



ANORD
ENERGY UNDER CONTROL

Anord Busduct 'GS' Range

Introduction to Anord

Anord is a leading provider of critical power systems incorporating Switchgear, Busduct and Automation systems across a diverse range of industry sectors, including; Data centres, Energy from Waste, Nuclear power, Rail and Water utilities.

Our GS range of busduct is a key element in our broad capability range and allows us to provide end to end power distribution solutions from the MV/LV power transformer to your final loads. Whether you require rising mains busbar in a commercial high-rise building, or a complete data centre power distribution system interconnecting 3rd party equipment such as generators, UPS and chillers, we have a full range of busduct products and installation solutions to satisfy your requirements.

Utilising either copper or aluminium conductors, our GS busduct system is manufactured with an extruded aluminium casing, providing robust mechanical protection, superior temperature performance and excellent whole life benefits. Due to its lightweight properties and class leading joint design, by installing our GS range of busduct you are ensuring that installation of the system is safe and hassle free, regardless of location or orientation.

You may be dissatisfied with your existing busduct supplier or are simply interested in exploring busduct as a cost effective alternative to traditional cable installations. Either way we would be pleased to provide you with impartial advice on your power distribution system and furnish you with a proposal and design that fits your needs.

Join the growing list of global businesses that have placed their trust in Anord to take care of their critical power infrastructure.

Front cover shows an installation of GS-A 1600A Busduct in a 'single unit' configuration

Image shows an installation of GS-A 2500A Busduct in a 'twin unit' configuration



Anord Busduct

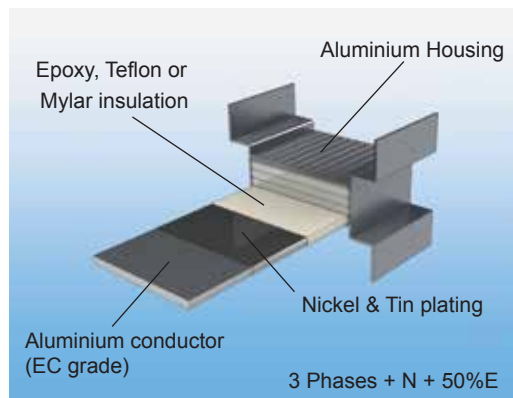
Features and Benefits

- Type Tested & certified to IEC 60439-1/2
- CE approved
- Non-ventilated, compact sandwich type construction in a robust extruded aluminium housing
- Copper or aluminium conductor options
- All conductors are completely Nickel and Tin plated
- Teflon, Epoxy Resin and Mylar insulation options available
- Maintenance free joint system with bolt torque colour indication.
- Available with metered tap-off units incorporating MCCB's and switch fuses
- Direct connection to switchgear available using flanged end units
- End-feed units available for connection to feeder cables
- All projects are 3D modelled to ensure correct installation
- Site installation packages available
- Full protection
- 3 Phase, neutral and Earth configurations. 4 pole & 4.5 pole configurations available
- Ingress protection; IP55 to IP65

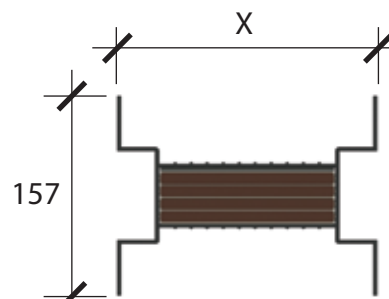
Image shows an installation of a GS-A 2500A Busduct. 'Panel-Flange'

Technical Details

GS-A Aluminium Conductors (500A TO 5000A)

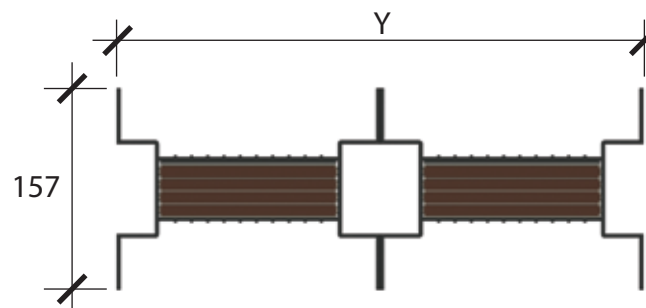


	X
GS-A 500A	130
GS-A 630A	130
GS-A 800A	130
GS-A 1000A	150
GS-A 1250A	185
GS-A 1600A	205
GS-A 2000A	255



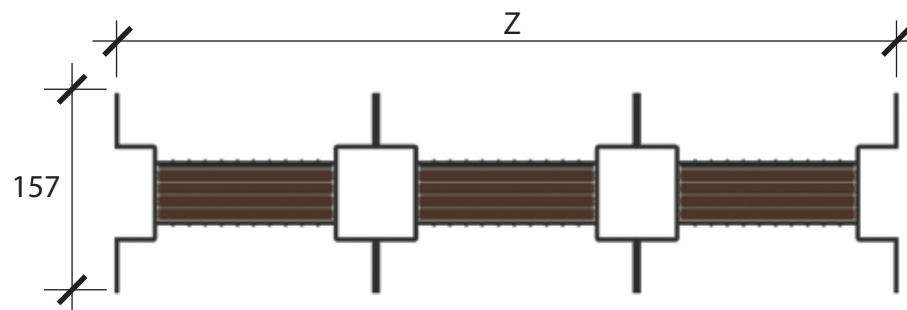
3 Phases + N + 50%E, 5 conductors, **Single Unit.**

	Y
GS-A 2500A	410
GS-A 3200A	510



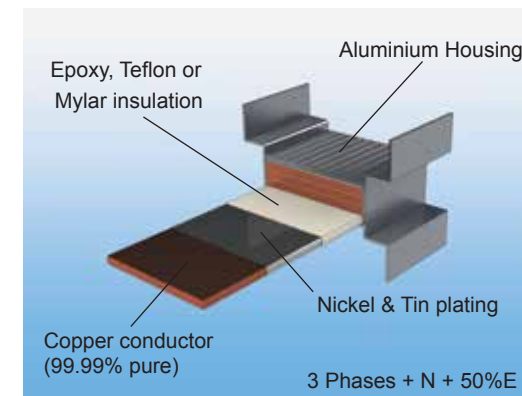
3 Phases + N + 50%E, 10 conductors, **Twin Unit.**

	Z
GS-A 4000A	615
GS-A 5000A	765



3 Phases + N + 50%E, 15 conductors, **Triple Unit.**

GS-C Copper Conductors (500A TO 6000A)



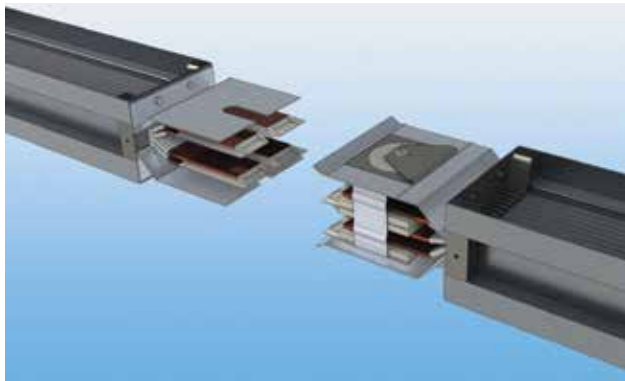
	X
GS-C 500A	130
GS-C 630A	130
GS-C 800A	130
GS-C 1000A	130
GS-C 1250A	150
GS-C 1600A	185
GS-C 2000A	205
GS-C 2500A	255

	Y
GS-C 3200A	410

	Z
GS-C 4000A	615
GS-C 5000A	615
GS-C 6000A	765

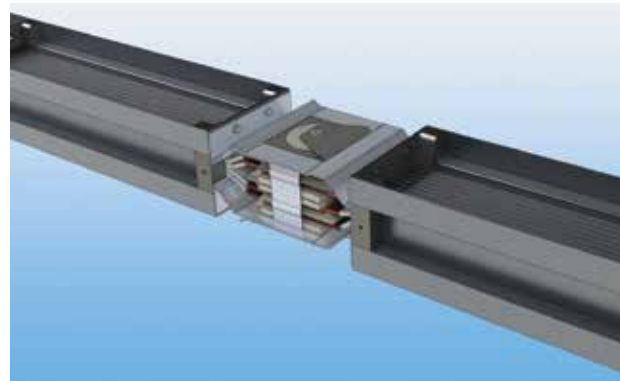
Installation Details

Connecting the Busduct Units



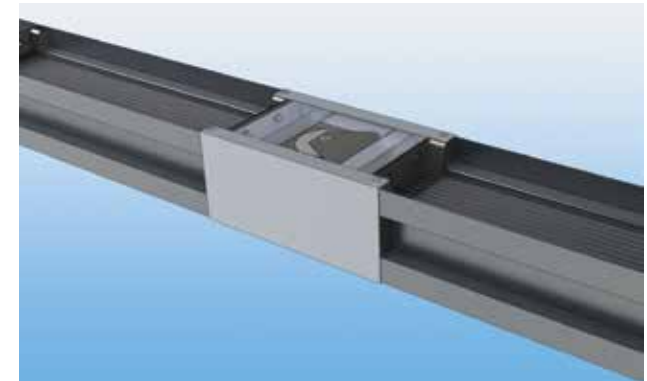
1. Align ends

The slotted end mates with the bolted end.



2. Bring ends together

A tool is provided to ease assembly if required. Tighten the central bolt. The bolt head will change colour from black to red when the correct torque is attained.



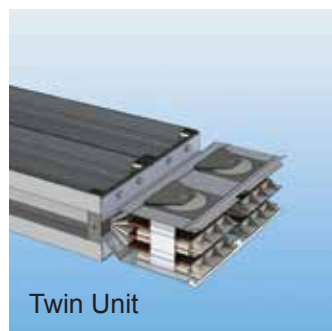
3. Secure Joint Covers

Tighten fixings

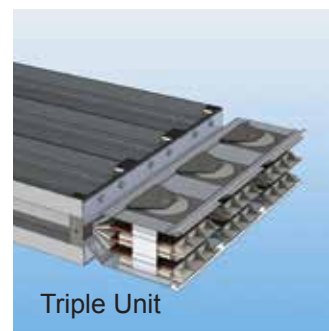
Busduct Configurations



Single Unit



Twin Unit

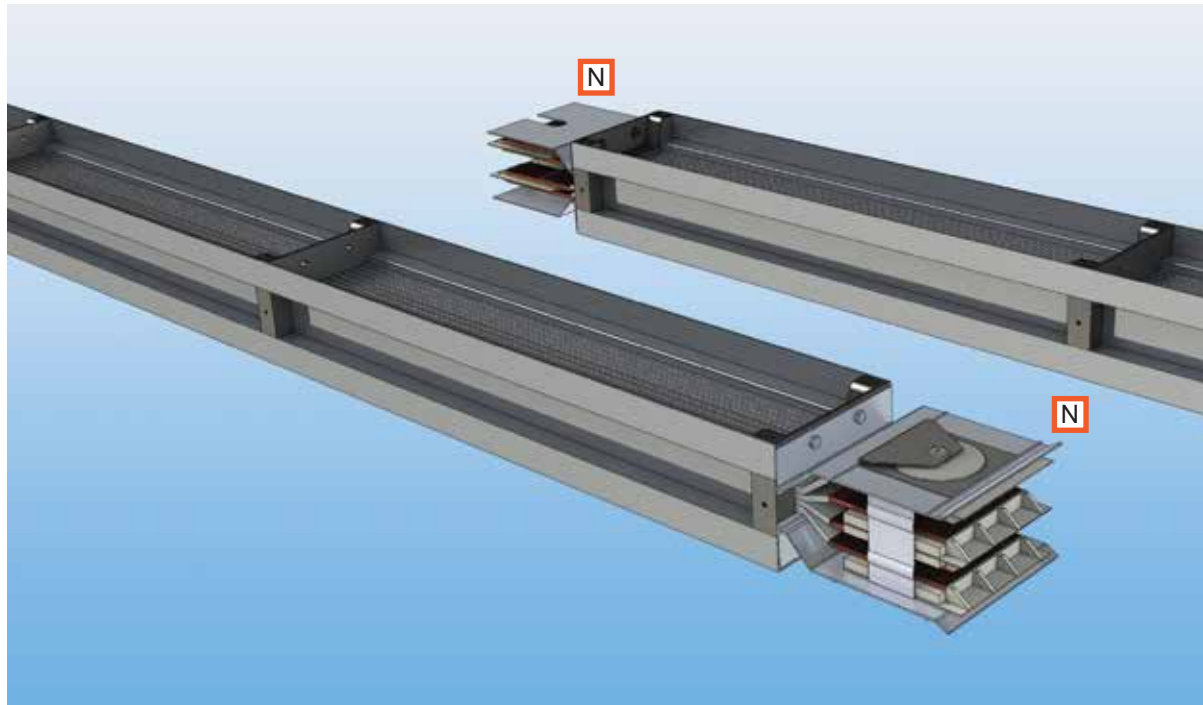


Triple Unit

Important Dimensions



Straight Length



N = Neutral



Aluminium conductors

Rating (Amps)	Weight (Kg/m)
500	11
630	11
800	11
1000	15
1250	18
1600	23
2000	25
2500	40
3200	50
4000	68
5000	75

Copper conductors

Rating (Amps)	Weight (Kg/m)
500	20
630	20
800	20
1000	20
1250	26
1600	37
2000	52
2500	56
3200	86
4000	129
5000	158
6000	170

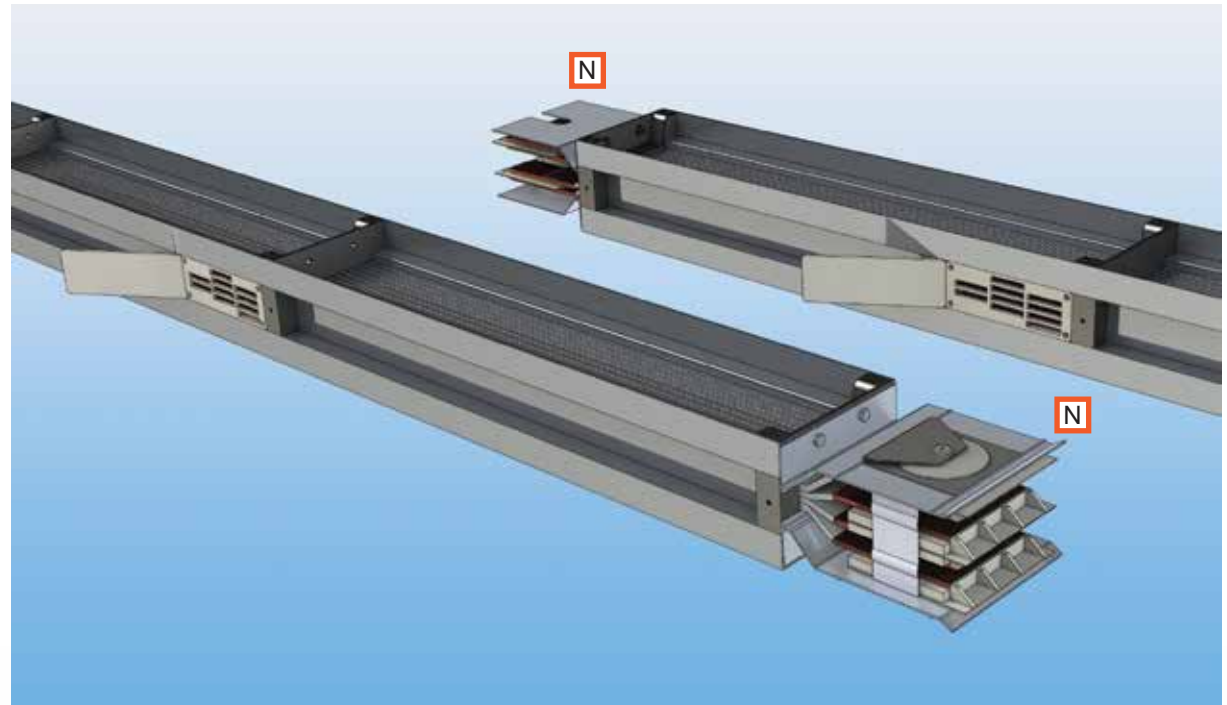
Straight Length (with plug-ins)

Aluminium conductors

Rating (Amps)	Weight (Kg/m)
500	11
630	11
800	11
1000	15
1250	18
1600	23
2000	25
2500	40
3200	50
4000	68
5000	75

Copper conductors

Rating (Amps)	Weight (Kg/m)
500	20
630	20
800	20
1000	20
1250	26
1600	37
2000	52
2500	56
3200	86
4000	129
5000	158
6000	170



Tap-off boxes can also be supplied upon request. Fitted with either a switch fuse or a MCCB. Design and orientation can vary dependant upon specification.



Non Standard Straight Length



Non standard straight lengths are used in installations where standard straight lengths would be too long



When ordering please inform us of the required lengths

Aluminium conductors

Rating (Amps)	Weight (Kg/m)
500	15
630	15
800	15
1000	17
1250	23
1600	29
2000	32
2500	51
3200	63
4000	84
5000	94

Copper conductors

Rating (Amps)	Weight (Kg/m)
500	25
630	25
800	25
1000	25
1250	32
1600	44
2000	61
2500	66
3200	104
4000	155
5000	188
6000	204

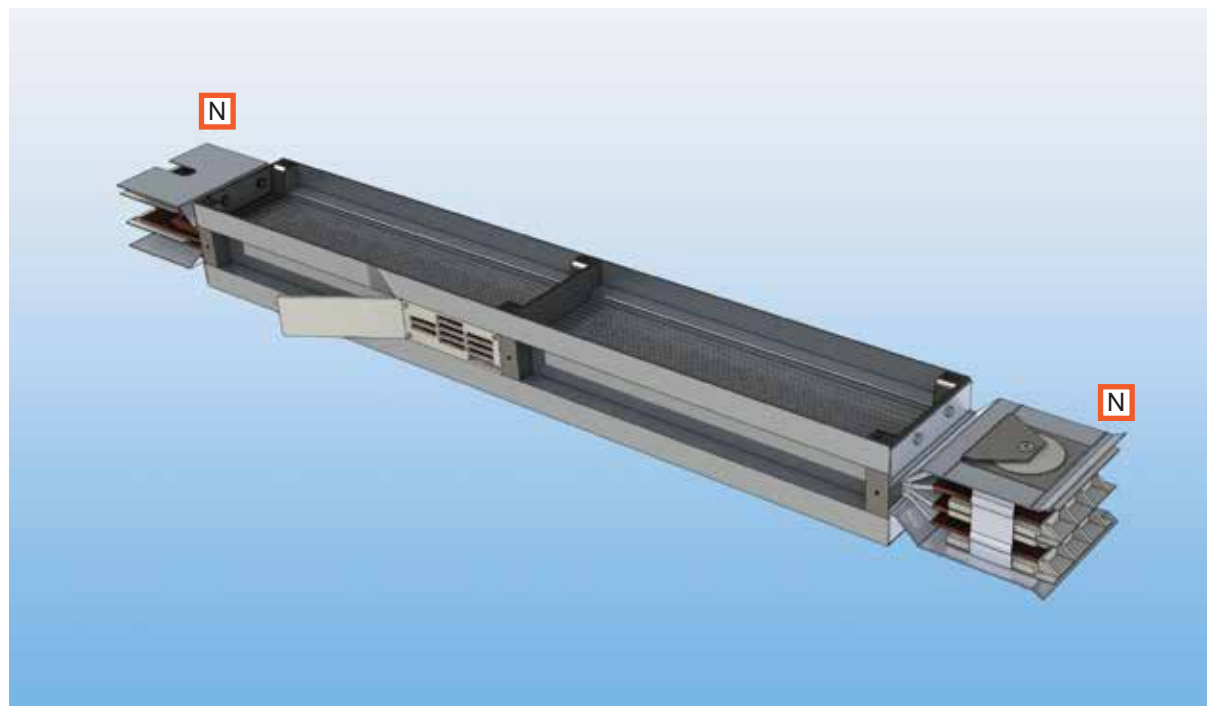
Non Standard Straight Length (with plug-in)

Aluminium conductors

Rating (Amps)	Weight (Kg/m)
500	15
630	15
800	15
1000	17
1250	23
1600	29
2000	32
2500	51
3200	63
4000	84
5000	94

Copper conductors

Rating (Amps)	Weight (Kg/m)
500	25
630	25
800	25
1000	25
1250	32
1600	44
2000	61
2500	66
3200	104
4000	155
5000	188
6000	204

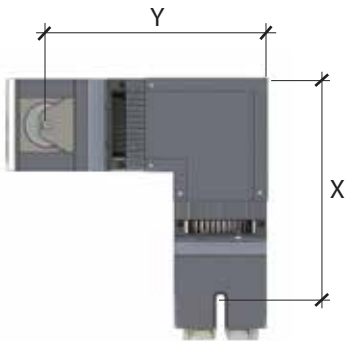
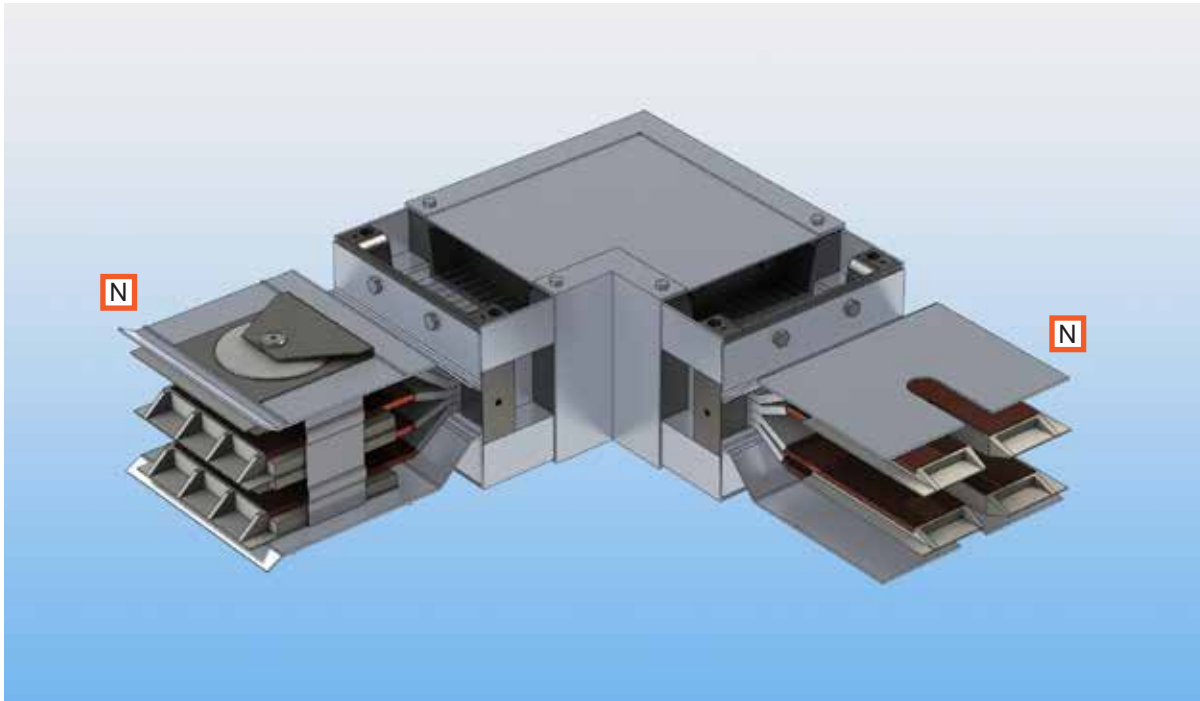


Tap-off boxes can also be supplied upon request. Fitted with either a fuse switch or a MCCB. Design and orientation can vary dependant upon specification. 600mm minimum distance between centres of plug-ins.



Additional outlets available upon request

90° Horizontal Elbow



Left hand elbow shown. Right hand elbows also available. Standard elbows are 90°. Non standard angles (obtuse and acute) can be made upon request.

Aluminium conductors

Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	385	385	19
630	385	385	19
800	385	385	19
1000	410	410	21
1250	440	440	26
1600	460	460	31
2000	520	520	37
2500	665	665	66
3200	775	775	89
4000	870	870	118
5000	1030	1030	145

Copper conductors

Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	385	385	27
630	385	385	27
800	385	385	27
1000	385	385	27
1250	410	410	33
1600	440	440	44
2000	460	460	60
2500	520	520	71
3200	665	665	118
4000	870	870	199
5000	870	870	237
6000	1030	1030	295

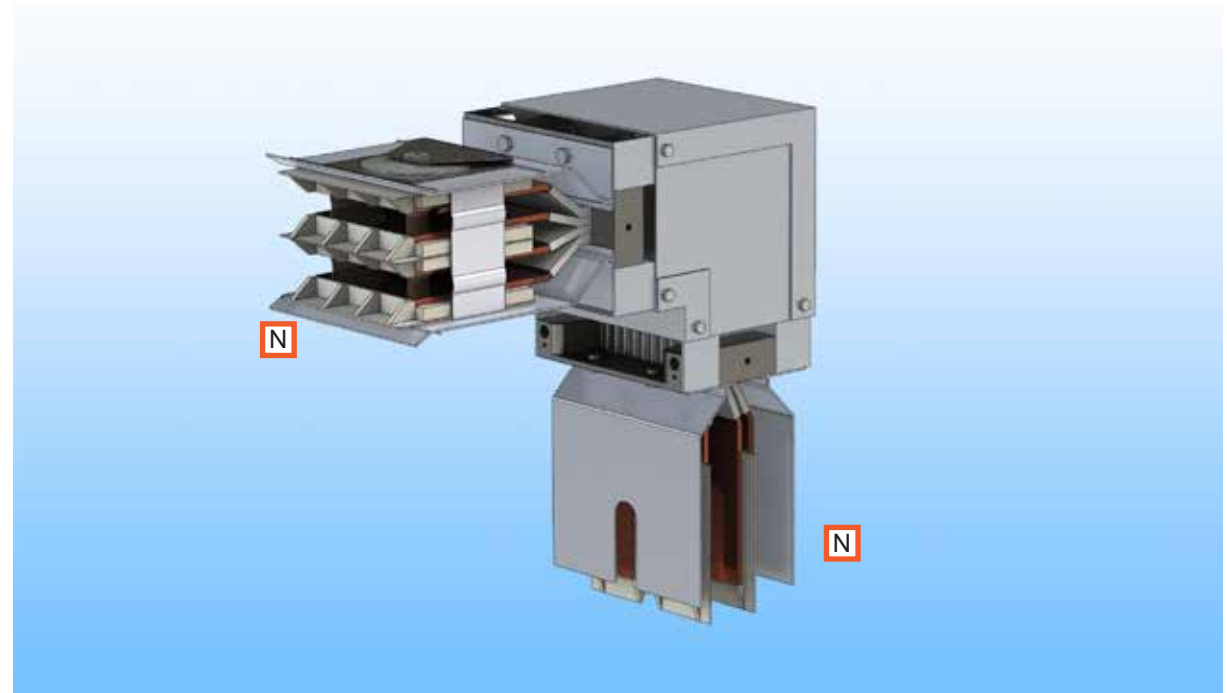
90° Vertical Elbow

Aluminium conductors

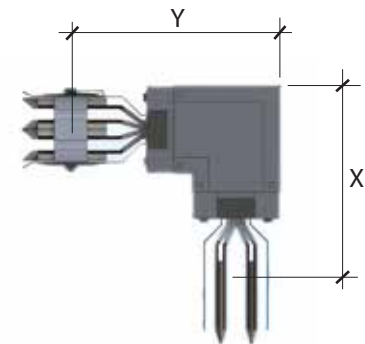
Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	380	380	15
630	380	380	15
800	380	380	15
1000	380	380	17
1250	380	380	21
1600	380	380	24
2000	380	380	27
2500	380	380	42
3200	380	380	51
4000	380	380	67
5000	380	380	75

Copper conductors

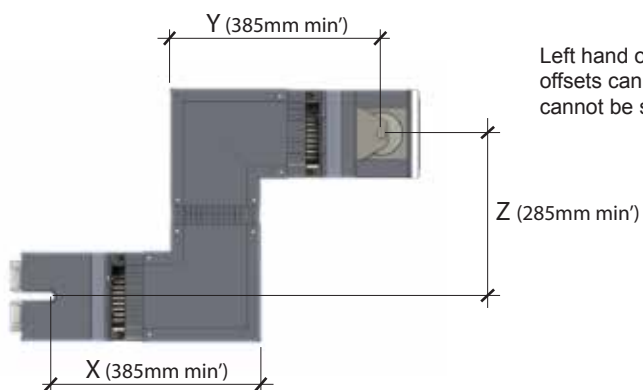
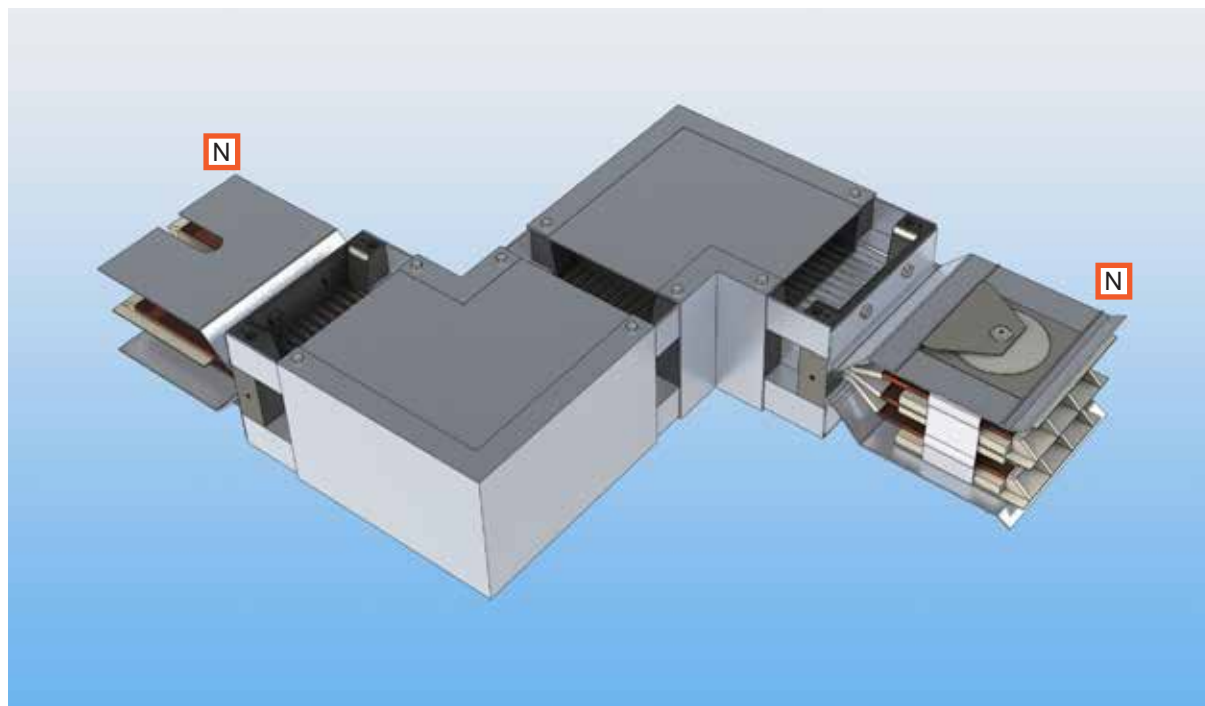
Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	380	380	22
630	380	380	22
800	380	380	22
1000	380	380	22
1250	380	380	26
1600	380	380	34
2000	380	380	45
2500	380	380	50
3200	380	380	74
4000	380	380	110
5000	380	380	130
6000	380	380	142



Right hand elbow shown. Left hand elbows also available. Standard elbows are 90°. Non standard angles (obtuse and acute) can be made upon request.



90° Horizontal Offset



Left hand offset shown. Right hand offsets also available. Non standard offsets can be manufactured upon request. N.B:- X,Y and Z dimensions cannot be smaller than 385, 385 and 285mm respectively.

Aluminium conductors

Rating (Amps)	X (mm)	Y (mm)	Z (mm)	Weight (Kg/each)
500	385	385	285	27.5
630	385	385	285	27.5
800	385	385	285	27.5
1000	410	410	310	31
1250	440	440	350	39
1600	460	460	360	48
2000	520	520	415	57
2500	665	665	565	86
3200	775	775	670	115
4000	870	870	770	141
5000	1030	1030	925	170

Copper conductors

Rating (Amps)	X (mm)	Y (mm)	Z (mm)	Weight (Kg/each)
500	385	385	285	39
630	385	385	285	39
800	385	385	285	39
1000	385	385	285	39
1250	410	410	310	48
1600	440	440	350	65
2000	460	460	360	90
2500	520	520	415	109
3200	665	665	565	152
4000	870	870	770	227
5000	870	870	770	267
6000	1030	1030	925	325

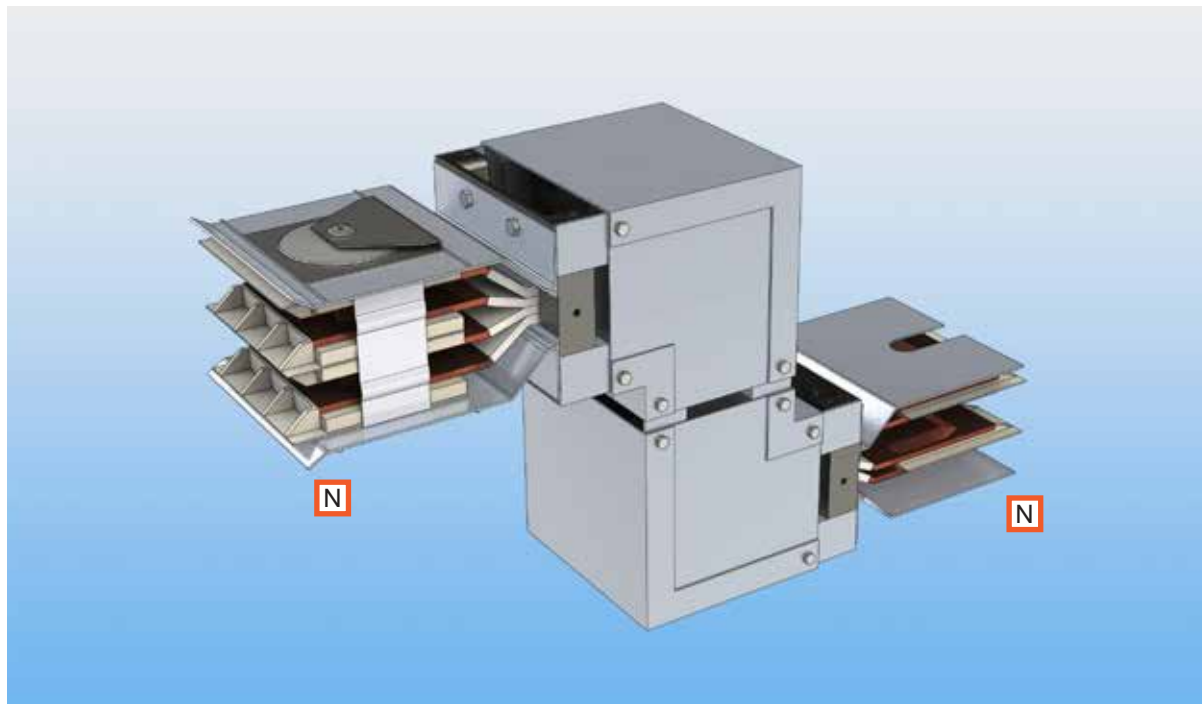
90° Vertical Offset

Aluminium conductors

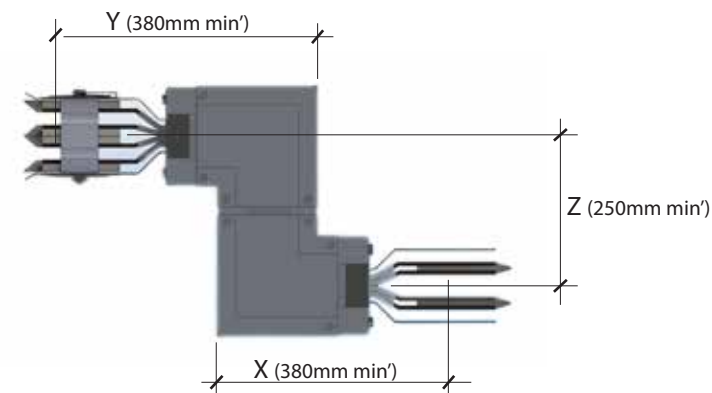
Rating (Amps)	X (mm)	Y (mm)	Z (mm)	Weight (Kg/each)
500	380	380	250	21
630	380	380	250	21
800	380	380	250	21
1000	380	380	250	23
1250	380	380	250	28
1600	380	380	250	33
2000	380	380	250	37
2500	380	380	250	58
3200	380	380	250	71
4000	380	380	250	92
5000	380	380	250	104

Copper conductors

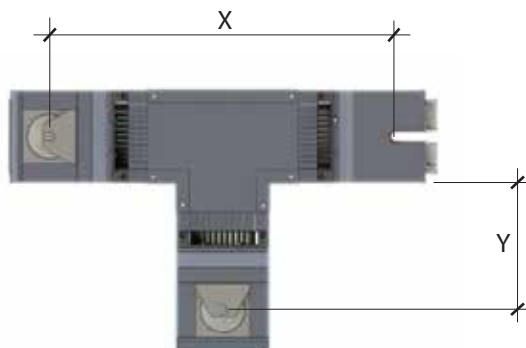
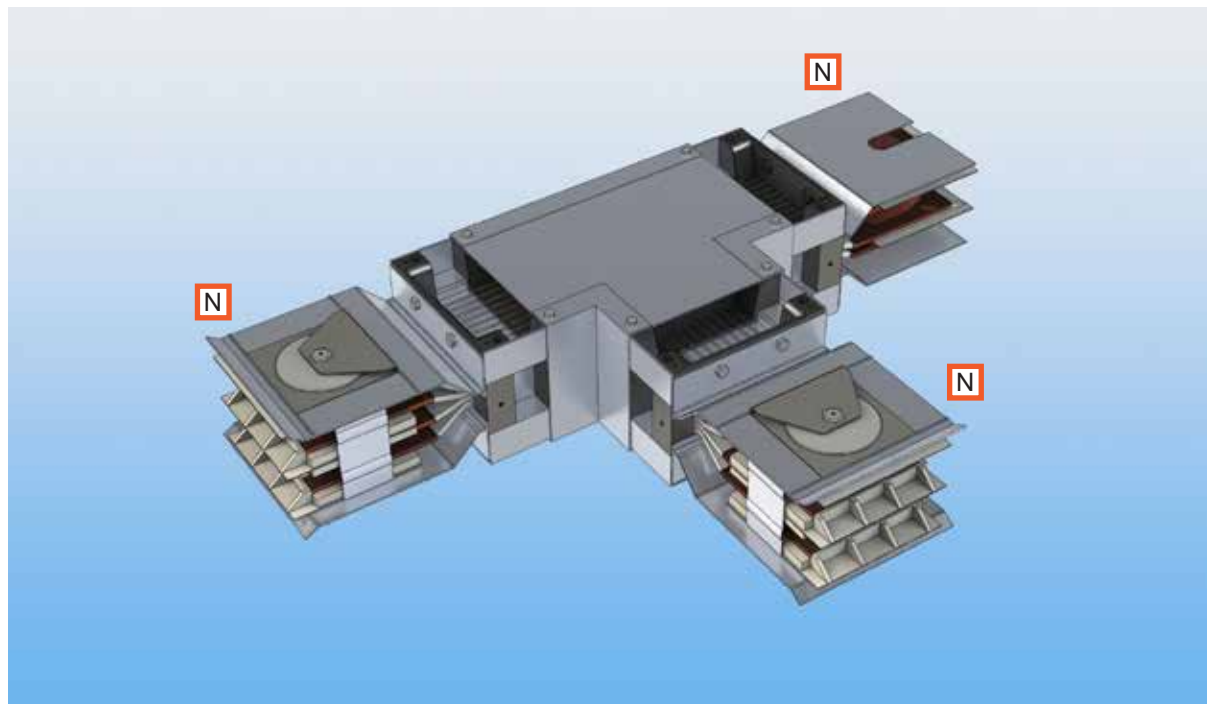
Rating (Amps)	X (mm)	Y (mm)	Y (mm)	Weight (Kg/each)
500	380	380	250	30
630	380	380	250	30
800	380	380	250	30
1000	380	380	250	30
1250	380	380	250	35
1600	380	380	250	46
2000	380	380	250	61
2500	380	380	250	67
3200	380	380	250	102
4000	380	380	250	150
5000	380	380	250	177
6000	380	380	250	195



Right hand offset shown. Left hand offsets also available.
Non standard offsets can be manufactured upon request.
N.B:- X,Y and Z dimensions cannot be smaller than 380, 380 and 250mm respectively.



90° 'T' piece



Left hand 'T' piece shown. Right hand 'T' pieces also available.

Aluminium conductors

Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	645	260	28
630	645	260	28
800	645	260	28
1000	670	260	32
1250	700	260	39
1600	720	260	47
2000	780	260	55
2500	925	260	94
3200	1035	260	120
4000	1130	260	168
5000	1290	260	199

Copper conductors

Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	645	260	39
630	645	260	39
800	645	260	39
1000	645	260	39
1250	670	260	48
1600	700	260	64
2000	720	260	86
2500	980	260	99
3200	925	260	165
4000	1130	260	270
5000	1130	260	370
6000	1290	260	379

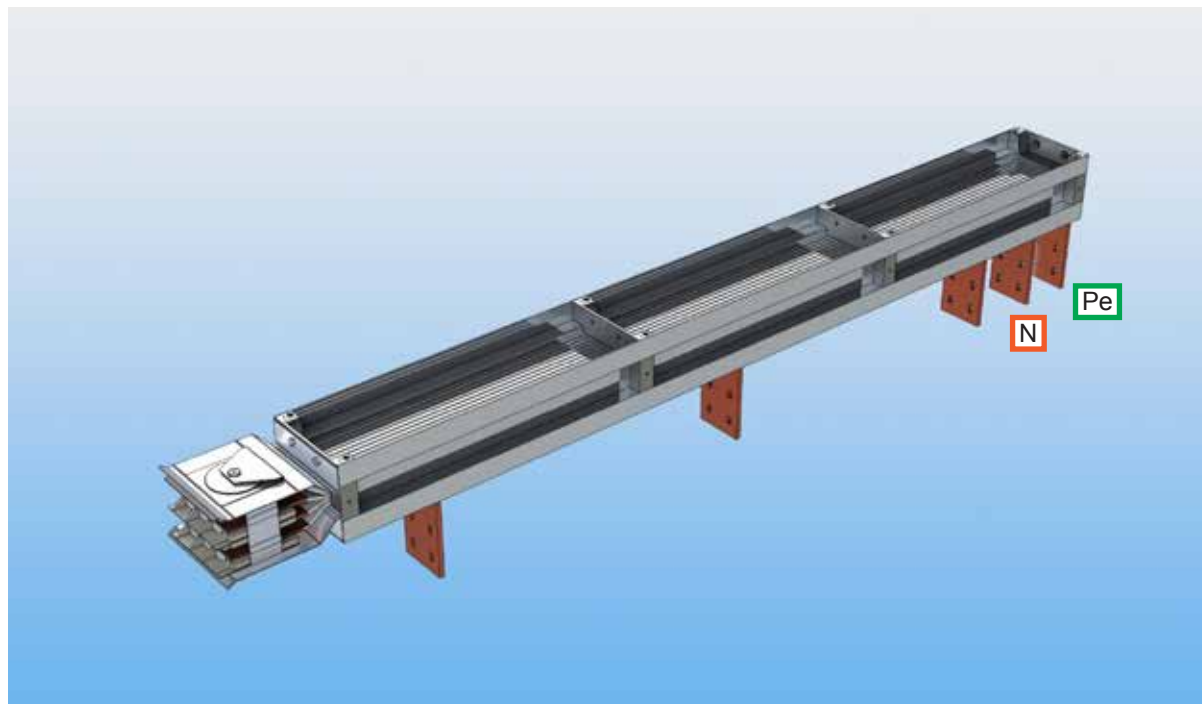
Transformer Flange

Aluminium conductors

Rating (Amps)	L (mm)	Weight (Kg/each)
500	2000	23
630	2000	23
800	2000	23
1000	2000	25
1250	2000	34
1600	2000	40
2000	2000	44
2500	2000	78
3200	2000	97
4000	2000	141
5000	2000	154

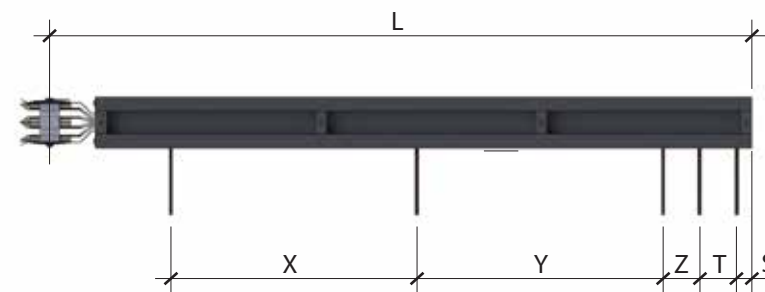
Copper conductors

Rating (Amps)	L (mm)	Weight (Kg/each)
500	2000	34
630	2000	34
800	2000	34
1000	2000	34
1250	2000	40
1600	2000	56
2000	2000	72
2500	2000	80
3200	2000	142
4000	2000	230
5000	2000	281
6000	2000	317

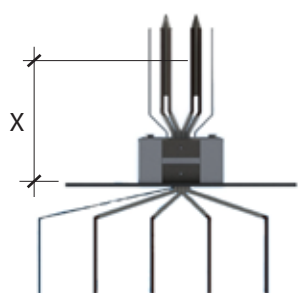
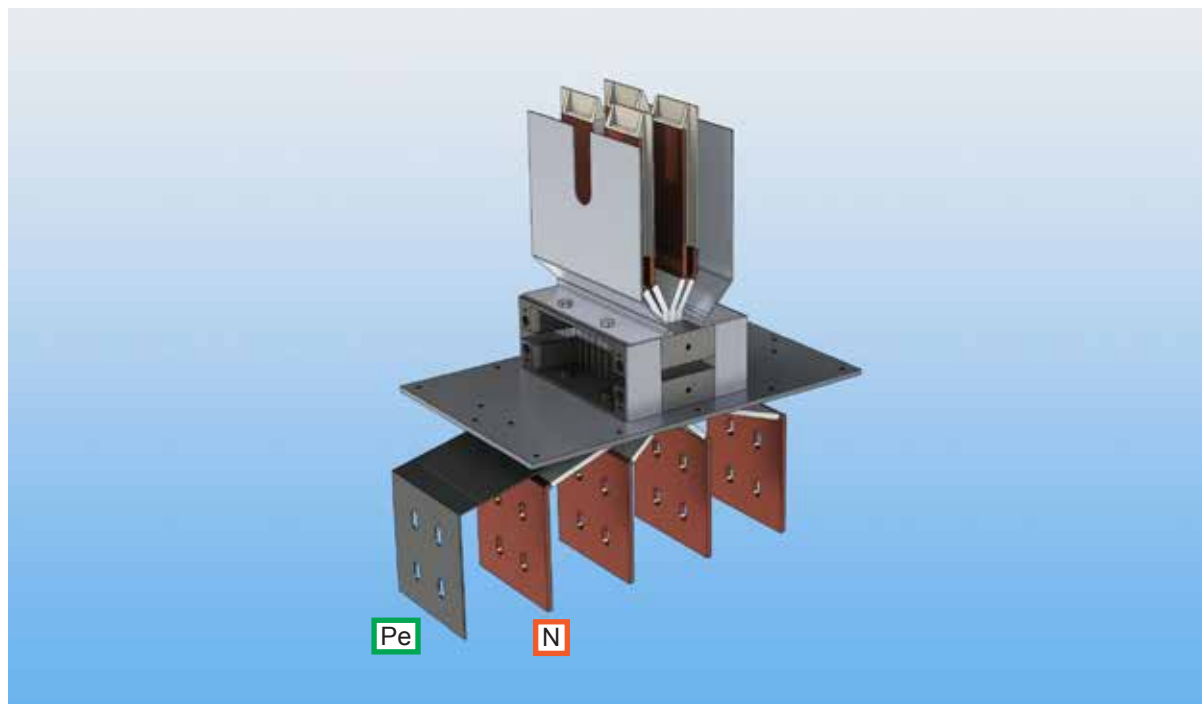


Left hand part shown. Right hand parts also available. Please specify lengths X,Y,Z,T and S when specifying as transformer types differ. Non standard parts can also be manufactured upon request.

Pe = Earth



Straight panel flange (slotted end)



Pe = Earth

Aluminium conductors

Rating (Amps)	X (mm)	Weight (Kg/each)
500	220	11
630	220	11
800	220	11
1000	220	12
1250	220	14
1600	220	17
2000	220	19
2500	220	29
3200	220	36
4000	220	49
5000	220	57

Copper conductors

Rating (Amps)	X (mm)	Weight (Kg/each)
500	220	16
630	220	16
800	220	16
1000	220	16
1250	220	19
1600	220	25
2000	220	32
2500	220	37
3200	220	53
4000	220	78
5000	220	94
6000	220	104

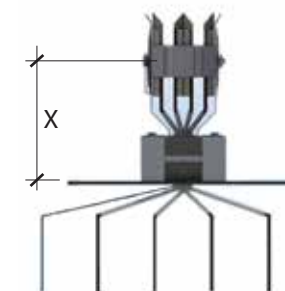
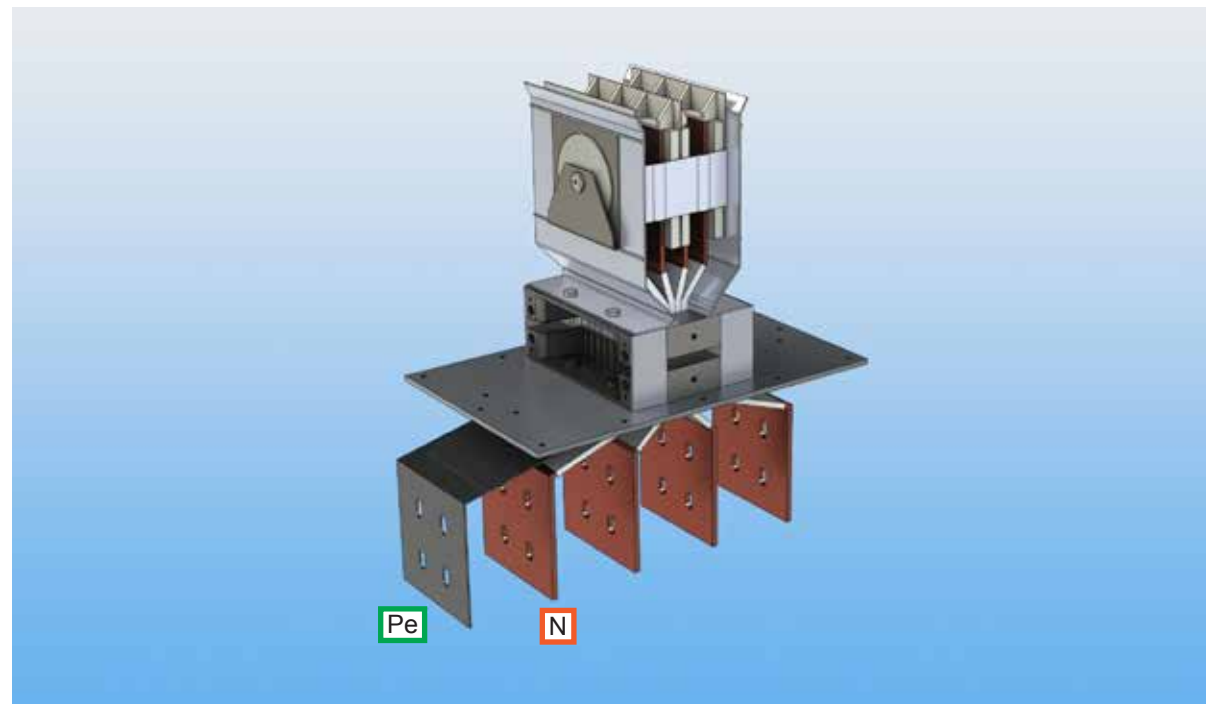
Straight panel flange (bolt end)

Aluminium conductors

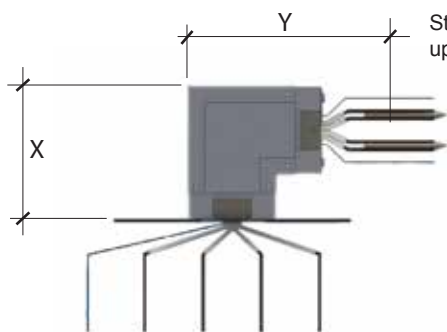
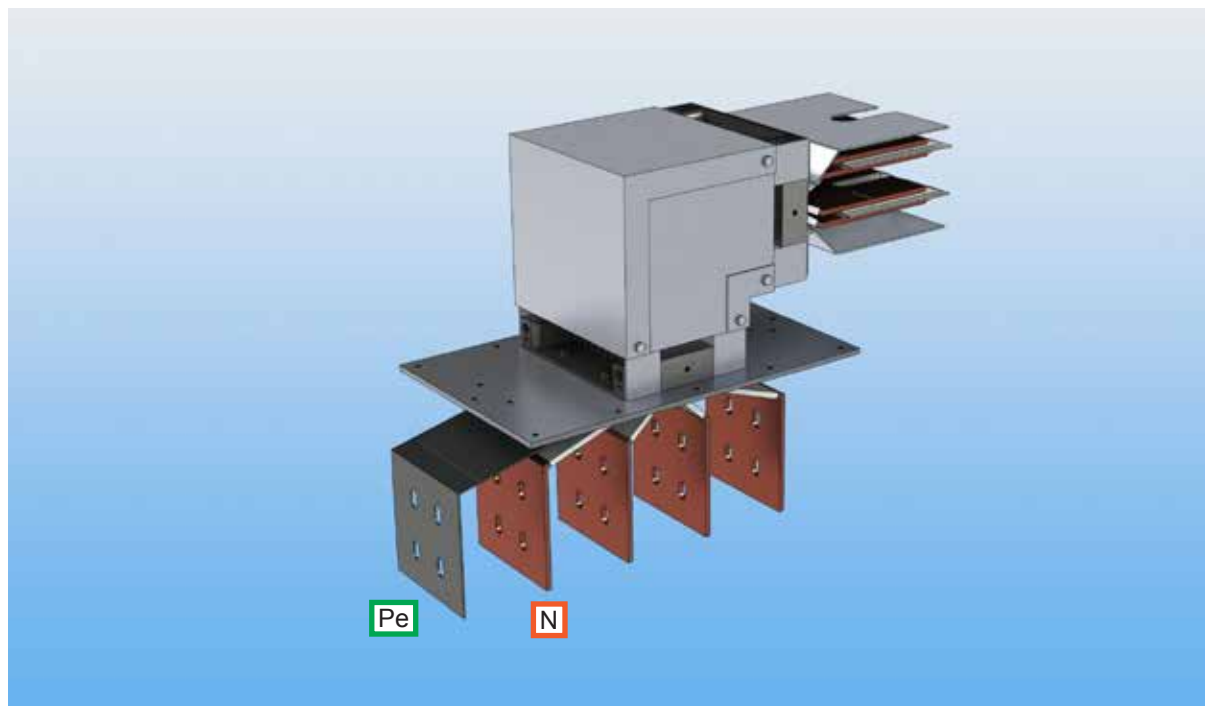
Rating (Amps)	X (mm)	Weight (Kg/each)
500	220	13
630	220	13
800	220	13
1000	220	15
1250	220	18
1600	220	20
2000	220	23
2500	220	35
3200	220	43
4000	220	59
5000	220	61

Copper conductors

Rating (Amps)	X (mm)	Weight (Kg/each)
500	220	18
630	220	18
800	220	18
1000	220	18
1250	220	22
1600	220	28
2000	220	36
2500	220	41
3200	220	59
4000	220	87
5000	220	103
6000	220	114



Panel Flange 90° Vertical Elbow (slotted end)



Standard elbows are 90°. Non standard angles (obtuse and acute) can be made upon request.

Aluminium conductors

Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	245	380	15
630	245	380	15
800	245	380	15
1000	245	380	17
1250	245	380	21
1600	245	380	25
2000	245	380	27
2500	245	380	43
3200	245	380	53
4000	245	380	74
5000	245	380	75

Copper conductors

Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	245	380	23
630	245	380	23
800	245	380	23
1000	245	380	23
1250	245	380	27
1600	245	380	36
2000	245	380	48
2500	245	380	53
3200	245	380	79
4000	245	380	117
5000	245	380	143
6000	245	380	151

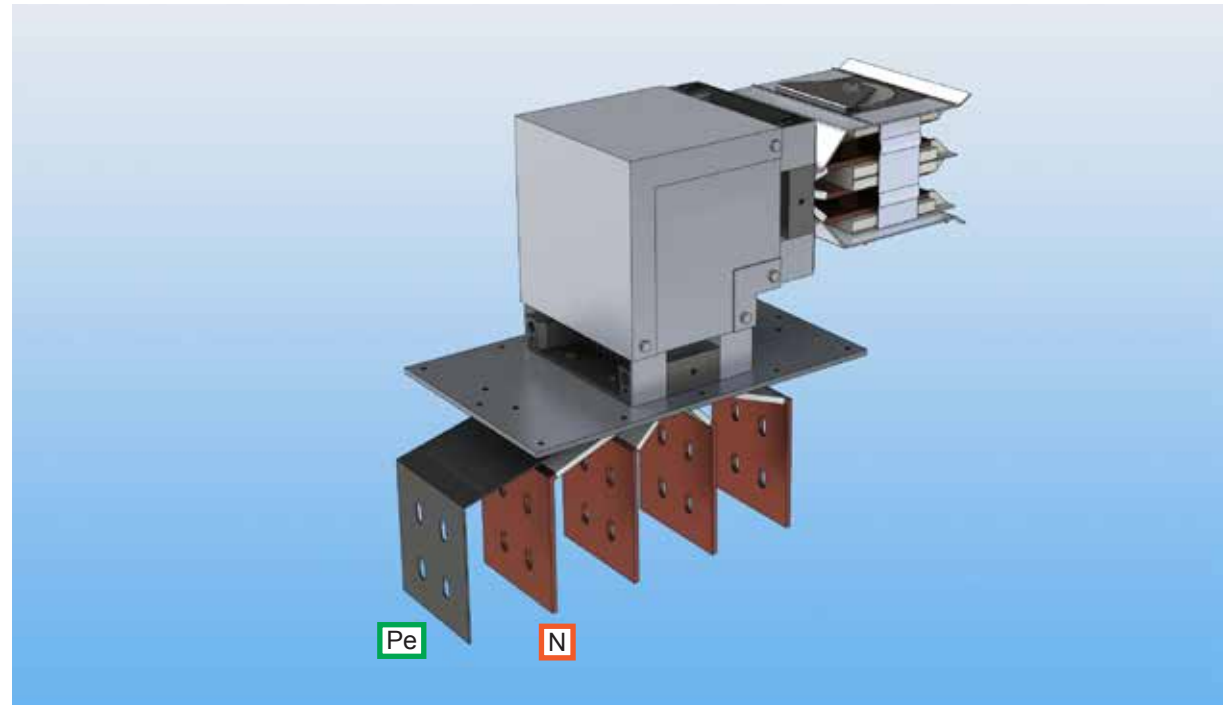
Panel Flange 90° Vertical Elbow (bolt end)

Aluminium conductors

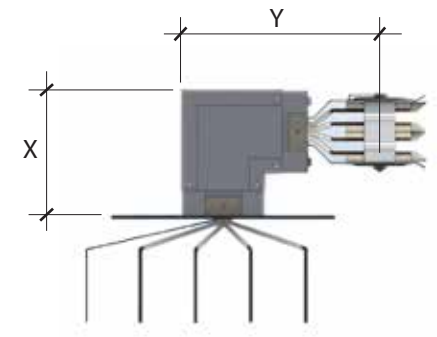
Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	245	380	18
630	245	380	18
800	245	380	18
1000	245	380	20
1250	245	380	24
1600	245	380	28
2000	245	380	32
2500	245	380	49
3200	245	380	60
4000	245	380	83
5000	245	380	85

Copper conductors

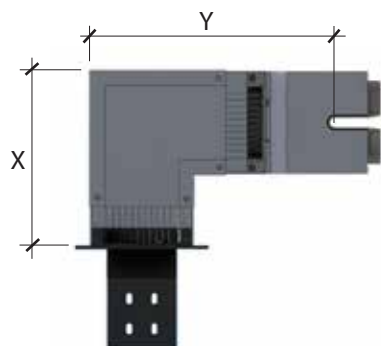
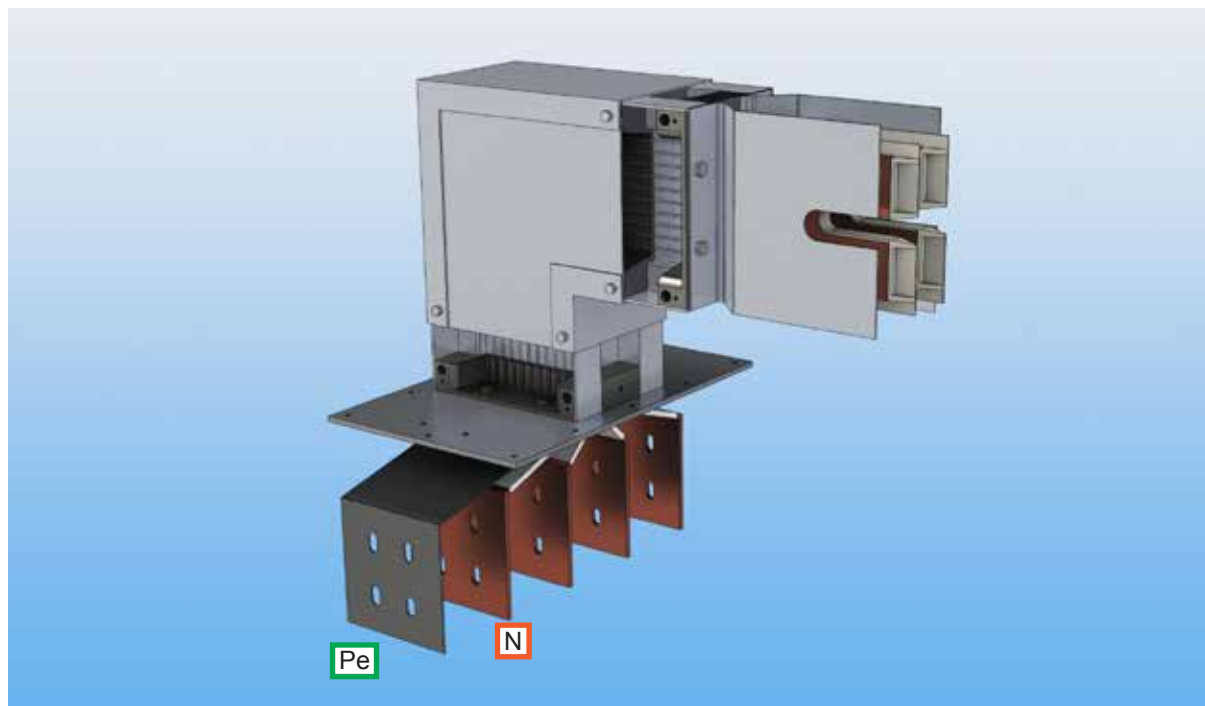
Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	245	380	26
630	245	380	26
800	245	380	26
1000	245	380	26
1250	245	380	30
1600	245	380	40
2000	245	380	52
2500	245	380	57
3200	245	380	85
4000	245	380	126
5000	245	380	151
6000	245	380	161



Standard elbows are 90°. Non standard angles (obtuse) can be made upon request.



Panel Flange 90° Horizontal Elbow (slot end)



Standard elbows are 90°. Non standard angles (obtuse) can be made upon request.

Aluminium conductors

Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	250	385	19
630	250	385	19
800	250	385	19
1000	265	410	21
1250	300	440	26
1600	320	460	31
2000	375	520	37
2500	525	665	60
3200	630	775	79
4000	730	870	113
5000	885	1030	125

Copper conductors

Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	250	385	27
630	250	385	27
800	250	385	27
1000	250	385	27
1250	265	410	33
1600	300	440	45
2000	320	460	61
2500	375	520	72
3200	525	665	115
4000	730	870	154
5000	730	870	233
6000	885	1030	228

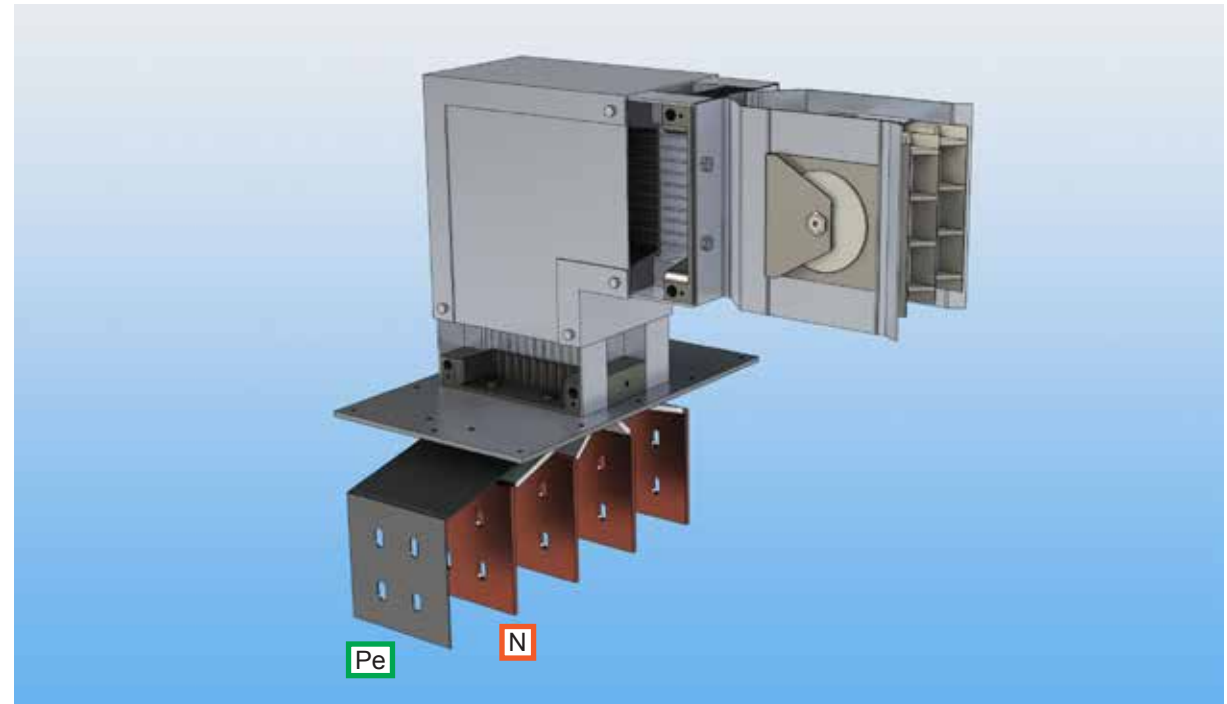
Panel Flange 90° Horizontal Elbow (bolt end)

Aluminium conductors

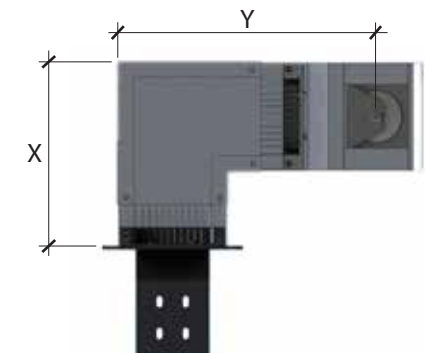
Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	250	385	21
630	250	385	21
800	250	385	21
1000	265	410	24
1250	300	440	29
1600	320	460	35
2000	375	520	41
2500	525	665	66
3200	630	775	86
4000	730	870	123
5000	885	1030	136

Copper conductors

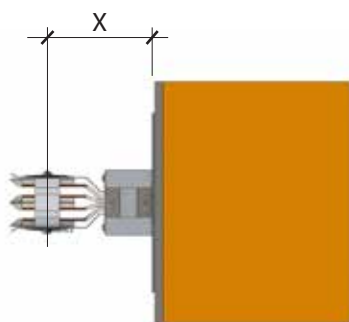
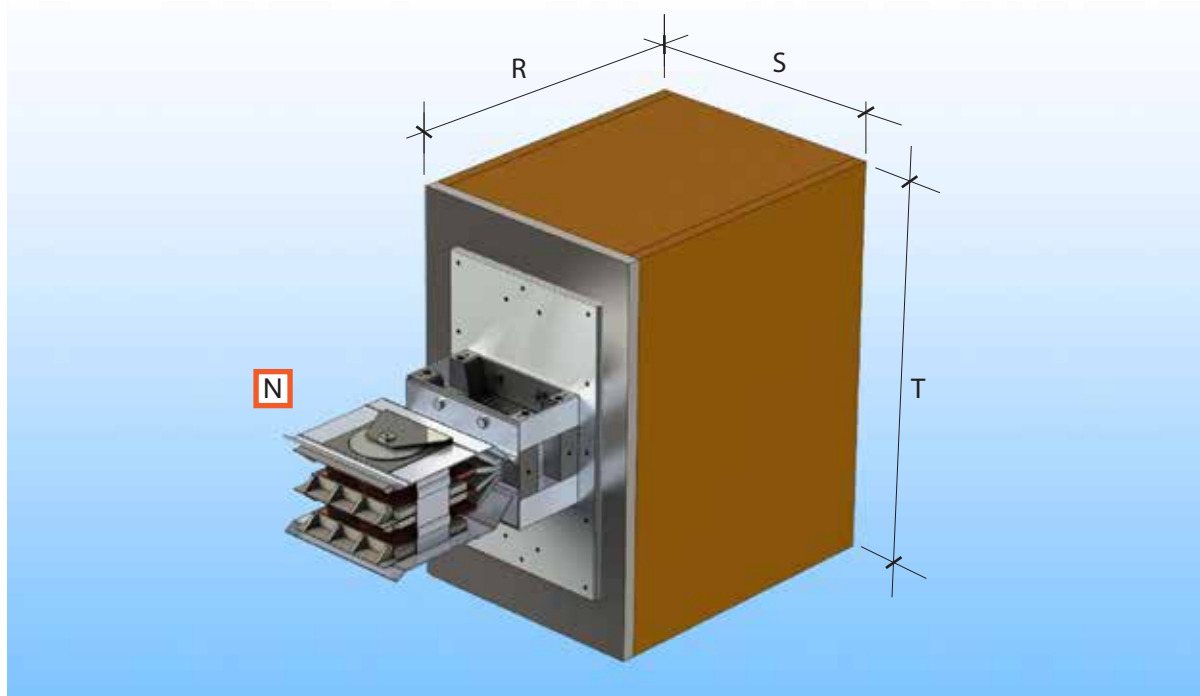
Rating (Amps)	X (mm)	Y (mm)	Weight (Kg/each)
500	250	385	30
630	250	385	30
800	250	385	30
1000	250	385	30
1250	265	410	36
1600	300	440	49
2000	320	460	64
2500	375	520	76
3200	525	665	121
4000	730	870	162
5000	730	870	243
6000	885	1030	288



Standard elbows are 90°. Non standard angles (obtuse) can be made upon request.



Feed / Junction box unit



Bolted-end shown. Slotted ends also available. Standard sizes shown in table. Larger non standard sizes can also be manufactured. Please specify dimensions of the box when ordering. Most sizes and configurations can be catered for.

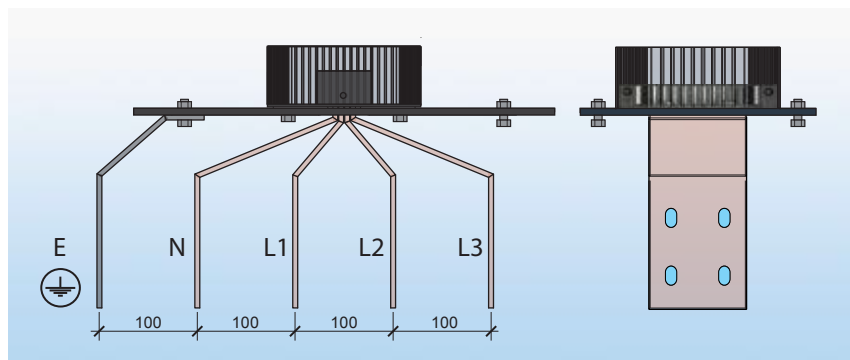
Aluminium conductors

Rating (Amps)	X (mm)	R (mm)	S (mm)	T (mm)	Weight (Kg/each)
500	220	500	230	600	23
630	220	500	230	600	23
800	220	500	230	600	23
1000	220	500	250	600	25
1250	220	500	285	600	28
1600	220	500	305	600	32
2000	220	500	355	600	36
2500	220	500	510	600	53
3200	220	500	610	600	63
4000	220	500	715	600	83
5000	220	500	865	600	88

Copper conductors

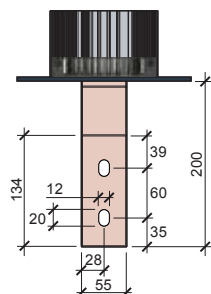
Rating (Amps)	X (mm)	R (mm)	S (mm)	T (mm)	Weight (Kg/each)
500	220	500	230	600	29
630	220	500	230	600	29
800	220	500	230	600	29
1000	220	500	250	600	29
1250	220	500	285	600	32
1600	220	500	305	600	39
2000	220	500	355	600	48
2500	220	500	510	600	54
3200	220	500	610	600	77
4000	220	500	715	600	111
5000	220	500	715	600	128
6000	220	500	865	600	142

Flange Details

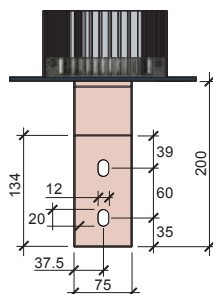


All flanges have the same dimensional detail as per the illustration to the left. 3 Phases + N + 50%E.
Specials available upon request. Flange details shown are for GS-A (Aluminium conductors) and GS-C Busduct (Copper conductors)

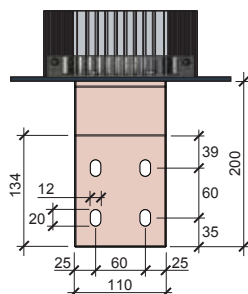
GS-A 500, 630, 800 A
GS-C 500, 630, 800, 1000 A



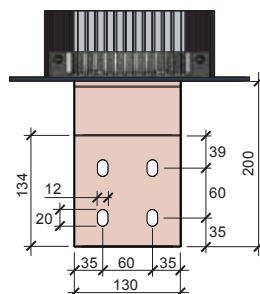
GS-A 1000 A
GS-C 1250 A



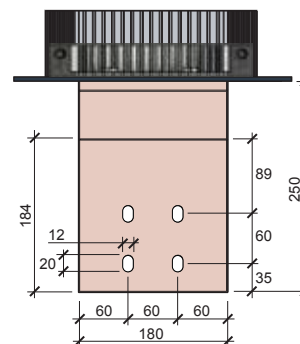
GS-A 1250 A
GS-C 1600 A



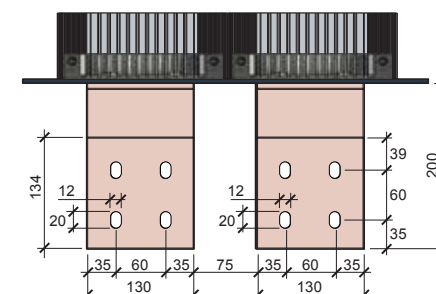
GS-A 1600 A
GS-C 2000 A



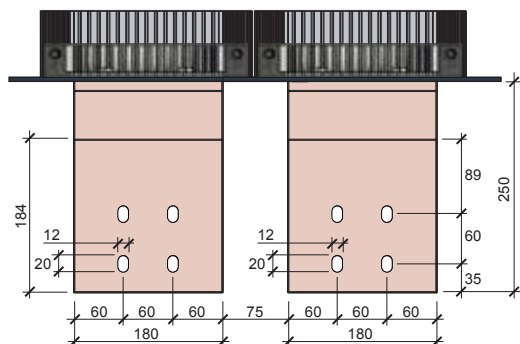
GS-A 2000 A
GS-C 2500 A



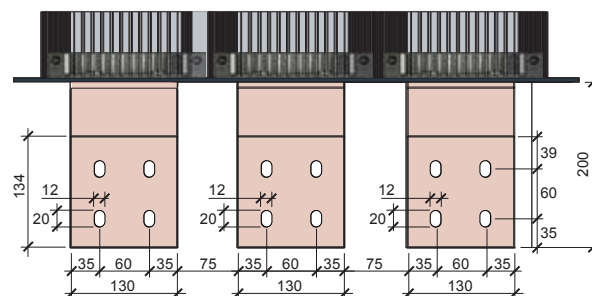
GS-A 2500 A
GS-C 3200 A



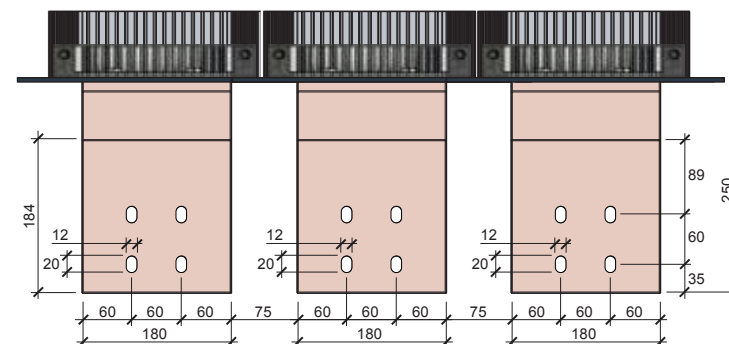
GS-A 3200 A



GS-A 4000 A
GS-C 4000, 5000 A



GS-A 5000 A
GS-C 6000 A



Technical Data

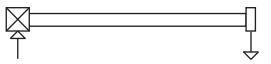
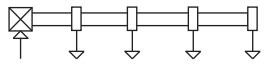
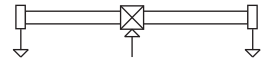
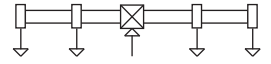
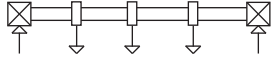
GS-A Aluminium Conductors (500A TO 5000A)

		GS-A 500A	GS-A 630A	GS-A 800A	GS-A 1000A	GS-A 1250A	GS-A 1600A	GS-A 2000A	GS-A 2500A	GS-A 3200A	GS-A 4000A	GS-A 5000A	
Rated Current	I _n	500	630	800	1000	1250	1600	2000	2500	3200	4000	5000	A
Operational Voltage	U _e	← 1000 →											V
Insulation Voltage	U _i	← 1000 →											V
Frequency	f	← 50 - 60 →											Hz
Cross Section of Phases	S _f	330	330	330	450	660	1040	1080	1560	2160	3120	3240	mm²
Cross Section of Neutral	S _N	330	330	330	450	660	1040	1080	1560	2160	3120	3240	mm²
Cross Section of Housing	S _H	1354	1354	1354	1450	2295	2344	2603	4782	5206	7033	7810	mm²
Cross Section of Earth	S _{PE}	165	165	165	225	330	520	540	780	1080	1560	1620	mm²
Short Circuit Current of Phases (1 sec')	I _{CW}	36	36	36	50	65	65	65	100	120	150	150	kA
Peak Current of Phases	I _{pk}	75	75	75	119	150	150	150	220	264	330	330	kA
Short Circuit Current of Neutral (1 sec')	I _{CW}	21	21	21	30	40	40	40	63	72	90	90	kA
Peak Current of Neutral	I _{pk}	47	47	47	63	92	92	92	132	158	198	198	kA
Phase Resistance (T=20°C)	R ₂₀	0.088	0.088	0.088	0.069	0.044	0.027	0.026	0.018	0.013	0.009	0.008	mΩ/m
Phase Resistance	R ₁	0.125	0.125	0.125	0.085	0.060	0.038	0.035	0.024	0.017	0.012	0.010	mΩ/m
Phase Reactance	X ₁	0.033	0.033	0.033	0.028	0.014	0.030	0.011	0.008	0.006	0.009	0.003	mΩ/m
Phase Impedance	Z ₁	0.126	0.126	0.126	0.098	0.063	0.048	0.037	0.025	0.018	0.015	0.011	mΩ/m
Phase Resistance	R _F	0.238	0.238	0.238	0.186	0.120	0.058	0.070	0.048	0.034	0.028	0.013	mΩ/m
Phase Reactance	X _F	0.381	0.381	0.381	0.298	0.192	0.093	0.112	0.077	0.054	0.039	0.004	mΩ/m
Phase Impedance	Z _F	0.476	0.476	0.476	0.372	0.240	0.110	0.140	0.096	0.068	0.048	0.013	mΩ/m
Fire Load		12.29	12.29	12.29	12.63	18.86	20.65	27.34	37.62	50.89	54.52	74.50	kWh/m
Voltage Drop with Distributed Load $\cos\varphi = \sim 0.95$ (α=1)		108.1	136.2	173.0	155.0	136.2	110.0	126.4	108.9	99.3	87.0	89.9	mV/m

Voltage drop with concentrated end line load where: $\Delta V = \alpha \sqrt{3} I_n L (R \cos\varphi + X_L \sin\varphi) 10e-3$	
ΔV	Voltage drop
α	Current distribution constant
L	Duct length
I _n	Use Current (A)
R	Phase resistance per unit length of the busduct
X _L	Phase reactance per unit length of the busduct
cosφ	Average load power factor

Load distribution constant	(α)
	1
	0.5
	0.25
	0.125
	0.125

Voltage drop with concentrated end line load where: $\Delta V = \alpha \sqrt{3} I_n L (R \cos \varphi + X_L \sin \varphi) 10^{-3}$	
ΔV	Voltage drop
α	Current distribution constant
L	Duct length
I_n	Use Current (A)
R	Phase resistance per unit length of the busduct
X_L	Phase reactance per unit length of the busduct
$\cos \varphi$	Average load power factor

Load distribution constant	(α)
	1
	0.5
	0.25
	0.125
	0.125

		GS-C 500A	GS-C 630A	GS-C 800A	GS-C 1000A	GS-C 1250A	GS-C 1600A	GS-C 2000A	GS-C 2500A	GS-C 3200A	GS-C 4000A	GS-C 5000A	GS-C 6000A	
Rated Current	I_n	500	630	800	1000	1250	1600	2000	2500	3200	4000	5000	6000	A
Operational Voltage	U_e	1000												V
Insulation Voltage	U_i	1000												V
Frequency	f	50 - 60												Hz
Cross Section of Phases	S_f	330	330	330	330	450	660	1040	1080	1560	2340	3120	3240	mm ²
Cross Section of Neutral	S_N	330	330	330	330	450	660	1040	1080	1560	2340	3120	3240	mm ²
Cross Section of Housing	S_H	1354	1354	1354	1354	1450	2295	2343	2603	4782	7173	7033	7810	mm ²
Cross Section of Earth	S_{PE}	165	165	165	165	225	330	520	540	780	1170	1560	1620	mm ²
Short Circuit Current of Phases (1 sec')	I_{CW}	38	38	38	38	54	65	65	65	100	120	150	150	kA
Peak Current of Phases	I_{pk}	76	76	76	76	113	150	150	150	220	264	330	330	kA
Short Circuit Current of Neutral (1 sec')	I_{CW}	22	22	22	22	30	40	40	40	60	72	90	90	kA
Peak Current of Neutral	I_{pk}	51	51	51	51	70	92	92	92	132	158	198	198	kA
Phase Resistance (T=20°C)	R_{20}	0.054	0.054	0.054	0.054	0.042	0.027	0.017	0.016	0.011	0.007	0.005	0.005	mΩ/m
Phase Resistance	R_1	0.070	0.070	0.070	0.070	0.054	0.035	0.022	0.020	0.015	0.009	0.006	0.005	mΩ/m
Phase Reactance	X_1	0.023	0.023	0.023	0.023	0.018	0.011	0.007	0.006	0.005	0.003	0.002	0.001	mΩ/m
Phase Impedance	Z_1	0.081	0.081	0.081	0.081	0.060	0.039	0.024	0.023	0.019	0.010	0.007	0.006	mΩ/m
Phase Resistance	R_F	0.140	0.140	0.140	0.140	0.108	0.070	0.036	0.040	0.032	0.015	0.011	0.010	mΩ/m
Phase Reactance	X_F	0.224	0.224	0.224	0.224	0.173	0.112	0.121	0.064	0.045	0.048	0.044	0.016	mΩ/m
Phase Impedance	Z_F	0.280	0.280	0.280	0.280	0.216	0.140	0.126	0.080	0.056	0.050	0.046	0.020	mΩ/m
Fire Load		12.29	12.29	12.29	12.29	12.63	18.86	20.65	27.34	37.62	54.52	54.52	74.50	kWh/m
Voltage Drop with Distributed Load $\cos \varphi = \sim 0.95$ ($\alpha=1$)		63.4	79.9	101.5	126.9	122.6	101.1	85.8	89.9	83.8	67.4	55.0	52.0	mV/m

General Specification

Busduct Design

Anord's 'GS' range Busduct system is a non-ventilated, naturally cooled, low impedance, light weight, Aluminium encased, sandwich type busbar, contract manufactured for Anord by Gersan Elektrik.

Conductors

Both Aluminium and Copper conductors utilised are of high purity and fully nickel and tin coated for increased conductivity and corrosion resistance. Epoxy, Mylar or Teflon sheet encases and insulates the conductors within their Aluminium housing.

Joints

The 'Slotted' and 'Bolt' ends of the Busduct can be brought together by hand or with the aid of a small installation tool (dependant on size of Busduct parts). Once Busduct ends are positioned, an integral nut and bolt in the 'Bolt' end of the Busduct can be tightened. A disc in the bolt head will change colour from red to black to indicate the correct tightening torque. Each joint requires two small covers to be easily fitted to ensure a maintenance free joint.

Earth / Ground

The Anord 'GS' range Busduct system is an internal ground system housing ground system, where the internal earth bar conducts to the housing, providing a positive earth.

Plug-ins

Straight lengths of 'GS' Busduct can be fitted with tap-off outlets suitable to accept plug-ins (minimum centre between plug-ins is 600mm per straight length) The unique design of the tap-off outlets prevent improper installation of plug-ins. Plug-in boxes can be fitted with Interlocked doors and also with either a fused switch (SYK) or a Moulded Case Circuit Breaker (MCCB). Design of plug-in boxes can vary dependent upon specification and installation constraints.

Expansion joints

Expansion joints can be supplied where necessary for the 'taking-up' of thermal expansion and contraction in vertical and/or horizontal runs, assuming a full load condition. They are also recommended for use where there is an expansion joint in a building. Expansion joints are recommended when a straight Busduct run exceeds 40 metres horizontally or 12 metres vertically. Special flexible Busduct sections can be manufactured for installations where there is pronounced seismic activity.

Supports

The Anord 'GS' Busduct can be installed on either its long edge or its short edge, performance and safety is not compromised either way, although considerations must be made for the suitable mounting of plug-ins!. Maximum dimension between supports is 1500mm. For vertical runs it is recommended that sprung-hangers are incorporated to accommodate for minor dimensional changes due to thermal expansion and contraction. The 'Unistrut' galvanised steel channel system (or similar) is recommended to assist in the support of Anord Busduct.

Fire Resistance

All Anord 'GS' Busduct can be fitted with fire barriers that meet the requirements of EN60493 and of Fire resistance class S120 (for GS-A) and S90 (for GS-C) to DIN 4102 Part 9. Anords 'GS' range of Busduct has been fire tested in collaboration with Promat and MFPA Leipzig and meets integrity class E90 in accordance with DIN 4102-12. Certificates available upon request.

Additional Information

From either edge of the Busduct to a wall, ceiling, obstruction or other Busduct allow a minimum of 50mm. Joints must be accessible for maintenance, therefore the practice of having joints inside floors ceilings or floors is discouraged.

Custom Designs

At Anord we strongly believe in investing in innovation and exceeding the expectations of our customers. Therefore we would be more than willing to discuss any special design requirements to help facilitating unusual or demanding circumstances.

This image shows a full page of blank graph paper. The grid consists of thin, light gray horizontal and vertical lines that intersect to form small squares across the entire surface. There are no margins, text, or other markings on the paper.

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