SAFE SOLUTIONS INSPIRING TECHNOLOGY

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Generating electricity is one challenge, the other is to have it efficiently and safely transported to the utility point.

ALFADUCT

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ARJ HOLDING

From harnessing water and electric power to transforming lives, ARJ Holding has been a name to reckon with since 1964. Reflecting the values of the Group's founder, ARJ Holding believes quality, social responsibility and transparency are the guiding principles for seeking new opportunities together, conducting fair business and succeeding together. Coming a long way since its inception, the Group has successfully scaled up its operations and scope in the last decades to diversify and expand beyond the region.



A multinational powerhouse of over 2,500 employees, ARJ Holding today is one of UAE's prominent business houses, in the construction sector serving government entities and large corporates. The Group aims to be the leader in GCC and beyond with four major focus areas – Trade, Power, Life & Green encompassing a varied portfolio that includes Building and Engineering Services, Manufacturing, Water Management Technologies, Property Development, Renewable Energy Systems, Hospitality, F&B, Health & Wellness, Marketing Communications, Education, Fashion & Retail. Headquartered in Dubai, UAE and with offices in 20 markets across 5 countries – Lebanon, Oman, Saudi Arabia, Kuwait and India – ARJ Holding is growing from strength to strength, delivering consistent quality and setting new standards in excellence.





ALFADUCT INTRODUCTION

Adhering to highest product quality and aligned to the Group's lasting values of integrity and commitment, ALFA Technologies Pvt. Ltd., a subsidiary of ARJ Holding, is a specialized and dedicated company serving the power distribution market through its ALFADUCT—Busbar Trunking System.

To be distinctive in the service it provides, ALFA Technologies commit to stay with the Client along the entire process until the full functioning of Busbar Trunking Systems. Professional and technical assistance spans across every activity ranging from site survey, design & routing drawing preparation, supply & installation to testing, commissioning and maintenance.

SOUTHERN RAILWAY HOSPITAL Sandwich Busducts Ratings 4000 A & 1600 A Main Power Distribution Transformers to Main Panels (3 Runs) & DG Synchornization Panel to Main Panel (2 Runs) ¥1.

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Our product range includes Sandwich, Compact Air Insulated & Lighting Trunking solutions to cater to a wide range of Clients from residential blocks to industrial units, facilitated by service that includes:

- Project evaluation and support, design optimization and engineering layout
- Customized manufacturing
- System installation with the best engineering practices
- System testing and commissioning
- Refurbishment, maintenance and support in layout changes

SPECIFICATIONS

The product is designed to comply with the International Standard of IEC 61439-1&6, "specification for low voltage and control gear assemblies", a particular requirement for busbar trunking systems.

Compact Air Insulated Bus

Trunking Systems

Sandwich Bus Trunking Systems

Conductor:	Copper or Aluminium	Conductor:	Copper or Aluminium	Conductor:	Copper
Enclosure:	1.6 mm or 2.0 mm GI	Enclosure:	1.6 mm or 2.0 mm GI	Enclosure:	Aluminium
Current ratings:	400 A to 5000 A	Current ratings:	200 A to 2000 A	Current ratings:	25A to 40A
Elements:	All types of elements to meet site requirements	Elements:	All types of elements to meet site requirements	Elements:	All types of elements to meet site requirements







Lighting Bus Trunking Systems

BUSBAR OVER CABLES

ALFADUCT Busbar Trunking Systems are used in building and industrial applications to distribute power to electrical loads safely and efficiently. Due to its many advantages over cabling and conventional bus ducts, Busbar Trunking systems are widely used in commercial and residential buildings, hotels, factories, IT and data center buildings, shopping centers, etc.



ALFADUCT BUS TRUNKING SYSTEM

CABLING SYSTEM REQUIRES INDIVIDUAL CABLES TO BE RUN FOR EACH LOAD CENTER

WHY ALFADUCT IS PREFERRED OVER CONVENTIONAL BUS DUCTS?

Lower impedance and therefore low power loss

Compact size

Moisture ingress and corrosion inhibition

Superior jointing arrangements and no intrusion on conductor

Produced through a proven manufacturing process where all parameters are quality controlled

Certified from a reputed and independent third party

Aesthetically appealing

Higher KA rating for a given enclosure thickness

All through support – Design, installation, testing and commissioning and warranty and after sales



TYPICAL RISING MAIN INSTALLATION



spring constant spring diameter fault level Rea current ance density diameter er spring aluminium grade effect skin ے 2 H \bigcirc EP. S poisson ratio tensile strength torce (fault tempera ture rise at JOWEL IOSS Shear പ AC resistance at operating temp FID STRENGTH MA C G F



Proper design of a bus trunking system necessitates a thorough understanding and application of metallurgy & strength of materials, set of physical phenomena associated with the presence and flow of electricity, mechanical forces acting on the system, thermal calculations and general working conditions where this system is applied.

Compliance to International codes which defines the generic and particular test conditions, compliance to local regulation, site conditions study and customization and a quality installation play vital roles in ensuring that the bus trunking system functions as per the design intent. ALFADUCT products have been developed from very strong engineering fundamentals factoring all the perceivable electrical and mechanical calculations to ensure that nothing is left unaddressed. Applying stringent parameters to raw materials used during manufacturing ensures that the finished product performs satisfactorily over its years of service life.

The validation of the design is done through an independent third party laboratory and ALFADUCT product(s) has passed stringent type test as per IEC 61439.



MATERIAL & CONSTRUCTION



ALL RIVETED CONSTRUCTION (steel alloy, self piercing type) ensures very high shear strength capable of withstanding very high electro dynamic forces. Prevents rusting and reduces moisture ingress.





TAP-OFF BOX loaded on to the main bus duct frame eliminates load on the contact terminals

ALUMINUM-FINNED SIDE PLATES increase heat transfer area by 30%



CLASS F PET INSULATION, Break Down Voltage (BDV) of 40 KV with superior Di electric strength, higher heat dissipation ability, resistance to chemicals and alkali, high glass transition temperature and therefore high service temperature, heat aging and service life, much less hygroscopic, high tensile strength in comparison to either Epoxy insulation or a normal PE type insulation. Material of Insulation complying to UL Flame rating UL94 & is Halogen free



TEMPERATURE RISE indicators on all joint packs for easy monitoring



MECHANICAL AND ELECTRICAL interlock protection-earth bar making and breaking contact first

SANDWICH BUS TRUNKING SYSTEM

Ratings and Specifications

Feeder bus duct

Distribution bus duct

Edgewise elbow

Flatwise elbow

Edgewise offset elbow

Flatwise offset elbow

Combination elbows

Flatwise tee

Phase cross over unit

Expansion uni

Reducer unit

End feed unit

Center feed unit

Panel flange

Panel flange with edgewise elbow

Panel flange with flatwise elbow

Adapter box

Rubber bellow

End cap

Flexible conne

Vertical spring hanger

Vertical rigid hanger

Joint pack

Tap off units





CURRENT RATING RATING 630A 800A 1000A 1250A 1600A 2000A 2500A 3200A 4000A 5000A ADSC160 ADSC500 Product Code ADSC063 ADSC080 ADSC100 ADSC125 ADSC200 ADSC250 ADSC320 ADSC400 Rated Insulation Voltage (Ui) 1000 V, AC Rated Operational Voltage (Ue) Upto 1000 V, AC Rated Dielectric Voltage 3.5 KV rms for 60 Secs. Rated Impulse Withstand Voltage 12 KV, AC Rated Frequency 50/60 Hz Housing Material 1.6 / 2.0 mm GI Housing with Epoxy polyester powder coated (RAL 7032) RATED SHORT TIME WITHSTAND CURRENT 65 100 120 150 1 Second (KA) 40 50 80 90 100 120 265 330 Peak Value (KA) 85 110 140 175 190 220 220 265 **CONDUCTOR DIMENSION & CONFIGURATION** CONDUCTOR C.S.A (mm²) COPPER (PHASE) 50 x 6 70 x 6 90 x 6 125 x 6 150 x 6 200 x 6 200x6(2) Bus bar Dimension mm) 40 x 6 125x6(2) 150x6(2) 300 Cross Sectional Area (Sg mm) 240 420 540 750 900 1200 1500 2400 1800 480 Height (mm) 77 87 107 127 162 187 237 330 380 No. of stack Single Double IP 54 / IP 55 / IP 65* IP Rating APPROXIMATE WEIGHT OF BUS TRUNKING (Kg / Mtr) 3 Phase + Integral Earth 11 13 16 18 23 27 3/ 46 54 68 3 Phase + 50% Internal Earth 12 1/ 17 21 27 32 40 5/ 63 80 3 Phase + 100% Neutral + Integral Earth 13 15 18 22 28 33 42 56 66 84 3 Phase + 100% Neutral + 50% Internal Earth 14 16 21 25 32 37 48 63 74 95 3 Phase + 200% Neutral + Integral Earth 15 17 22 26 34 40 51 67 79 101 3 Phase + 200% Neutral + 50% Integral Earth 16 19 24 28 37 44 56 74 86 111 3 Phase + 100% neutral + 100% Isolated Earth 15 17 22 26 34 40 51 67 79 101 **ELECTRICAL PARAMETERS @50 HZ** RESISTANCE (mQ/Mtr) AC Resistance @ 20 C (R) 0.0703 0.0604 0.0406 0.0317 0.0231 0.0193 0.0148 0.0116 0.0097 0.0074 AC Resistance @ operating conditions (95 Deg C) 0.0911 0.0782 0.0525 0.0410 0.0299 0.0250 0.0192 0.0149 0.0125 0.0096 REACTANCE (mQ/Mtr) Reactance (X) 0.0310 0.0260 0.0200 0.0180 0.0130 0.0100 0.0085 0.0065 0.0050 0.0043 IMPEDANCE (mQ/Mtr) Impedance (Z) 0.0962 0.0824 0.0562 0.0448 0.0326 0.0269 0.0209 0.0163 0.0135 0.0105 COMPOSITE VOLTAGE DROP PER METER AT FULL LOAD (mV/Mtr/A 40 Deg Amb) Voltage drop @ 0.7 PF 0.1487 0.1269 0.0884 0.0523 0.0427 0.0338 0.0262 0.0169 0.0720 0.0214 Voltage drop @ 0.8 PF 0.1584 0.1353 0.0935 0.0755 0.0549 0.0451 0.0354 0.0275 0.0225 0.0177 Voltage drop @ 0.9 PF 0.1653 0.1415 0.0970 0.0775 0.0564 0.0466 0.0363 0.0282 0.0233 0.0182 Voltage drop @ 1.0 PF 0.1577 0.1354 0.0910 0.0710 0.0518 0.0433 0.0332 0.0259 0.0217 0.0166 **ELECTRICAL PARAMETERS @60 HZ** RESISTANCE (mQ/Mtr) AC Resistance @ 20 C (R) 0.0606 0.0407 0.0705 0.0319 0.0233 0.0195 0.0150 0.0116 0.0098 0.0075 0.0784 0.0527 0.0413 0.0301 0.0253 0.0194 0.0151 0.0097 AC Resistance @ operating conditions (95 Deg C) 0.0912 0.0126 **REACTANCE** (m Ω /Mtr) Reactance (X) 0.0310 0.0260 0.0200 0.0180 0.0130 0.0100 0.0085 0.0065 0.0050 0.0030 IMPEDANCE (mQ/Mtr) Impedance (Z) 0.0964 0.0826 0.0563 0.0451 0.0328 0.0272 0.0212 0.0164 0.0136 0.0106 COMPOSITE VOLTAGE DROP PER METER AT FULL LOAD (mV/Mtr/45 Deg Amb)

0.1489 0.0886 0.0724 0.0526 0.0430 0.0341 0.0263 0.0215 0.0170 Voltage drop @ 0.7 PF 0.1272 Voltage drop @ 0.8 PF 0.1586 0.1357 0.0553 0.0358 0.0179 0.0938 0.0759 0.0454 0.0276 0.0227 Voltage drop @ 0.9 PF 0.1656 0.1419 0.0568 0.0367 0.0284 0.0235 0.0184 0.0972 0.0780 0.0470 Voltage drop @ 1.0 PF 0.1580 0.1358 0.0912 0.0716 0.0522 0.0438 0.0337 0.0261 0.0219 0.0168

> * Due to complexity of site installation, which is beyond the control of manufacturing plant, manufacturer recommend canopy on IP 54/55 to achieve IP65 for outdoor.

Voltage drop of a husbar system can be calculated	with the			1	oad Distrib	oution fact	or	k	Load Distrib	ution factor	k
following formula taking into accont the " k * loa	d distribution of	constant.				L	8	100	5	+	5 0.35
	ΔV =	Voltage Drop (V)	a Constant		-	-	ħ.		()	-	- Q
$\Delta V = k \sqrt{2} \left(P \cos \alpha + V \sin \alpha \right) 11$	1 1 3	Line length (m)	CONSTRUCTS	1	1 2	8 8	8	0.50	8 8	t 8	0.125
		Resistance (mQ/	m)	-					8 8	8 8	7
	Cosa=1	Load Factor	one forestud.		Load	= 11, 12, 13, 1	4,	1	<u>, 1 5</u>	2 2	L 0.25
TECHNICAL DATA TABLE - SANDWICH ALUM	IINIUM										
CURRENT RATING											
RATING	400A	630A	800A	1000A	1250A	1600A	2000A	2500A	3200A	4000A	5000A
Product Code	ADSA040	ADSA063	ADSA080	ADSA100	ADSA125	ADSA160	ADSA200	ADSA250	ADSA320	ADSA400	ADSA500
Rated Insulation Voltage (Ui)						1000 V. AC					
Rated Operational Voltage (Ue)						Upto 1000V,	AC				
Rated Dielectric Voltage					3.5	5 KV rms for 60) secs.				
Rated Impulse Withstand Voltage						12 KV, AC					
Rated Frequency						50/60 Hz					
				1.6 / 2.0 mr	n GI Housing w	ith Epoxy polye	ster powder o	coated (RAL 70	032)		
RATED SHORT TIME WITHSTAND CURRENT											
1 Second (KA)	25	40	50	65	65	65	100	100	120	150	170
Peak Value (KA)	55	85	105	140	140	140	220	220	260	320	370
CONDUCTOR DIMENSION & CONFIGURA	TION										
CONDUCTOR C.S.A (mm ²) ALUMINIUM (PEF	R PHASE)										
Bus bar Dimension (mm)	40 x 6	60 x 6	80 x 6	100 x 6	125 x 6	175x6	200 x 6	150 x 6(2)	175 x 6(2)	200 x 6(2)	175 x 6(3)
Cross Sectional Area (Sq mm)	240	360	480	600	750	1050	1200	1800	2100	2400	3150
Height (mm)	77	97	117	137	162	212	237	380	430	480	648
No. of stack	Single							Double			Triple
IP Rating					IP	54 / IP 55 / IP	P 65*				
APPROXIMATE WEIGHT OF BUS TRUNKING	(Kg / Mtr)										
3 Phase + Integral Earth	8	9	11	12	13	17	18	30	33	36	49
3 Phase + 50% Internal Earth	9	11	12	13	15	19	21	34	38	41	56
3 Phase + 100% Neutral + Integral Earth	9	11	12	13	15	19	21	34	38	42	57
3 Phase + 100% Neutral + 50% Internal Earth	9	11	13	15	17	21	23	37	42	46	63
3 Phase + 200% Neutral + Integral Earth	9	11	13	15	17	22	24	38	43	47	64
3 Phase + 200% Neutral + 50% Internal Earth	10	12	14	16	19	24	26	42	47	52	70
3 Phase + 100% neutral + 100% Isolated Earth	9	11	13	15	17	22	24	38	43	47	64
ELECTRICAL PARAMETERS @50 HZ											
RESISTANCE (m\Q/Mtr)											
AC Resistance @ 20 C (R)	0.1308	0.0875	0.0657	0.0528	0.0424	0.0305	0.0268	0.0177	0.0153	0.0134	0.0102
AC Resistance @operating conditions (95 deg C)	0.1665	0.1114	0.0837	0.0672	0.0539	0.0388	0.0341	0.0225	0.0194	0.0170	0.0129
REACTANCE (mΩ/Mtr)											
Reactance (X)	0.0310	0.0210	0.0195	0.0160	0.0130	0.0090	0.0085	0.0100	0.0045	0.0043	0.0030
IMPEDANCE (ms2/Mtr)					0.0555						
	0.1694	0.1133	0.0859	0.0691	0.0555	0.0398	0.0351	0.0246	0.0199	0.0176	0.0133
Voltage drop @ 0.7 E	O 2402	0.1610	0 1 255	0.1012	0.0915	0.0592	0.0519	0.0207	0.0201	0.0250	0.0104
	0.2402	0.1010	0.1200	0.1013	0.0813	0.0002	0.0518	0.0397	0.0291	0.0259	0.0194
Voltage drop @ 0.8 HT	0.2629	0.1701	0.1362	0.1097	0.0882	0.0631	0.0500	0.0416	0.0310	0.0280	0.0210
Voltage drop @ 1.0 PF	0.2629	0.1095	0.1431	0.1100	0.0939	0.0673	0.0595	0.0420	0.0330	0.0296	0.0224
	0.2004	0.1921	0.1449	0.1104	0.0934	0.0072	0.0590	0.0390	0.0335	0.0295	0.0225
	0.1210	0.0976	0.0650	0.0520	0.0425	0.0207	0.0270	0.0179	0.0154	0.0125	0.0102
AC Resistance @ onerating conditions (95 Deg C)	0.1310	0.0870	0.0009	0.0530	0.0423	0.0301	0.0270	0.0226	0.0196	0.0133	0.0102
REACTANCE (mQ/Mtr)	0.1000	0.1110	0.0000	0.0014	0.0041	0.0331	0.0340	0.0220	0.0130	0.0112	0.0100
Reactance (X)	0.0310	0.0210	0.0195	0.0160	0.0130	0.0090	0.0085	0.0100	0.0045	0.0043	0.0030
IMPEDANCE (mQ/Mtr)	0.0010	0.0210	0.0100	0.0100	0.0100	0.0000	0.0000	5.0100	0.0040		
Impedance (Z)	0,1695	0.11.34	0,0861	0.0693	0.0556	0.0401	0.0353	0.0247	0.0201	0.0177	0.0134
COMPOSITE VOLTAGE DROP PER METER AT	FULL LOAD	(mV/Mtr/A 45	5 Deg Amb)								
Voltage drop @ 0.7 FF	0.2404	0.1611	0.1258	0.1015	0.0816	0.0585	0.0521	0.0398	0.0293	0.0261	0.0195
Voltage drop @ 0.8 FF	0.2631	0.1763	0.1364	0.1100	0.0885	0.0635	0.0564	0.0417	0.0318	0.0282	0.0212
Voltage drop @ 0.9 PF	0.2832	0.1896	0.1454	0.1172	0.0941	0.0676	0.0599	0.0428	0.0339	0.0299	0.0226
Voltage drop @ 1.0 PF	0.2886	0.1931	0.1452	0.1167	0.0937	0.0677	0.0594	0.0392	0.0338	0.0297	0.0225

* Due to complexity of site installation, which is beyond the control of manufacturing plant, manufacturer recommend canopy on IP 54/55 to achieve IP65 for outdoor.

Feeder bus duct

Feeder bus duct is used to transfer electric current from one end to another. There are no power tapping points along its length.



BU	IS DUCT LE	NGTH (MM)
	MIN	MAX
L	500	3000
SS	Single Sta	ck
DS	Double Sta	ick
TS	Triple Stacl	k



BUSE	BUSDUCT HEIGHT (MM)											
	RATING (A)	400	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Hs	AI	77	97	117	137	162	212	237	-	-	-	-
	Cu	-	77	87	107	127	162	187	237	-	-	-
Hd	AI	-	-	-	-	-	-	-	380	430	480	-
	Cu	-	-	-	-	-	-	-	-	330	380	480
Ht	AI	-	-	-	-	-	-	-	-	-	-	648



Distribution bus duct

Feeder length with tap off provision(s) are called distribution busduct. Supplied with maximum 3 plug-in points (PIP's) in a standard 3m length on one side. Distribution busduct can be run vertically or horizontally, or a combination of both. Rating, location and number of plug-in points can be decided based on the site requirement

NOTE

Plug in point ratings range from 32A to 800A. On specific request & depending on ratings & site requirement we can provide 3PIP in a standard 3m length on either side with back to back arrangement starting from 630A in Aluminium & 800A in Copper.

					DISTRIBUTION	LENGTH (MM)
					MIN	MAX
				L	1200	3000
PLUG-	IN POINT					A.S.
	*	700	70	00	700	1
12 - 12 - 121 13 - 14 - 12			10 2 0 0 10 2 2 2 0 10 2 2 2			
	8-0 3				1.1.2.4	
				HIS		

-	a. 10			
3	-			3
3		the second se	and the second sec	 1
-				1.00



Edgewise elbow Used for 90° turn in the bus duct routing. Options of edgewise left elbow or edgewise right elbow are custom built depending on project requirement

STANDARD SIZE (MM)					
Α	350				
В	350				



MIN & MAX ARM DIMENSIONS (MM)							
CTAOV	1	4	I	В			
STACK	MIN	MAX	MIN	MAX			
SS	300	600	300	600			
DS	300	600	300	600			
TS	300	600	300	600			



NOTE

S.S. - SINGLE STACK D.S. - DOUBLE STACK T.S. - TRIPLE STACK



Flatwise elbow

Used for 90° turn in the bus duct routing. Options of flatwise up elbow or flatwise down elbow are custom built depending on project requirement.

STANDARD SIZE (MM)					
STACK	Α	В			
SS	350	350			
DS	500	500			
TS	600	600			

MIN & MAX ARM DIMENSIONS (MM)						
CTAOK	1	A	I	В		
STACK	MIN	MAX	MIN	MAX		
SS	300	600	300	600		
DS	500	600	500	600		
TS	600	600	600	600		



В





CUSTOM ANGLED EDGEWISE ELBOW

Custom angled elbow Special angle elbows can be manufactured in both

edgewise and flatwise types.

STANDARD	SIZE (MM)
Α	350
В	350
Ø	100 ~ 170

MIN & N	IAX ARM SIZ	ES (MM)
	MIN	ΜΑΧ
Α	300	600
В	300	600
Ø	100	170



CUSTOM ANGLED FLATWISE ELBOW

STANDARD SIZE (MM)								
	Α	В						
SS	350	350						
DS	500	500						
TS	600	600						
Ø	100 ~ 1	70						

MIN & MAX ARM DIMENSIONS (MM)										
STACK		A B								
	MIN	MAX	MIN	MAX						
SS	300	600	300	600						
DS	500	600	500	600						
TS	600	600	600	600						

Edgewise offset elbow Combination of two edgewise elbows into one single element.





MIN & MAX ARM DIMENSIONS (MM)											
STACK -		A	I	B		С					
STACK	MIN	MAX	MIN	MAX	MIN	MAX					
SS	300	600	300	600	300	600					
DS	500	600	500	600	300	600					
TS	600	600	600	600	300	600					



Flatwise offset elbow

Combination of two flatwise elbows into one single element.

STANDARD SIZE (MM)											
STACK	Α	В	С								
SS	350	350	350								
DS	600	500	600								
TS	600	650	600								

MIN & MAX ARM DIMENSIONS (MM)											
STACK		A B									
STACK	MIN	MAX	MIN	MAX	MIN	MAX					
SS	300	600	300	600	300	600					
DS	550	600	500	650	550	600					
TS	600	600	600	650	600	600					



Combination elbows

Combination elbows are formed by combining edgewise and flatwise elbows to form one element to suit routing requirements.

STA	NDARD SIZE (MM)	MIN & MAX ARM DIMENSIONS (MM)								
Α	350		Α			В	С			
В	350	STACK	MIN	MAX	MIN	MAX	MIN	MAX		
C	350	SS	300	600	350	600	300	600		
		DS	300	600	450	600	450	600		
		TS	300	600	600	600	600	600		



Flatwise tee Flatwise tee element is required when a branch has to be extended in a direction perpendicular to the existing feeder run.

STA	NDARD SIZE (MM)
Α	800
В	400

MAX & MIN ARM SIZES (MM)								
	MIN	MAX						
Α	800	1000						
В	400	500						



Phase cross over unit Phase cross over units are used to change the phase orientation as required.









Expansion unit

Expansion units are used at building expansion joints. Recommended at every 40m interval of a long single horizontal run bus duct.



Reducer unit

Reducer units are used whenever a reduction in Ampere rating of bus duct is required along the bus duct routing.



End feed unit

End feed units transfer power from cables at one end to bus ducts at the other end. End feed units come with options of direct type (w/o isolator) or with isolator / switchgear and custom built accessories



DIRECT TYPE (WITHOUT ISOLATOR)

WITH ISOLATOR TYPE

DIMENSIONS (MM)											
RATING		A	D	w	н						
AMP	MIN	MAX									
400	350	500	350	400	800						
630	350	500	400	400	800						
800	350	500	400	400	800						
1000	350	500	450	450	800						
1250	350	500	500	500	1000						
1600	350	500	500	500	1000						



WITH ISOLATOR TYPE

Center feed unit

Center feed units transfer power from cables at one end to bus ducts at both sides. Center feed unit comes with options of direct (w/o isolator) or with isolator / switchgear and custom built accessories



DIRECT TYPE (WITHOUT ISOLATOR)

DIMENSIONS (MM)											
RATING	I	A	D	w	н						
AMP	MIN	MAX									
400	350	600	350	350	850						
630	350	600	350	400	850						
800	350	600	350	400	850						
1000	350	600	400	400	1000						
1250	350	600	400	450	1000						
1600	350	600	500	500	1000						



PANEL CUT OUT LINE (BMATCH LINE REFER TO ADAPTOR BOK & RUBBER BELLOW) z 3P -F - 396 G - 173 G -233 G -293 4P -F - 516 F - 636 5P -



Switchgear panels & Transformers.









		ALUI	MINUM	CONDL	ICTOR				COPPE	R CON	DUCTO	R	
RATING AMP	FIG	A	В	С	D	E	FIG	A	В	С	D	E	
400	1	40	13.5	23	-	180	-	-	-	-	-	-	
630	1	60	13.5	23	-	200	1	40	13.5	23	-	180	
800	2	80	13.5	23	25	220	2	50	13.5	23	25	200	
1000	2	100	13.5	23	40	240	2	70	13.5	23	40	220	
1250	2	125	15	40	50	265	2	90	15	40	50	240	
1600	3	175	25	50	40	315	3	125	25	50	40	265	
2000	3	200	25	50	50	340	3	150	25	50	50	290	
2500	-	-	-	-	-	-	3	200	25	50	50	340	

*ALL DIMENSIONS IN MM







Panel flange double stack

	ALUMINUM CONDUCTOR								COPP	ER CO	NDUCT	OR		
RATING AMP	FIG	A	В	С	D	E		FIG	A	В	С	D	E	
2500	4	150	25	50	50	673		-	-	-	-	-	-	
3200	4	175	25	50	40	723		4	125	25	50	40	623	
4000	4	200	25	50	50	773		4	150	25	50	50	673	
5000	-	-	-	-	-	-		4	200	25	50	50	773	

*ALL DIMENSIONS IN MM





Panel flange triple stack

	ALUMINUM CONDUCTOR									COPP	ER CO	NDUCTO	DR	
RATING AMP	FIG	A	В	С	D	E		FIG	A	В	С	D	E	
5000	5	175	25	50	50	941		-	-	-	-	-	-	

*ALL DIMENSIONS IN MM

Panel flange with edgewise elbow





DIMENSIONS (MM)												
	STAN	DARD	MAX & MIN DIMENSIONS									
STACK		-		A	I	В						
	A	В	MIN	MAX	MIN	MAX						
SS	350	350	300	600	300	600						
DS	350	350	300	600	300	600						
TS	350	350	300	600	300	600						

Panel flange with flatwise elbow





DIMENSIONS (MM)												
	STAN	DARD	MAX & MIN DIMENSIONS									
STACK		В		A		В						
	A	D	MIN	MAX	MIN	MAX						
SS	350	350	300	600	300	600						
DS	500	500	500	600	500	600						
TS	600	600	600	600	600	600						

Panel flange with edge & flatwise elbow



STANDARD



DIMENSIONS (MM)

MAX & MIN DIMENSIONS

STACK	•	Р	0		A	I	В	(C
	A	В	U	MIN	MAX	MIN	MAX	MIN	MAX
SS	350	350	350	300	600	350	600	350	600
DS	350	500	500	300	600	450	600	450	600
TS	350	600	600	300	600	600	600	600	600

Panel flange with flat & flatwise elbow



DIMENSION	DIMENSIONS (MM)													
	S	TANDAR	D	MAX & MIN DIMENSIONS										
STACK	•	в	0		Α		В	С						
	A	В	U	MIN	MAX	MIN	MAX	MIN	MAX					
SS	350	350	350	300	600	300	600	300	600					
DS	500	500	350	500	600	450	600	300	600					
TS	600	600	350	600	600	600	600	300	600					



Adapter box

Housing with removable panel to access connections between panel flange terminals and switchgear / transformer terminals

STANDARD DIMENSIONS (MM)										
L	W		н							
		MIN	MAX							
Based	Based	300	400							
on BBT	on BBT									
Rating	Rating									
selected	selected									





Rubber bellow

Required to be fixed between DG adapter box and end flange to avoid impact of vibration from gensets.





STANDARD DIMENSIONS (MM)										
L	W		С							
		MIN	MAX							
Based	Based	100	150							
on BBT	on BBT									
Rating	Rating									
selected	selected									

End cap

Used to close the end of a bus duct route.



Flexible connector

Used to connect panel flange terminals to transformers, generators, switchgear terminals. Flexibles are available in both copper & aluminium





Vertical spring hanger

One set of spring hanger must be fixed at every floor slab crossing on a rising main

Vertical rigid hanger

One set of rigid hanger must be fixed at center of every 3m vertical riser or one per floor.



Joint pack

- Mono block design to facilitate assembly of joints in a single block without disturbing the adjacent sections
- Shear of nuts with belleville washers for proper torque and force distribution on the joints.
- A red indicator on shear off nut breaks off after acheiving the desired torque. A foolproof indication to ensure that joints are tightned to desired torque.
- Temperature rise indication stickers for easy identification of hot spots.
- Imported contact grease for improved contact surface area.
- Aluminum serrated profile for improved heat dissipation.



W

TYPE 1

Tap off units

- Efficiently taps power from main bus trunking system
- Enclosure fabricated with 2.0 mm galvanized steel and powder coated.
- Spring loaded silver plated plug-in contacts
- Mechanical & electrical interlocking mechanism to prevent accidental opening of the door and prevent plug- out or plug-in to the bus trunking when the device is in 'ON' position.
- The live parts inside the tap off box are guarded by transparent visible panel which prevents accidental physical touch.

TYPE 2,3,4

D

TYPE 5



.S.NO	PARAMETER FOR 4 BAR	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5
1	MCB / Fuse / Socket provision	16A - 63A	NA	NA	NA	NA
2	MCCB + rotary handle provision	NA	32A - 125A	160A - 200A	250A - 400A	630A
3	Box dimension (W x H x D) mm	200 X 300 125	250 X 500 220	250 X 550 250	300 X 600 250	270 400 X 900
4	Recommended CU cable size for max current 3 phase	25sq.mm	70sq.mm	120sq.mm	2RX150 sq.mm	2Rx300 sq.mm

NOTE: ABOVE BOX DIMENSIONS ARE FOR TERMINATION OF COPPER CABLE AS PER SIZES MENTIONED IN THE ABOVE TABLE. CUSTOM BUILT ADAPTOR BOXES OF DIFFERENT SIZES CAN BE PROVIDED ON REQUEST

COMPACT AIR INSULATED BUS TRUNKING SYSTEMS

Ratings and Specifications

Distribution bus duct Edgewise Elbow Flatwise Elbow Edgewise Offset Elbow Flatwise Offset Elbow Combination Elbow Flatwise Tee Phase cross over unit Expansion unit Reducer unit End feed unit

Center feed unit

Feeder bus duct

Panel flange

Panel flange with edgewise elbow

Panel flange with flatwise elbow Adaptor box Rubber below End cap Flexible connector Vertical spring hanger Vertical rigid hanger Horizontal bracket (support) Joint pack Tap off unit









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3 PHASE + 100% NEUTRAL+ 100%/SOLATED(E)

TECHNICAL DATA TABLE - AIR INSULATED COPPER	2								
CURRENT RATING									
RATING	315A	400A	500A	630A	800A	1000A	1250	1600A	2000A
Product Code	ADAC031	ADAC040	ADAC050	ADAC063	ADAC080	ADAC100	ADAC125	ADAC160	ADAC200
Rated Insulation Voltage (Ui)				1000	V, AC				
Rated Operational Voltage (Ue)				Upto 10	00 V, AC				
Rated Dielectric Voltage				3.5 KV rms	for 60 Secs.				
Rated Impulse Withstand Voltage				12 K	V, AC				
Rated Frequency				50/6	60 Hz				
Housing Material		1.6 / 2	.0 mm GI Hous	ing with Epoxy	polvester powo	der coated (RA	L 7032)		
RATED SHORT TIME WITHSTAND CURRENT							,		
1 Second (KA)	20	30	35	50	50	50	58	65	65
Peak Value (KA)	.38	58	70	105	105	105	120	130	1.30
CONDUCTOR DIMENSION & CONFIGURATION	00	00	10	100	100	100	120	100	100
CONDUCTOR C S A (mm ²) COPPER (PHASE)									
Bus bar Dimension (mm)	20 x 6	30 x 6	40 x 6	50 x 6	70 x 6	80 x 6	50 x 6 (2)	70 x 6 (2)	80 x 6 (2)
Cross Sectional Area (sq mm)	120	180	240	300	420	480	600	840	960
Height (mm)	55		75	85	105	115	176	216	236
No. of stack	Single		10	00	100	110		210	230
	Jingle				5 / ID 65*		Double		
	M+++)			IF 54 / IP 5	55 / IF 05*				
2 Dhase L Integral Forth	o (11)		10	11	10	15	10	24	20
3 Phase + Integral Earth	8	9	10	12	14	10	18	24	30
3 Phase + 50% Internal Earth	9	10		13	14	18	21	28	35
3 Phase + 100% Neutral + Integral Earth	9	10		13	14	18		28	35
3 Phase + 100% Neutral + 50% Internal Earth	10		12	14	16	20	24	32	40
3 Phase + 200% Neutral + Integral Earth	10		12	15	1/	21	25	33	42
3 Phase + 200% Neutral + 50% Integral Earth	11	12	13	16	18	23	28	36	46
3 Phase + 100% neutral + 100% Isolated Earth	10	11	12	15	17	21	25	33	42
ELECTRICAL PARAMETERS @50 HZ									
RESISTANCE (m\Omega/Mtr)									
AC Resistance @ 20 C (R)	0.1401	0.0937	0.0703	0.0604	0.0406	0.0356	0.0302	0.0203	0.0178
AC Resistance @ operating conditions (95 Deg C)	0.1814	0.1213	0.0911	0.0782	0.0525	0.0461	0.0391	0.0263	0.0230
REACTANCE (mΩ/Mtr)									
Reactance (X)	0.0650	0.0575	0.0460	0.0350	0.0260	0.0240	0.0175	0.0130	0.0120
IMPEDANCE (mΩ/Mtr)									
Impedance (Z)	0.1927	0.1342	0.1020	0.0857	0.0586	0.0520	0.0428	0.0293	0.0260
COMPOSITE VOLTAGE DROP PER METER AT FULL	LOAD (mV/M	tr/A 40 Deg A	mb)						
Voltage drop @ 0.7 PF	0.3003	0.2182	0.1673	0.1381	0.0958	0.0856	0.0690	0.0479	0.0428
Voltage drop @ 0.8 PF	0.3189	0.2278	0.1740	0.1447	0.0998	0.0888	0.0723	0.0499	0.0444
Voltage drop @ 0.9 PF	0.3318	0.2325	0.1767	0.1483	0.1015	0.0900	0.0741	0.0507	0.0450
Voltage drop @ 1.0 PF	0.3141	0.2100	0.1577	0.1354	0.0910	0.0798	0.0677	0.0455	0.0399
ELECTRICAL PARAMETERS @60 HZ									
RESISTANCE (mΩ/Mtr)									
AC Resistance @ 20 C (R)	0.1402	0.0938	0.0705	0.0606	0.0407	0.0357	0.0303	0.0203	0.0179
AC Resistance @ operating conditions (95 Deg C)	0.1816	0.1214	0.0912	0.0784	0.0527	0.0463	0.0392	0.0263	0.0231
REACTANCE (mΩ/Mtr)									
Reactance (X)	0.0650	0.0575	0.0460	0.0350	0.0260	0.0240	0.0175	0.0130	0.0120
IMPEDANCE (mΩ/Mtr)									
Impedance (Z)	0.1928	0.1343	0.1022	0.0859	0.0587	0.0521	0.0429	0.0294	0.0261
COMPOSITE VOLTAGE DROP PER METER AT FULL	LOAD (mV/M	tr/40 Deg Am	b)						
Voltage drop @ 0.7 PF	0.3005	0.2183	0.1675	0.1384	0.0960	0.0858	0.0692	0.0480	0.0429
Voltage drop @ 0.8 PF	0.3191	0.2280	0.1742	0.1450	0.1000	0.0890	0.0725	0.0500	0.0445
Voltage drop @ 0.9 PF	0.3321	0.2326	0.1769	0.1486	0.1017	0.0902	0.0743	0.0509	0.0451
Voltage drop @ 1.0 PF	0.3144	0.2103	0.1580	0.1358	0.0912	0.0801	0.0679	0.0456	0.0401

* Due to complexity of site installation, which is beyond the control of manufacturing plant, manufacturer recommend canopy on IP 54/55 to achieve IP65 for outdoor.

Voltage drop of a busbar system can be calculated with	edrop of a busbar system can be calculated with the ne formula taking into accont the " k " load distribution constant.				n ractor					
tonowing formula taking into accont the " k " load dist	ΔV = Voltage Drop (V k = Load Distributi	() on Constant	t	г 8-8	8	1.00	8 8 8	t t	· 0.25	
$\Delta V = k \sqrt{3} (R \cos \phi + X \sin \phi) I L$	I = Line Current (A) R = Resistance (mQ) X = Inductive React	/m) ance (mΩ/m)	•	Supply = F	5 5	0.50		• • • • •	1 0.25	
	Cosa= Load Factor			Load = L1,	. 12, 13, 14,		• a	3 0 0	•	
TECHNICAL DATA TABLE - AIR INSULATED	ALUMINIUM									
CURRENT RATING										
RATING	200A	250A	315A	400A	500A	630A	800A	1000A	1250A	
Product Code	ADAA020	ADAA025	ADAA031	ADAA040	ADAA050	ADAA063	ADAA080	ADAA100	ADAA125	
Rated Insulation Voltage (Ui)				1000) V, AC					
Rated Operational Voltage (Ue)				Upto 10	000V, AC					
Rated Dielectric Voltage				3.5 KV rms	for 60 secs.					
Rated Impulse Withstand Voltage				12 4	(V, AC					
Rated Frequency				50/6	50 Hz					
Housing Material		1.6 / 2	2.0 mm GI Hous	sing with Epoxy	polyester pow	der coated (R	AL 7032)		-	
RATED SHORT TIME WITHSTAND CURRENT	r									
1 Second (KA)	10	15	25	30	35	50	50	50	50	
Peak Value (KA)	18	30	50	62	75	100	100	100	100	
CONDUCTOR DIMENSION & CONFIGURA	ATION									
CONDUCTOR C.S.A (mm ²) ALUMINIUM (PE	R PHASE)									
Bus bar Dimension (mm)	20 x 6	30 x 6	40 x 6	50 x 6	70 x 6	80 x 6	50 x 6 (2)	70 x 6 (2)	80 x 6 (2)	
Cross Sectional Area (sq mm)	120	180	240	300	420	480	600	840	960	
Height	55	65	75	85	105	115	176	216	236	
No. of stack	Single						Double			
IP Rating				IP 54 / IP	55 / IP 65*					
APPROXIMATE WEIGHT OF BUS TRUNKING	i (Kg / Mtr)									
3 Phase + Integral Earth	7	7	7	8	9	9	10	16	18	
3 Phase + 50% Internal Earth	8	8	8	9	10	10	11	19	21	
3 Phase + 100% Neutral + Integral Earth	8	8	8	9	10	10	11	19	21	
3 Phase + 100% Neutral + 50% Internal Ear	th 8	8	8	9	10	11	13	20	22	
3 Phase + 200% Neutral + Integral Earth	8	8	8	9	10	11	13	20	22	
3 Phase + 200% Neutral + 50% Internal Ear	th 8	9	9	10	11	12	14	21	23	
3 Phase + 100% neutral + 100% Isolated Ea	arth 8	8	8	9	10	11	13	20	22	
ELECTRICAL PARAMETERS @50 HZ										
RESISTANCE (mΩ/Mtr)										
AC Resistance @ 20 C (R)	0.2613	0.1744	0.1309	0.1048	0.0750	0.0658	0.0524	0.0375	0.0329	
AC Resistance @ operating conditions (95 Deg	C) 0.3342	0.2218	0.1665	0.1333	0.0955	0.0837	0.0667	0.0477	0.0418	
REACTANCE (mΩ/Mtr)										
Reactance (X)	0.0650	0.0575	0.0460	0.0350	0.0260	0.0240	0.0175	0.0130	0.0120	
IMPEDANCE (m Ω /Mtr)										
Impedance (Z)	0.3387	0.2292	0.1727	0.1379	0.0990	0.0870	0.0689	0.0495	0.0435	
COMPOSITE VOLTAGE DROP PER METER A	T FULL LOAD (mV/	Mtr/A 40 Deg	Amb)							
Voltage drop @ 0.7 PF	0.4834	0.3401	0.2587	0.2050	0.1479	0.1311	0.1025	0.0740	0.0656	
Voltage drop @ 0.8 PF	0.5282	0.3671	0.2785	0.2211	0.1593	0.1409	0.1106	0.0797	0.0704	
Voltage drop @ 0.9 PF	0.5673	0.3892	0.2942	0.2343	0.1685	0.1485	0.1171	0.0842	0.0743	
Voltage drop @ 1.0 PF	0.5758	0.3842	0.2884	0.2310	0.1654	0.1449	0.1155	0.0827	0.0724	
ELECTRICAL PARAMETERS @60 HZ										
RESISTANCE (mΩ/Mtr)										
AC Resistance @ 20° C (R)	0.2614	0.1745	0.1310	0.1050	0.0752	0.0659	0.0525	0.0376	0.0329	
AC Resistance @ operating conditions (95 Deg 0	C) 0.3326	0.2221	0.1667	0.1336	0.0957	0.0838	0.0688	0.0478	0.0419	
REACTANCE (mΩ/Mtr)										
Reactance (X)	0.0650	0.0575	0.0460	0.0350	0.0260	0.0240	0.0175	0.0130	0.0120	
IMPEDANCE (mΩ/Mtr)										
Impedance (Z)	0.3389	0.2294	0.1729	0.1381	0.0991	0,0872	0,0691	0.0496	0.0436	
COMPOSITE VOLTAGE DROP PER METER A	T FULL LOAD (mV/	Mtr/A 40 Deg	Amb)							
Voltage drop @ 0.7 PF	0 4836	0.3404	0.2589	0.2053	0.1481	0.1313	0,1026	0.0741	0.0657	
Voltage drop @ 0.8 PF	0.5284	0.3675	0 2787	0.2000	0 1596	0 1411	0 1108	0.0798	0.0705	
	0.5204	0.2806	0.2045	0.0247	0.1699	0.1.400	0.1174	0.0944	0.0744	

Load Distribution factor k Load Distribution factor k

* Due to complexity of site installation, which is beyond the control of manufacturing plant, manufacturer recommend canopy on IP 54/55 to achieve IP65 for outdoor.

0.2314

0.1657

0.1452

0.1157

0.0828

0.0726

0.2886

0.5761

0.3846

Voltage drop @ 1.0 PF

Feeder bus duct



Feeder length can be manufactured up to maximum length of 3000 mm and minimum length of 500 mm.



BUSDUCT LENGTH (MM)									
	MIN MAX								
L	500	3000							

BUSDUC	BUSDUCT HEIGHT (MM)											
	RATING (A)	200	315	400	500	630	800	1000	1250	1600	2000	
Single	AI	65	75	85	95	105	125	-	-	-	-	
Stack	Cu	-	65	-	75	85	95	115	135	-	-	
Double	AI	-	-	-	-	-	-	196	236	-	-	
Stack	Cu	-	-	-	-	-	-	-	-	196	236	



Joint pack

- Mono block design to facilitate assembly of joints without disturbing the adjacent sections
- Shear of nuts with belleville washers for proper torque and force distribution on the joints
- Temperature rise indication stickers for easy identification of hot spots
- · Imported contact grease for improved contact surface area
- Aluminium serrated profile for improved heat dissipation



Horizontal bracket

Used for supporting horizontal run of bus duct



Distribution bus duct

Feeder lengths with tap off slots are called distribution bus ducts. Supplied with maximum 5 plug-in points (PIP's) in a standard 3m Length on either side with Zig Zag arrangement. Distribution bus ducts can be run vertically or horizontally, or a combination of both. Rating, location and number of plug-in points can be decided based on the site requirement.

NOTE

Plug in point rating ranges from 32A to 800A.

PLUG	IN FEEDER L	ENGTH (MM)
	MIN	MAX
L	1200	3000





Edgewise elbow

Edgewise Left elbow or edgewise right elbow is used for a 90° turn in the Busduct route where busbar runs on its edge.

STANDARD	SIZE (MM)
Α	350
В	350

MIN & MAX ARM DIMENSIONS (MM) A В STACK MIN MAX MIN MAX 600 SS 300 300 600 DS 300 600 300 600



Flatwise elbow

Flatwise left elbow or flatwise right elbow is used for a 90° turn in the Busduct route where busbar runs on its flat side.

STANDARD SIZE (MM)					
STACK A B					
SS	350	350			
DS	500	500			

MIN & MAX ARM DIMENSIONS (MM)					
CTAOK		4	I	В	
STACK -	MIN	MAX	MIN	MAX	
SS	300	600	300	600	
DS	350	600	350	600	



NOTE

S.S. - SINGLE STACK D.S. - DOUBLE STACK T.S. - TRIPLE STACK

Edgewise offset elbow

Edgewise offset elbow is combination of two edgewise elbows into one single element.

STANDARD SIZE (MM)				
Α	350			
В	500			
C	600			

MIN & MAX DIMENSIONS (MM)							
STACK		4	B C				
STACK	MIN	MAX	MIN	MAX	MIN	MAX	
SS	300	600	300	600	300	600	
DS	300	600	300	600	300	600	
TS	300	600	300	600	300	600	



Flatwise offset elbow

Flatwise offset elbow is a combination of two flatwise elbows into one single element.

STANDARD SIZE (MM)					
STACK	Α	В	С		
SS	350	350	350		
DS	400	350	400		

MIN & MAX ARM DIMENSIONS (MM)						
STAOK	1	A	I	В	С	
STACK	MIN MAX	MAX	MIN	MAX	MIN	MAX
SS	300	600	300	600	300	600
DS	400	600	350	650	400	600

Combination elbows

Combination elbows are formed by combining edgewise and flatwise elbows in different combinations to form one element to suit routing requirements.





Flatwise tee

Flatwise tee element is required when a branch has to be extended in a direction perpendicular to the existing feeder run.

STANDA	RD SIZ	E (MM)	
Α	80	0	
В	40	0	
MIN & N	AX DIN	IENSION	IS (MM)
STACK	MIN	MAX	
SS	800	1000)
DS	400	500	



LIGHTING TRUNKING SYSTEMS

Ratings and Specifications

Plug in feeder unit End feed unit & end cap Flexible elbow Flexible bracket Tap off unit





TECHNICAL DATA TABLE - COPPER								
CURRENT RATING								
Parameter/Model	ADLT2511	ADLT4011	ADLT2531	ADLT4031	ADLT2512	ADLT4012	ADLT2532	ADLT4032
Rated current (35 Deg C) A	25	40	25	40	25	40	25	40
Rated peak withstand current KA	4.4	4.4	9.6	9.6	4.4	4.4	9.6	9.6
Rated Insulation Voltage V	690	690	690	690	690	690	690	690
Rated Operational Voltage V	220	220	415	415	220	220	415	415
Rated Impulse Voltage kV	4	4	4	4	4	4	4	4
Frequency Hz	50	50	50	50	50	50	50	50
Conductor Material	Copper							
Phase/Neutral/ Earth configuration								
Protection	IP 55							
Design standard		IEC 6	0439-2			IEC 6	0439-2	
Conductor resistance @ 20 Deg C	6.8	6.8	2.83	2.83	6.8	6.8	2.83	2.83
Conductor resistance @ 35 Deg C	8.3	8.3	3.46	3.46	8.3	8.3	3.46	3.46
Reactance @ 35 Deg C and 50 Hz	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Impedence @ 35 Deg C and 50 Hz	8.33	8.33	3.46	3.46	8.33	8.33	3.46	3.46
Body earthing (PE) resistance @ 20 Deg C	1.57	1.57	1.57	1.57	0.8	0.8	0.8	0.8
Fault conditions data								
Avg resistance @ 20 Deg C Ph/N (Symmetric loop) $\mu\text{-}\Omega/m$	27.21	27.21	19.4	19.4	27.21	27.21	17.28	17.28
Avg reactance @ 20 Deg C Ph/N (Symmetric loop) $\mu\text{-}\Omega/m$	0.85	0.85	0.38	0.38	0.85	0.85	5.25	5.25
Avg Impedence @ 20 Deg C Ph/N (Symmetric loop) $\mu\text{-}\Omega/m$	27.22	27.22	19.41	19.41	27.22	27.22	18.06	18.06
Avg resistance @ 20 Deg C Ph/PE (Symmetric loop) $\mu\text{-}\Omega/m$	19.4	19.4	13.83	13.83	17.28	17.28	13.83	13.83
Avg reactance @ 20 Deg C Ph/PE (Symmetric loop) $\mu\text{-}\Omega/m$	0.38	0.38	0.73	0.73	5.25	5.25	0.73	0.73
Avg Impedance @ 20 Deg C Ph/PE (Symmetric loop) $\mu\text{-}\Omega/m$	19.41	19.41	13.85	13.85	18.06	18.06	13.85	13.85
Avg resistance @ 20 Deg C Ph/Ph (Reactance mtd) $\mu\text{-}\Omega/m$	13.61	13.61	5.68	5.68	13.61	13.61	5.58	5.58
Avg resistance @ 20 Deg C Ph/N (Reactance mtd) $\mu\text{-}\Omega/m$	13.61	13.61	5.68	5.68	13.61	13.61	5.68	5.68
Avg resistance @ 20 Deg C Ph/PE (Reactance mtd) $\mu\text{-}\Omega/m$	11.01	11.01	7.66	7.66	10.26	10.26	6.92	6.92
Avg resistance @ Rated current Ph/Ph and 35 Deg C. $\mu\text{-}\Omega/m$	16.6	16.6	6.91	6.91	16.59	16.59	6.92	6.92
Avg resistance @ Rated current Ph/N and 35 Deg $\text{C.}\mu\text{-}\Omega/\text{m}$	16.6	16.6	6.91	6.91	16.59	16.59	6.92	6.92
Avg resistance @ Rated current Ph/PE and 35 Deg C. $\mu\text{-}\Omega/m$	12.5	12.5	8.7	8.7	11.77	11.77	6.92 ??	6.92 ??
Avg Reactance $\ @$ Rated current Ph/Ph and 35 Deg C. $\mu \cdot \Omega/m$	0.04	0.04	0.9	0.9	0.35	0.35	0.9	0.9
Avg Reactance @ Rated current Ph/Ph and 35 Deg C. $\mu\text{-}\Omega/m$	0.04	0.04	0.9	0.9	0.35	0.35	0.9	0.9
Avg Reactance $\ @$ Rated current Ph/Ph and 35 Deg C. $\mu\text{-}\Omega/m$	0.035	0.035	0.035	0.035	0.07	0.07	1.85	1.85

voltage drop, 50 Hz @ uniform load V / 100 m/A				
@ PF 1	0.72	0.3	0.72	0.3
@ PF 0.9	0.67	0.28	0.67	0.28
@ PF 0.8	0.61	0.25	0.61	0.25
@ PF 0.7	0.54	0.22	0.55	0.22

Plug in feeder unit

Aluminium Alloy enclosure makes it light weight, aesthetic and rust proof.

2, 4 or 6 tin plated copper conductors.

Feeder units are 2m or 3m in length and have 2 or 3 tap off points.

Electrical connection device automatically synchronize contact with each phase Ingress Protection Level IP55

and a

Compliant with IEC 60332-3, all insulation & plastic materials are non-halogen and compliant to IEC 60695-2 burning hot wire test.

Aluminum routing used as earthing



I





Flexible elbow

Flexible elbows can change directions and bypass obstacles.







Universal fixing bracket Fixing brackets are used to suspend lighting trunking

Fixing brackets are used to suspend lighting trunking with 6mm threaded rod and also used for fixing luminaries units.





LUMINARY UNIT

Thermographic survey

Thermographic survey can be conducted on the installed busducts to assess the surface temperature of the busbars and at joints. The survey can be conducted with all components in its normal operating conditions and electrical loads. A report will be submitted to customer consisting of thermographic images of joints with temperature profiles and readings in relation to the limits specified as per standard and recommendations for preventive maintenance

typical thermograpic survey report shown below: THERMOGRAPHICAL SURVEY THERMOGRAPHICAL SURVEY Measuring Time: 14:29:58 File: IR000315.BMT Date: 6/15/2016 ing Time: 14:24:59 Date: 6/15/2016 Mea File: IR000324.BMT Picture para eters: Picture parameters: 0.95 Emissivity: Refl. temp. [°C]: 0.95 Emissivity: Refl. temp. ["C]: cture marki Measurement Obi Refl. temp. [*C] Remarks 20.0 D03 nt Object Temp. ["C] Emiss. 45.5 0.95 Mean Temp. [°C] Emise Refl. t Measure po sure point Measure Hot spot isure point 2 sint 2 Hot spot 1 50 Profile line: Profile line: Remarks: Tag No: Between D03 & D04 Remarks: Tag No : Between C06 & C07

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CERTIFICATES

CERTIFICATES

CERTIFICATES

CENTRAL POWER RESEARCH INSTITUTE

DCC0 - 14988

Test Report Number Name & Address of the Customer

Name & Address of the Manufacturer :

Particulars of sample setted Canadian of the Sample on Receipt 7-36 Despress Namor 27 setters Namor 27 setters Dans of Testers 124 sample code to

Particulars of tests conducted

Test in accordance with standard/specification Sanoing stan Guitomers requirement Devisions flany Name of the withossing persons Outprives representatives

Other than Customers representatives Test subcontracted with address of the sociatory

Documents contributing this report (in words) Number of Salitophia Number of Salitophia Number of Shotas Number of Shotas Number of Shotas Number of Drawings

Massie V MOHAN BABU) Test Engineer

ing is

10 CPRI Dated: 12.06.2015

MM: Alfa Technologies Private Limited. SP-91, Ambattur Industrial Estate, Ambattur, Chemnel-800058, India. Ref.: Customer reguest form, dated: 14.05.2015

M/s. Alfa Technologies Private Ltd., SP-01, Ambattur Industrial Estate. Ambattur, Chennal-800058, India

Test Report Number

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

: HPL15102 (M/s, Alfa Teshnologies Pvt. Lut., SD-91, Andrattar Industrial Estate, Andrattar, Chenval – 600 038. Name & Address of the Customer

Name & Address of the Massefacturer: Mix. Alfa Technologies Prt. Ltd., SD-91, Assisters Industrial Easte, Arebatur, Chennai – 600 033.

Particulars of sample to

Type Designation Serial number Number of samples tast Data(s) of Text(s) CPRI Sample Code No Condition of sample co

Particulars of tests co Test in accordance with Standard/Specification

Sampling Plan Contempts requirement

Deviation if any Remarks if any

Name of the witnessing Costomer's representation

Other than Contomer's Yest subcontracted will the laboratory

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Number of pices Number of test circuit di Number of sample draw

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MENT ENGINEER

Type Disignation String number Number of samples tonad Data(s) of Tos(s) CPRI Sample Code No. Condition of sample on neu-

Particulars of tests could Test in accordance with Standard Specification

Test Report Number

Particulars of samply test

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Documents constituting this Number of statuts Number of socilleguass Number of photos Number of text clevals diago Number of text clevals diago Number of sample discussion

(R. Manohara) TEST ENGINEER

70

1 Mis, ARI Electromechanical Contracting Pot. Ltd., SP-91, Aubattur Industrial Estate, Audumer, Chemia – 660 038, TamiT Nada.

Name & Address of the Manufacturer: Mix, ARJ Discoverschanigal Contracting Pd. Ltd., 57-91, Ambattar Industrial Estate, Ambattar, Cheman – 660 058, Tamil Nada

CENTRAL POWER RESEARCH INSTITUTE

CPRI Dated: 28th July, 2014

rating Pot. Ltd.

PRELIMINARY REPORT

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2 Mix, ARJ Electromechanical Connacting Prt. Ed., SP-91, Aedeatore Indonesial Estate, Andratter, Chennel – 500 054, Tamil Nada.

1415 V, 5000 A, Ahaminium Sarahvich Bes Tranking

1 M/s. ARJ Electromochanical Contr SP-91, Ambattar Isdustrial Estate, Archattar, Cheronal – 600 058, Tamil Nado.

1 Saubsich type Dus Trusking System 1 ALEA duct-Das Trusking System

1 - Oser + Neutral + Sonk Integral Earth 1 - 415 V - 5000 A - 5000 A - 500 IA - 5

: New : DCCDHRT1480042

:21th July, 2014

Customer

Preliminary Report Number

Manufacturer

Sample

Condition of sample on receipt CPRI Sample Code No. Date(s) of Test

Datify of Test Discription of the sample hoted Type Designation Scrial number Number of phases Rande Volugen Rande Stormal current Rand Stormal current Rand Instation level Rand alassis time withstand current Datation of shert circuit. Twist conducted

Non: Diala aris a Nutanian Rason, This Basis

Tests conducted Type of tests Tested as per

Customer's requirement

Deviation if any Ratings for which wated

1 Sheet-circuit withstand approph on main circuit : An per sub-classe 10.1.1.5.3 of EEC 61439-12 2011-08 & HEC 61439-66 2012-09 : Fund Loop Resistance: & Resourcesce to be manaard after Short-circuit withstand strength test on stale circuit (Nil : Refer short 2 of 2 Name of the witnessing pursions Customer's representative

: Mr. B. Nistarajan, Quality Engineer Mr. Deepak Anose, Operation Manugar 3 Nil Other than customer's repre-

Loutre 1 Test Engineer and of the Namp's local theet No. 1 of 2

INCH POWER LABORATORY P. B.ND. MIG. SAD CHITANUGAR ST& P.O. PREF. SRC 2. N. RAMAN BOARD. BANGLIGHT-SRC 1991 PHONE: + 91- 01 BIL-23408754, PAX: + 91 (0) BIL-23401237

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT 1009.10336

CPRI

Dated: 18th June, 2015

Name & Address of the Cestomer

MANUFACTURING FACILITY

processes, gives ALFADUCT an advantageous edge for customized orders and quick deliveries.

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CONSULTANTS

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M meil	SV ELECTRICALS	PSK GROUP	RKM
R	ganapathy electrical engineering company	SABARI LEON ELECTRICALS Pvt.Ltd.	Shankar Electricals Elutrifying Pugle
SRPA	SPI	positively wired	Hz
HI-TECH ENCANTRIS & CONSULTANTS OF LITE	Alicron Electricals	GVR EVR Electricals Pvt Ltd	SEC
Kevin Electricals Pvt. Ltd.			D.S.K. ELECTRICALS

TESTIMONIALS

M/s Alfa Technologies Pvt. Ltd. have supplied the ALFADUCT 3200A Sandwich design busbar systems for our project of Hindustan Aeronautics Limited, Bangalore. We are very much satisfied with the product performance.

RAI INDUSTRIAL POWER PVT. LTD.

M/s ARJ Electromechanical Contracting Pvt. Ltd. have supplied ALFADUCT Sandwich Design Busbar Trunking of 4500A Aluminium conductor for our project M/s Aisin Automotive Karnataka Pvt. Ltd in Karnataka. The same has been successfully installed, tested and commissioned. We wish them success.

THE POWER ENGINEERING CO.

The ALFADUCT Sandwich Design Busbar Trunking for our IGate Global Solutions Centre in Bangalore has been successfully installed, tested and commissioned and we are very much satisfied with the supply of bus trunking, project execution and service support.

SHANKAR ELECTRICALS

The ALFADUCT Sandwich design busbar was supplied for our project of Tamil Nadu Secretariat at Chennai. We are very much satisfied with the product performance.

M/S P.S.K. ENGINEERING CONSTRUCTION & CO.

M/s Alfa Technologies Pvt. Ltd. have supplied ALFADUCT Sandwich bus duct of 1250A Aluminium conductor for our project M/s Mando Automotive, Chennai. The Busduct system is working successfully for the last two years. We wish them success.

ARJUNA ENGINEERING PVT. LTD.

This is to inform that M/s Alfa Technologies Pvt. Ltd. has supplied variable Ampere ratings Sandwich design busbar systems for our Project of Tamil Nadu Secretariat at Chennai. We have no hesitation in recommending ALFADUCT products for your suitable use. We also wish them success in their future endeavour. We have checked the technical specification of products and we will start specifying the product name in our further projects.

D.R. BERLARE ELECTRICAL AND MEP CONSULTANT

OFFICE OF THE P.W.D.

PROJECTS

JBM, Sanand India

Client: JBM Sanand Type: Industrial

Purva Swanlake India

Client: Puravankara Type: Residential

Rippon Building Annexe India

Client: PWD Type: Government Building

SIDCO India

Client: SIDCO Type: Commercial

Mando Automotive India

Client: Mando Automotive Type: Industrial

Southern Railway India

Client: Southern Railway **Type:** Commercial

Radisson Hotel India

Client: Radisson Hotel Type: Hotel

Purva Gainz India

Client: Puravankara Type: Commercial

Aisin Automotive India

Client: Aisin Automotive **Type:** Industrial

I Gate India

Client: I Gate Type: IT Service

BSA University India

Client: BSA University **Type:** Educational Institution

Secretariat India

Client: PWD Type: Government Building

Motherplast India

Client: Motherplast Type: Industrial

RED Mall India

Client: RED Mall Type: Shopping Centre

Tamarai Techpark India

Client: Tamarai Techpark Type: Commercial

PROJECTS DETAILS

Committed to a continued alliance with our clients, our services extend beyond sales to address your queries and concerns. Our dedicated support team treats your queries with the highest priority and actions the prompt response required.

SALES/DESIGN

Our team provides technical expertise for any design, information or product-related query.

SERVICE CALL

In the event of non-engineered alterations or other unforeseen events that might require product maintenance, our team will reach you at the earliest to bring the system back to normal operations swiftly.

MODIFICATION CALL

There can be a need to alter or modify the Power Distribution System post installation due to changes in layout. Should you require such modifications, you can trust us to carry it out without much wastage of existing routes and with minimum operational interferences and downtime.

CLIENT SUPPORT

We realize that the application of Busbar Trunking product requires an integrated and coherent acceptance between consultant, contractor and manufacturer. That is why we have a dedicated Client Support team consisting of trained technical staff with a solid grip on product knowledge and a deep understanding of consultant and contractor requirements to formulate customized solutions focusing on the following factors:

Electrical load requirements
Nature of load
Suitability of the product
Site compatibility
Layout design
Cost factor
Flexibility

This offers our clients an integrated support system and helps them make quick and efficient decisions without having to go through several rounds of timeconsuming meetings on technical and non-technical matters. The application of Busbar Trunking product requires an integrated and coherent acceptance between consultant, contractor and manufacturer.

DISCLAIMER

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Registered Office

New No. 25, Old No: 16, Rama Street, Nungambakkam, Chennai - 034 600, Tamilnadu, India Email: chennaisales@alfaduct.com

Factory

No. 22/a, Swastik Industrial Estate Sari, Sanand Taluk, Ahmedabad - 220 382, Gujarat, India Tel.: 9840559059 91+ Email: factory@alfaduct.com

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