

TECHNICAL DATA TABLE - AIR INSULATED COPPER

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 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

1 Second (KA)	20	30	35	50	50	50	58	65	65
Peak Value (KA)	38	58	70	105	105	105	120	130	130

CONDUCTOR DIMENSION & CONFIGURATION

CONDUCTOR C.S.A PER PHASE (mm²)										
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)	65	75	85	95	115	125	190	230	250	
No. of stack	Single					Double				
IP Rating	IP 54 / IP 55 / IP 65*									

APPROXIMATE WEIGHT OF BUS TRUNKING (Kg / Mtr)

3 Phase + Integral Earth	8	9	10	11	12	15	18	24	30
3 Phase + 50% Internal Earth	9	10	11	13	14	18	21	28	35
3 Phase + 100% Neutral + Integral Earth	9	10	11	13	14	18	21	28	35
3 Phase + 100% Neutral + 50% Internal Earth	10	11	12	14	16	20	24	32	40
3 Phase + 200% Neutral + Integral Earth	10	11	12	15	17	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 (mΩ/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	0.0910	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	0.0259

COMPOSITE VOLTAGE DROP PER METER AT FULL LOAD (mV/Mtr/A 40 Deg Amb)

Voltage drop @ 0.7 PF	0.3003	0.2182	0.1672	0.1381	0.0958	0.0856	0.0691	0.0480	0.0427
Voltage drop @ 0.8 PF	0.3189	0.2278	0.1739	0.1447	0.0998	0.0888	0.0724	0.0500	0.0443
Voltage drop @ 0.9 PF	0.3318	0.2325	0.1766	0.1483	0.1015	0.0900	0.0742	0.0508	0.0449
Voltage drop @ 1.0 PF	0.3142	0.2101	0.1576	0.1354	0.0909	0.0798	0.0677	0.0456	0.0398

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)	0.1815	0.1214	0.0912	0.0785	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	0.1021	0.0859	0.0588	0.0522	0.0429	0.0293	0.0261

COMPOSITE VOLTAGE DROP PER METER AT FULL LOAD (mV/Mtr/40 Deg Amb)

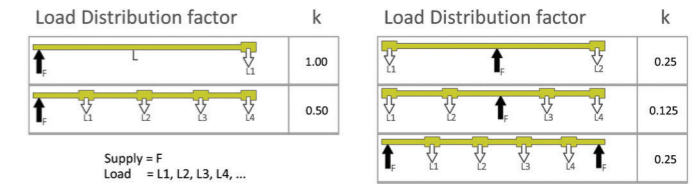
Voltage drop @ 0.7 PF	0.3004	0.2183	0.1675	0.1385	0.0961	0.0858	0.0692	0.0480	0.0428
Voltage drop @ 0.8 PF	0.3190	0.2280	0.1742	0.1451	0.1000	0.0891	0.0725	0.0500	0.0445
Voltage drop @ 0.9 PF	0.3320	0.2326	0.1769	0.1488	0.1018	0.0903	0.0743	0.0508	0.0451
Voltage drop @ 1.0 PF	0.3144	0.2103	0.1580	0.1360	0.0913	0.0802	0.0679	0.0456	0.0400

* 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 the following formula taking into account the "k" load distribution constant.

$$\Delta V = k \sqrt{3} (R \cos\phi + X \sin\phi) I L$$

- ΔV = Voltage Drop (V)
- k = Load Distribution Constant
- L = Line length (m)
- I = Line Current (A)
- R = Resistance (mΩ/m)
- X = Inductive Reactance (mΩ/m)
- cosφ = Load Factor



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 1000V, 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

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 & CONFIGURATION

CONDUCTOR C.S.A PER PHASE (mm²)										
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)	65	75	85	95	115	125	190	230	250	
No. of stack	Single					Double				
IP Rating	IP 54 / IP 55 / IP 65*									

APPROXIMATE WEIGHT OF BUS TRUNKING (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 Earth	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 Earth	8	9	9	10	11	12	14	21	23
3 Phase + 100% neutral + 100% Isolated Earth	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)	0.3324	0.2218	0.1665	0.1334	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 (mΩ/Mtr)									
Impedance (Z)	0.3387	0.2291	0.1727	0.1379	0.0990	0.0871	0.0690	0.0494	0.0435

COMPOSITE VOLTAGE DROP PER METER AT FULL LOAD (mV/Mtr/A 40 Deg Amb)

Voltage drop @ 0.7 PF	0.4834	0.3400	0.2588	0.2050	0.1479	0.1312	0.1025	0.0739	0.0655
Voltage drop @ 0.8 PF	0.5281	0.3671	0.2785	0.2212	0.1593	0.1409	0.1106	0.0796	0.0704
Voltage drop @ 0.9 PF	0.5672	0.3892	0.2943	0.2344	0.1685	0.1486	0.1172	0.0842	0.0742
Voltage drop @ 1.0 PF	0.5757	0.3842	0.2884	0.2310	0.1654	0.1450	0.1155	0.0826	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 C)	0.3326	0.2220	0.1667	0.1337	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	0.2293	0.1729	0.1382	0.0992	0.0872	0.0691	0.0495	0.0436

COMPOSITE VOLTAGE DROP PER METER AT FULL LOAD (mV/Mtr/A 40 Deg Amb)

Voltage drop @ 0.7 PF	0.4836	0.3403	0.2590	0.2054	0.1482	0.1313	0.1026	0.0740	0.0656
Voltage drop @ 0.8 PF	0.5284	0.3674	0.2788	0.2216	0.1596	0.1411	0.1107	0.0797	0.0705
Voltage drop @ 0.9 PF	0.5675	0.3895	0.2946	0.2348	0.1688	0.1487	0.1173	0.0843	0.0744
Voltage drop @ 1.0 PF	0.5761	0.3845	0.2887	0.2316	0.1658	0.1451	0.1157	0.0828	0.0726

* 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.