



Specification Sheet for WorldWide Electric DDD5112, Three-Phase

CONTROL SYSTEM	SELF-EXCITED				P.M.G.-EXCITED			
AUTOMATIC VOLTAGE REGULATOR	AGR440				AGR321		AGR341	
VOLTAGE REGULATION	± 1.0 %				± 0.5 %		± 1.0 %	
	WITH 4% ENGINE GOVERNING							
SUSTAINED SHORT CIRCUIT	NONE – SELF-EXCITED MACHINES CANNOT SUPPLY A SHORT-CIRCUIT CURRENT				SEE SHORT-CIRCUIT DECREMENT CURVES			
INSULATION SYSTEM	CLASS H							
PROTECTION	IP23							
RATED POWER FACTOR	0.8							
STATOR WINDING	DOUBLE LAYER LAP							
WINDING PITCH	TWO-THIRDS							
NUMBER OF WINDING LEADS	12							
STATOR WINDING RESISTANCE	0.009Ω/PHASE @ 22°C WIRED AS HIGH WYE (SERIES STAR)							
ROTOR WINDING RESISTANCE	1.19Ω @ 22°C							
EXCITER STATOR RESISTANCE	18Ω @ 22°C							
EXCITER ROTOR RESISTANCE	0.068Ω/PHASE @ 22°C							
R.F.I. SUPPRESSION	BS EN 61000-6-2 & BS EN 61000-6-4, VDE 0875G, VDE 0875N. Consult the factory for others.							
WAVEFORM DISTORTION	NO LOAD < 1.5% NON-DISTORTING BALANCED LINEAR LOAD < 5.0%							
MAXIMUM OVERSPEED	2250 Rev/Min							
BEARING DRIVE END	BALL. 6317 (ISO)							
BEARING NON-DRIVE END	BALL. 6314 (ISO)							
	1 BEARING				2 BEARING			
WEIGHT COMP. GENERATOR	1024 kg				1030 kg			
WEIGHT WOUND STATOR	470 kg				470 kg			
WEIGHT WOUND ROTOR	400 kg				377 kg			
WR ² INERTIA	4.6331 kgm ²				4.4343 kgm ²			
SHIPPING WEIGHTS in a crate	1095 kg				1100 kg			
PACKING CRATE SIZE	155 x 87 x 107 (cm)				155 x 87 x 107 (cm)			
	50 Hz				60 Hz			
TELEPHONE INTERFERENCE	THF < 2%				TIF < 50			
COOLING AIR	0.8 m ³ /sec, 1700 CFM				0.99 m ³ /sec, 2100 CFM			
HIGH WYE (SERIES STAR), VAC	380/220	400/231	415/240	440/254	416/240	440/254	460/266	480/277
LOW WYE (PARALLEL STAR), VAC	190/110	200/115	208/120	220/127	208/120	220/127	230/133	240/138
HIGH (SERIES) DELTA, VAC	220/110	230/115	240/120	254/127	240/120	254/127	266/133	277/138
KVA BASE RATING FOR REACTANCE VALUES	350	350	350	350	400	420	440	440
X _d DIR. AXIS SYNCHRONOUS	3.01	2.71	2.52	2.24	3.47	3.26	3.12	2.87
X' _d DIR. AXIS TRANSIENT	0.20	0.18	0.17	0.15	0.21	0.20	0.19	0.17
X'' _d DIR. AXIS SUBTRANSIENT	0.14	0.13	0.12	0.11	0.15	0.14	0.13	0.12
X _q QUAD. AXIS REACTANCE	2.58	2.33	2.16	1.92	2.92	2.74	2.63	2.41
X'' _q QUAD. AXIS SUBTRANSIENT	0.36	0.32	0.30	0.27	0.41	0.38	0.37	0.34
X _L LEAKAGE REACTANCE	0.07	0.06	0.06	0.05	0.08	0.08	0.07	0.07
X ₂ NEGATIVE SEQUENCE	0.24	0.22	0.20	0.18	0.28	0.26	0.25	0.23
X ₀ ZERO SEQUENCE	0.10	0.09	0.08	0.07	0.10	0.09	0.09	0.08
REACTANCES ARE SATURATED. VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED.								
T' _d TRANSIENT TIME CONST.	0.08 s							
T'' _d SUB-TRANSTIME CONST.	0.019 s							
T' _{do} O.C. FIELD TIME CONST.	1.7 s							
T _a ARMATURE TIME CONST.	0.018 s							
SHORT CIRCUIT RATIO	1/X _d							

50Hz RATINGS

Class	F				H				Standby							
Temp Rise	105°C R/R (40°C)				125°C R/R (40°C)				150°C R/R (40°C)				163°C R/R (27°C)			
High Wye (Series Star) Voltage	380	400	415	440	380	400	415	440	380	400	415	440	380	400	415	440
Low Wye (Parallel Star) Voltage	190	200	208	220	190	200	208	220	190	200	208	220	190	200	208	220
High (Series) Delta Voltage	220	230	240	254	220	230	240	254	220	230	240	254	220	230	240	254
KVA Output	320	320	320	320	350	350	350	350	370	370	370	370	380	400	380	380
kW Output	256	256	256	256	280	280	280	280	296	296	296	296	304	320	304	304
Efficiency, %	93.6	93.8	94.0	94.1	93.2	93.5	93.6	93.8	92.9	93.2	93.4	93.6	92.7	92.7	93.2	93.5
kW Input	274	273	272	272	300	299	299	299	319	318	317	316	328	345	326	325

60Hz RATINGS

Class	F				H				Standby							
Temp Rise	105°C R/R (40°C)				125°C R/R (40°C)				150°C R/R (40°C)				163°C R/R (27°C)			
High Wye (Series Star) Voltage	416	440	460	480	416	440	460	480	416	440	460	480	416	440	460	480
Low Wye (Parallel Star) Voltage	208	220	230	240	208	220	230	240	208	220	230	240	208	220	230	240
High (Series) Delta Voltage	240	254	266	277	240	254	266	277	240	254	266	277	240	254	266	277
KVA Output	365	385	400	400	400	420	440	440	420	445	460	460	435	455	475	475
kW Output	292	308	320	320	320	336	352	352	336	356	368	368	348	364	380	380
Efficiency, %	93.8	93.8	93.9	94.0	93.4	93.5	93.5	93.7	93.1	93.2	93.2	93.5	92.9	93.0	93.1	93.3
kW Input	311	328	341	340	343	359	376	376	361	382	395	394	375	391	408	407