



THREE-PHASE SYNCHRONOUS GENERATOR

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

EG400L-1000N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	1187.5	1250	1250	1250	1436	1488	1533	1563
Rated power (kW)	P	950	1000	1000	1000	1149	1190	1226	1250
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	91.2	91	90.6	89.9	91.1	91.2	91.1	90.9
50% load	%	94.5	94.4	94.2	93.9	94.5	94.6	94.6	94.5
75% load	%	95.2	95.2	95.1	95	95.3	95.4	95.4	95.5
100% load	%	95.3	95.3	95.3	95.3	95.4	95.5	95.6	95.7
Reactance at Class H									
Short-circuit ratio	Kcc	0.433	0.501	0.594	0.745	0.366	0.402	0.444	0.501
Direct axis synchronous reactance	Xd	2.762	2.624	2.438	2.169	3.031	2.863	2.733	2.624
Quadrature axis synchronous reactance	Xq	1.22	1.159	1.076	0.958	1.338	1.264	1.207	1.159
Direct axis transient reactance saturated	X'd	0.117	0.112	0.104	0.092	0.129	0.122	0.116	0.112
Direct axis subtransient reactance saturated	X''d	0.085	0.081	0.075	0.067	0.094	0.089	0.085	0.081
Quadrature axis subtransient reactance saturated	X''q	0.109	0.104	0.097	0.086	0.12	0.113	0.108	0.104
Zero sequence reactance unsaturated	X0	0.005	0.005	0.005	0.004	0.006	0.006	0.005	0.005
Leakage reactance	X1	0.045	0.043	0.04	0.036	0.05	0.047	0.045	0.043
Negative sequence reactance saturated	X2	0.1	0.09	0.09	0.08	0.11	0.1	0.1	0.09
Open circuit time constant	T'd0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Short-circuit transient time constant	T'd	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
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	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017
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	10440	11110	11680	12750	13910	14730	15580	16230
Heat dissipation at full load at Class H	W	47166	49098	48988	49098	49499	50989	52335	54181
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	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017
Rotor winding resistance (20°C)	ohm	0.833	0.833	0.833	0.833	0.833	0.833	0.833	0.833
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.	0.1701	0.1701	0.1701	0.1701	0.2356	0.2227	0.213	0.2042
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							