DATA SHEET
Synchronous Alternator

Customer	:	Notes:	
Customer reference	:		
Product line	: GTA201AIHV	Product code	: 14419635
Area classification	: Safe		1010303059

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	: B15T
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	: 245 kg
Overload	: 1.1x In per 1h each 6h
Momentary Overload	: 1.5x In per 30s

	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)	42.0	42.0	40.0	23.3	47.3	51.5	54.5	56.4	31.0
	ΔT=105°C (Ta=40°C)	48.5	48.5	45.8	26.7	54.2	59.0	62.4	64.6	35.5
	ΔT=125°C (Ta=40°C)	**53.0**	**53.0**	**50.0**	**29.2**	**59.1**	**64.3**	**68.1**	**70.5**	**38.8**
	ΔT=150°C (Ta=40°C)	56.0	56.0	53.2	31.9	63.2	68.8	72.8	77.2	42.5
	ΔT=163°C (Ta=27°C)	57.5	57.5	54.6	33.3	71.0	73.8	75.7	81.0	44.3
Electrical data (FP=0.8 / ΔT=125°C / Ta=40°C) Satured reactances values	Xd(%) Dir. axis synchronous reactance	280.13	245.76	233.48	373.51	361.8	330.0	312.41	272.43	416.54
	X'd(%) Dir. axis transient reactance	24.81	21.74	20.66	33.08	32.14	29.24	27.68	24.1	36.91
	X"d(%) Dir. axis subtrans. reactance	20.87	18.31	17.39	27.83	27.04	24.6	23.29	20.29	31.05
	Xq(%) Quad. axis sync. reactance	107.02	93.89	89.19	142.69	138.19	136.6	119.34	104.08	159.13
	X"q(%) Quad. axis subtrans. react.	18.47	16.19	15.38	24.62	23.95	36.55	20.61	17.94	27.48
	X2(%) Negative sequence reactance	19.6	17.18	16.32	26.13	25.4	30.57	21.87	19.05	29.16
	X0(%) Zero sequence reactance	3.48	3.05	2.9	4.64	4.51	4.1	3.88	3.38	5.18
	T'd(ms) Short Circ.Trans.time const.	56.53	56.63	56.63	75.37	56.44	72.32	56.53	56.63	75.37
	T"d(ms) Short Circ. Sub. time const.	1.05	1.05	1.05	1.4	1.05	1.26	1.05	1.05	1.4
	T'do(ms) Open Circ. time const Trans	649.05	650.01	650.01	865.4	645.52	901.86	648.48	650.01	864.64
	T"do(ms) Open Circ. time const Subt	1.24	1.24	1.24	1.66	1.24	1.49	1.24	1.24	1.66
	Ta(ms) Armature time const.	7.52	7.53	7.53	10.03	7.51	10.51	7.52	7.53	10.03
	uc(V) Full load excitation voltage	48.66	49.01	49.01	48.66	42.79	47.88	47.42	50.57	47.42
	ic(A) Full load excitation current	5.06	5.09	5.09	5.06	4.45	4.98	4.93	5.26	4.93
	ic(A) No load excitation current	0.7	0.9	0.9	0.93	0.4	0.64	0.6	0.8	0.8
	Icc(A) Sustained Short-Circ. Current	241.58	229.5	208.68	219.0	269.38	255.3	268.07	254.39	242.34
	Kcc Short-circuit ratio	0.38	0.46	0.43	0.5	0.27	0.3	0.33	0.42	0.44

	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
Efficiency (%)	25% of load	89.7	92.4	89.1	92	89.4	92.3	82.5	85	90.4	93	90.3	92.9	90.4	92.9	89.8	92.5	83.2	85.5
	50% of load	89.1	92.1	89.2	92.2	89.5	92.5	82	84.8	89.6	92.3	89.8	92.5	90	92.8	90	92.8	82.8	85.3
	75% of load	87	90.6	87.5	91	87.8	91.3	80	83.4	87.4	90.5	87.8	91	88.1	91.3	88.5	91.8	81	84
	100% of load	84.7	88.9	85.5	89.5	85.8	89.8	77.9	81.8	84.9	88.5	85.6	89.2	86	89.7	86.7	90.4	79.1	82.5
	125% of load	82.4	87.1	83.4	88	83.6	88.3	75.8	80.1	82.5	86.5	83.3	87.4	83.8	88	84.7	89	77.1	80.9

Other characteristics

Air flow	: 0.6 m³/s
Exciter stator winding resistance at 20ºC	: 10.55 ohm
Stator winding resistance at 20ºC	: 0.15532 ohm
Rotor winding resistance	: 0.82 ohm
Stator winding layers	: 2
Inertia WR²	: 0.4 kgm²
NDE Bearing	: 6210-2RS
DE bearing	
Flange	: SAE 3
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

Rev.	Changes Summary	Performed	Checked	Date

Performed by			
Checked by		Page	Revision
Date		1 /	