



THREE-PHASE SYNCHRONOUS GENERATOR

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

EG400M-720N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	855	900	900	900	1034	1071	1104	1125
Rated power (kW)	P	684	720	720	720	827	857	883	900
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	89.8	89.3	88.8	88.4	89.8	89.8	89.6	89.3
50% load	%	93.6	93.4	93.1	93	93.7	93.7	93.7	93.5
75% load	%	94.5	94.4	94.3	94.3	94.6	94.7	94.7	94.7
100% load	%	94.6	94.6	94.6	94.7	94.8	94.9	95	95
Reactance at Class H									
Short-circuit ratio	Kcc	0.514	0.608	0.713	0.838	0.42	0.465	0.525	0.608
Direct axis synchronous reactance	Xd	2.426	2.305	2.142	1.905	2.677	2.54	2.411	2.305
Quadrature axis synchronous reactance	Xq	1.074	1.02	0.948	0.843	1.184	1.124	1.067	1.02
Direct axis transient reactance saturated	X'd	0.109	0.104	0.097	0.086	0.121	0.115	0.109	0.104
Direct axis subtransient reactance saturated	X''d	0.081	0.077	0.072	0.064	0.09	0.085	0.081	0.077
Quadrature axis subtransient reactance saturated	X''q	0.104	0.098	0.091	0.081	0.114	0.108	0.103	0.098
Zero sequence reactance unsaturated	X0	0.005	0.005	0.004	0.004	0.005	0.005	0.005	0.005
Leakage reactance	X1	0.045	0.043	0.04	0.036	0.05	0.048	0.045	0.043
Negative sequence reactance saturated	X2	0.09	0.09	0.08	0.07	0.1	0.1	0.09	0.09
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	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
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)	4	4	4	4	4	4	4	4
Full load excitation voltage	uc(V)	45	45	45	45	45	45	45	45
No load losses	W	8850	9410	9960	10510	11980	12720	13370	13870
Heat dissipation at full load at Class H	W	39121	41180	41341	40376	41139	42815	43974	45569
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	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023
Rotor winding resistance (20°C)	ohm	0.631	0.631	0.631	0.631	0.631	0.631	0.631	0.631
Exciter resistance (20°C)	ohm	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Cooling air requirement	m ³ /min	106.0	106.0	106.0	106.0	127.2	127.2	127.2	127.2
Energy storage constant (H)	sec.	0.2021	0.2021	0.2021	0.2021	0.2801	0.2646	0.2531	0.2425
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							