



THREE-PHASE SYNCHRONOUS GENERATOR

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

EG315L-360N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	450	450	450	450	517.5	535	552.5	562.5
Rated power (kW)	P	360	360	360	360	414	428	442	450
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	89.7	89.5	89.2	88.8	89.8	89.9	89.9	89.8
50% load	%	93.3	93.3	93.2	93.1	93.4	93.6	93.6	93.6
75% load	%	94	94.1	94.2	94.2	94.1	94.3	94.4	94.5
100% load	%	93.9	94.2	94.3	94.4	94.1	94.4	94.5	94.6
Reactance at Class H									
Short-circuit ratio	Kcc	0.353	0.417	0.482	0.582	0.284	0.32	0.354	0.401
Direct axis synchronous reactance	Xd	3.456	3.119	2.897	2.577	3.998	3.686	3.474	3.249
Quadrature axis synchronous reactance	Xq	1.578	1.424	1.323	1.177	1.825	1.683	1.586	1.483
Direct axis transient reactance saturated	X'd	0.126	0.114	0.106	0.094	0.146	0.135	0.127	0.119
Direct axis subtransient reactance saturated	X''d	0.114	0.103	0.096	0.085	0.132	0.122	0.115	0.107
Quadrature axis subtransient reactance saturated	X''q	0.173	0.156	0.145	0.129	0.2	0.185	0.174	0.163
Zero sequence reactance unsaturated	X0	0.007	0.006	0.006	0.005	0.008	0.008	0.007	0.007
Leakage reactance	X1	0.079	0.071	0.066	0.059	0.092	0.084	0.08	0.074
Negative sequence reactance saturated	X2	0.14	0.13	0.12	0.11	0.17	0.15	0.14	0.13
Open circuit time constant	T'd0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Short-circuit transient time constant	T'd	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085
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)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Full load excitation voltage	uc(V)	40	40	40	40	40	40	40	40
No load losses	W	3710	3940	4150	4520	5080	5330	5560	5810
Heat dissipation at full load at Class H	W	23264	22287	21922	21275	25911	25642	25626	25436
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	0.0058	0.0058	0.0058	0.0058	0.0058	0.0058	0.0058	0.0058
Rotor winding resistance (20°C)	ohm	0.777	0.777	0.777	0.777	0.777	0.777	0.777	0.777
Exciter resistance (20°C)	ohm	9.856	9.856	9.856	9.856	9.856	9.856	9.856	9.856
Cooling air requirement	m ³ /min	54.8	54.8	54.8	54.8	65.8	65.8	65.8	65.8
Energy storage constant (H)	sec.	0.1153	0.1153	0.1153	0.1153	0.1589	0.1494	0.1429	0.1383
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							