ENGGA

THREE-PHASE SYNCHRONOUS GENERATOR

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

EG225L-80N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	100	100	100	100	106.25	110	113.75	115
Rated power (kW)	P	80	80	80	80	85	88	91	92
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	84.4	83.9	83.3	81.9	85	85	84.8	84.4
50% load	%	89.6	89.5	89.2	88.6	90.1	90.3	90.2	90.1
75% load	%	90.5	90.7	90.7	90.4	91.2	91.4	91.5	91.5
100% load	%	90.4	90.7	90.8	90.8	91.1	91.4	91.6	91.8
Reactance at Class H									
Short-circuit ratio	Kcc	0.444	0.532	0.619	0.784	0.384	0.434	0.483	0.555
Direct axis synchronous reactance	Xd	2.78	2.509	2.33	2.073	2.971	2.737	2.589	2.404
Quadrature axis synchronous reactance	Xq	1.265	1.142	1.061	0.944	1.352	1.246	1.178	1.094
Direct axis transient reactance saturated	X'd	0.104	0.094	0.087	0.078	0.112	0.103	0.097	0.09
Direct axis subtransient reactance saturated	X"d	0.096	0.087	0.081	0.072	0.103	0.095	0.09	0.083
Quadrature axis subtransient reactance saturated	X"q	0.163	0.147	0.137	0.122	0.174	0.161	0.152	0.141
Zero sequence reactance unsaturated	X0	0.005	0.004	0.004	0.004	0.005	0.005	0.004	0.004
Leakage reactance	X1	0.067	0.06	0.056	0.05	0.071	0.066	0.062	0.058
Negative sequence reactance saturated	X2	0.13	0.12	0.11	0.1	0.14	0.13	0.12	0.11
Open circuit time constant	T'd0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Short-circuit transient time constant	T'd	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047
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	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008
No load excitation current	io(A)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Full load excitation current	ic(A)	3	3	3	3	3	3	3	3
Full load excitation voltage	uc(V)	23	23	23	23	23	23	23	23
No load losses	W	1150	1240	1300	1410	1560	1640	1730	1820
Heat dissipation at full load at Class H	W	8505	8193	8086	8057	8314	8238	8334	8262
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		12ends							
Rotor		With damping cage							
Overload	%	110% rated load for 1 hour							
Leakage reactance	ohm	0.0466	0.0466	0.0466	0.0466	0.0466	0.0466	0.0466	0.0466
Rotor winding resistance (20℃)	ohm	0.391	0.391	0.391	0.391	0.391	0.391	0.391	0.391
Exciter resistance (20℃)	ohm	7.118	7.118	7.118	7.118	7.118	7.118	7.118	7.118
Cooling air requirement	m^3/min	22.3	22.3	22.3	22.3	26.8	26.8	26.8	26.8
Energy storage constant (H)	sec.	0.1156	0.1156	0.1156	0.1156	0.1604	0.1513	0.1447	0.1387
Method of cooling		IC 01							
Ambient temperature		40℃							
Sense of rotation		Counter-clockwise							
Type of construction		Single / Double bearing							
Degree of protection / enclosure		IP21 or IP23							
Maximum overspeed	rpm	2160							