

TECHNICAL DATA TABLE - AIR INSULATED COPPER

CURRENT RATING

RATING	315A	400A	500A	630A	800A	1000A	1250A	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 (mm²) 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	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 (Kg / Mtr)

3 Phase + Integral Earth	10	12	13	15	19	23	30	38	46
3 Phase + 50% Internal Earth	11	13	16	18	22	26	36	44	52
3 Phase + 100% Neutral + Integral Earth	13	15	18	20	25	30	40	50	60
3 Phase + 100% Neutral + 50% Internal Earth	14	17	20	23	28	34	46	56	68
3 Phase + 200% Neutral + Integral Earth	16	19	22	25	32	38	50	64	76
3 Phase + 200% Neutral + 50% Integral Earth	18	21	24	28	35	42	56	70	84
3 Phase + 100% neutral + 100% Isolated Earth	16	19	22	25	32	38	50	64	76

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	0.0911	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
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IMPEDANCE (mΩ/Mtr)

Impedance (Z)	0.1927	0.1342	0.1020	0.0857	0.0586	0.0520	0.0428	0.0293	0.0260
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COMPOSITE VOLTAGE DROP PER METER AT FULL LOAD (mV/Mtr/A 40 Deg Amb)

Voltage drop @ 0.7 PF	0.3003	0.2182	0.1673	0.1381	0.0959	0.0854	0.0691	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	0.3317	0.2326	0.1767	0.1484	0.1015	0.0900	0.0741	0.0507	0.0449
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	0.0785	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
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IMPEDANCE (mΩ/Mtr)

Impedance (Z)	0.1928	0.1343	0.1022	0.0859	0.0587	0.0521	0.0429	0.0294	0.0261
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COMPOSITE VOLTAGE DROP PER METER AT FULL LOAD (mV/Mtr/40 Deg Amb)

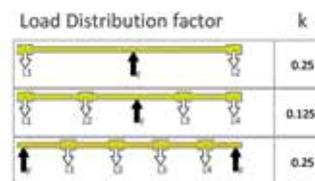
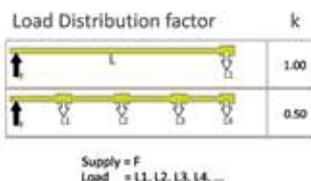
Voltage drop @ 0.7 PF	0.3005	0.2184	0.1676	0.1384	0.0961	0.0858	0.0693	0.0480	0.0429
Voltage drop @ 0.8 PF	0.3191	0.2280	0.1742	0.1451	0.1000	0.0890	0.0725	0.0500	0.0445
Voltage drop @ 0.9 PF	0.3320	0.2328	0.1769	0.1488	0.1017	0.0902	0.0743	0.0509	0.0450
Voltage drop @ 1.0 PF	0.3144	0.2103	0.1580	0.1360	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 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 (m Ω /m)
 X = Inductive Reactance (m Ω /m)
 $\cos \phi$ = 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 (mm²) ALUMINIUM (PER 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 (Kg / Mtr)

3 Phase + Integral Earth	7	8	9	10	11	13	20	22	26
3 Phase + 50% Internal Earth	9	10	10	11	13	15	22	26	30
3 Phase + 100% Neutral + Integral Earth	10	11	12	13	15	17	26	30	34
3 Phase + 100% Neutral + 50% Internal Earth	11	12	13	15	17	19	30	34	38
3 Phase + 200% Neutral + Integral Earth	12	14	15	16	19	21	32	38	42
3 Phase + 200% Neutral + 50% Internal Earth	14	15	16	18	21	23	36	42	46
3 Phase + 100% neutral + 100% Isolated Earth	12	14	15	16	19	21	32	38	42

ELECTRICAL PARAMETERS @50 HZ

RESISTANCE (m Ω /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	0.1334	0.0955	0.0837	0.0667	0.0477	0.0418

REACTANCE (m Ω /Mtr)

Reactance (X)	0.0650	0.0575	0.0460	0.0350	0.0260	0.0240	0.0175	0.0130	0.0120
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IMPEDANCE (m Ω /Mtr)

Impedance (Z)	0.3387	0.2292	0.1727	0.1379	0.0990	0.0870	0.0689	0.0495	0.0435
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COMPOSITE VOLTAGE DROP PER METER AT FULL LOAD (mV/Mtr/A 40 Deg Amb)

Voltage drop @ 0.7 PF	0.4834	0.3401	0.2589	0.2050	0.1479	0.1311	0.1025	0.0740	0.0656
Voltage drop @ 0.8 PF	0.5281	0.3672	0.2785	0.2211	0.1593	0.1408	0.1106	0.0797	0.0704
Voltage drop @ 0.9 PF	0.5672	0.3892	0.2942	0.2345	0.1684	0.1486	0.1171	0.0843	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 (m Ω /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	0.2221	0.1667	0.1337	0.0957	0.0838	0.0688	0.0478	0.0419

REACTANCE (m Ω /Mtr)

Reactance (X)	0.0650	0.0575	0.0460	0.0350	0.0260	0.0240	0.0175	0.0130	0.0120
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IMPEDANCE (m Ω /Mtr)

Impedance (Z)	0.3389	0.2294	0.1729	0.1381	0.0991	0.0872	0.0710	0.0496	0.0436
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COMPOSITE VOLTAGE DROP PER METER AT FULL LOAD (mV/Mtr/A 40 Deg Amb)

Voltage drop @ 0.7 PF	0.4835	0.3404	0.2591	0.2054	0.1483	0.1313	0.1027	0.0741	0.0657
Voltage drop @ 0.8 PF	0.5284	0.3674	0.2788	0.2215	0.1596	0.1411	0.1108	0.0798	0.0705
Voltage drop @ 0.9 PF	0.5674	0.3896	0.2946	0.2348	0.1687	0.1489	0.1173	0.0844	0.0743
Voltage drop @ 1.0 PF	0.5761	0.3846	0.2887	0.2316	0.1657	0.1452	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.