



THREE-PHASE SYNCHRONOUS GENERATOR

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

EG280L-250N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	312.5	312.5	312.5	312.5	358.75	372.5	383.75	390
Rated power (kW)	P	250	250	250	250	287	298	307	312
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	88.9	88.9	88.8	88.3	88.9	89.1	89.1	89.1
50% load	%	92.5	92.6	92.7	92.5	92.6	92.8	92.9	93
75% load	%	93.1	93.3	93.4	93.5	93.3	93.5	93.7	93.8
100% load	%	92.9	93.2	93.4	93.5	93.1	93.4	93.6	93.8
Reactance at Class H									
Short-circuit ratio	Kcc	0.34	0.394	0.442	0.553	0.281	0.311	0.34	0.378
Direct axis synchronous reactance	Xd	3.46	3.123	2.901	2.581	3.996	3.691	3.479	3.247
Quadrature axis synchronous reactance	Xq	1.597	1.441	1.339	1.191	1.844	1.703	1.606	1.499
Direct axis transient reactance saturated	X'd	0.096	0.087	0.081	0.072	0.111	0.103	0.097	0.09
Direct axis subtransient reactance saturated	X''d	0.092	0.083	0.077	0.069	0.106	0.098	0.093	0.086
Quadrature axis subtransient reactance saturated	X''q	0.157	0.142	0.132	0.117	0.182	0.168	0.158	0.147
Zero sequence reactance unsaturated	X0	0.006	0.006	0.005	0.005	0.007	0.007	0.006	0.006
Leakage reactance	X1	0.071	0.065	0.06	0.053	0.083	0.076	0.072	0.067
Negative sequence reactance saturated	X2	0.12	0.11	0.1	0.09	0.14	0.13	0.13	0.12
Open circuit time constant	T'd0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Short-circuit transient time constant	T'd	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059
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	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
No load excitation current	io(A)	1	1	1	1	1	1	1	1
Full load excitation current	ic(A)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Full load excitation voltage	uc(V)	33	33	33	33	33	33	33	33
No load losses	W	2830	2990	3130	3380	3840	4050	4230	4400
Heat dissipation at full load at Class H	W	19136	18269	17781	17351	21204	20990	20956	20623
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	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084
Rotor winding resistance (20°C)	ohm	0.962	0.962	0.962	0.962	0.962	0.962	0.962	0.962
Exciter resistance (20°C)	ohm	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57
Cooling air requirement	m ³ /min	38.7	38.7	38.7	38.7	46.4	46.4	46.4	46.4
Energy storage constant (H)	sec.	0.1104	0.1104	0.1104	0.1104	0.1516	0.1419	0.1347	0.1324
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							