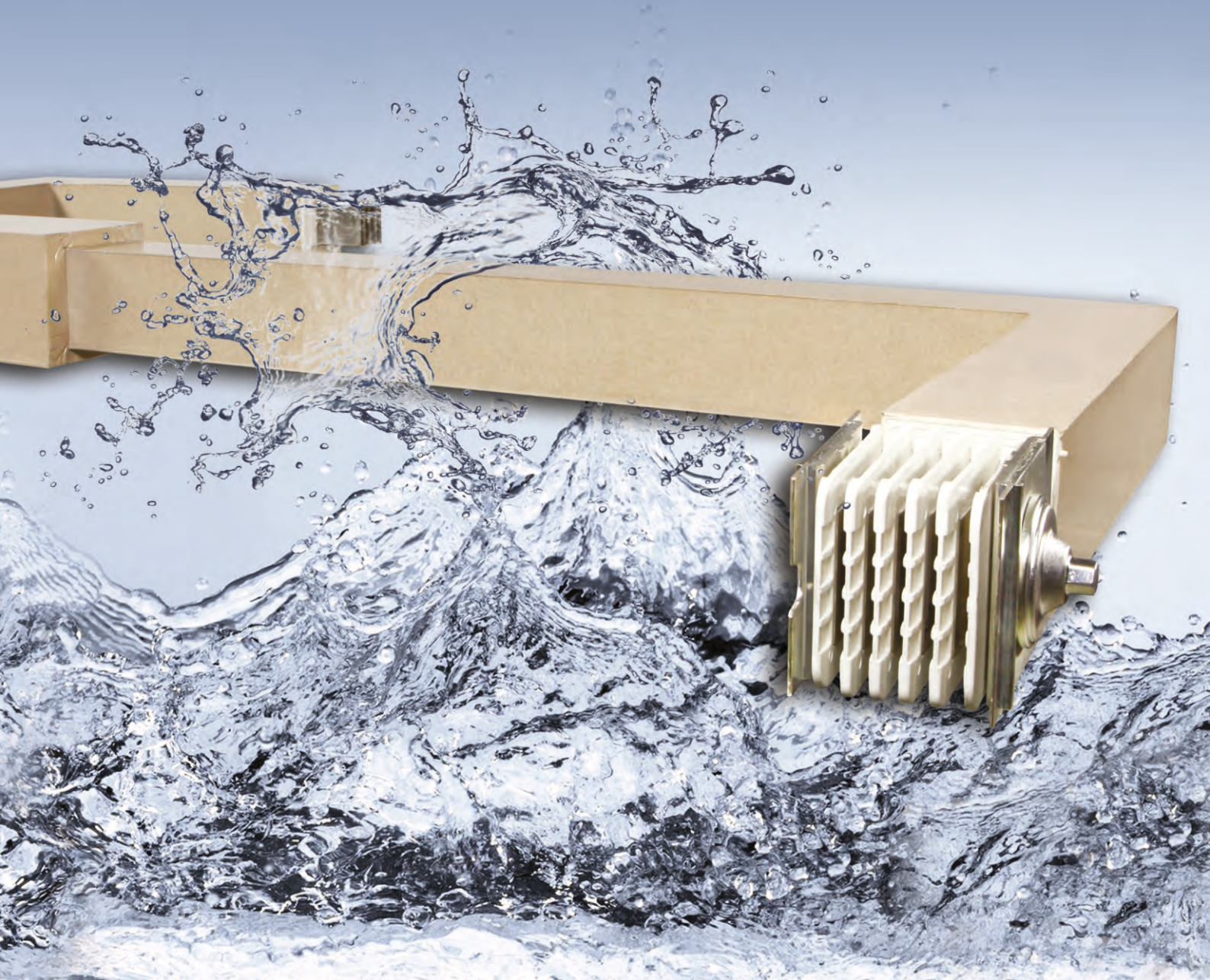




ELEKTRİK

# E-LINECR

Busbar Systems 630A...6300A



E-LINECR

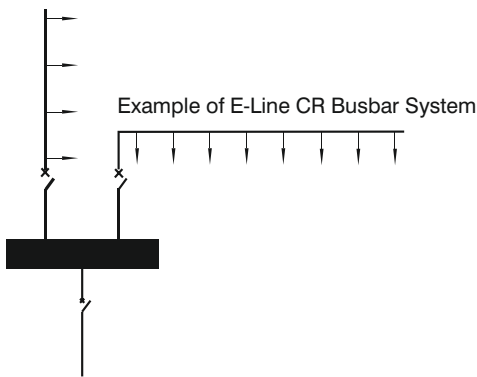
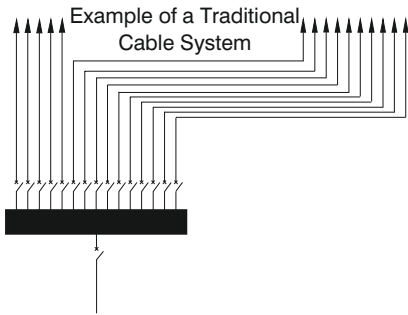
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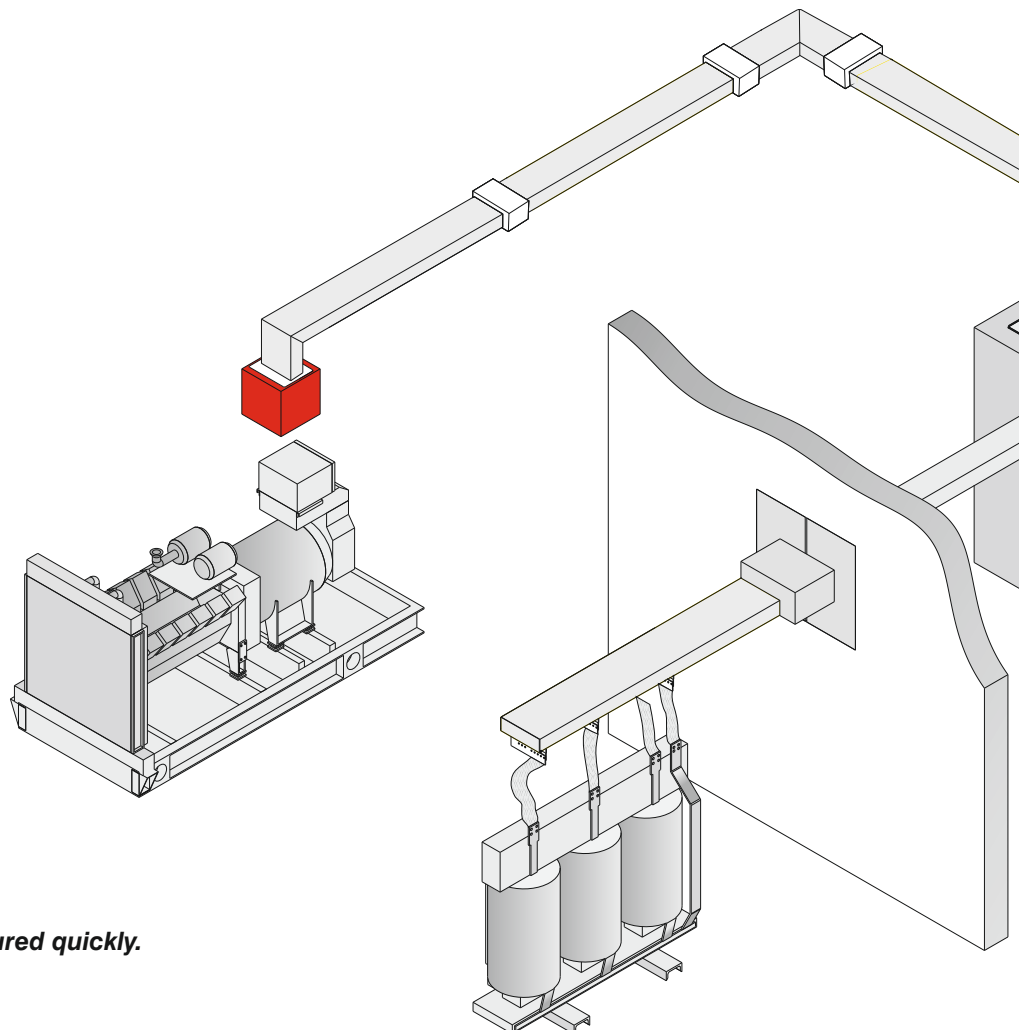




Traditionally, carrying high currents (transformer to switchboards, main distribution lines, power distribution for factories) was achieved using multiples of large cross-section cables in parallel.

### Advantages of a Cast Resin System

- IEC 61439-6 standard approved
- Protection degree IP68
- Protects against corrosion
- Protects against chemicals
- Resist insects and rodents
- Suitable for tropical climates
- High mechanical strength
- Protects against chimney effects
- High short circuit withstand
- Resistant to fire propagation
- Electrical continuity during fire.
- Suitable to connect with E-Line KX busbar systems



*\*Special components can be manufactured quickly.*

## ►► Technical Features

### High IP Rating

The body of the E-Line CR busbar is formed using DURACOMP a composite material of epoxy resin and pure silicon, which gives protection against external elements as listed above (page 2).

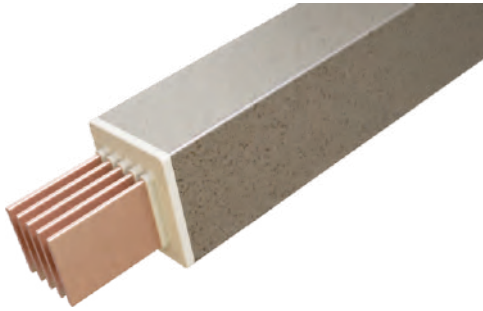


Diagram 1

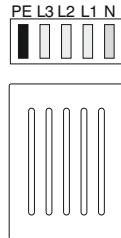
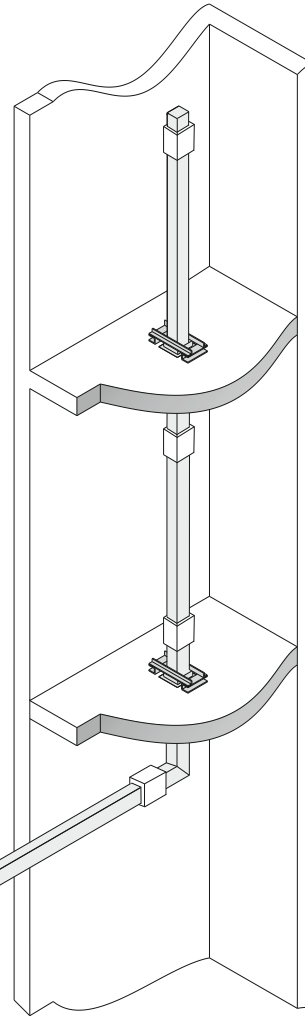


Diagram 2

### Effective Heat Dissipation

The cast resin body gives a very effective heat dissipation characteristic (Diagram 2).



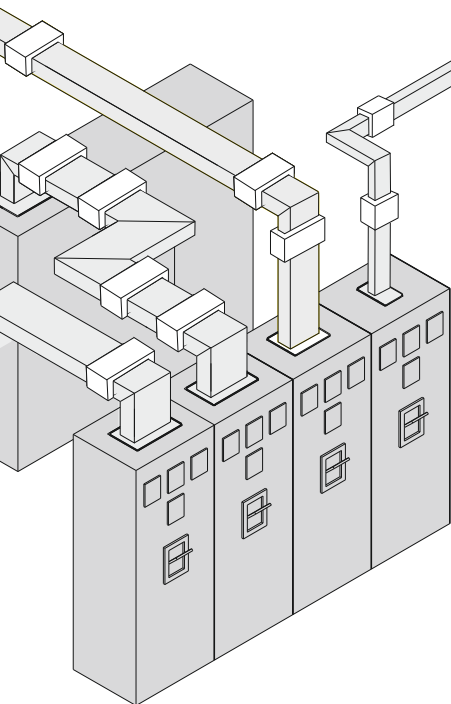
### Short Circuit Withstand

The structure of the E-Line CR has a high mechanical strength, a very high short circuit withstand characteristic, and extreme external thermal resistance.

### Single Bolt Joint

The E-Line CR busbar is installed by tightening the 'single bolt joint'. Belleville spring washers on both ends of the bolt maintain the original contact pressure under all kinds of conditions eg the thermal contraction of the bolt, thus ensuring a more secure, reliable and maintenance free joint.

**\*The bolt is tightened to 83Nm (60 lbf)**



### Fire and Earthquake Resistance

- 3 hours Electrical Continuity under Fire as per IEC 60331-1
- Seismic Resistance as per IEC 60068-3-3 / 60068-2-57 and IEEE 693.

### EX - Protected

- ATEX as per EN 60079-0:2009, EN 60079-18:2009, EN60079-31:2009



II 2G Ex mb IIC Gb  
II 2D IIIC Db



### **Attention !**

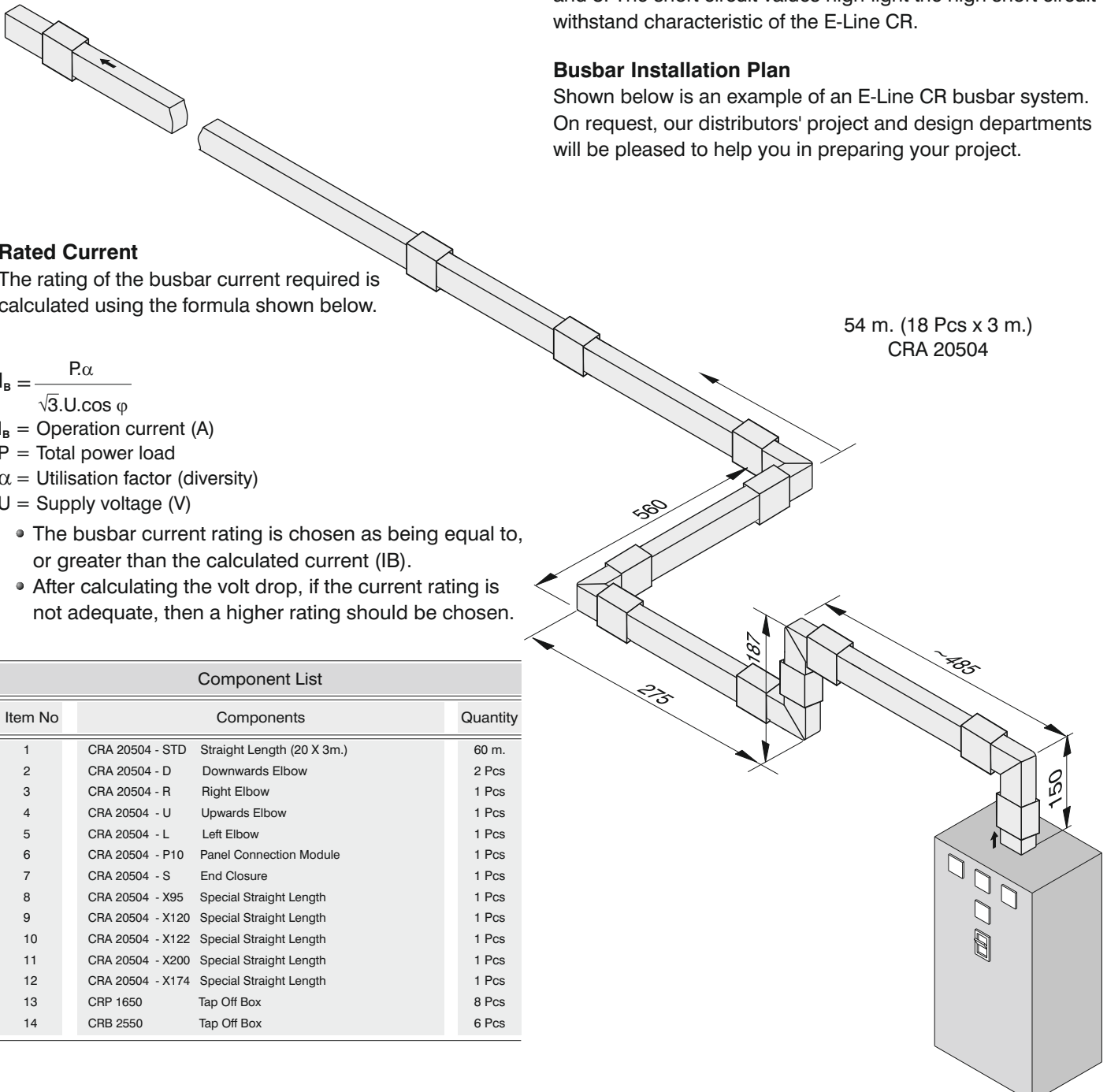
The standard mounting of the Cast Resin busbar is with the conductors on edge, this allows for the easy application of the resin at the joint.

## ►► Distribution & Horizontal Applications

When using the E-Line CR to create an electrical distribution system, the following criteria should be taken into consideration.

- The Power of the load to be connected to the system and their locations.
- Utilisation factor (diversity) assay,
- Power and short circuit currents of transformers,
- System coordination with other distribution systems (heat, steam, water, etc.),
- Determining a route of the E-Line CR on layout of the designed system,
- Determination of the types of supports according to plan,
- If necessary, the system can be integrated with E-Line KX busbar system.

Sample Project Design (For Horizontal Application)



54 m. (18 Pcs x 3 m.)  
CRA 20504

### Rated Current

The rating of the busbar current required is calculated using the formula shown below.

$$I_B = \frac{P \cdot \alpha}{\sqrt{3} \cdot U \cdot \cos \varphi}$$

$I_B$  = Operation current (A)

P = Total power load

$\alpha$  = Utilisation factor (diversity)

U = Supply voltage (V)

- The busbar current rating is chosen as being equal to, or greater than the calculated current ( $I_B$ ).
- After calculating the volt drop, if the current rating is not adequate, then a higher rating should be chosen.

Component List			
Item No	Components		Quantity
1	CRA 20504 - STD	Straight Length (20 X 3m.)	60 m.
2	CRA 20504 - D	Downwards Elbow	2 Pcs
3	CRA 20504 - R	Right Elbow	1 Pcs
4	CRA 20504 - U	Upwards Elbow	1 Pcs
5	CRA 20504 - L	Left Elbow	1 Pcs
6	CRA 20504 - P10	Panel Connection Module	1 Pcs
7	CRA 20504 - S	End Closure	1 Pcs
8	CRA 20504 - X95	Special Straight Length	1 Pcs
9	CRA 20504 - X120	Special Straight Length	1 Pcs
10	CRA 20504 - X122	Special Straight Length	1 Pcs
11	CRA 20504 - X200	Special Straight Length	1 Pcs
12	CRA 20504 - X174	Special Straight Length	1 Pcs
13	CRP 1650	Tap Off Box	8 Pcs
14	CRB 2550	Tap Off Box	6 Pcs

### Utilisation Factor (Diversity)

The utilisation factor ( $\alpha$ ) depends on the type and number of loads. Most are 0.7 or less. Intense Lighting and Motor Fed Lines "0,6" is quite difficult to rise above. Even at automobile welding plants it could fall down to "0,30". With only one single and large load can it go up to "1".

### Voltage Drop

All the required values for voltage Drop Calculations, formulas, basic calculations for simple cases the tables are given on pages 6-9. Further support can be obtained from our Design Department.

### Short Circuit Values

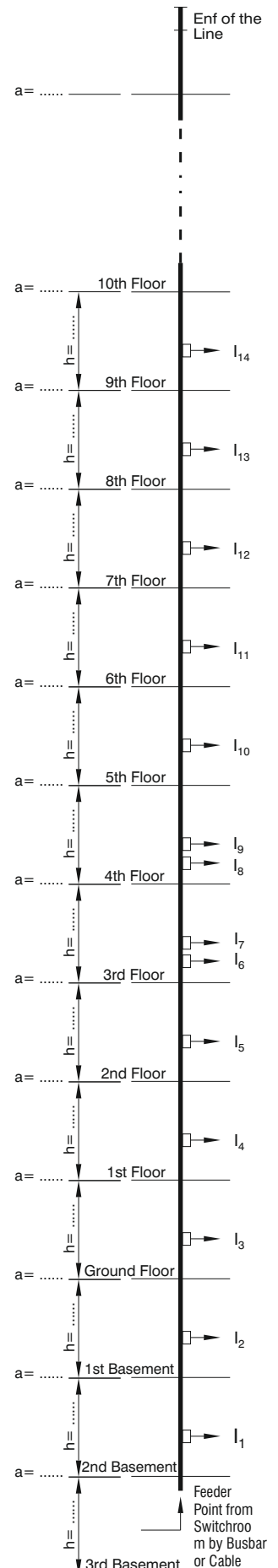
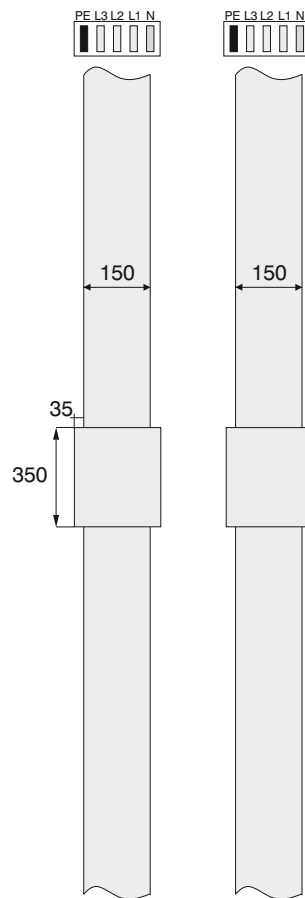
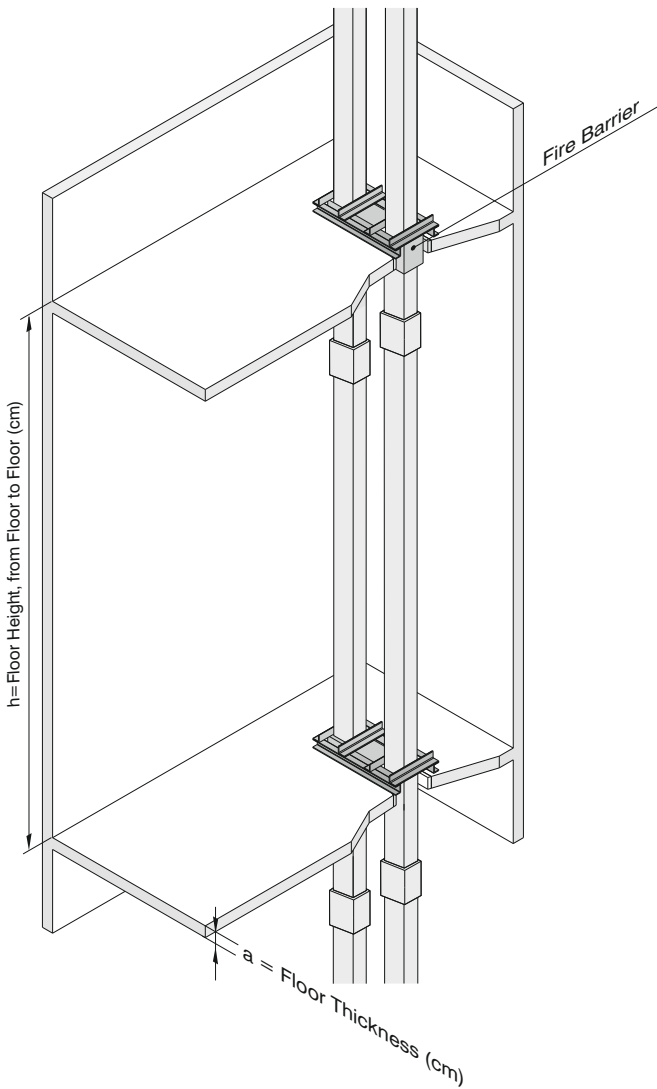
Short circuit test values are given on the tables on pages 7 and 8. The short circuit values high-light the high short circuit withstand characteristic of the E-Line CR.

### Busbar Installation Plan

Shown below is an example of an E-Line CR busbar system. On request, our distributors' project and design departments will be pleased to help you in preparing your project.

As each building's structure is different, each of the **E-Line CR** projects has to be specially designed.

The details on this page briefly explain the information necessary for designing the vertical installation project.



### Pre-Project Design and cost Analysis

Before design and cost analysis can be made, please submit the following information to our Design Department.

- Location and Dimensions of the floor penetration where the busbar line will be installed.
- Floor height and Floor thickness ( $h = \dots$   $a = \dots$ )
- Vertical line feeding method (by busbar or by cable)

By supplying the above information of the dimensions on a drawing similar to the example in Figure 1 and by faxing or emailing it to us we will be able to produce a quotation.

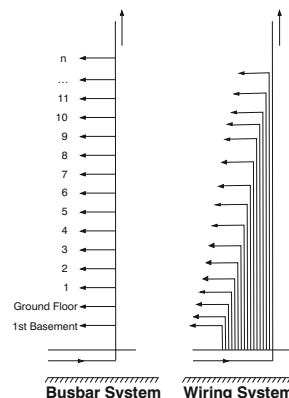
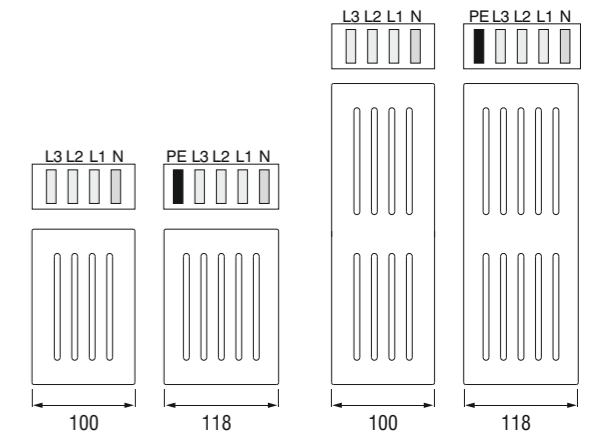


Figure 1

► Technical Characteristics  
**Aluminium Conductor (Al)**

Rated Current	I <sub>n</sub>	A	630	800	1000	1250	1600	2000	2500	2250	2500	3000	3200	3600	4000	5000
<b>Busbar Code</b>			<b>06</b>	<b>08</b>	<b>10</b>	<b>12</b>	<b>16</b>	<b>20</b>	<b>25</b>	<b>23</b>	<b>27</b>	<b>30</b>	<b>33</b>	<b>36</b>	<b>40</b>	<b>50</b>
<b>Standards</b>	IEC 61439-6:2012 Ed.1 ; IEC 61439-1 Ed.2:2011, TS EN 61439-1: 2011															
<b>Rated Isolation Voltage</b>	U <sub>i</sub>	V	1000													
<b>Rated Operational Voltage</b>	U <sub>e</sub>	V	1000													
<b>Rated Frequency</b>	f	Hz	50													
<b>Pollution Degree</b>	III															
<b>Protection Degree</b>	IP68															
<b>External Mechanical Impacts (IK Code)*</b>	50J, greater than IK10															
<b>Protection for Safety</b>	Basic Protection (HD 60364-4-41, Clause A1)															
<b>Rated Short-time Withstand Current (1s)</b>	I <sub>cw</sub>	kA <sub>rms</sub>	20	28	40	55	70	70	70	100	100	120	120	120	120	120
<b>Rated Peak Withstand Current</b>	I <sub>pk</sub>	kA	40	58,8	84	121	154	154	154	220	220	264	264	264	264	264
<b>Rated Short-time Withstand Current for Neutral Conductor (1s)</b>	I <sub>cw</sub>	kA	12	16,8	24	33	42	42	42	60	60	72	72	72	72	72
<b>Rated Peak Withstand Current for Neutral Conductor</b>	I <sub>pk</sub>	kA	24	33,6	50,4	72,6	92,4	88,2	88,2	132	132	158,4	158,4	158,4	158,4	158,4
<b>Rated Short-time Withstand Current for PE Conductor (1s)</b>	I <sub>cw</sub>	kA	12	16,8	24	33	42	42	42	60	60	72	72	72	72	72
<b>Rated Peak Withstand Current for PE Conductor</b>	I <sub>pk</sub>	kA	24	33,6	50,4	72,6	92,4	88,2	88,2	132	132	158,4	158,4	158,4	158,4	158,4
<b>MEAN PHASE CONDUCTOR CHARACTERISTICS AT RATED CURRENT I<sub>n</sub></b>																
<b>Resistance at a conductor temperature of 20 °C</b>	R <sub>20</sub>	mΩ/m	0,125	0,090	0,061	0,045	0,030	0,024	0,020	0,022	0,021	0,016	0,015	0,012	0,010	0,008
<b>Resistance at an ambient air temperature of 35 °C</b>	R	mΩ/m	0,161	0,117	0,079	0,057	0,039	0,032	0,026	0,029	0,028	0,020	0,019	0,016	0,013	0,010
<b>Reactance (Independent from Temperature)</b>	X	mΩ/m	0,068	0,057	0,044	0,034	0,027	0,022	0,019	0,019	0,018	0,014	0,015	0,012	0,010	0,008
<b>Positive and negative sequence impedances at an ambient air temperature of 35 °C</b>	Z	mΩ/m	0,175	0,130	0,091	0,067	0,047	0,039	0,032	0,035	0,033	0,024	0,024	0,020	0,016	0,013
<b>Positive and negative sequence impedances at an ambient air temperature of 20 °C</b>	Z <sub>20</sub>	mΩ/m	0,142	0,106	0,075	0,056	0,040	0,033	0,027	0,029	0,028	0,021	0,021	0,017	0,014	0,012
<b>Rated Power Loss at 35 °C</b>		Watt	191,9	212,9	237,3	268,6	302,6	382,8	483,8	446,5	525,0	545,4	559,1	606,5	604,8	780,0
<b>DC Resistance at a conductor temperature of 20 °C for Phases</b>	R <sub>phdc</sub>	mΩ/m	0,128	0,098	0,060	0,043	0,030	0,024	0,020	0,025	0,022	0,018	0,016	0,014	0,012	0,012
<b>DC Resistance at a conductor temperature of 20 °C for Neutral</b>	R <sub>ndc</sub>	mΩ/m	0,132	0,101	0,062	0,044	0,031	0,025	0,020	0,026	0,024	0,019	0,017	0,015	0,013	0,013
<b>DC Resistance at a conductor temperature of 20 °C for PE</b>	R <sub>pedc</sub>	mΩ/m	0,132	0,101	0,062	0,045	0,031	0,025	0,020	0,026	0,024	0,019	0,017	0,015	0,012	0,012
<b>SECTIONS</b>																
<b>L1,L2,L3,N</b>		mm <sup>2</sup>	240	330	480	660	960	1200	1500	1320	1500	1920	2040	2400	3000	3600
<b>PE (5 Conductors)</b>		mm <sup>2</sup>	240	330	480	660	960	1200	1500	1320	1500	1920	2040	2400	3000	3600
<b>Conductor Cross Section</b>		mmxmm	6x40	6x55	6x80	6x110	6x160	6x200	6x250	2(6x110)	2(6x125)	2(6x160)	2(6x170)	2(6x200)	2(6x250)	3(6x200)
<b>Busbar Weight (5 Conductors)</b>		kg/m	28	33	40,4	49,9	64,9	77	90	97,3	108	129	139,3	151,8	188	224,9
<b>MEAN FAULT-LOOP CHARACTERISTICS</b>																
<b>Zero-sequence Impedance</b>																
<b>Zero-sequence impedance at a conductor temperature of 20 °C</b>	Z <sub>(0)b20phN</sub>	mΩ/m	0,670	0,518	0,381	0,281	0,204	0,167	0,165	0,155	0,131	0,108	0,106	0,087	0,081	0,054
<b>Zero-sequence impedance at a conductor temperature of 20 °C</b>	Z <sub>(0)b20phPE</sub>	mΩ/m	0,670	0,522	0,381	0,294	0,205	0,166	0,166	0,142	0,131	0,106	0,100	0,087	0,071	0,066
<b>Zero-sequence impedance at an ambient temperature of 35 °C</b>	Z <sub>(0)bphN</sub>	mΩ/m	0,811	0,622	0,453	0,330	0,237	0,197	0,195	0,184	0,155	0,127	0,121	0,101	0,090	0,063
<b>Zero-sequence impedance at an ambient temperature of 35 °C</b>	Z <sub>(0)bphPE</sub>	mΩ/m	0,811	0,626	0,453	0,341	0,239	0,196	0,197	0,169	0,155	0,125	0,116	0,102	0,080	0,074
<b>Mean Resistances and Reactances</b>																
<b>Resistance at a conductor temperature of 20 °C</b>	R <sub>b20phph</sub>	mΩ/m	0,257	0,181	0,128	0,091	0,062	0,051	0,052	0,050	0,042	0,035	0,030	0,025	0,022	0,017
<b>Resistance at a conductor temperature of 20 °C</b>	R <sub>b20phN</sub>	mΩ/m	0,261	0,185	0,131	0,094	0,064	0,053	0,052	0,052	0,043	0,036	0,031	0,026	0,023	0,017
<b>Resistance at a conductor temperature of 20 °C</b>	R <sub>b20phPE</sub>	mΩ/m	0,261	0,186	0,132	0,094	0,064	0,053	0,052	0,052	0,041	0,037	0,030	0,026	0,024	0,017
<b>Resistance at an ambient air temperature of 35 °C</b>	R <sub>bphph</sub>	mΩ/m	0,332	0,236	0,166	0,117	0,080	0,067	0,066	0,065	0,055	0,045	0,038	0,032	0,028	0,021
<b>Resistance at an ambient air temperature of 35 °C</b>	R <sub>bphN</sub>	mΩ/m	0,337	0,242	0,170	0,121	0,082	0,069	0,068	0,068	0,056	0,048	0,039	0,034	0,029	0,022
<b>Resistance at an ambient air temperature of 35 °C</b>	R <sub>bphPE</sub>	mΩ/m	0,337	0,242	0,171	0,121	0,083	0,069	0,069	0,068	0,054	0,048	0,039	0,033	0,030	0,022
<b>Reactance (Independent from temperature)</b>	X <sub>bphph</sub>	mΩ/m	0,142	0,089	0,083	0,066	0,050	0,040	0,041	0,041	0,034	0,028	0,024	0,022	0,014	0,014
<b>Reactance (Independent from temperature)</b>	X <sub>bphN</sub>	mΩ/m	0,172	0,153	0,112	0,091	0,072	0,059	0,059	0,057	0,047	0,040	0,037	0,033	0,028	0,023
<b>Reactance (Independent from temperature)</b>	X <sub>bphPE</sub>	mΩ/m	0,173	0,154	0,117	0,093	0,071	0,058	0,059	0,056	0,047	0,040	0,037	0,032	0,028	0,024

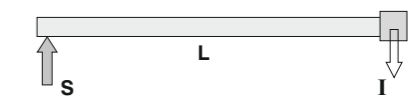


**Voltage Drop Calculation**

Generally Voltage drop of a busbar system can be calculated with the following formula.

$$\Delta U = \sqrt{3} \cdot L \cdot I \cdot (R_1 \cdot \cos\phi + X_1 \cdot \sin\phi) \cdot 10^{-3} [V]$$

- ΔU = Voltage Drop (V)
- L = Line Length (m)
- I = Line Current or Load (A)
- R<sub>1</sub> = Resistance (mΩ/m)
- X<sub>1</sub> = Reactance (mΩ/m)
- cosφ = Power Factor



S = Supply Point

<sup>(1)</sup>All phase conductor characteristics have been determined according to Annex BB of IEC 61439-6.

<sup>(2)</sup>Fault-loop zero-sequences impedances have been determined according to Annex CC of IEC 61439-6.

<sup>(3)</sup>Fault-loop resistances and reactances have been determined according to Annex DD of IEC 61439-6.

\*IK10 corresponds to impact energy of 20J according to IEC 62262.

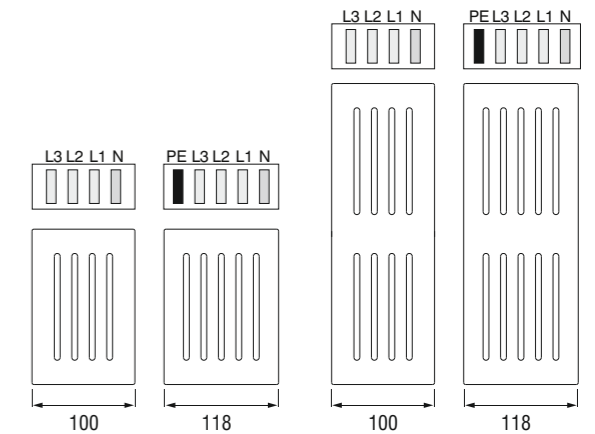
\*\*Cast Resin Busbars are produced with a minimum of 3 conductors.

**Attention!** The standard mounting of the Cast Resin busbar is with the conductors on edge. This allows for the easy application of the resin at the joint.



► Technical Characteristics  
**Copper Conductor (Cu)**

Rated Current	I <sub>n</sub>	A	800	1000	1250	1600	2000	2500	3000	3200	3600	4000	5000	6300
<b>Busbar Code</b>			<b>08</b>	<b>10</b>	<b>12</b>	<b>16</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>32</b>	<b>36</b>	<b>40</b>	<b>50</b>	<b>63</b>
<b>Standards</b>	IEC 61439-6:2012 Ed.1 ; IEC 61439-1 Ed.2:2011, TS EN 61439-1: 2011													
<b>Rated Isolation Voltage</b>	U <sub>i</sub>	V	1000											
<b>Rated Operational Voltage</b>	U <sub>e</sub>	V	1000											
<b>Rated Frequency</b>	f	Hz	50											
<b>Pollution Degree</b>	III													
<b>Protection Degree</b>	IP68													
<b>External Mechanical Impacts (IK Code)*</b>	50J, greater than IK10													
<b>Protection for Safety</b>	Basic Protection (HD 60364-4-41, Clause A1)													
<b>Rated Short-time Withstand Current (1s)</b>	I <sub>cw</sub>	kA <sub>rms</sub>	23	32	45	60	80	80	120	120	120	120	120	120
<b>Rated Peak Withstand Current</b>	I <sub>pk</sub>	kA	48,3	67,2	94,5	132	176	176	264	264	264	264	264	264
<b>Rated Short-time Withstand Current for Neutral Conductor (1s)</b>	I <sub>cw</sub>	kA	13,8	19,2	27	36	48	48	72	72	72	72	72	72
<b>Rated Peak Withstand Current for Neutral Conductor</b>	I <sub>pk</sub>	kA	27,6	38,4	56,7	75,6	100,8	100,8	158,4	158,4	158,4	158,4	158,4	158,4
<b>Rated Short-time Withstand Current for PE Conductor (1s)</b>	I <sub>cw</sub>	kA	13,8	19,2	27	36	48	48	72	72	72	72	72	72
<b>Rated Peak Withstand Current for PE Conductor</b>	I <sub>pk</sub>	kA	27,6	38,4	56,7	75,6	100,8	100,8	158,4	158,4	158,4	158,4	158,4	158,4
<b>MEAN PHASE CONDUCTOR CHARACTERISTICS AT RATED CURRENT I<sub>n</sub></b>														
<b>Resistance at a conductor temperature of 20 °C</b>	R <sub>20</sub>	mΩ/m	0,078	0,054	0,038	0,028	0,019	0,015	0,014	0,012	0,011	0,009	0,007	0,005
<b>Resistance at an ambient air temperature of 35 °C</b>	R	mΩ/m	0,100	0,070	0,048	0,035	0,023	0,019	0,018	0,016	0,014	0,012	0,009	0,006
<b>Reactance (Independent from Temperature)</b>	X	mΩ/m	0,069	0,056	0,045	0,033	0,028	0,022	0,019	0,017	0,016	0,014	0,012	0,009
<b>Positive and negative sequence impedances at an ambient air temperature of 35 °C</b>	Z	mΩ/m	0,121	0,090	0,066	0,048	0,036	0,029	0,026	0,023	0,021	0,018	0,015	0,011
<b>Positive and negative sequence impedances at an ambient air temperature of 20 °C</b>	Z <sub>20</sub>	mΩ/m	0,104	0,078	0,059	0,043	0,033	0,026	0,023	0,021	0,019	0,017	0,014	0,010
<b>Rated Power Loss at 35 °C</b>		Watt	191,8	209,7	224,5	271,1	280,8	361,9	491,4	488,4	544,3	576,0	742,5	726,3
<b>DC Resistance at a conductor temperature of 20 °C for Phases</b>	R <sub>phdc</sub>	mΩ/m	0,074	0,053	0,036	0,027	0,018	0,014	0,016	0,013	0,012	0,010	0,008	0,006
<b>DC Resistance at a conductor temperature of 20 °C for Neutral</b>	R <sub>ndc</sub>	mΩ/m	0,077	0,055	0,038	0,028	0,018	0,015	0,015	0,014	0,012	0,011	0,009	0,006
<b>DC Resistance at a conductor temperature of 20 °C for PE</b>	R <sub>PEdc</sub>	mΩ/m	0,077	0,055	0,037	0,027	0,019	0,015	0,016	0,014	0,012	0,010	0,009	0,007
<b>SECTIONS</b>														
<b>L1,L2,L3,N</b>		mm <sup>2</sup>	240	330	480	660	960	1200	1320	1500	1680	1920	2400	3600
<b>PE (5 Conductors)</b>		mm <sup>2</sup>	240	330	480	660	960	1200	1320	1500	1920	1920	2400	3600
<b>Conductor Cross Section</b>		mmxmm	6x40	6x55	6x80	6x110	6x160	6x200	2(6x110)	2(6x125)	2(6x140)	2(6x160)	2(6x200)	3(6x200)
<b>Busbar Weight (5 Conductors)</b>		kg/m	35,6	43,4	55,6	70,3	95,3	114	139,4	156,5	173	200	226	336,1
<b>MEAN FAULT-LOOP CHARACTERISTICS</b>														
<b>Zero-sequence Impedance</b>														
<b>Zero-sequence impedance at a conductor temperature of 20 °C</b>	Z <sub>(0)b20phN</sub>	mΩ/m	0,500	0,391	0,315	0,220	0,167	0,131	0,117	0,103	0,093	0,077	0,069	0,047
<b>Zero-sequence impedance at a conductor temperature of 20 °C</b>	Z <sub>(0)b20phPE</sub>	mΩ/m	0,502	0,402	0,305	0,222	0,165	0,133	0,116	0,103	0,092	0,079	0,070	0,047
<b>Zero-sequence impedance at an ambient temperature of 35 °C</b>	Z <sub>(0)bphN</sub>	mΩ/m	0,576	0,448	0,353	0,247	0,184	0,146	0,134	0,116	0,104	0,087	0,079	0,051
<b>Zero-sequence impedance at an ambient temperature of 35 °C</b>	Z <sub>(0)bphPE</sub>	mΩ/m	0,578	0,461	0,341	0,250	0,183	0,148	0,133	0,116	0,103	0,089	0,078	0,052
<b>Mean Resistances and Reactances</b>														
<b>Resistance at a conductor temperature of 20 °C</b>	R <sub>b20phph</sub>	mΩ/m	0,156	0,115	0,080	0,057	0,039	0,032	0,033	0,025	0,020	0,019	0,015	0,011
<b>Resistance at a conductor temperature of 20 °C</b>	R <sub>b20phN</sub>	mΩ/m	0,160	0,118	0,086	0,059	0,041	0,034	0,035	0,026	0,021	0,020	0,016	0,013
<b>Resistance at a conductor temperature of 20 °C</b>	R <sub>b20phPE</sub>	mΩ/m	0,161	0,119	0,083	0,059	0,041	0,034	0,034	0,026	0,021	0,020	0,016	0,013
<b>Resistance at an ambient air temperature of 35 °C</b>	R <sub>bphph</sub>	mΩ/m	0,201	0,148	0,102	0,073	0,049	0,041	0,044	0,032	0,026	0,025	0,020	0,014
<b>Resistance at an ambient air temperature of 35 °C</b>	R <sub>bphN</sub>	mΩ/m	0,205	0,153	0,110	0,076	0,051	0,043	0,046	0,033	0,028	0,027	0,021	0,016
<b>Resistance at an ambient air temperature of 35 °C</b>	R <sub>bphPE</sub>	mΩ/m	0,206	0,153	0,106	0,076	0,052	0,043	0,045	0,034	0,028	0,026	0,021	0,016
<b>Reactance (Independent from temperature)</b>	X <sub>bphph</sub>	mΩ/m	0,133	0,109	0,082	0,064	0,050	0,040	0,039	0,031	0,027	0,027	0,021	0,017
<b>Reactance (Independent from temperature)</b>	X <sub>bphN</sub>	mΩ/m	0,175	0,144	0,119	0,091	0,071	0,062	0,056	0,045	0,039	0,038	0,031	0,025
<b>Reactance (Independent from temperature)</b>	X <sub>bphPE</sub>	mΩ/m	0,175	0,147	0,117	0,092	0,071	0,059	0,054	0,046	0,041	0,037	0,032	0,027

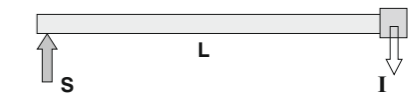


**Voltage Drop Calculation**

Generally Voltage drop of a busbar system can be calculated with the following formula.

$$\Delta U = \sqrt{3} \cdot L \cdot I \cdot (R_1 \cdot \cos\phi + X_1 \cdot \sin\phi) \cdot 10^{-3} [V]$$

- ΔU = Voltage Drop (V)
- L = Line Length (m)
- I = Line Current or Load (A)
- R<sub>1</sub> = Resistance (mΩ/m)
- X<sub>1</sub> = Reactance (mΩ/m)
- cosφ = Power Factor



S = Supply Point

<sup>(1)</sup>All phase conductor characteristics have been determined according to Annex BB of IEC 61439-6.

<sup>(2)</sup>Fault-loop zero-sequences impedances have been determined according to Annex CC of IEC 61439-6.

<sup>(3)</sup>Fault-loop resistances and reactances have been determined according to Annex DD of IEC 61439-6.

\*IK10 corresponds to impact energy of 20J according to IEC 62262.

\*\*Cast Resin Busbars are produced with a minimum of 3 conductors.

**Attention!** The standard mounting of the Cast Resin busbar is with the conductors on edge. This allows for the easy application of the resin at the joint.

- BUSBAR
- CONDUCTOR MATERIAL
- BUSBAR CODE
- PROTECTION DEGREE
- CONDUCTOR CONFIGURATION
- UTILISATION TYPE / FEEDER
- COMPONENT

**CR C 16 8 04 - B - TR 4 0**

Busbar Type

Aluminium (Al) **A**  
Copper (Cu) **C** CONDUCTOR MATERIAL

CRA - Al Conductor		CRC - Cu Conductor		Conductor Cross Section
Rated Current	Busbar Code	Rated Current	Busbar Code	
630	06	800	08	6x40
800	08	1000	10	6x55
1000	10	1250	12	6x80
1250	12	1600	16	6x110
1600	16	2000	20	6x160
2000	20	2500	25	6x200
2500	25	-	-	6x250
2250	23	3000	30	2(6x110)
-	-	3200	32	2(6x125)
-	-	3600	36	2(6x140)
3000	30	4000	40	2(6x160)
3200	33	-	-	2(6x170)
3600	36	5000	50	2(6x200)
4000	40	-	-	2(6x250)
5000	50	6300	63	3(6x200)

BUSBAR CODE

IP 68 8

PROTECTION DEGREE

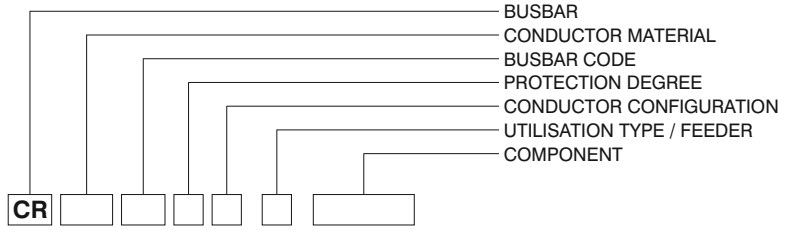
Number of Conductors	Code	Conductor Configuration					
		L1	L2	L3	N	N	1/2 Clean Earth
<b>3 Conductor</b>	<b>03</b>	✓	✓	✓	█	█	█
<b>4 Conductor</b>	<b>04</b>	✓	✓	✓	✓	█	█
<b>4 1/2 Conductor</b>	<b>05</b>	✓	✓	✓	✓	█	✓
<b>5 Conductor</b>	<b>06</b>	✓	✓	✓	✓	✓	█
<b>6 Conductor</b>	<b>07</b>	✓	✓	✓	✓	✓	█

**\*TYPE** Utilisation Type

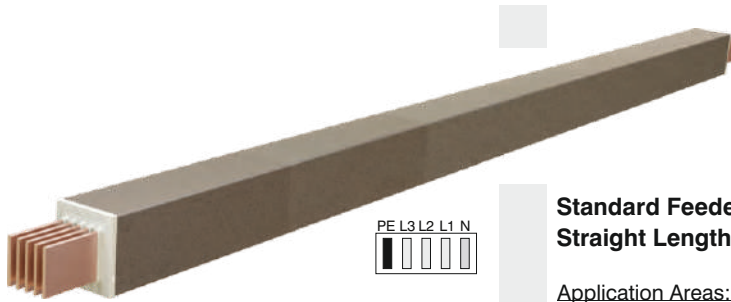
**(B) Feeder** Where there is no need for tap off boxes, power is supplied from one point to the other end point of the line.

Standard Straight Length	STD
Special Straight Length	X
Upwards Elbow	U
Downwards Elbow	D
Left Elbow	L
Right Elbow	R
Left Horizontal Offset	LH
Right Horizontal Offset	RH
Upwards Horizontal Offset	UV
Downwards Horizontal Offset	DV
Upwards Left Combined Offset	KUL
Upwards Left Combined Offset	KUR
Downwards Left Combined Offset	KDL
Downwards Right Combined Offset	KDR
Left Upwards Combined Offset	KLU
Right Upwards Combined Offset	KRU
Left Downwards Combined Offset	KLD
Right Downwards Combined Offset	KRD
End Closure	S
Reduction	RD
Tee Module	T
Horizontal Expansion	YDT
Vertical Expansion	DDT
Phase Transposition Module	FDM
Panel Connection	P10
Upwards Panel Connection	PU20
Downwards Panel Connection	PD20
Right Panel Connection	PR30
Left Panel Connection	PL30
Panel Connection	P40
Transformer Connection	TR10
Upwards Transformer Connection	TU20
Downwards Transformer Connection	TD20
Right Connection	TR30
Left Connection	TL30
Transformer Connection	TR40
Transformer Connection	TR60
Flexible	F

Component



Feeder



### Standard Feeder Straight Length

#### Application Areas:

- Between Transformer - Panel Applications
- Between Panel to Panel Applications
- Generator and Compensation Panels Feeding
- By-pass feeding

STD

Sample Order:

2500 A, Aluminium, Feeder, IP 68, 5 Conductor

**CRA 25806 - STD**



### Special Feeder Straight Length



Special Straight Length in (cm)

X

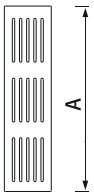
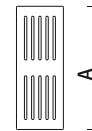
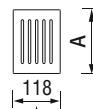
Sample Order:

2500 A, Copper, Feeder, IP 68, 5 Conductor, 147 cm Special Length

**CRA 20806 - X - 147**

**Note:**

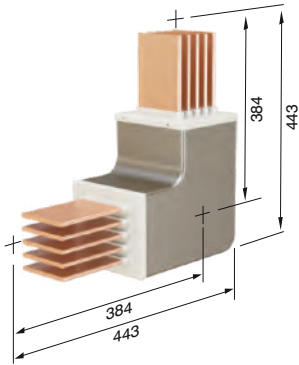
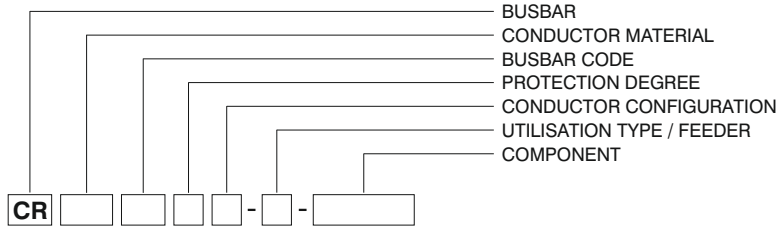
Minimum Special Length = 45cm



### ⚠ Attention !

The standard mounting of the Cast Resin busbar is with the conductors on edge This allows for the easy application of the resin at the joint.

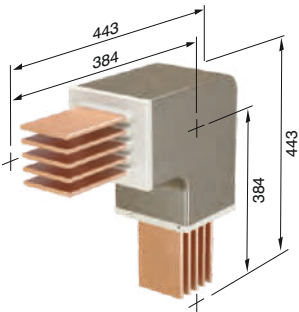
CRA - Al Conductor	Rated Current (A)	630	800	1000	1250	1600	2000	2500	2250	2500	-	3000	3200	3600	4000	5000
	Busbar Code	06	08	10	12	16	20	25	23	27	-	30	33	36	40	50
CRC - Cu Conductor	Rated Current (A)	800	1000	1250	1600	2000	2500	-	3000	3200	3600	4000	-	5000	-	6300
	Busbar Code	08	10	12	16	20	25	-	30	32	36	40	-	50	-	63
A	(mm)	90	105	130	160	210	250	300	310	340	370	410	430	490	590	730



### Upwards Elbow

**U**

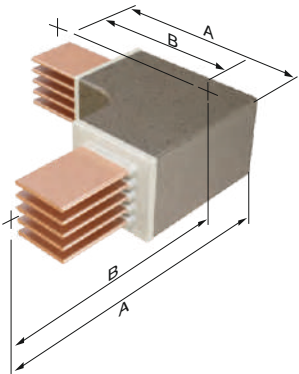
Sample Order:  
3200 A, Copper, Feeder, IP 68,  
5 Conductors  
**CRC 32806 - U**



### Downwards Elbow

**D**

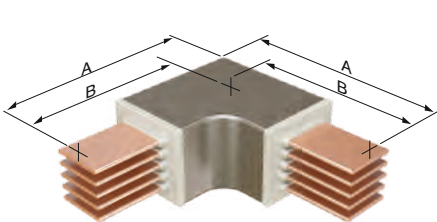
Sample Order:  
3200 A, Copper, Feeder, IP 68,  
5 Conductors  
**CRC 32806 - D**



### Left Elbow

**L**

Sample Order:  
2000 A, Copper, Feeder, IP 68,  
5 Conductors  
**CRC 20806 - L**



### Right Elbow

**R**

Sample Order:  
2000 A, Aluminium, Feeder, IP 68,  
5 Conductors  
**CRA 20806 - R**



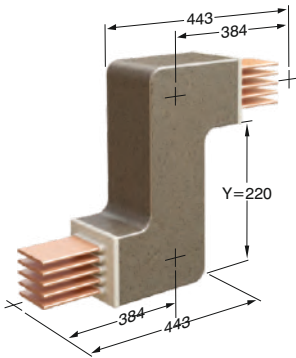
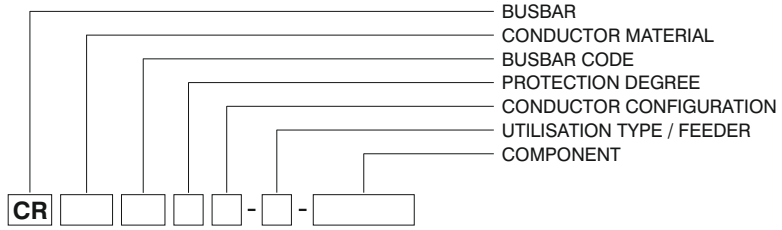
### Attention !

The standard mounting of the Cast Resin busbar is with the conductors on edge. This allows for the easy application of the resin at the joint.

CRA - Al Conductor	Rated Current (A)	630	800	1000	1250	1600	2000	2500	2250	2500	-	3000	3200	3600	4000	5000
	Busbar Code	06	08	10	12	16	20	25	23	27	-	30	33	36	40	50
CRC - Cu Conductor	Rated Current (A)	800	1000	1250	1600	2000	2500	-	3000	3200	3600	4000	-	5000	-	6300
	Busbar Code	08	10	12	16	20	25	-	30	32	36	40	-	50	-	63
A	(mm)	415	430	455	485	535	575	625	635	665	695	735	755	815	915	1055
B	(mm)	370	377	390	405	430	450	475	480	495	510	530	540	570	620	690

■ The dimensions given above are minimum values.

■ Please call us for non-standard components

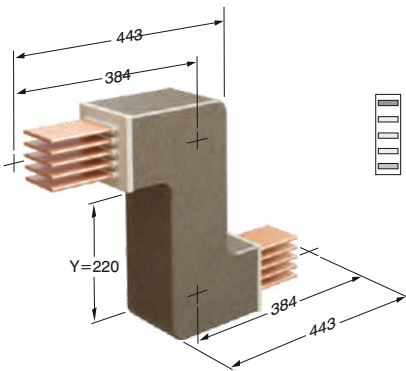


### Upwards Vertical Offset

**Note:**  
Y = min: 22 cm,  
\*Please see the table for max dimensions.

**Sample Order:**  
Y = 25 cm, 2000 A, Aluminium Feeder, IP 68, 5 Conductor

**CRC 20806 - UV25**

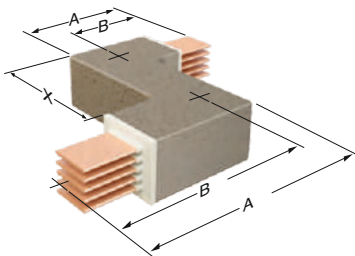


### Downwards Vertical Offset

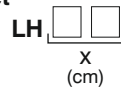
**Note:**  
Y = min: 22 cm,  
\*Please see the table for max dimensions.

**Sample Order:**  
Y = 25 cm, 2000 A, Aluminium Feeder, IP 68, 5 Conductor

**CRA 20806 - DV25**



### Left Horizontal Offset

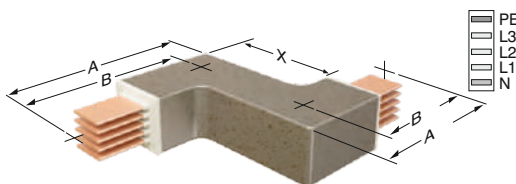


**LH**

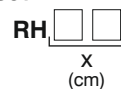
**Note:**  
X = min: 30 cm,  
\*Please see the table for max dimensions.  
\* If there is no availability using two elbows, then this offsets will be able to be used.

**Sample Order:**  
X = 60 cm, 3200 A, Copper Feeder, IP 68, 5 Conductor

**CRC 32806 - LH60**



### Right Horizontal Offset



**RH**

**Note:**  
X = min: 30 cm,  
\*Please see the table for max dimensions.  
\* If there is no availability using two elbows, then this offsets will be able to be used.

**Sample Order:**  
X = 60 cm, 3200 A, Copper Feeder, IP 68, 5 Conductor

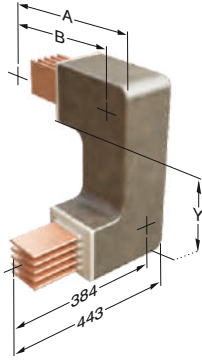
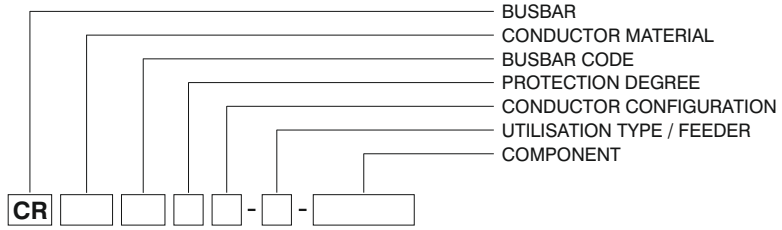
**CRC 32806 - RH60**

### ⚠ Attention !

The standard mounting of the Cast Resin busbar is with the conductors on edge. This allows for the easy application of the resin at the joint.

CRA - Al Conductor	Rated Current (A)	630	800	1000	1250	1600	2000	2500	2250	2500	-	3000	3200	3600	4000	5000
Busbar Code		06	08	10	12	16	20	25	23	27	-	30	33	36	40	50
CRC - Cu Conductor	Rated Current (A)	800	1000	1250	1600	2000	2500	-	3000	3200	3600	4000	-	5000	-	6300
Busbar Code		08	10	12	16	20	25	-	30	32	36	40	-	50	-	63
A	(mm)	415	430	455	485	535	575	625	635	665	695	735	755	815	915	1055
B	(mm)	370	377	390	405	430	450	475	480	495	510	530	540	570	620	690
X	(mm)	290	305	330	360	410	450	500	510	540	570	610	630	690	710	930

■ The dimensions given above are minimum values. ■ Please call us for non-standard components

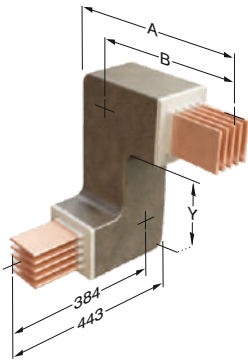


### Upwards Left Combined Offset

**K U L**

Note:  
Y= min. 30cm

Sample Order:  
3200 A, Copper  
Feeder, IP 68, 5 Conductor  
**CRC 32806 - B - KUL**

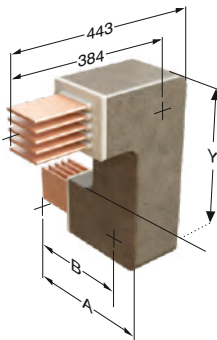


### Upwards Right Combined Offset

**K U R**

Note:  
Y= min. 30cm

Sample Order:  
3200 A, Copper  
Feeder, IP 68, 5 Conductor  
**CRC 32806 - B - KUR**

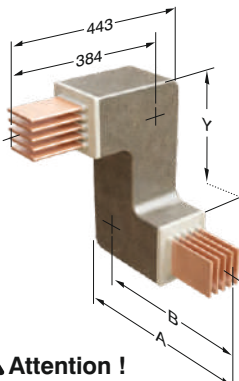


### Downwards Left Combined Offset

**K D L**

Note:  
Y= min. 30cm

Sample Order:  
3300 A, Copper  
Feeder, IP 68, 5 Conductor  
**CRC 32806 - B - KDL**



### Downwards Right Combined Offset

**K D R**

Note:  
Y= min. 30cm

Sample Order:  
3200 A, Copper  
Feeder, IP 68, 5 Conductor  
**CRC 32806 - B - KDR**

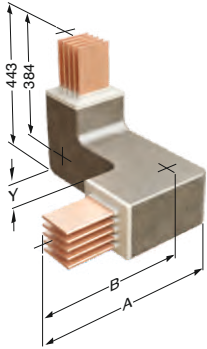
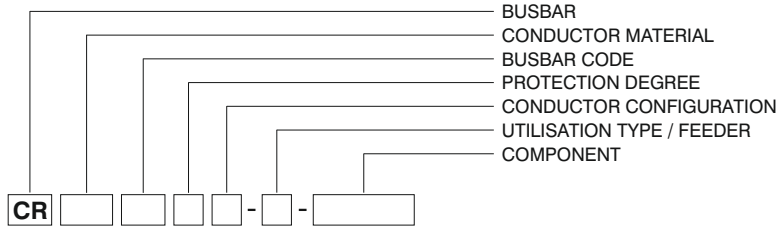
### ⚠ Attention !

The standard mounting of the Cast Resin busbar is with the conductors on edge. This allows for the easy application of the resin at the joint.

CRA - Al Conductor	Rated Current (A)	630	800	1000	1250	1600	2000	2500	2250	2500	-	3000	3200	3600	4000	5000
	Busbar Code	06	08	10	12	16	20	25	23	27	-	30	33	36	40	50
CRC - Cu Conductor	Rated Current (A)	800	1000	1250	1600	2000	2500	-	3000	3200	3600	4000	-	5000	-	6300
	Busbar Code	08	10	12	16	20	25	-	30	32	36	40	-	50	-	63
A	(mm)	415	430	455	485	535	575	625	635	665	695	735	755	815	915	1055
B	(mm)	370	377	390	405	430	450	475	480	495	510	530	540	570	620	690

■ The dimensions given above are minimum values.

■ Please call us for non-standard components

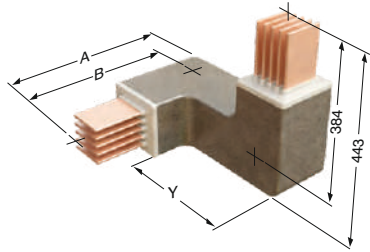


### Upwards Left Combined Offset

**K L U**

Sample Order:  
3200 A, Copper  
Feeder, IP 68, 5 Conductor  
**CRC 32806 - B - KLU**

Note:  
Y= min. 30cm

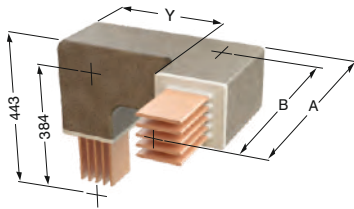


### Upwards Right Combined Offset

**K R U**

Sample Order:  
3200 A, Copper  
Feeder, IP 68, 5 Conductor  
**CRC 32806 - B - KRU**

Note:  
Y= min. 30cm

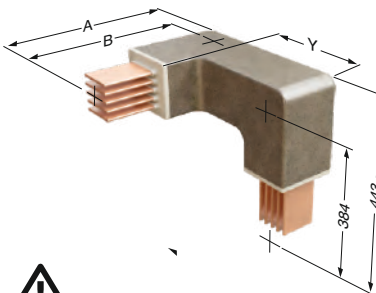


### Downwards Left Combined Offset

**K L D**

Sample Order:  
3200 A, Copper  
Feeder, IP 68, 5 Conductor  
**CRC 32806 - B - KLD**

Note:  
Y= min. 30cm



### Downwards Right Combined Offset

**K R D**

Sample Order:  
3200 A, Copper  
Feeder, IP 68, 5 Conductor  
**CRC 32806 - B - KR D**

Note:  
Y= min. 30cm

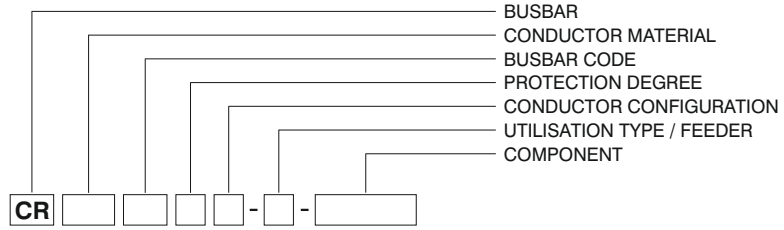
### ⚠ Attention !

The standard mounting of the Cast Resin busbar is with the conductors on edge. This allows for the easy application of the resin at the joint.

CRA - Al Conductor	Rated Current (A)	630	800	1000	1250	1600	2000	2500	2250	2500	-	3000	3200	3600	4000	5000
	Busbar Code	06	08	10	12	16	20	25	23	27	-	30	33	36	40	50
CRC - Cu Conductor	Rated Current (A)	800	1000	1250	1600	2000	2500	-	3000	3200	3600	4000	-	5000	-	6300
	Busbar Code	08	10	12	16	20	25	-	30	32	36	40	-	50	-	63
A	(mm)	415	430	455	485	535	575	625	635	665	695	735	755	815	915	1055
B	(mm)	370	377	390	405	430	450	475	480	495	510	530	540	570	620	690

■ The dimensions given above are minimum values.

■ Please call us for non-standard components



### Reduction

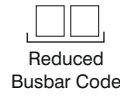
Is used to change busbar cross section.

#### Note:

Decision and selection of reduction module and protection on lower side is under the customer's responsibility.



### Reduction



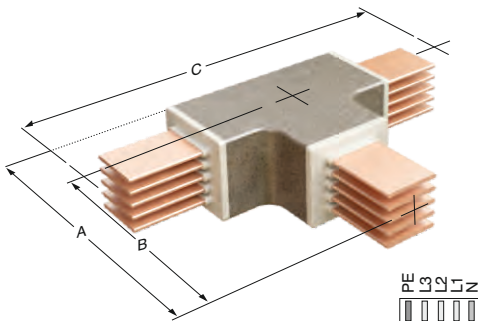
### RD

Sample Order:  
2000A / 1600A, Copper  
Feeder, IP 68, 5 Conductor  
**CRC 20806 - RD17**

### Reducers Table

CRA - Al Conductor		Reduced Busbar Code														
Rated Current	06	08	10	12	16	20	25	23	27	30	33	36	40	50		
630	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
800	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	
1000	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	
1250	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	
1600	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	
2000	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	
2500	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	
2250	-	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	
2500	-	-	-	-	-	-	-	✓	✓	-	-	-	-	-	-	
3000	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-	-	
3200	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-	
3600	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	
4000	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	
5000	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	

CRC - Cu Conductor		Reduced Busbar Code														
Rated Current	08	10	12	16	20	25	30	32	36	40	50	63				
800	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1000	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	
1250	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	
1600	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	
2000	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	
2500	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	
3000	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	
3200	-	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	
3600	-	-	-	-	-	-	-	✓	✓	-	-	-	-	-	-	
4000	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-	-	
5000	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-	
6300	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	



### Tee Connection

### T

Sample Order:  
2500 A, Copper,  
Feeder, IP 68, 5 Conductor  
**CRC 25806 - T**

- For the rated current and busbar codes please check table.

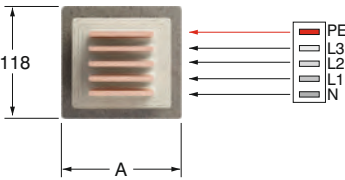
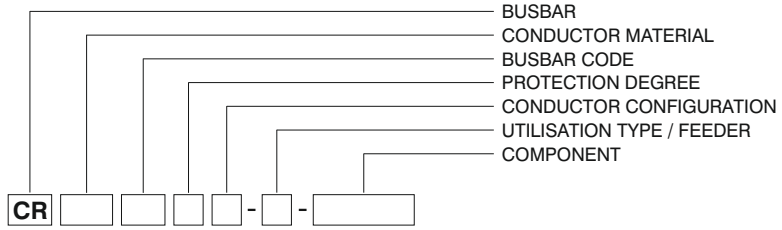
### ⚠ Attention !

The standard mounting of the Cast Resin busbar is with the conductors on edge. This allows for the easy application of the resin at the joint.

CRA - Al Conductor	Rated Current (A)	630	800	1000	1250	1600	2000	2500	2250	2500	-	3000	3200	3600	4000	5000
Busbar Code		06	08	10	12	16	20	25	23	27	-	30	33	36	40	50
CRC - Cu Conductor	Rated Current (A)	800	1000	1250	1600	2000	2500	-	3000	3200	3600	4000	-	5000	-	6300
Busbar Code		08	10	12	16	20	25	-	30	32	36	40	-	50	-	63
A	(mm)	415	430	455	485	535	575	625	635	665	695	735	755	815	915	1055
B	(mm)	370	377	390	405	430	450	475	480	495	510	530	540	570	620	690
C	(mm)	740	754	780	810	860	900	950	960	990	1020	1060	1080	1140	1240	1380

- The dimensions given above are minimum values.
- Please call us for non-standard components





### Vertical Expansion

One vertical expansion unit is advised to be used at every floor between fixed support points.

Used for Vertical applications in multi storey buildings.

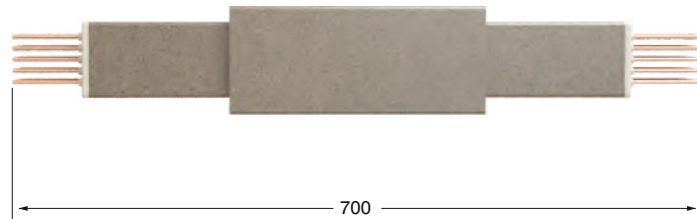
■ Please contact us during the design stage for our recommendations.

### DDT

Sample Order:

2500 A, Copper Feeder, IP 68, Conductor

**CRC 25806 - DDT**



### Horizontal Expansion

Used at every 40m in long horizontal straight lines and building expansion points.

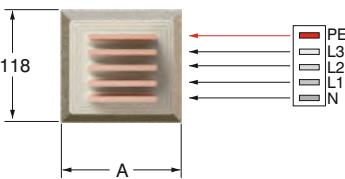
■ Please contact us during the design stage for our recommendations.

### YDT

Sample Order:

2500 A, Copper Feeder, IP 68, 5 Conductor

**CRC 25806 - YDT**



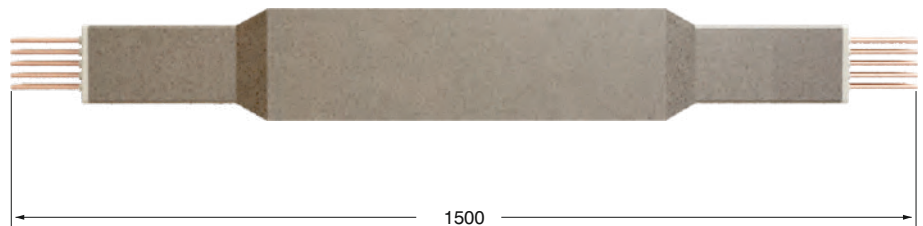
**Note:** 1) Horizontal Expansion unit should be used when the busbar run crosses to an adjacent building or crosses a building expansion joint.

2) This module is used on the long busbar line (75m) where line is ended by end closure and is not fixed on the support rigidly.

3) Horizontal Expansion Joint has sufficient movement span of 25mm max.

### ⚠ Attention !

The standard mounting of the Cast Resin busbar is with the conductors on edge. This allows for the easy application of the resin at the joint.



■ Attention! the total length of the module should be adjusted to 1500mm after installation.

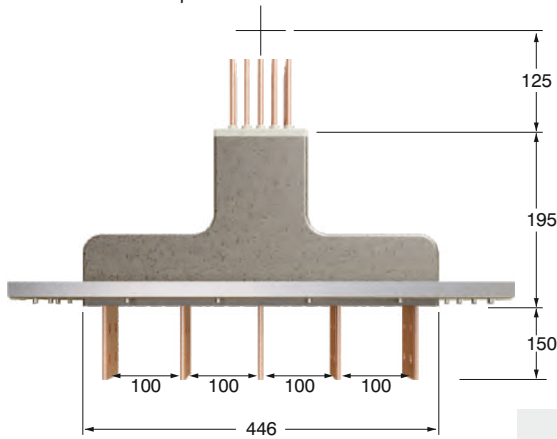
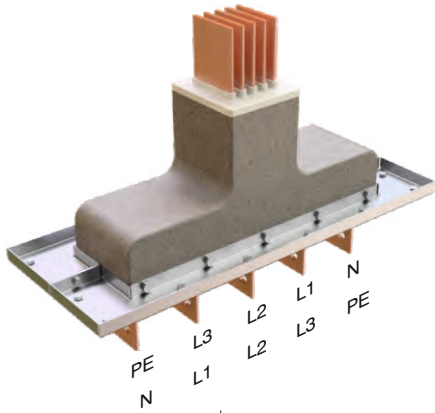
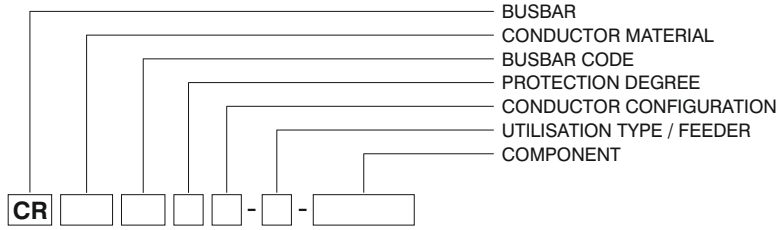
### FDM Dimension Table

	Rated Current (A)	630	800	1000	1250	1600	2000	2500	2250	2500	-	3000	3200	3600	4000	5000
<b>CRA - Al Conductor</b>	Busbar Code	06	08	10	12	16	20	25	23	27	-	30	33	36	40	50
<b>CRC - Cu Conductor</b>	Rated Current (A)	800	1000	1250	1600	2000	2500	-	3000	3200	3600	4000	-	5000	-	6300
	Busbar Code	08	10	12	16	20	25	-	30	32	36	40	-	50	-	63
<b>A</b>	(mm)	90	105	130	160	210	250	300	310	340	370	410	430	490	590	730

■ The dimensions given above are minimum values.

■ Please call us for non-standard components





### Panel Connection

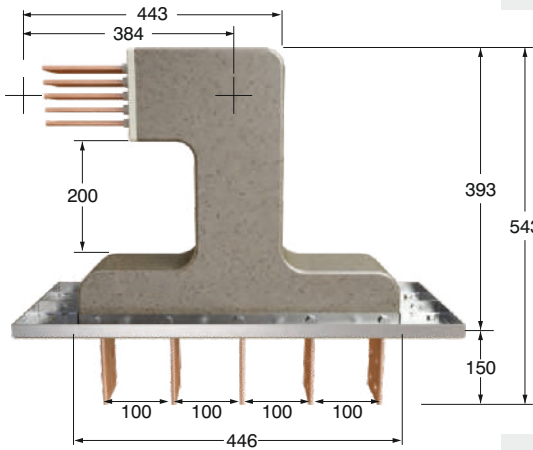
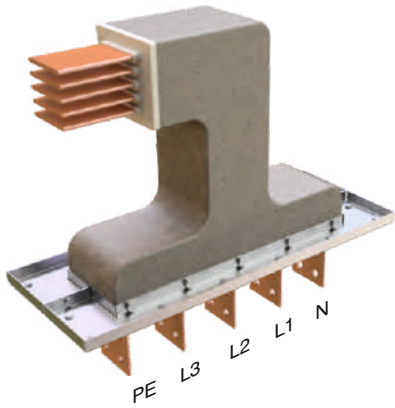
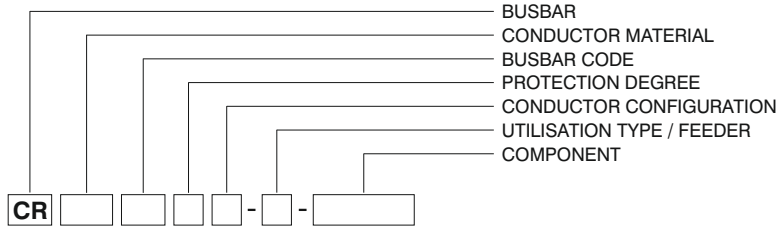
- Distance between conductors can vary +5mm.
- Please call us for non-standard components.
- The dimensions given are minimum values.
- For connection dimensions please refer to tables on pages 23 and 24.

### P10

Sample Order:

2500 A, Copper Feeder, IP 68, 5 Conductors For Panel Feeder

**CRC 25806 - P10**



### Upwards Panel Connections

**PU20**

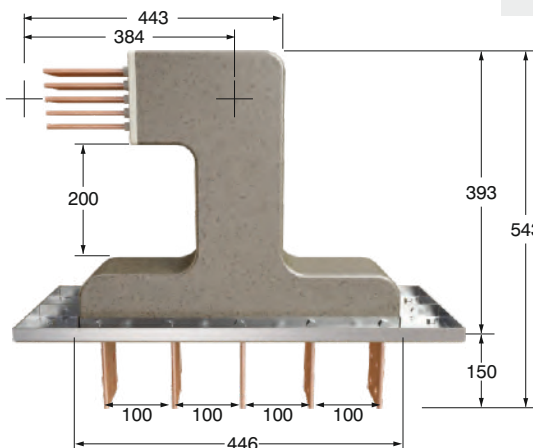
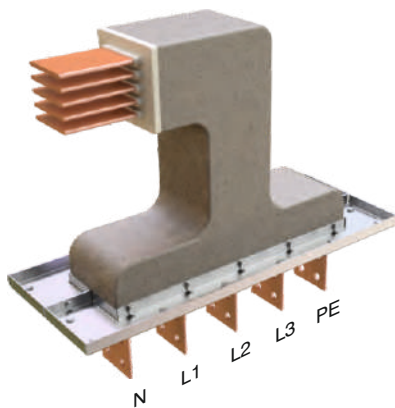
Sample Order:

3600 A, Copper,  
Feeder, IP 68, 5 Conductor  
Panel Feeder

**CRC 36806 - PU20**

- Distance between conductors can vary in +-5mm.
- Please call us for non-standard components.
- The dimensions given are minimum values.
- For connection dimensions please refer to tables on pages 23 and 24.

The "A" and "B" dimensions for PR30 and PL30 are the same dimensions as left and right elbows.



### Downwards Panel Connections

**PD20**

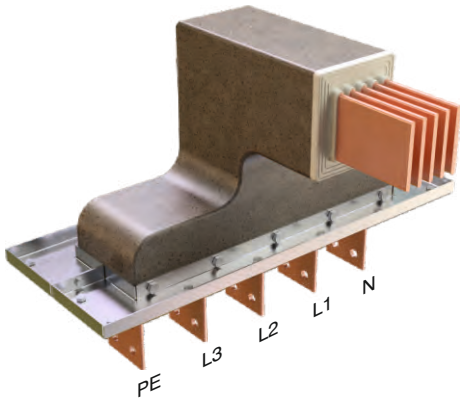
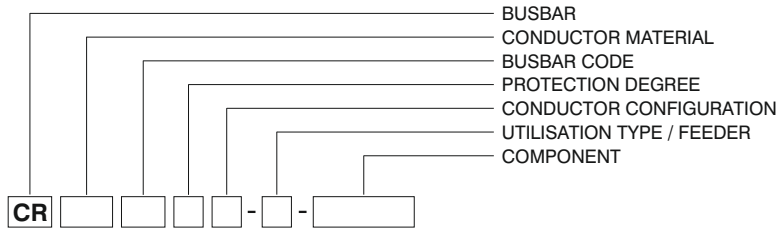
Sample Order:

3600 A, Copper,  
Feeder, IP 68, 5 Conductor  
Panel Feeder

**CRC 36806 - PD20**

- Distance between conductors can vary in +-5mm.
- Please call us for non-standard components.
- The dimensions given are minimum values.
- For connection dimensions please refer to tables on pages 23 and 24.

The "A" and "B" dimensions for PR30 and PL30 are the same dimensions as left and right elbows.



### Right Panel Connection

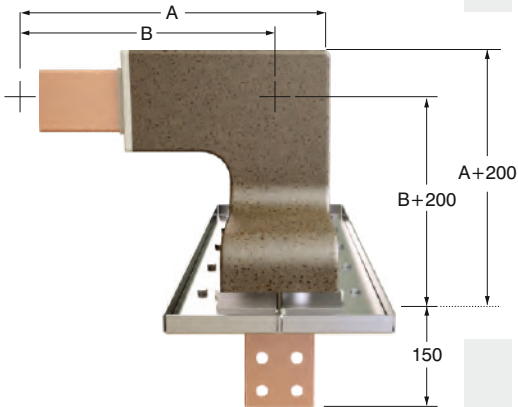
**PR30**

Sample Order:

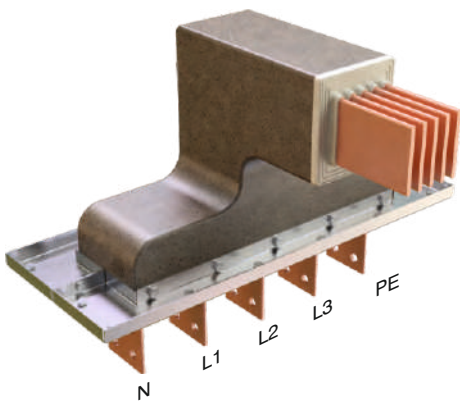
3600 A, Copper,  
Feeder, IP 68, 5 Conductor  
Panel Feeder

**CRC 36806 - PR30**

- Distance between conductors can vary in  $\pm 5\text{mm}$ .
- Please call us for non-standard components.
- The dimensions given are minimum values.
- For connection dimensions please refer to tables on pages 23 and 24.



The "A" and "B" dimensions for PR30 and PL30 are the same dimensions as left and right elbows.



### Left Panel Connection

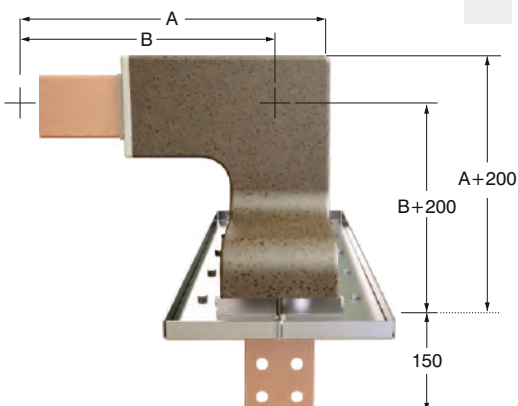
**PL30**

Sample Order:

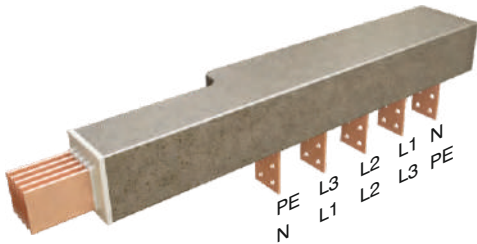
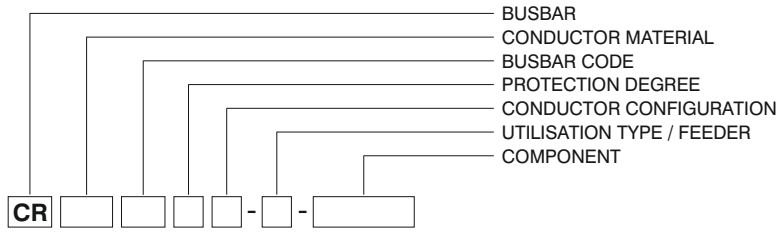
3600 A, Copper,  
Feeder, IP 68, 5 Conductor  
Panel Feeder

**CRC 36806 - PL30**

- Distance between conductors can vary in  $\pm 5\text{mm}$ .
- Please call us for non-standard components
- The dimensions given are minimum values.
- For connection dimensions please refer to tables on pages 23 and 24.



The "A" and "B" dimensions for PR30 and PL30 are the same dimensions as left and right elbows.



### Panel Connection

**P40A**

Sample Order:  
3600 A, Copper,  
Feeder, IP 68, 5 Conductor  
for Panel Feeder

**CRC 36806 - P40A**

- Distance between conductors can vary in +-5mm.
- Please call us for non-standard components.
- The dimensions given are minimum values.
- For connection dimensions please refer to tables on pages 23 and 24.

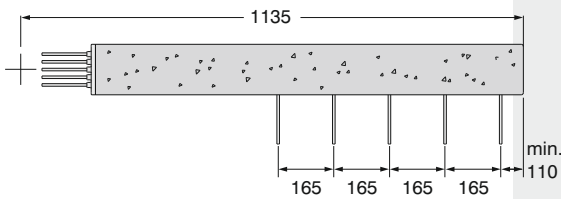
### Panel Connection

**P40B**

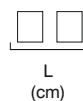
Sample Order:  
3600 A, Copper  
Feeder, IP 68, 5 Conductor  
for Panel Feeder

**CRC 36806 - P40B**

- Distance between conductors can vary in +-5mm.
- Please call us for non-standard components.
- The dimensions given are minimum values.
- For connection dimensions please refer to tables on pages 23 and 24.



### Flexibles



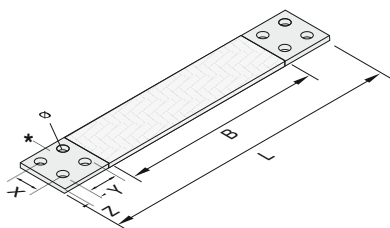
**F**

Sample Order:  
800 A, Copper

**CRC 0800 - F**

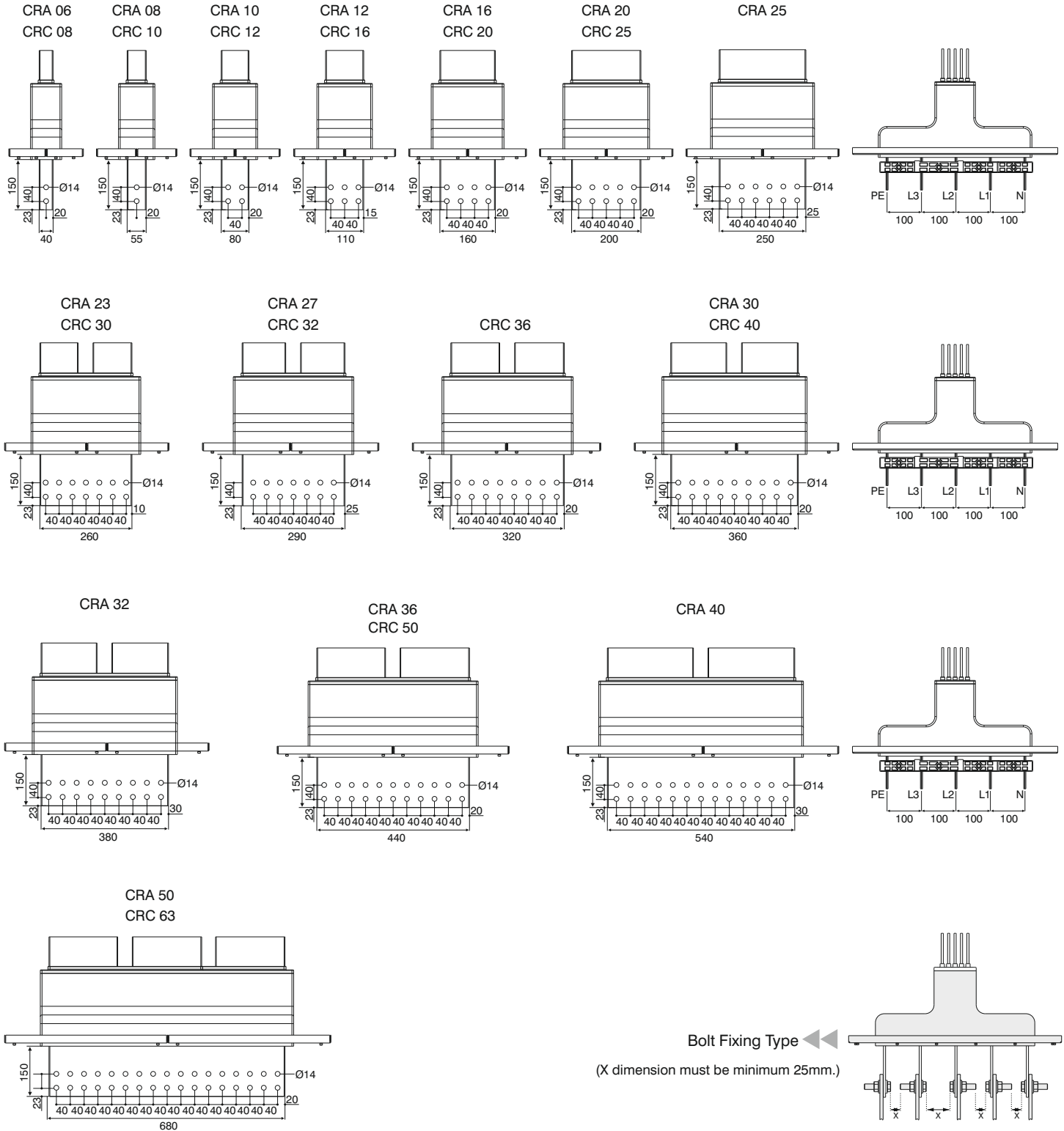
- \*It will be produced according to details
- Is used for between Transformer Bushings and Busbar connections
- Is used for between panel and busbar connections.

B=.....mm  
X=.....mm  
Y=.....mm  
Z=.....mm  
ø=.....mm



### Panel Connection Units

#### Panel Connection Units (P10, PU20, PD20, PL30, PR30, P40)

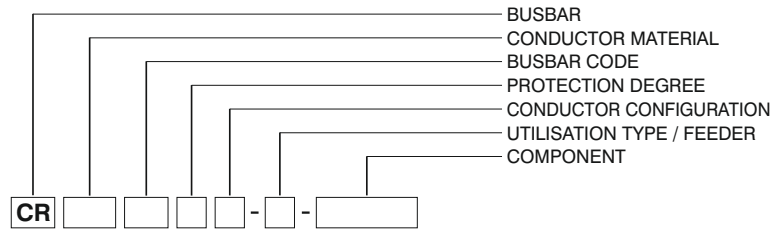


■ Please call us for non-standard components

■ Distance between conductors can vary +5mm.

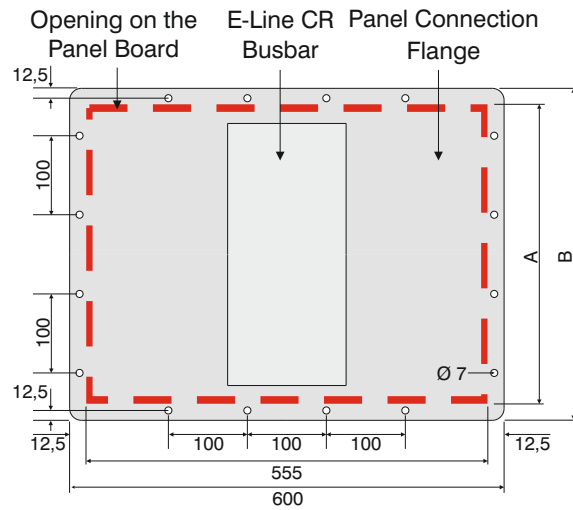
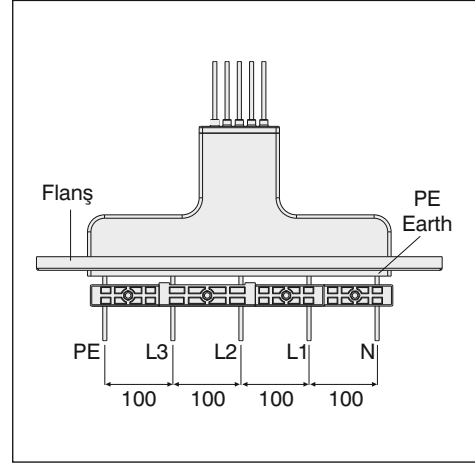
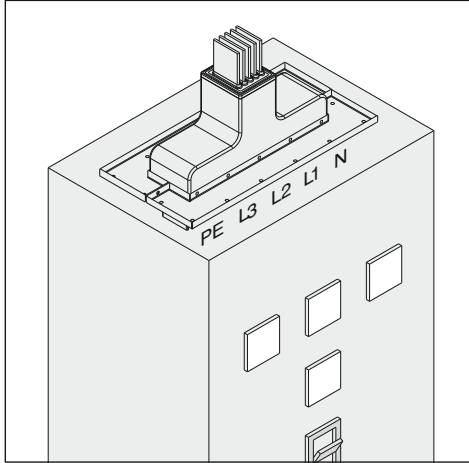
■ The dimensions given above are minimum values.

## ▶▶ Panel Connection Dimensions



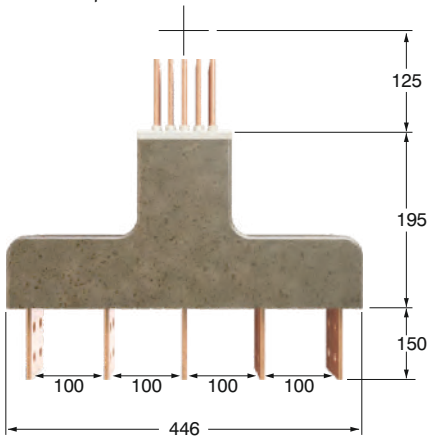
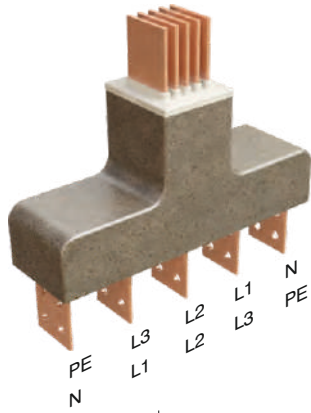
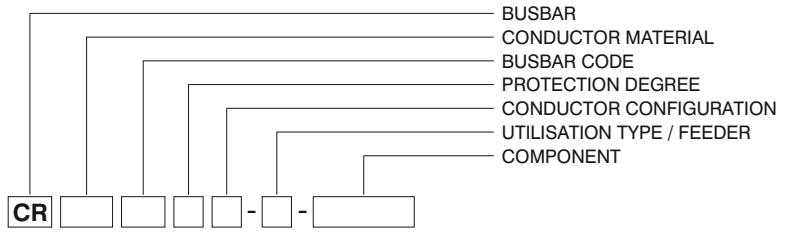
## Panel Modules Flange Dimensions

Panel Connection Modules are supplied with suitable flange as standard.



Aluminium (Al)		Copper (Cu)		Conductor Size	A (mm)	B (mm)	Number of Holes along length B
Rated Current	Busbar Code	Rated Current	Busbar Code				
630	06	800	08	6x40	145	190	2
800	08	1000	10	6x55	160	205	2
1000	10	1250	12	6x80	185	230	2
1250	12	1600	16	6x110	215	260	3
1600	16	2000	20	6x160	265	310	3
2000	20	2500	25	6x200	305	350	4
2500	25	-	-	6x250	355	400	4
2250	23	3000	30	2(6x110)	365	410	4
2500	27	3200	32	2(6x125)	395	440	4
-	-	3600	36	2(6x140)	425	470	4
3000	30	4000	40	2(6x160)	465	510	5
3200	33	-	-	2(6x170)	485	530	5
3600	36	5000	50	2(6x200)	545	590	5
4000	40	-	-	2(6x250)	645	690	6
5000	50	6300	63	3(6x200)	785	830	8





### Transformer Connection

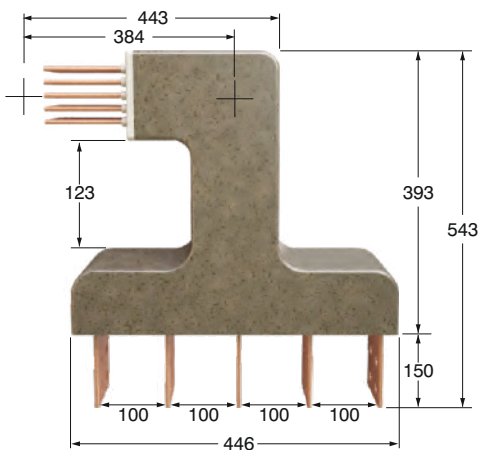
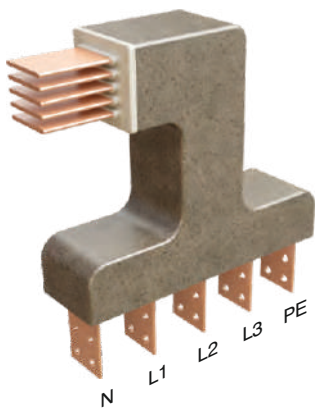
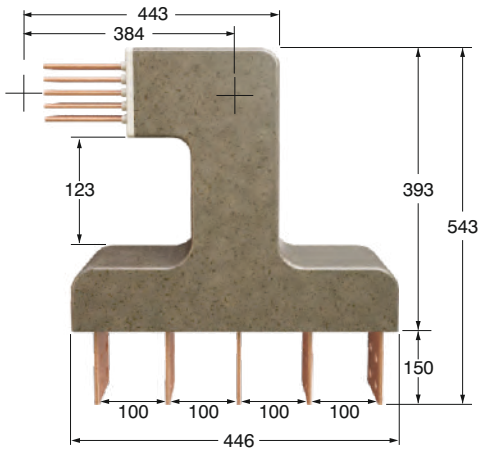
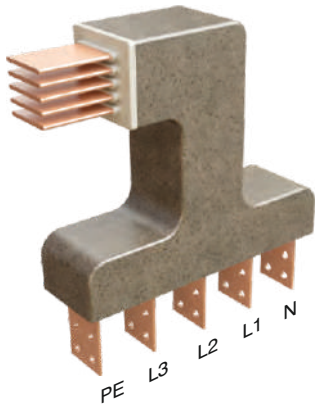
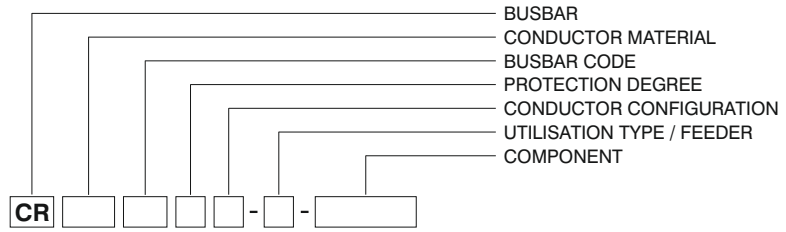
**TR10**

Sample Order:

2500 A, Copper  
Feeder, IP 68, 5 Conductor  
Panel Feeder

**CRC 25806 - TR10**

- Distance between conductors can vary in +-5mm.
- Please call us for non-standard components.
- The dimensions given are minimum values.
- For connection dimensions please refer to tables on pages 29.



### Upwards Transformer Connection

**TU20**

Sample Order:

3600 A, Copper Feeder, IP 68, 5 Conductor Panel Feeder

**CRC 36806 - TU20**

- Distance between conductors can vary in +-5mm.
- Please call us for non-standard components.
- The dimensions given are minimum values.
- For connection dimensions please refer to tables on pages 29.

The "A" and "B" dimensions for PR30 and PL30 are the same dimensions as left and right elbows.

### Downwards Transformer Connection

**TD20**

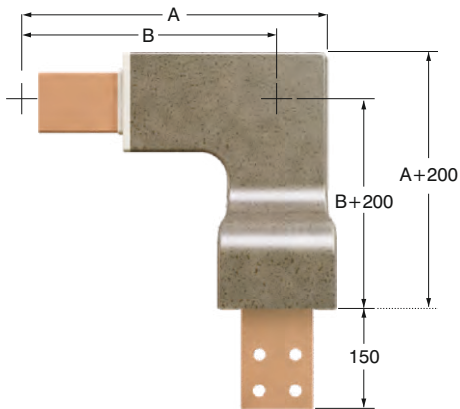
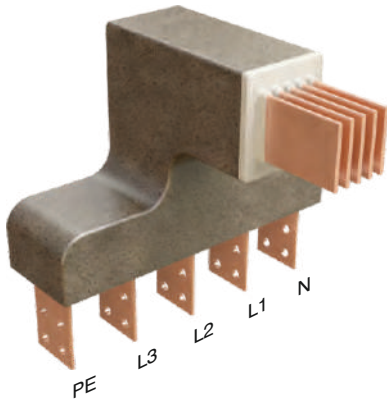
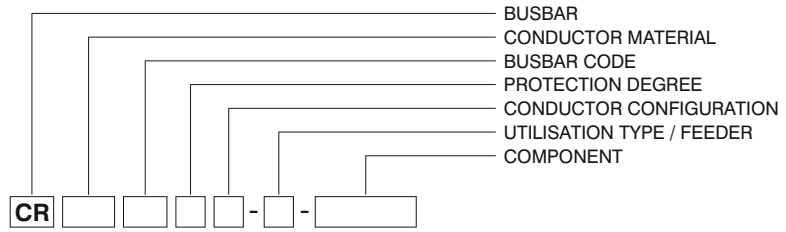
Sample Order:

3600 A, Copper Feeder, IP 68, 5 Conductor Panel Feeder

**CRC 36806 - TD20**

- Distance between conductors can vary in +-5mm.
- Please call us for non-standard components.
- The dimensions given are minimum values.
- For connection dimensions please refer to tables on pages 29.

The "A" and "B" dimensions for PR30 and PL30 are the same dimensions as left and right elbows.



### Right Transformer Connection

**TR30**

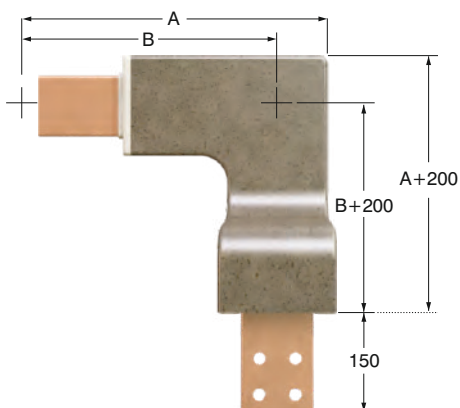
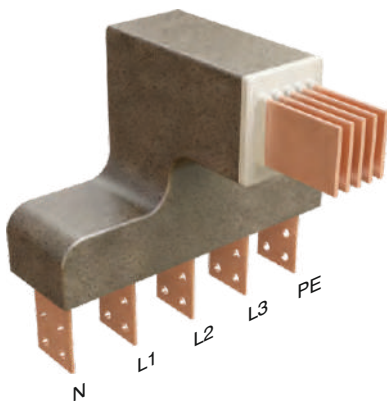
Sample Order:

3600 A, Copper Feeder, IP 68, 5 Conductor Panel Feeder

**CRC 36806 - TR30**

- Distance between conductors can vary in  $\pm 5$ mm.
- Please call us for non-standard components.
- The dimensions given are minimum values.
- For connection dimensions please refer to tables on pages 29.

The "A" and "B" dimensions for PR30 and PL30 are the same dimensions as left and right elbows.



### Left Transformer Connection

**TL30**

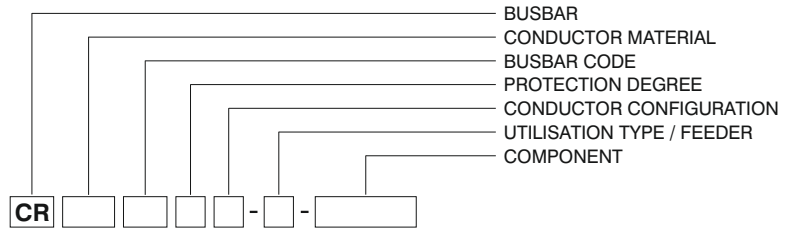
Sample Order:

3600 A, Copper Feeder, IP 68, 5 Conductor Panel Feeder

**CRC 36806 - TL30**

- Distance between conductors can vary in  $\pm 5$ mm.
- Please call us for non-standard components.
- The dimensions given are minimum values.
- For connection dimensions please refer to tables on pages 29.

The "A" and "B" dimensions for PR30 and PL30 are the same dimensions as left and right elbows.



For between Transformer and Panel connection applications EAE Designing department can prepare your projects on request.

**The following information is required when designing the installation.**

- Plan of Transformer and Panel rooms and height of the rooms.
- Transformer dimensioning details and distance between bushings.
- Panel dimensioning details

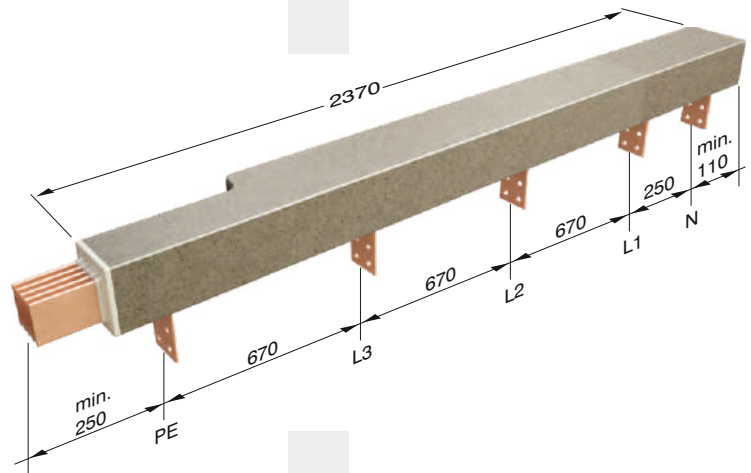
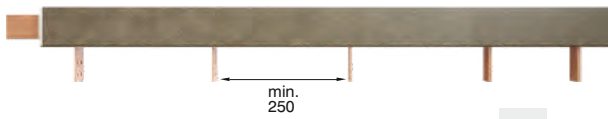
For connection dimensions please refer to tables on page 29.

### Transformer Connection

**TR40**

Sample Order:  
2500 A, Copper  
Feeder, IP 68, 5 Conductor

**CRC 25806 - TR40**

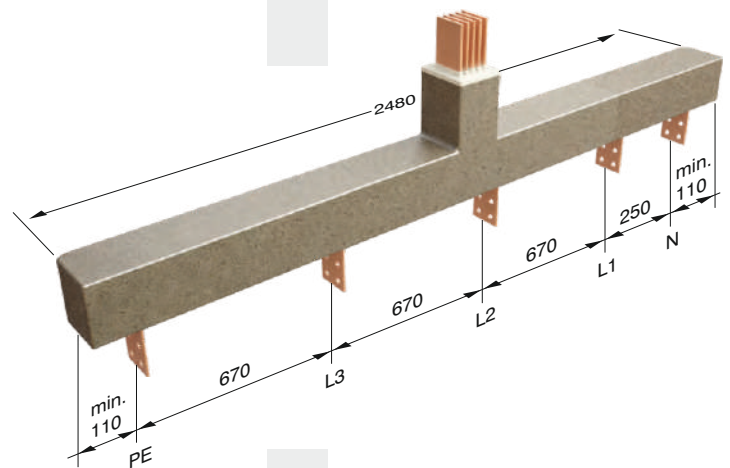
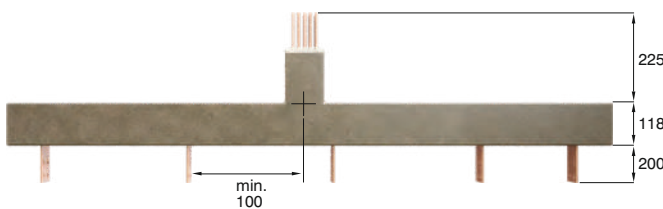


### Transformer Connection

**TR60**

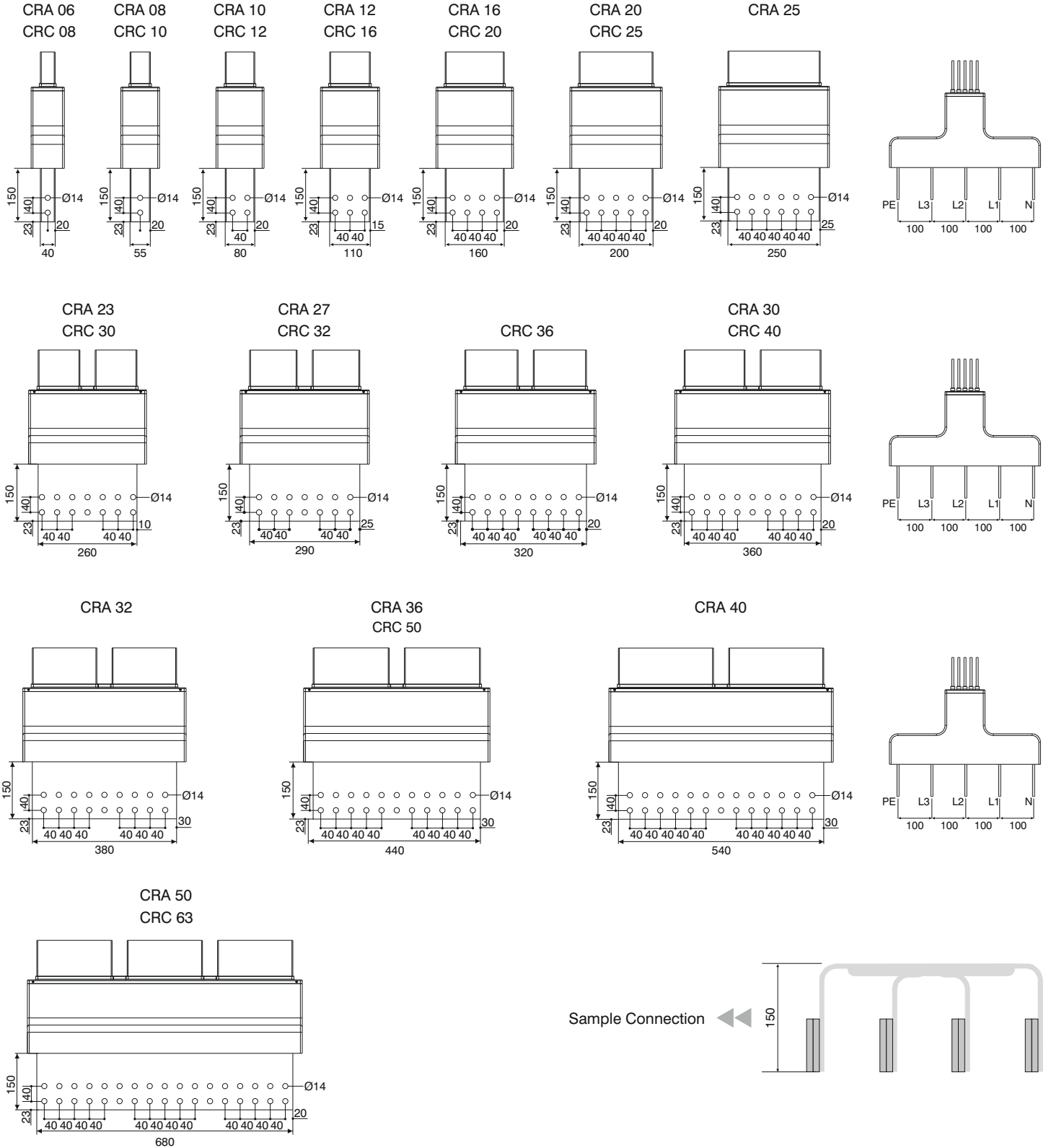
Sample Order:  
2500 A, Copper  
Feeder, IP 68, 5 Conductor

**CRC 25806 - TR60**

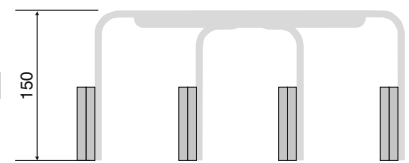


### Transformer Connection Details

#### Transformer Connections (T10, TU20, TD20, TL30, TR30, T40)



Sample Connection ◀◀



■ Please call us for non-standard components

■ Distance between conductors can vary in +5mm.

■ The dimensions given above are minimum values.

## Edgewise Horizontal Line Joint set



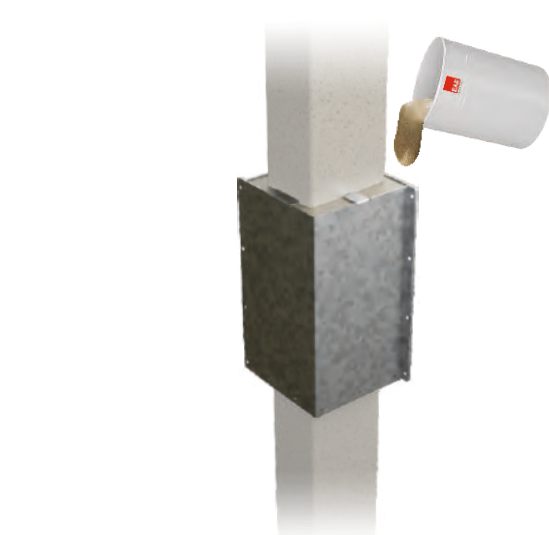
Aluminium			Copper			Conductor Cross Section
Rated Current	4 Conductor	5 Conductor	Rated Current	4 Conductor	5 Conductor	
630	3056017	3048503	800	3056031	3048517	6x40
800	3056018	3048504	1000	3056032	3048518	6x55
1000	3056019	3048505	1250	3056033	3048519	6x80
1250	3056020	3048506	1600	3056034	3048520	6x110
1600	3056021	3048507	2000	3056035	3048521	6x160
2000	3056022	3048508	2500	3056036	3048522	6x200
2500	3056024	3048509	-	-	-	6x250
2250	3056023	3048510	3000	3056037	3048523	2(6x110)
2500	3056025	3048511	3200	3056038	3048524	2(6x125)
-	-	-	3600	3056039	3048525	2(6x140)
3000	3056026	3048512	4000	3056040	3048526	2(6x160)
3200	3056027	3048513	-	-	-	2(6x170)
3600	3056028	3048514	5000	3056041	3048527	2(6x200)
4000	3056029	3048515	-	-	-	2(6x250)
5000	3056030	3048516	6300	3056042	3048528	3(6x200)

## Horizontal Line Joint set



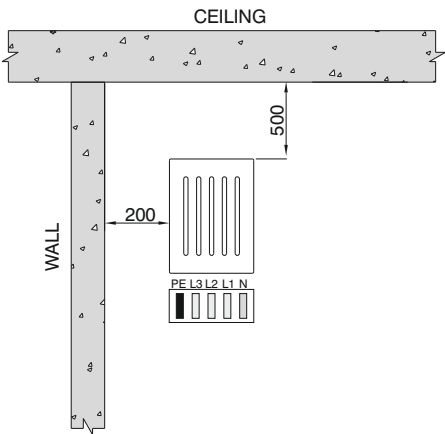
Aluminium			Copper			Conductor Cross Section
Rated Current	4 Conductor	5 Conductor	Rated Current	4 Conductor	5 Conductor	
630	3062989	3062963	800	3063003	3062977	6x40
800	3062990	3062964	1000	3063004	3062978	6x55
1000	3062991	3062965	1250	3063005	3062979	6x80
1250	3062992	3062966	1600	3063006	3062980	6x110
1600	3062993	3062967	2000	3063007	3062981	6x160
2000	3062994	3062968	2500	3063008	3062982	6x200
2500	3062996	3062970	-	-	-	6x250
2250	3062995	3062969	3000	3063009	3062983	2(6x110)
2500	3062997	3062971	3200	3063010	3062984	2(6x125)
-	-	-	3600	3063012	3062985	2(6x140)
3000	3062998	3062972	4000	3063013	3062986	2(6x160)
3200	3062999	3062973	-	-	-	2(6x170)
3600	3063000	3062974	5000	3063014	3062987	2(6x200)
4000	3063001	3062975	-	-	-	2(6x250)
5000	3063002	3062976	6300	3063015	3062988	3(6x200)

## Vertical Line Joint set

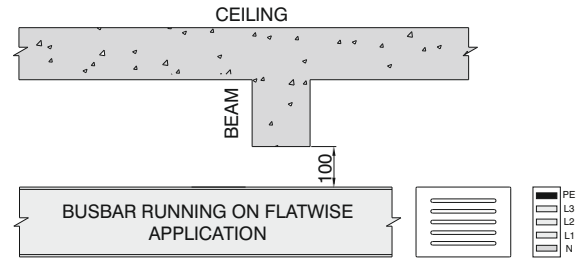


Aluminium			Copper			Conductor Cross Section
Rated Current	4 Conductor	5 Conductor	Rated Current	4 Conductor	5 Conductor	
630	3056063	3047788	800	3056078	3047802	6x40
800	3056065	3047789	1000	3056079	3047803	6x55
1000	3056066	3047790	1250	3056080	3047804	6x80
1250	3056067	3047791	1600	3056081	3047805	6x110
1600	3056068	3047792	2000	3056082	3047806	6x160
2000	3056069	3047793	2500	3056083	3047807	6x200
2500	3056071	3047794	-	-	-	6x250
2250	3056070	3047795	3000	3056084	3047808	2(6x110)
2500	3056072	3047796	3200	3056085	3047809	2(6x125)
-	-	-	3600	3056086	3047810	2(6x140)
3000	3056073	3047797	4000	3056087	3047811	2(6x160)
3200	3056074	3047798	-	-	-	2(6x170)
3600	3056075	3047799	5000	3056088	3047812	2(6x200)
4000	3056076	3047800	-	-	-	2(6x250)
5000	3056077	3047801	6300	3056089	3047813	3(6x200)

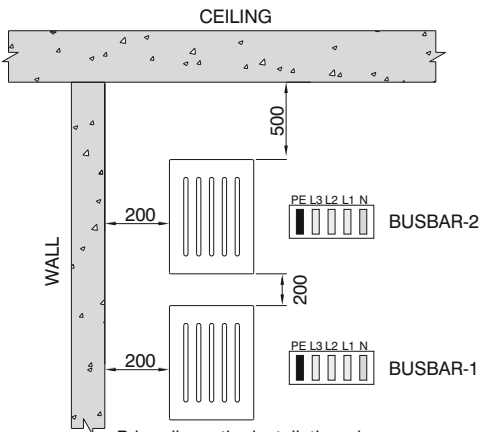
**FIGURE 1 - EDGEWISE APPLICATION**



**FIGURE 5 - CROSSING UNDER A BEAM ON FLATWISE APPLICATION**

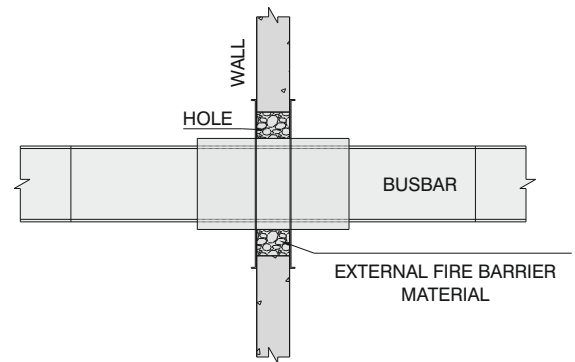


**FIGURE 2 - EDGEWISE APPLICATION**

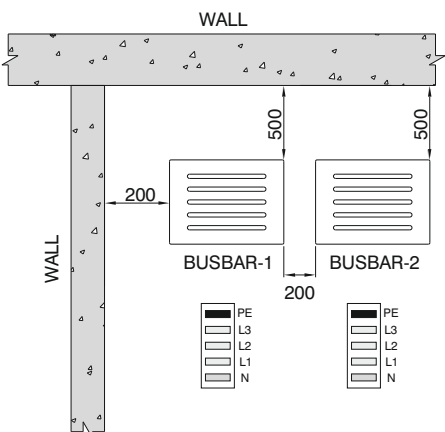


Primarily on the installation phase;  
**Busbar-1** line should be installed before **Busbar-2** line.

**FIGURE 6 - SAMPLE WALL CROSSING WITH FIRE BARRIER**

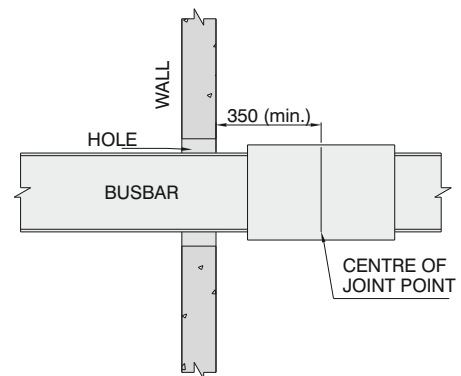


**FIGURE 3 - FLATWISE APPLICATION**

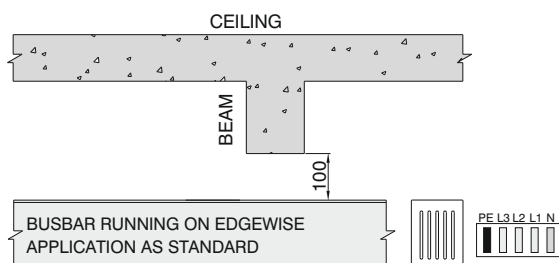


Primarily on the installation phase;  
**BUSBAR-1** line should be installed before **BUSBAR-2** line.

**FIGURE 7 - STANDARD WALL CROSSING**



**FIGURE 4 - CROSSING UNDER A BEAM ON EDGEWISE APPLICATION**

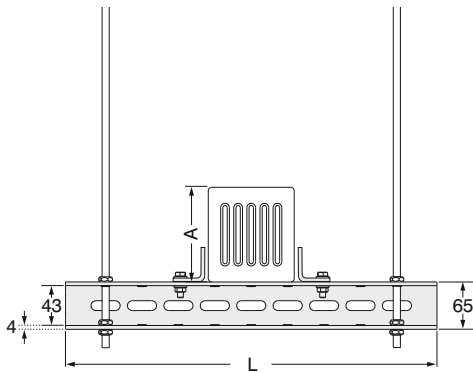
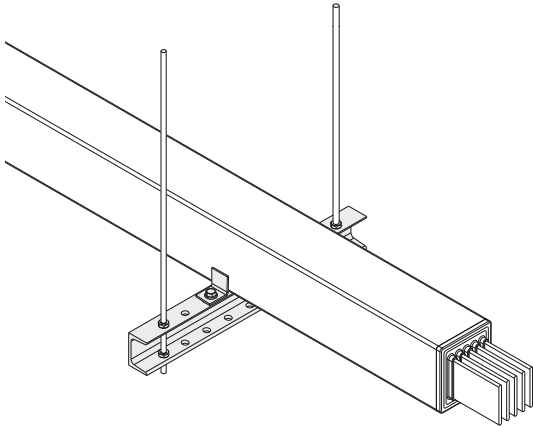


### ⚠ Attention !

- For correct installation, the dimension from the busbar to the ceiling should not be less than 500mm
- The joint should not come across to Beams.
- The dimensions given above are minimum values.
- All dimensions are given in mm.

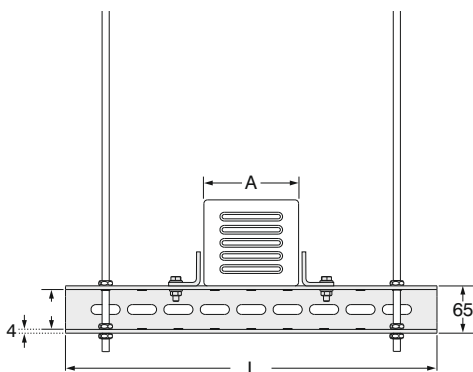
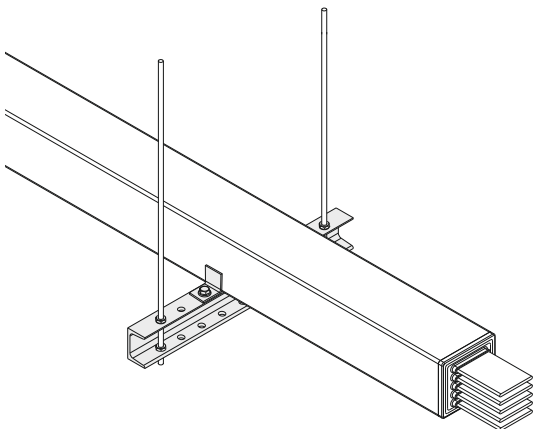
### Supports

#### CR-UT HANGER SET FOR EDGEWISE APPLICATION (STANDARD APPLICATION)



CRA - Al Conductor		CRC - Cu Conductor		Conductor Cross Section	L (mm)	A (mm)	Order Code
Rated Current	Busbar Code	Rated Current	Busbar Code				
630	06	800	08	6x40	300	90	3025348
800	08	1000	10	6x55	300	105	3025348
1000	10	1250	12	6x80	300	130	3025348
1250	12	1600	16	6x110	350	160	3025348
1600	16	2000	20	6x160	400	210	3025348
2000	20	2500	25	6x200	400	250	3025348
2500	25	-	-	6x250	450	300	3025348

#### CR-UT HANGER SET FOR FLATWISE APPLICATION (NON-STANDARD APPLICATION)



CRA - Al Conductor		CRC - Cu Conductor		Conductor Cross Section	L (mm)	A (mm)	Order Code
Rated Current	Busbar Code	Rated Current	Busbar Code				
630	06	800	08	6x40	350	90	3025347
800	08	1000	10	6x55	350	105	3025347
1000	10	1250	12	6x80	350	130	3025347
1250	12	1600	16	6x110	350	160	3025347
1600	16	2000	20	6x160	350	210	3025347
2000	20	2500	25	6x200	350	250	3025347
2500	25	-	-	6x250	350	300	3025347

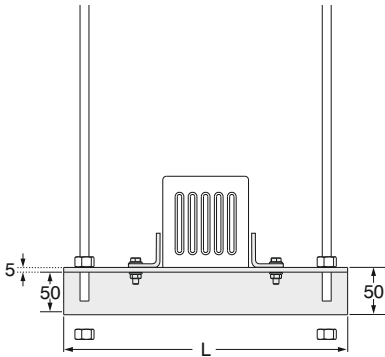
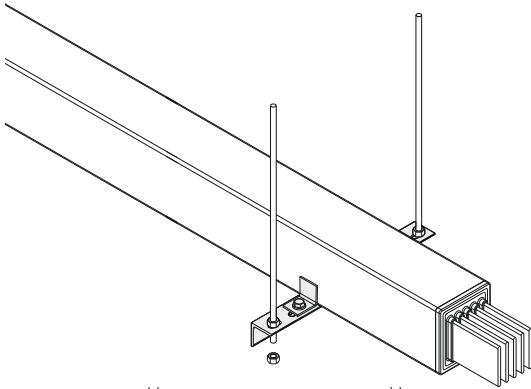
■ \*Flatwise Application is supplied for only on special conditions.

■ Please call us for non-standard dimensions.

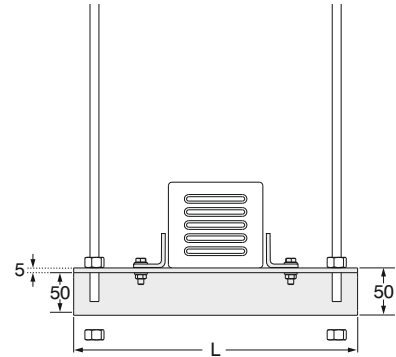
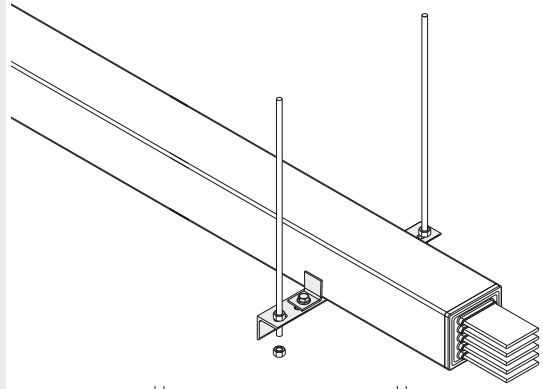


### Supports

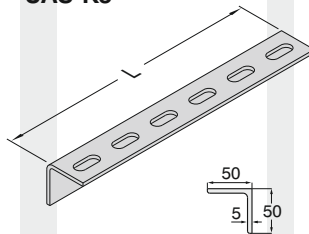
#### CR HANGER SET WITH BRACKETS FOR EDGEWISE APPLICATION (Standard Application)



#### CR HANGER SET WITH BRACKETS FOR EDGEWISE APPLICATION (Non-Standard Application)

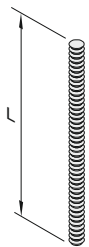


### UAS-K5



### Supports

Description	L (mm)	Order Code
UAS-K5 Support (1)	200	3005324
UAS-K5 Support (2)	250	3005323
UAS-K5 Support (3)	300	3005322
UAS-K5 Support (4)	350	3005321
UAS-K5 Support (5)	400	3005320
UAS-K5 Support (6)	500	3005319
UAS-K5 Support (7)	600	3005318
UAS-K5 Support (8)	700	3005317
UAS-K5 Support (9)	1100	3005316



Threaded Rod



Extension Unit



Steel Dowel

Diameter of the Hole to be drilled  
M10.....Ø14  
M12.....Ø16



Steel Nut



Washer

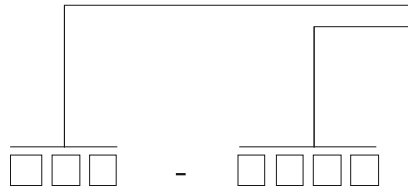
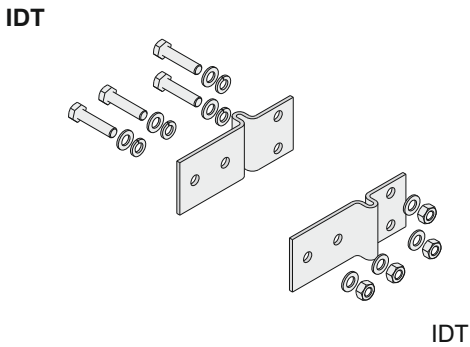
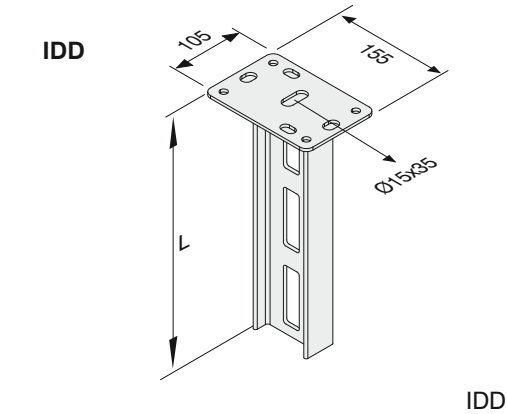
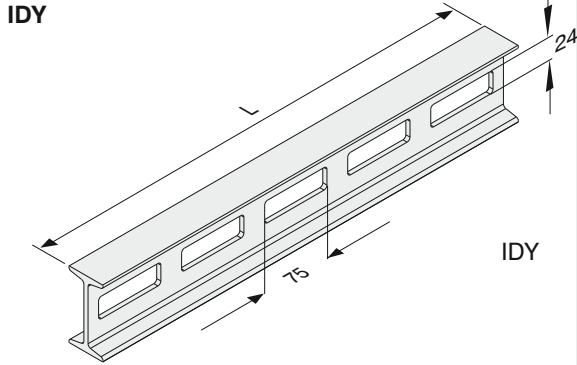
### Connection Units

Description	L (mm)	Order Code
BRA 12-05 Threaded Rod (M10)	500	5000037
BRA 12-10 Threaded Rod (M10)	1000	5000032
BRA 14-05 Threaded Rod (M12)	500	5000026
BRA 14-10 Threaded Rod (M12)	1000	5000034
BRA 13 Extension Unit (M10)	-	1004312
BRA 13 Extension Unit (M12)	-	1004282
BRA 9 Steel Dowel (M10)	-	5000023
BRA 9 Steel Dowel (M12)	-	5000022
M10 Steel Nut	-	1000522
M12 Steel Nut	-	1000964
M10 Washer	-	1000504
M12 Washer	-	1000505

■ Please call us for non-standard dimensions.

### Supports

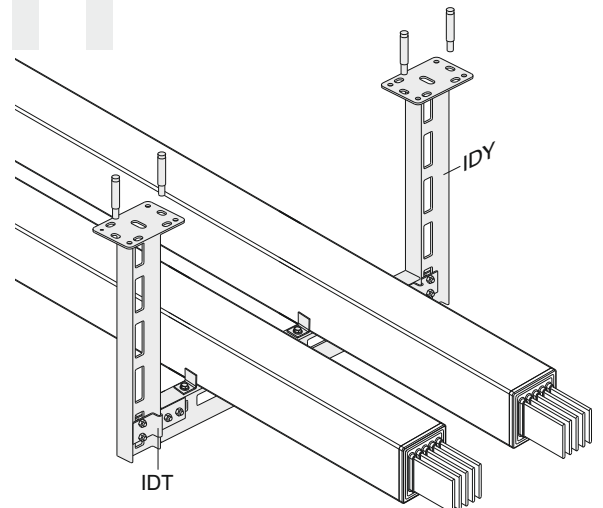
ORDER CODE  
LENGTH L (mm)



Description	L (mm)	Order Code
IDY 300	300	3008242
IDY 400	400	3008290
IDY 500	500	3008289
IDY 600	600	3008288
IDY 700	700	3008287
IDY 800	800	3008286
IDY 900	900	3008285
IDY 1000	1000	3008284
IDY 1100	1100	3008283
IDY 1200	1200	3008282
IDY 1300	1300	3008236
IDY 1400	1400	3008281
IDY 1500	1500	3008280
IDY 1600	1600	3008241
IDY 1700	1700	3008240
IDY 1800	1800	3008239
IDY 1900	1900	3008238
IDY 2000	2000	3008237

IDD 300	300	3008314
IDD 400	400	3008313
IDD 500	500	3008312
IDD 600	600	3008311
IDD 700	700	3008310
IDD 800	800	3008309
IDD 900	900	3008308
IDD 1000	1000	3008307
IDD 1100	1100	3008306
IDD 1200	1200	3008305
IDD 1300	1300	3008304
IDD 1400	1400	3008303
IDD 1500	1500	3008302
IDD 1600	1600	3008301
IDD 1700	1700	3008300
IDD 1800	1800	3008299
IDD 1900	1900	3008298
IDD 2000	2000	3008297

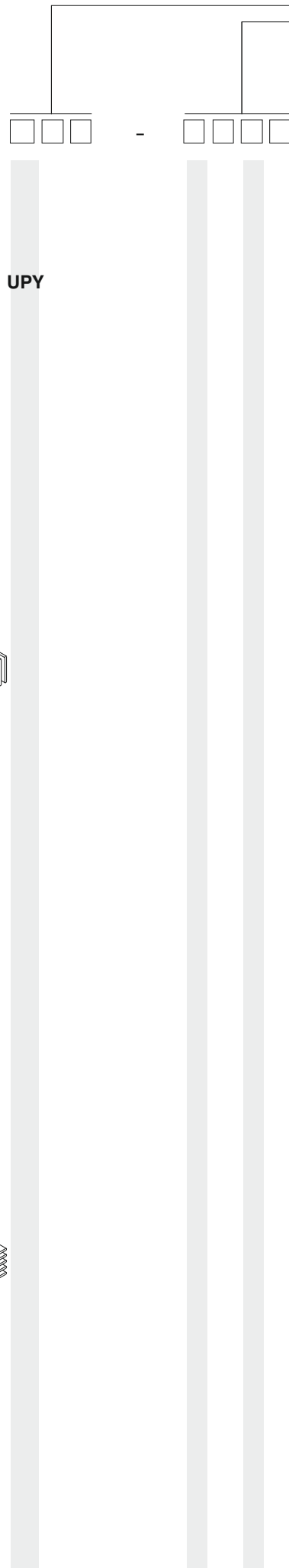
IDT Support Fitting	-	3008279
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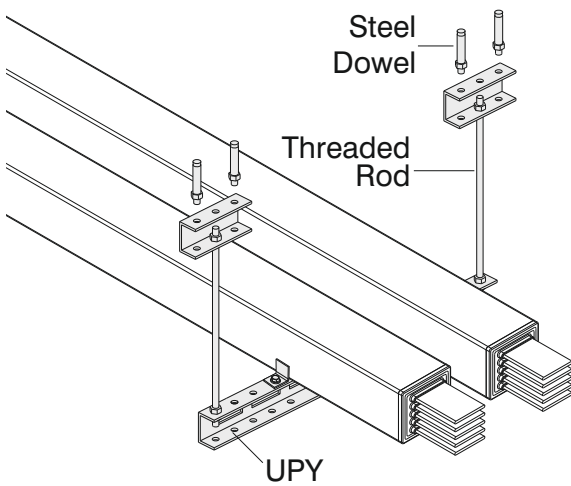
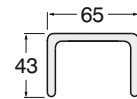
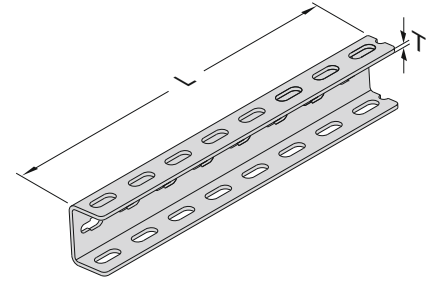
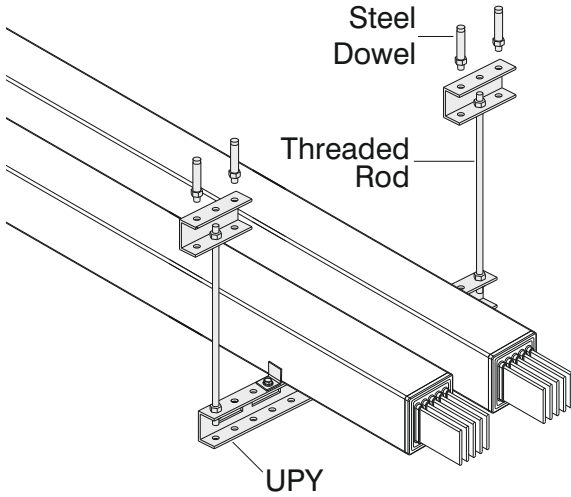
■ Please call us for non-standard dimensions.

### Supports

ORDER CODE  
LENGTH L (mm)



UPY



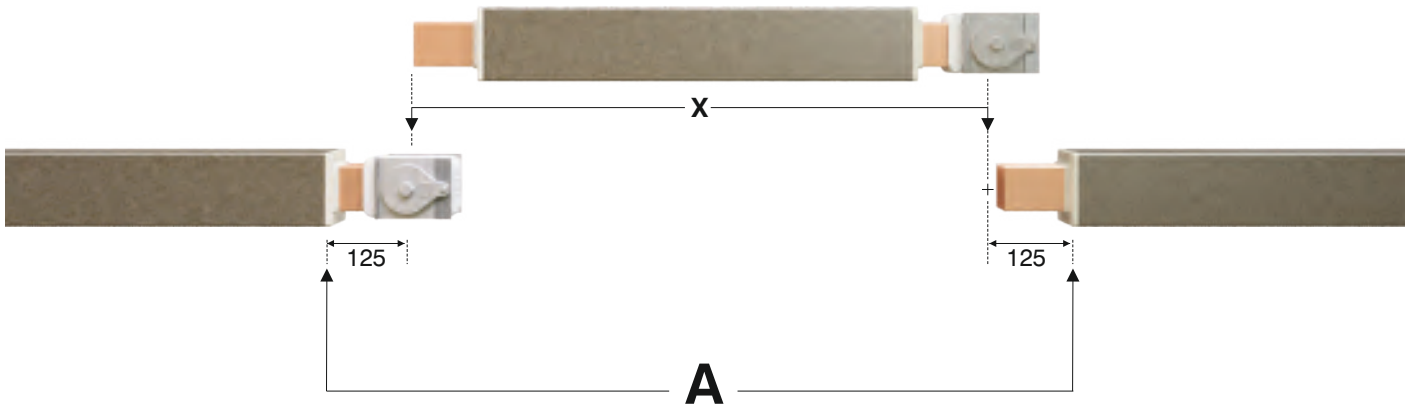
Description	T (mm)	L (mm)	Order Code
UPY 300	4	300	3004487
UPY 400	4	400	3004489
UPY 500	4	500	3004491
UPY 600	4	600	3004493
UPY 700	4	700	3004495
UPY 800	4	800	3004496
UPY 900	4	900	3004497
UPY 1000	4	1000	3004498
UPY 1100	4	1100	3004499
UPY 1200	4	1200	3004500
UPY 1500	4	1500	3004503

## ▶▶ Measuring a Special Length

After installation of standard 3m busbar lengths, special lengths ( make up pieces ) shorter than 3m may be required.  
The minimum length for these special pieces is 35cm

The busbar elements are positioned so that there is a distance of approximately 25 mm between the busbar ends.

$X=A-25$  (cm)  
 $X$ =Length of Special Busbar (The busbar module will be manufactured as per  $X$  value.)



CRA - Al Conductor		CRC - Cu Conductor		Conductor Cross Section	Implemented Additional Resin Value
Rated Current	Busbar Code	Rated Current	Busbar Code	Section	Kg.
630	06	800	08	6x40	13
800	08	1000	10	6x55	15
1000	10	1250	12	6x80	17
1250	12	1600	16	6x110	19
1600	16	2000	20	6x160	23
2000	20	2500	25	6x200	26
2500	25	-	-	6x250	30
2250	23	3000	30	2(6x110)	40
2500	27	3200	32	2(6x125)	44
-	-	3600	36	2(6x140)	46
3000	30	4000	40	2(6x160)	48
3200	33	-	-	2(6x170)	50
3600	36	5000	50	2(6x200)	54
4000	40	-	-	2(6x250)	62
5000	50	6300	63	3(6x200)	82

Total mixture weight of 1 Bucket is 15 kg

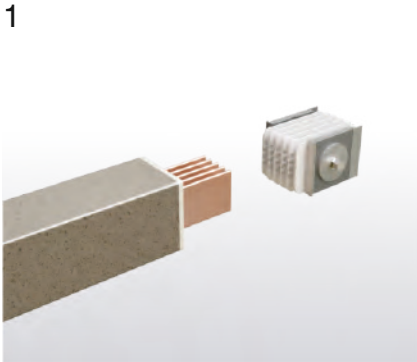


**15 kg.**

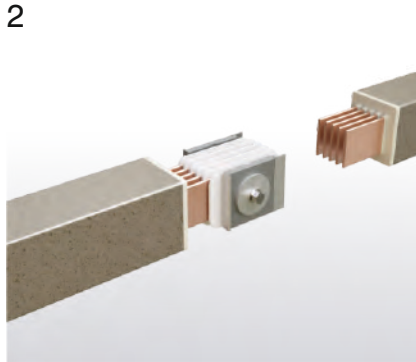
### ⚠ Attention !

The standard mounting of the Cast Resin busbar is with the conductors on edge. This allows for the easy application of the resin at the joint.

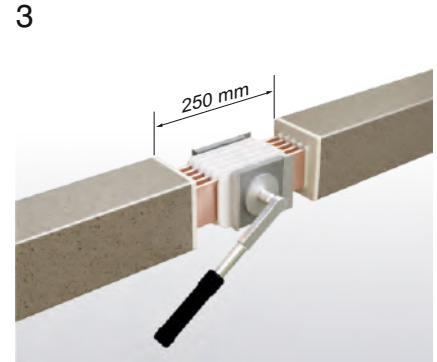
■ The quantity must be determined according to number of joint in the project and ordered separately.



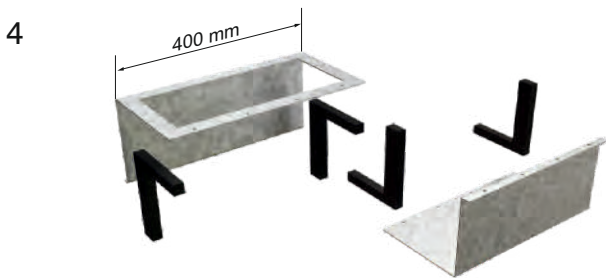
1  
Conductors must be cleaned using a cloth to remove dust and damp. Then install and fix the joint block



2  
The second busbar is introduced and installed to the joint block



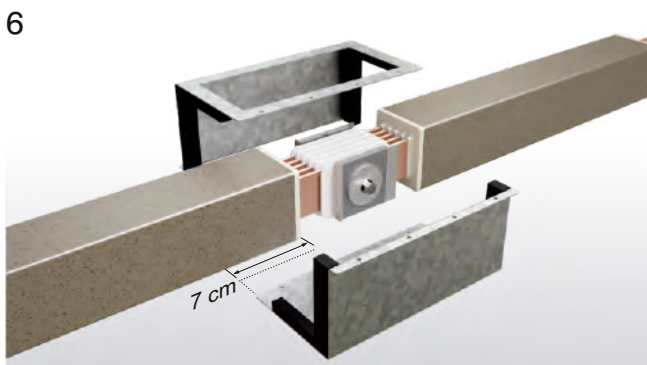
3  
After checking the three parts for correct alignment, and the distance between the two busbar lengths is 25cm tighten the joint to 83 Nm using a torque wrench.



4  
Assemble the casting moulds and place rubber sealing strips into the shaped returns.



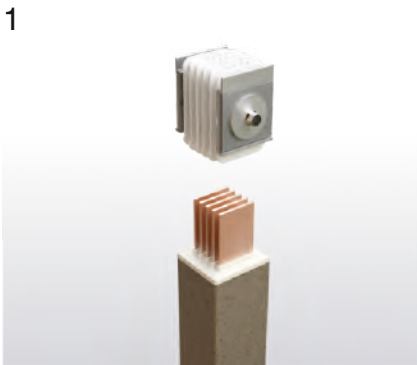
5  
Before the casting mould is fitted, apply de-moulding agent wax to all surfaces of the inside of the casting moulds and wait until wax is totally dry. This is imperative to enable removal of the casting moulds after setting.



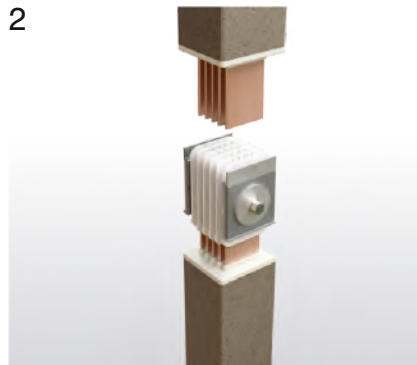
6  
The casting mould plates must be fitted approximately 7 cm from busbar end.



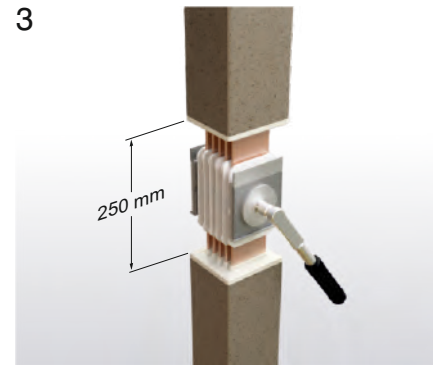
7  
Please check the installation manual to get extra information.



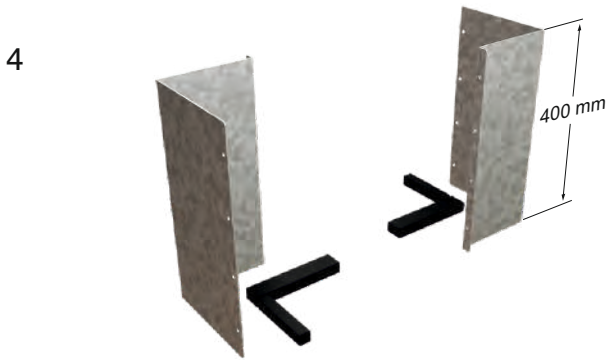
1 Conductors must be cleaned using a cloth to remove dust and damp. Then install and fix the joint block.



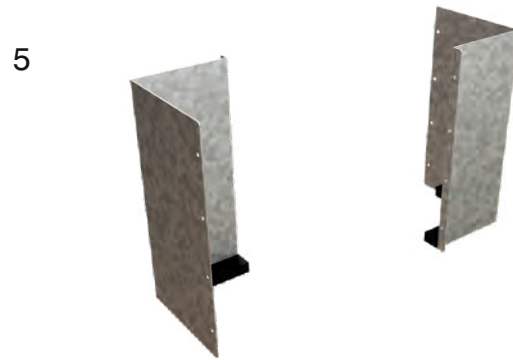
2 The second busbar is introduced and installed to the joint block.



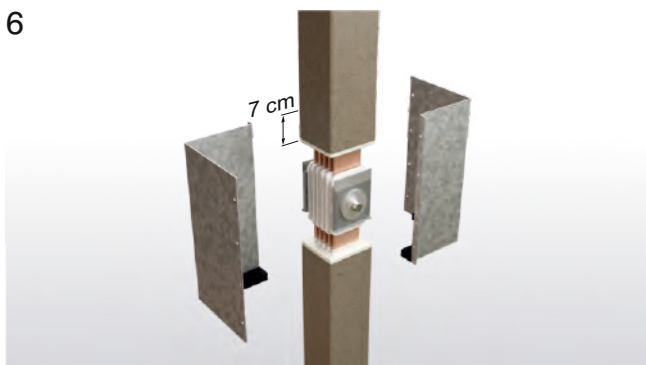
3 After checking the three parts for correct alignment, and the distance between the two busbar lengths is 25cm tighten the joint to 83 Nm using a torque wrench.



4 Assemble the casting moulds and place rubber sealing strips into the shaped returns.



5 Before the casting mould is fitted, Apply de-moulding agent wax to all surfaces of the inside of the casting moulds and wait until wax is totally dry. This is imperative to enable removal of the casting moulds after setting.



6 The casting mould plates must be fitted approximately 7 cm from busbar end.



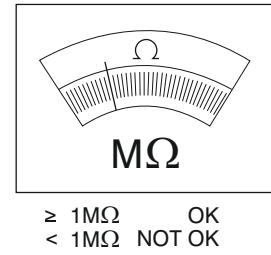
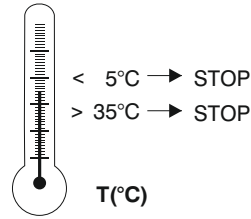
7 Gaskets must be located only bottom part of the mould plates. By this way resin can be poured from top side.

Please check the installation manual to get extra information.

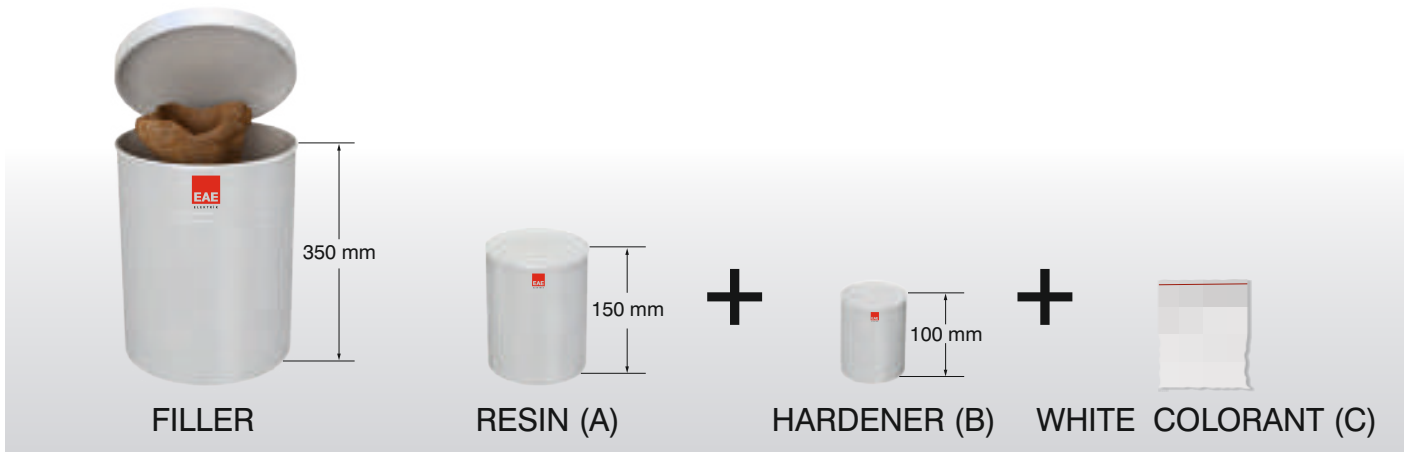
## ►► Preparation of Joint Casting Material

Megger test must be done at joint and the result must be higher than 1mOhm

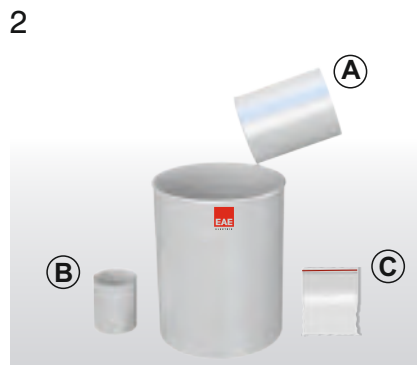
Resin (A), Hardener (B), White Colorant (C) and fillers; must be stored at least one day over ( $> 20^{\circ}\text{C}$ ).  
Ambient temperature of job side must be  $5^{\circ}\text{C} < T_{\text{amb}} < 40^{\circ}\text{C}$



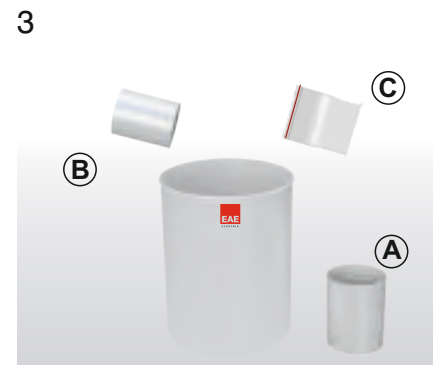
## Preparation of Cast Resin Mixture



Filler removed from the plastic bucket and fillers have to be absolutely dry



Resin, hardener and white colorant are mixed in plastic bucket.



Mix resin and hardener thoroughly with stirrer at least 1 minute.



Add fillers and mix until homogeneous; at least 5 minutes. Then application must be done within 15 minutes.

## ►► Casting Vertical and Horizontal Installation

### Horizontal Application

- The prepared cast resin mix can be poured in once the casting mould has been fitted.
- The cast resin mix requires a setting time of 7-8 h under normal ambient conditions..
- If one bucket of resin is not enough for the joint; the second one must be prepared and applied immediately.

**Note: Cast Resin Mix must be prepared for each joint separately and the prepared Cast Resin Mix must be applied within 15 minutes.**



### Vertical Application

- The prepared cast resin mix can be poured in once the casting mould has been fitted.
- The cast resin mix requires a setting time of 7-8 h under normal ambient conditions..
- If one bucket of resin is not enough for the joint; the second one must be prepared and applied immediately.



**Note: In the vertical application the moulding plates should be supported from the bottom to ensure that the plates are secure.**



# EC DECLARATION OF CONFORMITY

**Product Group** E-Line CR Busbar Energy Distribution System

**Manufacturer** EAE Elektrik Asansor End. Insaat San. ve Tic. A.S.  
Akcaburgaz Mahallesi, 119. Sokak,  
No:10 34510 Esenyurt-Istanbul

This is to attest, under our sole responsibility, that the aforementioned products conforms with the determined regulations, guidelines and the below standards.

**Standard :**

**EN 61439-6**

Low-voltage switchgear and controlgear assemblies - Part 6: Busbar trunking systems

**IEC 61439-6**

Low-voltage switchgear and controlgear assemblies - Part 6: Busbar trunking systems (busways)

**EC - Directive**

2006/95/EC "Electrical equipment designed for use within certain voltage limits"

**Date**

21.01.2014

**EAE Elektrik A.Ş.**

**EAE Elektrik Asansor End. Insaat San. ve Tic. A.S.**

Akcaburgaz Mahallesi, 119. Sokak, No:10 34510 Esenyurt-Istanbul  
Tel: +90 (212) 866 20 00 Fax: +90 (212) 886 24 20 <http://www.eae.com.tr>

# CERTIFICATE



EAE Elektrik Asa  
Insaat San. ve Ti  
Akçaburgaz Mah  
34510 Esenyurt  
Turkey

For the product: Low-voltage busbar trunking system



EAE  
CRA06  
Ue 1000 V, Ui 10  
IP68, IK: 50J, for  
EAE Elektrik Asa  
Insaat San. ve Ti  
Akçaburgaz Mah  
34510 Esenyurt  
Turkey

low 20 kA – 1 s

Design verificatio

Requirements: IEC 61439-6: 2012, Clauses: 10.2.3, 10.2.6, 10.2.7, 10.2.101, 10.3, 10.4, 10.5, 10.9, 10.10, 10.11 and Annex BB, CC, and DD



Busbar trunking s joint and straight le  
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DEKRA Certification B.V. Utrechtseweg 310, 6612 AR Arnhem P.O. Box 5185, 6802 ED Arnhem, The Netherlands  
T +31 88 96 83000 F +31 88 96 83100 www.dekra-certification.com Company registration 09085396

### 630A ... 6300A COMPACT BUSBAR PRODUCT OVERVIEW (E-LINE CR)

#### 1- Standards & Certification:

- Busbar system shall be designed and manufactured as per IEC 61439-6 standard, which requires below listed tests. Each busbar rating shall have a separate type test certificate from an independent internationally accredited laboratory including below tests:

#### 2- Electrical Characteristics

- Busbar systems nominal insulation voltage shall be 1000 V.  
- As per ampere rates, minimum short circuit values shall be as given below;

<b>For Aluminium Conductors;</b>	630A	:1 sec/rms	20kA, Peak	40kA
	800A	:1 sec/rms	28kA, Peak	58,8kA
	1000A	:1 sec/rms	40kA, Peak	84kA
	1250A	:1 sec/rms	55kA, Peak	121kA
	1600-2000-2500A	:1 sec/rms	70kA, Peak	154kA
	2250A-2500A	:1 sec/rms	100kA, Peak	220kA
3000A and above	:1 sec/rms	120kA, Peak	264kA	

<b>For Copper Conductors;</b>	800A	:1 sec/rms	23kA, Peak	48,3kA
	1000A	:1 sec/rms	32kA, Peak	67,2kA
	1250A	:1 sec/rms	45kA, Peak	94,5kA
	1600A	:1 sec/rms	60kA, Peak	132kA
	2000-2500A	:1 sec/rms	80kA, Peak	176kA
	3000A and above	:1 sec/rms	120kA, Peak	264kA

#### 2.1- Housing

- Special cast resin material shall be used as housing of the conductors.  
- All conductors shall be plated with tin.  
- Expansion units shall be used in building expansion areas and also vertical lines higher than 40 m.

#### 2.2- Conductors

Aluminium or Copper conductors shall be tin plated at the joints upon the wire configuration and required numbers, which are described below.

- Busbar system shall have aluminium conductors between 630A – 5000A.  
- Busbar system shall have copper conductors between 800A – 6300A.  
- Busbar system shall have the following number of conductors and wire configuration;

- a) 3 Conductors
- b) 4 Conductors
- c) 4 ½ Conductors
- d) 5 Conductors
- e) 6 Conductors

- Aluminium conductors shall be of EC grade aluminium. Minimum conductivity shall be 34m/mm<sup>2</sup>.Ω.  
- Copper conductors shall be minimum 99,95% electrolytic copper. Minimum conductivity shall be 56m/mm<sup>2</sup>.Ω.

#### 2.3- Insulation

- Busbars have to be insulated special selected silisium and calcile mixed with electrical grade epoxy resin to make superior composite. This material continuously works under temperature change and movements.  
- Insulation system shall be suitable for 1.000V continuous operation. Conductor size shall be designed so that temperature rise on the conductors shall not exceed 100 C degree at nominal current, which helps with the problem of global heating. With this reason, insulation class shall be "B class".

#### 2.4- Protection

- Protection degree of the housing and joints shall be IP68

#### 2.5- Accessories

- Busbar system shall have all necessary accessories (elbows, offsets, panel-transformer connections, reductions, etc.) Manufacturer shall supply special dimensioned units in short time, if the project conditions requires.  
- For horizontal runs, a horizontal expansion unit shall be used at every 40m and expansion points of the building.


#### 3- Installation and Commissioning

- Busbar systems shall be installed as per Single-Line drawings with respect to the required ampere rates and the manufacturer's installation guide (torque values, lockers, etc.). The electrical installer shall run an insulation test after installation according to the manufacturer's test procedures. The results of the test shall be reported to the manufacturer. Minimum insulation value shall be 1 Mohm.

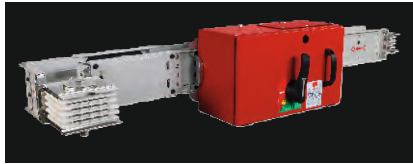
Component List	Item	Component	Quantity
Please duplicate this page for your own use.			

Company :  
Project :  
Project No :  
Name :  
Date :  
Signature :

Prepared by



# PRODUCT TYPES



## E-LINE KX

Compact Busbar Distribution System  
630...6300 A



## E-LINE KB

Compact Busbar Distribution System  
800...6300 A



## E-LINE KO-II

Plug-in Busbar Distribution System  
160...800A



## E-LINE MK

Small Power Plug-in Busbar Distribution System  
100-160-225 A



## DABLINE

Underfloor Busbar Systems  
63-80 A



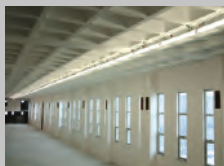
## E-LINE KAP

Plug-in Busbar Distribution System  
40-63A



## E-LINE DL

Multi-Conductor Lighting Busbar System  
25-32-40 A



## E-LINE KAM

Lighting Busbar System  
25-32 A



## E-LINE TB

Multi Conductor Trolley Busbar System  
35...250 A



## E-LINE DK

Underfloor Ducting Systems



## E-LINE UK

Cable Tray Systems, Cable Ladder Systems,  
Binrak (Unistrut) and Tray Support Systems

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IEC 61439-6



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