



# THREE-PHASE SYNCHRONOUS GENERATOR

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

## EG400L-900N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	1125	1125	1125	1125	1293	1339	1379	1406
Rated power (kW)	P	900	900	900	900	1034	1071	1103	1125
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	91	90.6	90	89.6	90.8	90.8	90.6	90.4
50% load	%	94.3	94.2	93.9	93.8	94.3	94.4	94.3	94.3
75% load	%	95.1	95.1	94.9	94.9	95.2	95.3	95.3	95.3
100% load	%	95.1	95.2	95.2	95.2	95.4	95.5	95.5	95.5
Reactance at Class H									
Short-circuit ratio	Kcc	0.478	0.59	0.699	0.836	0.416	0.462	0.515	0.59
Direct axis synchronous reactance	Xd	2.572	2.321	2.156	1.918	2.691	2.532	2.422	2.321
Quadrature axis synchronous reactance	Xq	1.129	1.019	0.947	0.842	1.182	1.112	1.064	1.019
Direct axis transient reactance saturated	X'd	0.109	0.098	0.091	0.081	0.114	0.107	0.103	0.098
Direct axis subtransient reactance saturated	X''d	0.079	0.072	0.067	0.059	0.083	0.078	0.075	0.072
Quadrature axis subtransient reactance saturated	X''q	0.101	0.092	0.085	0.076	0.106	0.1	0.095	0.092
Zero sequence reactance unsaturated	X0	0.005	0.004	0.004	0.004	0.005	0.005	0.005	0.004
Leakage reactance	X1	0.042	0.038	0.036	0.032	0.044	0.042	0.04	0.038
Negative sequence reactance saturated	X2	0.09	0.08	0.08	0.07	0.09	0.09	0.09	0.08
Open circuit time constant	T'd0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Short-circuit transient time constant	T'd	0.124	0.124	0.124	0.124	0.124	0.124	0.124	0.124
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	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
No load excitation current	io(A)	1	1	1	1	1	1	1	1
Full load excitation current	ic(A)	4	4	4	4	4	4	4	4
Full load excitation voltage	uc(V)	45	45	45	45	45	45	45	45
No load losses	W	10550	11160	11830	12600	13940	14840	15670	16290
Heat dissipation at full load at Class H	W	45974	45279	45577	44882	45647	46975	48543	50417
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		6ends							
Rotor		With damping cage							
Overload	%	110% rated load for 1 hour							
Stator winding resistance (20°C)	ohm	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
Rotor winding resistance (20°C)	ohm	0.824	0.824	0.824	0.824	0.824	0.824	0.824	0.824
Exciter resistance (20°C)	ohm	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Cooling air requirement	m <sup>3</sup> /min	106.0	106.0	106.0	106.0	127.2	127.2	127.2	127.2
Energy storage constant ( H )	sec.	0.186	0.186	0.186	0.186	0.2575	0.2435	0.2329	0.2232
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							