



THREE-PHASE SYNCHRONOUS GENERATOR

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

EG225M-60N

Frequency	HZ	50				60			
Rated capacity (kVA)	S	75	75	75	75	86.25	90	92.5	93.75
Rated power (kW)	P	60	60	60	60	69	72	74	75
Voltage (V)	U	380	400	415	440	415	440	460	480
Efficiency of 25% load	%	82.3	82.1	81.8	80.6	82.7	83	83	82.9
50% load	%	88	88.1	88	87.5	88.3	88.6	88.8	88.8
75% load	%	89	89.3	89.4	89.3	89.3	89.7	89.9	90.1
100% load	%	88.7	89.2	89.5	89.6	89.1	89.6	89.9	90.2
Reactance at Class H									
Short-circuit ratio	Kcc	0.382	0.447	0.507	0.644	0.315	0.347	0.381	0.429
Direct axis synchronous reactance	Xd	3.074	2.775	2.578	2.293	3.557	3.302	3.105	2.89
Quadrature axis synchronous reactance	Xq	1.405	1.268	1.178	1.048	1.625	1.509	1.419	1.32
Direct axis transient reactance saturated	X'd	0.127	0.114	0.106	0.094	0.147	0.136	0.128	0.119
Direct axis subtransient reactance saturated	X''d	0.117	0.106	0.098	0.088	0.136	0.126	0.119	0.11
Quadrature axis subtransient reactance saturated	X''q	0.193	0.174	0.162	0.144	0.224	0.208	0.195	0.182
Zero sequence reactance unsaturated	X0	0.005	0.005	0.004	0.004	0.006	0.006	0.005	0.005
Leakage reactance	X1	0.083	0.075	0.07	0.062	0.096	0.09	0.084	0.078
Negative sequence reactance saturated	X2	0.16	0.14	0.13	0.12	0.18	0.17	0.16	0.15
Open circuit time constant	T'd0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Short-circuit transient time constant	T'd	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
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	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008
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	930	990	1040	1120	1290	1340	1400	1470
Heat dissipation at full load at Class H	W	7621	7249	7062	6957	8450	8393	8332	8176
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	0.0739	0.0739	0.0739	0.0739	0.0739	0.0739	0.0739	0.0739
Rotor winding resistance (20°C)	ohm	0.339	0.339	0.339	0.339	0.339	0.339	0.339	0.339
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.	0.1381	0.1381	0.1381	0.1381	0.1908	0.1807	0.1729	0.1657
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							