

DATA SHEET

Synchronous Alternator



Customer	:	Notes:
Customer reference	:	
Product line	: AG10-250MI20AI	Product code : 14422531
Area classification	: Safe	1010467395

General data Frame (IEC) : 250 Insulation Class : 180°C (H) THD (L-L, no load) : ≤ 3% Stator winding pitch : 2/3 Altitude : up to 1000 m.a.s.l Number of Leads : 12 Power factor : 0.8 to 1.0 Excitation system : Brushless with Auxiliary Coil Cooling : IC01	Degree of protection : IP23 Mounting style : B15T Number of poles : 4 Type of Pole : Salient Rated speed - 50 Hz : 1500 rpm Nominal rotation - 60 Hz : 1800 rpm Overspeed : 2250 rpm Approx. weight : 917 kg Overload : 1.1x In per 1h each 6h Momentary Overload : 1.5x In per 30s
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Frequency and number of phases		50 Hz				60 Hz							
		3ph			1ph	3ph				1ph			
Voltages (V)	Y (series star) connection	380	400		-	380	440	480					-
	YY (parallel star) connection	190	200		-	190	220	240					-
	Δ (series delta) connection	220	230		-	220	254	277					-
	ΔΔ (parallel delta) connection	110	115		-	110	127	138					-
	Zig-zag or single phase delta	-	-	-	190 - 200	-	-	-	-	-	-	-	220 - 240
Output power (kVA)	Continuous 80/40	288	288		166	302	352	378					203
	Continuous 105/40	330	330		191	350	403	440					233
	Continuous 125/40	360	360		208	378	440	472					254
	Standby 150/40	365	365		211	435	477	517					275
	Standby 163/27	385	370		222	460	505	550					292
Electrical data (FP=0.8 / Continuous 125/40 (H))	Xd(%) Dir. axis synchronous reactance	437.4	346.2		477.7	518.9	429.1	369.3					572.1
	X'd(%) Dir. axis transient reactance	16.7	13.2		18.2	19.8	16.4	14.1					21.8
	X''d(%) Dir. axis subtrans. reactance	12.5	9.9		13.7	14.8	12.2	10.5					16.3
	Xq(%) Quad. axis sync. reactance	120.9	95.8		132.1	143.5	118.7	102.1					158.2
	X''q(%) Quad. axis subtrans. react.	10.0	7.9		10.9	11.9	9.8	8.4					13.0
	X2(%) Negative sequence reactance	15.9	12.6		17.4	18.9	15.6	13.4					20.7
	X0(%) Zero sequence reactance	2.1	1.6		2.3	2.5	2.0	1.7					2.7
	T'd(ms) Short Circ.Trans.time const.	60.3	47.8		65.9	71.6	59.2	50.9					78.9
	T''d(ms) Short Circ. Sub. time const.	1.6	1.3		1.7	1.9	1.6	1.3					2.1
	T'do(ms) Open Circ. time const Trans	1203	952		1314	1427	1180	1016					1573
	T''do(ms) Open Circ. time const Subt	2.2	1.7		2.4	2.6	2.1	1.8					2.9
	Ta(ms) Armature time const.	10	8		11	12	10	8					13
	uc(V) Full load excitation voltage	57.6	56.7		57.6	47.3	52.0	54.9					52.0
	ic(A) Full load excitation current	3.5	3.4		3.5	2.8	3.1	3.3					3.1
	ic(A) No load excitation current	0.8	0.9		25.2	0.6	0.8	0.9					1.0
Efficiency (%)	Icc(A) Sustained Short-Circ. Current	1641	1559		1559	1723	1732	1703					1588
	Kcc Short-circuit ratio	0.39	0.31		0.43	0.47	0.39	0.33					0.52
	Power factor	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0
	25% of load	93	94.6	93.2	94.7	85.6	87	93.6	94.9	93.7	95	93.3	94.7
	50% of load	94.1	95.5	94.2	95.6	86.6	87.9	94.6	95.8	94.7	95.9	94.6	95.9
	75% of load	93.6	95.3	93.9	95.5	86.2	87.6	94.2	95.6	94.4	95.8	94.4	95.8
	100% of load	93	94.8	93.3	95	85.6	87.2	93.4	95	93.8	95.4	94	95.5
	125% of load	92.2	94.2	92.6	94.5	83.9	85.9	92.5	94.4	93	94.8	93.4	95.1

Other characteristics Air flow : 1.84 m³/s Exciter stator winding resistance at 20°C : 12.17 ohm Stator winding resistance at 20°C : 0.00982 ohm Rotor winding resistance : 1.74 ohm Stator winding layers : 2 Inertia WR² : 3.53 kgm² NDE Bearing : 6314 2RS/ZZ DE bearing : Flange : SAE 2 Coupling disc : SAE 11,5	Automatic voltage regulator Accuracy (stability) : +/- 0.5% Rated current : 5 A Analog input : Yes Digital input : No Peak current : 7 A/10 s Droop / TC : Yes Dynamic recovery : 8 to 500 ms U/F : Yes Internal voltage adjustment : +/- 15% External voltage adjustment : +/- 10% Transient recovery time for ΔU=20% : 500 ms	According to: IEC 60034 NBR 5117 NEMA MG1 VDE530 ISO 8528 CSA
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Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date	15/07/2023			



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