Data Center Power Systems

aksa POWER GENERATION

Providing uninterrupted electrical energy is the most important backbone of the data centers infrastructure.

Companies need data centers to store and secure large amounts of data. For this reason, Datacenter operation is mission-critical to many of today's most important businesses. The most important precaution for data centers to operate safely is to provide uninterrupted electrical energy the fact that electrical energy is not interrupted. When there is In cases where is a utility power outage, the generator will switch on and you will be able to continue your work safely and uninterruptedly.

For this reason; Aksa Power Generation responds to your needs since more than 36 years to these challenges with power systems that deliver the best available technology and a support network offering tailor-made and reliable solutions for you for when you need it most.
In recent years, the data center has been growing with increasing momentum. As businesses and people continue to need secure cloud and data storage, the demand for reliable and uninterrupted electricity supply continues to increase. Aksa Power Generation offers the most suitable and reliable solutions for your power needs in data centers with its generator options ranging from up to 3000 kVA.

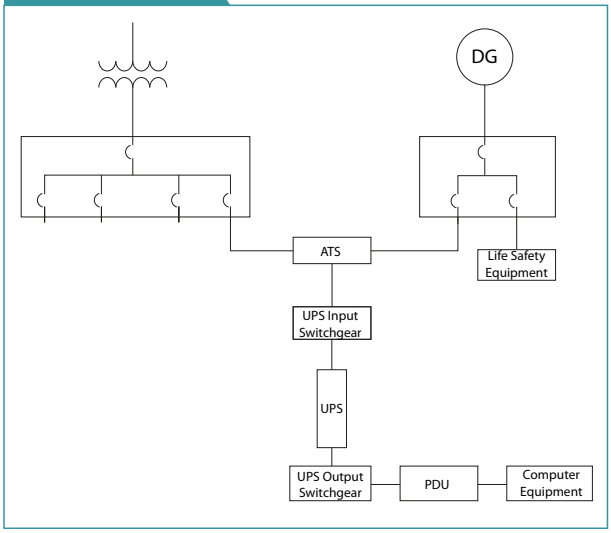
Regardless of the power rate or complexity of your power needs for the data center, we provide a reliable power source. We manufacture and combine all the important components that use the industry's highest level of design and performance control.

Tier Level Ratings

- The tier rating system is the industry standard for benchmarking data center reliability.
- Four tiers, each building on requirement to the one below (ex. Tier II requires all of Tier I capability, plus the added requirements).
- Power Generation and distribution is one of 16 subsystems evaluated.
- No fractional tier ratings.
- Tiers do not specify certain equipment, but rather a level of redundancy and security to maximize runtime.
- To be an enterprise class data center, UPS and generator sets are required equipment.
- Significant costs associated with higher tier rating.

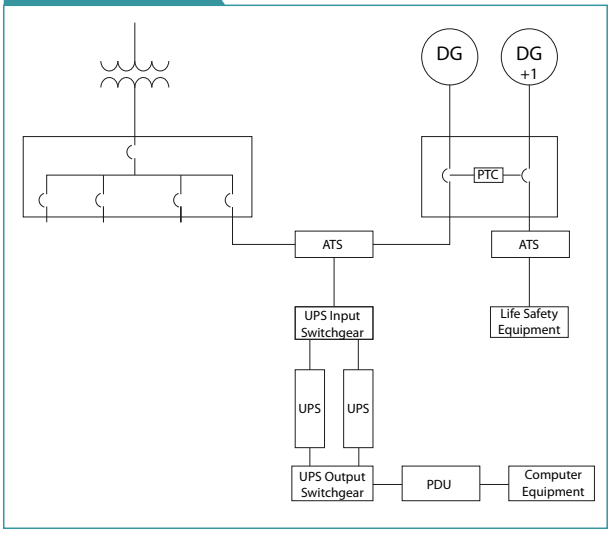
<table>
<tr><th>Engine-Generator Requirements</th><th>Tier I</th><th>Tier II</th><th>Tier III</th><th>Tier IV</th></tr>
<tr><td>Rating to Support design load</td><td>Any; up to nameplate rating to support design load</td><td>Any; up to nameplate rating to support design load</td><td>Capable of supporting design load for unlimited hours at site conditions</td><td>Capable of supporting design load for unlimited hours at site conditions</td></tr>
<tr><td>Continuous</td><td rowspan="3" colspan="2">No additional requirement for hours of operation limitations</td><td colspan="2">Full nameplate capacity</td></tr>
<tr><td>Prime</td><td colspan="2">Option 1; 70% of nameplate capacity
Option 2; Larger capacity than Option 1 with manufacturer letter</td></tr>
<tr><td>Standby</td><td colspan="2">Can be used for Tier III and Tier IV with manufacturer letter; Tier Certification capacity dependent on manufacturer letter</td></tr>
<tr><td>De-rating (or Site Conditions</td><td colspan="4">Additional derating may be required due to site conditions (e.g., ambient temperatures, elevation)—consult manufacturer requirements</td></tr>
</table>

Tier I



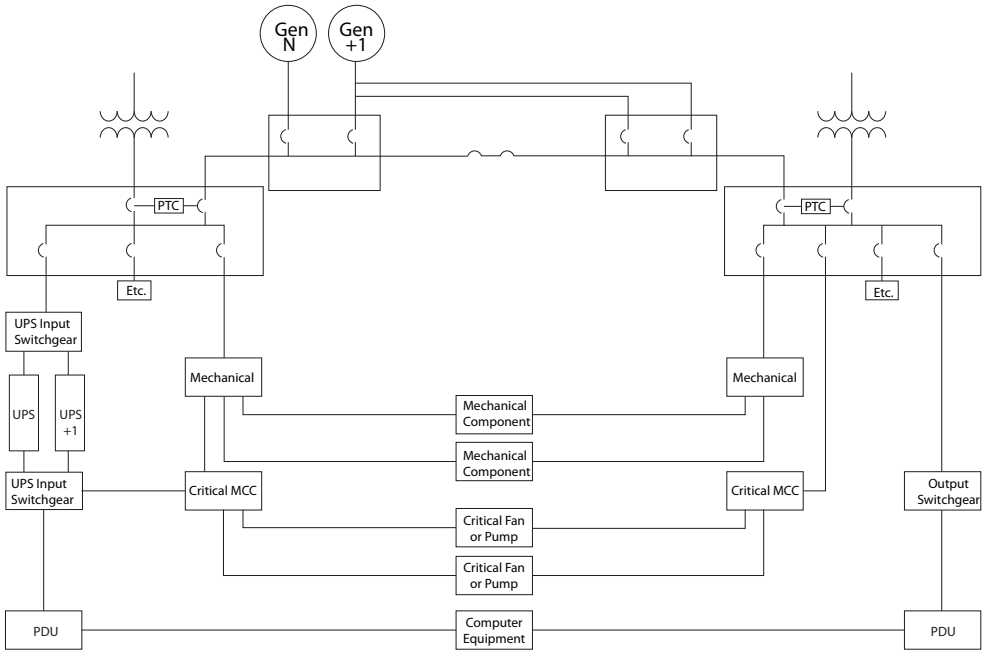
Capacity	N
Distribution Paths	1
Concurrently Maintainable	No
Fault Tolerant	No

Tier II



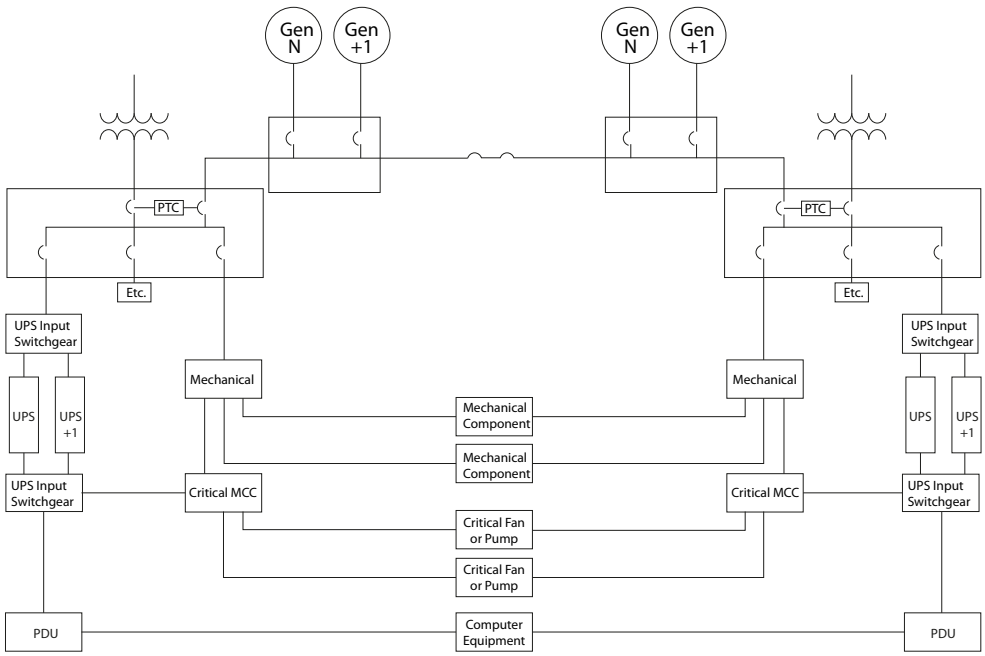
Capacity	N+1
Distribution Paths	1
Concurrently Maintainable	No
Fault Tolerant	No

Tier III



Capacity	N+1
Distribution Paths	1 Active, 1 Alternate
Concurrently Maintainable	Yes
Fault Tolerant	No

Tier IV



Capacity	N after any failure
Distribution Paths	2 Simultaneously Active
Concurrently Maintainable	Yes
Fault Tolerant	Yes

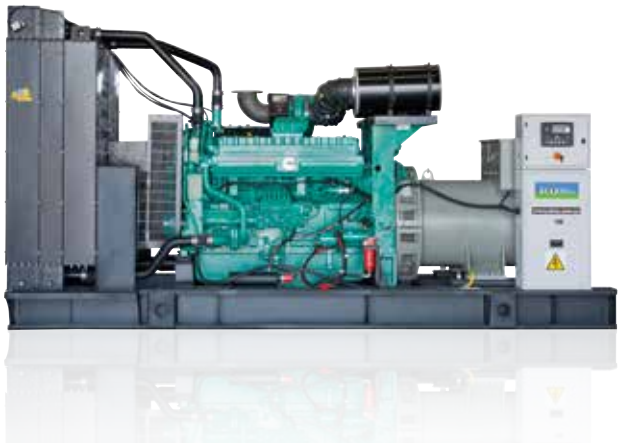
Cummins DCC 50 Hz

Gen.Set Model	Power				Engine Model	Alternator Model
	Standby (kVA)	DCC (kVA)	Standby (kW)	DCC (kW)		
AC 550	550	500	440	400	QSX15-G8	ECO403S4B
AC 700	700	638	560	510,4	VTA28-G5	ECO40-2L4B
AC 880	880	800	704	640	QSK23-G3	HCI634G
AC 1100	1100	1000	880	800	QST30-G4	ECO43 1M4
AC 1101	1100	1000	880	800	QST30-G4	HCI634J
AC 1100K	1100	1000	880	800	KTA38-G14	HCI634J
AC 1410	1410	1270	1128	1016	KTA50-G3	ECO43 2L4
AC 1411	1410	1260	1128	1008	KTA50-G3	PI734B
AC 1650	1650	1400	1320	1120	KTA50-G8	PI734C
AC 1700	1700	1540	1360	1232	QSK50-G4	PI734C
AC 1815	1815	1650	1452	1320	QSK50-G7	PI734D
AC 2000	2000	1875	1600	1500	QSK60-G3	PI734E
AC 2250	2250	2000	1800	1600	QSK60-G4	PI734F1
AC 2500	2500	2250	2000	1800	QSK60-G8	PI734H
AC 2750	2750	2500	2200	2000	QSK60-G22	S7L1D-J
AC 3000	2900	2625	2320	2100	QSK78-G9	LVSI804S

Cummins 10,5 kV M.V.* 50 Hz

Gen.Set Model	Power				Engine Model	Alternator Model
	Standby (kVA)	DCC (kVA)	Standby (kW)	DCC (kW)		
AC 2245	2245	2000	2000	1600	QSK60-G4	HVSI804R
AC 2501	2500	2250	2250	1800	QSK60-G8	HVSI804S
AC 2751	2750	2500	2500	2000	QSK60-G22	HVSI804T
AC 3001	2925	2650	2650	2120	QSK78-G9	HVSI804W

*Medium Voltage



Perkins

Perkins DCC 50 Hz

Gen.Set Model	Power				Engine Model	Alternator Model
	Standby (kVA)	DCC (kVA)	Standby (kW)	DCC (kW)		
AP 1380	1380	1255	1104	1004	4012-46TWG2A	PI734A
AP 1400	1400	1265	1120	1012	4012-46TWG2A	ECO43 2L4
AP 1650	1650	1500	1320	1200	4012-46TAG2A	ECO46 1S4
AP 1651	1650	1500	1320	1200	4012-46TAG2A	PI734C
AP 1875	1875	1705	1500	1364	4012-46TAG3A	ECO46 2S4
AP 1877	1904	1800	1523,2	1440	4012-46TAG3A	ECO46 2S4
AP 1878	1894	1799	1515,2	1439,2	4012-46TAG3A	PI734E
AP 2000	2000	1850	1600	1480	4016-61TRG1	ECO46 1L4
AP 2001	2000	1850	1600	1480	4016-61TRG1	PI734E
AP 2250	2250	2000	1800	1600	4016-61TRG2	ECO46 1L4
AP 2251	2250	2000	1800	1600	4016-61TRG2	PI734F
AP 2500	2500	2250	2000	1800	4016-61TRG3	ECO46 1.5L4
AP 2501	2500	2250	2000	1800	4016-61TRG3	PI734H
AP 2502	-	2500	-	2000	4016-61TRG3X	ECO46 2L4

MITSUBISHI DIESEL ENGINES

Mitsubishi DCC 50 Hz

Gen.Set Model	Power				Engine Model	Alternator Model
	Standby (kVA)	DCC (kVA)	Standby (kW)	DCC (kW)		
APD 1425 M	1420	1290	1136	1032	S12R-PTA	ECO43 2L4A
APD 1426 M	1410	1280	1128	1024	S12R-PTA	S6L1D-H4
APD 1650 M	1650	1500	1320	1200	S12R-PTAA2	ECO46 1S4A
APD 1651 M	1650	1500	1320	1200	S12R-PTAA2	S7L1D-C4
APD 1915 M	1910	1745	1528	1396	S16R-PTA	ECO46 2S4A
APD 1916 M	1900	1735	1520	1388	S16R-PTA	S7L1D-E4
APD 2250 M	2250	2000	1800	1600	S16R-PTAA-2	ECO46 1L4A
APD 2251 M	2250	2000	1800	1600	S16R-PTAA-2	S7L1D-G4
APD 2500 M	2500	2250	2000	1800	S16R2-PTAW	ECO46 1.5L4A
APD 2501 M	2500	2250	2000	1800	S16R2-PTAW	S7L1D-J4
APD 2750 M	2750	2500	2200	2000	4012-46TAG3A	ECO46 2L4A
APD 2751 M	2750	2500	2200	2000	4012-46TAG3A	S7L1D-J4

Cummins DCC 60 Hz

Gen.Set Model	Power				Engine Model	Alternator Model
	Standby (kVA)	DCC (kVA)	Standby (kW)	DCC (kW)		
AC 500-6	500	450	400	360	QSX15-G6	HCI544C
AC 626-6	626	560	500,8	448	QSX15-G9	HCI544E
AC 750-6	750	680	600	544	VTA28-G5	HCI544F
AC 1013-6	1013	915	810,4	732	QSK23-G3	HCI634G
AC 1149-6	1149	1035	919,2	828	QST30-G3	HCI634J
AC 1269-6	1269	1145	1015,2	916	QST30-G4	HCI634J
AC 1575-6	1575	1385	1260	1108	KTA50-G3	PI734B1
AC 1894-6	1894	1580	1515,2	1264	KTA50-G9	PI734C
AC 2500-6	2500	2250	2000	1800	QSK60-G6	PI734F
AC 3438-6	3438	3125	2750,4	2500	QSK78-G8	LVSI804S
AUDC400-6*	500	450	400	360	QSZ13-G7	HCI544C
AUDC500-6*	625	560	500	448	QSX15-G9	HCI544E
AUDC600-6*	750	681	600	545	QSK19-G5	HCI544E
AUDC800-6*	1000	906	832	725	QSK23-G7	HCI634G
AUDC1000-6*	1250	1125	1000	900	QST30-G5	HCI634J
AUDC1250-6*	1563	1400	1250	1120	QSK38-G4	PI734A
AUDC1500-6*	1875	1700	1500	1360	QSK50-G4	PI734C
AUDC1600-6*	2000	1825	1600	1460	QSK50-G6	PI734D
AUDC2000-6*	2500	2250	2000	1800	QSK60-G6	PI734F
AUDC2250-6*	2813	2500	2250,4	2000	QSK78-G11	PI734G
AUDC2500-6*	3125	2875	2500	2300	QSK78-G11	LVSI804R

* Regulated emission gensets

Perkins DCC 60 Hz

Gen.Set Model	Power				Engine Model	Alternator Model
	Standby (kVA)	DCC (kVA)	Standby (kW)	DCC (kW)		
AP 1380-6	1380	1250	1104	1000	4012-46TWG2A	PI734A
AP 1400-6	1400	1270	1120	1016	4012-46TWG2A	ECO43 2L4A
AP 1670-6	1670	1520	1336	1216	4012-46TAG2A	PI734C
AP 1680-6	1680	1530	1344	1224	4012-46TAG2A	ECO46 1S4A
AP 1904-6	1904	1735	1523,2	1388	4012-46TAG3A	PI734E
AP 1913-6	1913	1740	1530,4	1392	4012-46TAG3A	ECO46 2S4A

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