



THREE-PHASE SYNCHRONOUS GENERATOR

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

EG225L-120N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	150	150	150	150	172.5	178.75	183.75	187.5
Rated power (kW)	P	120	120	120	120	138	143	147	150
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	85.6	85.3	84.7	83.6	86.4	86.5	86.3	86
50% load	%	90.6	90.5	90.3	89.8	91	91.2	91.2	91.1
75% load	%	91.6	91.7	91.7	91.5	91.9	92.2	92.3	92.4
100% load	%	91.5	91.8	91.9	91.9	91.9	92.2	92.4	92.5
Reactance at Class H									
Short-circuit ratio	Kcc	0.401	0.481	0.561	0.707	0.319	0.361	0.405	0.462
Direct axis synchronous reactance	Xd	3.094	2.792	2.594	2.307	3.579	3.3	3.103	2.908
Quadrature axis synchronous reactance	Xq	1.405	1.268	1.178	1.048	1.625	1.498	1.409	1.32
Direct axis transient reactance saturated	X'd	0.109	0.098	0.091	0.081	0.126	0.116	0.109	0.102
Direct axis subtransient reactance saturated	X''d	0.1	0.09	0.084	0.075	0.116	0.107	0.1	0.094
Quadrature axis subtransient reactance saturated	X''q	0.173	0.156	0.145	0.129	0.2	0.184	0.173	0.162
Zero sequence reactance unsaturated	X0	0.036	0.033	0.03	0.027	0.042	0.038	0.036	0.034
Leakage reactance	X1	0.068	0.061	0.057	0.051	0.079	0.073	0.068	0.064
Negative sequence reactance saturated	X2	0.14	0.12	0.11	0.1	0.16	0.15	0.14	0.13
Open circuit time constant	T'd0	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Short-circuit transient time constant	T'd	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049
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	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
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	1450	1570	1640	1800	1920	2040	2150	2280
Heat dissipation at full load at Class H	W	11176	10747	10591	10520	12229	12098	12108	12110
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°C)	ohm	0.0278	0.0278	0.0278	0.0278	0.0278	0.0278	0.0278	0.0278
Rotor winding resistance (20°C)	ohm	0.480	0.480	0.480	0.480	0.480	0.480	0.480	0.480
Exciter resistance (20°C)	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.	0.1571	0.1571	0.1571	0.1571	0.2154	0.2056	0.1967	0.1885
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							