



THREE-PHASE SYNCHRONOUS GENERATOR

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

EG355L-500N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	593.75	625	625	625	718	744	766	781
Rated power (kW)	P	475	500	500	500	574	595	613	625
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	89.9	89.8	89.5	89.1	89.8	89.9	89.9	89.9
50% load	%	93.5	93.5	93.4	93.3	93.5	93.6	93.7	93.7
75% load	%	94.2	94.2	94.3	94.3	94.3	94.5	94.6	94.6
100% load	%	94.1	94.3	94.4	94.5	94.4	94.6	94.7	94.8
Reactance at Class H									
Short-circuit ratio	Kcc	0.405	0.451	0.514	0.624	0.35	0.38	0.414	0.451
Direct axis synchronous reactance	Xd	2.885	2.74	2.546	2.265	3.165	2.99	2.845	2.74
Quadrature axis synchronous reactance	Xq	1.296	1.231	1.144	1.018	1.422	1.343	1.278	1.231
Direct axis transient reactance saturated	X'd	0.137	0.13	0.121	0.108	0.151	0.142	0.135	0.13
Direct axis subtransient reactance saturated	X''d	0.109	0.103	0.096	0.085	0.119	0.113	0.107	0.103
Quadrature axis subtransient reactance saturated	X''q	0.15	0.142	0.132	0.118	0.164	0.155	0.148	0.142
Zero sequence reactance unsaturated	X0	0.006	0.006	0.006	0.005	0.007	0.007	0.006	0.006
Leakage reactance	X1	0.061	0.058	0.054	0.048	0.067	0.063	0.06	0.058
Negative sequence reactance saturated	X2	0.13	0.12	0.11	0.1	0.14	0.13	0.13	0.12
Open circuit time constant	T'd0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Short-circuit transient time constant	T'd	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106
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	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016
No load excitation current	io(A)	1	1	1	1	1	1	1	1
Full load excitation current	ic(A)	3	3	3	3	3	3	3	3
Full load excitation voltage	uc(V)	45	45	45	45	45	45	45	45
No load losses	W	5150	5450	5720	6220	7150	7490	7790	8110
Heat dissipation at full load at Class H	W	29621	30504	29886	29101	30961	31641	32076	33112
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-2							
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	0.03.9	0.03.9	0.03.9	0.03.9	0.03.9	0.03.9	0.03.9	0.03.9
Rotor winding resistance (20°C)	ohm	1.039	1.039	1.039	1.039	1.039	1.039	1.039	1.039
Exciter resistance (20°C)	ohm	10.64	10.64	10.64	10.64	10.64	10.64	10.64	10.64
Cooling air requirement	m ³ /min	68.9	68.9	68.9	68.9	82.7	82.7	82.7	82.7
Energy storage constant (H)	sec.	0.1148	0.1148	0.1148	0.1148	0.159	0.1503	0.1439	0.1378
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							