FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 560 LA 4

4 POLES

CONTINUOUS DUTY

50 Hz-1500 min^{-1} / 60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**80**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**3000**	**3100**	**3100**	**3220**	**3400**	**3565**	**3565**
		kW	***2400***	***2480***	***2480***	***2576***	***2720***	***2852***	***2852***
EFFICIENCY (%) @ 0,8 p.f.		4/4	96,4	96,5	96,5	96,4	96,4	96,5	96,6
		3/4	96,5	96,6	96,6	96,4	96,5	96,5	96,6
		2/4	96,5	96,5	96,5	96,3	96,3	96,4	96,4
EFFICIENCY (%) @ 1,0 p.f.		4/4	97,2	97,2	97,2	97,2	97,2	97,2	97,3
		3/4	97,3	97,3	97,3	97,2	97,2	97,3	97,3
		2/4	97,2	97,3	97,2	97,1	97,1	97,2	97,2
SHORT CIRCUIT RATIO			0,36	0,39	0,42	0,34	0,36	0,37	0,41
REACTANCES (%)									
Direct axis synchronous		xd	310	290	270	335	315	305	280
Quadrature axis synchronous		xq	170	160	150	185	175	165	155
Direct axis transient		x'd	30,0	28,0	26,0	32,3	30,5	29,2	26,8
Direct axis subtransient		x"d	15,4	14,4	13,4	16,6	15,7	15,0	13,8
Quadrature axis subtransient		x"q	16,3	15,2	14,1	17,5	16,5	15,9	14,6
Negative sequence		x_2	15,9	14,8	13,7	17,1	16,1	15,4	14,2
Zero sequence		x_0	6,4	6,0	5,6	6,9	6,5	6,3	5,8

TIME CONSTANTS [s]

Open circuit (T'do)	5,9	Subtransient (T"d)	0,025
Transient (T'd)	0,58	Armature (Ta)	0,052

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6332 C3 / With grease nipple
N-end bearing/Lubrication	6330 C3 / With grease nipple
Weight (IM B34) [kg]	5700
Inertia (J) (IM B34) [kgm^2]	95
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	3,0 / 3,4
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,37
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% I_n
Voltage regulation accuracy	+/- 0,5% (in steady state condition, speed from -2% to +5%, p.f. from 0,8 to 1)
Radio interference	EN 55011 Class B Group 1
Wave form THF	< 5%
Total harmonic content	< 5% (under no-load or non-distorting-load condition)

STANDARDS

IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10, NEMA MG 1.22.