



# THREE-PHASE SYNCHRONOUS GENERATOR

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

## EG560L-2800N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	3325	3500	3500	3400	3625	3850	4025	4200
Rated power (kW)	P	2660	2800	2800	2720	2900	3080	3220	3360
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	92.9	92.8	92.7	92.3	92.3	92.4	92.4	92.3
50% load	%	95.6	95.5	95.5	95.3	95.3	95.4	95.4	95.4
75% load	%	96.2	96.2	96.2	96.1	96.1	96.2	96.2	96.2
100% load	%	96.2	96.5	96.3	96.3	96.2	96.4	96.4	96.4
Reactance at Class H									
Short-circuit ratio	Kcc	0.378	0.433	0.487	0.6	0.32	0.351	0.386	0.433
Direct axis synchronous reactance	Xd	3.19	3.03	2.815	2.433	3.499	3.306	3.162	3.03
Quadrature axis synchronous reactance	Xq	1.408	1.337	1.242	1.074	1.544	1.459	1.395	1.337
Direct axis transient reactance saturated	X'd	0.167	0.159	0.147	0.127	0.183	0.173	0.165	0.159
Direct axis subtransient reactance saturated	X''d	0.127	0.121	0.112	0.097	0.14	0.132	0.126	0.121
Quadrature axis subtransient reactance saturated	X''q	0.157	0.149	0.138	0.12	0.172	0.163	0.155	0.149
Zero sequence reactance unsaturated	X0	0.007	0.007	0.007	0.006	0.008	0.008	0.007	0.007
Leakage reactance	X1	0.078	0.074	0.068	0.059	0.085	0.08	0.077	0.074
Negative sequence reactance saturated	X2	0.14	0.13	0.13	0.11	0.16	0.15	0.14	0.13
Open circuit time constant	T'd0	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Short-circuit transient time constant	T'd	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
Subtransient time constant	T''d	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Armature time constant	Ta	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045
No load excitation current	io(A)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Full load excitation current	ic(A)	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Full load excitation voltage	uc(V)	88	88	88	88	88	88	88	88
No load losses	W	27890	29700	30580	33060	39840	41460	43080	45000
Heat dissipation at full load at Class H	W	104498	108487	107279	103920	114553	117011	119902	123670
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		6 ends							
Rotor		With damping cage							
Overload	%	110% rated load for 1 hour							
Stator winding resistance (20°C)	ohm	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Rotor winding resistance (20°C)	ohm	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730
Exciter resistance (20°C)	ohm	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8
Cooling air requirement	m <sup>3</sup> /min	188	188	188	188	226	226	226	226
Energy storage constant ( H )	sec.	0.2457	0.2457	0.2457	0.2457	0.3465	0.3158	0.3158	0.3158
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							