



THREE-PHASE SYNCHRONOUS GENERATOR

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

EG225L-90N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	112.5	112.5	112.5	112.5	129	134	138	141
Rated power (kW)	P	90	90	90	90	103	107	110	113
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	85	85.1	85	84.4	85.2	85.6	85.7	85.7
50% load	%	90	90.3	90.3	90.1	90.2	90.5	90.7	90.8
75% load	%	91	91.3	91.5	91.6	91.2	91.6	91.8	92
100% load	%	90.9	91.3	91.6	91.8	91.1	91.6	91.9	92.1
Reactance at Class H									
Short-circuit ratio	Kcc	0.339	0.391	0.44	0.544	0.285	0.314	0.341	0.374
Direct axis synchronous reactance	Xd	3.385	3.055	2.838	2.525	3.898	3.602	3.388	3.196
Quadrature axis synchronous reactance	Xq	1.539	1.389	1.291	1.148	1.772	1.638	1.541	1.454
Direct axis transient reactance saturated	X'd	0.124	0.112	0.104	0.093	0.143	0.132	0.124	0.117
Direct axis subtransient reactance saturated	X''d	0.115	0.103	0.096	0.085	0.132	0.122	0.115	0.108
Quadrature axis subtransient reactance saturated	X''q	0.195	0.176	0.164	0.146	0.225	0.208	0.195	0.184
Zero sequence reactance unsaturated	X0	0.006	0.005	0.005	0.004	0.007	0.006	0.006	0.005
Leakage reactance	X1	0.079	0.071	0.066	0.059	0.091	0.084	0.079	0.074
Negative sequence reactance saturated	X2	0.15	0.14	0.13	0.12	0.18	0.16	0.16	0.15
Open circuit time constant	T'd0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Short-circuit transient time constant	T'd	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048
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	1110	1180	1240	1350	1550	1620	1680	1760
Heat dissipation at full load at Class H	W	9032	8533	8275	8007	10001	9850	9747	9719
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	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448
Rotor winding resistance (20°C)	ohm	0.437	0.437	0.437	0.437	0.437	0.437	0.437	0.437
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.	0.1156	0.1156	0.1156	0.1156	0.1604	0.1513	0.1447	0.1387
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							