

## Lectro Normal Busduct LNB

### General Specification

Lectro normal feeder busduct is a totally non-ventilated design available in either indoor or outdoor constructions. Plug-in busway is totally enclosed non-ventilated and is available in indoor applications. Both lectro normal feeder and plug-in busduct are rated up to 1000 V AC. Rated current from 63 up to 500 A.



### Casing:

Lectro casing is manufactured from galvanized sheet steel of thickness 1mm to 2mm according to the busduct size.

Casing is used as continuous ground (fifth conductor available as option).

Standard neutral is 100%. However, 200% or 160% neutral can be supplied as option.

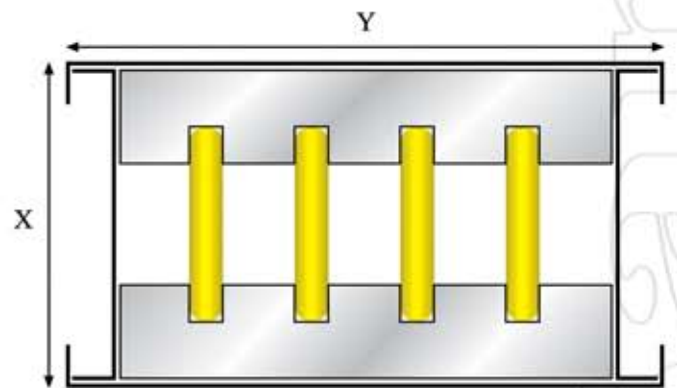
For severe weather conditions (high humidity) casing is manufactured from galvanized sheet steel and then painted.

### Conductors:

Bars are manufactured from pure copper tin coated with suitable cross section according to the rated current insulated by heat shrinkable polyolefin tubes or special epoxy resin. The maximum hot spot temperature rise at any point in the busduct at rated current will not exceed 55°C above an ambient temperature of 40 ° C in any position.

## Busduct Dimensions

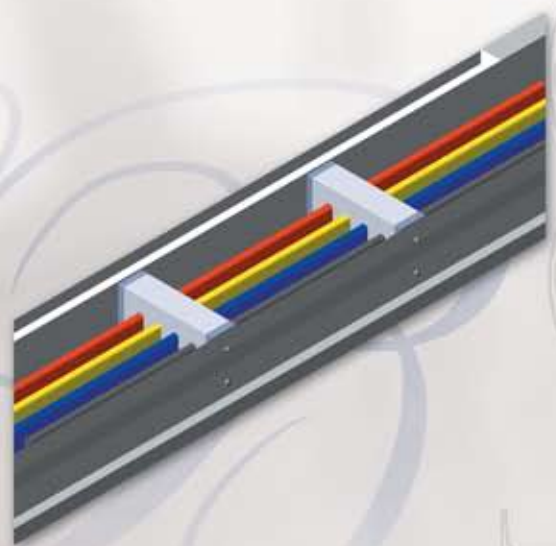
Lectro normal busduct is manufactured in box housing copper busbar up to 500A with dimensions as shown in figure and following table. Standard length is 3 meters and any special lengths can be supplied.



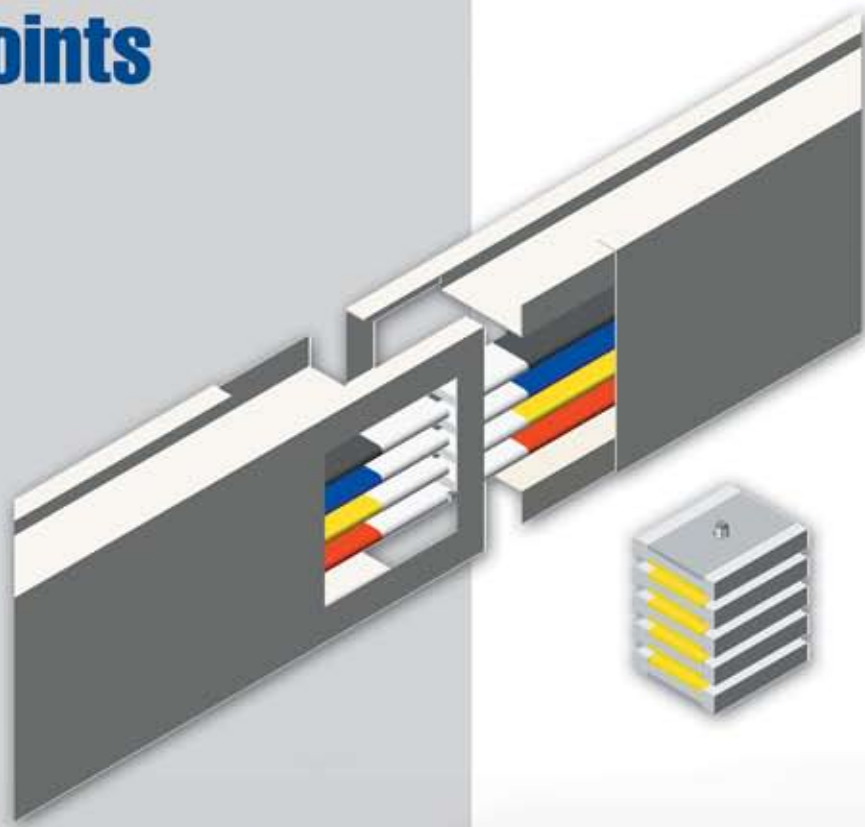
Ampere Rating (A)	X (mm)	Y (mm)	Busbars/Phase (mmxmm)	Weight (kg/m)
63	37	125	7 x 2	3.9
80	38	125	8 x 3	4.1
100	40	125	10 x 3	4.3
125	45	125	15 x 3	4.75
160	48	125	18 x 3	6
200	55	125	25 x 3	6.75
250	60	125	30 x 3	7.5
350	70	125	40 x 3	8.2
400	80	125	50 x 3	8.9
500	90	125	60 x 3	9.5

## Fixation Points

Fixation points of the busbar are distant from 20 to 50 cm according to the size of the busbar and the desired rated short circuit current. Fixation points consist of a special insulating material that assembles the bars together and keeps a fixed distance between phases. Insulating materials are tied together by steel bolts.



## Joints



All busbars in the pack are offset at one end. At the other end a single bolt clamp is formed using an insulated bolt. Thus tightening (clamping) a single bolt makes the electrical connection between two busduct enclosures. This method greatly simplifies installation and saves time. Busduct joints stay tight after installation and they are easy to inspect without removing joint covers. A single bolt is used to join adjacent lengths this method exerts more than two tons of pressure on overlapping busbars.

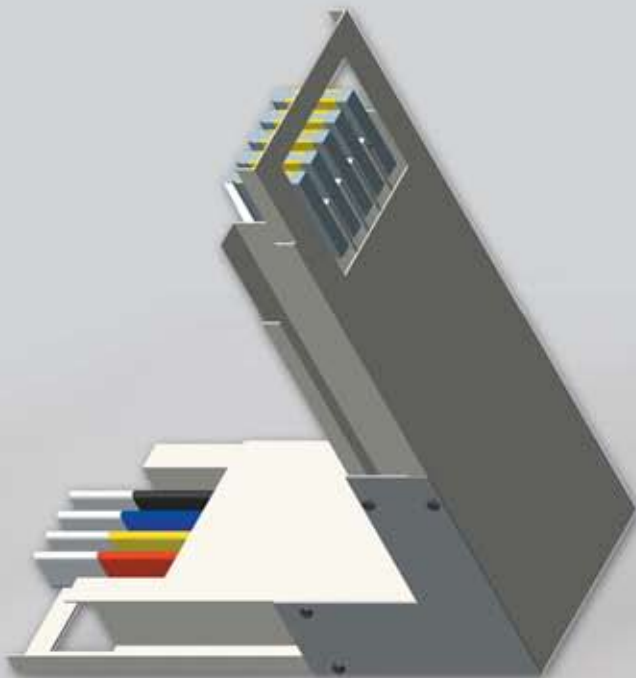
The combination of one bolt electrical joint and up to 2 meter hanging intervals between busduct supports makes lectro normal busduct economical to install, safe in operation and need minimum maintenance.



## Accessories

### Fire Barrier

These units are normally factory fitted in accordance with approved drawings. However, it can be supplied in boxed kits for assembly on site. Fire barriers utilize special fiberglass sheets. Distance between each barrier is 3 meter.



Up & Down Elbows

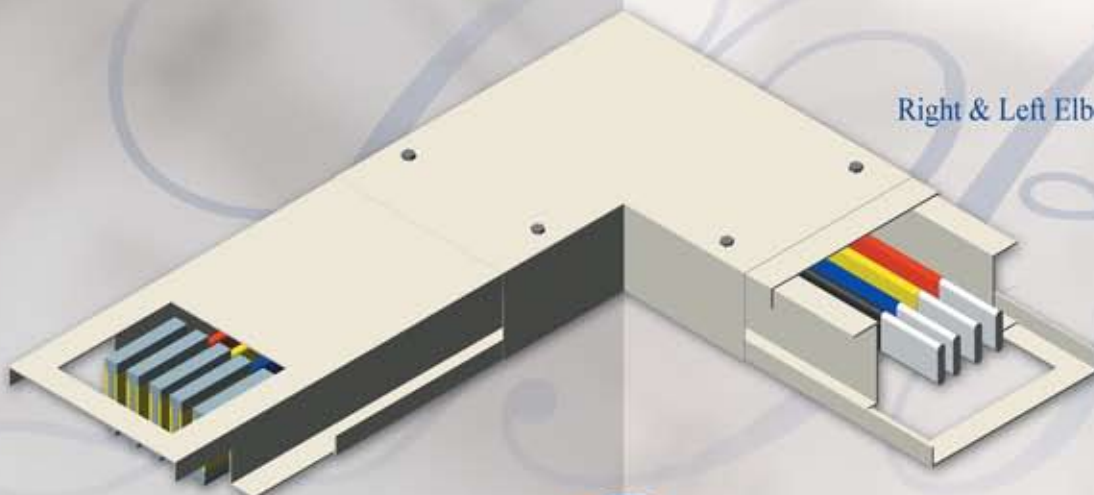


Fire Barrier

### Elbows:

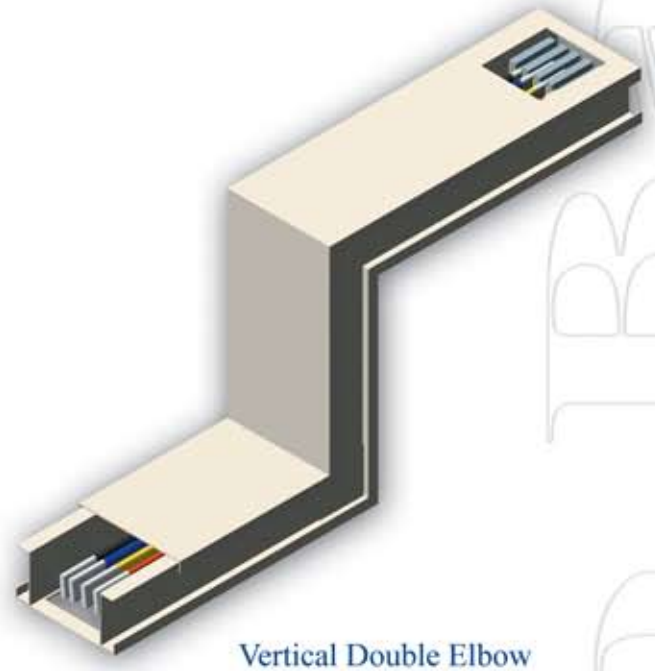
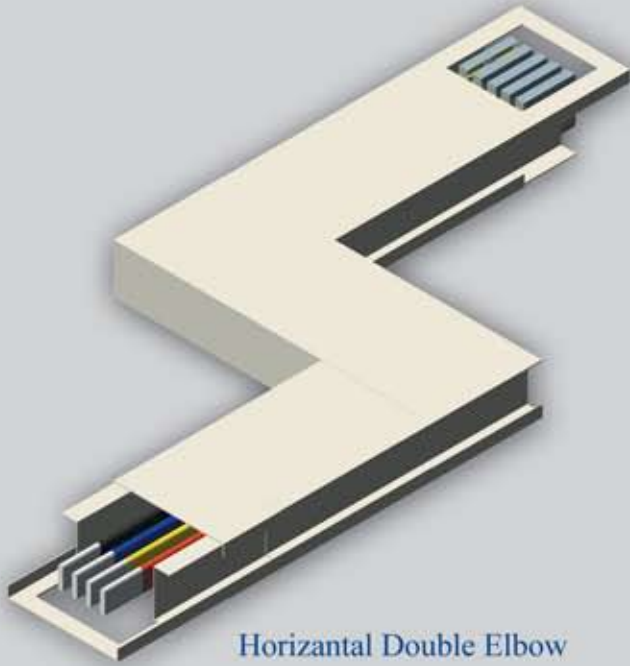
Up and down, left or right elbows are available for either feeder or plug-in busduct.

A variety of combination elbows is available to meet requirements where a quick change of direction is necessary.



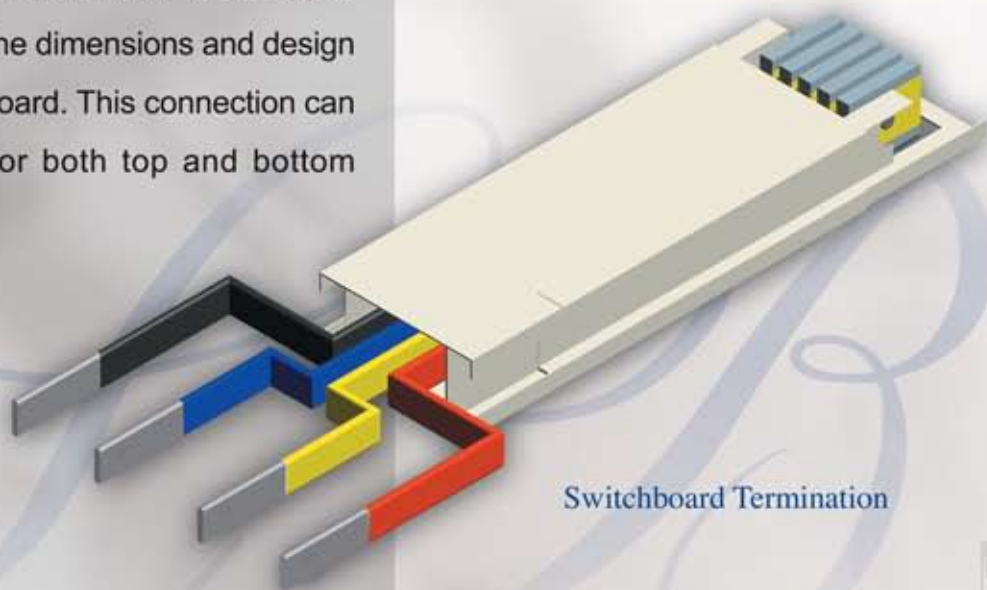
Right & Left Elbows

In minimum space double elbows (offsets) are also available.



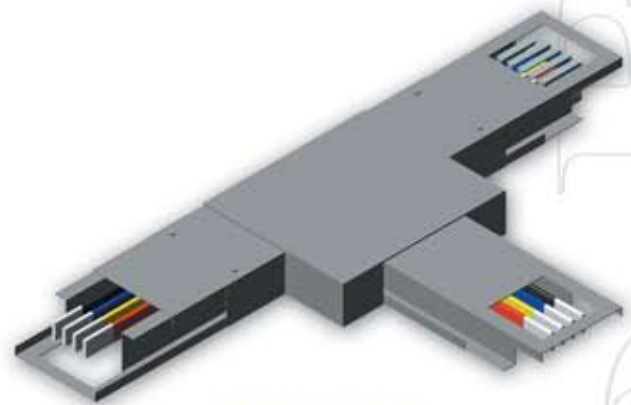
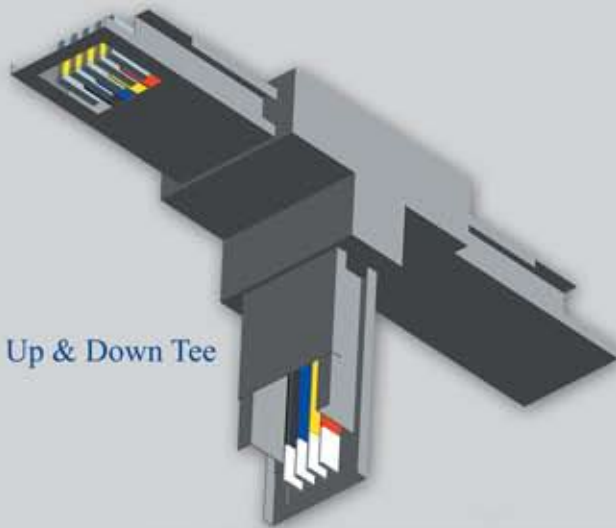
## Low Voltage Terminations Switchboards

The busduct enters the switchboard and connects its main busbar by special attachment which will be tailored according to the dimensions and design of the switchboard. This connection can be suitable for both top and bottom entrance.



## Tees and reducers

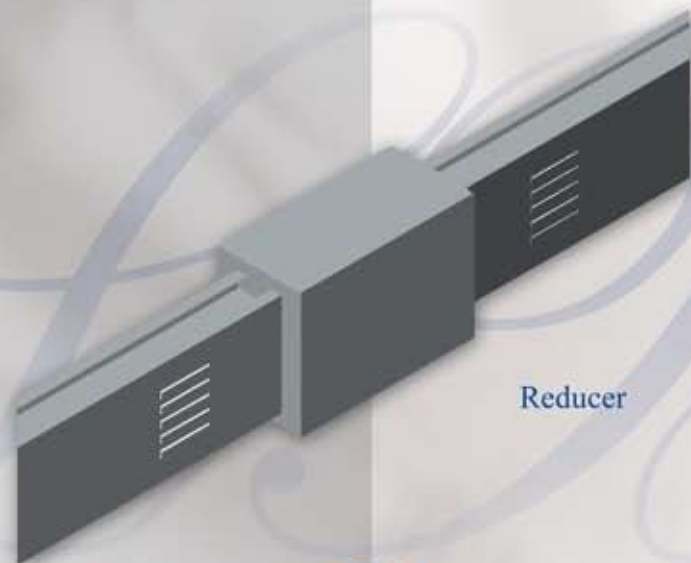
Tees for feeding power to branch runs and reducers for transition from larger to smaller duct casing.



## Reducers

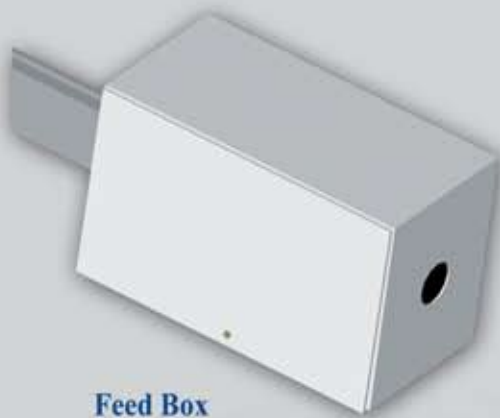
Reducers are produced in two versions: Without protection and with protection (fuses and circuit breakers).

Circuit breakers are selected with short circuit rating suitable for the busduct.

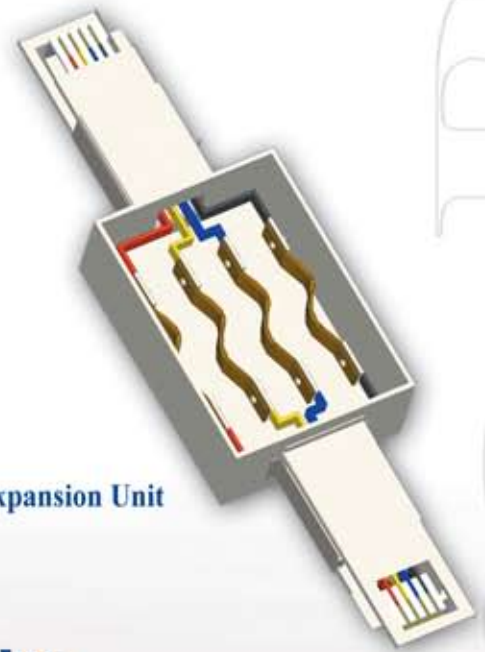


## Feed Boxes & Expansion Units

Feed boxes are manufactured from sheet steel containing either connection strips, circuit breakers or fuses. Expansion Units are 1 meter length sections, having flexible expansion strips.

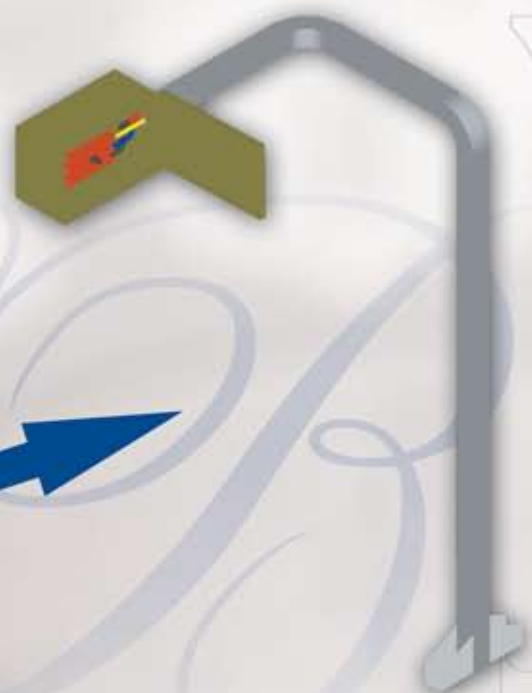
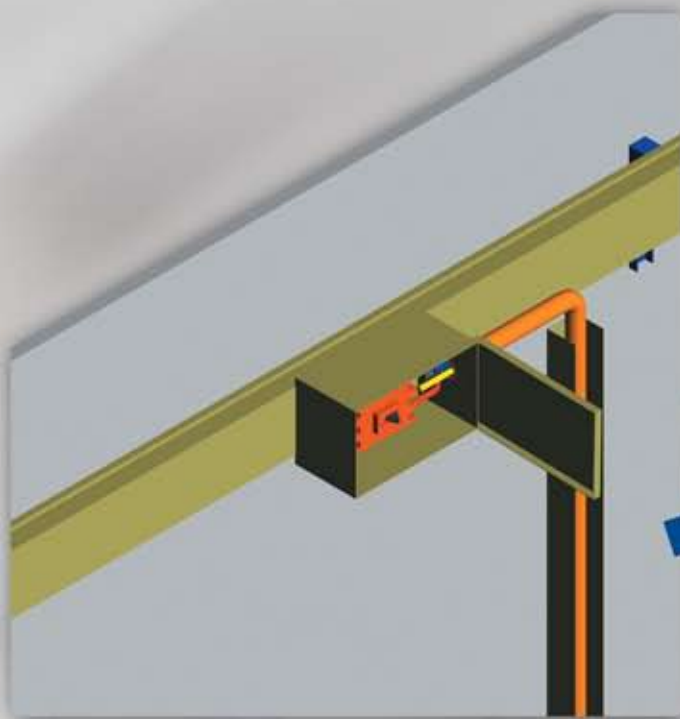


Feed Box

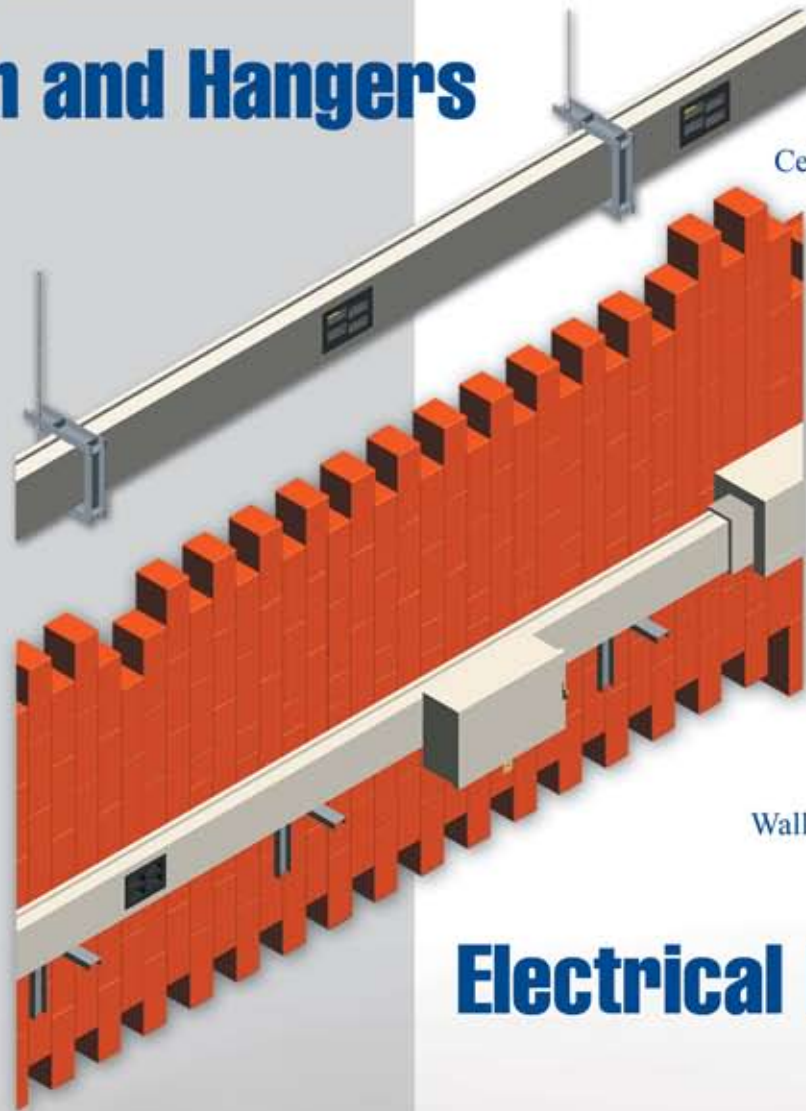


Expansion Unit

## Tap-off Mounting



## Fixation and Hangers



Ceiling Suspension

Wall Suspension

## Electrical Data

Copper Conductor

Ampere Rating (A)	R ( $\mu\Omega/m$ )	X ( $\mu\Omega/m$ )	Z ( $\mu\Omega/m$ )	Isc (kA) Peak	Isc (kA) 1 sec.	Voltage Drop** ( $\mu V/m$ ) / A		
						cos $\phi$		
						0.8	0.9	1
63	2090	123	2094	30	15	3020	3347	3615
80	1220	107	1559	30	15	2695	2638	2110
100	910	113	1112	30	15	1924	1904	1574
125	610	100	618	30	15	948	1025	1055
160	505	90	513	30	15	792	854	873
200	364	75	371	40	20	581	623	629
250	203	66	213	40	20	349	366	351
350	152	63	164.5	52	25	275	284	263
400	122	57	134.6	52	25	228	233	211
500	101	49	112	52	25	190	194	174

\*\* For balanced three phase line to line voltage drop use values from the tables.  
The values of voltage drop in the table are based on a single concentrated load at the end of the busduct, for distributed loading, divide the values shown by two.

\*\* For voltage drop in  $\mu V/m$  multiply the table values by the actual current.

\*\* For voltage drop at different power factors use the following equation:-  
 $1.732 (R \cos \phi + X \sin \phi)$

R, X are values for the resistance and reactance respectively from table  
Cos  $\phi$  is the power factor