



THREE-PHASE SYNCHRONOUS GENERATOR

Datasheet For 50Hz @ 1500rpm / 60Hz @ 1800rpm

EG500L-1920N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	2280	2400	2400	2325	2487.5	2640	2760	2875
Rated power (kW)	P	1824	1920	1920	1860	1990	2112	2208	2300
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	91.9	92.1	92	91.8	91.2	91.4	91.6	91.7
50% load	%	95.1	95.1	95.2	95.1	94.7	94.9	95	95.1
75% load	%	95.8	95.9	96	96	95.7	95.8	95.9	96
100% load	%	95.9	96.5	96.1	96.2	95.9	96.4	96.1	96.2
Reactance at Class H									
Short-circuit ratio	Kcc	0.304	0.329	0.366	0.453	0.27	0.289	0.308	0.33
Direct axis synchronous reactance	Xd	3.713	3.527	3.277	2.824	4.076	3.848	3.681	3.521
Quadrature axis synchronous reactance	Xq	1.623	1.542	1.432	1.234	1.781	1.682	1.609	1.539
Direct axis transient reactance saturated	X'd	0.139	0.134	0.123	0.106	0.153	0.144	0.138	0.134
Direct axis subtransient reactance saturated	X''d	0.108	0.103	0.096	0.082	0.119	0.112	0.107	0.103
Quadrature axis subtransient reactance saturated	X''q	0.141	0.133	0.124	0.107	0.154	0.146	0.139	0.133
Zero sequence reactance unsaturated	X0	0.005	0.005	0.005	0.004	0.006	0.006	0.005	0.005
Leakage reactance	X1	0.064	0.061	0.056	0.049	0.07	0.066	0.063	0.061
Negative sequence reactance saturated	X2	0.12	0.12	0.11	0.09	0.14	0.13	0.12	0.12
Open circuit time constant	T'd0	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Short-circuit transient time constant	T'd	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Subtransient time constant	T''d	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Armature time constant	Ta	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029
No load excitation current	io(A)	1	1	1	1	1	1	1	1
Full load excitation current	ic(A)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Full load excitation voltage	uc(V)	55	55	55	55	55	55	55	55
No load losses	W	19490	20270	20990	28190	22410	29340	30260	31080
Heat dissipation at full load at Class H	W	77585	78959	77295	72869	85295	87084	88412	89610
Short circuit current capacity	%	>300							
Recovery time	s	1							
Waveform : TIF		<50							
Waveform : THD		<2%							
Winding pitch		2/3							
Voltage regulation		+/- 1%							
A.V.R. model		WT-3							
Duty		Continuous							
Number of poles		4							
Class of insulation		H							
Temperature rise		≤125K							
Altitude		≤1000m							
Rated power factor		0.8							
Excitation		Brushless							
Stator winding		6ends							
Rotor		With damping cage							
Overload	%	110% rated load for 1 hour							
Stator winding resistance (20°C)	ohm	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Rotor winding resistance (20°C)	ohm	1.104	1.104	1.104	1.104	1.104	1.104	1.104	1.104
Exciter resistance (20°C)	ohm	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
Cooling air requirement	m ³ /min	186	186	186	186	223	223	223	223
Energy storage constant (H)	sec.	0.2610	0.2610	0.2610	0.2610	0.3616	0.3417	0.3268	0.3132
Method of cooling		IC 01							
Ambient temperature		40°C							
Sense of rotation		Counter-clockwise							
Type of construction		Single / Double bearing							
Degree of protection / enclosure		IP21 or IP23							
Maximum overspeed	rpm	2160							