ENGGA

THREE-PHASE SYNCHRONOUS GENERATOR

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

EG280L-200N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	250	250	250	250	286.25	297.5	306.25	311.25
Rated power (kW)	P	200	200	200	200	229	238	245	249
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	87.9	88	88	87.4	88	88.2	88.3	88.3
50% load	%	91.9	92	92	91.9	92	92.2	92.3	92.4
75% load	%	92.5	92.8	92.8	92.9	92.7	93	93.1	93.3
100% load	%	92.3	92.6	92.6	93	92.5	92.8	93.1	93.3
Reactance at Class H									
Short-circuit ratio	Kcc	0.32	0.372	0.417	0.522	0.266	0.294	0.322	0.359
Direct axis synchronous reactance	Xd	3.659	3.302	3.068	2.729	4.215	3.897	3.67	3.426
Quadrature axis synchronous reactance	Xq	1.709	1.542	1.433	1.275	1.969	1.82	1.714	1.6
Direct axis transient reactance saturated	X'd	0.112	0.101	0.094	0.084	0.129	0.12	0.113	0.105
Direct axis subtransient reactance saturated	X"d	0.107	0.097	0.09	0.08	0.124	0.114	0.108	0.1
Quadrature axis subtransient reactance saturated	X"q	0.178	0.161	0.149	0.133	0.205	0.19	0.179	0.167
Zero sequence reactance unsaturated	X0	0.007	0.006	0.006	0.005	0.008	0.007	0.007	0.006
Leakage reactance	X1	0.083	0.075	0.07	0.062	0.096	0.089	0.084	0.078
Negative sequence reactance saturated	X2	0.14	0.13	0.12	0.11	0.16	0.15	0.14	0.13
Open circuit time constant	T'd0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Short-circuit transient time constant	T'd	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059
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	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
No load excitation current	io(A)	1	1	1	1	1	1	1	1
Full load excitation current	ic(A)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Full load excitation voltage	uc(V)	33	33	33	33	33	33	33	33
No load losses	W	2290	2410	2510	2720	3160	3320	3540	3590
Heat dissipation at full load at Class H	W	16779	15959	15471	15031	18568	18355	18243	17938
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							
Stator winding resistance (20℃)	ohm	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
Rotor winding resistance (20℃)	ohm	0.825	0.825	0.825	0.825	0.825	0.825	0.825	0.825
Exciter resistance (20℃)	ohm	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57
Cooling air requirement	m^3/min	38.7	38.7	38.7	38.7	46.4	.4	46.4	46.4
Energy storage constant (H)	sec.	0.12	0.12	0.12	0.12	0.1646	0.1571	0.1503	0.144
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							