THREE-PHASE SYNCHRONOUS GENERATOR

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

EG280L-230N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	287.5	287.5	287.5	287.5	297.5	312.5	317.5	322.5
Rated power (kW)	P	230	230	230	230	238	250	254	258
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	87.8	87.9	87.9	87.5	87.9	88.1	88.2	88.3
50% load	%	91.7	92	92.1	92	92	92.2	92.3	92.4
75% load	%	92.4	92.7	92.8	92.9	92.7	93	93.2	93.3
100% load	%	92.1	92.5	92.7	93	92.6	93	93.2	93.4
Reactance at Class H									
Short-circuit ratio	Kcc	0.279	0.324	0.363	0.454	0.256	0.285	0.31	0.346
Direct axis synchronous reactance	Xd	4.208	3.797	3.528	3.138	4.381	4.028	3.805	3.55
Quadrature axis synchronous reactance	Xq	1.965	1.774	1.648	1.466	2.046	1.881	1.777	1.658
Direct axis transient reactance saturated	X'd	0.129	0.117	0.108	0.096	0.135	0.124	0.117	0.109
Direct axis subtransient reactance saturated	X"d	0.123	0.111	0.103	0.092	0.128	0.118	0.112	0.104
Quadrature axis subtransient reactance saturated	X"q	0.205	0.185	0.172	0.153	0.213	0.196	0.185	0.173
Zero sequence reactance unsaturated	X0	0.008	0.007	0.007	0.006	0.008	0.007	0.007	0.007
Leakage reactance	X1	0.096	0.087	0.08	0.072	0.1	0.092	0.087	0.081
Negative sequence reactance saturated	X2	0.16	0.15	0.14	0.12	0.17	0.16	0.15	0.14
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	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014
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	3450	3590
Heat dissipation at full load at Class H	W	19756	18676	18032	17392	18825	18488	18444	18113
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	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123
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	46.4	46.4	46.4
Energy storage constant (H)	sec.	0.1091	0.1091	0.1091	0.1571	0.1503	0.1428	0.1366	0.1309
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							