy for three-phase fault	I <sup>2</sup> t [MA <sup>2</sup> s]	625	1296	1764	1764	2500	4225	6400	10000	14400	22500
Rated short-time current of the neutral bar (1 s)	I <sub>cn</sub> [kA] <sub>rms</sub>	15	22	25	25	30	39	48	60	72	90
Peak current of the neutral bar	I <sub>pn</sub> [kA]	30	46	53	53	63	82	101	132	158	198
Rated short-time current of the protective circuit (1 s)	I <sub>cn</sub> [kA] <sub>rms</sub>	15	22	25	25	30	39	48	60	72	90
Peak current of the protective circuit	I <sub>pn</sub> [kA]	30	46	53	53	63	82	101	132	158	198
Phase resistance at 20°C	R <sub>20</sub> [mΩ/m]	0,077	0,058	0,045	0,034	0,024	0,021	0,017	0,012	0,008	0,0062
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,007	0,006	0,006	0,0050
Phase impedance	Z [mΩ/m]	0,080	0,061	0,048	0,037	0,028	0,024	0,018	0,014	0,010	0,0079
Phase resistance at thermal conditions	R [mΩ/m]	0,100	0,081	0,061	0,045	0,034	0,029	0,024	0,017	0,011	0,0085
Phase impedance at thermal conditions	Z [mΩ/m]	0,103	0,082	0,063	0,048	0,036	0,031	0,025	0,018	0,012	0,0099
Neutral resistance	R <sub>20</sub> [mΩ/m]	0,077	0,058	0,045	0,034	0,024	0,021	0,017	0,012	0,008	0,0062
Functional Earth resistance (FE)	R <sub>20</sub> [mΩ/m]	0,077	0,058	0,045	0,034	0,024	0,021	0,017	0,012	0,008	0,0062
Functional Earth reactance (FE)	X [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,007	0,006	0,006	0,0050
Resistance of the protective bar (PE 1)	R <sub>PE</sub> [mΩ/m]	0,133	0,133	0,133	0,120	0,111	0,090	0,079	0,072	0,068	0,0412
Resistance of the protective bar (PE 2)	R <sub>PE</sub> [mΩ/m]	0,049	0,049	0,049	0,038	0,032	0,025	0,021	0,017	0,016	0,0125
Resistance of the protective bar (PE 3)	R <sub>PE</sub> [mΩ/m]	0,084	0,084	0,084	0,064	0,054	0,042	0,035	0,029	0,026	0,0213
Reactance of the protective bar	X <sub>PE</sub> [mΩ/m]	0,054	0,054	0,054	0,044	0,044	0,032	0,022	0,017	0,016	0,0140
Resistance of the fault loop (PE 1)	R <sub>o</sub> [mΩ/m]	0,126	0,099	0,078	0,060	0,045	0,038	0,031	0,023	0,015	0,0115
Resistance of the fault loop (PE 2)	R <sub>o</sub> [mΩ/m]	0,107	0,085	0,068	0,052	0,038	0,032	0,026	0,019	0,013	0,0103
Resistance of the fault loop (PE 3)	R <sub>o</sub> [mΩ/m]	0,117	0,093	0,074	0,056	0,041	0,035	0,028	0,021	0,014	0,0109
Reactance of the fault loop (50hz)	X <sub>o</sub> [mΩ/m]	0,077	0,071	0,071	0,059	0,058	0,043	0,029	0,023	0,022	0,0190
Impedance of the fault loop (PE 1)	Z <sub>o</sub> [mΩ/m]	0,147	0,122	0,106	0,084	0,073	0,058	0,042	0,032	0,026	0,0222
Impedance of the fault loop (PE 2)	Z <sub>o</sub> [mΩ/m]	0,132	0,111	0,098	0,079	0,070	0,054	0,039	0,030	0,025	0,0216
Impedance of the fault loop (PE 3)	Z <sub>o</sub> [mΩ/m]	0,140	0,117	0,102	0,081	0,071	0,056	0,041	0,031	0,026	0,0219
Zero-sequence short-circuit average resistance phase - N	R <sub>o</sub> [mΩ/m]	0,103	0,078	0,060	0,045	0,033	0,028	0,023	0,016	0,010	0,0082
Zero-sequence short-circuit average reactance phase - N	X <sub>o</sub> [mΩ/m]	0,031	0,023	0,023	0,020	0,019	0,015	0,009	0,008	0,008	0,0067
Zero-sequence short-circuit average impedance phase - N	Z <sub>o</sub> [mΩ/m]	0,107	0,081	0,064	0,050	0,038	0,032	0,025	0,018	0,013	0,0106
Zero-sequence short-circuit average resistance phase - PE	R <sub>o</sub> [mΩ/m]	0,103	0,078	0,060	0,045	0,033	0,028	0,023	0,016	0,010	0,0082
Zero-sequence short-circuit average reactance phase - PE	X <sub>o</sub> [mΩ/m]	0,031	0,023	0,023	0,020	0,019	0,015	0,009	0,008	0,008	0,0067
Zero-sequence short-circuit average impedance phase - PE	Z <sub>o</sub> [mΩ/m]	0,107	0,081	0,064	0,050	0,038	0,032	0,025	0,018	0,013	0,0106
Voltage drop with distributed load ΔV [V/(m <sup>2</sup> A)]10 <sup>-6</sup>	cosφ = 0,70	75,1	59,5	47,2	36,7	29,0	24,5	19,2	14,1	10,3	8,3
	cosφ = 0,75	78,4	62,2	49,1	37,9	29,9	25,3	19,9	14,6	10,5	8,4
	cosφ = 0,80	81,5	64,8	50,8	39,1	30,6	25,9	20,6	15,0	10,7	8,5
	cosφ = 0,85	84,4	67,2	52,3	40,1	31,1	26,5	21,2	15,4	10,7	8,6
	cosφ = 0,90	86,9	69,3	53,6	40,9	31,5	26,9	21,7	15,6	10,7	8,5
	cosφ = 0,95	88,8	71,0	54,4	41,2	31,4	27,0	22,0	15,7	10,6	8,4
cosφ = 1,00	86,9	69,9	52,4	39,1	29,1	25,3	21,2	14,8	9,4	7,4	
Weight (PE 1)	p [kg/m]	23,7	27,1	31,0	38,9	49,9	59,9	74,1	96,0	138,1	193,1
Weight (PE 2)	p [kg/m]	27,1	30,4	34,4	43,3	55,1	66,5	82,1	105,5	148,6	206,2
Weight (PE 3)	p [kg/m]	24,8	28,1	32,1	40,3	51,6	62,0	76,7	99,1	141,6	197,4
Fire load	[kWh/m]	5,6	6,9	6,9	10,0	10,3	13,1	20,0	23,8	26,3	27,3
Degree of protection	IP	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	P [W/m]	193	242	284	347	403	547	752	823	816	1015
Ambient temperature min/ MAX (daily average)	[°C]	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50

\* IP65 for feeder lines is available by request  
 \*\* Class F available under request

For temperatures over 35°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.



PE 1  
Standard version



PE 2  
Extra earth - COPPER XCP Cu 3L+N+50%PE  
(tinned copper conductors available on request)



PE 3  
Extra earth - ALUMINUM

# Xtra Compact (XCP-S)

## technical data

### XCP-S CU (5 Conductors - double neutral)

3P+2N+PE		SINGLE BAR					DOUBLE BAR				TRIPLE BAR
Rated current	In [A]	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Overall dimension of the busbars	L x H [mm]	120 x 130	120 x 130	120 x 130	120 x 170	120 x 200	120 x 300	120 x 380	120 x 440	120 x 480	120 x 590
Rated operational voltage	Ue [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	Ui [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	I <sub>CW</sub> [kA] <sub>rms</sub>	25	36	42	42	50	65	80	100	120	150
Peak current	I <sub>pk</sub> [kA]	53	76	88	88	105	143	176	220	264	330
Allowable specific energy for three-phase fault	I <sup>2</sup> t [MA <sup>2</sup> s]	625	1296	1764	1764	2500	4225	6400	10000	14400	22500
Rated short-time current of the neutral bar (1 s)	I <sub>CW</sub> [kA] <sub>rms</sub>	15	22	25	25	30	39	48	60	72	90
Peak current of the neutral bar	I <sub>pk</sub> [kA]	30	46	53	53	63	82	101	132	158	198
Rated short-time current of the protective circuit (1 s)	I <sub>CW</sub> [kA] <sub>rms</sub>	15	22	25	25	30	39	48	60	72	90
Peak current of the protective circuit	I <sub>pk</sub> [kA]	30	46	53	53	63	82	101	132	158	198
Phase resistance at 20°C	R <sub>20</sub> [mΩ/m]	0,077	0,058	0,045	0,034	0,024	0,021	0,017	0,012	0,008	0,0062
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,007	0,006	0,006	0,0050
Phase impedance	Z [mΩ/m]	0,080	0,061	0,048	0,037	0,028	0,024	0,018	0,014	0,010	0,0079
Phase resistance at thermal conditions	R [mΩ/m]	0,100	0,081	0,061	0,045	0,034	0,029	0,024	0,017	0,011	0,0085
Phase impedance at thermal conditions	Z [mΩ/m]	0,103	0,082	0,063	0,048	0,036	0,031	0,025	0,018	0,012	0,0099
Neutral resistance	R <sub>20</sub> [mΩ/m]	0,038	0,029	0,022	0,017	0,012	0,011	0,008	0,006	0,004	0,0031
Resistance of the protective bar (PE 1)	R <sub>PE</sub> [mΩ/m]	0,133	0,133	0,133	0,120	0,111	0,090	0,079	0,072	0,068	0,0412
Resistance of the protective bar (PE 2)	R <sub>PE</sub> [mΩ/m]	0,049	0,049	0,049	0,038	0,032	0,025	0,021	0,017	0,016	0,0125
Resistance of the protective bar (PE 3)	R <sub>PE</sub> [mΩ/m]	0,084	0,084	0,084	0,064	0,054	0,042	0,035	0,029	0,026	0,0213
Reactance of the protective bar	X <sub>PE</sub> [mΩ/m]	0,054	0,054	0,054	0,044	0,044	0,032	0,022	0,017	0,016	0,0140
Resistance of the fault loop (PE 1)	R <sub>o</sub> [mΩ/m]	0,210	0,192	0,178	0,154	0,135	0,111	0,096	0,084	0,076	0,0473
Resistance of the fault loop (PE 2)	R <sub>o</sub> [mΩ/m]	0,126	0,108	0,094	0,072	0,056	0,046	0,038	0,029	0,023	0,0187
Resistance of the fault loop (PE 3)	R <sub>o</sub> [mΩ/m]	0,161	0,143	0,129	0,098	0,079	0,063	0,052	0,041	0,033	0,0275
Reactance of the fault loop (50hz)	X <sub>o</sub> [mΩ/m]	0,077	0,071	0,071	0,059	0,058	0,043	0,029	0,023	0,022	0,0190
Impedance of the fault loop (PE 1)	Z <sub>o</sub> [mΩ/m]	0,224	0,204	0,191	0,165	0,147	0,119	0,100	0,087	0,079	0,0510
Impedance of the fault loop (PE 2)	Z <sub>o</sub> [mΩ/m]	0,148	0,129	0,118	0,093	0,081	0,063	0,047	0,037	0,032	0,0267
Impedance of the fault loop (PE 3)	Z <sub>o</sub> [mΩ/m]	0,179	0,159	0,147	0,114	0,098	0,076	0,059	0,047	0,040	0,0334
Zero-sequence short-circuit average resistance phase - N	R <sub>o</sub> [mΩ/m]	0,064	0,049	0,037	0,028	0,020	0,018	0,014	0,010	0,006	0,0051
Zero-sequence short-circuit average reactance phase - N	X <sub>o</sub> [mΩ/m]	0,019	0,014	0,014	0,013	0,012	0,009	0,006	0,005	0,005	0,0042
Zero-sequence short-circuit average impedance phase - N	Z <sub>o</sub> [mΩ/m]	0,067	0,051	0,040	0,031	0,024	0,020	0,015	0,011	0,008	0,0066
Zero-sequence short-circuit average resistance phase - PE	R <sub>o</sub> [mΩ/m]	0,157	0,151	0,147	0,130	0,118	0,097	0,084	0,075	0,070	0,0423
Zero-sequence short-circuit average reactance phase - PE	X <sub>o</sub> [mΩ/m]	0,062	0,060	0,060	0,049	0,049	0,036	0,024	0,019	0,018	0,0157
Zero-sequence short-circuit average impedance phase - PE	Z <sub>o</sub> [mΩ/m]	0,169	0,163	0,158	0,139	0,128	0,103	0,087	0,078	0,072	0,0451
Voltage drop with distributed load ΔV [V/(m <sup>2</sup> A)]10 <sup>-6</sup>	cosφ = 0,70	75,1	59,5	47,2	36,7	29,0	24,5	19,2	14,1	10,3	8,3
	cosφ = 0,75	78,4	62,2	49,1	37,9	29,9	25,3	19,9	14,6	10,5	8,4
	cosφ = 0,80	81,5	64,8	50,8	39,1	30,6	25,9	20,6	15,0	10,7	8,5
	cosφ = 0,85	84,4	67,2	52,3	40,1	31,1	26,5	21,2	15,4	10,7	8,6
	cosφ = 0,90	86,9	69,3	53,6	40,9	31,5	26,9	21,7	15,6	10,7	8,5
	cosφ = 0,95	88,8	71,0	54,4	41,2	31,4	27,0	22,0	15,7	10,6	8,4
cosφ = 1,00	86,9	69,9	52,4	39,1	29,1	25,3	21,2	14,8	9,4	7,4	
Weight (PE 1)	p [kg/m]	23,7	27,1	31,0	38,9	49,9	59,9	74,1	96,0	138,1	193,1
Weight (PE 2)	p [kg/m]	27,1	30,4	34,4	43,3	55,1	66,5	82,1	105,5	148,6	206,2
Weight (PE 3)	p [kg/m]	24,8	28,1	32,1	40,3	51,6	62,0	76,7	99,1	141,6	197,4
Fire load	[kWh/m]	5,6	6,9	6,9	10,0	10,3	13,1	20,0	23,8	26,3	27,3
Degree of protection	IP	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	P [W/m]	193	242	284	347	403	547	752	823	816	1015
Ambient temperature min/ MAX (daily average)	[°C]	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50

\* IP65 for feeder lines is available by request

\*\* Class F available under request

For temperatures over 35°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.



PE 1  
Standard version



PE 2  
Extra earth - COPPER XCP Cu 3L+N+50%PE  
(tinned copper conductors available on request)



PE 3  
Extra earth - ALUMINUM

# Xtra Compact (XCP-S)

## technical data

### XCP-S CU (3 Conductors)

3P+PE		SINGLE BAR					DOUBLE BAR				TRIPLE BAR
Rated current	$I_n$ [A]	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Overall dimension of the busbars	$L \times H$ [mm]	120 x 130	120 x 130	120 x 130	120 x 170	120 x 200	120 x 300	120 x 380	120 x 440	120 x 480	120 x 590
Rated operational voltage	$U_e$ [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	$U_i$ [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	$f$ [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	$I_{CW}$ [kA] <sub>rms</sub>	25	36	42	42	50	65	80	100	120	150
Peak current	$I_{pk}$ [kA]	53	76	88	88	105	143	176	220	264	330
Allowable specific energy for three-phase fault	$I^2t$ [MA <sup>2</sup> s]	625	1296	1764	1764	2500	4225	6400	10000	14400	22500
Rated short-time current of the protective circuit (1 s)	$I_{CW}$ [kA] <sub>rms</sub>	15	22	25	25	30	39	48	60	72	90
Peak current of the protective circuit	$I_{pk}$ [kA]	30	46	53	53	63	82	101	132	158	198
Phase resistance at 20°C	$R_{20}$ [mΩ/m]	0,077	0,058	0,045	0,034	0,024	0,021	0,017	0,012	0,008	0,0062
Phase reactance (50hz)	$X$ [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,007	0,006	0,006	0,0050
Phase impedance	$Z$ [mΩ/m]	0,080	0,061	0,048	0,037	0,028	0,024	0,018	0,014	0,010	0,0079
Phase resistance at thermal conditions	$R$ [mΩ/m]	0,100	0,081	0,061	0,045	0,034	0,029	0,024	0,017	0,011	0,0085
Phase impedance at thermal conditions	$Z$ [mΩ/m]	0,103	0,082	0,063	0,048	0,036	0,031	0,025	0,018	0,012	0,0099
Resistance of the protective bar (PE 1)	$R_{PE}$ [mΩ/m]	0,130	0,130	0,130	0,118	0,110	0,089	0,078	0,071	0,067	0,0396
Resistance of the protective bar (PE 2)	$R_{PE}$ [mΩ/m]	0,049	0,049	0,049	0,038	0,032	0,025	0,021	0,017	0,016	0,0125
Resistance of the protective bar (PE 3)	$R_{PE}$ [mΩ/m]	0,084	0,084	0,084	0,064	0,054	0,042	0,035	0,029	0,026	0,0213
Reactance of the protective bar	$X_{PE}$ [mΩ/m]	0,054	0,054	0,054	0,044	0,044	0,032	0,022	0,017	0,016	0,0140
Resistance of the fault loop (PE 1)	$R_o$ [mΩ/m]	0,206	0,188	0,174	0,152	0,134	0,110	0,095	0,083	0,075	0,0458
Resistance of the fault loop (PE 2)	$R_o$ [mΩ/m]	0,126	0,108	0,094	0,072	0,056	0,046	0,038	0,029	0,023	0,0187
Resistance of the fault loop (PE 3)	$R_o$ [mΩ/m]	0,161	0,143	0,129	0,098	0,079	0,063	0,052	0,041	0,033	0,0275
Reactance of the fault loop (50hz)	$X_o$ [mΩ/m]	0,077	0,071	0,071	0,059	0,058	0,043	0,029	0,023	0,022	0,0190
Impedance of the fault loop (PE 1)	$Z_o$ [mΩ/m]	0,220	0,201	0,188	0,163	0,146	0,118	0,099	0,086	0,078	0,0496
Impedance of the fault loop (PE 2)	$Z_o$ [mΩ/m]	0,148	0,129	0,118	0,093	0,081	0,063	0,047	0,037	0,032	0,0267
Impedance of the fault loop (PE 3)	$Z_o$ [mΩ/m]	0,179	0,159	0,147	0,114	0,098	0,076	0,059	0,047	0,040	0,0334
Zero-sequence short-circuit average resistance phase - PE	$R_o$ [mΩ/m]	0,157	0,151	0,147	0,130	0,118	0,097	0,084	0,075	0,070	0,0423
Zero-sequence short-circuit average reactance phase - PE	$X_o$ [mΩ/m]	0,062	0,060	0,060	0,049	0,049	0,036	0,024	0,019	0,018	0,0157
Zero-sequence short-circuit average impedance phase - PE	$Z_o$ [mΩ/m]	0,169	0,163	0,158	0,139	0,128	0,103	0,087	0,078	0,072	0,0451
Voltage drop with distributed load $\Delta V$ [V/(m <sup>2</sup> A)]10 <sup>-6</sup>	$\cos\phi = 0,70$	75,1	59,5	47,2	36,7	29,0	24,5	19,2	14,1	10,3	8,3
	$\cos\phi = 0,75$	78,4	62,2	49,1	37,9	29,9	25,3	19,9	14,6	10,5	8,4
	$\cos\phi = 0,80$	81,5	64,8	50,8	39,1	30,6	25,9	20,6	15,0	10,7	8,5
	$\cos\phi = 0,85$	84,4	67,2	52,3	40,1	31,1	26,5	21,2	15,4	10,7	8,6
	$\cos\phi = 0,90$	86,9	69,3	53,6	40,9	31,5	26,9	21,7	15,6	10,7	8,5
	$\cos\phi = 0,95$	88,8	71,0	54,4	41,2	31,4	27,0	22,0	15,7	10,6	8,4
$\cos\phi = 1,00$	86,9	69,9	52,4	39,1	29,1	25,3	21,2	14,8	9,4	7,4	
Weight (PE 1)	$\rho$ [kg/m]	18,7	20,6	22,9	28,0	35,0	42,2	51,9	65,8	91,6	136,8
Weight (PE 2)	$\rho$ [kg/m]	22,0	23,9	26,2	32,4	40,2	48,8	59,9	75,3	102,1	149,9
Weight (PE 3)	$\rho$ [kg/m]	19,7	21,7	23,9	29,5	36,7	44,4	54,5	68,9	95,1	141,0
Fire load	[kWh/m]	3,4	4,1	4,1	6,0	6,2	7,9	12,0	14,3	15,8	16,8
Degree of protection	IP	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	$P$ [W/m]	193	242	284	347	403	547	752	823	816	1015
Ambient temperature min/ MAX (daily average)	[°C]	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50

\* IP65 for feeder lines is available by request  
 \*\* Class F available under request

For temperatures over 35°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.



**PE 1**  
Standard version



**PE 2**  
Extra earth - COPPER XCP Cu 3L+N+50%PE  
(tinned copper conductors available on request)



**PE 3**  
Extra earth - ALUMINUM



# XCP-HP

The High Performance power solutions for industrial and service sector applications

## BUSBAR FROM 630 TO 6300 A

**XCP-HP** is a busbar trunking system characterised by high performance and low losses due to the joule effect. Used for transport and distribution of High Power, and is also highly valued in rising mains. The applications include all industrial, commercial and service sector buildings (factories, banks, trade and business centres, hospitals, data center, etc.)



# Xtra Compact (XCP-HP)

## straight elements

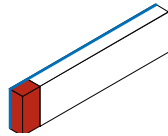


63280100P

### XCP-HP Line:

Reference standard: IEC 61439-6. Reference temperature: up to 55 °C.  
 Protection degree: IP55. Thickness of metal sheet: 1.5 mm.  
 N° of conductors: 3, 4 or 5. Painted: RAL 7035. Halogen Free.  
 The insulation between bars is ensured by a double sheet made with polyester film class B(130°C), class F (155°C) thermal resistance available on request. All plastic components have a V1 self-extinguishing degree (as per UL94); they are fire retardant and comply with the glow-wire test according to standards.

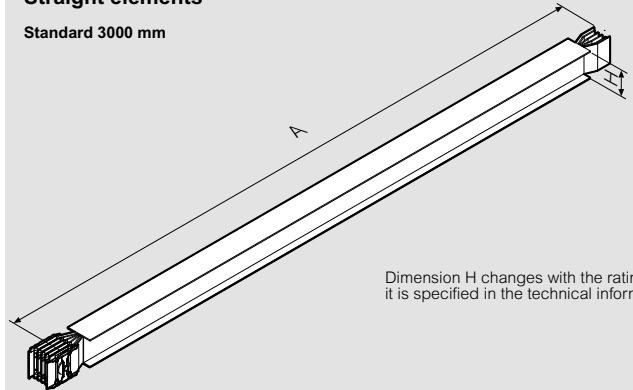
Item		Straight elements for transport	
Al	Cu	In (A)	A (mm)
63280100P	-	630	3000
63280101P	66280100P	800	
63280102P	66280101P	1000	
63280104P	66280103P	1250	
63280106P	66280105P	1600	
63280107P	66280106P	2000	
63390104P	66280108P	2500	
63390106P	66390105P	3200	
63390107P	66390106P	4000	
63390108P	66390108P	5000	
-	66390109P	6300	
63280110P	-	630	500-1000
63280111P	66280110P	800	
63280112P	66280111P	1000	
63280114P	66280113P	1250	
63280116P	66280115P	1600	
63280117P	66280116P	2000	
63390114P	66280118P	2500	
63390116P	66390115P	3200	
63390117P	66390116P	4000	
63390118P	66390118P	5000	
-	66390119P	6300	
63280170P	-	630	1001-1500
63280171P	66280170P	800	
63280172P	66280171P	1000	
63280174P	66280173P	1250	
63280176P	66280175P	1600	
63280177P	66280176P	2000	
63390174P	66280178P	2500	
63390176P	66390175P	3200	
63390177P	66390176P	4000	
63390178P	66390178P	5000	
-	66390179P	6300	
63280120P	-	630	1501-2000
63280121P	66280120P	800	
63280122P	66280121P	1000	
63280124P	66280123P	1250	
63280126P	66280125P	1600	
63280127P	66280126P	2000	
63390124P	66280128P	2500	
63390126P	66390125P	3200	
63390127P	66390126P	4000	
63390128P	66390128P	5000	
-	66390129P	6300	
63280180P	-	630	2001-2500
63280181P	66280180P	800	
63280182P	66280181P	1000	
63280184P	66280183P	1250	
63280186P	66280185P	1600	
63280187P	66280186P	2000	
63390184P	66280188P	2500	
63390186P	66390185P	3200	
63390187P	66390186P	4000	
63390188P	66390188P	5000	
-	66390189P	6300	



### Dimensions

#### Straight elements

Standard 3000 mm



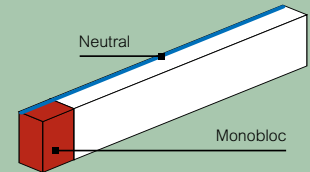
Dimension H changes with the ratings and it is specified in the technical information

MIN AND MAX DIMENSIONS OF SINGLE AND DOUBLE BAR	
Aluminium (Al)	630A – 5000A
Copper (Cu)	800A – 6300A
(L) min/MAX [mm]	500/3000

Straight elements are available on request only for transport of energy:  
 Al: 5000A  
 Cu: 6300A

#### Notes

The product versions in this catalogue will be simplified as shown opposite, highlighting the part with the monobloc installed in red and the neutral side in blue. In this catalogue, the measurements shown refer to the element centre distance



The range is also available in different versions on request: (5 conductors with dedicated PE conductor, double neutral and more others...)

Item		Straight elements for transport	
Al	Cu	In (A)	A (mm)
63280150P	-	630	2501-2999
63280151P	66280150P	800	
63280152P	66280151P	1000	
63280154P	66280153P	1250	
63280156P	66280155P	1600	
63280157P	66280156P	2000	
63390154P	66280158P	2500	
63390156P	66390155P	3200	
63390157P	66390156P	4000	
63390158P	66390158P	5000	
-	66390159P	6300	

	Single bar:	Double bar:	Triple bar:
	630A-2000A (Al) 800A-2500A (Cu)	2500A-4000A (Al) 3200A-5000A (Cu)	5000A (Al) 6300A (Cu)



# Xtra Compact (XCP-HP)

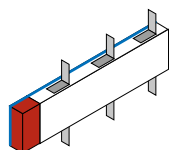
## straight elements



63280130P

### Straight elements for distribution

Item		In (A)	N° outlets	A (mm)		
Al	Cu					
63280130P	-	630	3+3 **	3000		
63280131P	*66280130P	800				
63280132P	66280131P	1000				
63280134P	66280133P	1250				
63280136P	66280135P	1600				
63280137P	66280136P	2000				
63390134P	66280138P	2500				
63390136P	66390135P	3200				
63390137P	66390136P	4000				
63390138P	66390138P	5000				
-	66390139P	6300				
63280970P	-	630			1+1	1001-1500
63280971P	*66280970P	800				
63280972P	66280971P	1000				
63280974P	66280973P	1250				
63280976P	66280975P	1600				
63280977P	66280976P	2000				
63390974P	66280978P	2500				
63390976P	66390975P	3200				
63390977P	66390976P	4000				
63390978P	66390978P	5000				
-	66390979P	6300				
63280920P	-	630	2+2 **	1501-2000		
63280921P	*66280920P	800				
63280922P	66280921P	1000				
63280924P	66280923P	1250				
63280926P	66280925P	1600				
63280927P	66280926P	2000				
63390924P	66280928P	2500				
63390926P	66390925P	3200				
63390927P	66390926P	4000				
63390928P	66390928P	5000				
-	66390929P	6300				
63280980P	-	630			2+2 **	2001-2500
63280981P	*66280980P	800				
63280982P	66280981P	1000				
63280984P	66280983P	1250				
63280986P	66280985P	1600				
63280987P	66280986P	2000				
63390984P	66280988P	2500				
63390986P	66390985P	3200				
63390987P	66390986P	4000				
63390988P	66390988P	5000				
-	66390989P	6300				
63280950P	-	630	3+3 **	2501-2999		
63280951P	*66280950P	800				
63280952P	66280951P	1000				
63280954P	66280953P	1250				
63280956P	66280955P	1600				
63280957P	66280956P	2000				
63390954P	66280958P	2500				
63390956P	66390955P	3200				
63390957P	66390956P	4000				
63390958P	66390958P	5000				
-	66390959P	6300				



### Dimensions

#### Straight elements for distribution

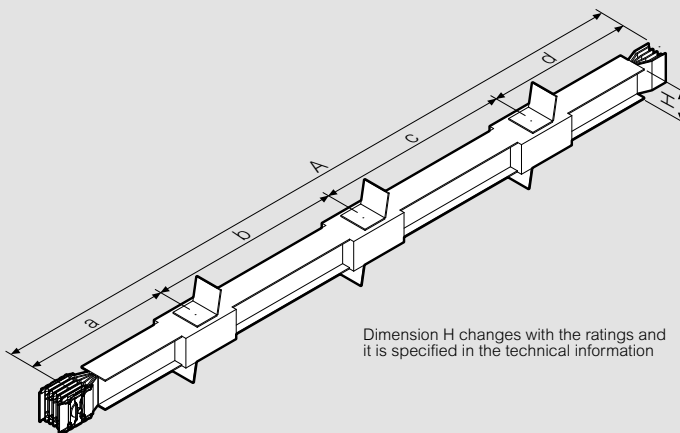
- Straight elements for plug-in type tap-off boxes
- Standard 3000 mm
- Tap-off outlets on both sides

These straight elements enable the application of plug-in boxes on dedicated outlets

Available in lengths from 1 to 3 meters, these elements have respectively 1, 2 and 3 outlets at preset distances with centre distances of 850 mm on both sides.

(\* The exception to these are 630-800 A elements with aluminium conductors (Al) and 800-1000 A elements with copper conductors (Cu), where distribution is only available on the top side (in standard execution) for example "3+0"

On request, the length of the elements and the number and position of distribution outlets may be different from the standards measures.



Dimension H changes with the ratings and it is specified in the technical information

#### MIN AND MAX DIMENSIONS OF SINGLE AND DOUBLE BAR

Aluminium (Al)	630A – 5000A
Copper (Cu)	800A – 6300A
(L) min/MAX [mm]	1001 ***/3000

(\*\*\*) Lengths from 1001 mm to 1250 mm can only be installed with type 1 and 3 plug-in boxes  
From 1250 mm to 3000 mm it is possible to install all types of plug-in boxes. Compatible boxes are listed in dedicated chapter. See page 96.

(\*\*) on request it is possible to have other combinations of outlets:  
length: 1501÷2000 - outlets: (1+1)  
length: 2001÷2500 - outlets: (1+1)  
length: 2501÷2999 - outlets: (1+1) and (2+2)  
length: 3000 - outlets: (1+1) and (2+2)  
Possibility to have outlets in special position

# Xtra Compact (XCP-HP)

straight elements



673IFB01

Item		Fire barrier elements S120 EI120 (EN 1366-3)	
		In (A)	Type
*	-	630	internal fire barrier
*	<b>673IFB01</b>	800	
<b>673IFB01</b>	*	1000	
*	*	1250	
<b>673IFB01</b>	*	1600 – 2500	
<b>673IFB01</b>	<b>673IFB01</b>	3200 – 4000	
*	<b>673IFB01</b>	5000	
-	*	6300	external fire barrier
<b>672EFB01</b>	-	630	
<b>672EFB01</b>	<b>672EFB51</b>	800 – 1000	
<b>672EFB02</b>	<b>672EFB51</b>	1250	
<b>672EFB03</b>	<b>672EFB52</b>	1600	
<b>672EFB04</b>	<b>672EFB53</b>	2000	
<b>673EFB02</b>	<b>673EFB51</b>	2500	
<b>673EFB03</b>	<b>673EFB52</b>	3200	
<b>673EFB04</b>	<b>673EFB53</b>	4000	
<b>673EFB05</b>	<b>673EFB54</b>	5000	
-	<b>673EFB55</b>	6300	

\*There are no air gaps inside these busbar therefore there is no need to add internal fire barriers

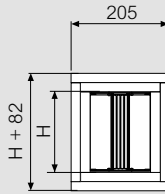


Fire resistance tested

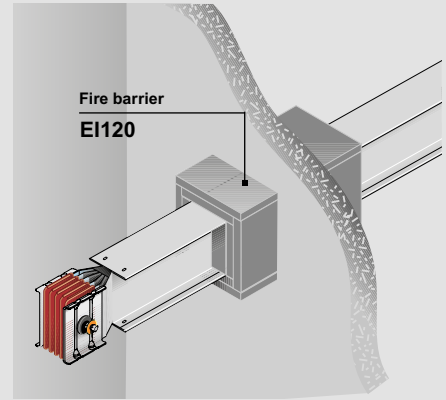
<b>Single bar:</b> 630A-2000A (Al) 800A-2500A (Cu)	<b>Double bar:</b> 2500A-4000A (Al) 3200A-5000A (Cu)	<b>Triple bar:</b> 5000A (Al) 6300A (Cu)
--	--	--

## Dimensions

### Fire barrier elements EI120 (EN 1366-3)



**Fire barrier sizes**  
Dimension H changes with the rating; it is specified in the technical information



For some ratings it is necessary to have an internal fire barrier fitted at the factory following the guidelines on the table. It is therefore necessary to indicate at the order stage which elements will cross fire resistant walls or ceilings

Figure 1 minimum straight dimensions

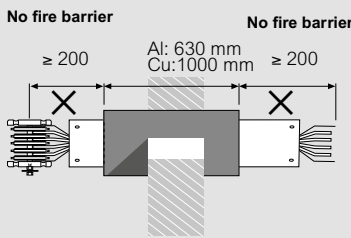
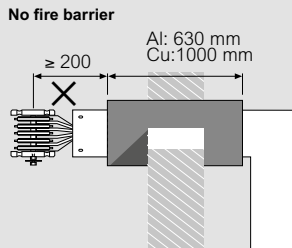


Figure 2 minimum dimensions in an elbow



USE OF INTERNAL OR EXTERNAL BARRIER					
In (A)	AI		In (A)	Cu	
	Internal	External		Internal	External
630-800	-	✓	800	✓	✓
1000	✓	✓	1000-2500	-	✓
1250	-	✓	3200-5000	✓	✓
1600-4000	✓	✓	6300	-	✓
5000	-	✓			

The external fire barrier can be used on any trunking component in compliance with the operating instructions specified in figures 1 and 2

To comply to the Certification of fire resistance it is necessary to install both internal\* and external fire barriers supplied by Legrand.

\* Internal barriers on some ratings are not required

# Xtra Compact (XCP-HP)

## straight elements

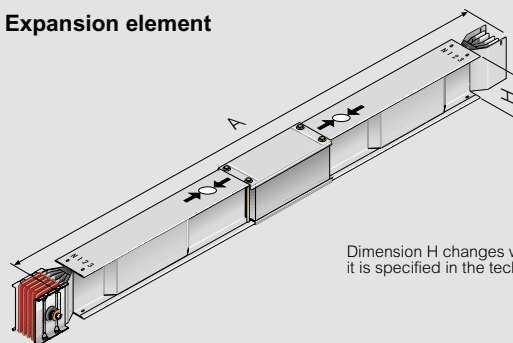


63280200P

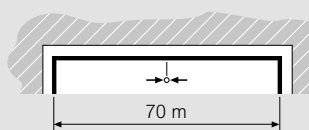
Item		Expansion element	
		<p>Due to being subjected to temperature changes, both the busbar and the building suffer thermal expansions. The expansion element can absorb expansion and contraction of both the busbar trunking system section and the building, up to the maximum permitted length (<math>\pm 50</math> mm approx.). The expansion element must be fitted near the expansion joints of the building and in straight sections of the line (horizontal and/or vertical) longer than 40 m. For straight line sections longer than 40 m, expansion elements must be fitted in a way that splits the path into equal sections not longer than 40 m. XCP-HP busbar trunking system elements are designed to compensate for thermal expansion if the straight sections of the installation are less than 40 m; in this case no expansion element is necessary.</p>	
Al	Cu	In (A)	Type
63280200P	-	630	A = 1.5 m
63280201P	66280200P	800	
63280202P	66280201P	1000	
63280204P	66280203P	1250	
63280206P	66280205P	1600	
63280207P	66280206P	2000	
63390204P	66280208P	2500	
63390206P	66390205P	3200	
63390207P	66390206P	4000	
63390208P	66390208P	5000	
-	66390209P	6300	

### Dimensions

#### Expansion element

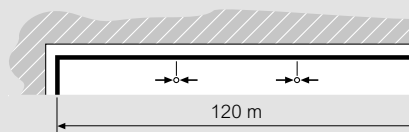


Dimension H changes with the ratings and it is specified in the technical information



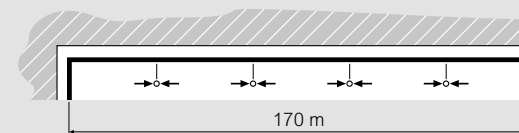
#### Example:

Straight section length 70 m = n°1 expansion element in the center of the line



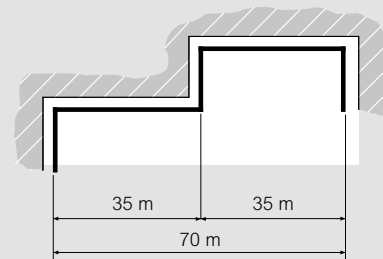
#### Example:

Straight section length 120 m = n°2 expansion elements, one every 40 m



#### Example:

Straight section length 170 m = no. 4 expansion elements, one every 34 m

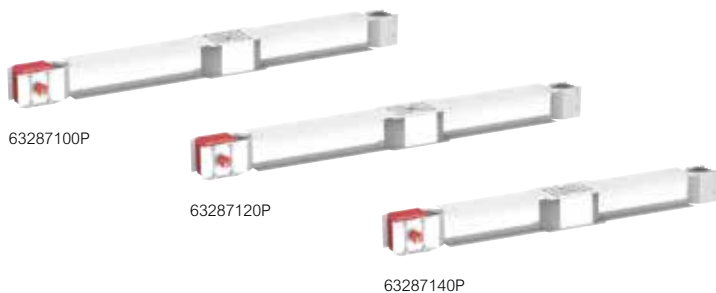


#### Example:

Section length 70 m. When the section is not straight, no expansion element is necessary

# Xtra Compact (XCP-HP)

straight elements



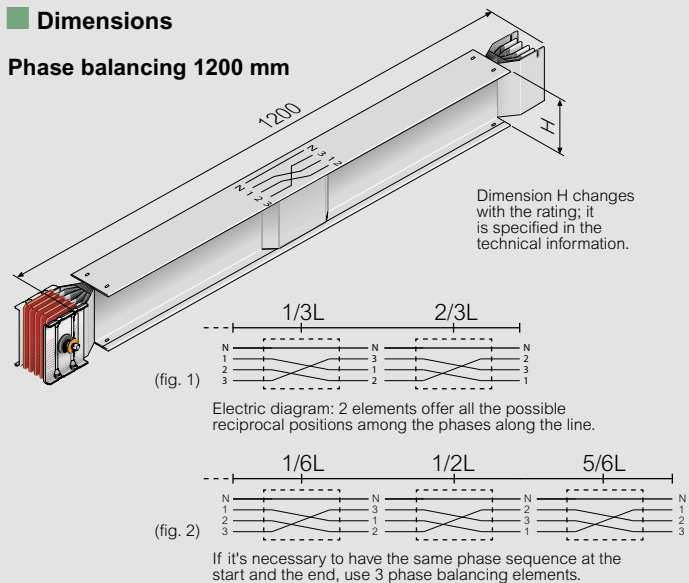
Item		Phase balancing	
Al	Cu	In (A)	
63287100P	-	630	Straight elements with phase balancing are used to reduce and balance mutual phase reactance and impedance in case of long lines. In particularly long sections (> 100 metres) it is recommended that two transposition elements are fitted (one at one third and one at two thirds of the path), to balance the system electric impedance: In this way, it will be possible to have along the installation path all the possible combinations, of reciprocal positions among phases, minimising load losses (Fig.1). If it's necessary to have the same phase sequence at the start and the end, use 3 phase balancing elements (fig.2).
63287101P	66287100P	800	
63287102P	66287101P	1000	
63287104P	66287103P	1250	
63287106P	66287105P	1600	
63287107P	66287106P	2000	
63397104P	66287108P	2500	
63397106P	66397105P	3200	
63397107P	66397106P	4000	
63397108P	66397108P	5000	
-	66397109P	6300	

Item		Phase inversion	
Al	Cu	In (A)	
63287120P	-	630	The function of this element is to completely reverse the positions of the phases and the neutral. It is normally used in connections between the transformer and electric board, or in the connections between electric boards, when the starting sequence is different from the arrival sequence
63287121P	66287120P	800	
63287122P	66287121P	1000	
63287124P	66287123P	1250	
63287126P	66287125P	1600	
63287127P	66287126P	2000	
63397124P	66287128P	2500	
63397126P	66397125P	3200	
63397127P	66397126P	4000	
63397128P	66397128P	5000	
-	66397129P	6300	

Item		Element with neutral rotation	
Al	Cu	In (A)	
63287140P	-	630	The straight element with neutral rotation is used to adapt the sequence of the busbar phases to the sequence of the connections required at the ends of the connections, should these be different. In the connection between electric boards, the neutral jump is normally used, as only the neutral position is normally identified
63287141P	66287140P	800	
63287142P	66287141P	1000	
63287144P	66287143P	1250	
63287146P	66287145P	1600	
63287147P	66287146P	2000	
63397144P	66287148P	2500	
63397146P	66397145P	3200	
63397147P	66397146P	4000	
63397148P	66397148P	5000	
-	66397149P	6300	

## Dimensions

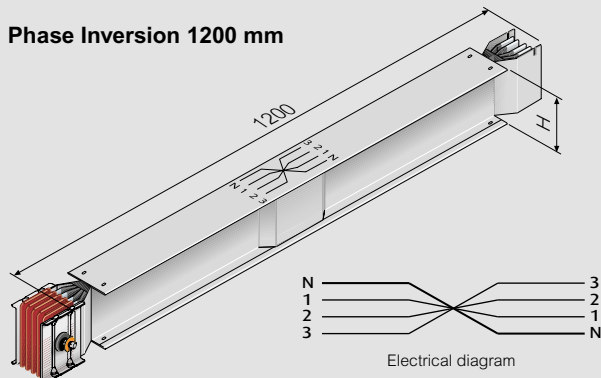
### Phase balancing 1200 mm



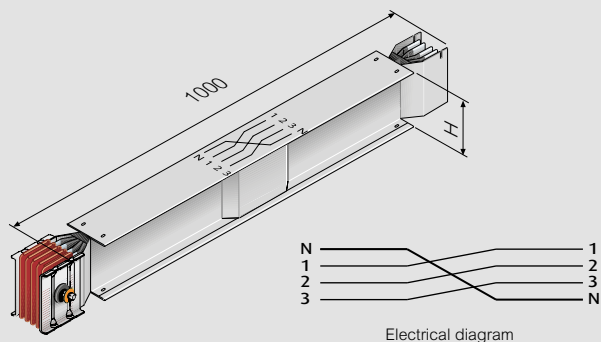
In particularly long carrying sections ( $L > 100$  meters) it is recommended to insert 2 elements: (one placed at  $1/3$  and one placed at  $2/3$  of the trunking path) to balance the electric impedance of the system. "L" is the total length of the path.

For example, in a line exceeding 300 m it is recommended that one phase transposition is fitted at 100 m, and another one at 200 m.

### Phase Inversion 1200 mm



### Element with neutral rotation 1000 mm



When the position of neutral of the distribution board phases is different from that of the transformer, it is possible to use an element that allows a neutral rotation only.

**Warning:** Use phase inversion and neutral rotation elements ONLY for energy transport paths, and not for derivations (do not use it when the line includes straight elements with derivations, or when they are provided for tap-off boxes even if bolted on the junction). The position of all the conductors, including the neutral, changes, and may cause serious problems on a connected load, if one is not fully aware that the phase sequence and the position of the neutral DO NOT comply with those indicated in the pre-printed labels.

Single bar:	Double bar:	Triple bar:
630A-2000A (Al) 800A-2500A (Cu)	2500A-4000A (Al) 3200A-5000A (Cu)	5000A (Al) 6300A (Cu)

# Xtra Compact (XCP-HP)

## feed unit



63281106P

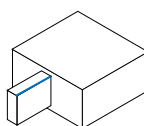
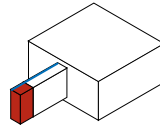
The feed units are used at the end of the lines, when the busbar must be powered using cables. Right-hand feed units do not come with a Monobloc but left-hand feed units come with a pre-fitted Monobloc.

They are available with non-standard execution, on request.

End feed units for single bar busbars are supplied with an aluminium blind back closing plate. For double bar busbar trunking systems the plates are 2. Both versions are fitted with 2 extra side steel flanges and 2 inspection steel flanges (dark grey colour). The cable is connected directly to the busbars using bolts.

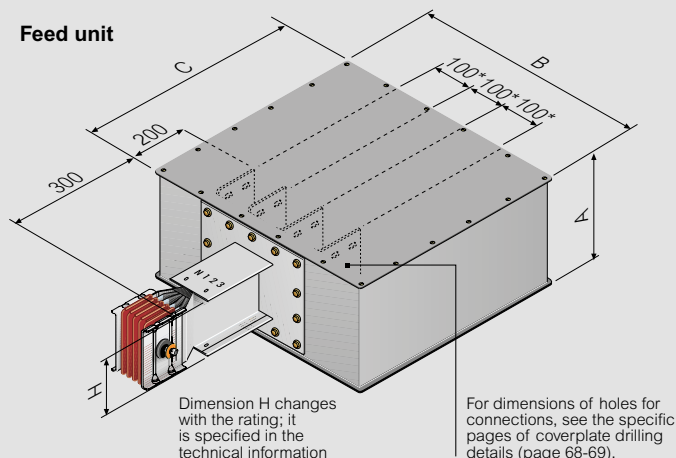
For more information on board/busbar connection see the tables (Dimensions For The Box).

To feed the power supply cable through the back power supply flanges it will be necessary to drill a hole in case of single bar and two holes in case of double bar. The size of the holes is 170 x 410 mm.

Item		Feed unit		In (A)	Type
Al	Cu				
63281100P	-			630	Right type 2 
63281101P	66281100P			800	
63281102P	66281101P			1000	
63281104P	66281103P			1250	
63281106P	66281105P			1600	
63281107P	66281106P			2000	
63391104P	66281108P			2500	
63391106P	66391105P			3200	
63391107P	66391106P			4000	
63391108P	66391108P			5000	
-	66391109P			6300	
63281110P	-			630	Left type 1 
63281111P	66281110P			800	
63281112P	66281111P			1000	
63281114P	66281113P			1250	
63281116P	66281115P			1600	
63281117P	66281116P			2000	
63391114P	66281118P			2500	
63391116P	66391115P			3200	
63391117P	66391116P			4000	
63391118P	66391118P			5000	
-	66391119P			6300	

### Dimensions

#### Feed unit



\* 120 mm for 6300 A (Cu) and 5000 A (Al)

#### Rear cable input

Aluminium gland plate(s) for cable entry 170 x 410 mm

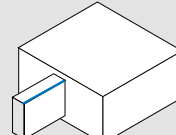
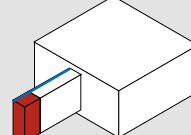
Single bar: 1 plate

Double bar: 2 plates

#### Dimensions FOR THE BOX

	630A÷1250A	1600A÷2000A	2500A÷4000A	6300A
<b>Al</b>				
<b>Cu</b>	800A÷1250A	1600A÷2000A	2500A÷5000A	6300A
(A) [mm]	320	320	600	815
(B) [mm]	615	615	615	615
(C) [mm]	610	810	810	810

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

Type 2 (without monobloc)	Type 1 (with monobloc)
	

#### CONNECTIONS

Load (A)	The copper (Cu) phase section is rounded up (mm <sup>2</sup> )	No. of connection holes for each busbar conductor	No. of one-pole cables that can be connected to each phase	
630				
800	600	4	4x150	2x300
1000				
1250				
1600	700	4	4x240	3x300
2000	850	8	4x240	3x300
2500	1100	8	5x240	4x300
3200	1400	8	6x240	5x300
4000	1700	16	8x240	6x300
5000	2100	16	9x240	7x300
6300	3000	16	14x240	10x300



# Xtra Compact (XCP-HP)

## rising mains feed unit



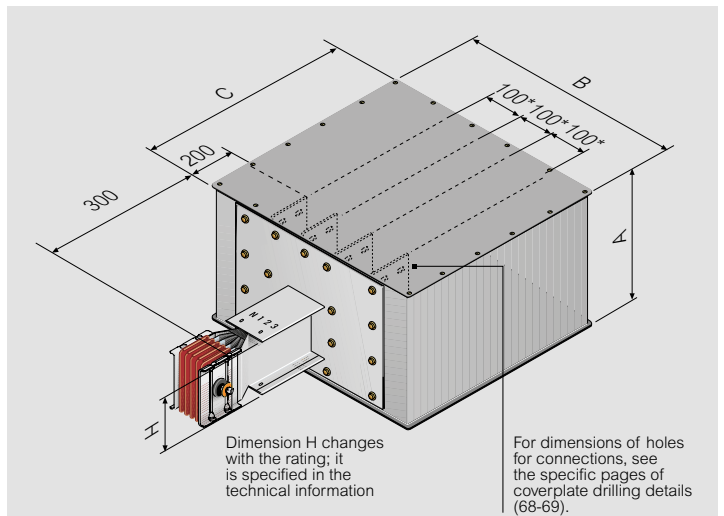
66281133P

The rising mains feed units are used at the departure of the riser mains lines, when the busbar must be placed close to the wall and powered using cables. They **allow the busbar to be installed 40 mm away from the wall**.

Right-hand feed units do not come with a Monobloc but left-hand feed units come with a pre-fitted Monobloc.

They are available with non-standard execution, on request. End feed units for single bar busbars are supplied with an aluminium blind back closing plate. For double bar busbar trunking systems the plates are 2. Both versions are fitted with 2 extra side steel flanges and 2 inspection steel flanges (dark grey colour). The cable is connected directly to the busbars using bolts. For more information on board/busbar connection see the tables below (Dimensions For The Box).

To feed the power supply cable through the back power supply flanges it will be necessary to drill a hole in case of single bar and two holes in case of double bar. The size of the holes is 170 x 410 mm.



\* 120 mm for 6300 A (Cu) and 5000 A (Al)

### Rear cable input

Aluminium gland plate(s) for cable entry 170 x 410 mm

Single bar: 1 plate

Double bar: 2 plates

Item		Rising mains feed unit	
Al	Cu	In (A)	Type
63281120P	-	630	Right type 2 
63281121P	66281120P	800	
63281122P	66281121P	1000	
63281124P	66281123P	1250	
63281126P	66281125P	1600	
63281127P	66281126P	2000	
63391124P	66281128P	2500	
63391126P	66391125P	3200	
63391127P	66391126P	4000	
63391128P	66391128P	5000	
-	66391129P	6300	Left type 1 
63281130P	-	630	
63281131P	66281130P	800	
63281132P	66281131P	1000	
63281134P	66281133P	1250	
63281136P	66281135P	1600	
63281137P	66281136P	2000	
63391134P	66281138P	2500	
63391136P	66391135P	3200	
63391137P	66391136P	4000	
63391138P	66391138P	5000	
-	66391139P	6300	

Dimensions FOR THE BOX				
Al	630A÷1250A	1600A÷2000A	2500A÷4000A	
Cu	800A÷1250A	1600A÷2000A	2500A÷5000A	6300A
(A) [mm]	320	320	600	815
(B) [mm]	615	615	615	615
(C) [mm]	610	810	810	810

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

Type 2 (without monobloc)	Type 1 (with monobloc)

CONNECTIONS				
Load (A)	The copper (Cu) phase section is rounded up (mm <sup>2</sup> )	No. of connection holes for each busbar conductor	No. of one-pole cables that can be connected to each phase	
630	600	4	4x150	2x300
800				
1000				
1250	700	4	4x240	3x300
1600	850	8	4x240	3x300
2000	1100	8	5x240	4x300
2500	1400	8	6x240	5x300
3200	1700	16	8x240	6x300
4000	2100	16	9x240	7x300
5000	3000	16	14x240	10x300

Single bar:	Double bar:	Triple bar:
630A-2000A (Al) 800A-2500A (Cu)	2500A-4000A (Al) 3200A-5000A (Cu)	5000A (Al) 6300A (Cu)

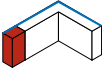





# Xtra Compact (XCP-HP)

## elbows



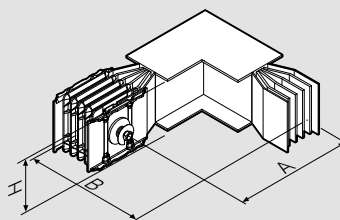
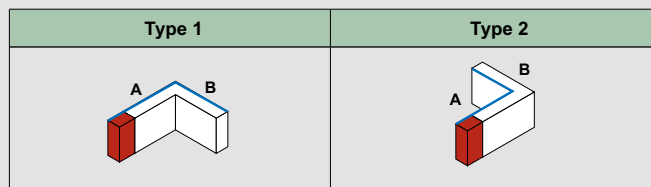
63280306P

Item		Horizontal elbow				
Al	Cu	In (A)	Type	Type		
63280300P	-	630	 Right Type 1	Standard		
63280301P	66280300P	800				
63280302P	66280301P	1000				
63280304P	66280303P	1250				
63280306P	66280305P	1600				
63280307P	66280306P	2000				
63390304P	66280308P	2500				
63390306P	66390305P	3200				
63390307P	66390306P	4000				
63390308P	66390308P	5000				
-	66390309P	6300				
63280320P	-	630			 Left Type 2	Standard  Special lengths
63280321P	66280320P	800				
63280322P	66280321P	1000				
63280324P	66280323P	1250				
63280326P	66280325P	1600				
63280327P	66280326P	2000				
63390324P	66280328P	2500				
63390326P	66390325P	3200				
63390327P	66390326P	4000				
63390328P	66390328P	5000				
-	66390329P	6300				
63280310P	-	630	 Left Type 2	Standard  Special lengths		
63280311P	66280310P	800				
63280312P	66280311P	1000				
63280314P	66280313P	1250				
63280316P	66280315P	1600				
63280317P	66280316P	2000				
63390314P	66280318P	2500				
63390316P	66390315P	3200				
63390317P	66390316P	4000				
63390318P	66390318P	5000				
-	66390319P	6300				
63280330P	-	630			 Left Type 2	Standard  Special lengths
63280331P	66280330P	800				
63280332P	66280331P	1000				
63280334P	66280333P	1250				
63280336P	66280335P	1600				
63280337P	66280336P	2000				
63390334P	66280338P	2500				
63390336P	66390335P	3200				
63390337P	66390336P	4000				
63390338P	66390338P	5000				
-	66390339P	6300				

### ■ Dimensions

#### Horizontal elbow

In order to define the type of horizontal elbow required, consider to place the element "edgewise" (conductors perpendicular to the ground). In this configuration "horizontal" elbows enable a path variation which is parallel to the ground. When the neutral busbar conductor faces the outside of the elbow, there will be a Right horizontal elbow (type 1) Contrariwise, with the neutral busbar conductor facing the inside of the elbow there will be a Left horizontal elbow (type 2)



The dimensions refer to the standard elements. Single/double/triple bar (A+B): 300+300 mm

MIN AND MAX DIMENSIONS	
Single bar min/MAX	
A	250/1299*
B	250/1299*
Double bar min/MAX	
A	250/1299*
B	250/1299*
Triple bar min/MAX	
A	250/999*
B	250/999*

Dimension H changes with the rating; it is specified in the technical information

Non-standard elements "Special" (with measurements that are different from those show in the figure) are referred to the Min and Max dimensions specified in the table



\* For all the non standard horizontal elbows (special), it is possible to have only one of the two sides in size exceeding 600 mm. For example, when ordering a horizontal elbow with size A=1000 mm, the B size will have to be ≤ 600 mm

# Xtra Compact (XCP-HP)

## elbows



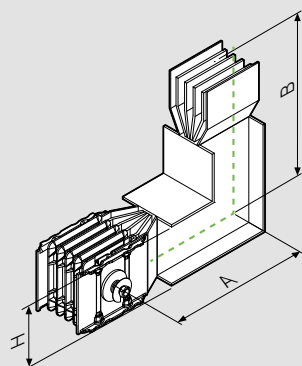
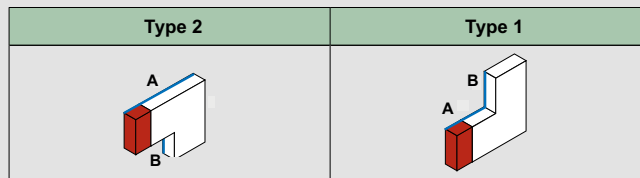
66280415P

Item		Vertical elbow		
Al	Cu	In (A)	Type	Type
63280400P	-	630	 Right Type 2	Standard
63280401P	66280400P	800		
63280402P	66280401P	1000		
63280404P	66280403P	1250		
63280406P	66280405P	1600		
63280407P	66280406P	2000		
63390404P	66280408P	2500		
63390406P	66390405P	3200		
63390407P	66390406P	4000		
63390408P	66390408P	5000		
-	66390409P	6300		
63280420P	-	630		
63280421P	66280420P	800		
63280422P	66280421P	1000		
63280424P	66280423P	1250		
63280426P	66280425P	1600		
63280427P	66280426P	2000		
63390424P	66280428P	2500		
63390426P	66390425P	3200		
63390427P	66390426P	4000		
63390428P	66390428P	5000		
-	66390429P	6300		
63280410P	-	630	 Right Type 2	Standard
63280411P	66280410P	800		
63280412P	66280411P	1000		
63280414P	66280413P	1250		
63280416P	66280415P	1600		
63280417P	66280416P	2000		
63390414P	66280418P	2500		
63390416P	66390415P	3200		
63390417P	66390416P	4000		
63390418P	66390418P	5000		
-	66390419P	6300		
63280430P	-	630		
63280431P	66280430P	800		
63280432P	66280431P	1000		
63280434P	66280433P	1250		
63280436P	66280435P	1600		
63280437P	66280436P	2000		
63390434P	66280438P	2500		
63390436P	66390435P	3200		
63390437P	66390436P	4000		
63390438P	66390438P	5000		
-	66390439P	6300		

### ■ Dimensions

#### Vertical elbow

In order to define the type of vertical elbow, it is necessary to still place the element "edgewise" (conductors perpendicular to the ground), with the section with Monobloc facing the observer and the section without facing up. In this configuration, vertical "elbows" enable an up or down facing variation. If the neutral is on the left side, there will be a left vertical elbow (Type 1). If, on the other side, it is on the right side, there will be a right vertical elbow (Type 2).



MIN AND MAX DIMENSIONS	
Single bar min/MAX	
A	250/1299*
B	250/1299*
Double bar min/MAX	
A	340/1449*
B	340/1449*
Triple bar min/MAX	
A	560/1199* (AL) 530/1199* (CU)
B	560/1199* (AL) 530/1199* (CU)

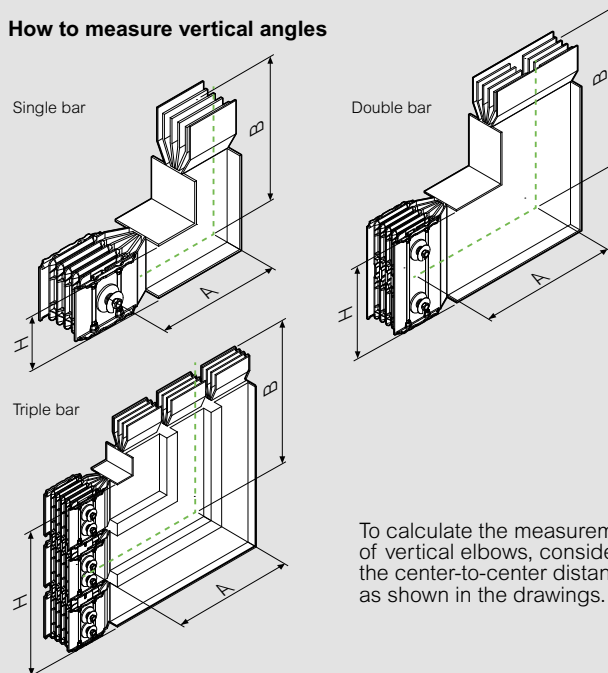
Dimension H changes with the rating; it is specified in the technical information

The dimensions are referred to the standard elements.  
 Single bar (A+B) : 300+300 mm  
 Double bar (A+B) : 450+450 mm  
 Triple bar (A+B) : 600+600 mm

Non-standard elements "Special" (with measurements that are different from those shown in the figure) are referred to the Min and Max dimensions specified in the table

\* For all the non standard vertical elbows (special), it is possible to have only one of the two sides in size exceeding 600 mm. For example, when ordering a vertical elbow with size A=1000 mm, the B size will have to be ≤ 600 mm

#### How to measure vertical angles



To calculate the measurements of vertical elbows, consider the center-to-center distance as shown in the drawings.

# Xtra Compact (XCP-HP)

## elbows



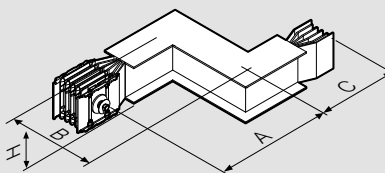
Item		Double horizontal elbow	
Al	Cu	In (A)	Type
63280340P	-	630	Right Type 1
63280341P	66280340P	800	
63280342P	66280341P	1000	
63280344P	66280343P	1250	
63280346P	66280345P	1600	
63280347P	66280346P	2000	
63390344P	66280348P	2500	
63390346P	66390345P	3200	
63390347P	66390346P	4000	
63390348P	66390348P	5000	
-	66390349P	6300	
63280350P	-	630	Left Type 2
63280351P	66280350P	800	
63280352P	66280351P	1000	
63280354P	66280353P	1250	
63280356P	66280355P	1600	
63280357P	66280356P	2000	
63390354P	66280358P	2500	
63390356P	66390355P	3200	
63390357P	66390356P	4000	
63390358P	66390358P	5000	
-	66390359P	6300	

Item		Double vertical elbow	
Al	Cu	In (A)	Type
63280440P	-	630	Right Type 2
63280441P	66280440P	800	
63280442P	66280441P	1000	
63280444P	66280443P	1250	
63280446P	66280445P	1600	
63280447P	66280446P	2000	
63390444P	66280448P	2500	
63390446P	66390445P	3200	
63390447P	66390446P	4000	
63390448P	66390448P	5000	
-	66390449P	6300	
63280450P	-	630	Left Type 1
63280451P	66280450P	800	
63280452P	66280451P	1000	
63280454P	66280453P	1250	
63280456P	66280455P	1600	
63280457P	66280456P	2000	
63390454P	66280458P	2500	
63390456P	66390455P	3200	
63390457P	66390456P	4000	
63390458P	66390458P	5000	
-	66390459P	6300	

### Dimensions

#### Double horizontal elbow

Double horizontal elbows are the union of two horizontal elbows; in order to define the type, it is enough to observe them starting from the Monobloc; if the first elbow met is left, we will have a double horizontal elbow left + right (Type 2). Contrariwise, if the first elbow met is right, we will have a double horizontal elbow right + left (Type 1)



MIN AND MAX DIMENSIONS	
Single bar min/MAX	
A	250/1299*
B	50/599*
C	250/1299*
Double bar min/MAX	
A	250/1299*
B	50/599*
C	250/1299*
Triple bar min/MAX	
A	250/999*
B	50/599*
C	250/999*

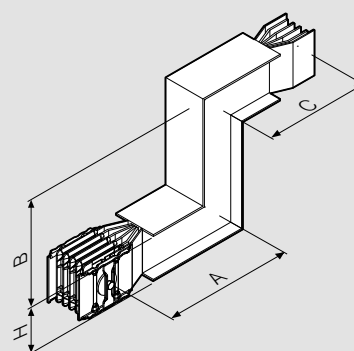
The dimensions are referred to the standard elements.  
Single/double/triple bar (A+B+C):  
300+300+300 mm

Dimension H changes with the rating; it is specified in the technical information

Type 1	Type 2

#### Double vertical elbow

Double vertical elbows are the union of two vertical elbows; in order to define the type, it is enough to observe them starting from the Monobloc; if the first elbow met is left, we will have a double vertical elbow left + right (Type 1). Contrariwise, if the first elbow met is right, we will have a double vertical elbow right + left (Type 2)



MIN AND MAX DIMENSIONS	
Single bar min/MAX	
A	250/1299*
B	50/599*
C	250/1299*
Double bar min/MAX	
A	340/1449*
B	50/899*
C	340/1449*
Triple bar min/MAX	
A	560/1199* (AL) 530/1199* (CU)
B	50/999*
C	560/1199* (AL) 530/1199* (CU)

The dimensions are referred to the standard elements.  
Single bar (A+B+C): 300+300+300 mm  
Double bar (A+B+C): 450+450+450 mm  
Triple bar (A+B+C): 600+600+600 mm

Dimension H changes with the rating; it is specified in the technical information

Type 2	Type 1

Non-standard elements "Special" (with measurements that are different from those show in the figure) are referred to the Min and Max dimensions specified in the table.

\* Warning: for safety reasons in production and also to help in the installation, if one dimension is pulled close to the maximum length (i.e. A=1100 mm) then the other two dimensions should be kept as close as possible to their standard lengths (i.e. B=300 mm, C=310 mm).

Single bar:	Double bar:	Triple bar:
630A-2000A (Al) 800A-2500A (Cu)	2500A-4000A (Al) 3200A-5000A (Cu)	5000A (Al) 6300A (Cu)

# Xtra Compact (XCP-HP)

## elbows



63280606P

Item		Double elbow horizontal + vertical	
Al	Cu	In (A)	Type
63280600P	-	630	<p>Type 1</p>
63280601P	66280600P	800	
63280602P	66280601P	1000	
63280604P	66280603P	1250	
63280606P	66280605P	1600	
63280607P	66280606P	2000	
63390604P	66280608P	2500	
63390606P	66390605P	3200	
63390607P	66390606P	4000	
63390608P	66390608P	5000	
-	66390609P	6300	
63280610P	-	630	<p>Type 2</p>
63280611P	66280610P	800	
63280612P	66280611P	1000	
63280614P	66280613P	1250	
63280616P	66280615P	1600	
63280617P	66280616P	2000	
63390614P	66280618P	2500	
63390616P	66390615P	3200	
63390617P	66390616P	4000	
63390618P	66390618P	5000	
-	66390619P	6300	
63280620P	-	630	<p>Type 3</p>
63280621P	66280620P	800	
63280622P	66280621P	1000	
63280624P	66280623P	1250	
63280626P	66280625P	1600	
63280627P	66280626P	2000	
63390624P	66280628P	2500	
63390626P	66390625P	3200	
63390627P	66390626P	4000	
63390628P	66390628P	5000	
-	66390629P	6300	
63280630P	-	630	<p>Type 4</p>
63280631P	66280630P	800	
63280632P	66280631P	1000	
63280634P	66280633P	1250	
63280636P	66280635P	1600	
63280637P	66280636P	2000	
63390634P	66280638P	2500	
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63390637P	66390636P	4000	
63390638P	66390638P	5000	
-	66390639P	6300	

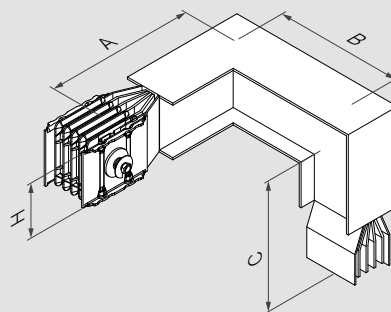
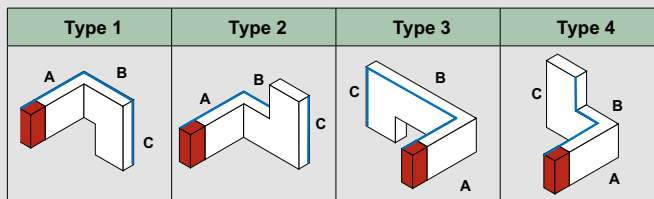
### Dimensions

#### Double elbow horizontal + vertical

Double elbows horizontal + vertical are the union of a horizontal and a vertical elbow, placed in succession starting from the side with Monobloc.

Depending on the type of elbows, the double horizontal + vertical elbow may be of four different types:

- Double elbow Horizontal RH + Vertical RH (Type 1)
- Double elbow Horizontal RH + Vertical LH (Type 2)
- Double elbow Horizontal LH + Vertical RH (Type 3)
- Double elbow Horizontal LH + Vertical LH (Type 4)



#### MIN AND MAX DIMENSIONS OF SINGLE

Single bar min/MAX	
A	250/1299*
B	150/599*
C	250/1299*
Double bar min/MAX	
A	250/1299*
B	235/899*
C	340/1449*
Triple bar min/MAX	
A	250/999*
B	458/799* (AL) 428/799* (CU)
C	560/999* (AL) 530/999* (CU)

The dimensions refer to the standard elements  
 Single bar (A+B+C): 300+300+300 mm  
 Double bar (A+B+C): 300+450+450 mm  
 Triple bar (A+B+C): 300+600+600 mm

Dimension H changes with the rating; it is specified in the technical information

Non-standard elements "Special" (with measurements that are different from those show in the figure) are referred to the Min and Max dimensions specified in the table.

\* Warning: for safety reasons in production and also to help in the installation, if one dimension is pulled close to the maximum length (i.e. A=1100 mm) then the other two dimensions should be kept as close as possible to their standard lengths (i.e. B=300 mm, C=310 mm).

**Note:**  
 RH - Right  
 LH - Left



**Single bar:**  
 630A-2000A (Al)  
 800A-2500A (Cu)

**Double bar:**  
 2500A-4000A (Al)  
 3200A-5000A (Cu)

**Triple bar:**  
 5000A (Al)  
 6300A (Cu)

# Xtra Compact (XCP-HP)

## elbows



63280506P

Item		Double elbow vertical + horizontal	
Al	Cu	In (A)	Type
63280500P	-	630	<p>Type 1</p>
63280501P	66280500P	800	
63280502P	66280501P	1000	
63280504P	66280503P	1250	
63280506P	66280505P	1600	
63280507P	66280506P	2000	
63390504P	66280508P	2500	
63390506P	66390505P	3200	
63390507P	66390506P	4000	
63390508P	66390508P	5000	
-	66390509P	6300	
63280510P	-	630	<p>Type 2</p>
63280511P	66280510P	800	
63280512P	66280511P	1000	
63280514P	66280513P	1250	
63280516P	66280515P	1600	
63280517P	66280516P	2000	
63390514P	66280518P	2500	
63390516P	66390515P	3200	
63390517P	66390516P	4000	
63390518P	66390518P	5000	
-	66390519P	6300	
63280520P	-	630	<p>Type 3</p>
63280521P	66280520P	800	
63280522P	66280521P	1000	
63280524P	66280523P	1250	
63280526P	66280525P	1600	
63280527P	66280526P	2000	
63390524P	66280528P	2500	
63390526P	66390525P	3200	
63390527P	66390526P	4000	
63390528P	66390528P	5000	
-	66390529P	6300	
63280530P	-	630	<p>Type 4</p>
63280531P	66280530P	800	
63280532P	66280531P	1000	
63280534P	66280533P	1250	
63280536P	66280535P	1600	
63280537P	66280536P	2000	
63390534P	66280538P	2500	
63390536P	66390535P	3200	
63390537P	66390536P	4000	
63390538P	66390538P	5000	
-	66390539P	6300	

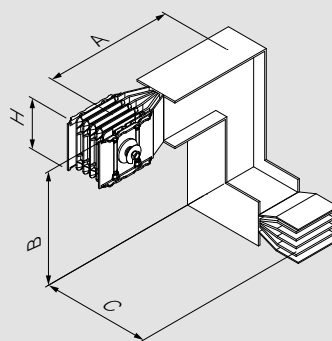
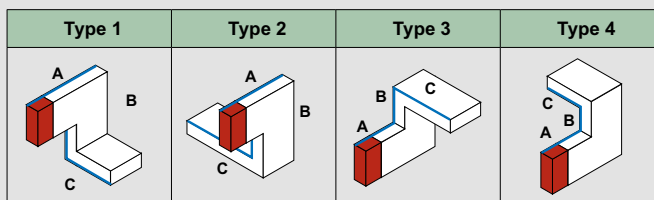
### ■ Dimensions

#### Double elbow vertical + horizontal

Double elbows vertical + horizontal are the union of a vertical and a horizontal elbow, placed in succession starting from the side with Monobloc

Depending on the type of elbows, the double vertical + horizontal elbow may be of four different types:

- Double elbow vertical RH + horizontal RH (Type 1)
- Double elbow vertical RH + horizontal LH (Type 2)
- Double elbow vertical LH + horizontal RH (Type 3)
- Double elbow vertical LH + horizontal LH (Type 4)



#### MIN AND MAX DIMENSIONS

##### Single bar min/MAX

A	250/1299*
B	150/599*
C	250/1299*

##### Double bar min/MAX

A	340/1449*
B	325/899*
C	250/1299*

##### Triple bar min/MAX

A	560/1199* (AL) 530/1199* (CU)
B	458/799* (AL) 428/799* (CU)
C	250/999*

Dimension H changes with the rating; it is specified in the technical information

The dimensions refer to the standard elements.

Single bar (A+B+C): 300+300+300 mm  
Double bar (A+B+C): 450+450+300 mm  
Triple bar (A+B+C): 600+600+300 mm

Non-standard elements "Special" (with measurements that are different from those show in the figure) are referred to the Min and Max dimensions specified in the table.



\* Warning: for safety reasons in production and also to help in the installation, if one dimension is pulled close to the maximum length (i.e. A=1100 mm) then the other two dimensions should be kept as close as possible to their standard lengths (i.e. B=300 mm, C=310 mm)

#### Note:

RH - Right  
LH - Left

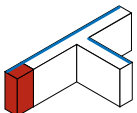
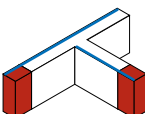
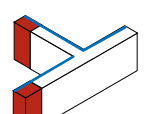
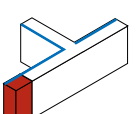


# Xtra Compact (XCP-HP)

## T elements



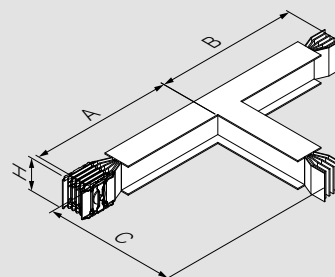
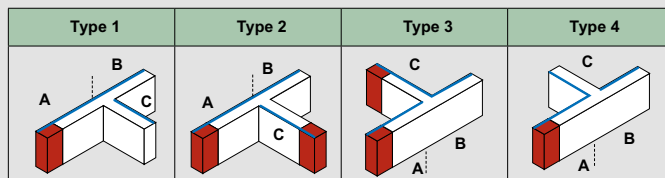
63280706P

Item		Horizontal T element	
Al	Cu	In (A)	Type
63280700P	-	630	 Type 1
63280701P	66280700P	800	
63280702P	66280701P	1000	
63280704P	66280703P	1250	
63280706P	66280705P	1600	
63280707P	66280706P	2000	
63390704P	66280708P	2500	
63390706P	66390705P	3200	
63390707P	66390706P	4000	
63390708P	66390708P	5000	
-	66390709P	6300	
63280710P	-	630	 Type 2
63280711P	66280710P	800	
63280712P	66280711P	1000	
63280714P	66280713P	1250	
63280716P	66280715P	1600	
63280717P	66280716P	2000	
63390714P	66280718P	2500	
63390716P	66390715P	3200	
63390717P	66390716P	4000	
63390718P	66390718P	5000	
-	66390719P	6300	
63280720P	-	630	 Type 3
63280721P	66280720P	800	
63280722P	66280721P	1000	
63280724P	66280723P	1250	
63280726P	66280725P	1600	
63280727P	66280726P	2000	
63390724P	66280728P	2500	
63390726P	66390725P	3200	
63390727P	66390726P	4000	
63390728P	66390728P	5000	
-	66390729P	6300	
63280730P	-	630	 Type 4
63280731P	66280730P	800	
63280732P	66280731P	1000	
63280734P	66280733P	1250	
63280736P	66280735P	1600	
63280737P	66280736P	2000	
63390734P	66280738P	2500	
63390736P	66390735P	3200	
63390737P	66390736P	4000	
63390738P	66390738P	5000	
-	66390739P	6300	

### Dimensions

#### Horizontal T element

T-elements can be used to split the line in two branches, adding together the effect of two diverging elbows. There are four types of horizontal "T" elements, as shown below.



MIN AND MAX DIMENSIONS	
Single bar min/MAX	
A	600/1449*
B	600/1449*
C	600/1449*
Double bar min/MAX	
A	600/1449*
B	600/1449*
C	600/1449*
Triple bar min/MAX	
A	600/1449*
B	600/1449*
C	600/1449*

The dimensions refer to the standard elements.  
Single/double/triple bar (A+B+C):  
600+600+600 mm

Dimension H changes with the rating; it is specified in the technical information.

Non-standard elements "Special" (with measurements that are different from those shown in the figure) are referred to the Min and Max dimensions specified in the table.

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

#### Note:

Only in special cases, where it is not possible to use the standard element, it is possible to have only one of three arms with a minimum dimension of 300 mm.

For more information, please contact Legrand.



**Single bar:**  
630A-2000A (Al)  
800A-2500A (Cu)

**Double bar:**  
2500A-4000A (Al)  
3200A-5000A (Cu)

**Triple bar:**  
5000A (Al)  
6300A (Cu)



# Xtra Compact (XCP-HP)

## T elements



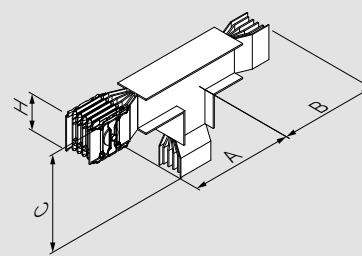
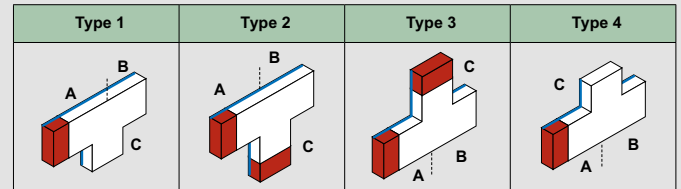
63280806P

Item		Vertical t element		Type
Al	Cu	In (A)		
63280800P	-	630		<p>Type 1</p>
63280801P	66280800P	800		
63280802P	66280801P	1000		
63280804P	66280803P	1250		
63280806P	66280805P	1600		
63280807P	66280806P	2000		
63390804P	66280808P	2500		
63390806P	66390805P	3200		
63390807P	66390806P	4000		
63390808P	66390808P	5000		
-	66390809P	6300		
63280810P	-	630		<p>Type 2</p>
63280811P	66280810P	800		
63280812P	66280811P	1000		
63280814P	66280813P	1250		
63280816P	66280815P	1600		
63280817P	66280816P	2000		
63390814P	66280818P	2500		
63390816P	66390815P	3200		
63390817P	66390816P	4000		
63390818P	66390818P	5000		
-	66390819P	6300		
63280820P	-	630		<p>Type 3</p>
63280821P	66280820P	800		
63280822P	66280821P	1000		
63280824P	66280823P	1250		
63280826P	66280825P	1600		
63280827P	66280826P	2000		
63390824P	66280828P	2500		
63390826P	66390825P	3200		
63390827P	66390826P	4000		
63390828P	66390828P	5000		
-	66390829P	6300		
63280830P	-	630		<p>Type 4</p>
63280831P	66280830P	800		
63280832P	66280831P	1000		
63280834P	66280833P	1250		
63280836P	66280835P	1600		
63280837P	66280836P	2000		
63390834P	66280838P	2500		
63390836P	66390835P	3200		
63390837P	66390836P	4000		
63390838P	66390838P	5000		
-	66390839P	6300		

### ■ Dimensions

#### Vertical T element

T-elements can be used to split the line in two branches, adding together the effect of two diverging elbows. There are four types of verticals "T" elements, as shown below



MIN AND MAX DIMENSIONS	
Single bar min/MAX	
A	300/1299*
B	300/1299*
C	300/1299*
Double bar min/MAX	
A	450/1449*
B	450/1449*
C	450/1449*
Triple bar min/MAX	
A	560/1449* (AL) 530/1449* (CU)
B	560/1449* (AL) 530/1449* (CU)
C	560/1449* (AL) 530/1449* (CU)

Dimension H changes with the rating; it is specified in the technical information

The dimensions refer to the standard elements  
 Single bar (A+B+C): 300+300+300 mm  
 Double bar (A+B+C): 600+600+600 mm  
 Triple bar (A+B+C): 600+600+600 mm

Non-standard elements "Special" (with measurements that are different from those shown in the figure) are referred to the Min and Max dimensions specified in the table

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

# Xtra Compact (XCP-HP)

connection interfaces with exit bars



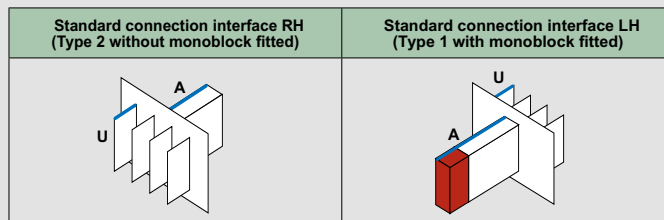
63281016P

Item		Connection interfaces with exit bars for panel boards		
Al	Cu	In (A)	Type	Type
63281000P	-	630	Standard	Standard
63281001P	66281000P	800		
63281002P	66281001P	1000		
63281004P	66281003P	1250		
63281006P	66281005P	1600		
63281007P	66281006P	2000		
63391004P	66281008P	2500		
63391006P	66391005P	3200		
63391007P	66391006P	4000		
63391008P	66391008P	5000		
-	66391009P	6300	Special	Special
63281020P	-	630		
63281021P	66281020P	800		
63281022P	66281021P	1000		
63281024P	66281023P	1250		
63281026P	66281025P	1600		
63281027P	66281026P	2000		
63391024P	66281028P	2500		
63391026P	66391025P	3200		
63391027P	66391026P	4000		
63391028P	66391028P	5000		
-	66391029P	6300	Standard	Standard
63281010P	-	630		
63281011P	66281010P	800		
63281012P	66281011P	1000		
63281014P	66281013P	1250		
63281016P	66281015P	1600		
63281017P	66281016P	2000		
63391014P	66281018P	2500		
63391016P	66391015P	3200		
63391017P	66391016P	4000		
63391018P	66391018P	5000		
-	66391019P	6300	Special	Special
63281030P	-	630		
63281031P	66281030P	800		
63281032P	66281031P	1000		
63281034P	66281033P	1250		
63281036P	66281035P	1600		
63281037P	66281036P	2000		
63391034P	66281038P	2500		
63391036P	66391035P	3200		
63391037P	66391036P	4000		
63391038P	66391038P	5000		
-	66391039P	6300		

## Dimensions

### Connection interfaces with exit bars

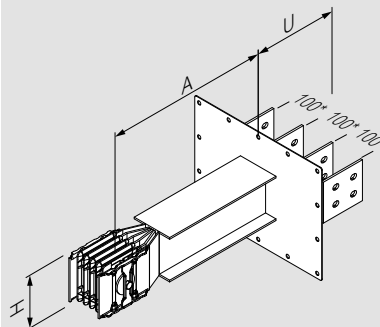
Standard connection interfaces are used at the end of the lines to connect the busbar to boards or transformers. They are available in right (without Monobloc) and left (with Monobloc fitted) versions. The drawings below refer to the standard versions. Different combinations are available on request (e.g.: length, centre distance between bar conductors, drilling, etc.)



**Note:**  
RH - Right  
LH - Left

### Standard connection interface

See on page 68-69 the drawings with all drilling details for dimensions of coverplate (1) and bars (2)



#### MIN AND MAX DIMENSIONS

Single bar min/MAX	
U	150/400
A	200/1299
Double bar min/MAX	
U	150/400
A	200/1299
Triple bar min/MAX	
U	150/400
A	200/1299

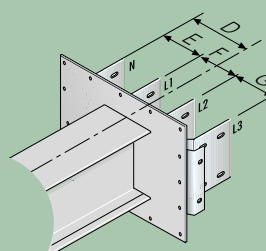
Dimension H changes with the rating; it is specified in the technical information

The dimensions refer to the standard elements. Single/double/triple bar (U+A): 200+300 mm

\* 120 mm for 6300 A (Cu) and 5000 A (Al)

Non-standard elements "Special" (with measurements that are different from those show in the figure) are referred to the Min and Max dimensions specified in the table.

### Special connection interface with interaxes not standard



Dimensioning indications to be provided when using a non-standard centre distance



**Single bar:**  
630A-2000A (Al)  
800A-2500A (Cu)

**Double bar:**  
2500A-4000A (Al)  
3200A-5000A (Cu)

**Triple bar:**  
5000A (Al)  
6300A (Cu)


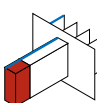
# Xtra Compact (XCP-HP)

connection interfaces with exit bars



6328T016P

## Connection interfaces with exit bars for transformers\*

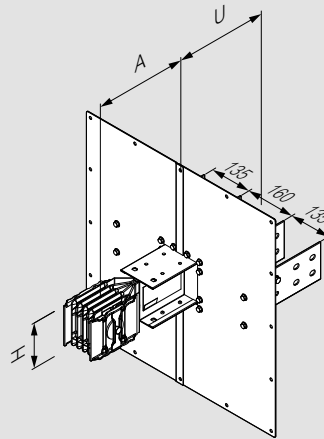
Item		In (A)	Type	Type
Al	Cu			
6328T000P	-	630	 Right Type 2	CRT
6328T001P	6628T000P	800		
6328T002P	6628T001P	1000		
6328T004P	6628T003P	1250		
6328T006P	6628T005P	1600		
6328T007P	6628T006P	2000		
6339T004P	6628T008P	2500		
6339T006P	6639T005P	3200		
6339T007P	6639T006P	4000		
6339T008P	6639T008P	5000		
-	6639T009P	6300		
6328T010P	-	630	 Left Type 1	CRT
6328T011P	6628T010P	800		
6328T012P	6628T011P	1000		
6328T014P	6628T013P	1250		
6328T016P	6628T015P	1600		
6328T017P	6628T016P	2000		
6339T014P	6628T018P	2500		
6339T016P	6639T015P	3200		
6339T017P	6639T016P	4000		
6339T018P	6639T018P	5000		
-	6639T019P	6300		

\* cast resin, air insulated or oil filled transformers

## Dimensions

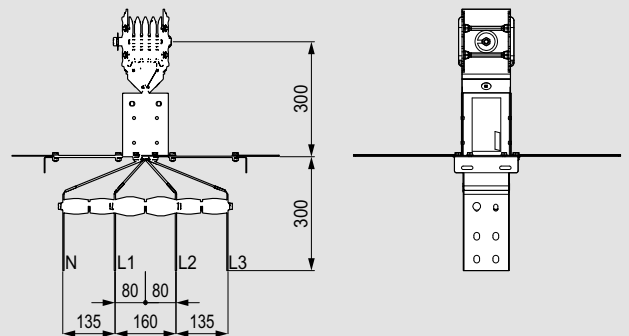
### Connection interfaces with exit bars

Special connection interfaces are used at the end of the lines to connect the busbar to dry transformers. They are available in right (without Monobloc) and left (with Monobloc fitted) versions. The drawings below refer to the standard versions. Different combinations are available on request (e.g.: length, centre distance between bar conductors, drilling, etc.)

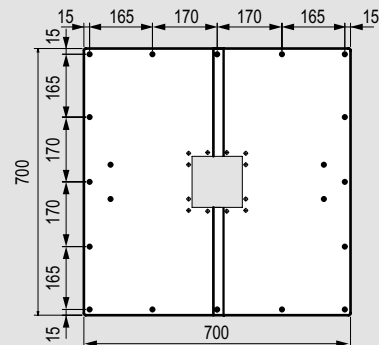


MIN AND MAX DIMENSIONS	
Single bar min/MAX	
U	300/400
A	200/1299
Double bar min/MAX	
U	300/400
A	200/1299
Triple bar min/MAX	
U	300/400
A	200/1299

Dimension H changes with the rating; it is specified in the technical information



### Flange size details



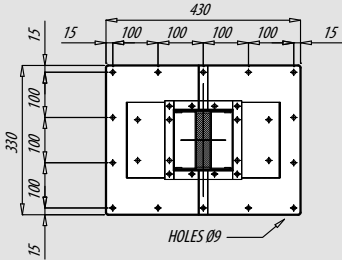
For the versions of XCP-HP 5000A Al and 6300A Cu, the dimensions are different. For more details please contact Legrand.

# Xtra Compact (XCP-HP)

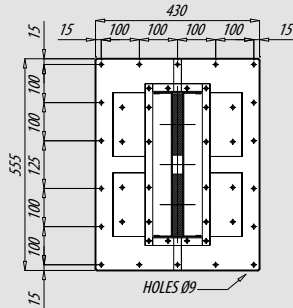
## dimensions

### Coverplate drilling details (1)

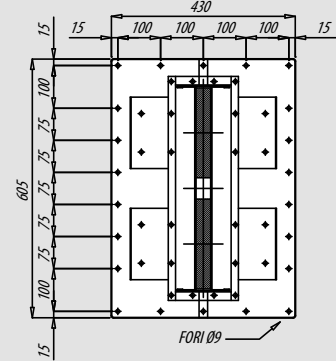
**Al** 630A–2000A  
**Cu** 800A–2500A



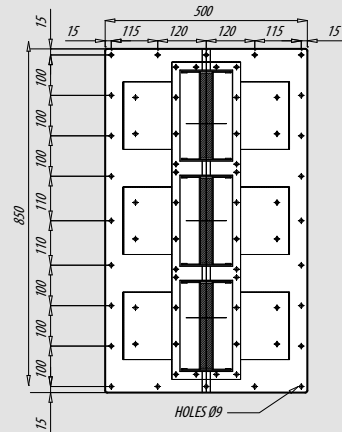
**Al** 2500A–3200A  
**Cu** 3200A–4000A



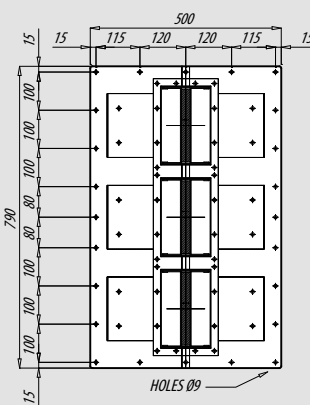
**Al** 4000A  
**Cu** 5000A



**Al** 5000A

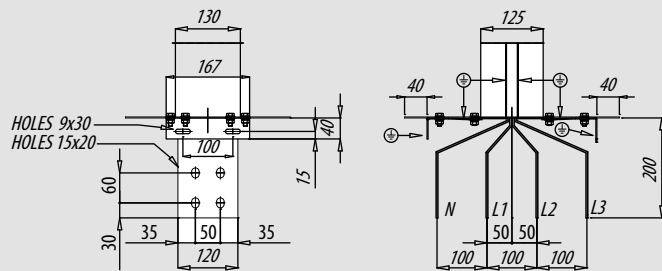


**Cu** 6300A

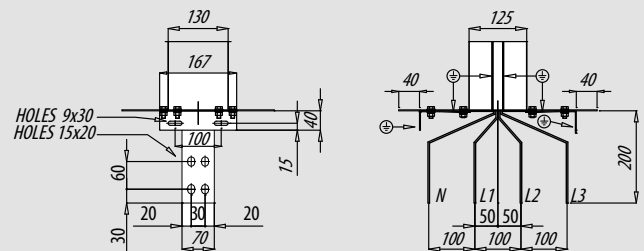


### Bar drilling details (2) Side and front view

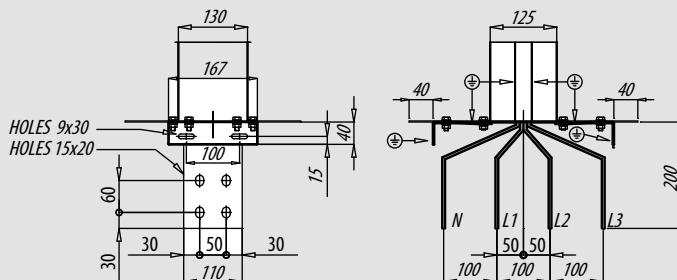
**Al** 630A–800A



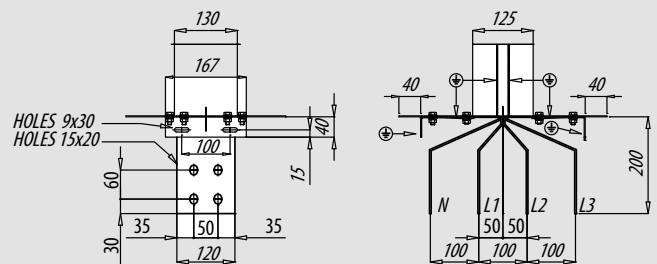
**Cu** 800A



**Al** 1000A



**Al** 1250A  
**Cu** 1000A–1250A



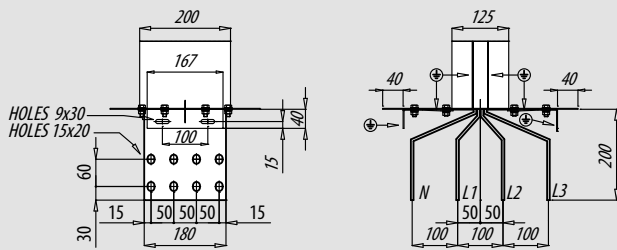
**X= 6** (Al 1250A)  
**3.3** (Cu 1000A)  
**3.9** (Cu 1250A)

# Xtra Compact (XCP-HP)

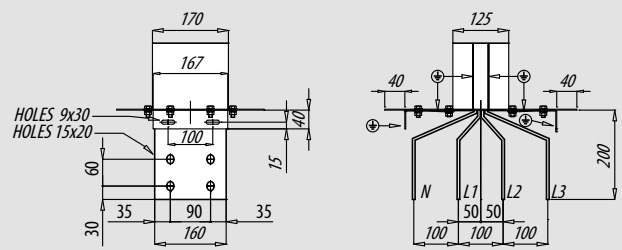
## dimensions

### ■ Bar drilling details (2) Side and front view

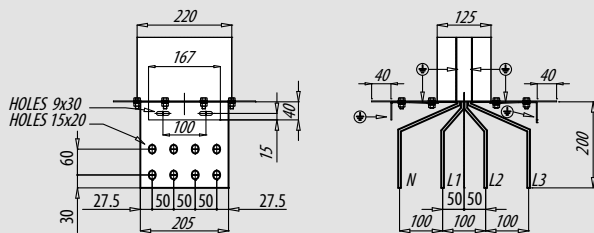
**Al 1600A**



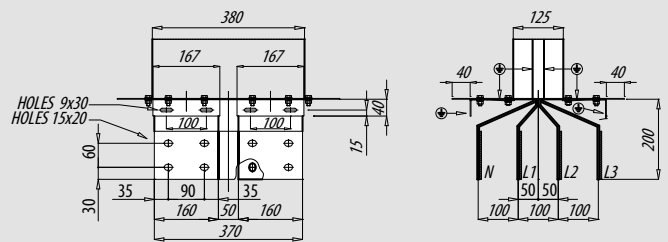
**Cu 1600A-2000A**



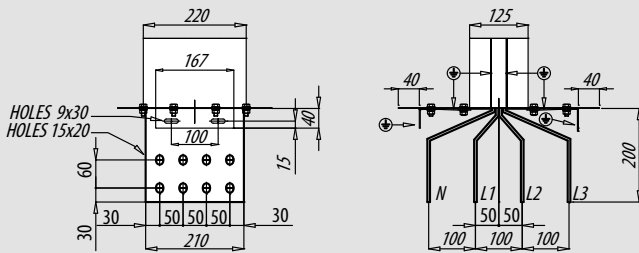
**Al 2000A**



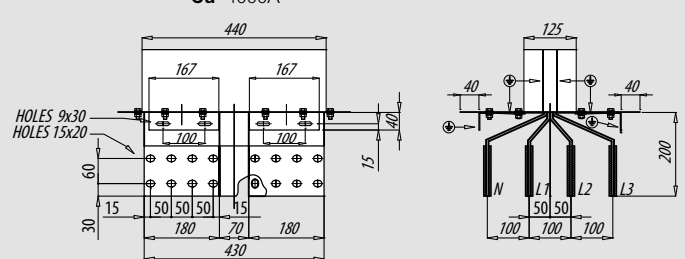
**Al 2500A  
Cu 3200A**



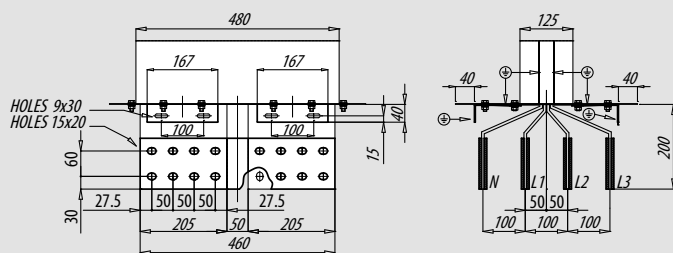
**Cu 2500A**



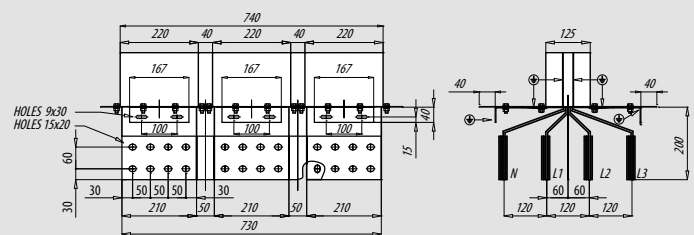
**Al 3200A  
Cu 4000A**



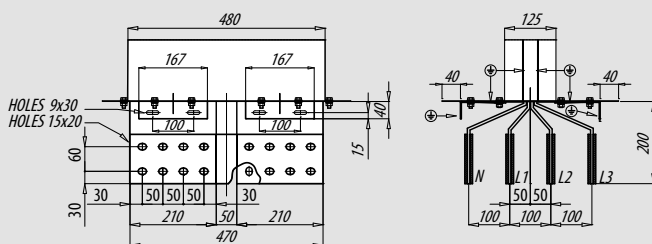
**Al 4000A**



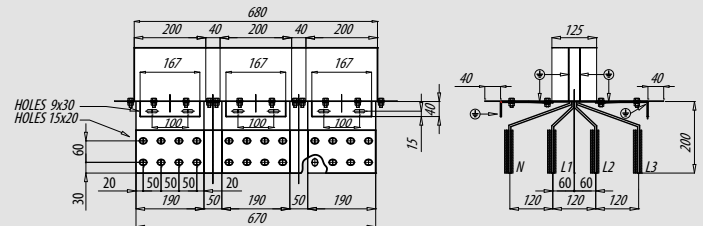
**Al 5000A**



**Cu 5000A**



**Cu 6300A**



# Xtra Compact (XCP-HP)

## technical information

### General features

XCP-HP line is available in the standard range:  
From **630A to 5000A with aluminum alloy** conductors and **from 800A to 6300A with copper conductors**

The extra-compact dimensions of the XCP-HP enhance **its resistance to short circuit stresses**; in addition, they can reduce the impedance of the circuit by controlling the voltage drops and allow for the installation of high power electrical systems, even in extremely confined spaces. XCP-HP is available with **a wide selection of tap-off boxes that range from 63A up to 1250A**, thus allowing you to locally protect and feed different types of loads by housing protective devices such as fuses, MCCBs and motorised switches

XCP-HP is not only in **compliance with the harmonised Standards IEC EN 61439-6** but also answers specifically to many clients needs for more severe conditions of use

Thus **the rated current of Legrand's busbar trunking systems is always referred to the average ambient temperature of up to 55 °C**. The nominal range of all XCP-HP is guaranteed both for horizontal installations (flat and edgewise) and for vertical installations without derating.

XCP-HP busbar trunking systems are designed so that they can be **maintenance-free**, except for the periodic and compulsory inspections required by the Standard IEC 60364

The tightening torque inspection of the junction can be carried out by qualified personnel, even when the busbar is energised.

### Structural features

The outer casing of the XCP-HP line consists of four C-ribbed section bars, bordered and riveted (thickness 1.5mm), **with excellent mechanical, electric and heat loss efficiency. The sheet metal is made of galvanized steel**, treated according to UNI EN10327 and **painted with RAL7035 resins with a high resistance to chemical agents**. **The standard degree of protection is IP55, on request IP65 (only for transport of energy)**; with certain accessories, it can also be installed outdoors.

The busbar conductors have a rectangular cross section with rounded corners; there are two versions:

- **Electrolytic copper ETP 99.9 UNI EN 13601**
- **Aluminum alloy** treated over the entire surface with **5 galvanic processes** (copper plating + tin plating)

The insulation between bars is ensured by a **double sheath made with polyester film** (total thickness 2x0.19 mm) **class B (130°C)**, (total thickness 2x0.23 mm) **class F (155°C)** thermal resistance available on request. All plastic components have a **V1 self-extinguishing degree**; they are fire retardant and comply with the glow-wire test according to standards. The XCP-HP line is **Halogen Free**. In order to facilitate storage operations especially to reduce the installation time, the straight elements, trunking **components** as well as all the components of the XCP-HP line are **supplied with a monobloc pre-installed at the factory**. The junction contact is ensured by **tin plated aluminium for XCP-HP Al and copper for XCP-HP Cu for each phase**, insulated with red **class F thermosetting plastic material**. The **monobloc** has **shear head bolts**: after tightening the nuts with a standard wrench, the outer head will break at the correct torque value, hence giving you the certainty that the connection has been made properly so as to guarantee safety and maximum performance over time.

Finally, in order to completely verify the insulation level, every finished product undergoes an **insulation test** (phase-phase, phase-PE) at the factory with a test voltage of 3500 Vac for 1.5 seconds. The test is performed on the finished product, completely assembled.

IP55 and IP65 is intended for internal use only, for outdoor applications a canopy designed by us or RCP resin IP68 busbar is needed.

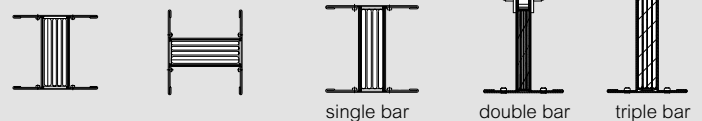
RATED CURRENT OF XCP-HP BARS (A)										
Al	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Single bar						Double bar			Triple bar	
Cu	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Single bar							Double bar		Triple bar	

### Standard versions:

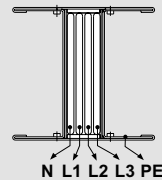
**XCP-HP line with 4 conductors**  
**3P+N+PE, 3P+PEN, 3P+FE+PE**

Note: For dimension H, see technical data section  
PE: Protection Earth  
FE: Functional Earth (Clean Earth)

Edgewise element    Flat element



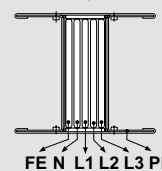
Phase sequence



**XCP-HP 5 line with 5 conductors**  
**3P+N+FE+PE**

Note: For dimension H, see technical data section  
PE: Protection Earth  
FE: Functional Earth (Clean Earth)

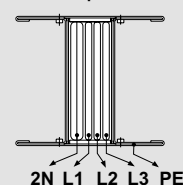
Phase sequence



**XCP-HP 2N 200% neutral line**  
**3P+2N+PE**

Note: For dimension H, see technical data section  
PE: Protection Earth  
2N : 200% neutral

Phase sequence



### GENERAL CORRECTION FACTOR FOR AMBIENT TEMPERATURES (Kt)

#### XCP-HP (AL)

Daily avg Ambient temperature	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C
Kt factor	1,38	1,34	1,31	1,28	1,25	1,21	1,18	1,15	1,11	1,07	1,04	1	0,96	0,92	0,88	0,84

#### XCP-HP (CU)

Daily avg Ambient temperature	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C
Kt factor	1,43	1,40	1,37	1,33	1,30	1,26	1,23	1,19	1,16	1,12	1,08	1,04	1	0,96	0,92	0,87



Special versions on request



# Xtra Compact (XCP-HP)

## technical data

### XCP-HP AI (4 Conductors)

3P+N+PE		SINGLE BAR						DOUBLE BAR			TRIPLE BAR
Rated current	In [A]	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Overall dimension of the busbars	L x H [mm]	125 x 130	125 x 130	125 x 130	125 x 130	125 x 200	125 x 220	125 x 380	125 x 440	125 x 480	125 x 740
Rated operational voltage	Ue [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	Ui [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	IcW [kA] <sub>rms</sub>	36	36	50	70	70	85	120	120	150	150
Peak current	Ipk [kA]	76	76	105	154	154	187	264	264	330	330
Allowable specific energy for three-phase fault	I²t [MA²s]	1296	1296	2500	4900	4900	7225	14400	14400	22500	22500
Rated short-time current of the neutral bar (1 s)	IcW [kA] <sub>rms</sub>	22	22	30	42	42	51	72	72	90	90
Peak current of the neutral bar	Ipk [kA]	45	45	63	88	88	112	158	158	198	198
Rated short-time current of the protective circuit (1 s)	IcW [kA] <sub>rms</sub>	22	22	30	42	42	51	72	72	90	90
Peak current of the protective circuit	Ipk [kA]	45	45	63	88	88	112	158	158	198	198
Phase resistance at 20°C	R20 [mΩ/m]	0,077	0,077	0,056	0,045	0,031	0,025	0,022	0,015	0,012	0,010
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,006	0,006	0,006	0,005
Phase impedance	Z [mΩ/m]	0,080	0,079	0,059	0,047	0,034	0,027	0,023	0,017	0,014	0,011
Phase resistance at thermal conditions	R [mΩ/m]	0,101	0,102	0,076	0,062	0,043	0,035	0,032	0,022	0,018	0,014
Phase impedance at thermal conditions	Z [mΩ/m]	0,104	0,103	0,078	0,064	0,045	0,037	0,032	0,023	0,019	0,015
Neutral resistance	R20 [mΩ/m]	0,077	0,077	0,056	0,045	0,031	0,025	0,022	0,015	0,012	0,010
Resistance of the protective bar (PE 1)	RPE [mΩ/m]	0,132	0,132	0,132	0,133	0,111	0,106	0,078	0,072	0,068	0,035
Resistance of the protective bar (PE 2)	RPE [mΩ/m]	0,049	0,049	0,049	0,049	0,032	0,029	0,019	0,016	0,014	0,010
Resistance of the protective bar (PE 3)	RPE [mΩ/m]	0,084	0,084	0,084	0,084	0,054	0,049	0,032	0,027	0,025	0,016
Reactance of the protective bar	XPE [mΩ/m]	0,080	0,078	0,078	0,048	0,039	0,028	0,020	0,015	0,016	0,014
Resistance of the fault loop (PE 1)	Ro [mΩ/m]	0,208	0,208	0,188	0,178	0,142	0,131	0,101	0,087	0,080	0,045
Resistance of the fault loop (PE 2)	Ro [mΩ/m]	0,126	0,126	0,106	0,094	0,063	0,054	0,041	0,031	0,027	0,019
Resistance of the fault loop (PE 3)	Ro [mΩ/m]	0,161	0,161	0,140	0,129	0,085	0,074	0,054	0,043	0,037	0,026
Reactance of the fault loop (50hz)	Xo [mΩ/m]	0,10	0,10	0,10	0,06	0,05	0,04	0,03	0,02	0,02	0,02
Impedance of the fault loop (PE 1)	Zo [mΩ/m]	0,232	0,229	0,210	0,189	0,151	0,137	0,104	0,089	0,083	0,049
Impedance of the fault loop (PE 2)	Zo [mΩ/m]	0,163	0,158	0,142	0,114	0,082	0,067	0,049	0,038	0,035	0,027
Impedance of the fault loop (PE 3)	Zo [mΩ/m]	0,191	0,187	0,169	0,144	0,100	0,084	0,060	0,047	0,043	0,032
Zero-sequence short-circuit average resistance phase - N	Ro [mΩ/m]	0,102	0,102	0,075	0,060	0,041	0,033	0,030	0,021	0,017	0,013
Zero-sequence short-circuit average reactance phase - N	Xo [mΩ/m]	0,031	0,023	0,023	0,020	0,019	0,015	0,008	0,008	0,008	0,007
Zero-sequence short-circuit average impedance phase - N	Zo [mΩ/m]	0,107	0,105	0,078	0,063	0,045	0,036	0,031	0,022	0,018	0,014
Zero-sequence short-circuit average resistance phase - PE	Ro [mΩ/m]	0,157	0,157	0,150	0,148	0,121	0,115	0,086	0,077	0,072	0,039
Zero-sequence short-circuit average reactance phase - PE	Xo [mΩ/m]	0,088	0,084	0,084	0,053	0,044	0,032	0,022	0,017	0,018	0,016
Zero-sequence short-circuit average impedance phase - PE	Zo [mΩ/m]	0,180	0,178	0,172	0,157	0,129	0,119	0,088	0,079	0,074	0,042
Voltage drop with distributed load ΔV [V/(m*A)]10 <sup>-6</sup>	cosφ = 0,70	75,6	72,1	56,5	47,0	34,7	27,9	23,0	17,2	14,6	11,5
	cosφ = 0,75	79,0	75,7	59,0	49,0	36,0	28,9	24,1	17,9	15,1	11,9
	cosφ = 0,80	82,1	79,2	61,3	50,9	37,1	29,9	25,1	18,5	15,6	12,2
	cosφ = 0,85	85,1	82,6	63,5	52,7	38,1	30,7	26,1	19,1	16,0	12,5
	cosφ = 0,90	87,7	85,6	65,5	54,2	38,8	31,3	27,0	19,6	16,3	12,7
	cosφ = 0,95	89,6	88,2	66,9	55,3	39,2	31,7	27,8	19,9	16,4	12,8
cosφ = 1,00	87,7	88,0	65,6	53,9	37,3	30,2	27,5	19,3	15,6	12,0	
Weight (PE 1)	p [kg/m]	16,0	16,0	17,8	19,3	25,4	29,4	37,7	47,3	54,3	91,0
Weight (PE 2)	p [kg/m]	19,3	19,3	21,1	22,6	30,5	35,0	46,4	57,6	65,7	108,0
Weight (PE 3)	p [kg/m]	17,1	17,1	18,9	20,3	27,1	31,2	40,5	50,7	58,0	96,5
Fire load	[kWh/m]	4,5	5,5	5,5	6,0	8,5	10,5	16,0	19,0	21,0	21,0
Degree of protection	IP	24,9	32,2	35,5	40,4	61,3	78,0	91,1	120,8	161,4	204,5
Insulation material thermal resistance class		5,625	6,875	6,875	10	10,25	13,125	20	23,75	26,25	27,25
Losses for the Joule effect at nominal current	P [W/m]	121	195	227	292	330	418	596	683	863	1042
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

\* IP65 for feeder lines is available by request

\*\* Class F available under request

For temperatures over 50°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.



PE 1  
Standard version



PE 2  
Extra earth - COPPER



PE 3  
Extra earth - ALUMINUM  
XCP AI 3L+N+50%PE  
(available on request)

# Xtra Compact (XCP-HP)

## technical data

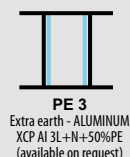
### XCP-HP AI (5 Conductors - clean earth)

3P+N+PE+FE	In [A]	SINGLE BAR						DOUBLE BAR			TRIPLE BAR
		630	800	1000	1250	1600	2000	2500	3200	4000	5000
Overall dimension of the busbars	L x H [mm]	125 x 130	125 x 130	125 x 130	125 x 130	125 x 200	125 x 220	125 x 380	125 x 440	125 x 480	125 x 740
Rated operational voltage	Ue [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	Ui [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	Icw [kA] <sub>rms</sub>	36	36	50	70	70	85	120	120	150	150
Peak current	Ipk [kA]	76	76	105	154	154	187	264	264	330	330
Allowable specific energy for three-phase fault	I²t [MA²s]	1296	1296	2500	4900	4900	7225	14400	14400	22500	22500
Rated short-time current of the neutral bar (1 s)	Icw [kA] <sub>rms</sub>	22	22	30	42	42	51	72	72	90	90
Peak current of the neutral bar	Ipk [kA]	45	45	63	88	88	112	158	158	198	198
Rated short-time current of the protective circuit (1 s)	Icw [kA] <sub>rms</sub>	22	22	30	42	42	51	72	72	90	90
Peak current of the protective circuit	Ipk [kA]	45	45	63	88	88	112	158	158	198	198
Phase resistance at 20°C	R20 [mΩ/m]	0,077	0,077	0,056	0,045	0,031	0,025	0,022	0,015	0,012	0,010
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,006	0,006	0,006	0,005
Phase impedance	Z [mΩ/m]	0,080	0,079	0,059	0,047	0,034	0,027	0,023	0,017	0,014	0,011
Phase resistance at thermal conditions	R [mΩ/m]	0,101	0,102	0,076	0,062	0,043	0,035	0,032	0,022	0,018	0,014
Phase impedance at thermal conditions	Z [mΩ/m]	0,104	0,103	0,078	0,064	0,045	0,037	0,032	0,023	0,019	0,015
Neutral resistance	R20 [mΩ/m]	0,077	0,077	0,056	0,045	0,031	0,025	0,022	0,015	0,012	0,010
Functional Earth resistance (FE)	R20 [mΩ/m]	0,077	0,077	0,056	0,045	0,031	0,025	0,022	0,015	0,012	0,010
Functional Earth reactance (FE)	X [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,006	0,006	0,006	0,005
Resistance of the protective bar (PE 1)	RPE [mΩ/m]	0,133	0,133	0,266	0,266	0,222	0,213	0,156	0,143	0,136	0,035
Resistance of the protective bar (PE 2)	RPE [mΩ/m]	0,049	0,049	0,049	0,049	0,032	0,029	0,019	0,016	0,014	0,010
Resistance of the protective bar (PE 3)	RPE [mΩ/m]	0,084	0,084	0,084	0,084	0,054	0,049	0,032	0,027	0,025	0,016
Reactance of the protective bar	XPE [mΩ/m]	0,080	0,078	0,078	0,048	0,039	0,028	0,020	0,015	0,016	0,014
Resistance of the fault loop (PE 1)	Ro [mΩ/m]	0,125	0,125	0,102	0,083	0,058	0,047	0,042	0,029	0,024	0,017
Resistance of the fault loop (PE 2)	Ro [mΩ/m]	0,107	0,107	0,082	0,069	0,047	0,038	0,033	0,023	0,019	0,014
Resistance of the fault loop (PE 3)	Ro [mΩ/m]	0,117	0,117	0,090	0,074	0,051	0,042	0,036	0,025	0,021	0,016
Reactance of the fault loop (50hz)	Xo [mΩ/m]	0,10	0,10	0,10	0,06	0,05	0,04	0,03	0,02	0,02	0,02
Impedance of the fault loop (PE 1)	Zo [mΩ/m]	0,162	0,157	0,140	0,105	0,079	0,061	0,049	0,036	0,032	0,026
Impedance of the fault loop (PE 2)	Zo [mΩ/m]	0,148	0,143	0,126	0,093	0,071	0,055	0,042	0,031	0,029	0,024
Impedance of the fault loop (PE 3)	Zo [mΩ/m]	0,156	0,151	0,131	0,097	0,073	0,057	0,044	0,033	0,030	0,025
Zero-sequence short-circuit average resistance phase - N	Ro [mΩ/m]	0,102	0,102	0,075	0,060	0,041	0,033	0,030	0,021	0,017	0,013
Zero-sequence short-circuit average reactance phase - N	Xo [mΩ/m]	0,031	0,023	0,023	0,020	0,019	0,015	0,008	0,008	0,008	0,007
Zero-sequence short-circuit average impedance phase - N	Zo [mΩ/m]	0,107	0,105	0,078	0,063	0,045	0,036	0,031	0,022	0,018	0,014
Zero-sequence short-circuit average resistance phase - PE	Ro [mΩ/m]	0,102	0,102	0,075	0,060	0,041	0,033	0,030	0,021	0,017	0,013
Zero-sequence short-circuit average reactance phase - PE	Xo [mΩ/m]	0,031	0,023	0,023	0,020	0,019	0,015	0,008	0,008	0,008	0,007
Zero-sequence short-circuit average impedance phase - PE	Zo [mΩ/m]	0,107	0,105	0,078	0,063	0,045	0,036	0,031	0,022	0,018	0,014
Voltage drop with distributed load ΔV [V/(m*A)]10 <sup>-6</sup>	cosφ = 0,70	75,6	72,1	56,5	47,0	34,7	27,9	23,0	17,2	14,6	11,5
	cosφ = 0,75	79,0	75,7	59,0	49,0	36,0	28,9	24,1	17,9	15,1	11,9
	cosφ = 0,80	82,1	79,2	61,3	50,9	37,1	29,9	25,1	18,5	15,6	12,2
	cosφ = 0,85	85,1	82,6	63,5	52,7	38,1	30,7	26,1	19,1	16,0	12,5
	cosφ = 0,90	87,7	85,6	65,5	54,2	38,8	31,3	27,0	19,6	16,3	12,7
	cosφ = 0,95	89,6	88,2	66,9	55,3	39,2	31,7	27,8	19,9	16,4	12,8
cosφ = 1,00	87,7	88,0	65,6	53,9	37,3	30,2	27,5	19,3	15,6	12,0	
Weight (PE 1)	p [kg/m]	17,5	17,5	19,7	21,7	28,8	33,6	42,8	54,4	62,9	102,2
Weight (PE 2)	p [kg/m]	20,8	20,8	23,0	25,0	34,0	39,3	51,5	64,7	74,2	119,2
Weight (PE 3)	p [kg/m]	21,0	18,6	20,8	22,7	30,5	35,5	45,6	57,7	66,6	107,8
Fire load	[kWh/m]	5,6	6,9	6,9	7,5	10,6	13,1	20,0	23,8	26,3	27,3
Degree of protection	IP	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	P [W/m]	121	195	227	292	330	418	596	683	863	1042
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

\* IP65 for feeder lines is available by request  
 \*\* Class F available under request

For temperatures over 50°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.



# Xtra Compact (XCP-HP)

## technical data

### XCP-HP AI (5 Conductors - double neutral)

3P+2N+PE		SINGLE BAR						DOUBLE BAR			TRIPLE BAR
		630	800	1000	1250	1600	2000	2500	3200	4000	5000
Rated current	In [A]										
Overall dimension of the busbars	L x H [mm]	125 x 130	125 x 130	125 x 130	125 x 130	125 x 200	125 x 220	125 x 380	125 x 440	125 x 480	125 x 740
Rated operational voltage	Ue [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	Ui [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	Icw [kA] <sub>rms</sub>	36	36	50	70	70	85	120	120	150	150
Peak current	Ipk [kA]	76	76	105	154	154	187	264	264	330	330
Allowable specific energy for three-phase fault	I²t [MA²s]	1296	1296	2500	4900	4900	7225	14400	14400	22500	22500
Rated short-time current of the neutral bar (1 s)	Icw [kA] <sub>rms</sub>	22	22	30	42	42	51	72	72	90	90
Peak current of the neutral bar	Ipk [kA]	45	45	63	88	88	112	158	158	198	198
Rated short-time current of the protective circuit (1 s)	Icw [kA] <sub>rms</sub>	22	22	30	42	42	51	72	72	90	90
Peak current of the protective circuit	Ipk [kA]	45	45	63	88	88	112	158	158	198	198
Phase resistance at 20°C	R20 [mΩ/m]	0,077	0,077	0,056	0,045	0,031	0,025	0,022	0,015	0,012	0,010
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,006	0,006	0,006	0,005
Phase impedance	Z [mΩ/m]	0,080	0,079	0,059	0,047	0,034	0,027	0,023	0,017	0,014	0,011
Phase resistance at thermal conditions	R [mΩ/m]	0,101	0,102	0,076	0,062	0,043	0,035	0,032	0,022	0,018	0,014
Phase impedance at thermal conditions	Z [mΩ/m]	0,104	0,103	0,078	0,064	0,045	0,037	0,032	0,023	0,019	0,015
Neutral resistance	R20 [mΩ/m]	0,038	0,038	0,028	0,022	0,015	0,012	0,011	0,008	0,006	0,005
Resistance of the protective bar (PE 1)	RPE [mΩ/m]	0,133	0,133	0,266	0,266	0,222	0,213	0,156	0,143	0,136	0,035
Resistance of the protective bar (PE 2)	RPE [mΩ/m]	0,049	0,049	0,049	0,049	0,032	0,029	0,019	0,016	0,014	0,010
Resistance of the protective bar (PE 3)	RPE [mΩ/m]	0,084	0,084	0,084	0,084	0,054	0,049	0,032	0,027	0,025	0,016
Reactance of the protective bar	XPE [mΩ/m]	0,080	0,078	0,078	0,048	0,039	0,028	0,020	0,015	0,016	0,014
Resistance of the fault loop (PE 1)	Ro [mΩ/m]	0,210	0,210	0,322	0,311	0,253	0,238	0,179	0,158	0,148	0,045
Resistance of the fault loop (PE 2)	Ro [mΩ/m]	0,126	0,126	0,106	0,094	0,063	0,054	0,041	0,031	0,027	0,019
Resistance of the fault loop (PE 3)	Ro [mΩ/m]	0,161	0,161	0,140	0,129	0,085	0,074	0,054	0,043	0,037	0,026
Reactance of the fault loop (50hz)	Xo [mΩ/m]	0,10	0,10	0,10	0,06	0,05	0,04	0,03	0,02	0,02	0,02
Impedance of the fault loop (PE 1)	Zo [mΩ/m]	0,234	0,230	0,336	0,318	0,258	0,241	0,181	0,160	0,150	0,049
Impedance of the fault loop (PE 2)	Zo [mΩ/m]	0,163	0,158	0,142	0,114	0,082	0,067	0,049	0,038	0,035	0,027
Impedance of the fault loop (PE 3)	Zo [mΩ/m]	0,191	0,187	0,169	0,144	0,100	0,084	0,060	0,047	0,043	0,032
Zero-sequence short-circuit average resistance phase - N	Ro [mΩ/m]	0,064	0,064	0,047	0,037	0,026	0,021	0,019	0,013	0,010	0,008
Zero-sequence short-circuit average reactance phase - N	Xo [mΩ/m]	0,019	0,014	0,014	0,013	0,012	0,009	0,005	0,005	0,005	0,004
Zero-sequence short-circuit average impedance phase - N	Zo [mΩ/m]	0,247	0,225	0,225	0,212	0,206	0,228	0,159	0,177	0,114	0,114
Zero-sequence short-circuit average resistance phase - PE	Ro [mΩ/m]	0,157	0,157	0,150	0,148	0,121	0,115	0,086	0,077	0,072	0,039
Zero-sequence short-circuit average reactance phase - PE	Xo [mΩ/m]	0,088	0,084	0,084	0,053	0,044	0,032	0,022	0,017	0,018	0,016
Zero-sequence short-circuit average impedance phase - PE	Zo [mΩ/m]	0,180	0,178	0,172	0,157	0,129	0,119	0,088	0,079	0,074	0,042
Voltage drop with distributed load ΔV [V/(m²A)]10 <sup>-6</sup>	cosφ = 0,70	75,6	72,1	56,5	47,0	34,7	27,9	23,0	17,2	14,6	11,5
	cosφ = 0,75	79,0	75,7	59,0	49,0	36,0	28,9	24,1	17,9	15,1	11,9
	cosφ = 0,80	82,1	79,2	61,3	50,9	37,1	29,9	25,1	18,5	15,6	12,2
	cosφ = 0,85	85,1	82,6	63,5	52,7	38,1	30,7	26,1	19,1	16,0	12,5
	cosφ = 0,90	87,7	85,6	65,5	54,2	38,8	31,3	27,0	19,6	16,3	12,7
	cosφ = 0,95	89,6	88,2	66,9	55,3	39,2	31,7	27,8	19,9	16,4	12,8
	cosφ = 1,00	87,7	88,0	65,6	53,9	37,3	30,2	27,5	19,3	15,6	12,0
Weight (PE 1)	p [kg/m]	17,5	17,5	19,7	21,7	28,8	33,6	42,8	54,4	62,9	102,2
Weight (PE 2)	p [kg/m]	20,8	20,8	23,0	25,0	34,0	39,3	51,5	64,7	74,2	119,2
Weight (PE 3)	p [kg/m]	21,0	18,6	20,8	22,7	30,5	35,5	45,6	57,7	66,6	107,8
Fire load	[kWh/m]	5,6	6,9	6,9	7,5	10,6	13,1	20,0	23,8	26,3	27,3
Degree of protection	IP	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*	55 /65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	P [W/m]	121	195	227	292	330	418	596	683	863	1042
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

\* IP65 for feeder lines is available by request

\*\* Class F available under request

For temperatures over 50°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.



PE 1  
Standard version



PE 2  
Extra earth - COPPER



PE 3  
Extra earth - ALUMINUM  
XCP AI 3L+N+50%PE  
(available on request)

# Xtra Compact (XCP-HP)

## technical data

### XCP-HP AI (3 Conductors)

3P+PE		SINGLE BAR						DOUBLE BAR			TRIPLE BAR
		630	800	1000	1250	1600	2000	2500	3200	4000	5000
Rated current	$I_n$ [A]	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Overall dimension of the busbars	L x H [mm]	125 x 130	125 x 130	125 x 130	125 x 130	125 x 200	125 x 220	125 x 380	125 x 440	125 x 480	125 x 740
Rated operational voltage	$U_e$ [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	$U_i$ [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	$I_{cw}$ [kA] <sub>rms</sub>	36	36	50	70	70	85	120	120	150	150
Peak current	$I_{pk}$ [kA]	76	76	105	154	154	187	264	264	330	330
Allowable specific energy for three-phase fault	$I^2t$ [MA <sup>2</sup> s]	1296	1296	2500	4900	4900	7225	14400	14400	22500	22500
Rated short-time current of the protective circuit (1 s)	$I_{cw}$ [kA] <sub>rms</sub>	22	22	30	42	42	51	72	72	90	90
Peak current of the protective circuit	$I_{pk}$ [kA]	45	45	63	88	88	112	158	158	198	198
Phase resistance at 20°C	$R_{20}$ [mΩ/m]	0,077	0,077	0,056	0,045	0,031	0,025	0,022	0,015	0,012	0,010
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,006	0,006	0,006	0,005
Phase impedance	Z [mΩ/m]	0,080	0,079	0,059	0,047	0,034	0,027	0,023	0,017	0,014	0,011
Phase resistance at thermal conditions	R [mΩ/m]	0,101	0,102	0,076	0,062	0,043	0,035	0,032	0,022	0,018	0,014
Phase impedance at thermal conditions	Z [mΩ/m]	0,104	0,103	0,078	0,064	0,045	0,037	0,032	0,023	0,019	0,015
Resistance of the protective bar (PE 1)	$R_{PE}$ [mΩ/m]	0,132	0,132	0,132	0,133	0,111	0,106	0,078	0,072	0,068	0,035
Resistance of the protective bar (PE 2)	$R_{PE}$ [mΩ/m]	0,049	0,049	0,049	0,049	0,032	0,029	0,019	0,016	0,014	0,010
Resistance of the protective bar (PE 3)	$R_{PE}$ [mΩ/m]	0,084	0,084	0,084	0,084	0,054	0,049	0,032	0,027	0,025	0,016
Reactance of the protective bar	$X_{PE}$ [mΩ/m]	0,080	0,078	0,078	0,048	0,039	0,028	0,020	0,015	0,016	0,014
Resistance of the fault loop (PE 1)	$R_o$ [mΩ/m]	0,208	0,208	0,188	0,178	0,142	0,131	0,101	0,087	0,080	0,045
Resistance of the fault loop (PE 2)	$R_o$ [mΩ/m]	0,126	0,126	0,106	0,094	0,063	0,054	0,041	0,031	0,027	0,019
Resistance of the fault loop (PE 3)	$R_o$ [mΩ/m]	0,161	0,161	0,140	0,129	0,085	0,074	0,054	0,043	0,037	0,026
Reactance of the fault loop (50hz)	$X_o$ [mΩ/m]	0,10	0,10	0,10	0,06	0,05	0,04	0,03	0,02	0,02	0,02
Impedance of the fault loop (PE 1)	$Z_o$ [mΩ/m]	0,232	0,229	0,210	0,189	0,151	0,137	0,104	0,089	0,083	0,049
Impedance of the fault loop (PE 2)	$Z_o$ [mΩ/m]	0,163	0,158	0,142	0,114	0,082	0,067	0,049	0,038	0,035	0,027
Impedance of the fault loop (PE 3)	$Z_o$ [mΩ/m]	0,191	0,187	0,169	0,144	0,100	0,084	0,060	0,047	0,043	0,032
Zero-sequence short-circuit average resistance phase - PE	$R_o$ [mΩ/m]	0,157	0,157	0,150	0,148	0,121	0,115	0,086	0,077	0,072	0,039
Zero-sequence short-circuit average reactance phase - PE	$X_o$ [mΩ/m]	0,088	0,084	0,084	0,053	0,044	0,032	0,022	0,017	0,018	0,016
Zero-sequence short-circuit average impedance phase - PE	$Z_o$ [mΩ/m]	0,180	0,178	0,172	0,157	0,129	0,119	0,088	0,079	0,074	0,042
Voltage drop with distributed load $\Delta V$ [V/(m <sup>2</sup> A)]10 <sup>-6</sup>	$\cos\phi = 0,70$	75,6	72,1	56,5	47,0	34,7	27,9	23,0	17,2	14,6	11,5
	$\cos\phi = 0,75$	79,0	75,7	59,0	49,0	36,0	28,9	24,1	17,9	15,1	11,9
	$\cos\phi = 0,80$	82,1	79,2	61,3	50,9	37,1	29,9	25,1	18,5	15,6	12,2
	$\cos\phi = 0,85$	85,1	82,6	63,5	52,7	38,1	30,7	26,1	19,1	16,0	12,5
	$\cos\phi = 0,90$	87,7	85,6	65,5	54,2	38,8	31,3	27,0	19,6	16,3	12,7
	$\cos\phi = 0,95$	89,6	88,2	66,9	55,3	39,2	31,7	27,8	19,9	16,4	12,8
$\cos\phi = 1,00$	87,7	88,0	65,6	53,9	37,3	30,2	27,5	19,3	15,6	12,0	
Weight (PE 1)	$\rho$ [kg/m]	14,5	14,5	15,8	16,9	22,0	25,1	32,6	40,2	45,8	79,7
Weight (PE 2)	$\rho$ [kg/m]	17,8	17,8	19,1	20,2	27,1	30,8	41,3	50,5	57,1	96,7
Weight (PE 3)	$\rho$ [kg/m]	15,5	15,5	16,9	18,0	23,6	27,0	35,4	43,6	49,5	85,2
Fire load	[kWh/m]	3,4	4,1	4,1	4,5	6,4	7,9	12,0	14,3	15,8	14,8
Degree of protection	IP	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	P [W/m]	121	195	227	292	330	418	596	683	863	1042
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

\* IP65 for feeder lines is available by request  
 \*\* Class F available under request

For temperatures over 50°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.



PE 1  
Standard version



PE 2  
Extra earth - COPPER



PE 3  
Extra earth - ALUMINUM  
XCP AI 3L+N+50%PE  
(available on request)

# Xtra Compact (XCP-HP)

## technical data

### XCP-HP CU (4 Conductors)

3P+N+PE		SINGLE BAR						DOUBLE BAR			TRIPLE BAR
		800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Rated current	$I_n$ [A]										
Overall dimension of the busbars	$L \times H$ [mm]	125 x 130	125 x 130	125 x 130	125 x 170	125 x 170	125 x 220	125 x 380	125 x 440	125 x 480	125 x 680
Rated operational voltage	$U_e$ [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	$U_i$ [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	$f$ [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	$I_{CW}$ [kA] <sub>rms</sub>	36	50	70	70	85	120	120	150	150	150
Peak current	$I_{pk}$ [kA]	76	105	154	154	187	264	264	330	330	330
Allowable specific energy for three-phase fault	$I^2t$ [MA <sup>2</sup> s]	1296	2500	4900	4900	7225	14400	14400	22500	22500	22500
Rated short-time current of the neutral bar (1 s)	$I_{CW}$ [kA] <sub>rms</sub>	22	30,0	42	42	51	72	72	90	90	90
Peak current of the neutral bar	$I_{pk}$ [kA]	45	63	88	88	112	158	158	198	198	198
Rated short-time current of the protective circuit (1 s)	$I_{CW}$ [kA] <sub>rms</sub>	22	30,0	42	42	51	72	72	90	90	90
Peak current of the protective circuit	$I_{pk}$ [kA]	45	63	88	88	112	158	158	198	198	198
Phase resistance at 20°C	$R_{20}$ [mΩ/m]	0,077	0,045	0,038	0,034	0,018	0,015	0,013	0,009	0,006	0,006
Phase reactance (50hz)	$X$ [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,007	0,006	0,006	0,004
Phase impedance	$Z$ [mΩ/m]	0,080	0,048	0,042	0,037	0,023	0,018	0,015	0,011	0,009	0,007
Phase resistance at thermal conditions	$R$ [mΩ/m]	0,100	0,055	0,048	0,044	0,024	0,019	0,017	0,012	0,009	0,008
Phase impedance at thermal conditions	$Z$ [mΩ/m]	0,103	0,058	0,051	0,047	0,028	0,022	0,019	0,014	0,011	0,009
Neutral resistance	$R_{20}$ [mΩ/m]	0,077	0,045	0,038	0,034	0,018	0,015	0,013	0,009	0,006	0,006
Resistance of the protective bar (PE 1)	$R_{PE}$ [mΩ/m]	0,132	0,132	0,132	0,119	0,119	0,106	0,078	0,072	0,068	0,037
Resistance of the protective bar (PE 2)	$R_{PE}$ [mΩ/m]	0,049	0,049	0,049	0,038	0,038	0,014	0,019	0,016	0,014	0,011
Resistance of the protective bar (PE 3)	$R_{PE}$ [mΩ/m]	0,084	0,084	0,084	0,064	0,064	0,025	0,032	0,025	0,023	0,018
Reactance of the protective bar	$X_{PE}$ [mΩ/m]	0,054	0,054	0,054	0,044	0,044	0,032	0,022	0,017	0,016	0,014
Resistance of the fault loop (PE 1)	$R_o$ [mΩ/m]	0,209	0,176	0,170	0,153	0,137	0,121	0,091	0,081	0,074	0,043
Resistance of the fault loop (PE 2)	$R_o$ [mΩ/m]	0,126	0,094	0,087	0,072	0,056	0,029	0,032	0,025	0,021	0,016
Resistance of the fault loop (PE 3)	$R_o$ [mΩ/m]	0,16	0,13	0,12	0,10	0,08	0,04	0,05	0,03	0,03	0,02
Reactance of the fault loop (50hz)	$X_o$ [mΩ/m]	0,077	0,071	0,071	0,059	0,058	0,043	0,029	0,023	0,022	0,018
Impedance of the fault loop (PE 1)	$Z_o$ [mΩ/m]	0,222	0,190	0,184	0,164	0,149	0,129	0,096	0,084	0,078	0,046
Impedance of the fault loop (PE 2)	$Z_o$ [mΩ/m]	0,148	0,118	0,113	0,093	0,081	0,052	0,043	0,034	0,030	0,024
Impedance of the fault loop (PE 3)	$Z_o$ [mΩ/m]	0,179	0,147	0,141	0,114	0,101	0,058	0,054	0,042	0,037	0,030
Zero-sequence short-circuit average resistance phase - N	$R_o$ [mΩ/m]	0,103	0,060	0,050	0,045	0,025	0,020	0,018	0,012	0,009	0,008
Zero-sequence short-circuit average reactance phase - N	$X_o$ [mΩ/m]	0,031	0,023	0,023	0,020	0,019	0,015	0,009	0,008	0,008	0,005
Zero-sequence short-circuit average impedance phase - N	$Z_o$ [mΩ/m]	0,107	0,064	0,055	0,050	0,031	0,025	0,020	0,015	0,012	0,009
Zero-sequence short-circuit average resistance phase - PE	$R_o$ [mΩ/m]	0,157	0,147	0,144	0,130	0,125	0,111	0,083	0,075	0,070	0,039
Zero-sequence short-circuit average reactance phase - PE	$X_o$ [mΩ/m]	0,062	0,060	0,060	0,049	0,049	0,036	0,024	0,019	0,018	0,015
Zero-sequence short-circuit average impedance phase - PE	$Z_o$ [mΩ/m]	0,2	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,1	0,0
Voltage drop with distributed load $\Delta V$ [V/(m <sup>2</sup> A)]10 <sup>-6</sup>	$\cos\phi = 0,70$	74,9	43,9	39,4	36,1	23,3	18,5	14,8	11,1	9,0	7,1
	$\cos\phi = 0,75$	78,2	45,5	40,7	37,3	23,7	18,8	15,2	11,4	9,1	7,2
	$\cos\phi = 0,80$	81,3	47,0	41,9	38,4	24,0	19,0	15,6	11,6	9,1	7,3
	$\cos\phi = 0,85$	84,1	48,3	42,9	39,4	24,1	19,2	15,9	11,8	9,1	7,4
	$\cos\phi = 0,90$	86,7	49,3	43,6	40,1	24,1	19,1	16,1	11,8	9,0	7,4
	$\cos\phi = 0,95$	88,5	49,9	43,9	40,4	23,6	18,8	16,1	11,7	8,7	7,3
$\cos\phi = 1,00$	86,7	47,7	41,3	38,3	20,9	16,6	14,9	10,6	7,5	6,6	
Weight (PE 1)	$p$ [kg/m]	21,2	26,9	29,6	33,5	50,4	62,2	74,2	97,9	130,3	173,6
Weight (PE 2)	$p$ [kg/m]	24,5	30,2	32,9	37,8	54,8	73,6	83,0	108,2	141,6	189,1
Weight (PE 3)	$p$ [kg/m]	22,3	28,0	30,7	34,9	51,8	65,9	77,1	101,5	134,2	178,7
Fire load	[kWh/m]	4,5	5,5	5,5	8	8,2	10,5	16	19	21	22
Degree of protection	IP	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	$P$ [W/m]	192	165	224	339	289	360	529	588	648	901
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

\* IP65 for feeder lines is available by request  
 \*\* Class F available under request

For temperatures over 55°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.



**PE 1**  
Standard version



**PE 2**  
Extra earth - COPPER XCP Cu 3L+N+50%PE  
(tinned copper conductors available on request)



**PE 3**  
Extra earth - ALUMINUM



# Xtra Compact (XCP-HP)

technical data (continued)

## XCP-HP CU (5 Conductors - clean earth)

3P+N+PE+FE		SINGLE BAR						DOUBLE BAR			TRIPLE BAR
		800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Rated current	In [A]										
Overall dimension of the busbars	L x H [mm]	125 x 130	125 x 130	125 x 130	125 x 170	125 x 170	125 x 220	125 x 380	125 x 440	125 x 480	125 x 680
Rated operational voltage	Ue [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	Ui [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	I <sub>cw</sub> [kA] <sub>rms</sub>	36	50	70	70	85	120	120	150	150	150
Peak current	I <sub>pk</sub> [kA]	76	105	154	154	187	264	264	330	330	330
Allowable specific energy for three-phase fault	I <sup>2</sup> t [MA <sup>2</sup> s]	1296	2500	4900	4900	7225	14400	14400	22500	22500	22500
Rated short-time current of the neutral bar (1 s)	I <sub>cn</sub> [kA] <sub>rms</sub>	22	30	42	42	51	72	72	90	90	90
Peak current of the neutral bar	I <sub>pn</sub> [kA]	45	63	88	88	112	158	158	198	198	198
Rated short-time current of the protective circuit (1 s)	I <sub>cn</sub> [kA] <sub>rms</sub>	22	30	42	42	51	72	72	90	90	90
Peak current of the protective circuit	I <sub>pn</sub> [kA]	45	63	88	88	112	158	158	198	198	198
Phase resistance at 20°C	R <sub>20</sub> [mΩ/m]	0,077	0,045	0,038	0,034	0,018	0,015	0,013	0,009	0,006	0,006
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,007	0,006	0,006	0,004
Phase impedance	Z [mΩ/m]	0,080	0,048	0,042	0,037	0,023	0,018	0,015	0,011	0,009	0,007
Phase resistance at thermal conditions	R [mΩ/m]	0,100	0,055	0,048	0,044	0,024	0,019	0,017	0,012	0,009	0,008
Phase impedance at thermal conditions	Z [mΩ/m]	0,103	0,058	0,051	0,047	0,028	0,022	0,019	0,014	0,011	0,009
Neutral resistance	R <sub>20</sub> [mΩ/m]	0,077	0,045	0,038	0,034	0,018	0,015	0,013	0,009	0,006	0,006
Functional Earth resistance (FE)	R <sub>20</sub> [mΩ/m]	0,077	0,045	0,038	0,034	0,018	0,015	0,013	0,009	0,006	0,006
Functional Earth reactance (FE)	X [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,007	0,006	0,006	0,004
Resistance of the protective bar (PE 1)	R <sub>PE</sub> [mΩ/m]	0,132	0,132	0,132	0,119	0,122	0,108	0,078	0,072	0,068	0,037
Resistance of the protective bar (PE 2)	R <sub>PE</sub> [mΩ/m]	0,049	0,049	0,049	0,038	0,038	0,014	0,019	0,016	0,014	0,011
Resistance of the protective bar (PE 3)	R <sub>PE</sub> [mΩ/m]	0,084	0,084	0,084	0,064	0,064	0,025	0,032	0,025	0,023	0,021
Reactance of the protective bar	X <sub>PE</sub> [mΩ/m]	0,054	0,054	0,054	0,044	0,044	0,032	0,022	0,017	0,016	0,014
Resistance of the fault loop (PE 1)	R <sub>o</sub> [mΩ/m]	0,126	0,078	0,067	0,060	0,035	0,028	0,024	0,018	0,012	0,011
Resistance of the fault loop (PE 2)	R <sub>o</sub> [mΩ/m]	0,107	0,068	0,059	0,052	0,031	0,022	0,021	0,015	0,011	0,009
Resistance of the fault loop (PE 3)	R <sub>o</sub> [mΩ/m]	0,12	0,07	0,06	0,06	0,03	0,02	0,02	0,02	0,01	0,01
Reactance of the fault loop (50hz)	X <sub>o</sub> [mΩ/m]	0,077	0,071	0,071	0,059	0,058	0,043	0,029	0,023	0,022	0,018
Impedance of the fault loop (PE 1)	Z <sub>o</sub> [mΩ/m]	0,147	0,106	0,098	0,084	0,067	0,051	0,038	0,029	0,025	0,021
Impedance of the fault loop (PE 2)	Z <sub>o</sub> [mΩ/m]	0,132	0,098	0,093	0,079	0,066	0,048	0,036	0,028	0,025	0,020
Impedance of the fault loop (PE 3)	Z <sub>o</sub> [mΩ/m]	0,140	0,102	0,096	0,081	0,067	0,049	0,037	0,028	0,025	0,021
Zero-sequence short-circuit average resistance phase - N	R <sub>o</sub> [mΩ/m]	0,103	0,060	0,050	0,045	0,025	0,020	0,018	0,012	0,009	0,008
Zero-sequence short-circuit average reactance phase - N	X <sub>o</sub> [mΩ/m]	0,031	0,023	0,023	0,020	0,019	0,015	0,009	0,008	0,008	0,005
Zero-sequence short-circuit average impedance phase - N	Z <sub>o</sub> [mΩ/m]	0,107	0,064	0,055	0,050	0,031	0,025	0,020	0,015	0,012	0,009
Zero-sequence short-circuit average resistance phase - PE	R <sub>o</sub> [mΩ/m]	0,103	0,060	0,050	0,045	0,025	0,020	0,018	0,012	0,009	0,008
Zero-sequence short-circuit average reactance phase - PE	X <sub>o</sub> [mΩ/m]	0,031	0,023	0,023	0,020	0,019	0,015	0,009	0,008	0,008	0,005
Zero-sequence short-circuit average impedance phase - PE	Z <sub>o</sub> [mΩ/m]	0,107	0,064	0,055	0,050	0,031	0,025	0,020	0,015	0,012	0,009
Voltage drop with distributed load ΔV [V/(m <sup>2</sup> A)]10 <sup>-6</sup>	cosφ = 0,70	74,9	43,9	39,4	36,1	23,3	18,5	14,8	11,1	9,0	7,1
	cosφ = 0,75	78,2	45,5	40,7	37,3	23,7	18,8	15,2	11,4	9,1	7,2
	cosφ = 0,80	81,3	47,0	41,9	38,4	24,0	19,0	15,6	11,6	9,1	7,3
	cosφ = 0,85	84,1	48,3	42,9	39,4	24,1	19,2	15,9	11,8	9,1	7,4
	cosφ = 0,90	86,7	49,3	43,6	40,1	24,1	19,1	16,1	11,8	9,0	7,4
	cosφ = 0,95	88,5	49,9	43,9	40,4	23,6	18,8	16,1	11,7	8,7	7,3
cosφ = 1,00	86,7	47,7	41,3	38,3	20,9	16,6	14,9	10,6	7,5	6,6	
Weight (PE 1)	p [kg/m]	23,8	31,1	34,5	39,0	59,9	74,3	88,2	117,3	157,4	200,3
Weight (PE 2)	p [kg/m]	27,2	34,5	37,8	43,4	64,3	85,6	96,9	127,6	168,8	215,7
Weight (PE 3)	p [kg/m]	24,9	32,2	35,5	40,4	61,3	78,0	91,1	120,8	161,4	204,5
Fire load	[kWh/m]	5,625	6,875	6,875	10	10,25	13,125	20	23,75	26,25	27,25
Degree of protection	IP	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	P [W/m]	192	165	224	339	289	360	529	588	648	901
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

\* IP65 for feeder lines is available by request

\*\* Class F available under request

For temperatures over 55°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.



PE 1  
Standard version



PE 2  
Extra earth - COPPER XCP Cu 3L+N+50%PE  
(tinned copper conductors available on request)



PE 3  
Extra earth - ALUMINUM



# Xtra Compact (XCP-HP)

## technical data

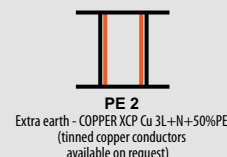
### XCP-HP CU (5 Conductors - double neutral)

3P+2N+PE		SINGLE BAR						DOUBLE BAR			TRIPLE BAR
		800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Rated current	$I_n$ [A]										
Overall dimension of the busbars	L x H [mm]	125 x 130	125 x 130	125 x 130	125 x 170	125 x 170	125 x 220	125 x 380	125 x 440	125 x 480	125 x 680
Rated operational voltage	$U_e$ [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	$U_i$ [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	$I_{CW}$ [kA] <sub>rms</sub>	36	50	70	70	85	120	120	150	150	150
Peak current	$I_{pk}$ [kA]	76	105	154	154	187	264	264	330	330	330
Allowable specific energy for three-phase fault	$I^2t$ [MA <sup>2</sup> s]	1296	2500	4900	4900	7225	14400	14400	22500	22500	22500
Rated short-time current of the neutral bar (1 s)	$I_{CW}$ [kA] <sub>rms</sub>	22	30	42	42	51	72	72	90	90	90
Peak current of the neutral bar	$I_{pk}$ [kA]	45	63	88	88	112	158	158	198	198	198
Rated short-time current of the protective circuit (1 s)	$I_{CW}$ [kA] <sub>rms</sub>	22	30	42	42	51	72	72	90	90	90
Peak current of the protective circuit	$I_{pk}$ [kA]	22	63	88	88	112	158	158	198	198	198
Phase resistance at 20°C	$R_{20}$ [mΩ/m]	0,077	0,045	0,038	0,034	0,018	0,015	0,013	0,009	0,006	0,006
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,007	0,006	0,006	0,004
Phase impedance	Z [mΩ/m]	0,080	0,048	0,042	0,037	0,023	0,018	0,015	0,011	0,009	0,007
Phase resistance at thermal conditions	R [mΩ/m]	0,100	0,055	0,048	0,044	0,024	0,019	0,017	0,012	0,009	0,008
Phase impedance at thermal conditions	Z [mΩ/m]	0,103	0,058	0,051	0,047	0,028	0,022	0,019	0,014	0,011	0,009
Neutral resistance	$R_{20}$ [mΩ/m]	0,038	0,022	0,019	0,017	0,009	0,007	0,007	0,005	0,003	0,003
Resistance of the protective bar (PE 1)	$R_{PE}$ [mΩ/m]	0,132	0,132	0,132	0,119	0,122	0,108	0,078	0,072	0,068	0,037
Resistance of the protective bar (PE 2)	$R_{PE}$ [mΩ/m]	0,049	0,049	0,049	0,038	0,038	0,014	0,019	0,016	0,014	0,011
Resistance of the protective bar (PE 3)	$R_{PE}$ [mΩ/m]	0,084	0,084	0,084	0,064	0,064	0,025	0,032	0,025	0,023	0,021
Reactance of the protective bar	$X_{PE}$ [mΩ/m]	0,054	0,054	0,054	0,044	0,044	0,032	0,022	0,017	0,016	0,014
Resistance of the fault loop (PE 1)	$R_o$ [mΩ/m]	0,209	0,176	0,170	0,153	0,140	0,123	0,091	0,081	0,075	0,043
Resistance of the fault loop (PE 2)	$R_o$ [mΩ/m]	0,126	0,094	0,087	0,072	0,056	0,029	0,032	0,025	0,021	0,016
Resistance of the fault loop (PE 3)	$R_o$ [mΩ/m]	0,16	0,13	0,12	0,10	0,08	0,04	0,05	0,03	0,03	0,03
Reactance of the fault loop (50hz)	$X_o$ [mΩ/m]	0,077	0,071	0,071	0,059	0,058	0,043	0,029	0,023	0,022	0,018
Impedance of the fault loop (PE 1)	$Z_o$ [mΩ/m]	0,222	0,190	0,184	0,164	0,152	0,130	0,096	0,084	0,078	0,047
Impedance of the fault loop (PE 2)	$Z_o$ [mΩ/m]	0,148	0,118	0,113	0,093	0,081	0,052	0,043	0,034	0,030	0,024
Impedance of the fault loop (PE 3)	$Z_o$ [mΩ/m]	0,179	0,147	0,141	0,114	0,101	0,058	0,054	0,042	0,037	0,032
Zero-sequence short-circuit average resistance phase - N	$R_o$ [mΩ/m]	0,064	0,037	0,032	0,028	0,015	0,012	0,011	0,008	0,005	0,005
Zero-sequence short-circuit average reactance phase - N	$X_o$ [mΩ/m]	0,019	0,014	0,014	0,013	0,012	0,009	0,006	0,005	0,005	0,003
Zero-sequence short-circuit average impedance phase - N	$Z_o$ [mΩ/m]	0,067	0,040	0,035	0,031	0,019	0,015	0,012	0,009	0,007	0,006
Zero-sequence short-circuit average resistance phase - PE	$R_o$ [mΩ/m]	0,157	0,147	0,144	0,130	0,125	0,111	0,083	0,075	0,070	0,039
Zero-sequence short-circuit average reactance phase - PE	$X_o$ [mΩ/m]	0,062	0,060	0,060	0,049	0,049	0,036	0,024	0,019	0,018	0,015
Zero-sequence short-circuit average impedance phase - PE	$Z_o$ [mΩ/m]	0,169	0,158	0,156	0,139	0,134	0,117	0,086	0,077	0,072	0,042
Voltage drop with distributed load $\Delta V$ [(m <sup>2</sup> A)]10 <sup>-6</sup>	$\cos\varphi = 0,70$	74,9	43,9	39,4	36,1	23,3	18,5	14,8	11,1	9,0	7,1
	$\cos\varphi = 0,75$	78,2	45,5	40,7	37,3	23,7	18,8	15,2	11,4	9,1	7,2
	$\cos\varphi = 0,80$	81,3	47,0	41,9	38,4	24,0	19,0	15,6	11,6	9,1	7,3
	$\cos\varphi = 0,85$	84,1	48,3	42,9	39,4	24,1	19,2	15,9	11,8	9,1	7,4
	$\cos\varphi = 0,90$	86,7	49,3	43,6	40,1	24,1	19,1	16,1	11,8	9,0	7,4
	$\cos\varphi = 0,95$	88,5	49,9	43,9	40,4	23,6	18,8	16,1	11,7	8,7	7,3
$\cos\varphi = 1,00$	86,7	47,7	41,3	38,3	20,9	16,6	14,9	10,6	7,5	6,6	
Weight (PE 1)	$\rho$ [kg/m]	23,8	31,1	34,5	39,0	59,9	74,3	88,2	117,3	157,4	200,3
Weight (PE 2)	$\rho$ [kg/m]	27,2	34,5	37,8	43,4	64,3	85,6	96,9	127,6	168,8	215,7
Weight (PE 3)	$\rho$ [kg/m]	24,9	32,2	35,5	40,4	61,3	78,0	91,1	120,8	161,4	204,5
Fire load	[kWh/m]	5,625	6,875	6,875	10	10,25	13,125	20	23,75	26,25	27,25
Degree of protection	IP	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	P [W/m]	192	165	224	339	289	360	529	588	648	901
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

\* IP65 for feeder lines is available by request  
 \*\* Class F available under request

For temperatures over 55°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.



# Xtra Compact (XCP-HP)

## technical data

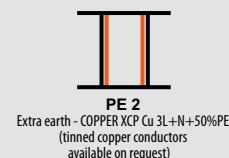
### XCP-HP CU (3 Conductors)

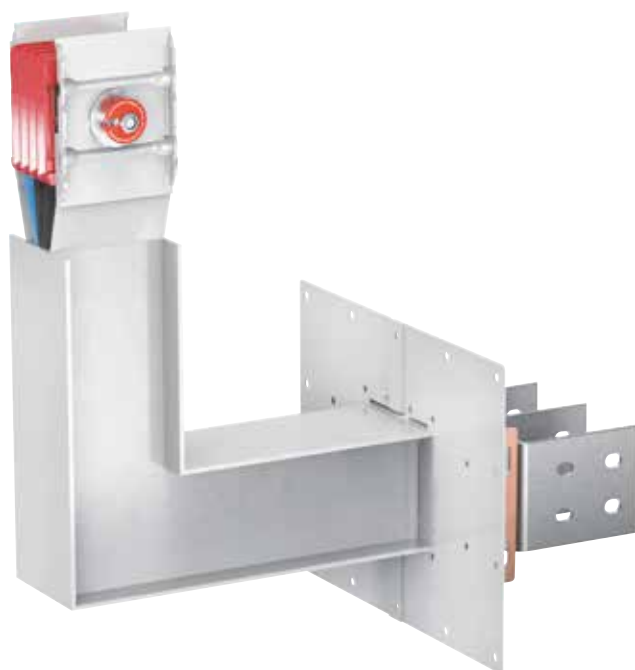
3P+PE		SINGLE BAR						DOUBLE BAR			TRIPLE BAR
		800	1000	1250	1600	2000	2500	3200	4000	5000	6300
<b>Rated current</b>	<b>In [A]</b>										
Overall dimension of the busbars	L x H [mm]	125 x 130	125 x 130	125 x 130	125 x 170	125 x 170	125 x 220	125 x 380	125 x 440	125 x 480	125 x 680
Rated operational voltage	Ue [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated insulation voltage	Ui [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50	50	50	50	50	50	50	50	50	50
Rated short-time current (1 s)	I <sub>CS</sub> [kA] <sub>rms</sub>	36	50	70	70	85	120	120	150	150	150
Peak current	I <sub>pk</sub> [kA]	76	105	154	154	187	264	264	330	330	330
Allowable specific energy for three-phase fault	I <sup>2</sup> t [MA <sup>2</sup> s]	1296	2500	4900	4900	7225	14400	14400	22500	22500	22500
Rated short-time current of the protective circuit (1 s)	I <sub>CS</sub> [kA] <sub>rms</sub>	22	30	42	42	51	72	72	90	90	90
Peak current of the protective circuit	I <sub>pk</sub> [kA]	45	63	88	88	112	158	158	198	198	198
Phase resistance at 20°C	R <sub>20</sub> [mΩ/m]	0,077	0,045	0,038	0,034	0,018	0,015	0,013	0,009	0,006	0,006
Phase reactance (50hz)	X [mΩ/m]	0,023	0,017	0,017	0,015	0,014	0,011	0,007	0,006	0,006	0,004
Phase impedance	Z [mΩ/m]	0,080	0,048	0,042	0,037	0,023	0,018	0,015	0,011	0,009	0,007
Phase resistance at thermal conditions	R [mΩ/m]	0,100	0,055	0,048	0,044	0,024	0,019	0,017	0,012	0,009	0,008
Phase impedance at thermal conditions	Z [mΩ/m]	0,103	0,058	0,051	0,047	0,028	0,022	0,019	0,014	0,011	0,009
Resistance of the protective bar (PE 1)	R <sub>PE</sub> [mΩ/m]	0,130	0,130	0,130	0,118	0,110	0,089	0,078	0,071	0,067	0,040
Resistance of the protective bar (PE 2)	R <sub>PE</sub> [mΩ/m]	0,049	0,049	0,049	0,038	0,038	0,014	0,019	0,016	0,014	0,011
Resistance of the protective bar (PE 3)	R <sub>PE</sub> [mΩ/m]	0,084	0,084	0,084	0,064	0,064	0,025	0,032	0,025	0,023	0,021
Reactance of the protective bar	X <sub>PE</sub> [mΩ/m]	0,054	0,054	0,054	0,044	0,044	0,032	0,022	0,017	0,016	0,014
Resistance of the fault loop (PE 1)	R <sub>o</sub> [mΩ/m]	0,206	0,174	0,167	0,152	0,128	0,104	0,091	0,080	0,074	0,045
Resistance of the fault loop (PE 2)	R <sub>o</sub> [mΩ/m]	0,126	0,094	0,087	0,072	0,056	0,029	0,032	0,025	0,021	0,016
Resistance of the fault loop (PE 3)	R <sub>o</sub> [mΩ/m]	0,16	0,13	0,12	0,10	0,08	0,04	0,05	0,03	0,03	0,03
Reactance of the fault loop (50hz)	X <sub>o</sub> [mΩ/m]	0,077	0,071	0,071	0,059	0,058	0,043	0,029	0,023	0,022	0,018
Impedance of the fault loop (PE 1)	Z <sub>o</sub> [mΩ/m]	0,220	0,188	0,182	0,163	0,141	0,113	0,095	0,083	0,077	0,049
Impedance of the fault loop (PE 2)	Z <sub>o</sub> [mΩ/m]	0,148	0,118	0,113	0,093	0,081	0,052	0,043	0,034	0,030	0,024
Impedance of the fault loop (PE 3)	Z <sub>o</sub> [mΩ/m]	0,179	0,147	0,141	0,114	0,101	0,058	0,054	0,042	0,037	0,032
Zero-sequence short-circuit average resistance phase - PE	R <sub>o</sub> [mΩ/m]	0,157	0,147	0,144	0,130	0,125	0,111	0,083	0,075	0,070	0,039
Zero-sequence short-circuit average reactance phase - PE	X <sub>o</sub> [mΩ/m]	0,062	0,060	0,060	0,049	0,049	0,036	0,024	0,019	0,018	0,015
Zero-sequence short-circuit average impedance phase - PE	Z <sub>o</sub> [mΩ/m]	0,2	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,1	0,0
Voltage drop with distributed load ΔV [V/(m <sup>2</sup> A)]10 <sup>-6</sup>	cosφ = 0,70	74,9	43,9	39,4	36,1	23,3	18,5	14,8	11,1	9,0	7,1
	cosφ = 0,75	78,2	45,5	40,7	37,3	23,7	18,8	15,2	11,4	9,1	7,2
	cosφ = 0,80	81,3	47,0	41,9	38,4	24,0	19,0	15,6	11,6	9,1	7,3
	cosφ = 0,85	84,1	48,3	42,9	39,4	24,1	19,2	15,9	11,8	9,1	7,4
	cosφ = 0,90	86,7	49,3	43,6	40,1	24,1	19,1	16,1	11,8	9,0	7,4
	cosφ = 0,95	88,5	49,9	43,9	40,4	23,6	18,8	16,1	11,7	8,7	7,3
cosφ = 1,00	86,7	47,7	41,3	38,3	20,9	16,6	14,9	10,6	7,5	6,6	
Weight (PE 1)	p [kg/m]	18,7	22,9	24,9	28,0	41,6	52,2	60,3	78,6	103,2	136,2
Weight (PE 2)	p [kg/m]	22,0	26,2	28,2	32,4	45,9	63,5	69,0	88,9	114,5	151,6
Weight (PE 3)	p [kg/m]	19,7	23,9	25,9	29,5	43,0	55,8	63,1	82,2	107,1	140,4
Fire load	[kWh/m]	3,375	4,125	4,125	6	6,15	7,875	12	14,25	15,75	16,75
Degree of protection	IP	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*	55/65*
Insulation material thermal resistance class		B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**	B/F**
Losses for the Joule effect at nominal current	P [W/m]	192	165	224	339	289	360	529	588	648	901
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

\* IP65 for feeder lines is available by request  
 \*\* Class F available under request

For temperatures over 55°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.





# ACCESSORIES

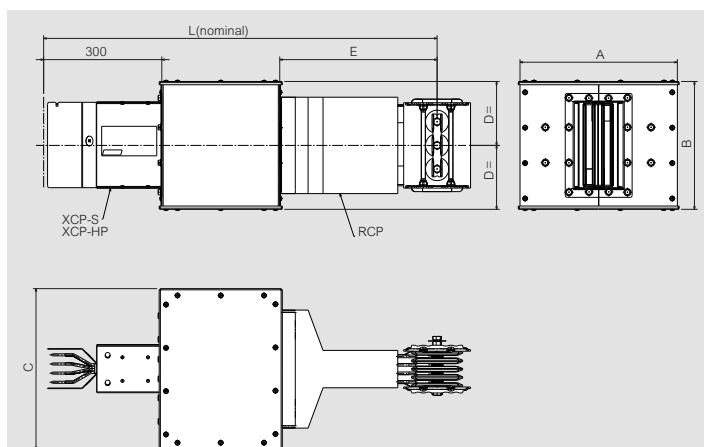
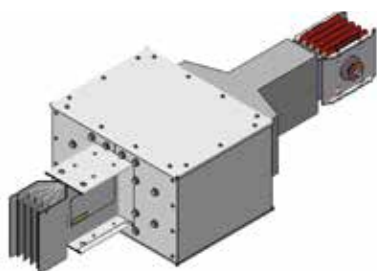
Suitable for both  
XCP-S and XCP-HP

## UNIVERSAL ACCESSORIES

A range of accessories common to both product lines, allows you to complete and customise the path of busbar, according to the design requirements.

# Xtra Compact (XCP)

adapter element (IP68-IP65) and other elements of the range



XCP-S 3C - 4C - 5C							
In (A)		DIMENSIONS (mm)					
AL	CU	L	A	B	C	D	E
630-1000	800-1250	1000	400	210	310	105	400
1250		1000	400	250	310	125	400
1600	1600-2000	1000	400	280	310	140	400
2000		1000	400	325	310	162.5	400
	2500	1000	400	380	310	190	400
2500	3200	1000	400	460	310	230	400
3200	4000	1000	400	520	310	260	400
4000	5000	1000	400	560	310	280	400
5000	6300	1250	820	670	460	335	500

XCP-HP 3C - 4C - 5C							
In (A)		DIMENSIONS (mm)					
AL	CU	L	A	B	C	D	E
630-1000	800-1250	1000	400	210	310	105	400
1250		1000	400	210	310	125	400
1600		1000	400	280	310	140	400
	1600-2000	1000	400	250	310	125	400
2000		1000	400	325	310	162.5	400
	2500	1000	400	280	310	140	400
2500	3200	1000	400	460	310	230	400
3200	4000	1000	400	520	310	260	400
4000	5000	1000	400	560	310	280	400
5000	6300	1250	820	820	460	410	500

XCP includes other elements that allow you to modify the path of the busbar according to the design requirements.



Connection interfaces with exit bars + elbow



Connection interfaces with exit bars + double elbow

**Note:** for more information about the accessories on this page, please contact Legrand

# Xtra Compact (XCP)

## brackets



65202001

The brackets enable sturdy installation of the busbar to the system support structures.

The recommended installation distance between brackets is 1.5 metres. Legrand offers suitable bracket solutions certified for any type of installation, even in the most difficult environments:

- installations subjected to strong vibrations;
- installation in seismic environments

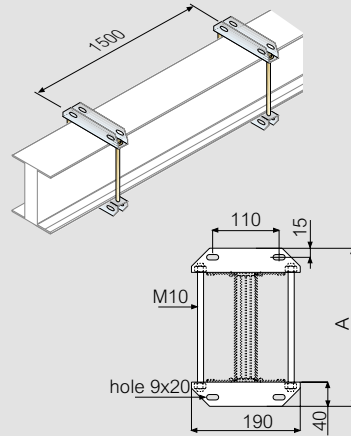
Item				In (A)	Type	
XCP-S		XCP-HP				
Al	Cu	Al	Cu			
65202001		65202001		630	edgewise	
60202001	65202001	60202001	65202001	800		
65202001	65202001	65202001	65202001	1000		
65202002	65202001	65202001	65202001	1250		
65202003	65202001	65202003	65202002	1600		
65222004	65202003	65222004	65202002	2000		
65222002	65222001	65222002	65202004	2500		
65222003	65222002	65222003	65222002	3200		
65222004	65222003	65222004	65222003	4000		
65222005	65222004	65222007	65222004	5000		
	65222005		65222006	6300		
65202001		65202001		630		flat wise
65202001	65202001	65202001	65202001	800		
65202001	65202001	65202001	65202001	1000		
65202013	65202001	65202001	65202001	1250		
65202013	65202001	65202013	65202013	1600		
65202013	60252013	65202013	60252013	2000		
65202112	65202112	65202112	60252013	2500		
65202113	65202112	65202113	65202112	3200		
65202114	65202113	65202114	65202113	4000		
65202115	65202114	65202116	65202114	5000		
	65202115		65202116	6300		

### Suspension Brackets

### ■ Dimensions

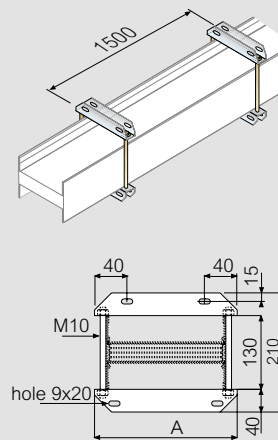
#### Suspension bracket

#### Edgewise installation



Range	A (mm)			
	XCP-S		XCP-HP	
	Al	Cu	Al	Cu
630	210	-	210	-
800	210	210	210	210
1000	210	210	210	210
1250	250	210	210	210
1600	280	250	280	250
2000	300	280	300	250
2500	460	380	460	300
3200	520	460	520	460
4000	560	520	560	520
5000	670	560	820	560
6300	-	670	-	760

#### Flat installation



Range	A (mm)			
	XCP-S		XCP-HP	
	Al	Cu	Al	Cu
630	190		190	
800	190	190	190	190
1000	190	190	190	190
1250	315	190	190	190
1600	315	315	315	315
2000	315	315	315	315
2500	430	430	430	315
3200	490	430	490	430
4000	530	490	530	490
5000	640	530	850	530
6300		640		850

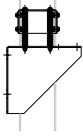
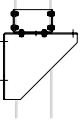



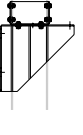
# Xtra Compact (XCP)

## brackets



65213711

### Brackets for vertical elements

Item				In (A)	Type
XCP-S		XCP-HP			
Al	Cu	Al	Cu		
65213711	-	65213711	-	630	With bracket and springs  <b>A</b>
65213711	65213711	65213711	65213711	800-1000	
65213712	65213711	65213711	65213711	1250	
65213713	65213711	65213713	65213712	1600	
65213714	65213712	65213714	65213712	2000	
65213742	65213741	65213742	65213714	2500	
65243743	65213742	65243743	65213742	3200	
65243744	65243743	65243744	65243743	4000	
65243745	65243744	65213747	65243744	5000	
-	65243745	-	65213746	6300	
65213721	-	65213721	-	630	With bracket  <b>B</b>
65213721	65213721	65213721	65213721	800-1000	
65213722	65213721	65213721	65213721	1250	
65213723	65213721	65213723	65213722	1600	
65213724	65213722	65213724	65213722	2000	
65213752	65213751	65213752	65213724	2500	
65243753	65213752	65243753	65213752	3200	
65243754	65243753	65243754	65243753	4000	
65243755	65243754	65213757	65243754	5000	
-	65243755	-	65213756	6300	
65213701	-	65213701	-	630	With springs  <b>C</b>
65213701	65213701	65213701	65213701	800-1000	
65213702	65213701	65213701	65213701	1250	
65213703	65213701	65213703	65213702	1600	
65213704	65213702	65213704	65213702	2000	
65213732	65213731	65213732	65213704	2500	
65243733	65213732	65243733	65213732	3200	
65243734	65243733	65243734	65243733	4000	
65243735	65243734	65213737	65243734	5000	
-	65243735	-	65213736	6300	
65213761	-	65213761	-	630	Bracket only  <b>D</b>
65213761	65213761	65213761	65213761	800-1000	
65213762	65213761	65213761	65213761	1250	
65213763	65213761	65213763	65213762	1600	
65213764	65213762	65213764	65213762	2000	
65213772	65213771	65213772	65213764	2500	
65243773	65213772	65243773	65213772	3200	
65243774	65243773	65243774	65243773	4000	
65243775	65243774	65213777	65243774	5000	
-	65243775	-	65213776	6300	
-	-	-	-	630-2000	Naval applications  <b>E</b>
65213782	65213781	65213782	-	2500	
65243783	65213782	65243783	65213782	3200	
65243784	65243783	65243784	65243783	4000	
65243785	65243784	65213787	65243784	5000	
-	65243785	-	65213786	6300	
-	-	-	-	630-2000	* Anti-seismic bracket  <b>F</b>
65213792	65213791	65213792	-	2500	
65243793	65213792	65243793	65213792	3200	
65243794	65243793	65243794	65243793	4000	
65243795	65243794	65213797	65243794	5000	
-	65243795	-	65213796	6300	

\*For more technical details, please contact Legrand

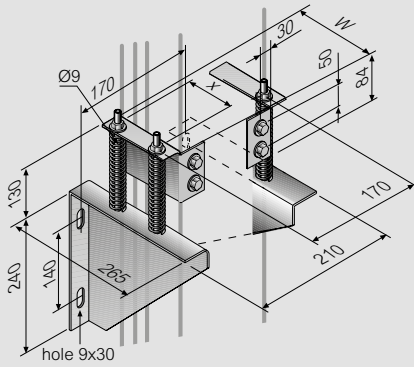


# Xtra Compact (XCP)

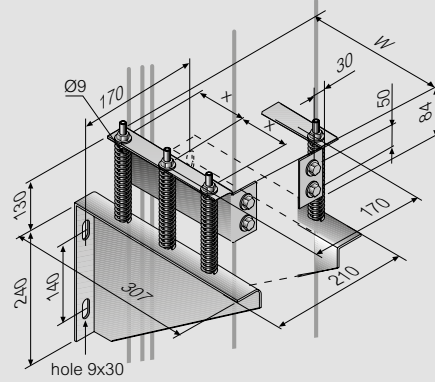
## brackets

### ■ Dimensions

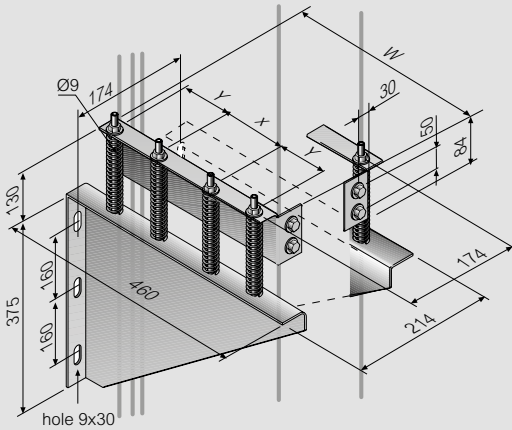
**Type 1 (B120/B160)**



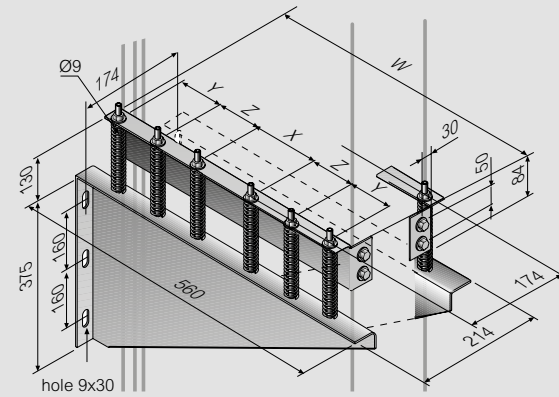
**Type 2 (B190/B210)**



**Type 3 (2B120/2B160)**



**Type 4 (2B190/2B210/3B160)**



**X, Y, Z AND W DIMENSIONS OF THE BRACKETS**

		Type 1 B120 4 springs	Type 1 B160 4 springs	Type 2 B190 6 springs	Type 2 B210 6 springs	Type 3 2B120 8 springs	Type 3 2B160 8 springs	Type 4 2B190 12 springs	Type 4 2B210 12 springs	Type 4 3B160 12 springs	Type 4 3B190 12 springs	Type 4 3B210 12 springs
XCP-S	Al	630-1000 A	1250 A	1600 A	2000 A	-	2500 A	3200 A	4000 A	5000 A	-	-
	Cu	800-1250 A	1600 A	2000 A	-	2500 A	3200 A	4000 A	5000 A	6300 A	-	-
XCP-HP	Al	630-1250 A	-	1600 A	2000 A	-	2500 A	3200 A	4000 A	-	-	5000 A
	Cu	800-1250 A	1600-2000 A	-	2500 A	-	3200 A	4000 A	5000 A	-	6300 A	-
<b>W [mm]</b>		130	170	200	220	300	380	440	480	590	680	740
<b>x [mm]</b>		90	120	80	90	80	110	80	80	120	80	80
<b>y [mm]</b>		-	-	-	-	90	115	80	90	120	80	80
<b>z [mm]</b>		-	-	-	-	-	-	80	90	90	180	180

# Fixing indication

## brackets

### Technical information

For vertical path **sections of less than 2 m** the use of standard suspension brackets is sufficient

#### 1- Horizontal installation fixing

Fixing recommended: 1 bracket every 1.5 metres

#### 2- Fixing for vertical installation (rising mains)

In case of rising mains, in addition to the standard brackets it will also be necessary to use other screw fixed brackets to prevent sliding of the busbar. Thanks to pre-loaded springs, these brackets absorb the forces pressing on the busbar and direct any expansion in a precise direction. They therefore operate as a limitation, and support the traction and compression forces of the busbar trunking system

##### • Section line between 2 and 4 m

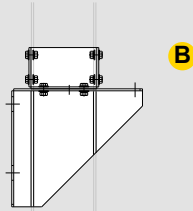
In the lowest point **Type B** vertical bracket if secured **to the wall**, or **Type D** if secured **to the floor** + one edgewise installation **standard bracket**

##### • Section line of over 4 m

In the lowest point **Type A** vertical bracket if secured **to the wall**, or **Type C** if secured **to the floor** + one edgewise installation **standard bracket** every metre and a half of the path + **one Type A or C** bracket based on the tables on the following page.

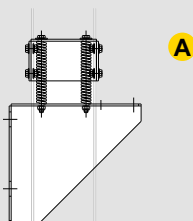
#### 3- Fixing for installation in seismic environments in horizontal

Fit 1 bracket every metre and a half of the busbar  
Every 2 anti-seismic brackets with bracket (Type B), use one standard bracket.  
In anti-seismic applications, for triple bar versions always use "Type B" brackets only.



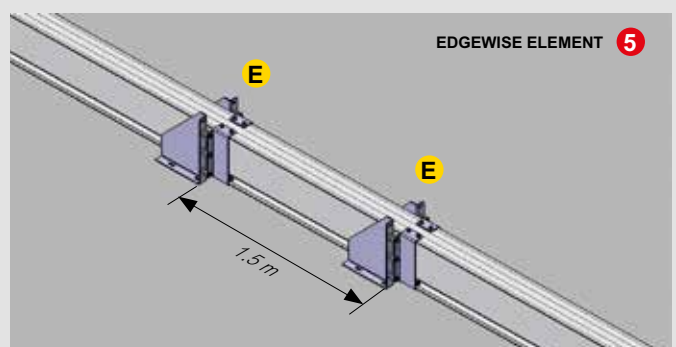
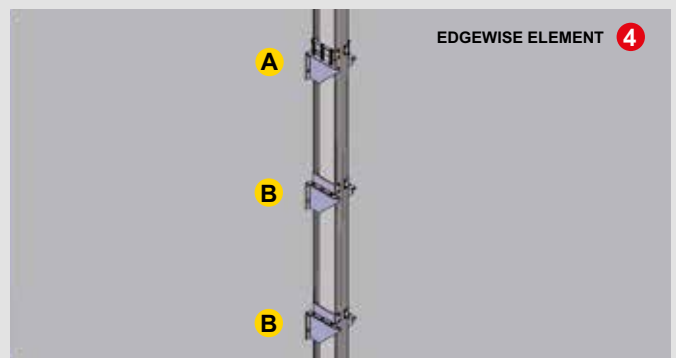
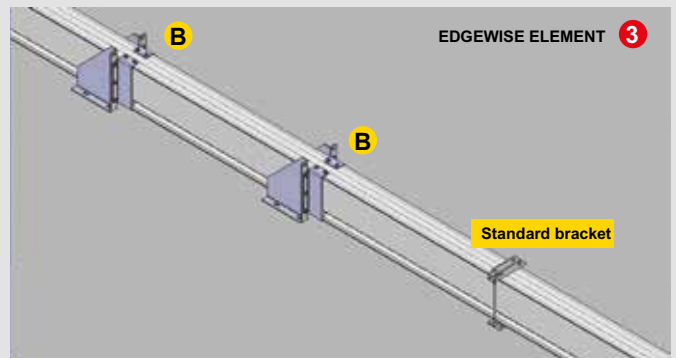
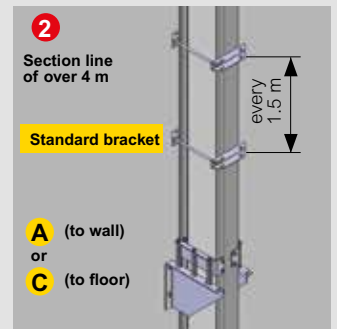
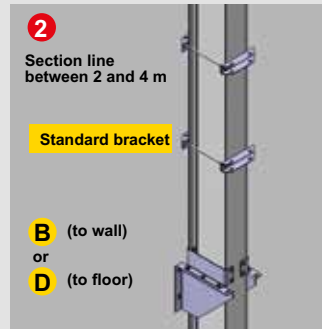
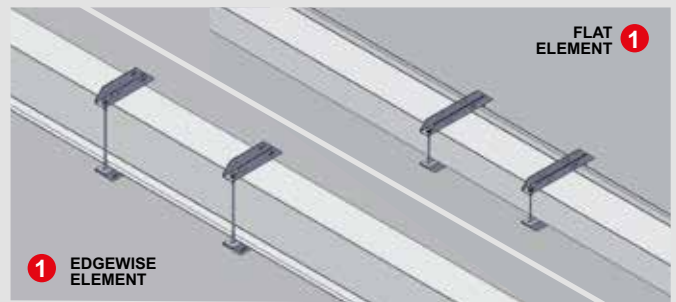
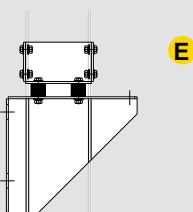
#### 4- Fixing for installation in seismic environments in vertical (section lengths > 2 m)

Fit 1 bracket every metre and a half of the busbar  
Every 2 anti-seismic brackets with bracket (Type B) use one bracket with bracket and spring (Type A)



#### 5- Fixing for naval installation

For naval installations always use a type E bracket every metre and a half of the busbar



For more installation details, please refer to the installation instructions.

# Xtra Compact (XCP)

## operating instructions on how to design riser mains

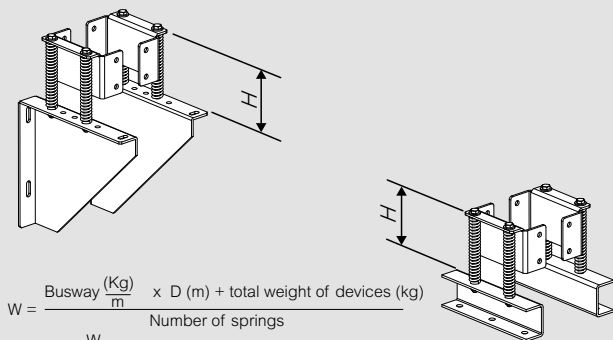
- 1) The RH rising main feed unit (without monobloc) is used at the departure of the riser mains lines, allows the busbar to be installed just 40 mm away from the wall.  
In order to position the tap-off boxes correctly as shown in the figure, the neutral conductor of the riser main must be on the left side of the element
- 2) The tap-off boxes can be installed in the tap-off outlets (Plug-in type) and on the junction of elements (Bolt-on type)  
The cables come out from bottom part of the tap-off boxes
- 3) Use elements with tap-off outlets where it is necessary to draw energy through plug-in boxes
- 4) Use EI120 fire barrier kit for each compartment floor, where specifically requested.  
Note: the fire barrier is long 630 mm with aluminum conductors and 1000 mm with copper conductors.
- 5) Position the IP55 end cover at the end of the riser mains.

### Maximum hanging distance with springs (Dmax):

In (A)	XCP-S				XCP-HP			
	D max	Al n° of springs	Cu D max	Cu n° of springs	D max	Al n° of springs	Cu D max	Cu n° of springs
630	11	4	-	-	10	4	-	-
800	10	4	9	4	10	4	9	4
1000	10	4	8	4	9	4	7	4
1250	9	4	7	4	9	4	7	4
1600	10	6	6	4	10	6	6	4
2000	9	6	6	6	9	6	4	4
2500	12	8	9	8	11	8	5	6
3200	11	12	7	8	11	12	6	8
4000	10	12	7	12	10	12	6	12
5000	7	12	5	12	6	12	5	12
6300	-	-	4	12	-	-	4	12

For 5C version, multiply Dmax by 0.9 for both product lines.  
For 3C version, multiply Dmax by 1.1 for both product lines.

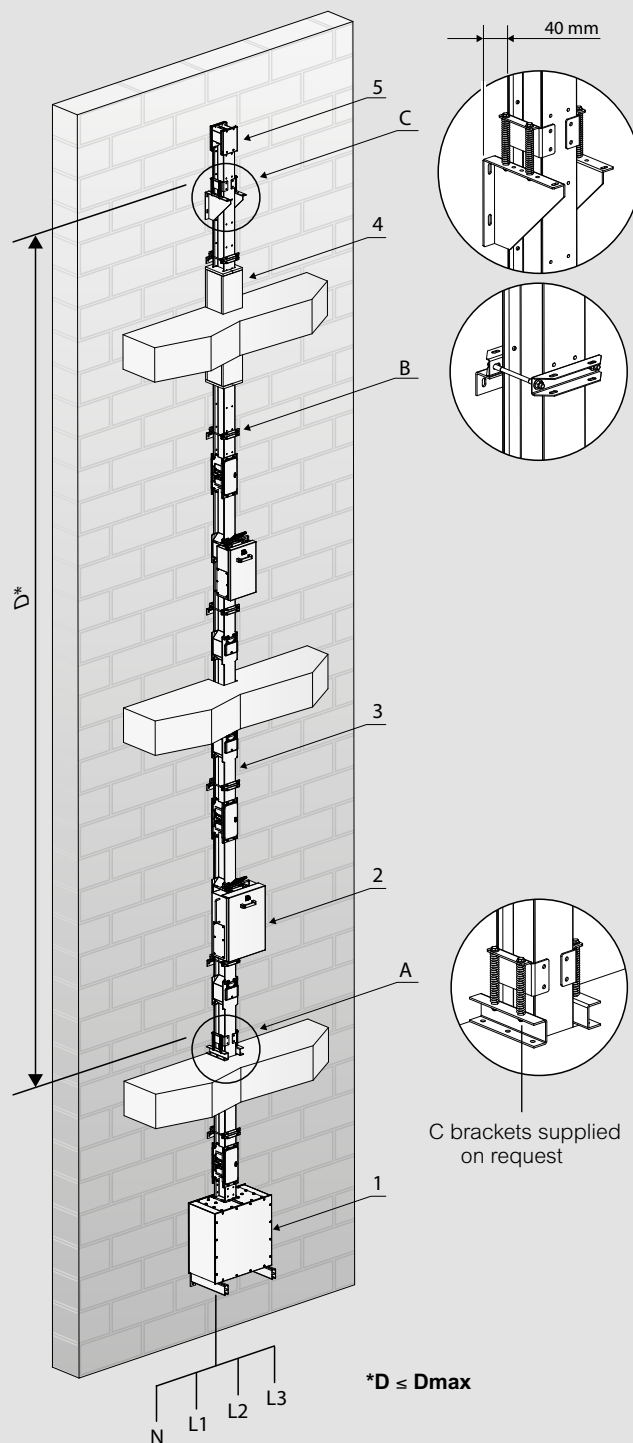
### Spring preload calculation (H):



### Preload calculation example H

Busway type: 5C - Al (Pe1)  
In (A): 2000  
Dmax (m):  $7 \times 0.9 = 6.3$   
D (m): 6  
Busway (Kg/m): 29.6  
Weight box 1 (Kg): 18  
Weight box 2 (Kg): 12

$$W = \frac{29.6 \times 6 + (18 + 12)}{6} = 34.6 \text{ kg} \quad H = 130 - \frac{34.6}{3} = 118.5 \text{ mm}$$



**A) Floor hanger:** use one or more of these suspension brackets, depending on the weight of the whole riser mains (including the boxes).

For risers that are shorter than 4 meters, fix to the base with type D brackets (see page 82), when longer, use type C suspension brackets (see page 82) respecting the maximum distances (Dmax) indicated in the tables.

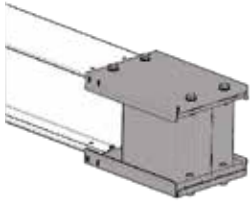
**B) Standard hanger:** use this type of suspension bracket to hang the busbar every 1,5 metres of riser mains.

**C) Wall hanger:** use one or more of these suspension brackets, depending on the weight of the whole riser mains (including the boxes).

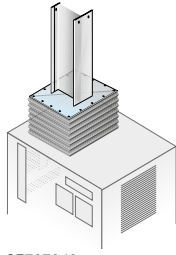
For risers that are shorter than 4 meters, fix to the base with type B brackets (see page 82), when longer, use a type A suspension bracket (see page 82) respecting the maximum distances (Dmax) indicated in the tables.

# Xtra Compact (XCP)

accessories



65283101P



SF707040

Item				End cover IP55	
XCP-S		XCP-HP		In (A)	
Al	Cu	Al	Cu		
67283101P	-	67283101P	-	630	
67283101P	67283101P	67283101P	67283101P	800	
67283101P	67283101P	67283101P	67283101P	1000	
67283102P	67283101P	67283101P	67283101P	1250	
67283103P	67283102P	67283103P	67283102P	1600	
67283104P	67283103P	67283104P	67283102P	2000	
67393102P	67393101P	67393102P	67283104P	2500	
67393103P	67393102P	67393103P	67393102P	3200	
67393104P	67393103P	67393104P	67393103P	4000	
67393105P	67393104P	67393107P	67393104P	5000	
	67393105P	-	67393106P	6300	

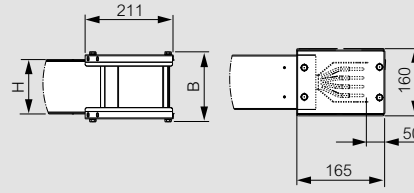
The end cover is the component that ensures an IP55 protection degree at the end of the line

Protective bellow	
<b>SF707040</b>	Bellow 700X700 mm. H 400 mm
<b>SF766040</b>	Bellow 760X600 mm. H 400
<b>SF927140</b>	Bellow 920x710 mm. H 400

**Note:** for more details and for the choice of protective covers for outdoor applications, please contact Legrand

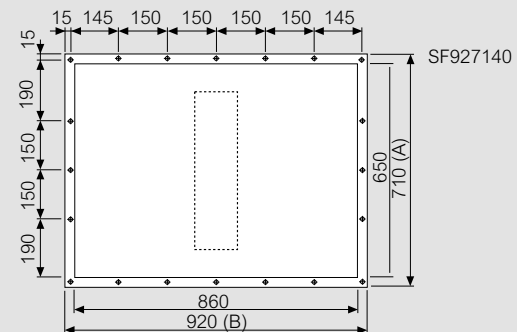
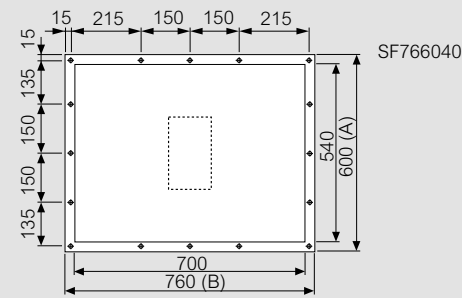
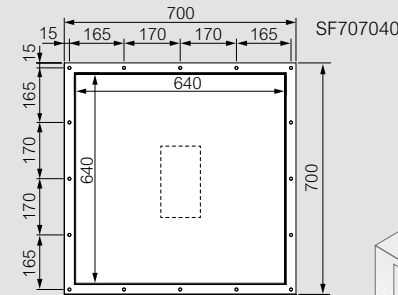
## Dimensions

### End cover IP55



XCP-S					XCP-HP				
In (A)	H	B	H	B	In (A)	H	B	H	B
630	130	170	-	-	630	130	170	-	-
800	130	170	130	170	800	130	170	130	170
1000	130	170	130	170	1000	130	170	130	170
1250	170	210	130	170	1250	130	170	130	170
1600	200	240	170	210	1600	200	240	170	210
2000	220	260	200	240	2000	220	260	170	210
2500	380	420	300	340	2500	380	420	220	260
3200	440	480	380	420	3200	440	480	380	420
4000	480	520	440	480	4000	480	520	440	480
5000	590	630	480	520	5000	740	780	480	520
6300	-	-	590	630	6300	-	-	680	720

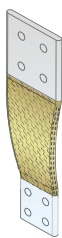
### Protective bellow



The bellows on this page refer to products with standard dimensions. For bespoke solutions please contact the technical department.

# Xtra Compact (XCP)

## flexible braid connections



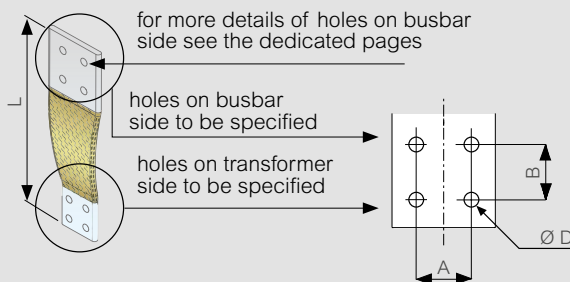
Flexible

Flexible braid connections are used to connect the transformer to the connection interface of the busbar when mechanically uncoupling the two elements is required, to prevent the transmission of vibrations

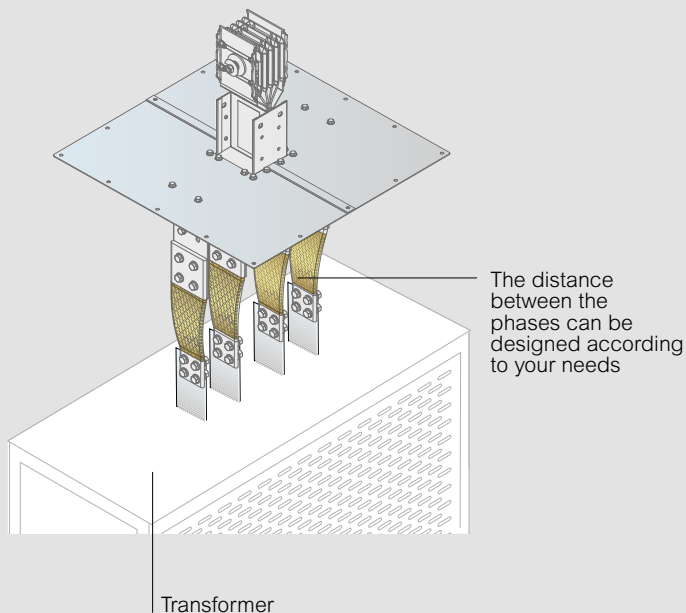
Item		Flexible braid connections		
Al	Cu	In (A)	N° braid per phase	L (mm)
FC100010	-	630	1	300-450
FC100010	FC100010	800		
FC200010	FC200010	1000		
FC300010	FC300010	1250		
FC500010	FC500010	1600		
FC600010	FC600010	2000		
FC400010	FC400010	2500	2	
FC500010	FC500010	3200		
FC600010	FC600010	4000		
FC700010	FC700010	5000		
-	FC600010	6300	3	
FC100020	-	630	1	
FC100020	FC100020	800		
FC200020	FC200020	1000		
FC300020	FC300020	1250		
FC500020	FC500020	1600		
FC600020	FC600020	2000		
FC400020	FC400020	2500	2	
FC500020	FC500020	3200		
FC600020	FC600020	4000		
FC700020	FC700020	5000		
-	FC600020	6300	3	
FC100030	-	630	1	601-750
FC100030	FC100030	800		
FC200030	FC200030	1000		
FC300030	FC300030	1250		
FC500030	FC500030	1600		
FC600030	FC600030	2000		
FC400030	FC400030	2500	2	
FC500030	FC500030	3200		
FC600030	FC600030	4000		
FC700030	FC700030	5000		
-	FC600030	6300	3	
FC100099	-	630	1	
FC100099	FC100099	800		
FC200099	FC200099	1000		
FC300099	FC300099	1250		
FC500099	FC500099	1600		
FC600099	FC600099	2000		
FC400099	FC400099	2500	2	
FC500099	FC500099	3200		
FC600099	FC600099	4000		
FC700099	FC700099	5000		
-	FC600099	6300	3	

### Dimensions

#### Flexible



When ordering, specify:  
holes on transformer side/busbar side (dimensions A, B, Ø D) and length L



For bespoke solutions with special drillings, please contact the technical department

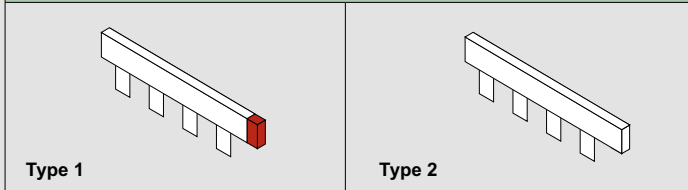
# Xtra Compact (XCP)

## ATR elements

### ATR elements

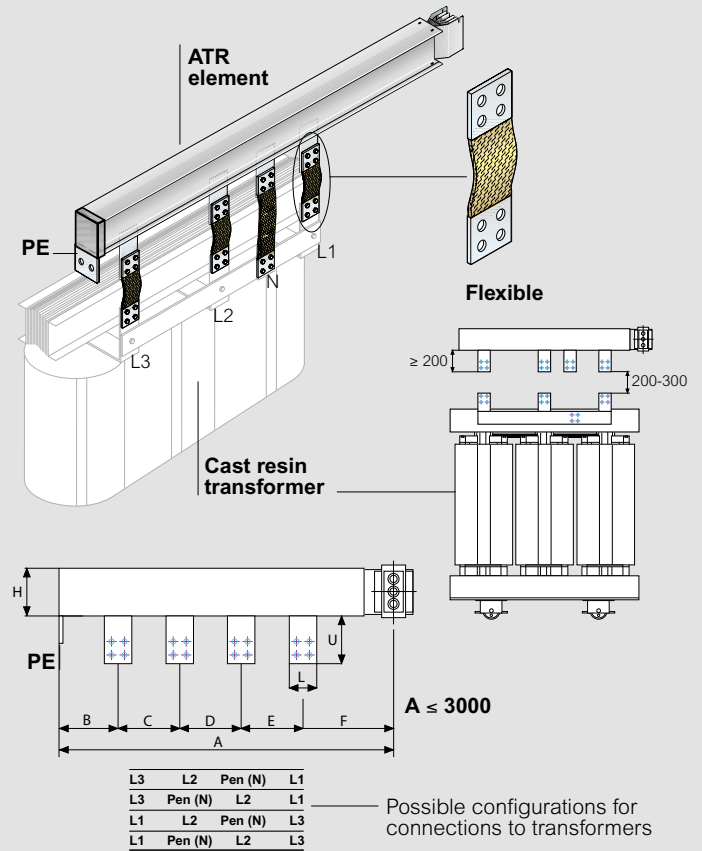
ATR are elements used for connection to electric boards or transformers, similar in everything to straight elements. These elements may be used for connection to both cast resin and oil transformers, and offer the advantage that the connection interfaces may be installed directly on the vertical section of the transformer terminals, minimising the time required for the connection of the busbar trunking system to the transformer. Each element is designed based on precise connection specifications supplied by the customer.

#### SIMPLE ATR



**Note:** for special dimensions, please contact Legrand.

### Dimensions



### ATR dimensions

Although designed ad-hoc, ATR elements are still subjected to construction limits. Below are the summarizing tables indicating these values.

MINIMUM INTERAXES (mm)								
FEEDER ELEMENT ATR DIMENSIONS [SINGLE BAR]								
BarSize	H	B	C	D	E	F	L	U
B70 - B75 - B80	130	200	165	165	165	335	90	200
B110	130	200	165	165	165	335	110	200
B120	130	200	165	165	165	335	120	200
B160	170	220	205	205	205	355	160	200
B190	200	245	255	255	255	380	190	200
B210	220	245	255	255	255	380	210	200

FEEDER ELEMENT ATR DIMENSIONS [DOUBLE BAR]								
BarSize	H	B	C	D	E	F	L	U
2B120	300	220	205	205	205	355	120	200
2B160	380	220	205	205	205	355	160	200
2B190	440	235	235	235	235	370	190	200
2B210	480	245	255	255	255	380	210	200

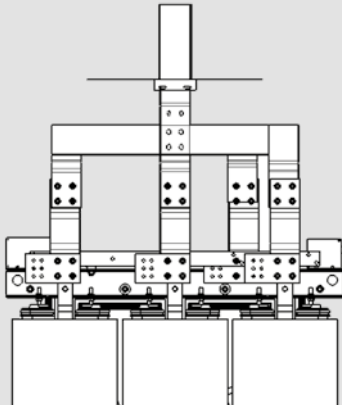
FEEDER ELEMENT ATR DIMENSIONS [TRIPLE BAR]								
BarSize	H	B	C	D	E	F	L	U
3B160	590	220	205	205	205	355	160	200
3B190	680	235	235	235	235	370	190	200
3B210	740	245	255	255	255	380	210	200



# Xtra Compact (XCP)

## technical information

### The system: the Legrand transformer advantage



Legrand  
Cast Resin Transformers



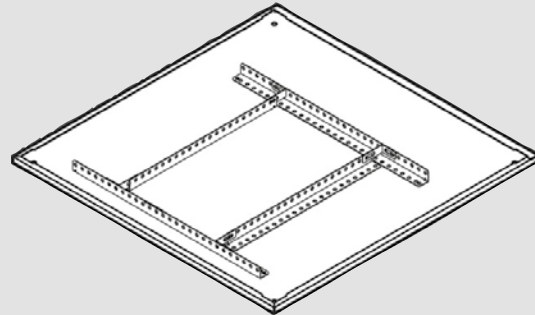
Certificate of conformity for the connection between transformer and busbar mounted on CRT box

The Legrand group product synergy answers to the global installation need  
The Legrand cast resin transformers have specifically designed connections for the Legrand busbars

The versions shown represent some of the standardized solutions

Please contact Legrand for more details on the dimensions

### The system: the Legrand XL<sup>3</sup> advantage



#### Installation kit for XL<sup>3</sup> cabinets

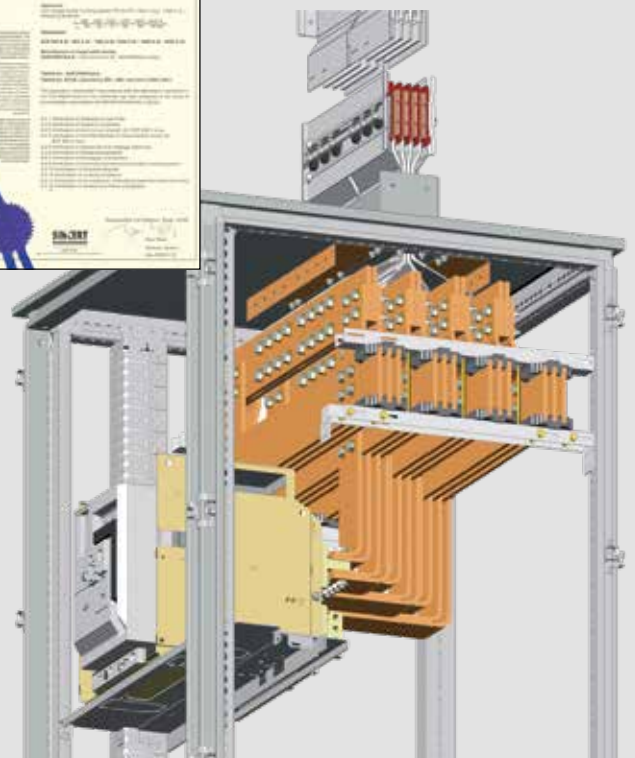
Kit Cat.No 0 205 29 for reinforcing the roof of the XL<sup>3</sup> cabinets for the installation of the Legrand interface to connect the busbar systems

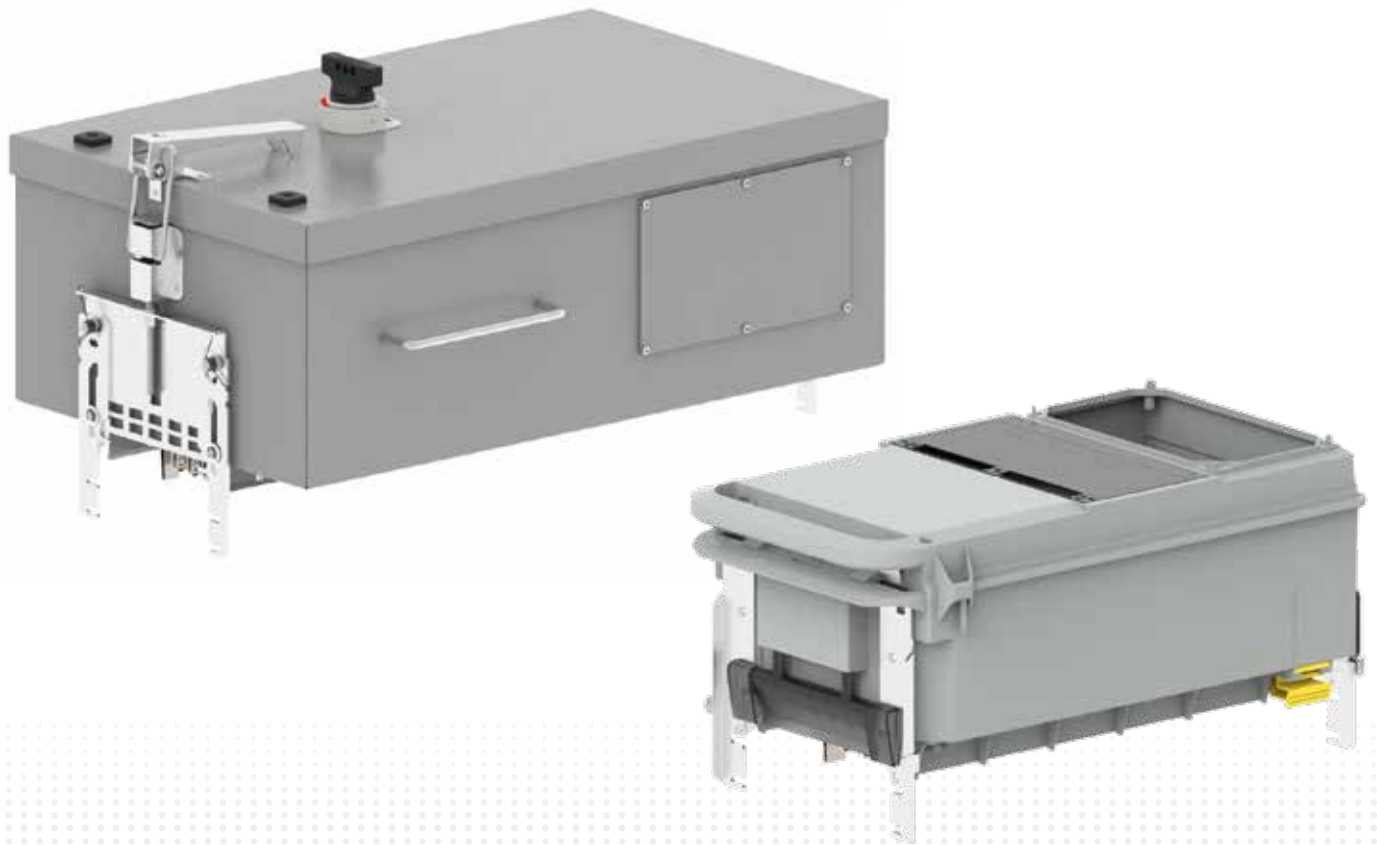
The Extra Compact – XCP-S range can be easily and quickly combined with the Legrand XL<sup>3</sup> 4000 cabinets  
The reinforcement kit enables you to install any type of unit to the board onto the roof of the XL<sup>3</sup> structure in a quick and easy way

Upon request, and with the specific measurements, custom made connections between the XCP-S interface and the DMX air-circuit breaker can be supplied for installation in the XL<sup>3</sup> cabinets

The safety and the operational efficiency of the Legrand system are guaranteed by the system certification, which has been achieved after rigorous tests carried out in the most important international laboratories.

For more details about the XL<sup>3</sup>, please refer to the general Legrand catalogue





# TAP - OFF BOXES

The new range  
of universal tap-off  
boxes suitable for both  
XCP-S and XCP-HP

## TAP-OFF BOXES FROM 32 TO 630 A

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

# Xtra Compact (XCP)

## FIBERGLASS 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 elements with any rating, with tap-off outlets.  
Its rating is from 32 A to 250 A.

**Item** **Tap-off boxes DPX<sup>3</sup> 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<sup>3</sup>, with rotary handle already installed on the cover and rotary mechanism inside the box.

	In (A)	Type
<b>50485231</b>	63	2
<b>50485232</b>	160	2
<b>50485333</b>	250	3

**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
<b>50485101</b>	32	1	3xCH10
<b>50485202</b>	63	2	3xCH22
<b>50485203</b>	125/160	2	3xNH00
<b>50485305</b>	250	3	3xNH2

**Empty Tap-off boxes**

	In (A)	Type
<b>50485212</b>	63 A - 12 module	2
<b>50485213</b>	125 A - 12 module	2
<b>50485222</b>	63 A - blind cover	2
<b>50485223</b>	160 A - blind cover	2
<b>50485241</b>	63 A - 12 module + 2 P17 sockets place	2
<b>50485242</b>	160 A - 12 module + 2 P17 sockets place	2
<b>50485314</b>	250 A - 12+12 module	3
<b>50485324</b>	250 A - blind cover	3
<b>50485343</b>	250 A - 12 + 12 module +3 P17 sockets place	3

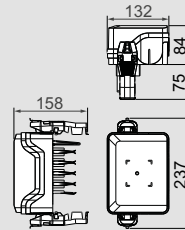


\* DPX<sup>3</sup>: MCCB (Moulded Case Circuit Breaker not mounted and not supplied)

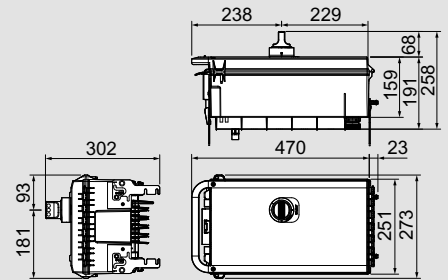
\*\*For the size of the Type 2 and Type 3 terminals, see the metal boxes on the following pages with this rule:  
plastic T2 terminals = metal T1 terminals  
plastic T3 terminals = metal T2 terminals

### Dimensions

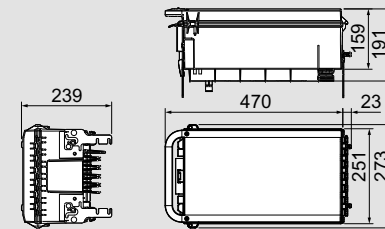
#### Type 1



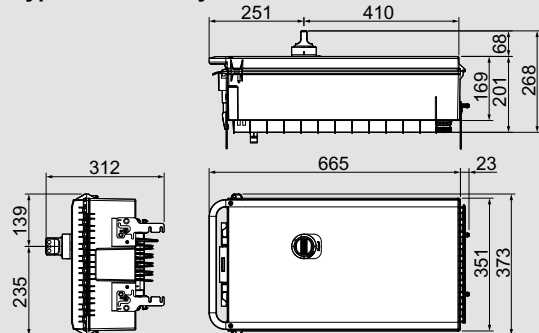
#### Type 2 DPX<sup>3</sup> ready



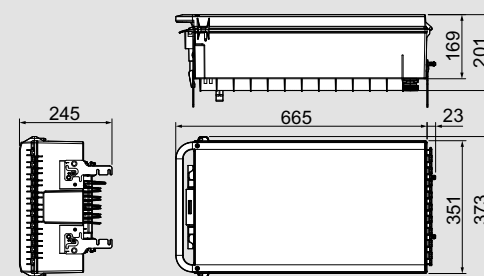
#### Type 2 empty /with fuse carriers



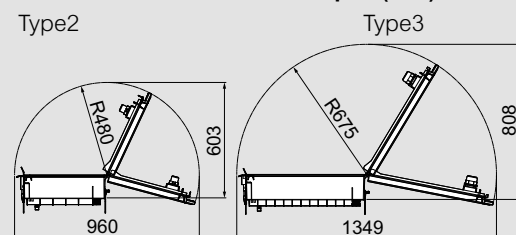
#### Type 3 DPX<sup>3</sup> ready



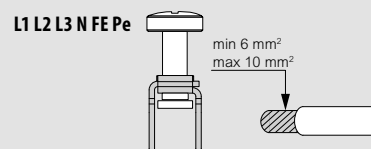
#### Type 3 empty / with fuse carriers



#### Total dimensions with cover open (mm)



#### Terminal dimensions Type 1 (mm) \*\*



# Xtra Compact (XCP)

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



50484002

IP55.  
Equipped with a sectioning cover. Can be installed and removed when the busbar is energized.  
To be applied on elements 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 DPX <sup>3</sup> 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 <sup>3</sup> , 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)
50481621	63 A
50481622	125 A
50481623	160 A
50481631	63 A - removable cover
50481632	125 A - removable cover
50481633	160 A - removable cover

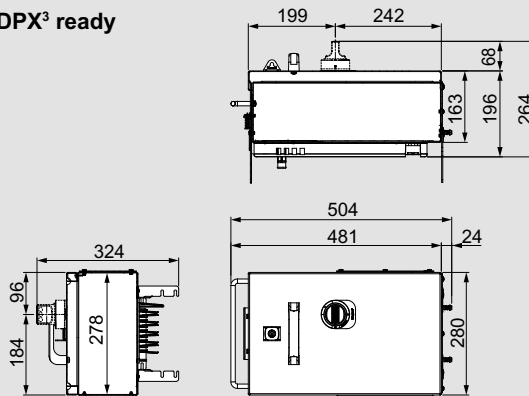
Item	Empty Tap-off boxes
	In (A)
50484002	63
50484003	125/160

### ■ Dimensions

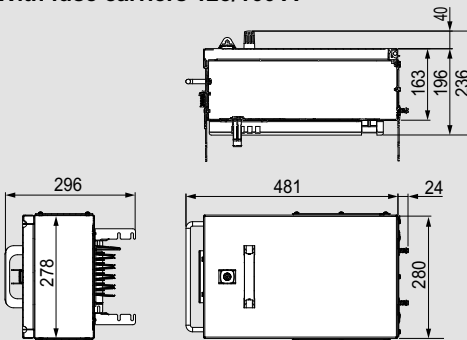
#### Type 1 (63 - 125 - 160 A)

##### Box dimensions (mm)

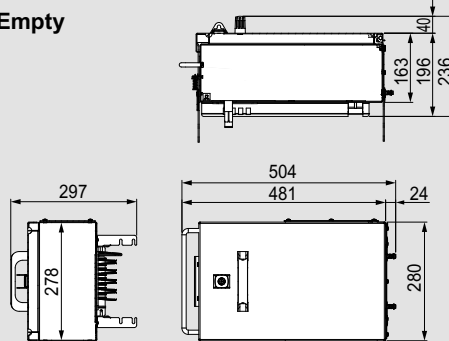
##### DPX<sup>3</sup> ready



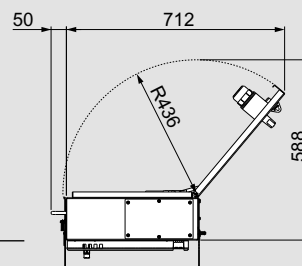
##### With fuse carriers 125/160 A



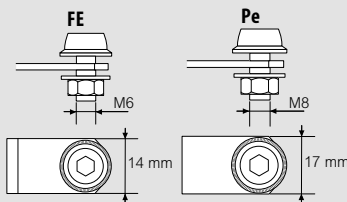
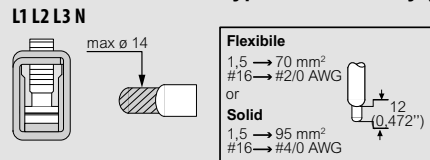
##### Empty



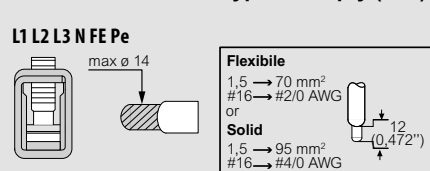
#### Total dimensions with cover open



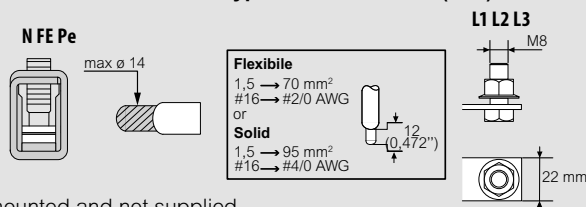
#### Terminal dimensions type 1 - DPX<sup>3</sup> ready (mm)



#### Terminal dimensions type 1 - empty (mm)



#### Terminal dimensions type 1 - fuse carriers (mm)



\* DPX<sup>3</sup>: MCCB (Moulded Case Circuit Breaker) not mounted and not supplied

# Xtra Compact (XCP)

## 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 elements 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 <sup>3</sup> 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)
50481624	250 A - switch fuse
50481634	250 A - switch fuse removable cover

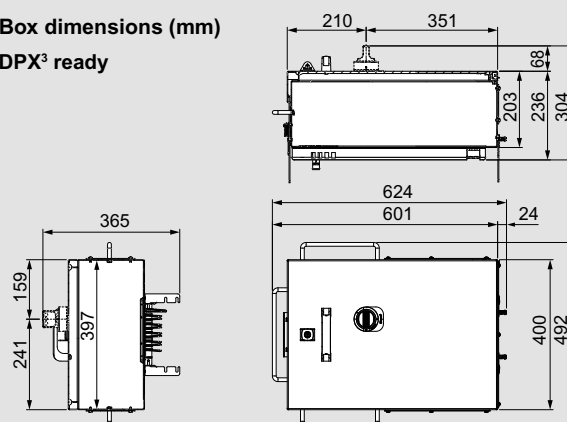
Item	Empty Tap-off boxes
	In (A)
50484005	250

### Dimensions

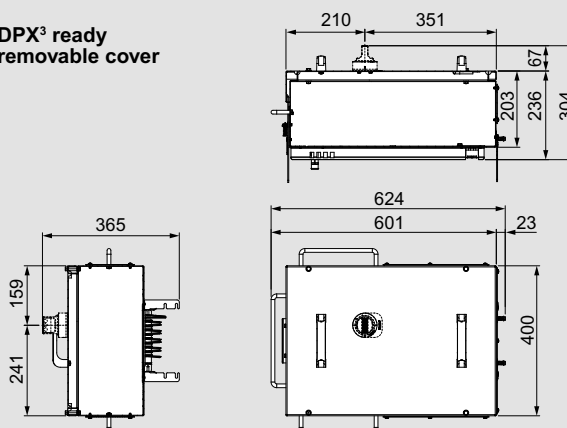
#### Type 2 (250A)

##### Box dimensions (mm)

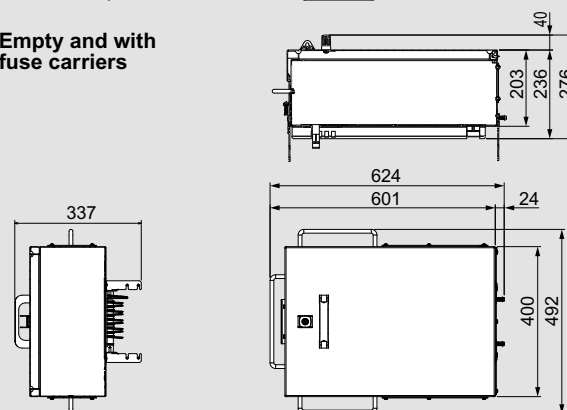
##### DPX<sup>3</sup> ready



##### DPX<sup>3</sup> ready removable cover

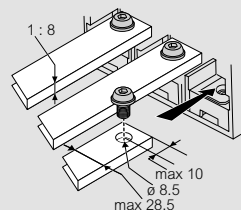


##### Empty and with fuse carriers



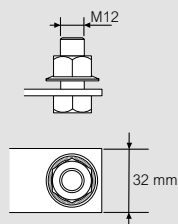
#### Terminal dimensions type 2 DPX<sup>3</sup> ready and empty (mm)

L1 L2 L3 N FE Pe

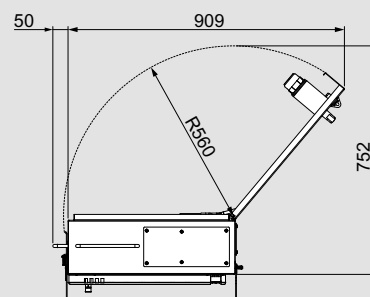


#### Terminal dimensions type 2 fuse carriers (mm)

L1 L2 L3 N FE Pe



#### Total dimensions with cover open (mm)



\* DPX<sup>3</sup>: MCCB (Moulded Case Circuit Breaker) not mounted and not supplied  
Rotary handles for DPX<sup>3</sup> already mounted

# Xtra Compact (XCP)

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 elements 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 <sup>3</sup> 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 <sup>3</sup> ready
50481733	400/630 A - DPX <sup>3</sup> ready removable cover

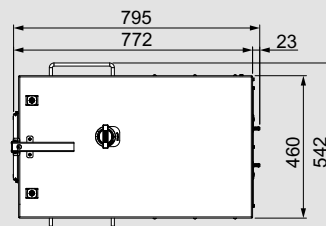
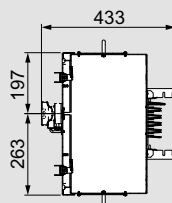
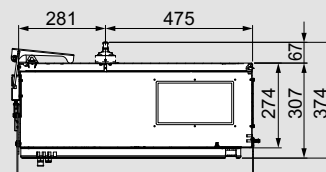
Item	Tap-off boxes with fuse carriers
	Equipped with fuse carriers. Fuses not included. For the selection of fuses, see Legrand catalogue
	In (A)   Fuse carrier
50484025	400   3xNH2
50484026	630   3xNH3

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)
50481625	400 A - switch fuse
50481635	400 A - switch fuse removable cover
50481626	630 A - switch fuse
50481636	630 A - switch fuse removable cover

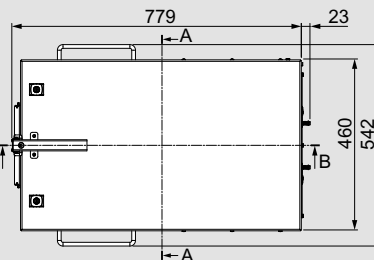
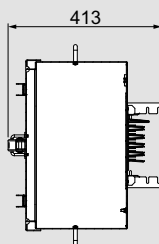
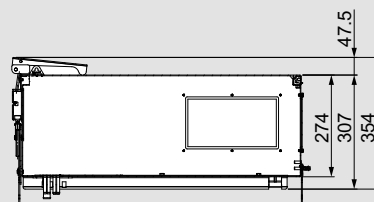
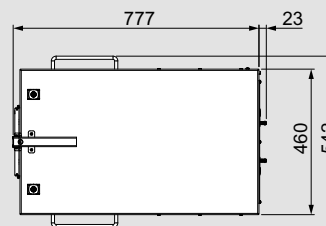
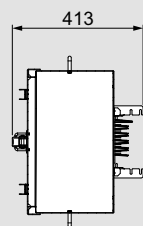
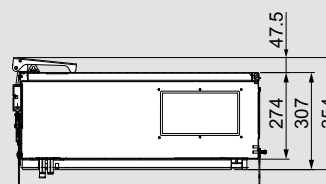
Item	Empty Tap-off boxes
	In (A)
50484006	630 A

## Dimensions

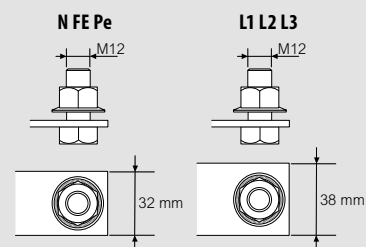
Type 3 (400 - 630 A)  
Box dimensions (mm)  
DPX<sup>3</sup> ready



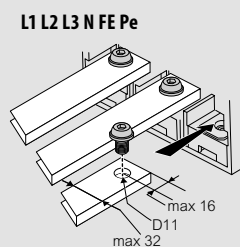
With fuse carriers



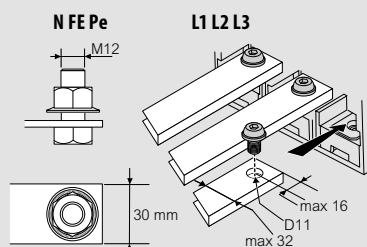
### Terminal dimensions type 3 - fuse carriers (mm)



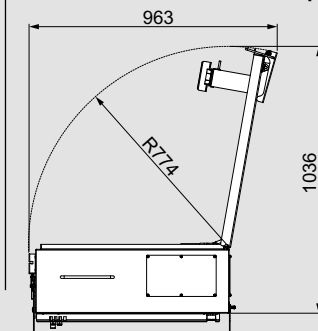
### Terminal dimensions type 3 - empty (mm)



### Terminal dimensions type 3 - DPX<sup>3</sup> ready (mm)



### Total dimensions with cover open (mm)



\* DPX<sup>3</sup>: MCCB (Moulded Case Circuit Breaker) not mounted and not supplied  
Rotary handles for DPX<sup>3</sup> already mounted



# Xtra Compact (XCP)

tap-off box on the junction - 125 A to 1250 A: bolt-on type

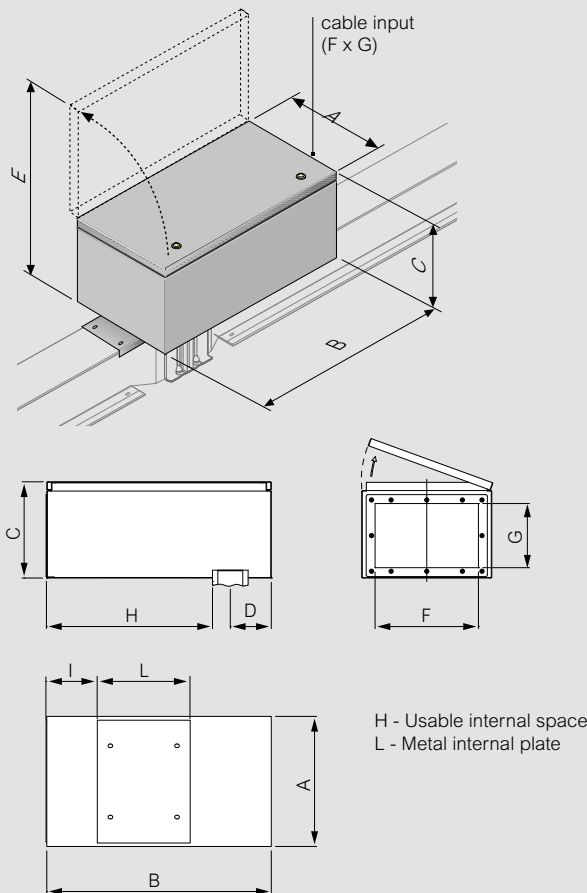


67281931P

Item	Empty Tap-off boxes bolt-on TYPE
	IP55 Can be installed on elements of any rating, with or without tap-off outlets
	Description
<b>67281931P</b>	Empty bolt-on box for 120 mm single bar
<b>67281932P</b>	Empty bolt-on box for 160 mm single bar
<b>67281933P</b>	Empty bolt-on box for 190 mm single bar
<b>67281934P</b>	Empty bolt-on box for 210 mm single bar
<b>67391931P</b>	Empty bolt-on box for 2 x 120 mm bars
<b>67391932P</b>	Empty bolt-on box for 2 x 160 mm bars
<b>67391933P</b>	Empty bolt-on box for 2 x 190 mm bars
<b>67391934P</b>	Empty bolt-on box for 2 x 210 mm bars

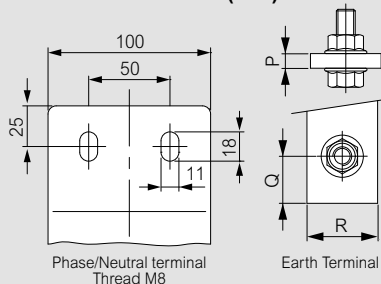
## Dimensions

From 125 A to 1250 A



In (A)	A	B	C	D	E	F	G	H	I	L
<b>125</b>										
<b>250</b>	365	630	270	115	630	290	180	465	142	260
<b>400</b>										
<b>630</b>	400	750	280	115	675	290	180	585	227	295
<b>800</b>										
<b>1000</b>	450	1050	300	115	745	380	210	885	254	545
<b>1250</b>										

## Terminal dimensions (mm)



Type	In (A)	Earth Terminal			
		P	Q	R	Thread
<b>5A</b>	<b>125</b>	3.3	20	30	M8
	<b>250</b>	3.3	20	30	M8
	<b>400</b>	3.3	20	30	M8
<b>5B</b>	<b>630</b>	5.3	20	30	M8
	<b>800</b>	6.2	20	30	M8
<b>5C</b>	<b>1000</b>	6.2	20	30	M8
	<b>1250</b>	6.2	20	30	M8

## WARNING

The bolt-on boxes are to be installed when the busbar is disconnected and not energized

In order to finalize the order, it is necessary to specify the type of XCP the box will be installed on

Tap-off boxes can be pre-equipped with DPX moulded case circuit breakers (MCCB) upon request

Please contact Legrand for more details on the dimensions

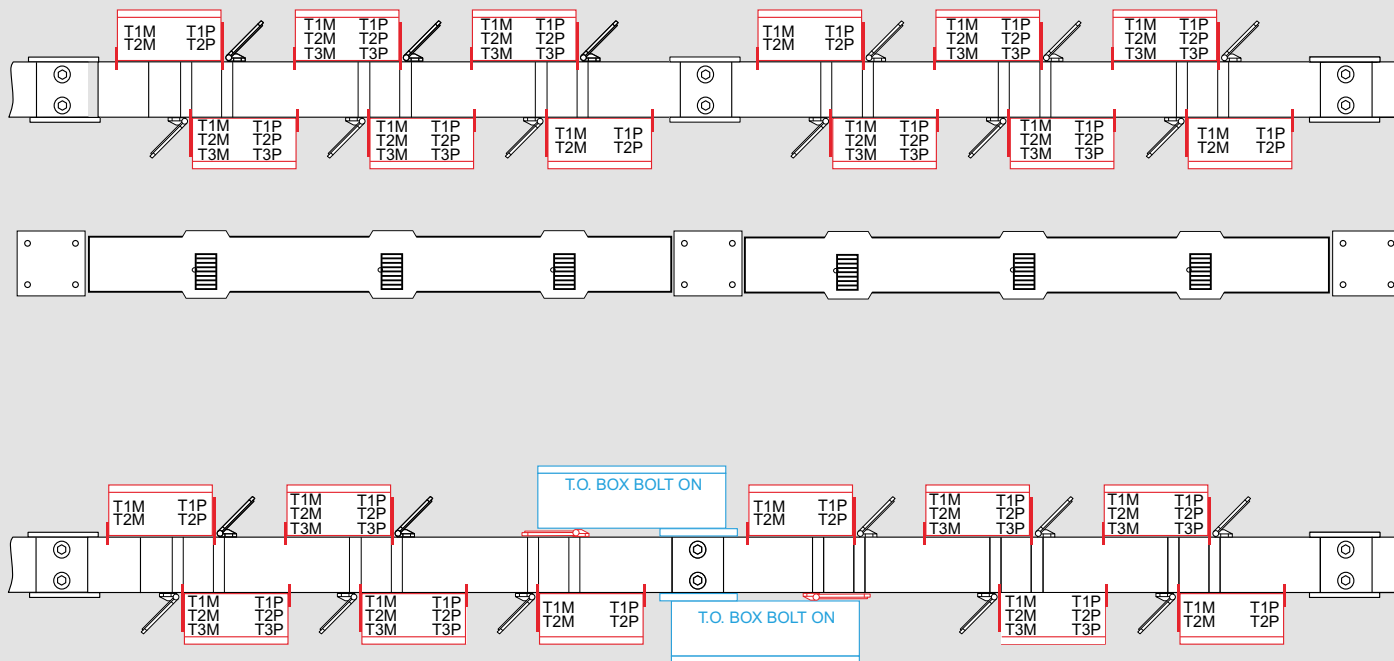
# Tap-off box installation

## example diagram

### Technical information

Not all boxes can be installed in any position

The following figures show where the various Plug-in/Bolt-on boxes may be installed on elements with standard setup



T1/T2/T3: type of tap-off box  
M: metal tap-off box  
P: fiberglass plastic tap-off box



# OPERATING INFORMATION

Suggestions for the  
design and installation  
of the busbar

Operational information and advice for the  
correct design and construction of the busbar  
trunking system

# Xtra Compact (XCP)

suggestions for the project development

**1. Rating**

**2500**  
.....A

**2. Application:**

Transport

Distribution  No. of outlets .....

**3. Icc at the beginning of the line .....kA**

**4. Material:**

Aluminium

Copper

**5. Degree of protection:**

IP55 (standard)

IP65 (only for transport of Energy)

**6. Paint:**

RAL7035 (standard)

Different RAL

colour on request .....

**7. Neutral section:**

100% XCP (standard)

200% XCP 2N

**8. Nominal ambient**

temperature:

35°C (standard)

Other on request.....

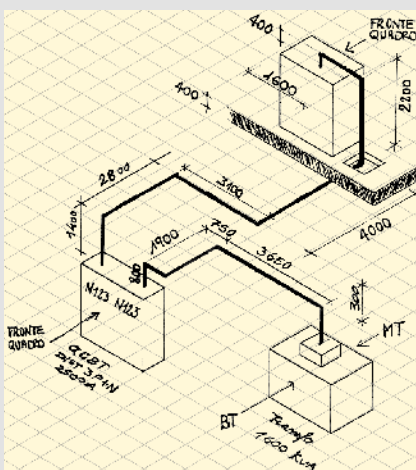
**9. Attach Busbar layout\***

Drawing

Dwg file

Revit file

\* Example of drawing to attach

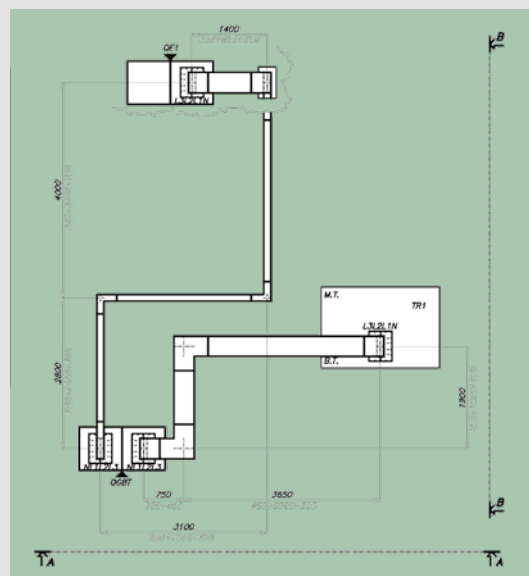
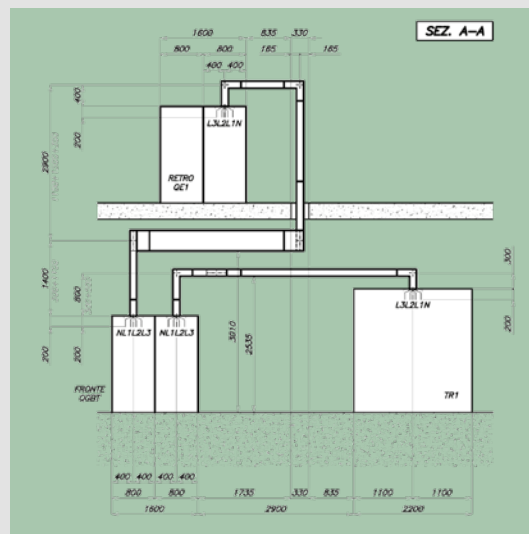


**Example for quotation check list:**

**Checklist to be done during the project**

1. Verify the measurements of the drawings, the correct position of the equipment (MV/LV transformer and LV electric board enclosures)
2. Check the availability of drawings required (transformer, electric board, etc.)
3. Check for the existence of unforeseen obstacles in the installation which could impede the run of the busbar (for example pipelines, ventilation and air-conditioning ducts)
4. Agree upon who is responsible for providing the connection from the busbar to the other devices (MV/LV transformer and LV electric boards)

**Example of the detail of the project**



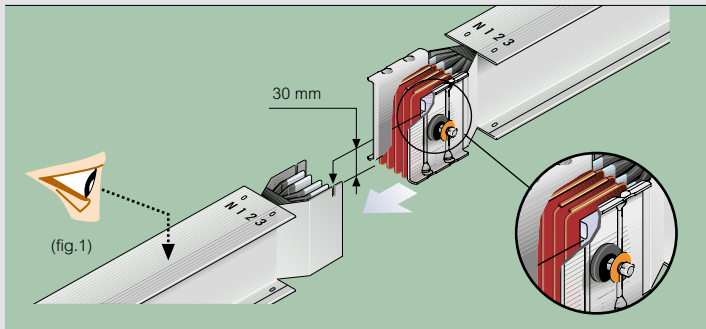
**Legrand provides without charge, if required:**

- The mechanical layout of the project
- Study of the connections between the busbar and the transformer or between electric board enclosures
- Suggestions for the type of fixing (floor, wall, ceiling...)
- Possibility of site measurement by qualified persons
- Telephone assistance during the entire installation stage by the Engineering Design Office

# Xtra Compact (XCP)

## installation guidelines

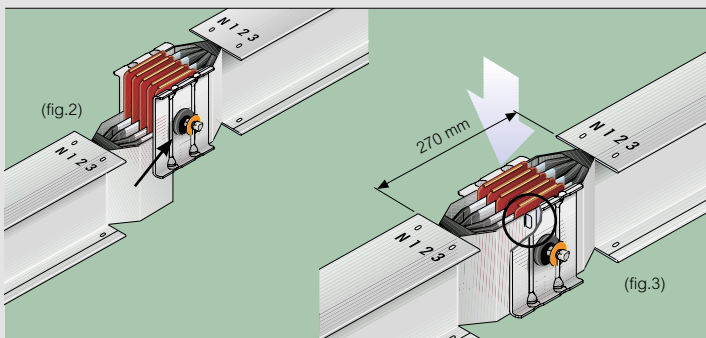
### Installation sequence of the junction



The installation instructions are placed on every element near the junction

Make sure that the contacts are clean

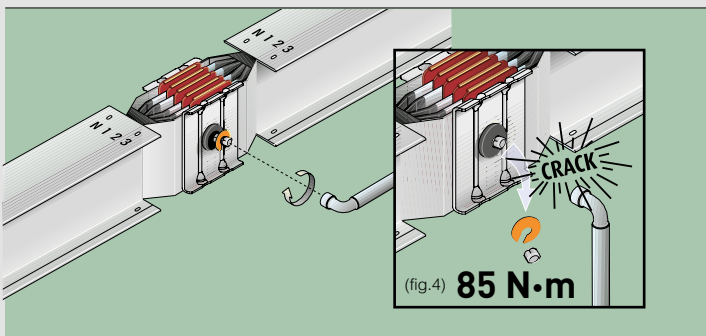
Join the two elements together (Fig.1)



Make sure that the earth plate of the straight element is inserted behind the front plate of the junction monobloc (Fig.2)

The positioning pin on the monobloc should be fitted into the corresponding slot on the earth plate

Verify the distance between elements, 270mm, before tightening the monobloc completely (Fig.3)

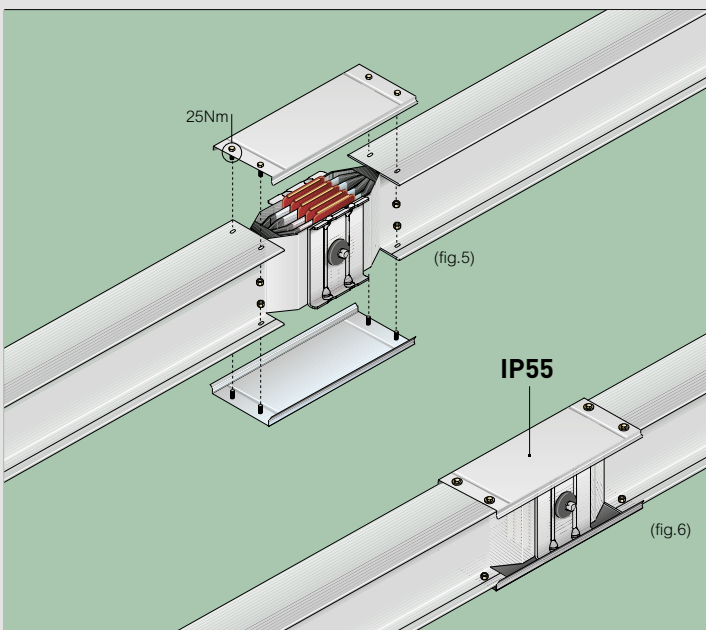
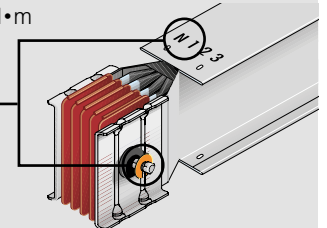


Tighten the bolt of the monobloc until the 1st head breaks off (Fig. 4).

The bolt that tightens the monobloc has a second head which is used when carrying out operations or inspections on the line

The nominal tightening torque is 85 N·m

**In standard execution the self-shearing bolt is fitted on the opposite side of the Neutral.**



Install the covers of the junction (fig. 5)

Connection completed correctly with Protection degree IP55 (fig.6)

# Xtra Compact (XCP)

## mechanical design precautions

Below are some precautions that may be useful to avoid problems during the assembly, which we recommend should be taken into account during the design

### ■ Minimum distances from the structure

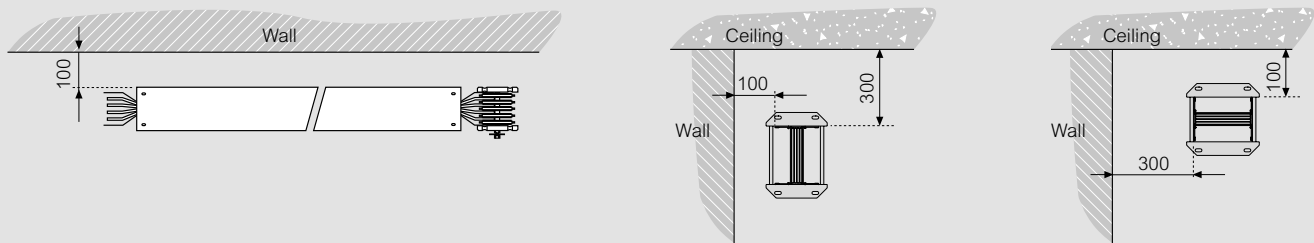
The minimum distance from the walls, to avoid problems during edgewise installation of the busbar, is 300 mm

The variables that must be taken into account for correct assembly are:

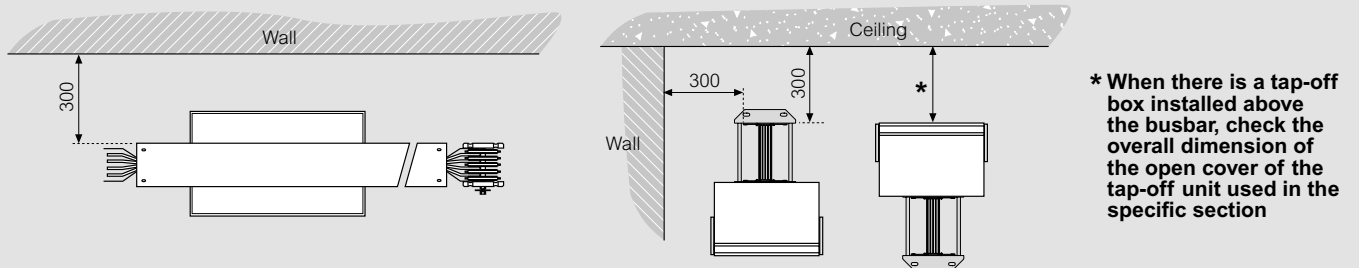
- position of the bolt for tightening the monobloc; the minimum required distance is 100 mm;
- sizes of the distribution element (box) selected for the collection of power (at least 300 mm);
- any brackets and their assembly;
- accessibility to the screws for the installation of the brackets and the closing of the junctions;
- any material required for the actual installation in order to compensate for wall imperfections

In case of rising mains installation, if the system does not require fire barriers, the bracket supporting the bracket can be directly secured to the wall. Otherwise, allow for a spacing support between the bracket and the wall, to ensure that the back of the busbar remains at a distance of 100 mm from the wall, therefore ensuring enough space for the positioning of the partitions

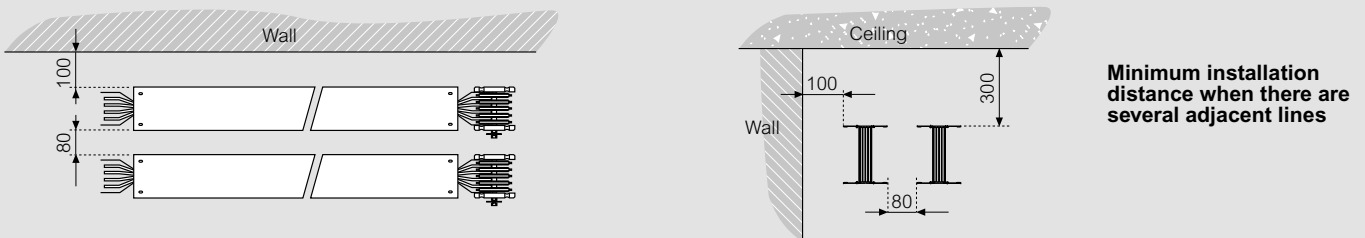
### Minimum distance of the wall / ceiling elements



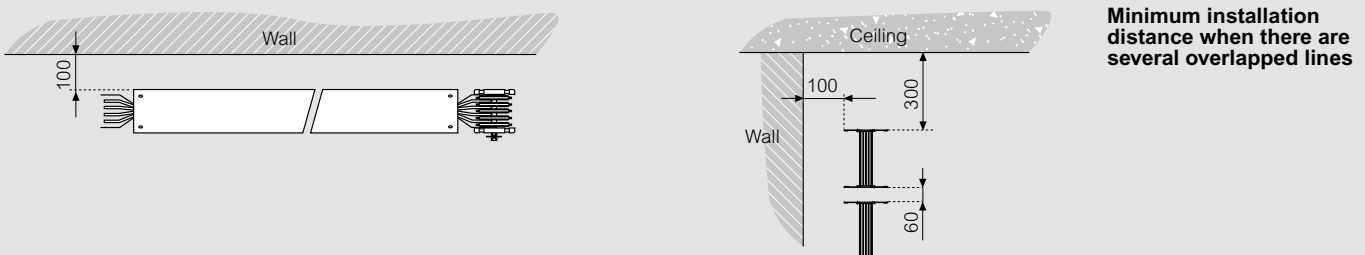
When there are tap-off units along the busbars, the minimum distances depend on the dimensions of the tap-offs selected



\* 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



Minimum installation distance when there are several adjacent lines



Minimum installation distance when there are several overlapped lines



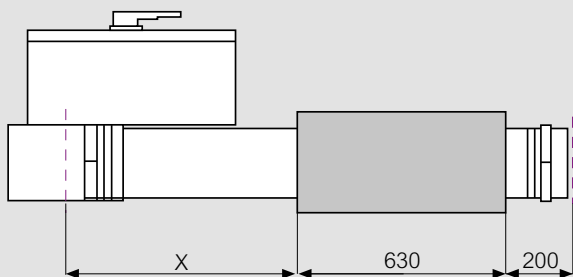
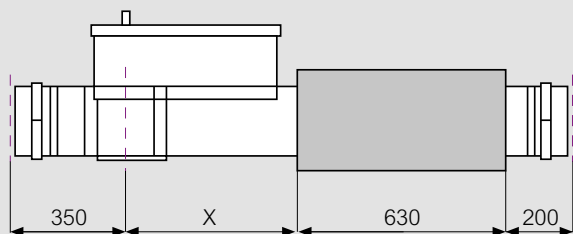
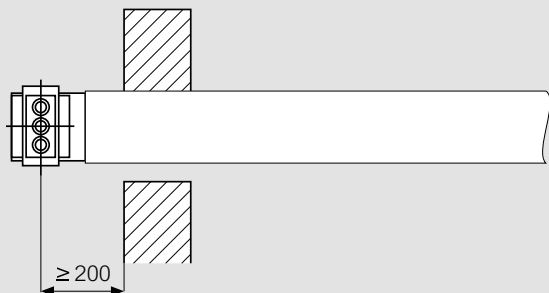
# Xtra Compact (XCP)

## mechanical design precautions

The minimum distance from the junction to the point the busbar crosses the wall or other structure must be at least 200 mm, to ensure the junction of the junctions

In case plug-in boxes and fire barriers are required on the same element, the minimum distance between the box and the partition must be taken into account, at the same time allowing for the necessary free space in the junction area and the minimum distance between the distribution outlet and the start of the element

By taking all these variables into account, it is possible to obtain the minimum size of the element in order to be able to fit the partition and the plug-in box. The tables that follow summarise the minimum sizes



Referred to Aluminium

PLUG-IN TAP OF BOXES (X MINIMUM SIZE)		
Type	Rating (A)	X (mm)
1	63 – 160	520
2	250 – 630	720
3	125 – 400	620

Referred to Aluminium

PLUG-IN BOXES ON THE JUNCTION		
Type	Rating (A)	X (mm)
-	125 – 400	700
-	630	820
-	800 – 1250	1120

### ■ Connection to the board

As a rule, the manufacturer of the board is responsible for connecting the connection element and the distribution busbars inside the board

On request Legrand may develop and supply the connections, subject to all necessary details being available

All types of connections must be agreed and checked with the board manufacturer

### ■ Short circuit withstand

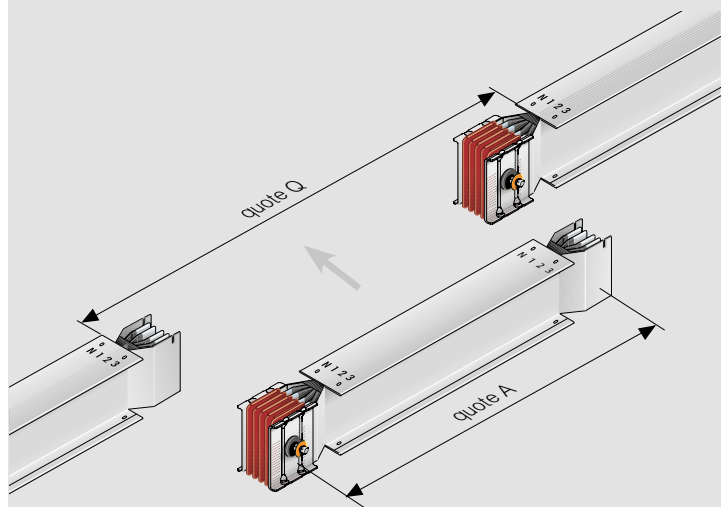
The short circuit withstand of the connection elements depends on the connection of the busbars inside the distribution board

The declaration of short circuit withstand for the system busbars may only be supplied by the board manufacturer. When using Legrand boards and Legrand busbar trunking systems it will be possible to obtain a short circuit certification

## Xtra Compact (XCP)

### measurement of special element lengths

#### ■ Measurement of straight elements

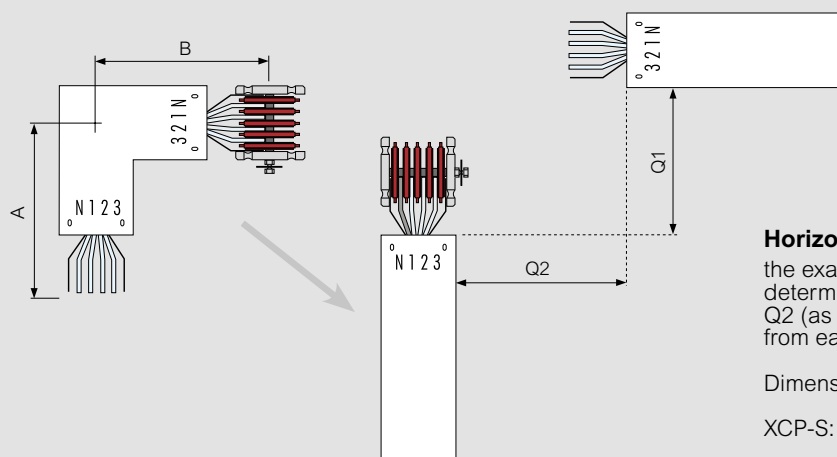


The exact length of the piece to be ordered can be determined by measuring the distance between the elements (as shown in the picture) and then subtracting 270 mm from the dimension that has been taken

$$A \text{ (Length of element)} = Q - 270 \text{ mm}$$

Example: Dimension measured  $Q = 2500 \text{ mm}$   
Order a element  $(2500 - 270) = 2230 \text{ mm}$  (quote A)

#### ■ Measurement of the size for the ordering of a special path element



#### Horizontal elbow

the exact length of the piece to be ordered can be determined by measuring the dimensions  $Q1$  and  $Q2$  (as shown in the picture) and then by subtracting from each dimension the values indicated below.

Dimensions of the element to order:

XCP-S: **A** =  $Q1 - 75 \text{ mm}$   
**B** =  $Q2 - 75 \text{ mm}$

XCP-HP: **A** =  $Q1 - 72.5 \text{ mm}$   
**B** =  $Q2 - 72.5 \text{ mm}$

# Xtra Compact (XCP)

## Insulation technology

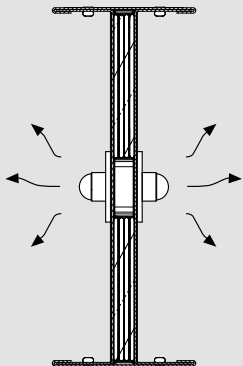
### ■ Superior moisture-free insulation technology

The busbars of the XCP series are insulated by wrapping PET film. To get superior quality and safety, conductor bars are wrapped with two sheets, and each of them is enough to ensure the complete dielectric level required. Therefore, the second sheet has the function to double insulate so to ensure the safety of the bar also in case of remote failure of the first sheet. The PET films used to insulate the bars are non-hygroscopic and therefore their dielectric performance are independent by air humidity.

XCP construction follow a sandwich logic. In this way free air circulation is not possible inside the case. Thanks to this geometry, penetration of humidity and dust is prevented (IP55 or IP65 on request), whichever is the spatial orientation of busbar elements.

In any case, an energized bar has a temperature higher in comparison to the surrounding atmosphere, and this prevents any possibility of condensation of eventual moisture an event that can only happen on colder surfaces. So, thanks to the double insulating layer technology together with the sandwich construction, XCP range is fully protected from any problem that can be occur from humidity.

### ■ Totally Enclosed Housing



The XCP busway has a modern fully enclosed housing design that doesn't need derating whatever is mounting position. Due to the fact that there are no ventilation holes in the house, the possibility for dirt and moisture to enter into contact with bars is extremely low

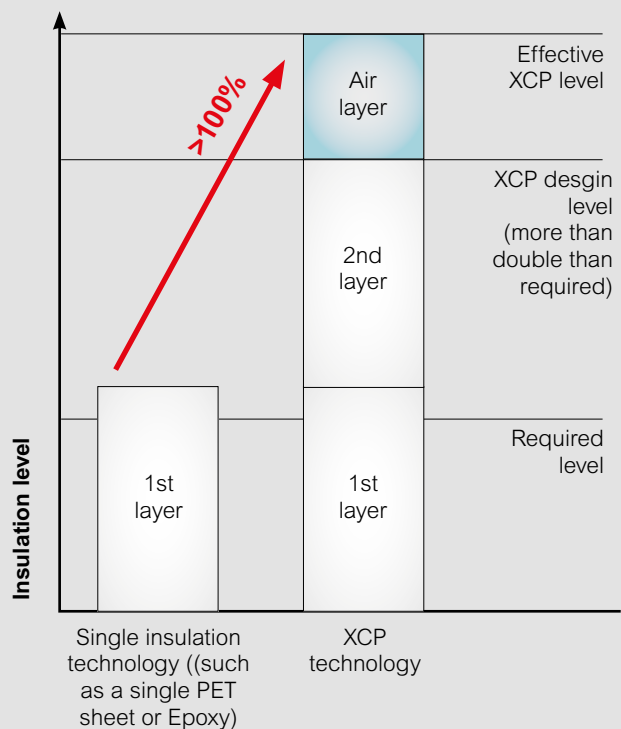
PET\*-based insulation technology is sometimes perceived as a degradation of its performance as a function of the level of atmospheric humidity.

This is a misperception, in fact PET itself is not hygroscopic and therefore preserves its performance whatever is the moisture entity.

What could be affected by its own dielectric performance is the thin layer of air that is inevitably present between the conductive bars and the PET film.

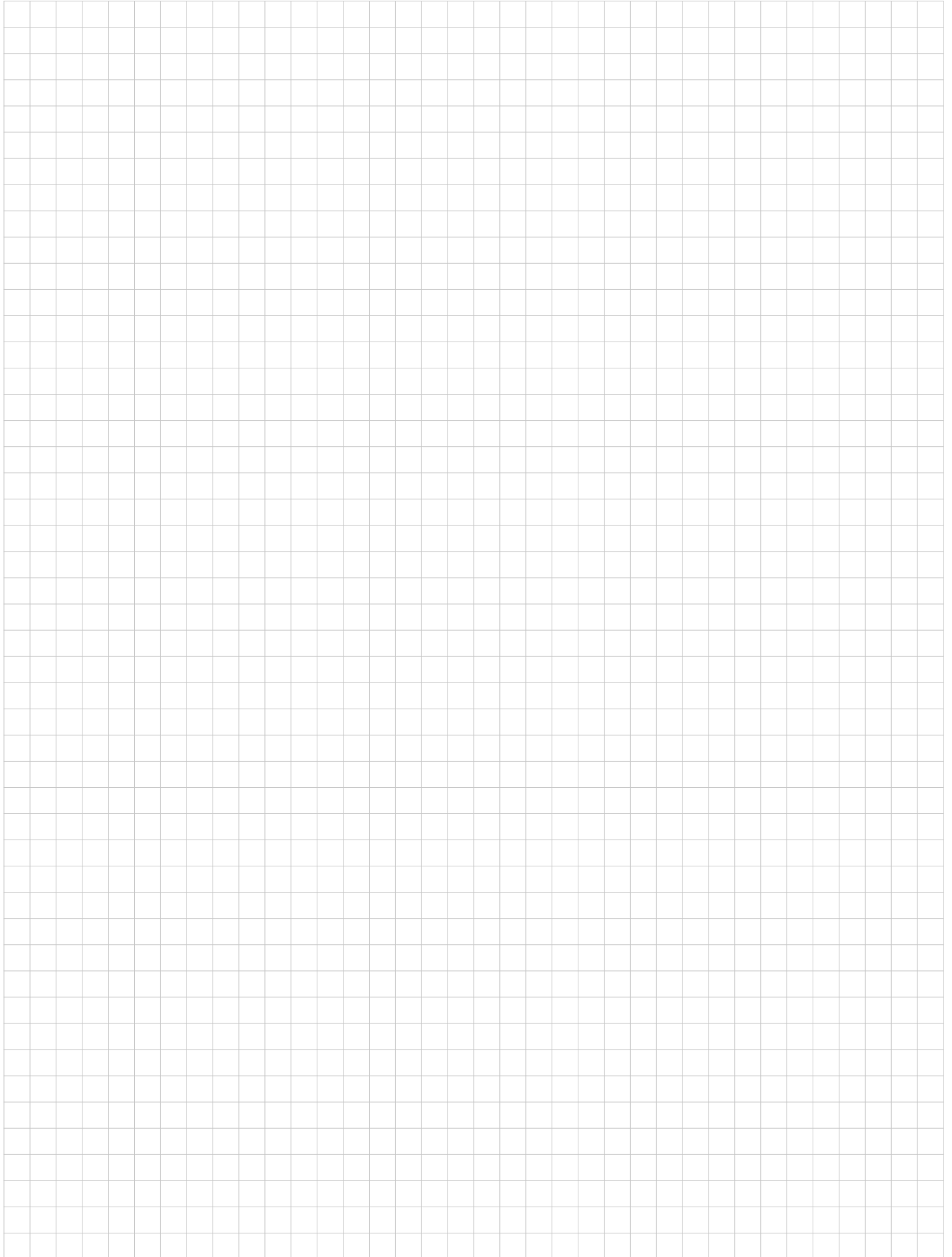
Although if not negligible, in XCP design these air layers provide the additional insulation level ,that is not considered as not fully controllable

Consequently, the total isolation level provided by the XCP range is even higher than that provided by the double PET sheet.



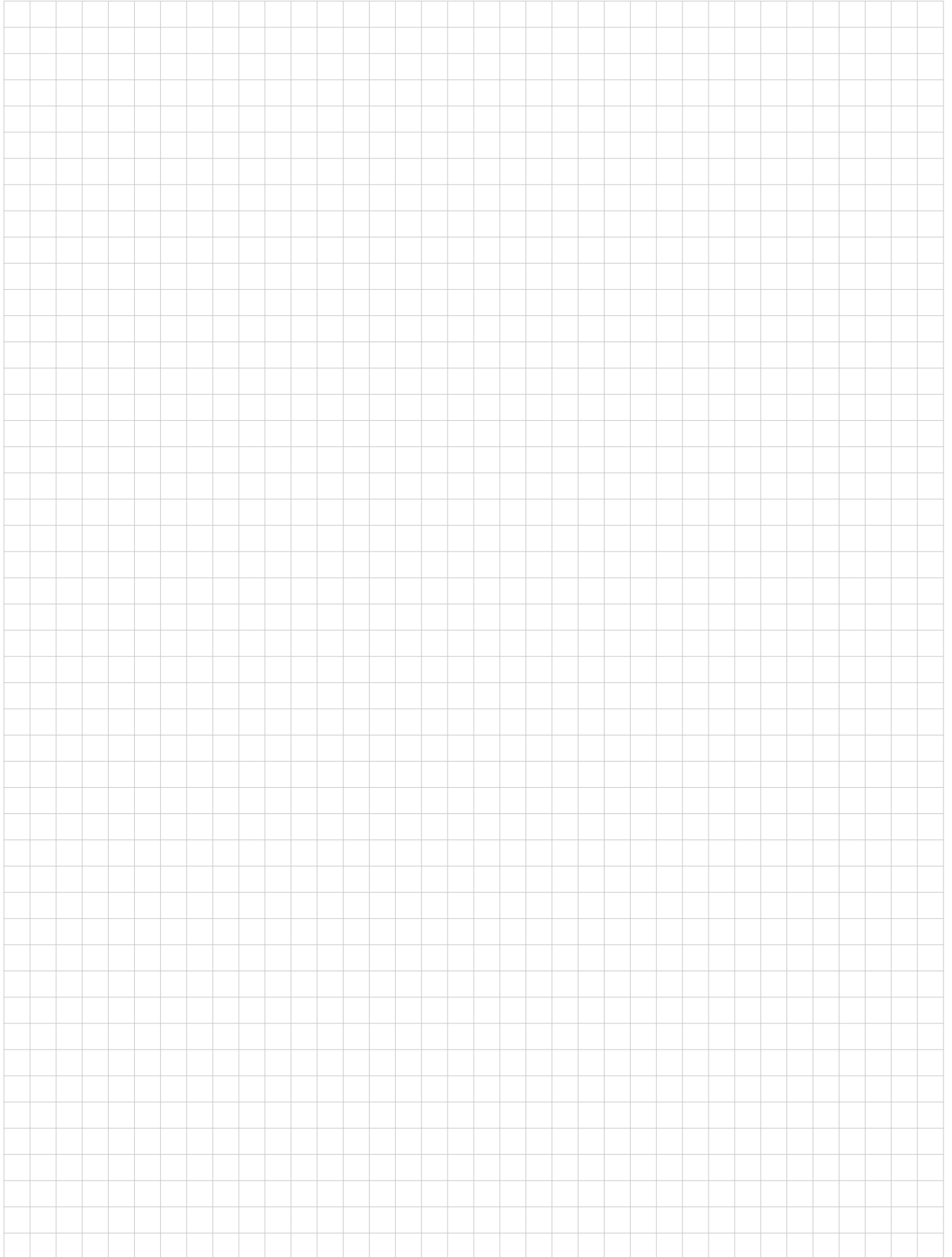
\*PET = polyethylene terephthalate  
the most useful insulation material for the electric and electronics industry, PET it's used for example in the windings of transformers, to insulate the rotor and stators of electric motors

NOTES





NOTES












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