

DATA SHEET

Synchronous Alternator



Customer	:	Notes:
Customer reference	:	
Product line	: GTA202AIVJ	Product code : 14419723
Area classification	: Safe	1010316819

General data Frame (IEC) : 200 Insulation Class : 180°C (H) Total Harmonic Distortion (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 : B35T Number of poles : 4 Type of Pole : Salient Nominal rotation - 50 Hz : 1500 rpm Nominal rotation - 60 Hz : 1800 rpm Overspeed : 2250 rpm Alternator mass : 375 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 connection			380		400		415		-		380		416		440		480		-	
	YY connection			190		200		208		-		190		208		220		240		-	
	Δ connection			220		230		239		-		220		240		254		277		-	
	ΔΔ connection			110		115		120		-		110		120		127		138		-	
	Zig-zag or single phase delta			-		-		-		190 - 200		-		-		-		-		220 - 240	
Output power (kVA)	ΔT=80°C (Ta=40°C)			76.0		76.0		72.0		46.2		93.8		100.6		105.4		107.2		62.0	
	ΔT=105°C (Ta=40°C)			86.0		86.0		82.0		52.9		107.5		115.2		120.7		122.8		71.1	
	ΔT=125°C (Ta=40°C)			100.0		100.0		95.0		57.7		123.0		133.5		141.0		141.0		77.5	
	ΔT=150°C (Ta=40°C)			106.0		106.0		101.0		63.2		129.0		137.8		144.0		144.0		85.0	
	ΔT=163°C (Ta=27°C)			108.0		108.0		103.0		65.9		136.0		144.2		150.0		150.0		88.6	
Electrical data (FP=0.8 / ΔT=125°C / Ta=40°C)	Xd(%) Dir. axis synchronous reactance			280.91		253.88		241.19		374.55		388.94		353.88		334.1		281.42		445.47	
	X'd(%) Dir. axis transient reactance			21.24		19.19		18.23		28.32		29.5		26.78		25.28		21.27		33.71	
	X''d(%) Dir. axis subtrans. reactance			18.58		16.78		15.94		24.77		25.79		23.42		22.11		18.6		29.48	
	Xq(%) Quad. axis sync. reactance			106.43		96.19		91.38		141.91		147.33		125.11		126.58		106.62		168.77	
	X''q(%) Quad. axis subtrans. react.			17.0		15.35		14.58		22.67		23.64		33.47		20.24		17.02		26.99	
	X2(%) Negative sequence reactance			17.75		16.03		15.23		23.67		24.67		28.45		21.13		17.77		28.18	
	X0(%) Zero sequence reactance			3.1		2.8		2.66		4.13		4.3		3.9		3.69		3.1		4.91	
	T'd(ms) Short Circ.Trans.time const.			64.0		64.0		64.0		85.33		63.8		64.37		64.0		64.0		85.33	
	T''d(ms) Short Circ. Sub. time const.			1.0		1.0		1.0		1.33		1.0		1.12		1.0		1.0		1.33	
	T'do(ms) Open Circ. time const Trans			856.6		857.8		857.8		1142.13		851.9		802.64		855.7		857.8		1140.93	
	T''do(ms) Open Circ. time const Subt			1.1		1.1		1.1		1.47		1.1		1.33		1.1		1.1		1.47	
	Ta(ms) Armature time const.			10.29		10.3		10.3		13.72		10.27		9.35		10.29		10.3		13.72	
	uc(V) Full load excitation voltage			34.31		35.31		35.31		34.31		31.36		34.25		34.21		35.2		34.21	
	ic(A) Full load excitation current			3.57		3.67		3.67		3.57		3.26		3.56		3.56		3.66		3.56	
	ic(A) No load excitation current			0.8		1.0		1.0		1.07		0.4		0.67		0.6		0.9		0.8	
Icc(A) Sustained Short-Circ. Current			455.8		433.01		396.49		433.01		560.64		510.18		555.04		508.79		484.38		
Kcc Short-circuit ratio			0.4		0.47		0.41		0.53		0.26		0.29		0.32		0.42		0.43		
Efficiency (%)	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	0.8	1.0	0.8	1.0	0.8	1.0
	25% of load			91.1	93.5	90.7	93.1	91	93.4	83.8	86	93.6	95.4	93.3	95.2	93.2	95.2	92.4	94.6	85.8	87.6
	50% of load			91.6	94	91.5	94	91.8	94.2	84.3	86.5	92.8	94.8	92.8	94.9	92.9	95	92.6	94.8	85.5	87.4
	75% of load			90.5	93.2	90.6	93.4	90.9	93.6	83.2	85.8	91.1	93.4	91.3	93.7	91.5	93.9	91.5	94	84.2	86.4
	100% of load			89.2	92.2	89.4	92.5	89.7	92.8	82	84.8	89.3	91.9	89.6	92.4	89.9	92.7	90.3	93.1	82.7	85.3
	125% of load			87.7	91	88.1	91.5	88.4	91.8	80.6	83.8	87.4	90.4	87.9	91	88.3	91.4	88.9	92.2	81.2	84.1

Other characteristics Air flow : 0.9 m³/s Exciter stator winding resistance at 20°C : 10.55 ohm Stator winding resistance at 20°C : 0.053 ohm Rotor winding resistance : 1.27 ohm Stator winding layers : 2 Inertia WR² : 0.57 kgm² NDE Bearing : 6210-2RS DE bearing : 6313-2RS Flange : SAE 3 Coupling disc : WITHOUT	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	10/08/2022			
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