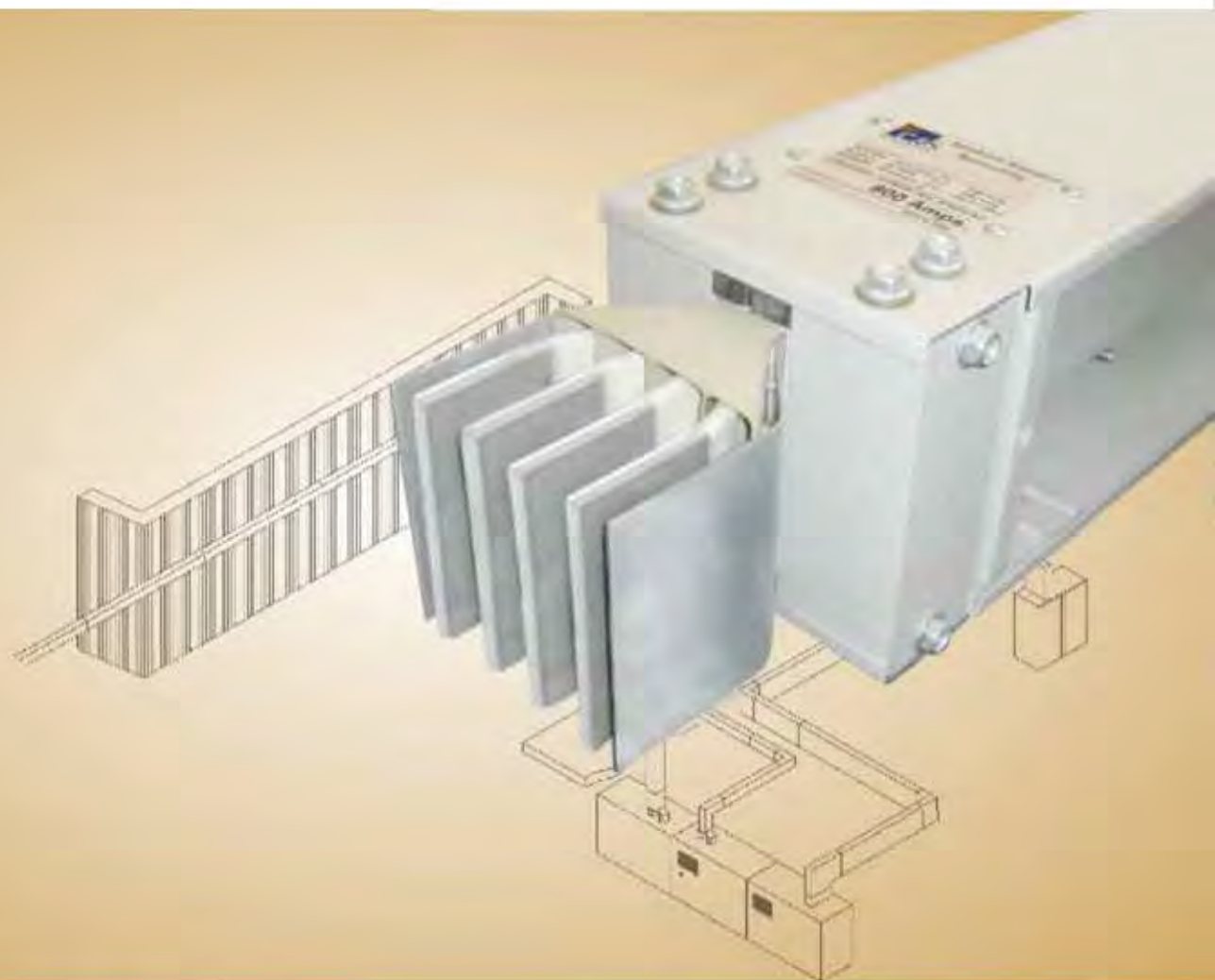


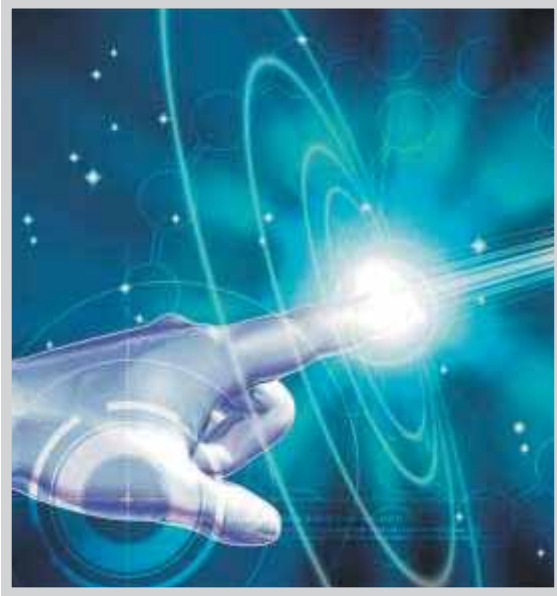
We touch your **electricity** everyday!



Busbar Trunking System SB-Sandwich Trunking



metabar

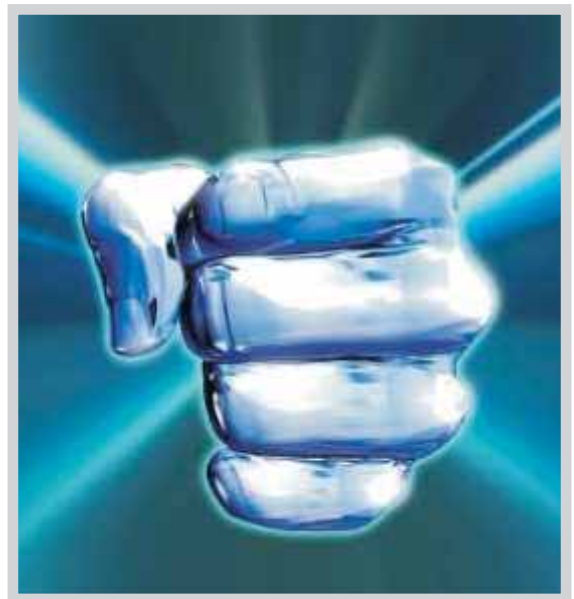


OUR MISSION

- To create a unique alchemy of outstanding products, operational excellence, path breaking customer service, and compelling marketing.
- To create and relish a vibrant workplace where employees are empowered, cared for, developed, and most of all, provided unlimited opportunity to discover their full potential.
- To continuously enhance our core technologies, and develop new world class technologies and products to expand our offering to customers.
- To consolidate and strengthen our position as India's largest exporter of Industrial power distribution and control equipment.
- To earn a healthy return on investment for the shareholders.
- To everyday experience, the sheer joy of delighting our internal and external customers, and to relish the thrill of participation in India's infrastructure boom.

OUR VISION

- C&S shall be the most trusted, respected and preferred brand, for electrical and electronic equipment that finds application in power generation, distribution, control and final consumption.
- In its major businesses C&S shall not only command a domestic market share ranging from 12% to 50% or more, but be known widely as the company "**closest to its Customers**"
- C&S products shall be used to manage power in india's biggest industries, in its highest buildings, in its most critical infrastructure and in millions of its homes.
- The C&S name shall be recognized widely as a benchmark, and shall serve as a role model and an inspiration to other Indian engineering products companies.
- C&S shall be cited as a company that played an important role in making "**Made in India**" a label that is trusted and respected the world over.



Manufacturing Plant at Hardwar



Major Manufacturing Facilities

CNC TURRET PUNCH PRESS



BUSBAR CUTTING MACHINE



POWDER COATING PLANT



BUSBAR SLEEVING MACHINE



LASER INSULATION CUTTING MACHINE



Index

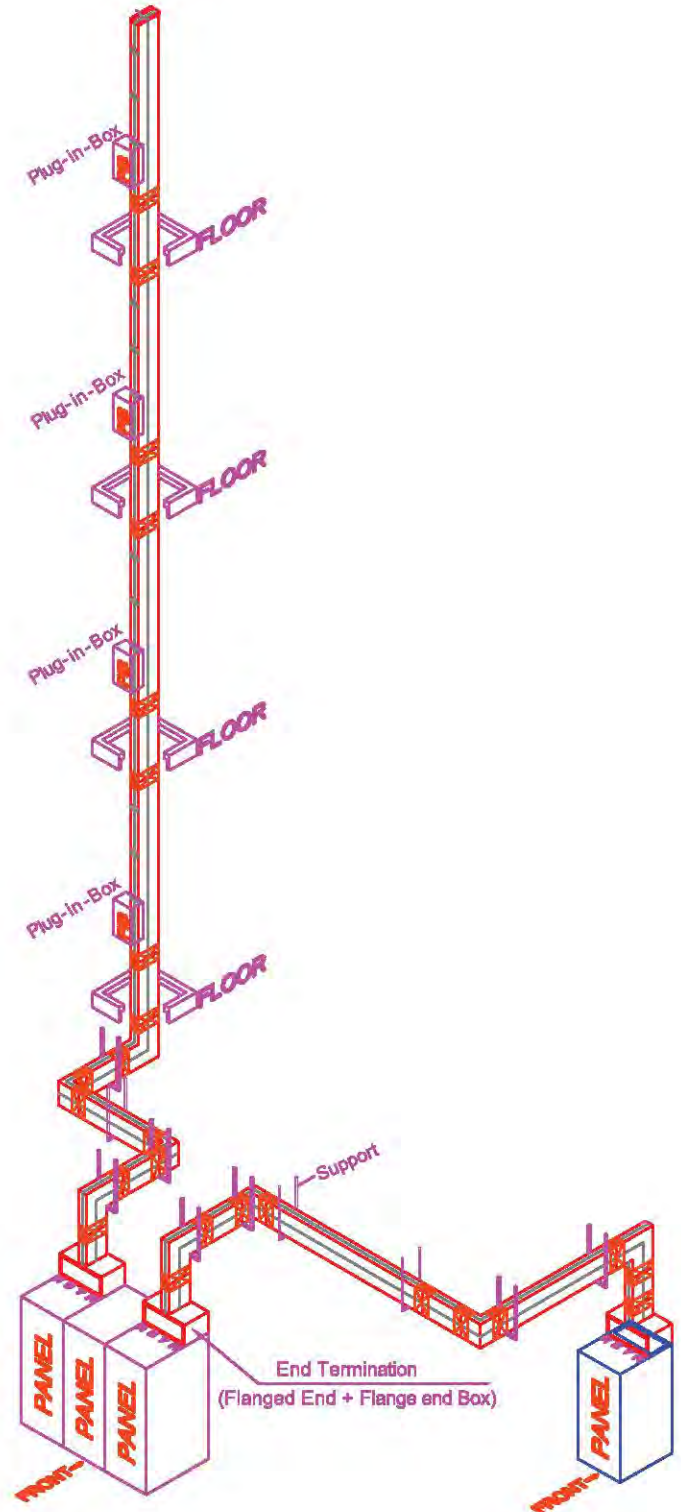
Vision & Mission	(i)
Manufacturing Plant	(ii)
Major Manufacturing Facilities	(iii)
Bustrunking System	(1)
Standard & Specifications	(2)
Technical Parameters	
Copper	(3-4)
Aluminum	(5-6)
Components	
Straight Length (Feeder & Plug in type)	(7)
Uniblock Joint, Edge Elbow & Offset Edge Elbow	(8)
Flat Elbow, Offset Flat Elbow & Flat Tee	(9)
Flanged End	(10)
Flange End with Flat Elbow & Flange End with Edge Elbow	(11)
Flange End Box & Flange Bellow	(12)
Reducer & Sectional Isolator	(13)
Center Feed & End Cover	(14)
End Feed & End Cover	(15)
Phase Transposition & Expansion Joint	(16)
Vertical Support & Vertical Rigid Hanger	(17)
Vertical Spring Hanger	(18)
Horizontal Support	(19)
Plug in box	(20)
Domestic References	(21-34)
International References	(35-37)
Installation Picture - Distribution	(38)
Installation Picture - Feeder	(39)
Installation References	(40-47)
Certificates	(48-52)

General

- Busbar Trunking System for electrical distribution is an alternative to cumbersome conventional cable distribution system.
- Busbar Trunking System has the advantage of expansions, Changes, replacement and reusing capability in the future.
- Loads can be fed from Plug-in Box unlike cables, where each floor/ machine is to be fed separately from the main switchboard. Repositioning of distribution points is simpler.
- Installation time is much shorter than cable system. This provides low installation and manpower costs and help for better time management.
- Busbar Trunking systems have a modern and aesthetic look.
- System is maintenance free.

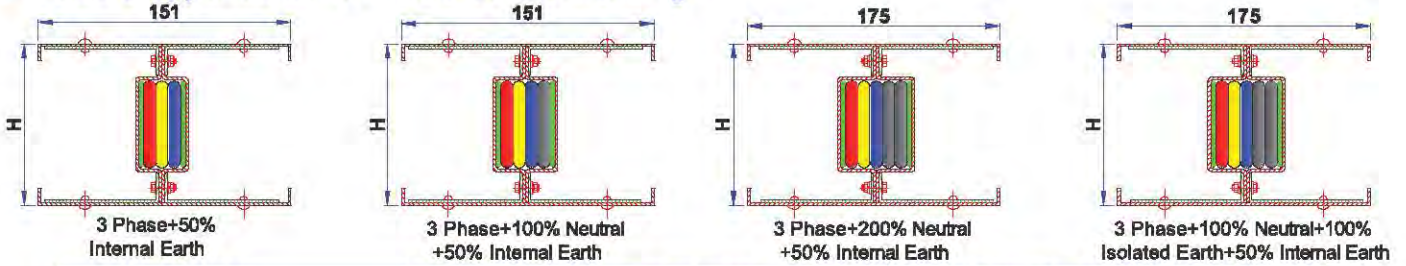
Salient Features

- Close proximity of busbars reduces inductive reactance, resistance, impedance and voltage drop is much lower than cable & any other busbar system.
- Specially designed housing act as a heat sink to yield improved thermal characteristic, high mechanical and short circuit strength.
- Busbar System has no chimney effect, hence provide a better resistance to the spread of fire.
- Automatic polarity is maintained during installation.
- System can be mounted edgewise OR flat wise horizontally or vertically in any direction with all kinds of bends and tees etc.
- The compact structure and steel housing allows much lower electromagnetic field around busbar system than cable. Busbars does not generate electromagnetic interference on data system.



■ Compliance of Standard	IEC 61439 (1&6) & IS 8623 (1&2)
■ Independent Certification Authority	ASTA-UK, CPRI-India
■ Busbar Arrangement	Sandwich Type
■ Busbar Ratings	Copper 630 ~ 6600A Aluminium 400 ~ 5000A
■ Busbar Configuration	3 Phase+50% Internal Earth 3 Phase+100% Neutral+50% Internal Earth 3 Phase+200% Neutral+50% Internal Earth 3 Phase+100%Neutral+100% Isolated Earth +50%Internal Earth
■ Rated Operational Voltage (Ue)	1000 Volt, AC
■ Rated Insulation Voltage (Ui)	1000 Volt, AC
■ Rated Dielectric Voltage	3.5 KV r.m.s
■ Rated Impulse Withstand Voltage (Uimp)	12 kV (1.2/50 μ s)
■ Rated Frequency	50 Hz / 60 Hz
■ Enclosure Material	1.6mm G.I / 2mm AL
■ Surface Coating on Enclosure	Epoxy polyester powder coated (RAL-7032)
■ Busbar Material (Phase/Neutral)	Copper 99.9% pure, 97% conductivity (IACS) ETP grade Aluminium 99.5% pure, 60% conductivity (IACS)
■ Busbar Material (Internal Earth)	G.I 1.5mm / Copper 1.5 mm.
■ Busbar Material (External Earth)	Copper / Aluminium (Optional)
■ Busbar Insulation	Multi layer Class- 'F' Insulation (Polyester +Mica)
■ Degree of Protection	IP 54 for Plug in type. IP55 / IP65 / IP67 for feeder bustrunking.
■ Fire Rating	240Min.(ISO 834)
■ Seismic Compliance	Zone -5 (IS:1893/IEEE 693)
■ Joint	Uniblock Joint (With Isolation and tamper proof shear off nut)
■ Plug -in-Box	32~800 A

SBC (Copper Sandwich Insulated Bus Trunking)



Rated Current (In)	Amps	630	800	900	1000	1100	1250	1600	1800	2000
Product Code	—	SBC 40N1	SBC 50N1	SBC 60N1	SBC 70N1	SBC 80N1	SBC 100N1	SBC 125N1	SBC 150N1	SBC 175N1
Busbar size per phase (No. of busbars)	mm	6x40(1)	6x50(1)	6x60(1)	6x70(1)	6x80(1)	6x100(1)	6x125(1)	6x150(1)	6x175(1)
Overall Height (H)	mm	85	95	105	115	125	145	170	195	220
Rated Three Phase RMS Short Time Current for 1 Second (I _{sc})	kA	40	50	50	65	65	85	100	100	100
Rated Three phase Peak short time current (I _{pk})	kA	84	105	105	143	143	187	220	220	220
Rated Single Phase RMS Short Time Current for 1 Second (I _{sc})	kA	24	30	30	39	39	51	60	60	60
Rated Single phase Peak short time current (I _{pk})	kA	50.4	63	63	81.9	81.9	112.2	132	132	132

Approximate Weight of Bustrunking

Configuration	kg/mtr.	630	800	900	1000	1100	1250	1600	1800	2000
3 Phase + 50% Internal Earth	kg/mtr.	20	22	24	27	29	34	40	46	52
3 Phase + 100% Neutral + 50% Internal Earth	kg/mtr.	22	25	28	31	34	40	47	55	62
3 Phase + 200% Neutral + 50% Internal Earth	kg/mtr.	25	29	32	36	40	47	56	65	74
3 Phase + 100% Neutral + 100% Isolated Earth + 50% Internal Earth	kg/mtr.	25	29	32	38	40	47	58	65	74

Electrical Characteristics for 50 Hz

Parameter	Unit	630	800	900	1000	1100	1250	1600	1800	2000
AC Resistance at 20°C (R ₂₀)	miliohms /mtr.	0.0740	0.0592	0.0499	0.0427	0.0378	0.0311	0.0249	0.0207	0.0179
A.C. Resistance at thermal conditions (R _t)	miliohms /mtr.	0.0959	0.0767	0.0645	0.0553	0.0489	0.0403	0.0322	0.0268	0.0232
Reactance (X)	miliohms /mtr.	0.0417	0.0333	0.0278	0.0238	0.0208	0.0170	0.0136	0.0127	0.0109
Impedance at thermal conditions (Z)	miliohms /mtr.	0.1045	0.0836	0.0703	0.0602	0.0531	0.0437	0.0350	0.0297	0.0256
Composite Voltage drop at full Load concentrated at the end of bustrunking run (ΔV)	mV/mtr./A at 0.7 P.F.	0.1678	0.1342	0.1126	0.0965	0.0850	0.0698	0.0559	0.0482	0.0416
	mV/mtr./A at 0.8 P.F.	0.1761	0.1409	0.1183	0.1014	0.0894	0.0735	0.0588	0.0504	0.0435
	mV/mtr./A at 0.9 P.F.	0.1809	0.1447	0.1216	0.1042	0.0920	0.0756	0.0605	0.0514	0.0444
	mV/mtr./A at 1.0 P.F.	0.1660	0.1328	0.1118	0.0958	0.0847	0.0697	0.0558	0.0465	0.0402

Electrical Characteristics for 60 Hz

Parameter	Unit	630	800	900	1000	1100	1250	1600	1800	2000
AC Resistance at 20°C (R ₂₀)	miliohms /mtr.	0.0742	0.0594	0.0500	0.0429	0.0379	0.0313	0.0251	0.0209	0.0181
A.C. Resistance at thermal conditions (R _t)	miliohms /mtr.	0.0961	0.0769	0.0648	0.0556	0.0491	0.0405	0.0325	0.0271	0.0235
Reactance (X)	miliohms /mtr.	0.0500	0.0400	0.0333	0.0286	0.0250	0.0204	0.0163	0.0152	0.0130
Impedance at thermal conditions (Z)	miliohms /mtr.	0.1083	0.0867	0.0729	0.0625	0.0551	0.0454	0.0363	0.0311	0.0268
Composite Voltage drop at full Load concentrated at the end of bustrunking run (ΔV)	mV/mtr./A at 0.7 P.F.	0.1784	0.1427	0.1198	0.1027	0.0905	0.0743	0.0595	0.0516	0.0446
	mV/mtr./A at 0.8 P.F.	0.1851	0.1482	0.1244	0.1067	0.0941	0.0773	0.0619	0.0533	0.0461
	mV/mtr./A at 0.9 P.F.	0.1876	0.1501	0.1262	0.1082	0.0955	0.0785	0.0629	0.0537	0.0464
	mV/mtr./A at 1.0 P.F.	0.1664	0.1332	0.1122	0.0962	0.0851	0.0702	0.0562	0.0469	0.0407

Voltage Drop Calculation Formulae

$$\Delta V = k \times \sqrt{3} \times (R_t \cos \phi + X \sin \phi) \times I_B \times L$$

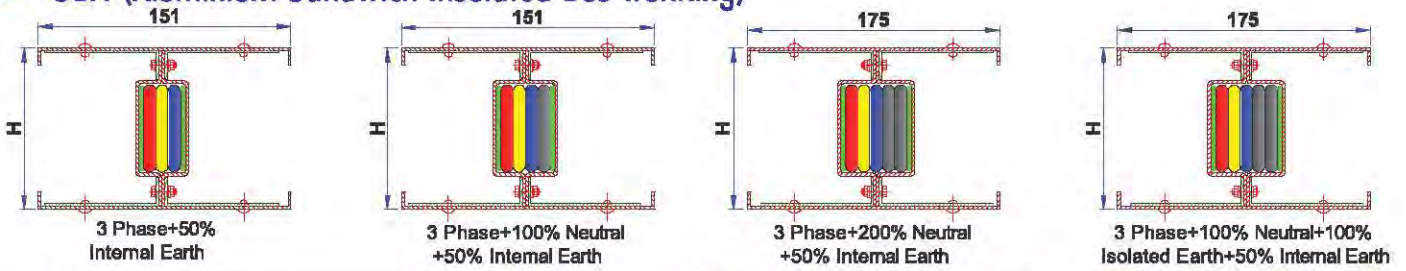
Where

- ΔV is the composite voltage drop of the system (V);
- R_t & X are the mean resistance and reactance values of the system (Ω/m);
- I_B is the actual load current of the circuit being considered (A);

- L is the length of the system being considered (M);
- $\cos \phi$ is the load power factor being considered;
- k is the load distribution factor.
 $k=1$, if full load is concentrated at the end of the busbar trunking run;
 $k=(n+1)/2n$, if the load is uniformly spread between n branches.

Rated Current (In)	Amps	2250	2500	3200	3600	4000	4500	5000	6000	6600
Product Code	--	SBC 200N1	SBC 230N1	SBC 125N2	SBC 150N2	SBC 175N2	SBC 200N2	SBC 230N2	SBC 175N3	SBC 200N3
Busbar size per phase (No. of busbars)	mm	6x200(1)	6x230(1)	6x125(2)	6x150(2)	6x175(2)	6x200(2)	6x230(2)	6x175(3)	6x200(3)
Overall Height (H)	mm	245	275	340	390	440	490	550	660	735
Rated Three Phase RMS Short Time Current for 1 Second (I _{scw})	kA	100	120	150	150	150	150	150	175	175
Rated Three phase Peak short time current (I _{pk})	kA	220	264	330	330	330	330	330	385	385
Rated Single Phase RMS Short Time Current for 1 Second (I _{scw})	kA	60	72	90	90	90	90	90	105	105
Rated Single phase Peak short time current (I _{pk})	kA	132	158.4	198	198	198	198	198	231	231
Approximate Weight of Bustrunking										
3 Phase + 50% Internal Earth	kg/mtr.	58	65	75	87	100	112	127	145	164
3 Phase + 100% Neutral + 50% Internal Earth	kg/mtr.	70	79	90	105	121	136	155	177	200
3 Phase + 200% Neutral + 50% Internal Earth	kg/mtr.	83	94	106	124	142	161	183	209	236
3 Phase + 100% Neutral + 100% Isolated Earth + 50% Internal Earth	kg/mtr.	83	94	106	124	142	161	183	209	236
Electrical Characteristics for 50 Hz										
AC Resistance at 20°C (R ₂₀)	milliohms /mtr.	0.0157	0.0136	0.0124	0.0104	0.0090	0.0078	0.0068	0.0060	0.0052
A.C. Resistance at thermal conditions (R _t)	milliohms /mtr.	0.0203	0.0177	0.0161	0.0134	0.0116	0.0102	0.0088	0.0077	0.0068
Reactance (X)	milliohms /mtr.	0.0095	0.0083	0.0070	0.0064	0.0055	0.0049	0.0042	0.0038	0.0033
Impedance at thermal conditions (Z)	milliohms /mtr.	0.0224	0.0195	0.0176	0.0149	0.0128	0.0113	0.0098	0.0086	0.0076
Composite Voltage drop at full Load concentrated at the end of bustrunking run (ΔV)	mV/mtr./A at 0.7 P.F.	0.0364	0.0316	0.0282	0.0242	0.0209	0.0183	0.0160	0.0141	0.0123
	mV/mtr./A at 0.8 P.F.	0.0380	0.0331	0.0296	0.0252	0.0218	0.0191	0.0166	0.0147	0.0129
	mV/mtr./A at 0.9 P.F.	0.0389	0.0338	0.0304	0.0257	0.0222	0.0195	0.0170	0.0149	0.0131
	mV/mtr./A at 1.0 P.F.	0.0352	0.0306	0.0279	0.0232	0.0201	0.0176	0.0153	0.0134	0.0117
Electrical Characteristics for 60 Hz										
AC Resistance at 20°C (R ₂₀)	milliohms /mtr.	0.0159	0.0138	0.0126	0.0106	0.0092	0.0080	0.0070	0.0062	0.0054
A.C. Resistance at thermal conditions (R _t)	milliohms /mtr.	0.0206	0.0179	0.0163	0.0137	0.0119	0.0104	0.0091	0.0080	0.0070
Reactance (X)	milliohms /mtr.	0.0114	0.0099	0.0084	0.0077	0.0066	0.0059	0.0051	0.0046	0.0040
Impedance at thermal conditions (Z)	milliohms /mtr.	0.0235	0.0205	0.0184	0.0157	0.0136	0.0119	0.0104	0.0092	0.0081
Composite Voltage drop at full Load concentrated at the end of bustrunking run (ΔV)	mV/mtr./A at 0.7 P.F.	0.0390	0.0340	0.0302	0.0260	0.0225	0.0199	0.0173	0.0153	0.0135
	mV/mtr./A at 0.8 P.F.	0.0403	0.0351	0.0314	0.0269	0.0233	0.0205	0.0179	0.0158	0.0139
	mV/mtr./A at 0.9 P.F.	0.0407	0.0354	0.0318	0.0271	0.0234	0.0206	0.0180	0.0159	0.0140
	mV/mtr./A at 1.0 P.F.	0.0356	0.0310	0.0283	0.0237	0.0205	0.0180	0.0157	0.0138	0.0122

SBA (Aluminium Sandwich Insulated Bus Trunking)



Rated Current (In)	Amps	400	500	630	700	800	1000	1250	1350	1600
Product Code	—	SBA 40N1	SBA 50N1	SBA 60N1	SBA 70N1	SBA 80N1	SBA 100N1	SBA 125N1	SBA 150N1	SBA 175N1
Busbar size per phase (No. of busbars)	mm	6x40(1)	6x50(1)	6x60(1)	6x70(1)	6x80(1)	6x100(1)	6x125(1)	6x150(1)	6x175(1)
Overall Height (H)	mm	85	95	105	115	125	145	170	195	220
Rated Three Phase RMS Short Time Current for 1 Second (I _{sc})	kA	25	30	40	40	50	65	80	85	100
Rated Three phase Peak short time current (I _{pk})	kA	52.5	63	84	84	105	143	176	187	220
Rated Single Phase RMS Short Time Current for 1 Second (I _{sc})	kA	15	18	24	24	30	39	48	51	60
Rated Single phase Peak short time current (I _{pk})	kA	30	36	50.4	50.4	63	81.9	100.8	112.2	132

Approximate Weight of Bustrunking

Configuration	kg/mtr.	400	500	630	700	800	1000	1250	1350	1600
3 Phase + 50% Internal Earth	kg/mtr.	15	16	17	18	19	22	25	28	30
3 Phase + 100% Neutral + 50% Internal Earth	kg/mtr.	16	17	18	19	21	24	27	30	34
3 Phase + 200% Neutral + 50% Internal Earth	kg/mtr.	17	18	20	22	23	26	30	34	38
3 Phase + 100% Neutral + 100% Isolated Earth + 50% Internal Earth	kg/mtr.	17	18	20	22	23	26	30	34	38

Electrical Characteristics for 50 Hz

Parameter	Unit	400	500	630	700	800	1000	1250	1350	1600
AC Resistance at 20°C (R ₂₀)	miliohms /mtr.	0.1198	0.0958	0.0806	0.0691	0.0611	0.0503	0.0402	0.0335	0.0290
A.C. Resistance at thermal conditions (R _t)	miliohms /mtr.	0.1553	0.1243	0.1046	0.0896	0.0792	0.0652	0.0522	0.0435	0.0376
Reactance (X)	miliohms /mtr.	0.0417	0.0333	0.0278	0.0238	0.0208	0.0170	0.0136	0.0127	0.0109
Impedance at thermal conditions (Z)	miliohms /mtr.	0.1608	0.1286	0.1082	0.0927	0.0819	0.0674	0.0539	0.0453	0.0392
Composite Voltage drop at full Load concentrated at the end of bustrunking run (ΔV)	mV/mtr./A at 0.7 P.F.	0.2398	0.1919	0.1612	0.1381	0.1218	0.1001	0.0801	0.0684	0.0591
	mV/mtr./A at 0.8 P.F.	0.2585	0.2068	0.1738	0.1490	0.1314	0.1081	0.0864	0.0734	0.0634
	mV/mtr./A at 0.9 P.F.	0.2736	0.2189	0.1840	0.1577	0.1392	0.1145	0.0916	0.0774	0.0669
	mV/mtr./A at 1.0 P.F.	0.2690	0.2152	0.1811	0.1553	0.1372	0.1130	0.0904	0.0753	0.0652

Electrical Characteristics for 60 Hz

Parameter	Unit	400	500	630	700	800	1000	1250	1350	1600
AC Resistance at 20°C (R ₂₀)	miliohms /mtr.	0.1200	0.0961	0.0809	0.0694	0.0614	0.0506	0.0405	0.0338	0.0293
A.C. Resistance at thermal conditions (R _t)	miliohms /mtr.	0.1557	0.1246	0.1050	0.0900	0.0796	0.0656	0.0526	0.0439	0.0380
Reactance (X)	miliohms /mtr.	0.0500	0.0400	0.0333	0.0286	0.0250	0.0204	0.0163	0.0152	0.0130
Impedance at thermal conditions (Z)	miliohms /mtr.	0.1635	0.1309	0.1101	0.0944	0.0834	0.0687	0.0551	0.0464	0.0402
Composite Voltage drop at full Load concentrated at the end of bustrunking run (ΔV)	mV/mtr./A at 0.7 P.F.	0.2506	0.2006	0.1685	0.1445	0.1274	0.1048	0.0839	0.0720	0.0622
	mV/mtr./A at 0.8 P.F.	0.2677	0.2143	0.1801	0.1544	0.1363	0.1121	0.0898	0.0766	0.0662
	mV/mtr./A at 0.9 P.F.	0.2805	0.2245	0.1888	0.1619	0.1430	0.1177	0.0943	0.0799	0.0691
	mV/mtr./A at 1.0 P.F.	0.2697	0.2159	0.1818	0.1559	0.1379	0.1137	0.0911	0.0760	0.0659

Voltage Drop Calculation Formulae

$$\Delta V = k \times \sqrt{3} \times (R_t \cos \phi + X \sin \phi) \times I_B \times L$$

Where

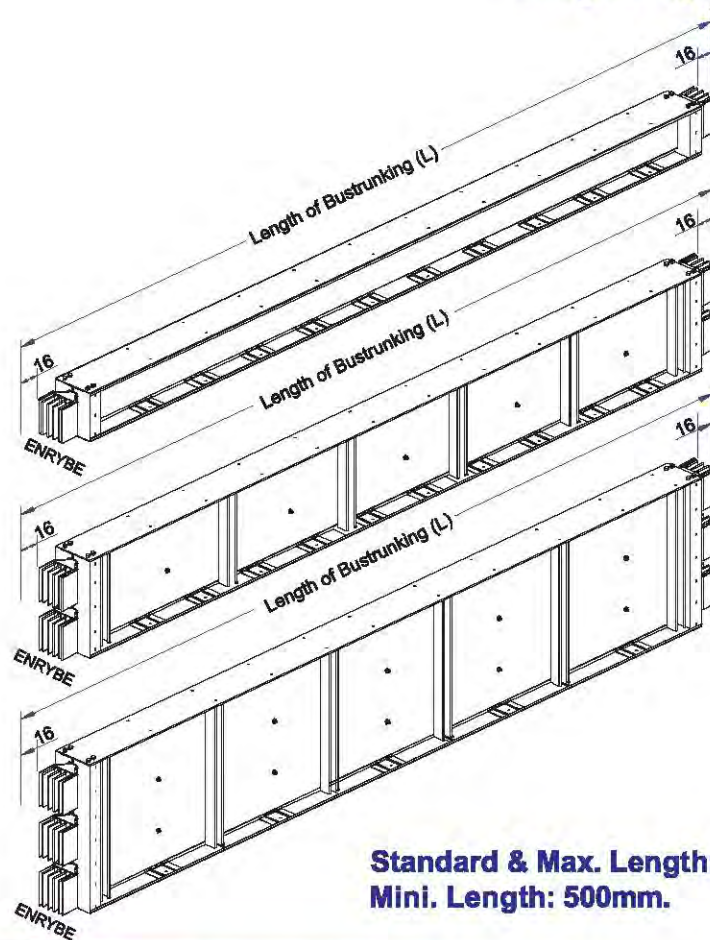
- ΔV is the composite voltage drop of the system (V);
- R_t & X are the mean resistance and reactance values of the system (Ω/m);
- I_B is the actual load current of the circuit being considered (A);

- L is the length of the system being considered (M);
- $\cos \phi$ is the load power factor being considered;
- k is the load distribution factor.
 $k=1$, if full load is concentrated at the end of the busbar trunking run;
 $k=(n+1)/2n$, if the load is uniformly spread between n branches.

Rated Current (In)	Amps	1800	2000	2250	2500	3200	3600	4000	4500	5000
Product Code	—	SBA 200N1	SBA 100N2	SBA 125N2	SBA 150N2	SBA 175N2	SBA 200N2	SBA 150N3	SBA 175N3	SBA 200N3
Busbar size per phase (No. of busbars)	mm	6x200(1)	6x100(2)	6x125(2)	6x150(2)	6x175(2)	6x200(2)	6x150(3)	6x175(3)	6x200(3)
Overall Height (H)	mm	245	290	340	390	440	490	585	660	735
Rated Three Phase RMS Short Time Current for 1 Second (I _{sc})	kA	100	100	120	120	120	120	175	175	175
Rated Three phase Peak short time current (I _{pk})	kA	220	220	264	264	264	264	385	385	385
Rated Single Phase RMS Short Time Current for 1 Second (I _{sc})	kA	60	60	72	72	72	72	105	105	105
Rated Single phase Peak short time current (I _{pk})	kA	132	132	158.4	158.4	158.4	158.4	231	231	231
Approximate Weight of Bustrunking										
3 Phase + 50% Internal Earth	kg/mtr.	33	38	44	50	57	63	71	81	90
3 Phase + 100% Neutral + 50% Internal Earth	kg/mtr.	37	42	49	56	63	71	80	91	101
3 Phase + 200% Neutral + 50% Internal Earth	kg/mtr.	42	46	55	63	71	79	89	101	114
3 Phase + 100% Neutral + 100% Isolated Earth + 50% Internal Earth	kg/mtr.	42	46	55	63	71	79	89	101	114
Electrical Characteristics for 50 Hz										
AC Resistance at 20°C (R ₂₀)	milliohms /mtr.	0.0254	0.0251	0.0201	0.0168	0.0145	0.0127	0.0112	0.0097	0.0085
A.C. Resistance at thermal conditions (R _t)	milliohms /mtr.	0.0329	0.0326	0.0261	0.0217	0.0188	0.0165	0.0145	0.0125	0.0110
Reactance (X)	milliohms /mtr.	0.0095	0.0088	0.0070	0.0064	0.0055	0.0049	0.0044	0.0038	0.0033
Impedance at thermal conditions (Z)	milliohms /mtr.	0.0343	0.0338	0.0270	0.0227	0.0196	0.0172	0.0152	0.0131	0.0115
Composite Voltage drop at full Load concentrated at the end of bustrunking run (ΔV)	mV/mtr./A at 0.7 P.F.	0.0517	0.0504	0.0403	0.0343	0.0296	0.0260	0.0231	0.0199	0.0174
	mV/mtr./A at 0.8 P.F.	0.0555	0.0543	0.0434	0.0368	0.0318	0.0279	0.0247	0.0213	0.0187
	mV/mtr./A at 0.9 P.F.	0.0585	0.0575	0.0460	0.0387	0.0335	0.0293	0.0260	0.0224	0.0196
	mV/mtr./A at 1.0 P.F.	0.0570	0.0565	0.0452	0.0377	0.0326	0.0285	0.0251	0.0217	0.0190
Electrical Characteristics for 60 Hz										
AC Resistance at 20°C (R ₂₀)	milliohms /mtr.	0.0257	0.0254	0.0204	0.0171	0.0148	0.0130	0.0115	0.0100	0.0088
A.C. Resistance at thermal conditions (R _t)	milliohms /mtr.	0.0333	0.0330	0.0265	0.0221	0.0192	0.0169	0.0149	0.0129	0.0114
Reactance (X)	milliohms /mtr.	0.0114	0.0105	0.0084	0.0077	0.0066	0.0059	0.0053	0.0046	0.0040
Impedance at thermal conditions (Z)	milliohms /mtr.	0.0352	0.0346	0.0278	0.0234	0.0203	0.0178	0.0158	0.0137	0.0121
Composite Voltage drop at full Load concentrated at the end of bustrunking run (ΔV)	mV/mtr./A at 0.7 P.F.	0.0545	0.0530	0.0425	0.0363	0.0314	0.0277	0.0246	0.0213	0.0187
	mV/mtr./A at 0.8 P.F.	0.0580	0.0566	0.0454	0.0386	0.0334	0.0294	0.0262	0.0227	0.0199
	mV/mtr./A at 0.9 P.F.	0.0606	0.0594	0.0476	0.0403	0.0349	0.0307	0.0272	0.0236	0.0207
	mV/mtr./A at 1.0 P.F.	0.0577	0.0572	0.0459	0.0383	0.0333	0.0292	0.0258	0.0224	0.0197

Straight Length (Feeder)

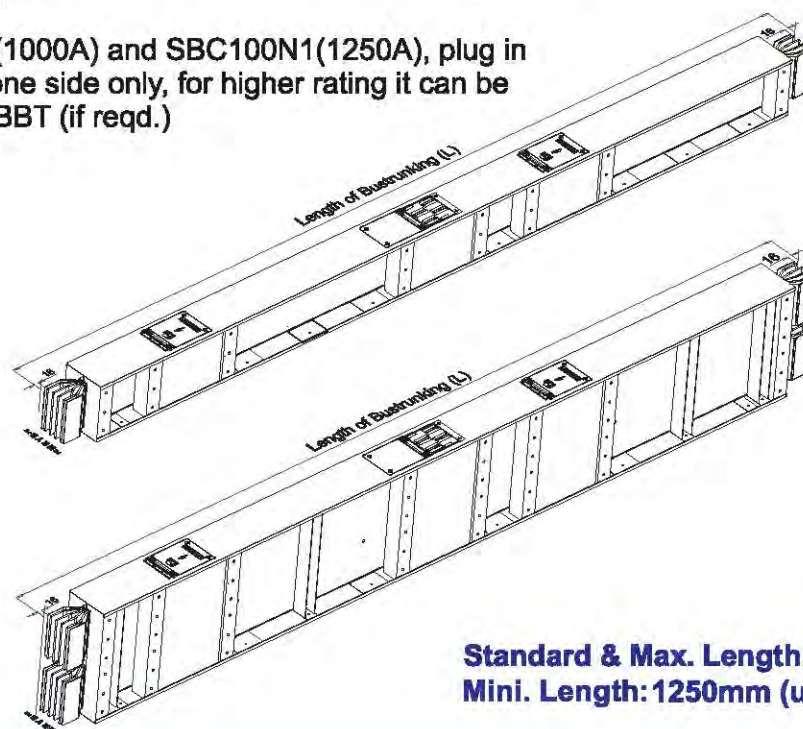
- Transformer to Panel.
- Panel to Panel.
- Generator to Panel.
- Panel to Rising mains.



**Standard & Max. Length: 3000mm.
Mini. Length: 500mm.**

- For tapping power from main line through Plug in Boxes.
- Plug in Points shown in figure are indicative only, max. 4 nos. can be provided per 3 mtr. Length
- For BBT upto SBA100N1 (1000A) and SBC100N1(1250A), plug in point can be provided on one side only, for higher rating it can be provided on both sides of BBT (if reqd.)

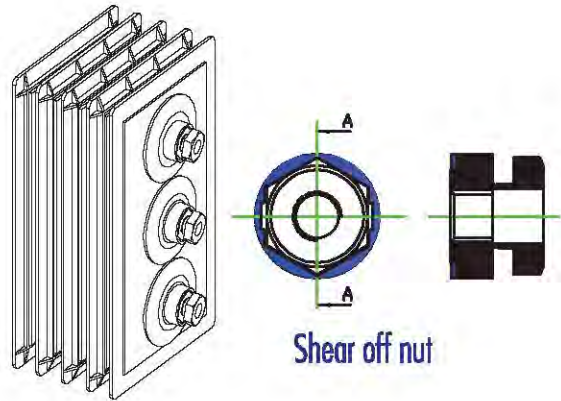
Straight Length (PIP)



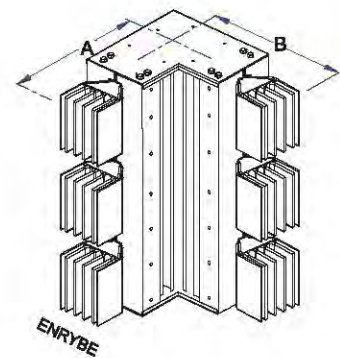
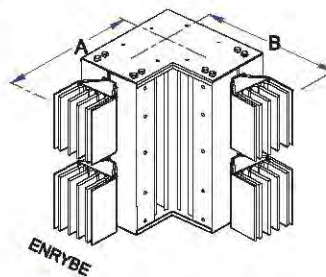
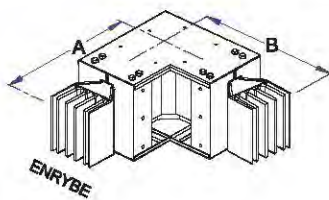
**Standard & Max. Length: 3000mm.
Mini. Length: 1250mm (upto 400A PIB)**

Uniblock Joint

- Joint can be fitted / removed in installed condition without removal of section.
- Heavy duty disc spring used on both sides for uniform distribution of pressure.
- Joint can be tightened easily with help of spanner on nut side only. (spanner not required on bolt head side)
- Shear off nut ensure tightness of joint at desired torque and eliminates the need of torque wrench during installation.
- Tamper proof cap over shear off nut prevents opening of nut after achieving desired torque. Nut can only be opened after breaking the cap.

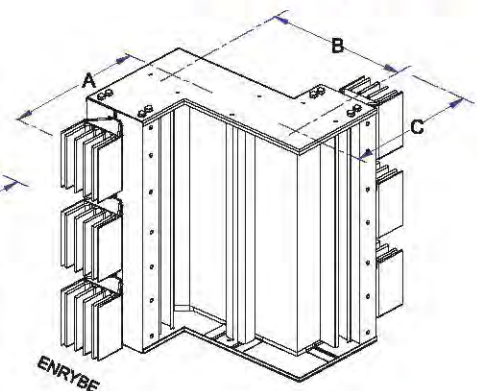
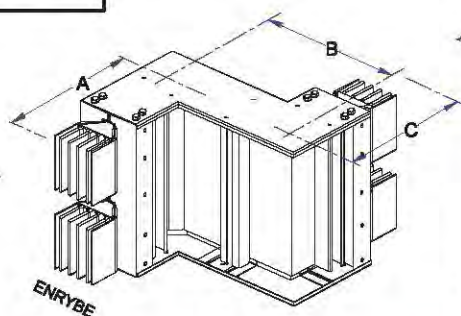
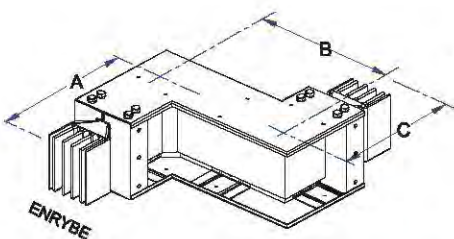


Current Rating	Standard Dimn. A x B (mm)
Copper 630~6600A Aluminum 400~5000A	500 x 500



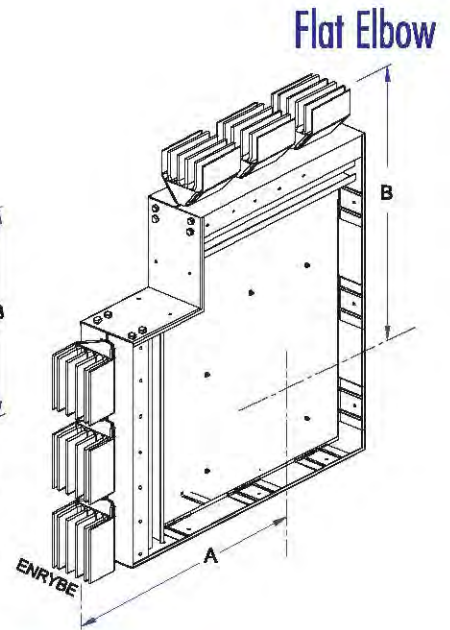
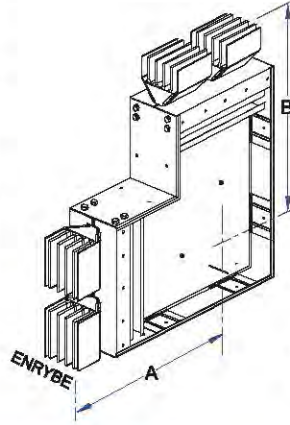
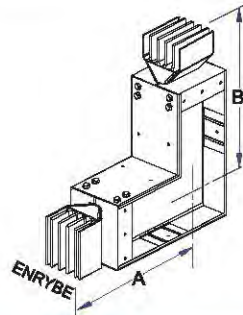
Edge Elbow

Current Rating	Standard Dimn. AxBxC (mm)
Copper 630~6600A Aluminum 400~5000A	500 x 500 x 500

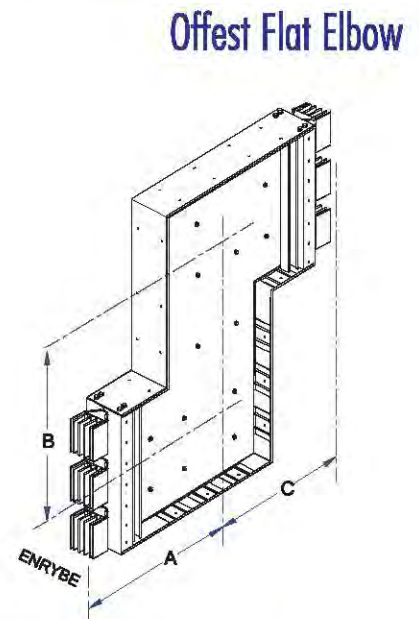
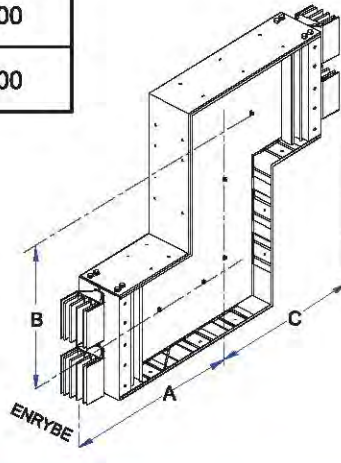
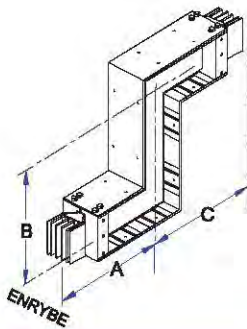


Offset Edge Elbow

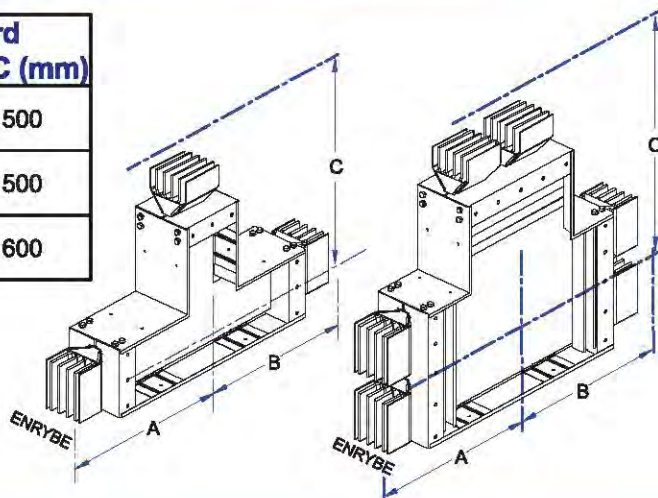
Current Rating	Standard Dimn. A x B (mm)
Copper 630~2500A Aluminum 400~1800A	500 x 500
Copper 3200~5000A Aluminum 2000~3600A	500 x 500
Copper 6000~6600A Aluminum 4000~5000A	600 x 600



Current Rating	Standard Dimn. AxBxC (mm)
Copper 630~2500A Aluminum 400~1800A	500 x 500 x 500
Copper 3200~5000A Aluminum 2000~3600A	500 x 500 x 500
Copper 6000~6600A Aluminum 4000~5000A	600 x 600 x 600



Current Rating	Standard Dimn. AxBxC (mm)
Copper 630~2500A Aluminum 400~1800A	500 x 500 x 500
Copper 3200~5000A Aluminum 2000~3600A	500 x 500 x 500
Copper 6000~6600A Aluminum 4000~5000A	600 x 600 x 600



Flat Tee

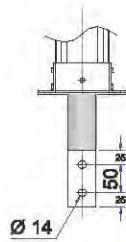
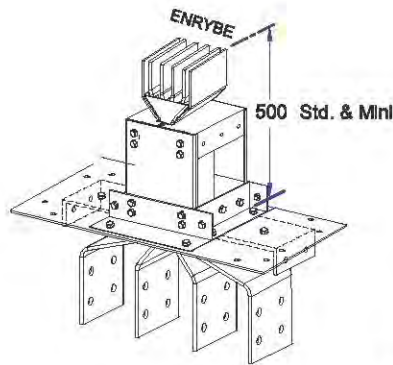


Fig. 1
BUSBAR WIDTH
40 ~ 80mm

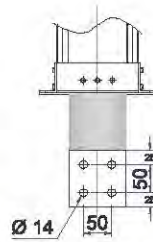


Fig. 2
BUSBAR WIDTH
100 ~ 125mm

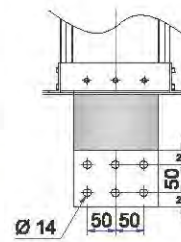


Fig. 3
BUSBAR WIDTH
150 ~ 175mm

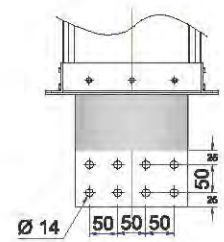


Fig. 4
BUSBAR WIDTH
200 ~ 230mm

Flanged End

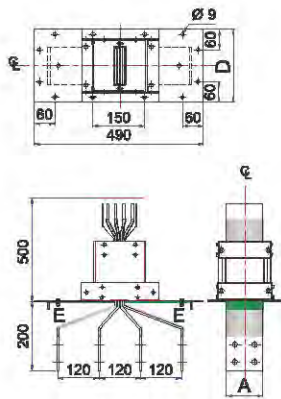


Fig. 5

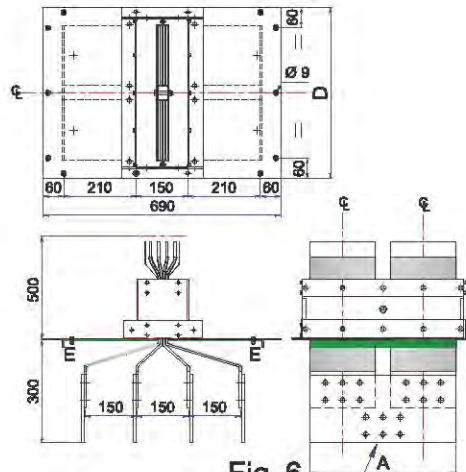


Fig. 6

TERMINATION HOLES
(Ø14) AS PER SITE REQUIREMENT

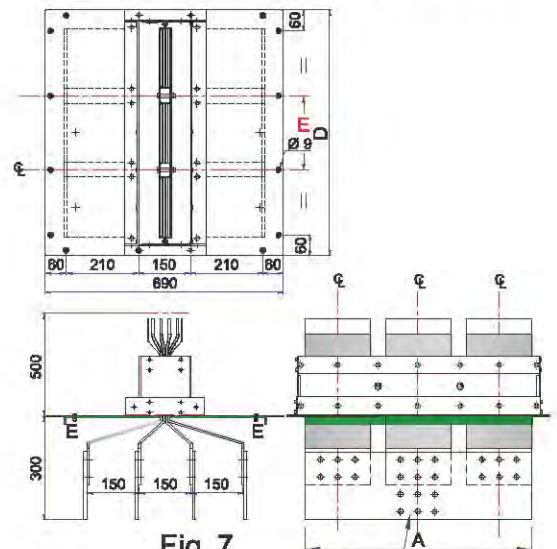


Fig. 7

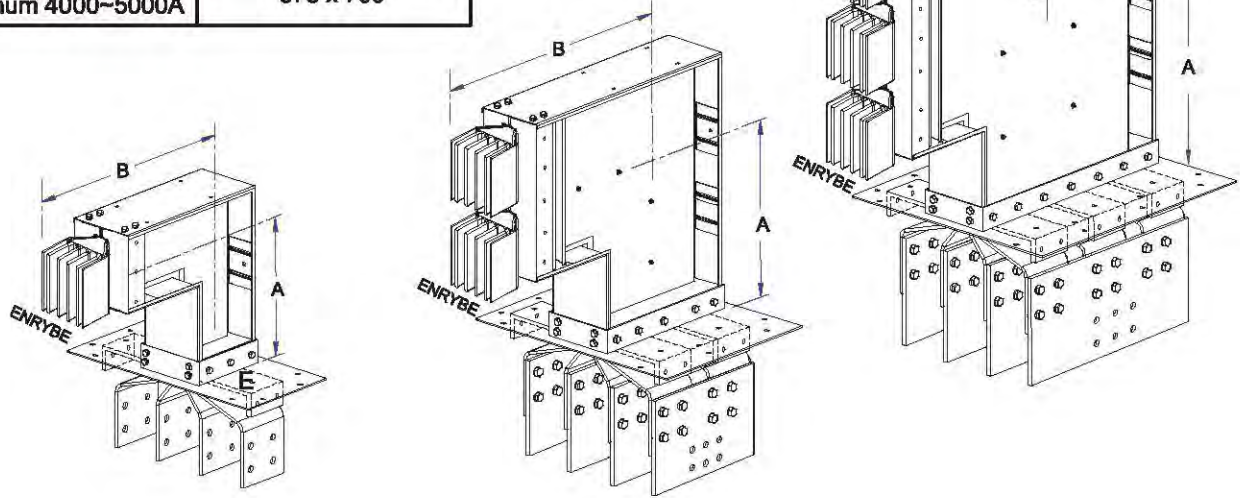
TERMINATION HOLES
(Ø14) AS PER SITE REQUIREMENT

Flanged End cut out & Drilling

S.No.	Copper		Aluminum		Busbar Size (No. of Busbar)	DIMENSIONS			Bus bar Hole Details	Terminal Detail
	Rating	Product Code	Rating	Product Code		D	A	E		
01.	630	SBC 40 N1	400	SBA 40 N1	40 x 6 (1)	146	40		fig 1	fig 5
02.	800	SBC 50 N1	500	SBA 50 N1	50 x 6 (1)	156	50		fig 1	fig 5
03.	900	SBC 60 N1	630	SBA 60 N1	60 x 6 (1)	166	60		fig 1	fig 5
04.	1000	SBC 70 N1	700	SBA 70 N1	70 x 6 (1)	176	70		fig 1	fig 5
05.	1100	SBC 80 N1	800	SBA 80 N1	80 x 6 (1)	186	80		fig 1	fig 5
06.	1250	SBC 100 N1	1000	SBA 100 N1	100 x 6 (1)	206	100		fig 2	fig 5
07.	1600	SBC 125 N1	1250	SBA 125 N1	125 x 6 (1)	231	125		fig 2	fig 5
08.	1800	SBC 150 N1	1350	SBA 150 N1	150 x 6 (1)	256	150		fig 3	fig 5
09.	2000	SBC 175 N1	1600	SBA 175 N1	175 x 6 (1)	281	175		fig 3	fig 5
10.	2250	SBC 200 N1	1800	SBA 200 N1	200 x 6 (1)	306	200		fig 4	fig 5
11.	2500	SBC 230 N1	—	—	230 x 6 (1)	336	230		fig 4	fig 5
12.	—	—	2000	SBA 100 N2	100 x 6 (2)	246	352		fig 2	fig 6
13.	3200	SBC 125 N2	2250	SBA 125 N2	125 x 6 (2)	296	402		fig 2	fig 6
14.	3600	SBC 150 N2	2500	SBA 150 N2	150 x 6 (2)	346	452		fig 3	fig 6
15.	4000	SBC 175 N2	3200	SBA 175 N2	175 x 6 (2)	396	502		fig 3	fig 6
16.	4500	SBC 200 N2	3600	SBA 200 N2	200 x 6 (2)	446	552		fig 4	fig 6
17.	5000	SBC 230 N2	—	—	230 x 6 (2)	506	612		fig 4	fig 6
18.	—	—	4000	SBA 150 N3	150 x 6 (3)	542	648	196	fig 3	fig 7
19.	6000	SBC 175 N3	4500	SBA 175 N3	175 x 6 (3)	617	723	221	fig 3	fig 7
20.	6600	SBC 200 N3	5000	SBA 200 N3	200 x 6 (3)	692	798	246	fig 4	fig 7

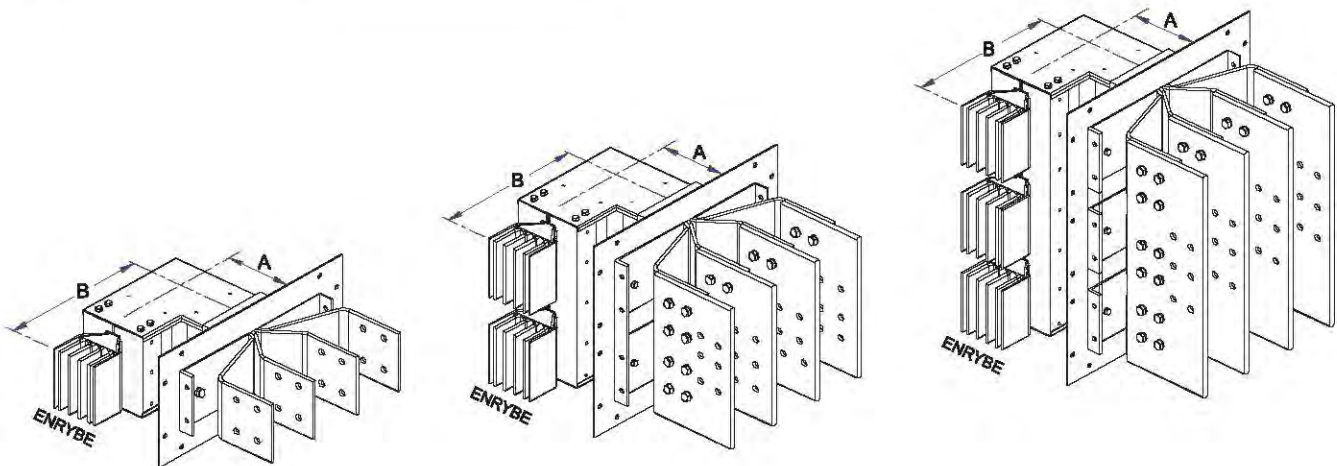
Flanged End with Flat Elbow

Current Rating	Standard & Mini Dimn. A x B (mm)
Copper 630~2500A Aluminum 400~1800A	275 x 400
Copper 3200~5000A Aluminum 2000~3600A	425 x 550
Copper 6000~6600A Aluminum 4000~5000A	575 x 700



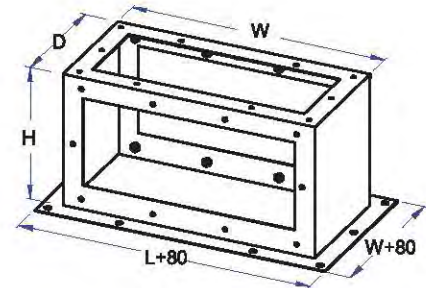
Flanged End with Edge Elbow

Current Rating	Standard & Mini Dimn. A x B (mm)
Copper 630~6600A Aluminum 400~5000A	275 x 400



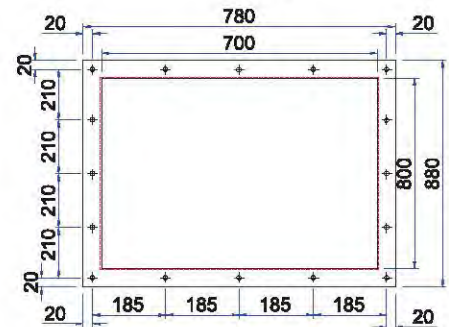
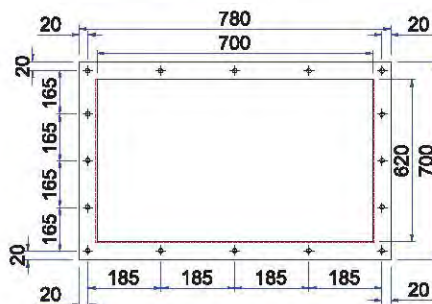
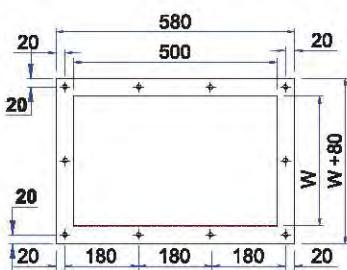
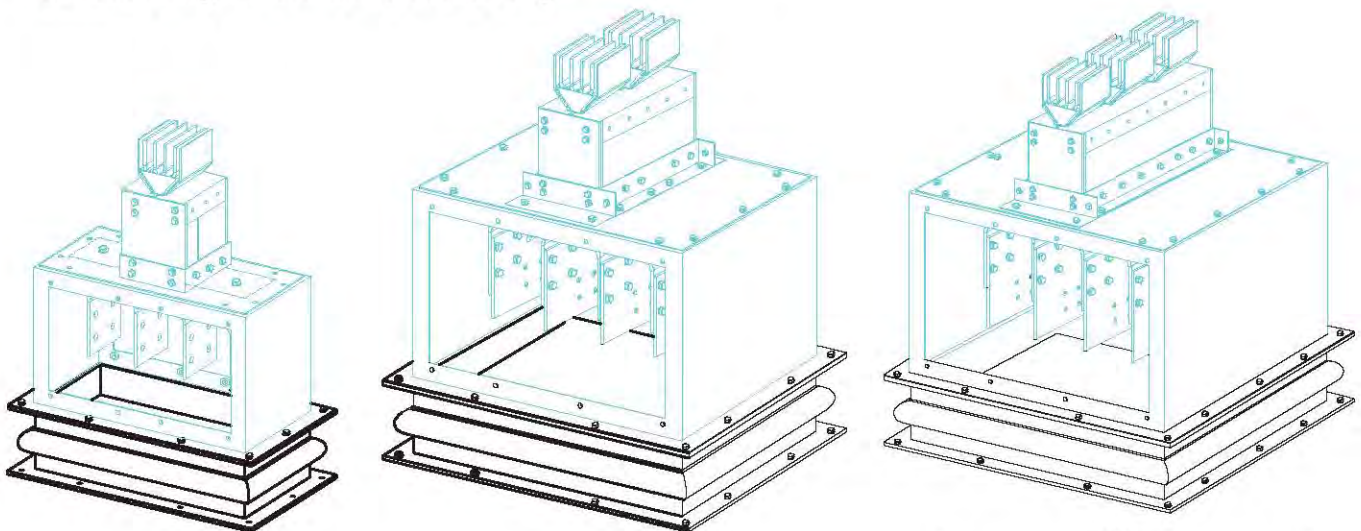
Flanged End Box

S.NO	Current Rating	STANDARD DIMENSIONS		
		W	D	H
01.	Copper 630~1600A Aluminum 400~1250A	500	250	250
02.	Copper 1800~2500A Aluminum 1350~1800A	500	350	250
03.	Copper 3200~5000A Aluminum 2000~3600A	700	620	350
04.	Copper 6000~6600A Aluminum 4000~5000A	700	800	350



- Flange Bellow need to be fixed between Flanged End Box and Genset termination box to avoid impact of vibrations of Genset being transferred to bustrunking.

Flange Bellow



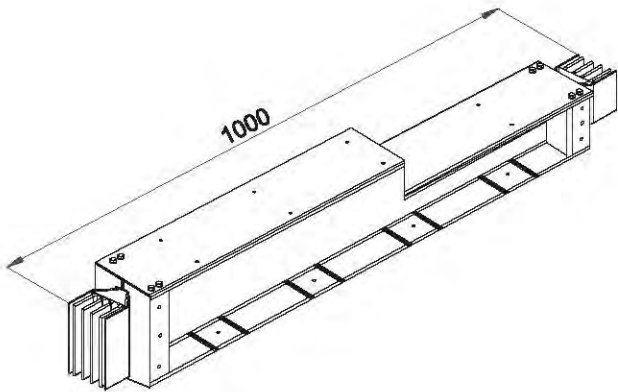
S. No	Current Rating	Dimensions W	Code
01.	Copper 630~1600A Aluminum 400~1250A	250	Type-A
02.	Copper 1800~2500A Aluminum 1350~1800A	350	Type-B

S. No	Current Rating	Code
01.	Copper 3200~5000A Aluminum 2000~3600A	Type-C

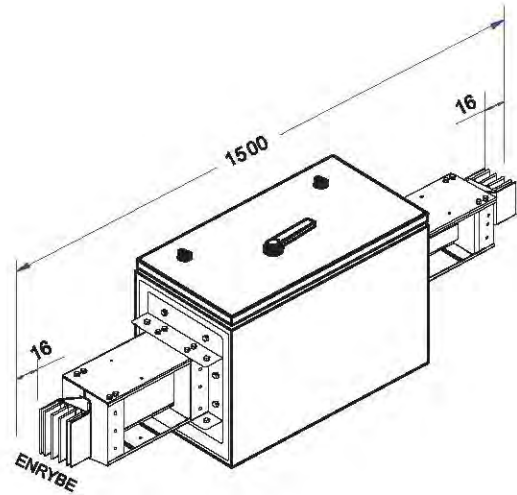
S. No	Current Rating	Code
01.	Copper 6000~6600A Aluminum 4000~5000A	Type-D

- These are required to connect two dissimilar rating of bustrunking. Reducer may be designed with switching or isolating device.

Reducer



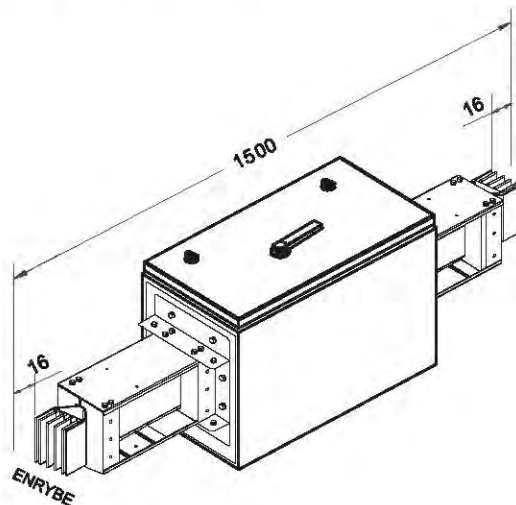
Reducer (Direct)



Reducer (Switchgear)

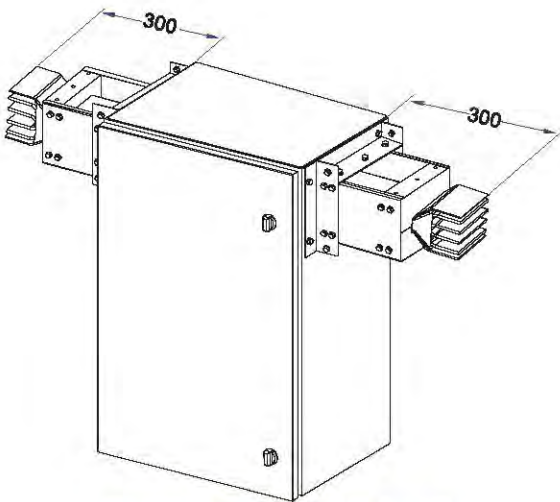
Sectional Isolator

- These are required to isolate the bustrunking run in between, for various reasons. Section Isolator Unit can be fitted with load Break Switches / SFU's / MCCB's.

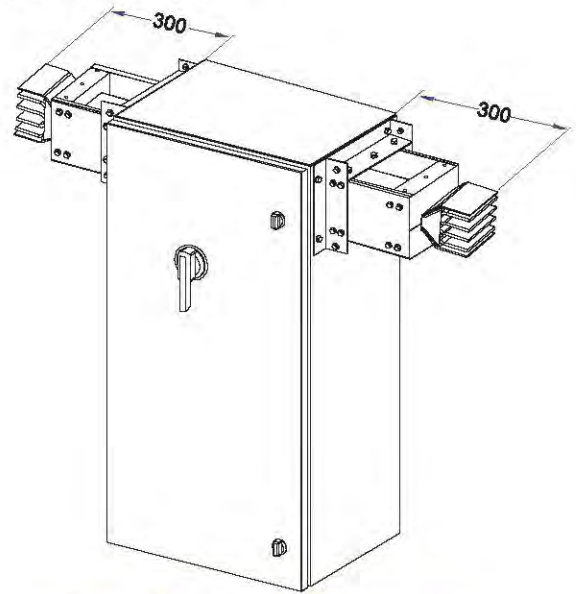


Center Feed Unit

- To charge bustrunking through cables from middle of bustrunking.
- Center feed Unit is available with sufficient space for direct connection through lugs and bolts. MCCB, SFU, Isolators, fuse holders etc. can be fitted in Center Feed Unit as per requirement.
- Undrilled cable gland plate is provided at bottom for multiple cable entry.



Center Feed Unit (Direct)



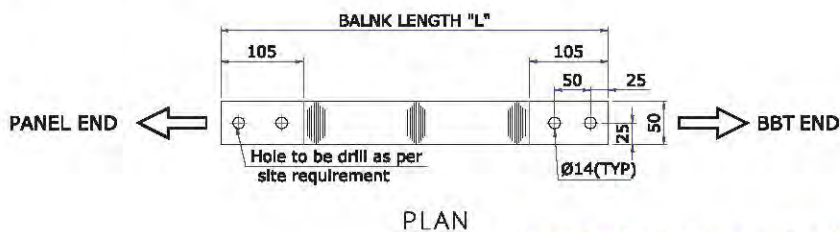
Center Feed Unit (Switchgear)

- Braided/ laminated copper flexible need to be used to connect flanged end busbar with busbars (Terminals) of Panel / Transformer / Generators.

Copper Flexible

BLANK LENGTH "L"

Minimum	Standard	Maximum
300	350	400

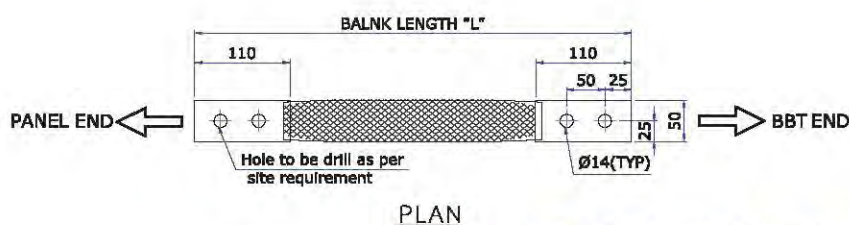


PLAN



ELEVATION

Laminated copper flexible requirement



PLAN

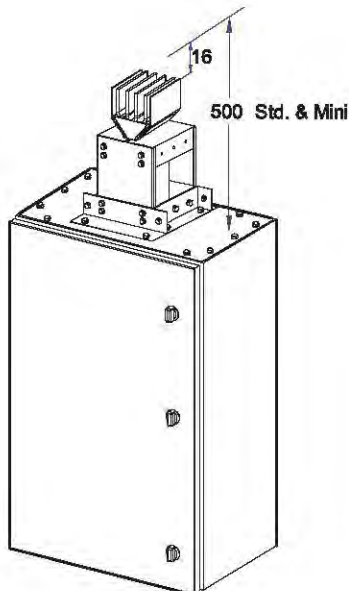


ELEVATION

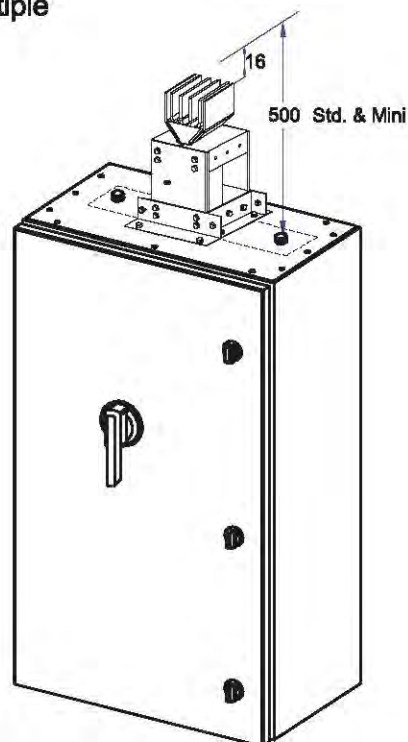
Braided copper flexible requirement

End Feed

- To charge bustrunking through cables from one end of bustrunking.
- End feed is available with sufficient space for direct connection through lugs and bolts. MCCB, SFU, Isolators, fuse holders etc. can be fitted in End Feed as per requirement.
- 300 mm length of bustrunking is integrally fitted (measured with bustrunking) along with End Feed as standard practice so that joint between End Feed and bustrunking is exactly same as joint of two normal bustrunking lengths.
- Undrilled cable gland plate is provided at bottom for multiple cable entry.



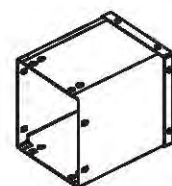
End Feed (Direct)



End Feed (Switchgear)

End Cover

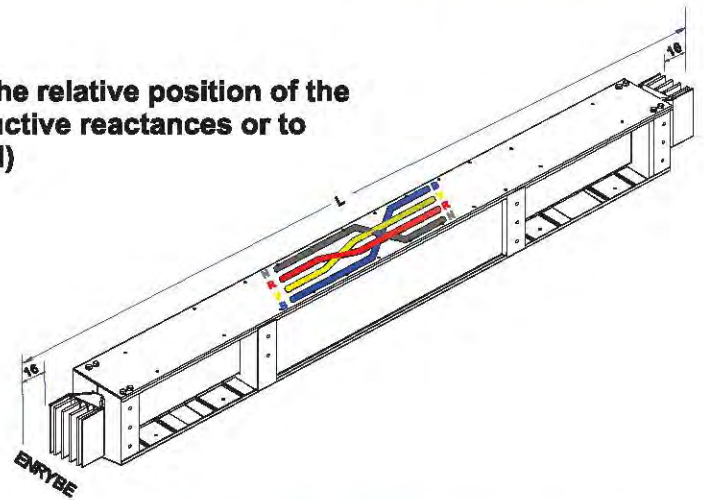
- It is used to terminate and to protect the end of plug-in bustrunking (Rising mains run.)
- It can be removed easily for extension of bustrunking.



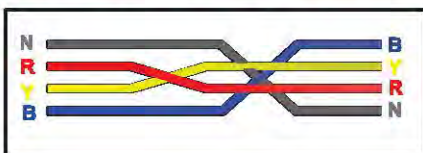
Phase Transposition Unit

Phase transposition unit are used to change the relative position of the phase conductors in order to balance the inductive reactances or to transpose the phases (such as NRYB to BYRN)

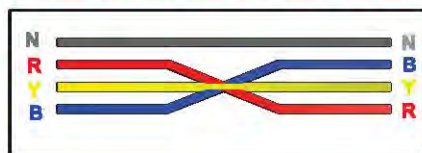
Standard Dimension (L) :- 1500mm



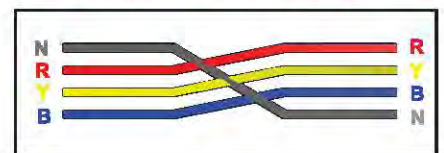
PHASE TRANSPOSITION UNIT (TYPE-3)



PHASE TRANSPOSITION UNIT (TYPE-2)



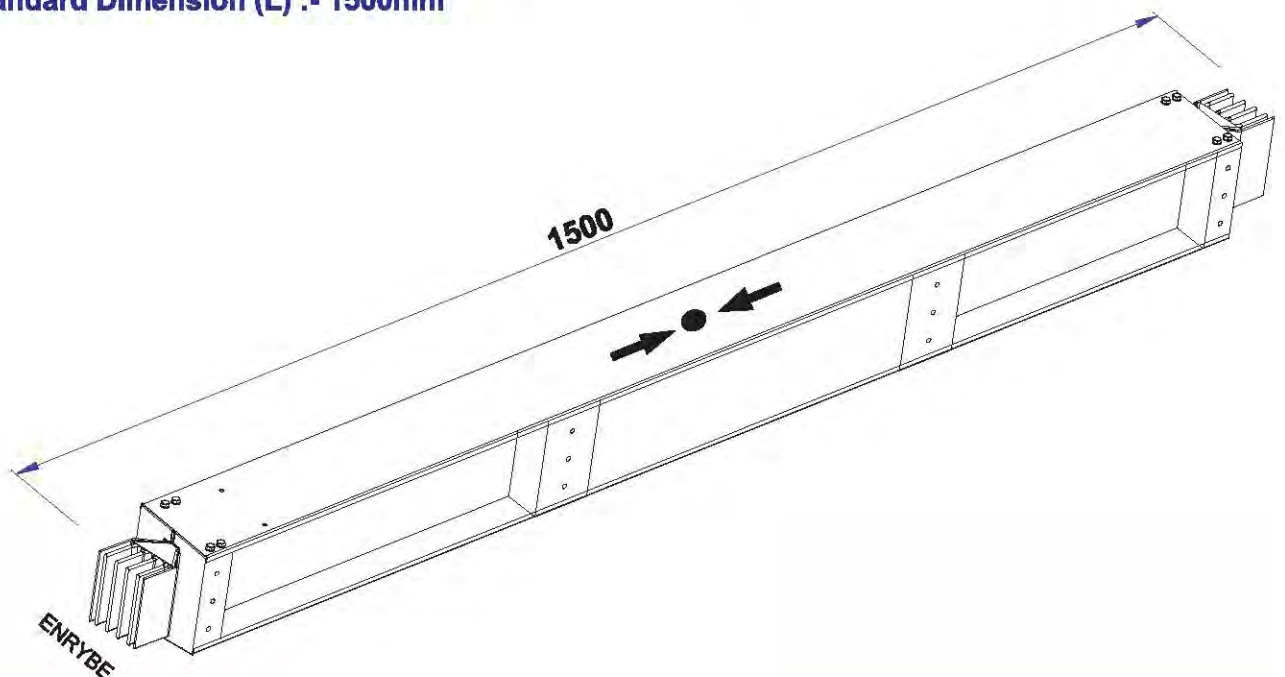
PHASE TRANSPOSITION UNIT (TYPE-1)



Expansion joint unit

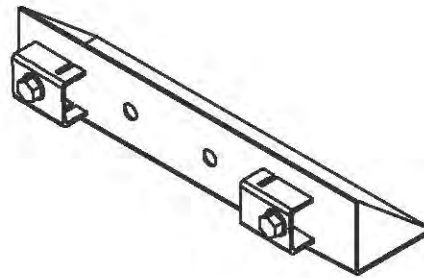
It is required to permit certain movement in the axial direction of the bus trunking due to thermal expansion, of the system. It is recommended to use after every 50 mtr of straight run.

Standard Dimension (L) :- 1500mm



Vertical Support

- Vertical support is used to control Horizontal movement of sandwich rising main .



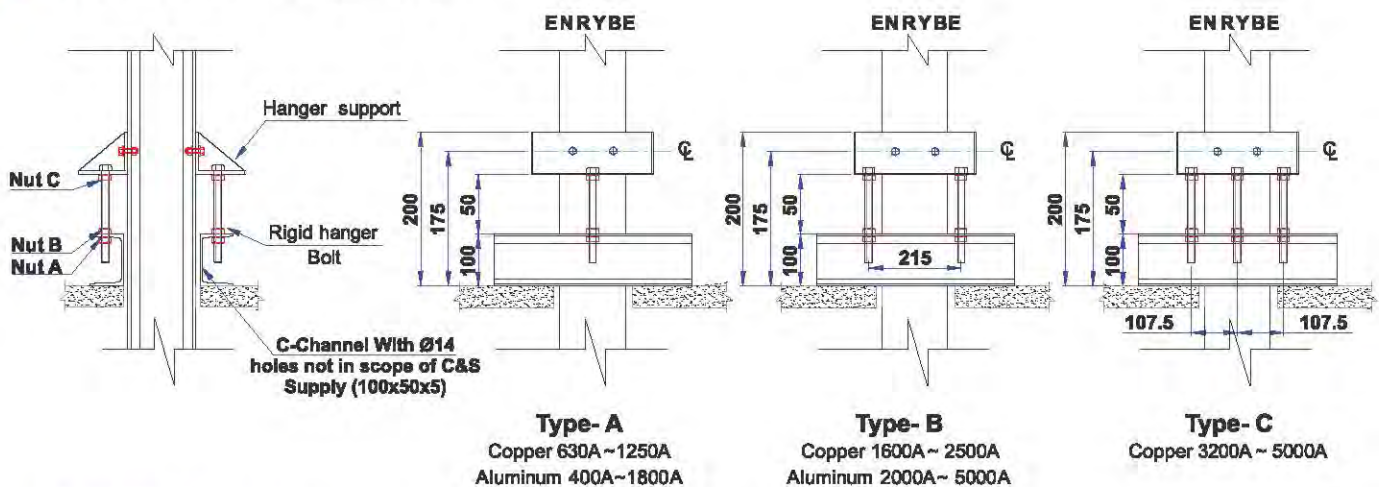
SVST-1

Vertical Rigid Hanger

One set of Rigid hanger per rising main must be installed at the start of the rising mains (i.e. At the lowest floor) to prevent expansion of bustrunking in downward direction. These can be fitted on 100x50X5 (or equivalent) channels mounted on floor / wall as shown below (not in scope of C&S supply)

Recommendation for using hangers per floor:-

- Up to 3.5 M: 01 rigid hanger.
- 3.5M >4.5 M: 01 rigid hanger + 01 Vertical support. (for ensuring vertical alignment of rising mains.)
- 4.5 m > 6.0 M: 02 rigid hanger



Installation Sequence

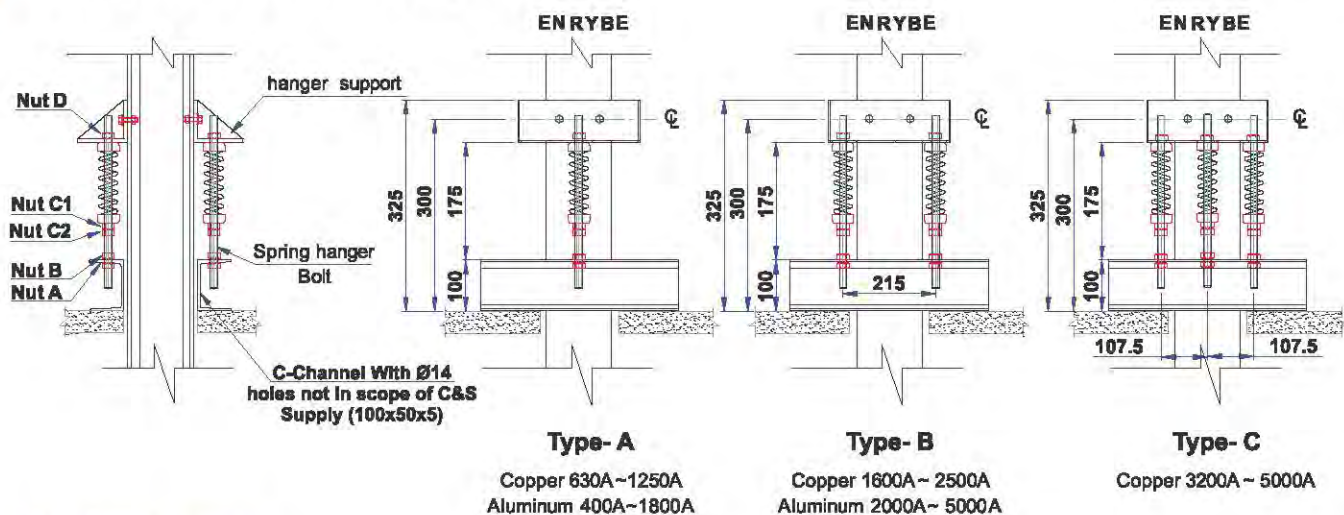
- Remove Nut A from Rigid Hanger on both sides.
- Mount " Hanger Support" through 2Nos. \varnothing 13 predrilled holes provided on desired rising main section.
- Insert "Rigid hanger bolts" into C-channel (already fixed at the floor level with desired holes)
- Adjust Nut B on to the C-channel (on both sides parallelly) ensuring center line (ϵ) of rigid hanger support positioned as 175 mm from floor level (or as indicated in drawing)
- Tighten & lock nut A.
- Ensure nut "C" remains fully tightened during entire process.

Vertical Spring Hanger

One set of Spring hanger per rising main per floor (excluding lowest floor) need to be installed to sustain the bustrunking load and to allow vertical expansion of bustrunking in upward direction only. These can be fitted on 100x50X5 (or equivalent) channels mounted on floors / walls as shown below (not in scope of C&S supply)

Recommendation for using hangers per floor:-

- Up to 3.5 M: 01 Vertical spring hanger .
- 3.5M >4.5 M: 01 Vertical spring hanger + 01 Vertical support. ((for ensuring vertical alignment of rising mains.)
- 4.5 M > 6.0 M: 02 Vertical spring hanger.

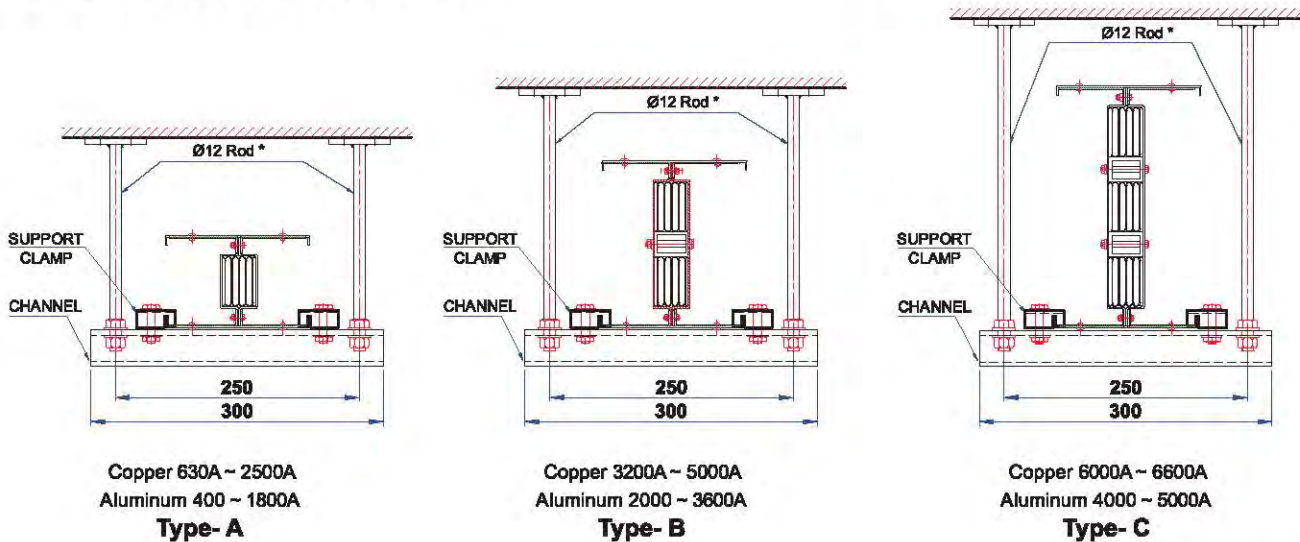


Installation Sequence

- Remove nut A from spring hanger on both sides.
- Mount " Hanger support" through 2 Nos. Ø13 predrilled holes provided on desired Rising main section
- Insert "Spring hanger bolts" into C-channel (already fixed at the floor level with desired holes)
- Adjust nut B on to the C-Channel ensuring center line (ϕ) of Hanger Support positioned at 300 mm from floor level (or as indicated in drawing)
- If two section are required at any floor, then (join) upper section with lower section (fitted with spring hanger) so that entire weight of rising main for that floor falls on spring hanger.
- open & bring down nut C1 & C2 slowly (on both sides parallelly) until a gap of 1~2mm is created between nut D and spring hanger support
- Lock nut C1 & C2 at this position
- Loosen Nut D for allowing thermal expansion of rising main.

Edgewise Horizontal Support

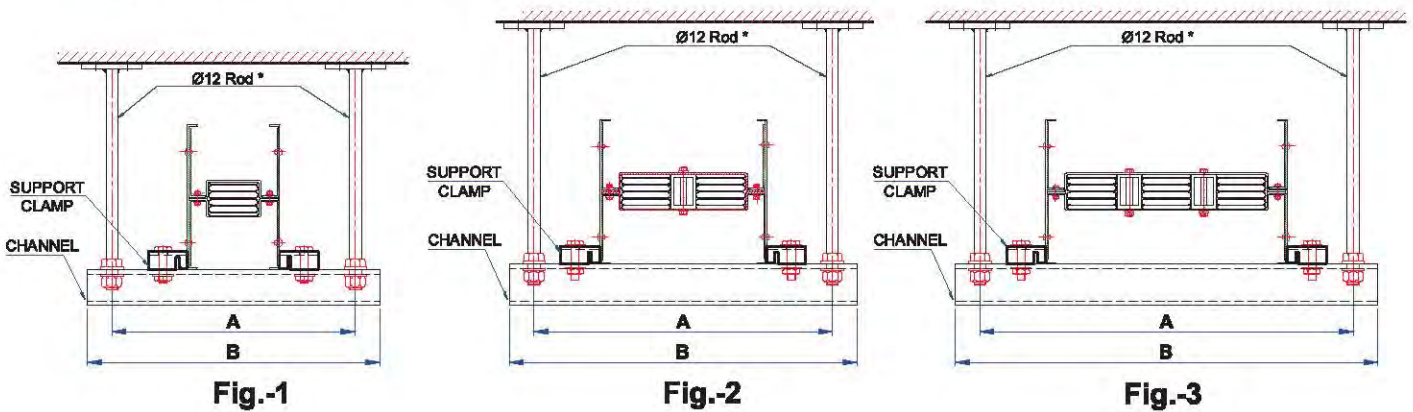
- These support need to be provided on horizontal feeder run at an interval of 1.5 M(or as per site requirement)



*Not In scope of C&S Supply

Flatwise Horizontal Support

- These support need to be provided on horizontal feeder run at an interval of 1.5 M(or as per site requirement)



Current Rating	Standard Dimensions		Code	Detail
	A	B		
Copper 630~1250A Aluminum 400~1000A	250	300	Type- A	Fig-1
Copper 1600~2500A Aluminum 1250~1800A	400	450	Type- B	Fig-1
Copper 3200~5000A Aluminum 2000~3600A	650	700	Type- C	Fig-2
Copper 6000~6600A Aluminum 4000~5000A	850	900	Type- D	Fig-3

*Not In scope of C&S Supply

Plug - in - Box

- Plug in box enclosure is made from G.I with side hinged door.
- Plug in contacts are made out of silver plated copper with spring steel backup pressure clips for ensuring uniform pressure at all time .
- For cables entry, gland plates are provided on both sides / bottom of Plug in Box.
- Earth contact of Plug-in boxes makes first & breaks last.
- Plug in box is suitable for MCCB/SFU's with rotary handle have door interlocking.
- Plug in boxes are available with Interlocking with bustrunking to ensure "plug-in" and "Plug-Out" possible only in "Off" Condition.
- Plug-in contacts are properly shrouded.
- Plug in boxes can only be fitted on to the Bustrunking with corrected polarity .

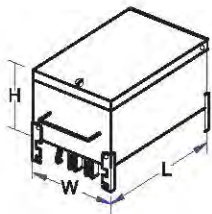


Fig.-1

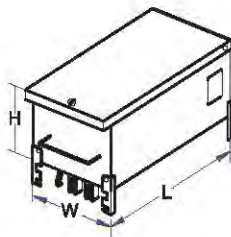


Fig.-2

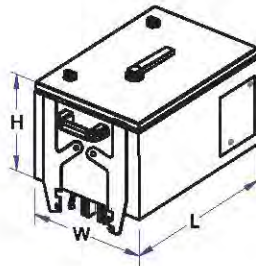


Fig.-3

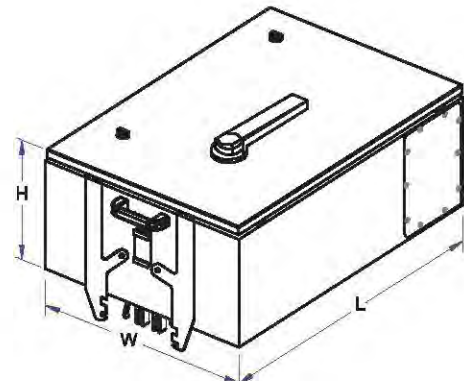


Fig.-4

Product Code	PIBX-S-3B/4B	PIBX-A-3B/4B	PIBX-N-3B/4B	PIBX-B-3B/4B	PIBX-C-3B/4B	PIBX-D-3B/4B	PIBX-E-3B/4B
Figure	Figure 1	Figure 2	Figure 3	Figure 4	Figure 4	Figure 4	Figure 4
With MCB	32~63A	NA	NA	NA	NA	NA	NA
With FUSE HOLDERS (BS)	32~63A	NA	NA	NA	NA	NA	NA
With FUSE HOLDERS (DIN)	NA	32~125A	NA	NA	NA	NA	NA
With MCCB	NA	32~125A*	32~125A*	160~200A	250~400A	500~630A	800A
With MCCB+DIRECT R/H	NA	32~125A**	32~125A**	160~200A	250~400A	500~630A	800A
With MCCB+EXTENDED R/H	NA	NA	32~125A	160~200A	250~400A	500~630A	800A
With SFU	NA	NA	32~125A	160~200A	250~400A	500~630A	800A
BOX SIZE (L x W x H)	320x180x100	410x180x135	430x300x170	430X300X250	600X400X250	800x400X250	1000x400X250
Recommended Cable Size (Aluminum)	25 Sqmm	70 Sqmm	70 Sqmm	150 Sqmm	2X150 Sqmm	2X300 Sqmm	2X400 Sqmm
(*) For MCCB length upto 165mm use PIBX-A and MCCB length above 165mm use PIBX-N							
(**) For MCCB + R/H height upto 120mm use PIBX-A and above 120mm use PIBX-N							

Note:- This is applicable for 3/4 Pole but for 5 Pole we will go with existing design.

Domestic References

S No.	Project	Region	Conductor	Rating
IT PARKS / CALL CENTERS/				
1	IBM Data Centre, Noida	North	AL+CU	5000A,4000A,2500A,2000A,1250A,1000A,800A,400A,200A
2	Airtel data Centre, Bangalore	South	AL+CU	4000A,3200A,1600A,630A,500A,315A,250A
3	M/S HCL Technologes Ltd.	North	AL+CU	3200A,2500A,,1600A,1250A,800A,630A
4	SP Infocity	South	AL	1250A,2000A,3200A,4000A,5000A
5	Nokia Phase III, Chennai	South	CU	3200A,2400A,400A
6	C-DOT (New Delhi)	North	CU	400,630,800A,1000A
7	Persistent System,Pune	West	AL	125A,315A,1000A
8	TCG Omega Project, Kolkata	East	AL	4000A, 2500A, 2000A,800A
9	Olymoia Tech park Ph II ,Chennai	South	AL	3200A,1600A,1250A,1000A
10	Fact Software, Noida	North	AL	1600A,2500A,3200A,4000A
11	Nokia Siemens Network	South	CU	3200A,,2500A,250A,63A
12	Advent IT Park, Noida	North	CU	1000A,1600A,2500A,4000A
13	Sena Bhawan, New Delhi	North	AL	200A,400A,630A,800A,1200A,1250A
14	Olympia Tech Park Ph I, Chennai	South	CU+AL	4000A,2000A,1000A,800A
15	SP Infocity IT Park, Chennai	South	AL	2000A
16	ETL Infrastructure, Bangalore	South	CU	4000A,2000A,1250A
17	Sigma IT Park,Banglore	South	AL	1250A,800A,630A
18	Zensar Technologies Ltd., Pune	South	CU	3200A,630A,300A
19	Reliance Communication Infra., Hyderabad	West	AL	3200A,1250A
20	Vitel IT park, Gurgaon	North	AL	1600A,2000A
21	GPOA Building, New Delhi	North	AL	300A,400A,630A,800A,2000A,2500A
22	Technopark, Trivandrum	South	AL	3200A,1600A,2500A
23	Wintek IT Park	South	CU	5000A,4000A,2400A
24	South City, IT Park, Saltlake	East	AL	2000A,1600A,1250A,1000A800A
25	M/S HP-GR Tech park	South	AL+CU	180A,250A,1000A,1250A,5000A
26	ABB, Bagmane tech park, Bangalore	South	AL+CU	1250A,800A,630A
27	Wipro, Chennai	South	AL	3200A,2500A
28	satyam computers	South	AL	4000A,2500A,1600A
29	DLF, Akrud Info Park	West	AL	4000A
30	S P Inficity, Gurgaon	North	AL	1000A, 630A, 1600A
31	Wipro, Kolkata	East	AL+CU	2500A,1600A,800A
32	Techspace Towers, Chennai	South	AL	2500A,1600A,1000A
33	SDB III- CTS Chennai	South	CU	1250A,1600A,1000A
34	Genpact Infrastructure Pvt. Ltd., Gurgaon	North	CU+AL	600A,1600A,2000A
35	RMZ Millenia Business Park	South	AL	3500A, 3200A,2500A
36	GMR Varalakshmi Tech Park, BLGR	South	AL	630A,800A
37	Triton Square, Chennai	South	AL	2500A,1600A
38	Cisco Business IT Park, Bangalore	South	AL	2500A,2000A
39	Wegman's IT Park, Greater Noida	North	AL	800A,1600A,2500A,3200A
40	K. Raheja IT Park, Hyderabad	West	AL	1250A,1600A
41	SDB III- CTS, Chennai	South	CU	1250A,1600A,1000A
42	K. Raheja IT park, Hydrabad	South	AL	1250A
43	Spaze Tower (P) Ltd.	North	AL	1250A,2500A

S No.	Project	Region	Conductor	Rating
44	UB city, Bangalore	South	AL	1000A, 1600A
45	Wipro technologies, Gachibowli	South	AL	13000A,2500A,400A
46	Bridge Town Tech Park, Chennai	South	AL	2500A
47	Wipro Data Center, Greter Noida	North	AL	250A,2500A,3200A
48	CTS, Pune	West	AL	4000A,2000A,1000A,630A
49	TCS, Lucknow	North	AL+CU	3200A,1600A,1000A,630A,400A,200A
50	Tech Park -Pune	West	AL	1250A,800A,630A
51	Wipro , Gurgaon	North	AL+CU	300A,3200A
52	CTS Bangalore	South	AL	2000A
53	Wipro Ltd , Hyderabad	South	AL	2500A
54	Hotel Intercontinental , Mayur Vihar, Delhi	North	AL	1000A, 2000A
55	Universal Tower, Gurgaon	North	AL	1600A,1000A,1250A
56	Ascendas IT Park Phase II, Chennai	South	AL	4000A,3200A
57	Hotel Intercontinental , Mayur Vihar, Delhi	North	AL	1000A,2000A
58	M/S BPTP Gurgaon	North	AL	2000A,1250A,800A,630A,400A
59	L&T, Technology centre, Chennai	South	AL	400A,630A
60	Philip Innovation Campus, Bangalore	South	AL	1250A
61	Reliance Info com, Chennai	South	AL	800A,
62	M/S Fast Track Building(SEZ),Noida	North	AL	2500A,800A
63	Perot System , Noida	North	AL	1600A,4000A
64	Cyberbad convention centre, HYD	South	CU	800A
65	Suntech IT park, Chennai	South	CU	1000A, 630A
66	Lucent	South	AL	1000A,800A
67	Cadence Design Center, Noida	North	AL	2500A,1600,1000A
68	ICC Devi gaurav, Pune	West	AL	4000A
69	TCS, Lucknow	North	AL	3200A,1600A,100A,630A,400A
70	M/S TCG Developers India Pvt. Ltd	South	AL	1000A
71	Mfar Philips,Bangalore	South	AL	1600A
72	Ascendas IT park, Chennai	South	AL	2000A,1000A
73	Ascendas IT park, Chennai	South	AL	2000A
74	Bristol IT park	South	AL	400A,1000A
75	Ascendas IT park, Chennai	South	AL	3200A,2500A,1250A
76	Konkard Tower, Pune	West	CU	400A
77	M-Far Silver line, Bangalore	South	AL	1000A
78	Wipro Technologies,Sariapur	South	AL	2500A
79	Emirates Technologies Ltd., Noida	North	AL	1600A,3200A
80	Wipro Technologies, Hyderabad	South	AL+CU	2500A,2000A,400A
81	Samson Techpark,Egmore, Chennai	South	AL	2000A
82	Wipro Campus, Greater Noida	North	AL	3200A
83	M/S Kochar Technology parks pvt. Ltd	South	AL	2500A
84	KRISP IT Park, Chennai	South	CU	400A 630A
85	L&T, Infotech	South	AL	800A
86	Cisco System, Bangalore	South	AL	1250A,2000A
87	Ascendas IT park, Chennai	South	AL	2500A

S No.	Project	Region	Conductor	Rating
88	Nokia Siemens Network, Bangalore	South	AL	2000A
89	Nokia, Phase 3	South	CU	400A
90	Cybertek, Chennai	South	AL	3200A,800A,630A
91	Integra Software ser., Pondicherry	South	AL	800A
92	M/S Pluto Software Pvt. Ltd.	North	AL	800A,630A,400A,200A
93	Wipro Phase 5, Kolkata	East	AL+CU	3000A,2000A,1600A,1000A,800A,630A
94	Philip Innovation Campus, BLR	South	AL	4000A
95	Global Technology Park	South	AL	1600A
96	Kanbay Software, Hyderabad	South	AL	800A
97	L&T Cyber Park, Phase II	South	AL	1000A
98	Wipro Ltd, Vizag	South	AL+CU	2000A,630A,400A
99	M/S Wipro Ltd., Cochin	South	AL	3200A
100	Quark City, Mohali, Punjab	North	AL	1250A
101	Dell Call Centre, HYD	South	AL	630A
102	Perot System , Noida	North	AL	400A
103	Kiroskar Bus. Park(Bangalore)	South	AL	630A
104	Suntech IT park, Chennai	South	AL	1600A
105	Mind Space Building No - 3B	South	AL	800A
106	K Raheja IT Park (Hyderabad)	South	AL	1250A
107	TCS, Velachery	South	AL	630A
108	Dell Centre Mohali	North	AL	400A
109	Wipro Ltd , Hyderabad	South	AL	2500A
110	Satyam Computers	North	CU	1250A,800A
111	Medical College, Jammu	North	AL	3200A
112	CISCO Systems	South	AL	4000A 5200A, 4000A, 3200A, 2500A
113	Khivraj IT park , Chennai	South	AL	1600A
114	Lecoanet Hemant, Gurgaon	North	AL	2000A
115	Wipro technologies, Pune	West	AL+CU	2500A,630A
116	CISCI-B4	South	AL	4000A
117	Divyasree soft tech relators, Bangalore	South	AL	3000A
118	Anjanya Complex(East)Bangalore	South	AL	630A,800A
119	Anjanya Complex(West)Bangalore	South	AL	630A,800A
120	RMZ AecoSpace, Banglore	South	AL	1000A
121	Wipro technologies, EC 4 Bangalore	South	CU+AL	300A,400A,3000A
122	Zen Technologies Ltd., Hyderabad	South	AL	3200A
123	M/S Bhagavan Cyber Park, Chennai	South	AL	4000A
124	Salarpuria Touchstone	South	AL	800A,1250A
125	Vatika, City point, Gurgaon	North	AL	630A
126	infotech Group, koldwar	North	AL	2000A
127	Eminence Techno park	North	AL	2500A
128	M/S Sonata Software, Bangalore	South	AL	200A,630A,800A
129	I Gate Global Solutions , Bangalore	South	AL	250A,400A
130	Pragati Maidan, New Delhi	North	AL	2000A
131	Genpact Infrastructure Pvt. Ltd. /, Gurgaon	North	AL	630A
132	Ascendas IT park, Chennai	South	CU	2000A
133	L & T Infotech , Bangalore	South	AL	1600A

S No.	Project	Region	Conductor	Rating
134	Wipro Ltd., Mumbai	West	AL	2500A
135	Ascendas Phase - 3	South	AL	1600A
136	Vatika, City point, Gurgaon	North	AL	1000A
137	M/S Divyasri Sofitech, Hyderabad	South	AL	1000A
138	KTPL, Chennai	South	AL	2500A,4000A
139	M/S Ascendas - Mahindra City	South	CU	2000A
140	IBM Daksh, Gurgaon	North	AL	1250A
141	Oxygen IT Park, SEZ, Noida	North	AL	3200 A, 2000 A, 1600 A, 1250 A, 800 A, 630 A
142	Cyberwalk Manesar Gurgaon	North	AL	1600 A , 2000 A
143	Spire Eage, Gurgaon	North	AL	3800 A, 1800 A, 1000 A
144	Spaze Comm complex Gurgaon	North	AL	1250 A, 3600 A
145	Prestige Dynasty, Bangalore	South	AL	4000 A
146	M/s Nokia Siemens, Bangalore	South	AL	2000 A
147	Airtel, Calicut	South	AL	1250 A/2500 A
148	M/s TCS	South	AL	3200 A, 630 A, 800 A, 400A, 200A
149	M/s CMC	South	AL	3200 A, 2500 A, 630 A, 400A, 250 A, 315 A
150	CMC Hyderabad	South	AL	3200 A
151	M/s iflex Tech park	South	AL	1600 A, 1000 A, 4000 A, 2000A, 4000A
152	Hewlett Packard Global soft Pvt Ltd	South	AL	2500 A
153	M/s Prestige Palladium, Chennai	South	AL	2500 A, SBA800 A, 630 A
154	C-Dac, Technopark, Thiruvananthapuram	South	AL	2000 A, 630 A, 400 A, 250 A
155	Perot Systems, Coimbatore	South	AL	2500 A, 1600 A, 800 A, 1000A, 40 A
156	M/s Satyam, Chennai	South	CU, AL	400 A, 630 A, 800 A, 3200 A
157	M/s Amitha Tech Park	South	AL	2500 A, 1600 A, 800 A
158	Amanora Park, Pune	West	AL	700 A
159	Lotus IT Park Goregaon Mumbai	West	AL	1350 A, 2000 A
160	Nirion Knowledge Park	West	AL	4000 A
161	NICSI Data centre at delhi	West	AL	4000 A
162	TCG House-BKC(Mumbai)	West	AL	2500 A, 1250 A
163	IIT Bldg , Mumbai	West	CU	500 A
MALL				
1	World Trade Park, Jaipur	North	AL	1250A, 3200A, 4000A, 5000A
2	AMBI Mall, Vasantkunj	North	AL	2500A, 5000A, 1250A, 1600A, 2000A
3	Festival City, Ludhiana	North	AL	5000A, 4000A, 3200A, 2500A
4	World Trade Park, Jaipur	North	AL	1250A, 2500A, 4000A, 5000A
5	Empire Mall, Aurangabad	West	AL	3200A, 4000A, 6300A
6	Alpha G Mall, Amritsar	North	AL	4000A, 3200A, 2500A, 1250A, 630A
7	Dmall Project, New Delhi	North	AL	4000A, 2500A, 1600A, 1000A, 800A, 630A
8	Imperial Tower	West	AL	600A, 800A, 1000A, 1250A, 1600A
9	Inorbit Mall, Hyderabad	West	AL	3200A, 2500A
10	BKC Complex	West	AL	2500A
11	Gold Souk, Vytilla	South	AL	1250A, 2500A, 3000A
12	Central plaza, Mohali	North	AL	1600A, 2000A, 2500A
13	G Corp. Mall	West	AL	1600A, 2250A, 3200A
14	Celebration Mall, Udaipur	North	AL	3200A, 4000A
15	Dev Grand Mall	West	AL	2750A

S No.	Project	Region	Conductor	Rating
16	Dev Star Mall	West	AL	2750A
17	MGF Mall, Jaipur	North	AL	2500A,3600A
18	MBD Neopolis, Jallundhur	North	AL	2000A
19	Inorbit Mall, Hyderabad	South	AL	2500A
20	Amazon Regalia, Jasola, New Delhi	North	AL	2000A, 1250A,800A 630A
21	Big Bazar, Ameerpet, Hyderabad	South	CU	800A
22	Pure earth infra, New Delhi	North	AL	2500A
23	M/S IDEB Grand Mall	South	AL	800A, 1250A, 1600A
24	IDEB Grand Mall, Bangalore	South	AL	800A,1250A,1600A
25	ManiSquare Mall, Jaipur	North	AL	2500A
26	MV- Power Family Entertainment Mall	South	AL	1600A,2500A
27	Real gold tower, chennai	South	AL	3200A
28	M/S Select City Walk, Saket, New Delhi	North	AL	3500A
29	M/S Prestige Estates Projects Pvt. Ltd.	South	AL	2500A
30	AKM Enterprises Ltd.	North	AL	2000A
31	Gold Souk, Vytilla	South	AL	2500A
32	Velocity Mall, Raipur	South	AL	4000A
33	Contel Shopping Mall, Panchkula	North	AL	800A,1000A,1250A,2000A
34	District center, Jasola, New Delhi	North	AL	800A 630A
35	Maple Tree, Mumbai	West	AL	800A,1000A
36	Inorbit Mall, Navi Mumbai	West	CU	630A
37	Bhatinda Mall	North	AL	600A
38	ILD Trade Centre, Gurgaon	North	AL	630A,800A,1000A,1250A
39	Forum Rangoli Mall	East	AL	3200 A,2000 A
40	DCN Mall-Kolkata	East	AL	3200 A,1600A, 1250 A,
41	Central Square Plaza Delhi-6	North	AL	2000 A,2500A,1600 A
42	Great Value mall Aligarh	North	AL	1250 A
43	Grand Venezia Mall, Graeter Noida	North	AL	4000 A, 2500A,1600 A
44	The Trilium Mall	North	AL	3200 A/2500A/1250 A/1000A/800 A
45	Paradise Mall,Delhi	North	AL	3600 A,2500A,2000 A,1000A,800 A
HOSPITAL				
1	Medicity, Gurgaon	North	AL	3200A,1250A,800A
2	Seven Hills Healthcare Ltd., Andheri	West	AL	1600A,200A,250A,400A,630A,1000A
3	Blue Sapphire Healthcare,Fardabad	North	AL	630A,800A,1600A,3200A,4000A
4	Fortis Hospital,Shalimar Bagh,New Delhi	North	AL	400A,630A,1250A
5	Vimta Life Science, Hyderabad	South	AL	3200A,2000A,1600A,1200A
6	Max Balaji Hospital, New Delhi	North	AL	630A,800A,3200A
7	Tata Hospital, Mumbai	West	AL	2500A
8	LNJP Hospital, New Delhi	North	AL	1600A
9	RML Hospital, New Delhi	North	AL	2500A
10	S S S Hospital (Jalandhar)	North	AL	400A
11	PWD Malviya Ngr Hosp(Delhi)	North	AL	400A,1000A
12	AIIMS Rishikesh	North	AL	630 A,500 & 3200A
13	GB Pant hospita	North	AL	2500 A
14	AIIMS Patna	North	AL	1250 A
15	MAX Super speciality Hospital	North	AL	630 A,40N1

S No.	Project	Region	Conductor	Rating
16	RR Hospital (MES)	North	AL	1000 A,1250A,2500 A,3200 A
17	ESIC Noida	North	AL	2500 A, 1600 A,1250 A
18	Fortis Hospital,Gurgaon	North	AL	3200 A
19	Max Hospital,Dehradun	North	AL	40 A
20	Vedanta Hospital at Mumbai	West	AL	3600 A, 1800 A, 800 A & 400 A
HOTEL				
1	Chalet Hotel, Hyderabad	West	CU	2500A,2000A,1000A
2	Westinn Hotel, Gurgaon	North	AL	630A,1000A,1600A,3200A
3	M/S Ambience hotels & resorts ltd.	North	AL	2500A, 2000A, 1250A
4	Narsl Hotel & Resorts, Gurgaon	North	AL	2500A,1000A
5	Trident Hilton - BKC	West	AL	2500A, 1600A, 1000A
6	Sea Valley Resorts,Visakhapatnam	South	CU	1250A,1600A,2000A
7	Cleriges Hotel Faridabad	North	AL	2000A,800A
8	Oberoi Westinn Hotel, Goregaon, Mumbai	West	AL	800A,2500A,4000A
9	TAJ GVK Hotel, Bangalore	South	AL	1600A, 1200A,800A
10	Taj Hotel, Bangalore	West	AL	800A,2500A
11	The Grand Hotel, Jaipur	North	AL	2500A,3200A
12	Novotel & IBIS Combo Hotel, Bangalore	South	AL	1000A,2500A
13	Oberoi Hotel	North	AL	2500A,3200A
14	Radisson Hotel, Amritsar	North	AL	250A,400A,1600A
15	Park Hotel, Hyderabad	South	AL	2500A,2000A,800A
16	Today Hotel , Okhla Phase 1, New Delhi	North	AL	2500A
17	TAJ GVK, Hyderabad	South	AL+CU	1250A,630A
18	JW Marriott, Chennai	South	AL	800A,1250A
19	Central Park, Gurgaon	North	AL	2000A,800A
20	DD Resorts, Gurgaon	North	AL	1000A
21	Ceebros Hotel	South	AL	800A,1250A
22	Redission Hotel, Manesar	North	AL	2000A,2500A
23	Today Hotel , GGN	North	AL	1600A,800A
24	Clarion Hotel, Bangalore	South	AL	630A,2500A
25	Today Hotel , GGN	North	AL	630A
26	DLF, Hilton Hotel, GGN	North	AL	315A,600A
27	IBIS, Pune	North	AL	400A
28	Vishnupriya Hotel	South	AL	500A
29	I.B.I.S Hotel, Gurgaon	North	AL	400A
30	Today Hotel , Okhla Phase 1, New Delhi	North	AL	100A
31	Skycity Hotel, Gurgaon	North	AL	400A
32	Hotel Bista, Jalpur	North	AL	1000A
33	Orchid Hotel, Ahmedabad	West	AL	1600A
34	CBD Hotel New Delhi	North	AL	1350 A, 1600 A, 2000 A, 3600 A
35	Raddison Hotel,Jaipur	North	AL	4000 A,2000 A
36	Today Hotel Gurgaon	North	AL	1800 A
37	IBIS Hotel at DIAL,New Delhi	North	AL	800 A,2250 A
38	Daman Hospitality	North	AL	2500 A
39	M/s Westin Hotel,Gurgaon	North	AL	1600 A, 3200 A
40	Aakriti Hotels Pvt Ltd, Greater Noida	North	AL	3200 A,630A,1000 A

S No.	Project	Region	Conductor	Rating
41	Park Hyatt-5 Star Hotel, Chennai	South	CU, AL	2500 A, 800 A
42	MFAR Hotels Ltd, Chennai	South	AL	2000 A
43	Opto Hotel, Bangalore	South	AL	800 A
44	Ritz Carlton	South	AL	1000 A/2500 A
45	Rodas Hotel Powai	West	AL	2500 A
46	Aditya Sarovar Hotel, Hyderabad	West	AL	1000 A & 1350 A
47	Chalet Hotel-Bangalore	West	AL	3200 A, 5000 A, 1000 A
INDUSTRIES				
1	Suzuki Powertrain, Manesar	North	AL	3200A, 1600A, 1200A, 800A, 400A, 160A
2	Ford India - Engine Shop, Chennai	South	CU	800A, 1600A
3	Munjhal Showa, GGN	North	AL	32A, 500A, 800A, 1600A, 2000A, 4000A, 5000A
4	Suzuki Powertrain, Transmission Plant, Manesar	North	AL	400A, 1600A, 3200A
5	Bijnor, Mansurpur, Rajpura, Asmoll	North	AL	5000A,
6	Palm Springs, Gurgaon	North	AL	1250A, 1600A, 2500A
7	Ford India, Chennai	South	CU	2000A
8	Holland Tractors	North	AL	1000A, 800A, 2000A, 3200A
9	SEA BIRD Karwar(Karnatka)	South	CU	250A, 400A, 630A
10	M/S Tata World Truck Ltd., Jamshedpur	East	AL	2500A
11	Suzuki Powertrain, Engine plant, Manesar	North	AL	400A, 1600A
12	SE Forge Ltd. Coimbatore	West	AL	3200A, 2400A, 1250A
13	M/S Foxconn India developer Pvt. Ltd.	South	CU	5000A, 4000A
14	M/S Hansen Drives	South	CU	1000A, 2500A
15	L & T - Hazira (Surat)	West	AL	1250A
16	Varun Beverages Ltd, Kosi Kalan	North	AL	4000A
17	JCB India Ltd., Ballabgarh	North	CU	200A
18	Ashok Leyland Ltd., Pantragar	West	AL	630A, 800A, 2500A
19	Triveni Bialeli, Thane	West	CU	2000A, 3200A, 5000A
20	Integra Overseas, Gurgaon	North	AL	1600A, 2500A
21	M/S Hindustan Coca cola Beverages Pvt. Ltd.	North	AL	2500A
22	Foxconn, Chennai	South	CU	3200A, 2500A
23	Airport Authority of India, Mumbai	North	AL	1250A, 1600A, 800A
24	Subros, Manesar	North	AL	1600A, 800A
25	Areva T&D Ltd., Chennai	South	AL	400A, 630A, 1250A, 2500A
26	Venture Automotive, Hyderabad	South	CU	1250A
27	Jindal Steel & Power Ltd, Raigarh	North	CU	4000A, 2500A
28	L&T, MHI Boilers	West	AL	800A
29	Dwarka District court, ND	North	AL	250A, 400A
30	Dhampur Sugar Mill, Dhampur	North	AL	5000A
31	Rexam Pharma	South	AL	1000A, 2000A
32	NBRC, Gurgaon	North	AL	1350A, 2500A, 2750A
33	DSM Sugar, Bijnor, UP	North	AL	5000A
34	M/S India Glycols Ltd. Noida	North	AL	4000A, 3200A, 2500A
35	Bombay Dyeing, Mumbai	West	AL	400A, 1000A, 1600A, 2000A
36	Thal Sumit Neel Auto Pvt. Ltd., Pant Nagar	North	AL	2500A, 2000A
37	Bellsonica, Manesar	North	AL	1250A, 250A
38	M/S Otsuka Chemicals Ltd., Rajasthan	North	AL	5000A

S No.	Project	Region	Conductor	Rating
39	Subros Ltd., noida	North	AL	2000A,1600A,800A,630
40	M/S Jay Bharat Maruti Ltd. , Gurgaon	North	AL	4000A,2500A
41	M/S NYPRO Forbes Products Pvt. Ltd.	South	AL	2500A
42	Kirloskar Bus. Park(Banglore)	West	AL	3600A
43	M/S AT&S, Mysore	South	AL	3600A
44	Ferretatik Milacon India Ltd.	West	AL	800A,1000A
45	Rico Auto, Gurgoan	North	AL	1000A
46	TAML, Bangalore	South	AL	2500A,800A
47	Hindustan Unilever Ltd.	West	AL	2500A
48	Caparo India, Greater Noida	North	AL	2500A
49	High Polymer Lab, Palwal	North	AL	4000A,2500A
50	Ashoka Leyland, Gurgoan	North	AL	630A,2000A
51	Hindustan Unilever Ltd.	West	AL	1600A
52	Gujrat Glass(Bharuch)	West	AL	1600A,2500A
53	Appolo Tyre,Mysore	South	AL	2500A,3200A
54	M/S Adani Power Plant, Gujrat	South	Cu	2300A
55	TAML, Bangalore	South	AL	4000A
56	Reichhold India Pvt. Ltd., Pune	West	AL	2500A,4000A
57	ETA factory,Tamilnadu	South	AL	1600A,400A,250A,160A
58	Ispat Industries, Dolvi	West	AL	4000A,3200A
59	Thyssenkrupp	West	AL	1250 A/2000 A
60	Satelite Forging Pvt. Ltd. IMT Manesar	North	AL	3200A,2000A,200A
61	Utham Padmavathi	South	AL	2000A
62	Lumax Ltd. Sripermbudur	South	AL	2500A
63	Airport Authority of India(M)	West	AL	2500A, 1000A
64	Coca Cola Ghaziabad	North	AL	5000A
65	TACO Pune	West	AL	800A
66	Japuria Corporate office,GGN	North	AL	400A,600A,1600A
67	Merico Industries Ltd., Mumbai	West	AL	1600A
68	Trimex Industries	South	AL	3200A
69	Sai Krishna Engg	South	AL	5000A
70	Appolo Power Systems	South	AL	2500A, 2000A
71	Megha Engg. Factory	South	AL	4000A
72	Himmolnsa Rudrapur	North	AL	1250A,160A,400A
73	Suzion Energy ltd.	West	AL	4000A
74	Dishman Pharma, Ahmedabad	West	AL	4000A
75	Hindustan Unilever, Haridwar	North	AL	3200A
76	DMRL, Hyderabad	South	AL	2000A,400A
77	Sri Fort Aduitorium, New Delhi	North	AL	1600A
78	NBRC, Gurgaon	North	AL	1600A
79	AAI, Mumbai	West	AL	1000A
80	Escorts LTD, Pant Nagar, Ruderpur	North	AL	300A
81	GEA building, Ludhiana	North	AL	2000A
82	Litara Electrical Technologies Pvt. Ltd.	West	AL	160A
83	M/S Hewlett-Packard , Uddham Singh Nagar	North	AL	2500A
84	Stangen Toyotetsu India Pvt. Ltd.	South	AL	2000A

S No.	Project	Region	Conductor	Rating
85	Vedanta Alumina Ltd.	West	AL	2500A
86	Stovec Industries Ltd	West	AL	400A
87	Mahindra Geeco, Chennai	South	CU	800A
88	Chaman Lal Setia Exports Ltd Karnal	North	AL	2500A
89	Hindustan Coca Cola, Hyderabad	South	AL	2500A
90	Qcon Infra, Hyderabad	South	CU	3200A
91	Jindal Steel & Power Ltd.,Rajgarh	North	CU	4000A
92	M/S INKOR Autotech	South	AL	1800A
93	Ranbaxy (Gurgaon)	North	AL	630A
94	Tata ,timken	East	AL	2000 A
95	Bansal Biscuit,Patna	East	AL	2000 A, 1250 A
96	Anmol Biscuit Ltd,Hoogly	East	AL	2000 A,1000 A
97	Sinter Plant Project,Orissa	East	AL	3200 A ,2000 A
98	Self.	North	CU,AL	6000 A, 4000 A,3200 A
99	MMTC Pamp	North	AL	1800 A,
100	Roca Bathroom Products Pvt. Ltd.	North	AL	1800 A,1000 A,630 A
101	Prakash Industries limited	North	AL	3200 A
102	Lit india	North	AL	SBA125,800 A
103	Takata India Pvt Ltd.	North	AL, CU	400 A,800 A
104	Tata Motors Vendor Park,Sanand,Gujrat	North	AL	3800 A
105	The Oberoi Hotel Gurgaon	North	AL	2500 A, 3200 A
106	BellSonica Autocomponets Pvt.Ltd	North	AL	1350 A
107	Dhampur Sugar Mill,Bijnore	North	AL	5000 A
108	M/s SKF India Limited,Haridwar	North	AL	1000 A
109	Nimbus Pipes Ltd.,Jaipur	North	AL	3200 A, 2500 A, 2000 A
110	M/s Munjal Showa Ltd,Haridwar	North	AL	2500 A,4500 A
111	Mangla Processing Terminal	North	CU	2500 A
112	Unicharm India Pvt Ltd,Nœmrana Rajasthan	North	AL	1250 A
113	Prime Electric - Nellore project	South	Cu	4000 A,SBC1250 A
114	Perios Expansion-Chennai	South	CU	630 A,500 A,4000 A
115	M/s Lotus Footwear,Chennai	South	AL	3200 A,1600 A
116	M/s Ashoka leyland Johndeere.Cheennai	South	AL	1800 A,2500 A,400A,250 A
117	M/s India Tobacco Division,Ba	South	AL	4000 A,2000 A
118	M/s Hindustan Unilever Research Centre,Mumbai	South	CU,AL	200 A,315 A
119	M/s Ethnic tobacco Co. Ltd,Guntur	South	CU,AL	5000 A,2000 A,1250 A
120	M/s Adani Power Plant,Mundra,Gujrat	South	AL	1800 A.
121	M/s Lotus Footwear,LU-3,Cheyar	South	AL	4000 A
122	Hindusthan coca Cola,Hyderabad	South	AL	1000 A,4000 A
123	LEPL,Vijaywada	South	AL	2000 A
124	M/s Nestle Nuddle Line,Bangalore	South	AL	4000 A,3200 A
125	M/s Hindustan Coca Cola Beverages Pvt Ltd,	South	AL	2000 A,4000 A,1250A
126	M/s Hindusthan COCA COLA Beverages Pvt Ltd	South	AL	2000 A
127	C Kam wire	South	AL	1800 A,1000 A
128	Toyota Kirloskar motors Pvt Ltd	South	CU	4000 A
129	Texmo industries	South	AL	2500 A

S No.	Project	Region	Conductor	Rating
130	Andritz Hydro India Pvt. Ltd., Mandideep, Raisen, M.P.	West	AL	4000 A & 800 A
131	IAC suppliers Park (Mahindra & Mahindra Ltd)	West	AL	400 A, 1800 A
132	IVRC	West	AL	3200 A, 2000 A, 1600A, 1250 A, 1000 A
133	Minda Security- RYB power	West	AL	800 A & 400 A
134	WEG Industries india P.Ltd. Tamilnadu	West	AL	1350 A
135	All Time Plastic Ltd.	West	AL	630 A
136	Mahindra forging Ltd Pune	West	AL	630 A
137	unichem industries indore	West	AL	5000 A
138	Coca cola Beverage Limited	West	AL	3200 A, 200N3
139	BALCO- Korba (Bus duct Package)	West	AL	1000 A, 1800 A & 2000, 2500, 3200N2, & 4000 A
140	Coca cola Beverage Limited	West	AL	3200 A, 2500 A
141	Coca cola Beverage Limited	West	AL	5000 A, 175N2
142	Fujitsu Consulting India	West	AL	2250 A
143	Kalpataru	West	Cu	4000 A/1000 A
144	IITM, Pashan	West	AL	2500 A/2000 A

INSTITUTIONS

1	MCD Civic Centre New-Delhi	North	AL+CU	5000A, 3200A, 2500A, 1250A, 1000A
2	ICICI Bank, Hyderabad	South	CU	1000A, 1250A, 1600A, 2000A, 2500A, 4000A
3	Katraj Ghat Tunnel on NH4, Pune	West	AL+CU	1500A, 630A, 125A
4	Cabinet Sectt, New Delhi	North	AL	2500A, 1250A, 630A, 400A, 250A
5	Kumarmanalam Medical College, Salem, Chennai	North	AL	400A, 630A, 800A, 1000A, 1250A, 1800A, 3200A
6	AAI, Ahmedabad	West	AL	1250A, 2000A, 3200A, 4000A
7	City Centre Phase II, NDMC, New Delhi	North	AL	2500A
8	TOI, Noida	North	AL	1800A, 2500A, 4000A
9	Nirman Bhawan, New Delhi	North	CU	800A, 630A, 400A, 200A
10	Central Sec. Building, South Block, New Delhi	North	AL	630A, 800A, 1250A
11	SRI Fort Aduitorium, New Delhi	North	AL	630A, 1000A, 2000A, 3000A, 4000A
12	Jawahar Lala Nehru Bhawan, New Delhi	North	AL	200A, 400A, 630A
13	Chhatrapati Shivaji International Airport, Mumbai	West	AL	800A, 1000A, 4000A
14	Parinee Developers, Mumbai	West	AL	3200A, 4000A
15	BSNL, Mumbai	West	AL	1800A, 2500A, 3200A, 4000A, 5000A
16	Delhi International Airport	North	AL	4000A, 2500A
17	Yamuna Sport complex, New Delhi	North	AL	1000A, 1250A, 2500A
18	MDC Stadium, New Delhi	North	AL	800A, 1000A, 2000A, 2500A, 3200A, 4000A
19	RK Investment	South	AL	2500A, 2000A, 1600A
20	State Trading Corporation, New Delhi	North	AL	5000A, 2500A
21	PWD Dissit. Court, Saket, New Delhi	North	AL	2500A
22	Vatika Landbase, Gurgaon	North	AL	1000A, 630A
23	Runwal Town Centre, Mumbai	West	AL	3200A, 2500A, 1600A
24	Indian Express Tower, Mumbai	West	AL	250A, 800A, 1600A, 3200A, 4000A
25	JM, MCD Civic Centre, New Delhi	North	AL	1000A
26	Velocity Mall, Raipur	South	AL	4000A
27	JLN Stadium New delhi	North	AL	800A, 1000A, 1250A, 1600A, 2500A, 3200A, 4000A
28	Talkatora Stadium, New Delhi	North	AL	800A, 1000A, 1250A, 1600A, 2000A, 2500A, 3200A, 4000A
29	M/S Spaze Commercial Complex, Gurgaon	North	AL+CU	3200A, 1000A, 800A

S No.	Project	Region	Conductor	Rating
30	Maruti Corporate Building, Vasant Kunj	North	AL	1800A,1250A,1000A,630A,400A,200A
31	AAI, Bhopal	West	AL	800A,1250A,2500A
32	PMO, New Delhi	North	CU	2500A, 1250A
33	Matrix Tower, Chennai	South	AL	2000A
34	BSNL, Bangalore	West	AL	2500A
35	Mangalore Airport	North	AL	1250A,2000A,2500A
36	Madurai Airport	North	AL	800A,1250A,2000A,2500A
37	Sewa Bhawan, New Delhi	North	AL	2500A
38	Kotak Mahindra Bank, Mumbai	West	AL+CU	800A,1800A,2000A,3000A,4000A
39	Airport Authority of India, Aurangabad	West	AL	2500A,1600A
40	GM Office Building, Jaipur	North	CU	1800A
41	Bombay Stock Exchange, Mumbai	West	AL	3200A
42	Mahindra Chloris, Faridabad	North	AL	400A,800A,1250A
43	MTNL, New Delhi	North	AL	2000A,1600A
44	BSNL, Saltlake, Kolkata	East	AL	2500A,4000A
45	Jawaharlal Nehru bhawan, New Delhi	West	AL	630A,1250A,2500A
46	TAML	South	AL	3200A,2000A
47	Medical College, Trivendrum	South	AL	630A,1000A,1600A
48	Western Capital Management	South	AL	2500A, 1250A
49	SeepZ MIDC, Mumbai	South	CU	1600A,3200A
50	Oberoi Construction	West	CU	3200A,500A
51	MHS Bhawan, Pune	West	AL	2500A
52	Sewa Bhawan, New Delhi	North	AL	2500A
53	BSNL, Bangalore	West	AL	3200A
54	South Block, New Delhi	North	AL	3200A
55	M/S TAML, Bangalore	South	AL	2500A
56	CPWD, North Block	North	AL	3200A
57	NGMA Jaipur House , New Delhi	North	AL	2000A,2500A,800A
58	M/S CAE PTF, Bangalore	South	AL	2500A
59	CPWD, Parliament House, New Delhi	North	CU	1000A,400A
60	Sena Bhawan, New Delhi	North	CU	2500A
61	VSNL, GK -1	North	AL	2750A
62	Kochar Holding	South	AL	2500A
63	MIHAN - Nagpur	West	AL	4000A
64	Country Inn Hotel,Sahibabad,U.P	North	AL	3600A
65	CDR Building Part 2	East	AL	2500A
66	Real Value	South	AL	1600A
67	Hindustan Times	West	AL	4500A
68	ICICI Bank, Hyderabad	South	AL	1000A,1350A,1600A,2000A,4000A
69	BSNL, Bangalore	South	AL	2000A
70	BSNL exchange, Bangalore	North	CU	2500A
71	CPWD, Krishi Bhawan	North	AL	2500A
72	DIAL ,New Delhi	North	AL	1600A, 2500A,3000A
73	Udyog Bhawan, New Delhi	North	AL	2500A
74	BSNL, Chennai	South	AL	2500A
75	MTNL, New Delhi	North	AL	1250A, 400A

S No.	Project	Region	Conductor	Rating
76	BSNL, Delhi	North	CU	600A
77	Najumbaog Trust , Mumbai	West	CU	400A
78	Reliance Life Bioscience, Navl Mumbai	West	AL	4000A
79	Hindustan Times, New Delhi	North	AL	1750A,1250A
80	DMRC, BD1, Yamuna Depot	North	AL	4000A
81	Dwarks ,New Delhi	North	AL	2500A
82	Lawyers Chambers, Karkardooma	North	AL	630A
83	CDR Building,Saltlake	East	AL	2500A
84	Airport Authority of India, Jaipur	North	AL	1250A,1600A
85	Time Properties Pvt. Ltd.	West	AL	800A
86	IIT Madaras	South	CU	800A
87	Dwarka District court, ND	North	AL	1000A,250A
88	TEC. K L Bhawan , New Delhi	North	CU	2000A
89	Sankara Nethralaya	South	AL	800A
90	M/S F L Smdth, Egatur	South	AL+CU	500A,800A
91	MTNL, New Delhi	North	AL	1600A,1250A,1000A,800A
92	Tata Communications Ltd., Hyderabad	South	AL	3200A
93	Prestige Shantiniketan, Bangalore	South	AL	2500A,3000A
94	Rajeev Gems Park	South	AL	1600A,2000A,4000A
95	DMRC-BD3, Sultanpur, New Delhi	North	AL	3200A
96	Deloitte, Hyderabad	South	AL	1250A
97	BSNL, Trichy	South	AL	2000A
98	BSNL, Cochin	South	AL	1600A,2000A
99	Airport Authority of India, Ahmedabad	West	AL	1000A
100	Shastri Bhawan, NewDelhi	North	AL	3200A
101	ARAI	West	CU	4000A
102	Reliance Corporate Office, New Delhi	North	AL	1000A
103	BSNL, Coimbatore	South	AL	1600A
104	IIT Girl Hostel, Mumbai	West	AL	630A
105	IIT, Chennai	South	AL	250A
106	JLNR Bhawan, New Delhi	North	AL	630A,2500A
107	BSNL, Ahemadabad	West	AL	2500A
108	BSNL, Patna	North	AL	2000A,400A
109	Bank Of Baroda, Lucknow	North	AL	1600A
111	HAL, Koraput	North	CU	3200A,1500A,1000A
112	IFCI Ltd. Mayur Vihar, Delhi	North	AL	800A
113	Tata Housing Development Ltd.	South	AL	1000A
114	BSNL, Chandigarh	North	AL	1600A
115	GMR International Airport, Hyderabad	South	AL	1000A
116	BSNL, Vellore	South	AL	1600A
117	Areva Ltd., Vadodara	West	AL	400A
118	IIT Chennai	South	CU	800A
119	LANXESS - Baoda	West	AL	4000A
120	MHS Bhavan, Pune	West	AL	1600A
121	RCR Complex, PM House, New Delhi	North	AL	1250A
122	Arikaravala Irrigation Project, Hyderabad	South	AL	1600A

S No.	Project	Region	Conductor	Rating
123	Tata Communications	South	AL	630A
124	BSNL, Pune	West	AL	3200A
125	BSNL, Cuttack	East	AL	1600A
126	BSNL, Pune	West	AL	1250A
127	IIT Madras	South	CU	250A
128	Voltas Corporates Suites, Gurgaon	North	CU	630A
129	CETE - BSNL	East	AL	800A, 630A
130	BSNL, Bangalore	South	AL	2000A
131	Aircel, Chennai	South	AL	1250A
132	Jodhpur Airport, Jodhpur	North	AL	2000A
133	Powertek, Trissur	South	AL	1600A
134	CM office - Jaipur	North	AL	500A
135	IIT, Roorkee	North	AL	1000A
136	Raheja Building, Hyderabad	South	AL	800A
137	Tata Communications Ltd., Chennai	West	AL	3600A
138	School Building, Noida	North	AL	500A
139	M/s Tech Mahindra Ltd. (SEZ), Chandighr	North	AL	200A,400A
140	IDMC, Baroda	West	AL	200A
141	SBS School, Noida	North	AL	1600A
142	MTNL,Kandivli	West	AL	1600A
143	Kribhco, Noida	North	AL	1600A
144	NDTV, New Delhi	North	AL	2000A
145	Ranchi Airport, Ranchi	East	AL	3200 A & 1350 A
146	ESIC Hospital, Bhubneshwar	East	AL	1600 A
147	ESIC Hospital, Patna	East	AL	1250 A & 2500 A
148	Rosedale Garden	East	AL	1600 A
149	OCAC Tower,Bhubaneswar	East	AL	1000 A,2500 A,2250 A
150	ILS Bhubaneswar	East	AL	1600 A
151	Boys Hostel D at Satpura IIT	North	AL	40 A
152	Yamuna Sports complex	North	AL	2000 A,1250 A
153	MTNL Sarita Vihar,delhi	North	AL	1600 A
154	SRI FORT Auditorium	North	AL	2000 A,1250 A
155	Govt medical collage at srinagar	North	AL	1250 A,150N3
156	COD Oval Delhi Cant.	North	AL	2500 A,1250 A
157	DMRC sushant loak GGN.	North	AL	1000 A,1250 A,2500A,3200 A
158	DMRC sushant loak GGN.	North	AL	1000 A,1250 A,2500A,3200 A
159	IGI Cargo Terminal	North	AL	2500 A
160	GESP Projects	North	AL	2500 A
161	Police station at Barakhamda Road	North	AL	630 A
162	Karkardoma Court	North	AL	2000 A
163	Jaypee Greens (Sun Court)	North	AL	2500 A,1250 A,800 A
164	Catriona Housing Gurgawan	North	AL	3200 A
165	Airtel Varanasi	North	AL	2000 A
166	Damel Dwarka Sector-21,Station,New Delhi	North	CU	4000 A
167	communication Ltd.,Haridwar	North	AL	315 A,3200 A,1000 A
168	Great Indian Nautanki Company	North	AL	3200 A

S No.	Project	Region	Conductor	Rating
169	DMRC,Delhi	North	AL	5000 A
170	DMRC,Delhi	North	CU	2500 A
171	SRS Residency,Faridabad	North	AL	40 A,630 A,800 A
172	IFFCO office building at Gurgaon	North	AL	2500 A,630 A,40 A
173	DMRC PH-2,New Delhi	North	CU	630 A
174	Jaypee Greens ,golf course Tower-1,2,3,G.Noida	North	AL	1000 A
175	Jaypee Greens ,golf course Tower-4,5,6,G.Noida	North	AL	1000 A
176	Haldram project at Noida	North	AL	4000 A
177	F-1 Race track, Jaypee sport city Greater Noida	North	CU	2500 A,1000 A,630 A,
178	RCDF Jaipur	North	AL	1600 A
179	IOCL New Delhi	North	CU	SBC1000 A
180	Tata Communication	South	AL	3600 A
181	Rajmundri Airport	South	AL	2000 A
182	M/s Indian oil corporation Ltd.,Chennai	South	AL	630 A
183	M/s Chennai International Airport,Chennai	South	AL	2000 A
184	CPWD ,Jipmer,Pondy	South	AL	2000 A
185	M/s BSNL,Whites Road,Chennai	South	AL	2000 A
186	Matrix tower,Chennai	South	AL	2250 A
187	Market city	South	AL	4000 A,2000 A,1800A,1250 A,1000 A
188	M/s Ramky Finance estate,Hyderabad	South	AL	3200 A,2500 A,1800A,800 A, 630 A
189	ISRO-IIST,Kerala	South	AL	630 A,400 A
190	Alexandria centre for science & Inovation	South	AL	5000 A,2500 A,2000 A
191	PBEL City	South	AL	800 A,630 A
192	GMR Aerospace	South	CU,AL	5000 A/3200 A
193	MTNL - Juhu, Mumbai	West	AL	800 A & 400 A
194	Tata Communication Ltd., Mumbai	West	AL	1350 A
195	Time Square, Mumbai	West	AL	3600 A
196	Aditya Birla Science and Technology Centre	West	AL	3600 A
197	Market City - Kuria	West	AL	1600 A, 2500 A & 2000 A
198	BSNL, MHS Bhawan Camp	West	AL	5000 A
199	BARC Mumbai	West	CU	500 A
200	IOCL-BKC Mumbai	West	CU	500 A
201	Indian Registrar of Shipping Corporation powal	West	AL	400 A,1600 A
202	CITI Bank	West	AL	2000 A
203	Bhavanagar railway strn.	West	AL	2500 A/800 A
204	C-DAC	West	AL	3200 A/2000 A/1250 A
205	RRCAT indore	West	AL	3200 A
206	BSNL Fountain	West	AL	1800 A
207	EATON- ORBITTAL	West	AL	1600 A
208	Imsofer Chocklet-Baramati	West	AL	400 A 630 A
209	MTNL Mumbai	West	AL	SBA50N1
210	Ruby Clinic	West	AL	800 A1000 A
211	BSNL Vellora	West	AL	1800 A
212	BSNL-Chennai	West	AL	2250 A
213	Dy.Patil Engineering Collage	West	AL	40 A

International References

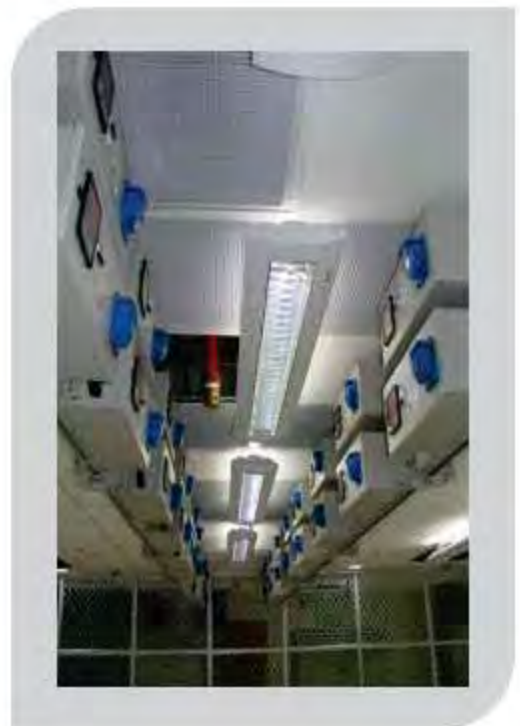
Export

S No.	Project	Conductor	Rating
1	Dafna Residential tower,Doha	CU	2500A,1600A, 800A,400A
2	West Bay 44 tower,Doha	CU	2500A,1600A, 800A,400A
3	SHK Falak twin tower,Doha	CU	2500A,1600A, 800A,400A
4	B +G +3 (Jamai Ahmed Ismail Ahmed),Doha	CU	400A
5	7th floor at SHK thani Bin Abdul Aziz, Doha	CU	400A
6	G + 11 Residential building,Doha	CU	400A, 800A
7	B+G+5, Navigation Building,Doha	CU	400A
8	B3+B2+B1+G+M+15 Residential Bld, Doha	CU	400A
9	AJJAJ building ,Doha	CU	400A
10	Mellineium tower,Doha	CU	400A, 800A
11	B +G +3, Doha - Qatar	CU	400A
12	Stock Order	CU	400A
13	B+G+7 Islamic Park, Dubai	CU	400A
14	B+G+8 Al Ghanem, Dubai	CU	400A
15	44 West bay	CU	400A,2000A,2500A
16	B+G+10, Dubai	CU	630A
17	Not Available	CU	2000A,800A
18	3B+G+M+7,Doha,Qatar	CU	1000A
19	Al-Mansoura Project	CU	400A
20	Kirbey building system, Kuwait	CU	1600A
21	Al Nazar Tower, Kuwait	CU	1600A, 1000A, 800A
22	Al Mazaya tower, Kuwait	CU	1600A, 2000A
23	Holiday INN, Kuwait	CU	3000A,2000A,1600A
24	Gravity Tower	CU	800A
25	Najat School, Kuwait	CU	1600A,2500A
26	Centre Research & Studies	CU	1500A, 800A
27	Holiday INN, Kuwait	CU	2000A
28	Salmiya Hotel	CU	2500A,2000A,1500A
29	Phoneix Hotel, Tanzania	CU	400A
30	Land Mark Plaza, Kenya	CU	400A
31	Blue sheild Insurace Co HQ, Kenya	CU	400A
32	Infinity Info-Electric Co Ltd, Taiwan	CU	4000A,1600A,1250A
33	JSC SOEMI, Russia	AL	630A,400A,250A

S No.	Project	Conductor	Rating
34	AL Nazzar Tower, Jordan	CU	1350A
35	Port Saeed, Dubai	CU	1250A
36	Port Saeed, Dubai	CU	2500A,1600A, 1250A
37	2B+G+12	CU	2500A
38	P.S Bank, Philippines	CU	2500A,600A
39	E-Services Manila	AL	4000A,3000A
40	Victoria Tower, Philippines	AL	3200A,1200A,600A
41	San Lazaro BPO, Singapore	CU	3600A
42	Glorietta 5, Singapore	CU	1200A,1600A
43	ICON Residences, Singapore	AL	1200A,1600A
44	HKM Hotel, Singapore	AL	2000A
45	SEIBU Tower, Singapore	AL	2000A
46	2B+G+14, Dubai	CU	1600A,2000A,2500A
47	Liugong, Dhar	AL	250A
48	JESSA Investment	CU	800A
49	CRM, CGL Complex	CU	4000A,3200A
50	Specialised Power system, Kenya	CU	250A
51	Orient Star International, Doha, Qatar	CU	400A
52	PET	AL	1350 A,1000 A,800 A,50A
53	MH Poly- Electromechs,inc	AL	4000 A
54	Infinity Info- Electric Co Ltd Tiwan	AL	1600 A
55	MH Poly- Electromechs,inc Philippines	AL	1800 A,3200 A
56	MH Poly- Electromechs,inc Philippines	AL	1600 A, 1250 A
57	Mun Hean Singapore PTE Ltd.	CU	3200 A,800 A
58	Mun Hean Singapore PTE Ltd.	AL	2250 A
59	Specialised Power systems Ltd.	CU	1600 A
60	Specialised Power systems Ltd.	CU	1600 A
61	Rove Group P.O.Box33647 Dubai, U. A.E.	CU	4000 A
62	MH Poly- electromechs. Inc singapore	AL	2500 A
63	Volonter Russia	AL	2500 A
64	MH Poly-electromechs.Inc ,Quezon City, Philippines	AL	1000 A,1600 A
65	ELTA Russia	CU	630 A
66	MH Poly-electromechs. ,Quezon City, Philippines	AL	2250 A,1800 A

S No.	Project	Conductor	Rating
67	MH Poly- Electromechs,inc Philipines	AL	1000 A
68	PROM ELEKTRO AVTOMATIKA MOSCOW RUSSIA	AL	1600 A
69	MH Poly- Electromechs,inc Philipines	AL	3200 A,2500 A,2000 A
70	MH Poly- Electromechs,inc Philipines	AL	4000 A
71	Gulf Swg. P.O Box. 40467 Doha Qatar.	CU	630 A
72	Power Lux Me FZC	CU	2250 A, 80 A
73	Power Lux Me FZC	CU	2000 A, 11250 A
74	Power Lux ME FZC ,Saif Zone Sharjah UAE	CU	2500 A
75	Orient Star international Doha Qatar	CU	1000 A
76	Gulf Swg. P.O Box. 40467 Doha Qatar	CU	630 A
77	Gulf Swg. P.O Box. 40467 Doha Qatar	CU	630 A
78	Power Lux ME FZC ,Saif Zone Sharjah UAE	CU	3600 A
79	Orient Star international Doha Qatar	CU	1000 A
80	Gulf Swg. P.O Box. 40467 Doha Qatar	CU	630 A
81	Gulf Swg. P.O Box. 40467 Doha Qatar	CU	630 A

Installation Picture - Distribution



Installation Picture - Feeder



Installation References

Hiranandani Gardens, Mumbai



I Flex, Bangalore



Delhi Metro Express Line.



Adobe Software Park, Noida



Delhi Secretariat, New Delhi



Bosch, Bangalore



Philips, Bangalore



Jawaharala-Nehru-Stadium, New Delhi



Oracle, Bangalore



Accenture, Bangalore





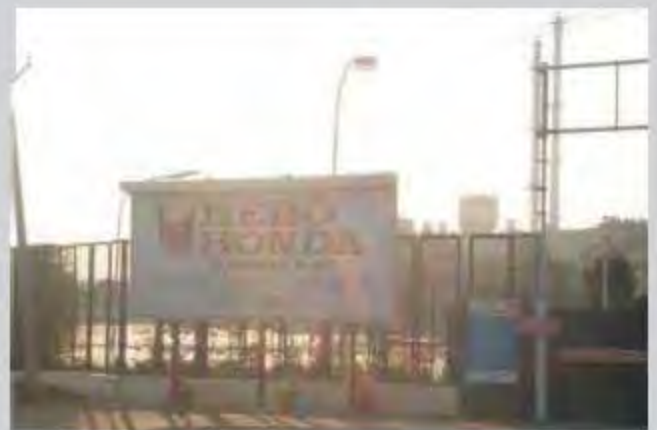
Beta, Bangalore

Subres, Noida



Shangri-La New Delhi

Hero Honda, Gurgaon





Infosys, Bangalore

Strides, Bangalore



Tata, Bangalore

Cognizant, Bangalore





Dafna Tower 3&4, Doha

Westbay 44 Tower, Doha



Shek. Falak Twin Tower, Doha



PORT SAEED, DUBAI

Dubai Silicon Oasis



GHUSAIS, DUBAI

Infotech, Bangalore





Venunberg IT Park, Hyderabad

Bharti Airtel, Bangalore



Wipro, Hyderabad

CSC, Hyderabad





GE (Genpact), Hyderabad

India's Tallest - Imperial Tower, Mumbai



MCD (Civic Center), New Delhi

ASTA

CERTIFICATE OF DEGREE OF PROTECTION

Laboratory Ref. No: LSWGWO0066500/03

Certificate No. 03-000003

APPARATUS: 1250A, 1000V/1000V (U_w/U_i), 50 Hz, Sandwich Insulated Copper busbar Trunking system with one joint which comprises of three phase, 100% neutral & 50% internal earth round edge busbars in G.I. Sheet enclosure.

DESIGNATION: SBC 100N1

MANUFACTURER: C&S Electric Ltd., (Bustrunking Division), Plot No. 1A, Sector-8C, Integrated Industrial Estate, Ranipur, Haridwar (Uttarakhand), India

TESTED BY: Electrical Research & Development Association
ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, Gujarat, INDIA

DATES OF TESTS: 4th & 5th December 2008

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this certificate has been subjected to the series of proving tests in accordance with

IEC 60439-2 (Ed 3.1): 2005 -10 & BS EN 60439-2:2000 incorporating Amendment 1, 2006, Clauses 8.2.7

The results are shown in the record of Proving Tests and the oscillograms attached hereto. The values obtained and the general performance is considered to comply with the above standard(s) and to justify the ratings assigned by the manufacturer as stated below.

Ratings assigned by the manufacturer and proved by the tests

Degree of protection of (Clause 8.2.7): IP 67

The record of Proving Tests applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

This Certificate comprises: 6 pages, 0 diagram, 0 oscillogram, 6 photographs, 2 drawings and no other sheets as detailed on page 1

Only integral reproduction of this Certificate, or reproductions of this page accompanied by any page(s) on which are stated the assigned rated characteristics of the apparatus tested, are permitted without written permission Intertek Testing and Certification Ltd, Hilton House, Corporation Street, Rugby, CV21 2DN, England.



Rajani Menon

Rajani Menon
ASTA Observer

R. K. Gupta

Certification
Manager

5th April 2009

Date



Controls & Switchgear company Ltd.
222, Okhla Industrial Estate
110 020 NEW DELHI

India

your letter: -
your reference: -
our reference: 2038755.00-QLA/COM
04-0385 HLS/SCO
author: H.L. Schendstok
direct line +31 26 3 52 20 07
telefax +31 26 3 52 58 00
e-mail: Henk.Schendstok@kema.com

subject: Testing of busbar trunking system types CBC1000,
SBC100N1, SBC175N1, SBC175N2 and SBA175N1
from the manufacturer Controls & Switchgear Company Ltd.

Amiens: April 5, 2004

Dear Sirs,

We declare herewith that the busbar trunking system, types CBC1000, SBC100N1, SBC175N1, SBC175N2 and SBA175N1, from the manufacturer Controls & Switchgear Company Ltd., have been tested according to IEC 60439-2 as in the clauses mentioned on pages 2 and 3. The tests as laid down in the reports from Prof. F. Damstra Laboratorium dated March 15, 2004 were witnessed by KEMA.

We trust that we have informed you sufficiently, if not, please do not hesitate contact us.

Kind regards,

KEMA Quality B.V.



H.L. Schendstok

KEMA Quality B.V.
Utrechtseweg 310, 6812 AR Amhem
P.O. Box 5185, 6802 ED Amhem
The Netherlands
Website: www.kema.com
www.buyerRisk.com
Telephone +31 26 3 52 20 00
Telefax +31 26 3 52 58 00
Postbank 6794687
ABN AMRO Bank Utrecht 43.10.71.748
Postcode Leiden 0004204

Member of the KEMA Group, Normed

TEST REPORT

PDL-03.125.33



Prof. Ir. Damstra Laboratory

P.O. Box 25, 7200 AA Hengelo

Telefoon 031 74346 4001 Fax 031 74 398 4002

Client: CONTROLS & SWITCHGEAR COMPANY LTD
 Order number: BL9095
 Date of tests: 22 September 2003
 Report code: TR

Subject: BUSBAR TRUNKING SYSTEM SBC175N1

Purpose: Verification of short-circuit withstand strength according IEC/EN 60439-1(1999-09)and IEC/EN60439-2 (2003-03) clause 8.2.3
 Three phase; Icw 75kA - 1s Ipk 165kA
 Neutral; Icw 45kA - 1s Ipk 94,5kA

Object: Sandwich type insulated trunking system SBC175N1
 Manufacturer: Controls & Switchgear Company LTD

Conclusion: The above mentioned requirements are met.

Author: J. Otten

Checked by: H. IJsseldijk

This report consists of:

Sheets: 14
 Tables: -
 Photo's sheets: -
 Oscillograms: -
 Drawings: -
 Circuit diagrams: -
 Appendices: -

Ir. R.J. Ritsma
 General Manager

Hengelo, 15 March 2004

The test results concern only the investigated test objects.

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CPRI

HIGH POWER LABORATORY
CENTRAL POWER RESEARCH INSTITUTE,
P. B.NO. 8066, SADASHIVANAGAR SUB P.O
PROF. SIR.C.V. RAMAN ROAD, BANGALORE-560 080, INDIA
PHONE: + 91- (0) 80-23600574, FAX: + 91 (0) 80-23601213



NABL ACCREDITED
LABORATORY
Certificate No. T0010

Sheet No. 1 of 6

TEST REPORT

Test Report Number : HPL10031 **Dated:** 23/04/2010

Name & Address of the Customer : M/s. C & S Electric Limited,
(Bustranking Division) Plot No: 1A,
Sector-8C, Integrated Industrial Estate,
Ranipur, Haridwar (Uttarakhand)-249 403

Name & Address of the Manufacturer: M/s. C & S Electric Limited,
(Bustranking Division) Plot No: 1A,
Sector-8C, Integrated Industrial Estate,
Ranipur, Haridwar (Uttarakhand)-249 403

Particulars of sample tested
Type : Sandwich Insulated Bustranking System.
Designation : Sandwich Type
: SBC230N1 (6×230mm,Copper) +
SBA175N2 (6×175mm×2Nos.Aluminium)

Serial number : --
Number of samples tested : One
Date(s) of Test(s) : 3rd February 2010
CPRI Sample Code No. : HPL10S0019
Condition of sample on receipt : New

Particulars of tests conducted
Test in accordance with : Verification of short circuit withstand strength
: Clause 10.11 of IEC: 61439-Part 1 (2009) & Clause 8.2.3
of IEC: 60439-2 (2005-10).

Standard/Specification
Sampling Plan : Nil
Customer's requirement : Nil
Deviation if any : Nil
Remarks if any : Refer Sheet no 5 of 6

Name of the witnessing persons
Customer's representative : Mr. Santosh Kumar Gupta, Dy. Manager - QA
Other than Customer's representative : None

Test subcontracted with address of the laboratory : Nil

Documents constituting this report (In words)
Number of sheets : Six
Number of oscillograms : Two
Number of graphs : None
Number of photos : One
Number of test circuit diagrams : Two
Number of sample drawings : Five

B.V. Govindappa
(B.V.Govindappa)
TEST ENGINEER



G. Sengupta
(G. Sengupta)
ADDITIONAL DIRECTOR

AUTHORISED SIGNATORIES

RHPL1003131052010

ASTA

CERTIFICATE OF SELECTED TYPE TESTS

Laboratory Ref. No: 2006/STN-1/207

Certificate No. 16478

APPARATUS: 2500A, 1000V/1000V (U_o/U_i), 50 Hz, Sandwich insulated busstrunking system with flange end units, joints and straight lengths: comprises of three phase, neutral & 50% internal earth copper round edge busbars in galvanized iron (G.I.) enclosure.

DESIGNATION: SBC230N1

MANUFACTURER: Controls & Switchgear Co. Ltd., (Busstrunking Division), Plot No. 1A, Sector-8C, Integrated Industrial Estate, Ranipur, Haridwar (Uttaranchal), India

TESTED BY: Central Power Research Institute, Switchgear Testing & Development Station, Bhopal - 462 023, Madhya Pradesh, India

DATES OF TESTS: 27th June to 4th July 2006

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this certificate has been subjected to the series of proving tests in accordance with

IEC 60439-2 (Ed 3-1): 2005 -10 and BSEN 60439-2, 2000 incorporating Amendment 1: 2006
Clauses 8.2.1, 8.2.2, 8.2.3, 8.2.4, 8.2.5, 8.2.7, 8.2.9 and 8.2.13.

The results are shown in the record of Proving Tests and the oscillograms attached hereto. The values obtained and the general performance are considered to comply with the above standard(s) and to justify the ratings assigned by the manufacturer as stated below.

For ratings assigned by the manufacturer and proved by the tests see page 1.

The record of Proving Tests applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

This Certificate comprises: **16** pages, **3** diagrams, **3** oscillograms, **20** photographs, **5** drawings and no other sheets as detailed on page 1

Only integral reproduction of this Certificate, or reproductions of this page accompanied by any page(s) on which are stated the assigned rated characteristics of the apparatus tested, are permitted without written permission from ASTA BEAB Certification Services, Hilton House, Corporation Street, Rugby, CV21 2DN, England.



Rajani Menon

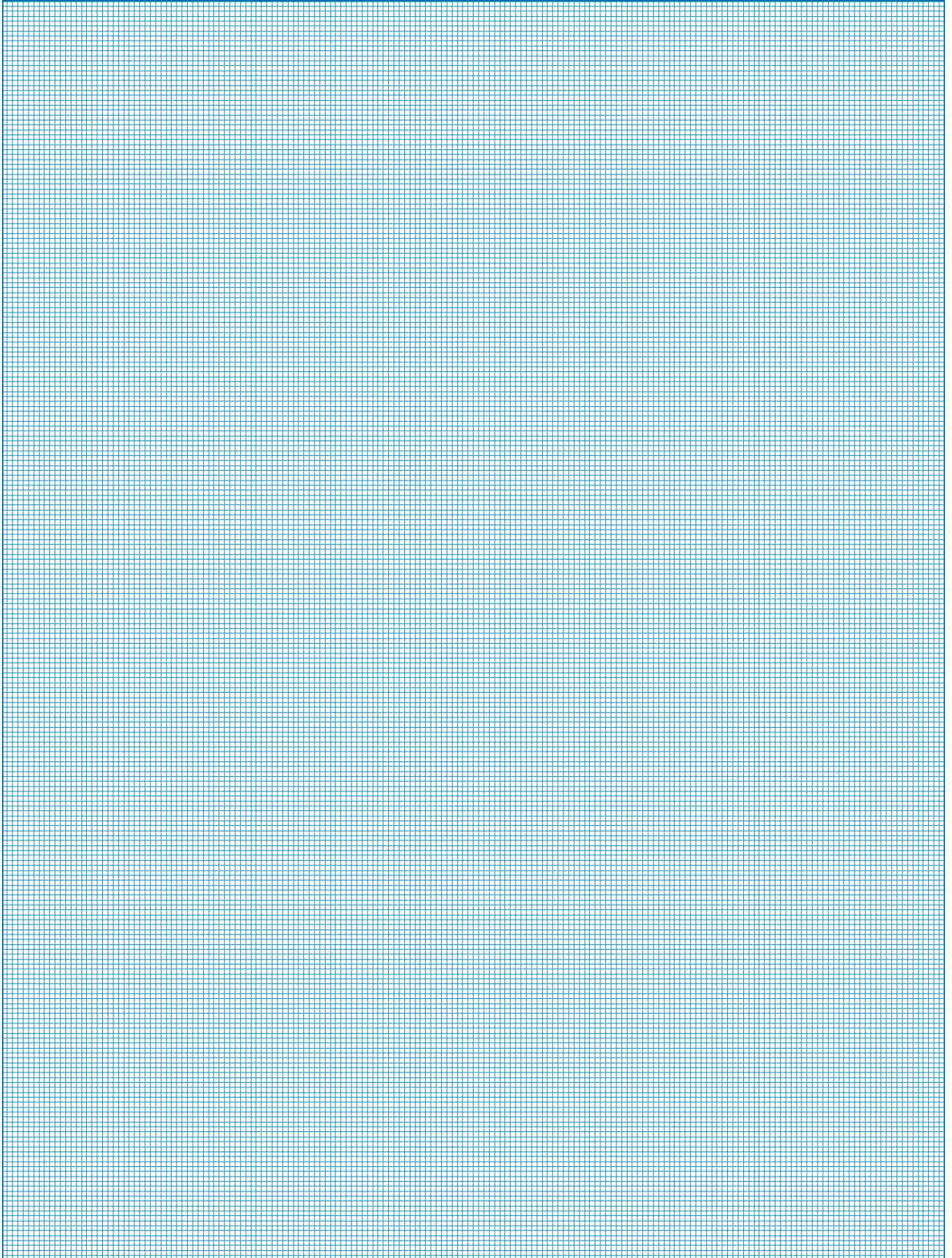
 Rajani Menon
 ASTA Observer

C. Anand

 DIRECTOR

8th December 2006

 Date

A large rectangular area filled with a light blue grid pattern, intended for handwritten notes. The grid consists of small, uniform squares.

isobar



Isolated Phase Busducts
(11- 36KV up to 28,000 Amps)



Segregated / Non-Segregated
Phase Busduct
(415 - 33KV up to 5000 Amps.)

betobar



Low Voltage



Medium Voltage

metabar



Sandwich Busbar Trunking System
(Low- Impedance)
(400~6600 Amps)



Air Insulated
Busbar Trunking System
(125~2000 Amps.)



Lighting Trunking System
(25-63A)



● C&S + Etacom Installations

*This map is only for pictorial representation and to be used



GLOBAL SPECIALIST FOR POWER BUSBARS

India

Corporate Office :

222, Okhla Industrial Estate Phase - III,
New Delhi - 110 020
Tel.: +91-11-30884912, 30887520-29
Fax: +91-11-26848241, 26847342
email : prithipal.teji@cselectric.co.in, harish.nanda@cselectric.co.in

Regional Office:

Northern Region / Export

222, Okhla Industrial Estate,
New Delhi - 110 020, India.
Tel. : +91-11-30887520-29
Fax : +91-11-2684 8241, 2684 7342
email : yashwant.sarathe@cselectric.co.in

Southern Region

#N607, North Block, Rear Wing,
Manipal Center, 47, Dickenson Road,
Bangalore -560 042, Karnataka, India.
Tel. : +91-80- 30570359,340
Fax: + 91-80- 25584839
email : roopkumar.k@cselectric.co.in

Eastern Region

24, Park Street, Development House,
4th Floor, Kolkata-700016
Tel. : +91-033-40011417
Fax : +91-033-22275849/40011417
email : anoop.krishna@cselectric.co.in

Western Region

#A 301 / 302, 3rd floor, Nav Bharat Estate,
Zakaria Bunder Road, Sweri (West),
Mumbai - 400 015, Maharashtra, India.
Tel. : +91-22- 24114727, 24114728
Fax: +91-22-241137858, 24114704
email : venkatesh.s1@cselectric.co.in

Works:

Noida

B1, Site IV, Surajpur, Industrial Area,
Kasna Road, Greater Noida

Haridwar

Plot No. 1C, Sector 8C,
Integrated Industrial Estate (SIDCUL)
Ranipur, Haridwar, Uttarakhand - 249403

Haridwar

Plot No. 1A, Sector 8C,
Integrated Industrial Estate (SIDCUL)
Ranipur, Haridwar, Uttarakhand - 249403

Europe

Eta-com B NV

Scheldeweg 4,
2850, BOOM,
Belgium
Tel.: +32-3-880.64.00
Fax: +32-3-844.42.50
email: busduct@etacom.be

Eta-com BV

Zwarte Zee 2-6,
3144, DE MAASSLUIS,
The Netherlands
Tel.: +31-1059-16422
Fax: +31-1059-20673
email: info@etacom.nl

Eta-com UK Preedcrete Ltd.

Unit 19/20, Horsham Court,
City Business Centre, 6, Brighton Road,
HORSHAM, West Sussex, RH13 5BB,
United Kingdom
Tel : +44-1-403265767,
Fax : +44-1-403254131,
email : busduct@eta-com.co.uk

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Edition - 11/07/2013

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