



## THREE-PHASE SYNCHRONOUS GENERATOR

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

# EG355L-600N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	710	750	750	750	861	893	919	936
Rated power (kW)	P	568	600	600	600	689	714	735	749
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	90.6	90.7	90.6	90.3	90.4	90.6	90.7	90.7
50% load	%	94	94.1	94.1	94	94	94.1	94.2	94.3
75% load	%	94.7	94.8	94.9	95	94.8	95	95.1	95.2
100% load	%	94.7	94.9	95	95.2	94.9	95.1	95.2	95.3
Reactance at Class H									
Short-circuit ratio	Kcc	0.354	0.383	0.427	0.52	0.314	0.337	0.358	0.383
Direct axis synchronous reactance	Xd	3.152	3.005	2.791	2.483	3.461	3.278	3.135	3.005
Quadrature axis synchronous reactance	Xq	1.405	1.34	1.244	1.107	1.543	1.461	1.398	1.34
Direct axis transient reactance saturated	X'd	0.142	0.135	0.126	0.112	0.156	0.147	0.141	0.135
Direct axis subtransient reactance saturated	X''d	0.111	0.106	0.098	0.087	0.122	0.115	0.11	0.106
Quadrature axis subtransient reactance saturated	X''q	0.154	0.146	0.136	0.121	0.169	0.16	0.153	0.146
Zero sequence reactance unsaturated	X0	0.007	0.007	0.006	0.005	0.008	0.007	0.007	0.007
Leakage reactance	X1	0.06	0.057	0.053	0.047	0.066	0.063	0.06	0.057
Negative sequence reactance saturated	X2	0.13	0.13	0.12	0.1	0.15	0.14	0.13	0.13
Open circuit time constant	T'd0	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Short-circuit transient time constant	T'd	0.109	0.109	0.109	0.109	0.109	0.109	0.109	0.109
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	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019
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	5690	5990	6260	6750	7860	8260	8590	9347
Heat dissipation at full load at Class H	W	31536	32378	31446	30517	33250	34079	34638	35271
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	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
Rotor winding resistance (20°C)	ohm	1.192	1.192	1.192	1.192	1.192	1.192	1.192	1.192
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 <sup>3</sup> /min	68.9	68.9	68.9	68.9	82.7	82.7	82.7	82.7
Energy storage constant ( H )	sec.	0.122	0.122	0.122	0.1756	0.1673	0.1586	0.1527	0.1463
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							