



## THREE-PHASE SYNCHRONOUS GENERATOR

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

# EG225L-100N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	125	125	125	125	144	149	154	156
Rated power (kW)	P	100	100	100	100	115	119	123	125
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	84.8	84.7	84.4	83.4	85.2	85.5	85.6	85.5
50% load	%	89.7	89.8	89.8	89.4	90	90.4	90.5	90.5
75% load	%	90.6	90.9	91	90.9	90.9	91.3	91.5	91.6
100% load	%	90.3	90.8	91	91.2	90.6	91.1	91.4	91.6
Reactance at Class H									
Short-circuit ratio	Kcc	0.341	0.401	0.456	0.585	0.28	0.312	0.341	0.385
Direct axis synchronous reactance	Xd	3.469	3.131	2.909	2.587	4.014	3.695	3.494	3.261
Quadrature axis synchronous reactance	Xq	1.578	1.425	1.323	1.177	1.826	1.681	1.59	1.484
Direct axis transient reactance saturated	X'd	0.129	0.116	0.108	0.096	0.149	0.137	0.13	0.121
Direct axis subtransient reactance saturated	X''d	0.119	0.108	0.1	0.089	0.138	0.127	0.12	0.112
Quadrature axis subtransient reactance saturated	X''q	0.202	0.182	0.169	0.151	0.233	0.215	0.203	0.19
Zero sequence reactance unsaturated	X0	0.04	0.036	0.034	0.03	0.047	0.043	0.041	0.038
Leakage reactance	X1	0.082	0.074	0.069	0.062	0.095	0.088	0.083	0.078
Negative sequence reactance saturated	X2	0.16	0.14	0.13	0.12	0.19	0.17	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	1170	1250	1320	1420	1600	1680	1750	1840
Heat dissipation at full load at Class H	W	10730	10169	9878	9673	11876	11611	11617	11418
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	0.0392	0.0392	0.0392	0.0392	0.0392	0.0392	0.0392	0.0392
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 <sup>3</sup> /min	22.3	22.3	22.3	22.3	26.8	26.8	26.8	26.8
Energy storage constant ( H )	sec.	0.1016	0.1016	0.1016	0.1016	0.1407	0.1330	0.1272	0.1219
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							