

# DATA SHEET

## Synchronous Alternator



Customer		Notes:
Customer reference		
Product line	: AG10-355MI80AI	Product code : 14411148
Area classification	: Safe	1010213903

<b>General data</b>		Degree of protection	: IP21
Frame (IEC)	: 355	Mounting style	: B3T
Insulation Class	: 180°C (H)	Number of poles	: 4
THD (L-L, no load)	: ≤ 3%	Type of Pole	: Salient
Stator winding pitch	: 5/6	Rated speed - 50 Hz	: 1500 rpm
Altitude	: up to 1000 m.a.s.l	Nominal rotation - 60 Hz	: 1800 rpm
Number of Leads	: 12	Overspeed	: 2250 rpm
Power factor	: 0.8 to 1.0	Approx. weight	: 2688 kg
Excitation system	: Brushless with Auxiliary Coil	Overload	: 1.1x In per 1h each 6h
Cooling	: IC01	Momentary Overload	: 1.5x In per 30s

Frequency and number of phases		50 Hz				60 Hz					
		3ph		1ph	3ph		1ph				
Voltages (V)	Y (series star) connection	380	400	415	-	380	440	480	480	-	
	YY (parallel star) connection	190	200	208	-	190	220	240	240	-	
	Δ (series delta) connection	220	230	239	-	220	254	277	277	-	
	ΔΔ (parallel delta) connection	110	115	120	-	110	127	138	138	-	
	Zig-zag or single phase delta	-	-	-	-	-	-	-	-	-	
Output power (kVA)	Continuous 80/40	1000	1040			1040	1168	1280			
	Continuous 105/40	1146	1192			1192	1338	1466			
	<b>Continuous 125/40</b>	<b>1250</b>	<b>1300</b>			<b>1300</b>	<b>1460</b>	<b>1600</b>			
	Standby 150/40	1300	1400			1450	1600	1660			
	Standby 163/27	1350	1450			1480	1670	1720			
Electrical data (PF=0.8 / Continuous 125/40 (H))	Xd(%) Dir. axis synchronous reactance	285.0	257.5			386.2	305.0	264.1			
	X'd(%) Dir. axis transient reactance	19.0	17.6			24.4	20.0	18.1			
	X''d(%) Dir. axis subtrans. reactance	14.0	12.7			17.5	14.4	13.1			
	Xq(%) Quad. axis sync. reactance	106.0	92.5			156.8	115.5	94.9			
	X''q(%) Quad. axis subtrans. react.	14.0	13.4			18.4	15.1	13.7			
	X2(%) Negative sequence reactance	14.0	13.1			17.9	14.8	13.4			
	X0(%) Zero sequence reactance	2.0	2.1			2.9	2.4	2.2			
	T'd(ms) Short Circ.Trans.time const.	163.0	162.6			163.8	163.3	162.6			
	T''d(ms) Short Circ. Sub. time const.	1.0	1.2			1.5	1.3	1.2			
	T'do(ms) Open Circ. time const Trans	2471	2396			2621	2514	2396			
	T''do(ms) Open Circ. time const Subt	2.0	2.0			2.1	2.0	2.0			
	Ta(ms) Armature time const.	37	35			48	39	36			
	uc(V) Full load excitation voltage	49.0	50.4			41.8	43.0	45.2			
	ic(A) Full load excitation current	4.0	4.2			3.5	3.6	3.8			
ic(A) No load excitation current	1.0	1.2			0.8	0.9	1.1				
Icc(A) Sustained Short-Circ. Current	5698	5629			5925	5747	5774				
Kcc Short-circuit ratio	0.35	0.39			0.26	0.33	0.38				
Efficiency (%)	Power factor	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0
	25% of load	90.8	92.7	90.7	92.6	91.8	93.5	91.7	93.4	91.6	93.4
	50% of load	93.6	95	93.6	95	94.1	95.4	94.3	95.6	94.3	95.6
	75% of load	94	95.4	94.1	95.5	94.4	95.6	94.7	95.9	94.8	96
	100% of load	93.9	95.3	94	95.5	94.1	95.4	94.6	95.8	94.8	96
	125% of load	93.5	95	93.7	95.2	93.6	95	94.3	95.6	94.5	95.8

<b>Other characteristics</b>		<b>Automatic voltage regulator</b>		<b>According to:</b>	
Air flow	: 2.04 m³/s	Accuracy (stability)	: +/- 0.5%	IEC 60034	
Exciter stator winding resistance at 20°C	: 10.5 ohm	Rated current	: 7 A	NBR 5117	
Stator winding resistance at 20°C	: 0.00135 ohm	Analog input	: Yes	NEMA MG1	
Rotor winding resistance	: 3.64 ohm	Digital input	: No	VDE530	
Stator winding layers	: 2	Peak current	: 10 A/10 s	ISO 8528	
Inertia WR²	: 21.1 kgm²	Droop / TC	: Yes	CSA	
NDE Bearing	: 6318 C3	Dynamic recovery	: 8 to 500 ms		
DE bearing	: 6322 C3	U/F	: Yes		
Flange	: NOT APPLICABLE	Internal voltage adjustment	: +/- 15%		
Coupling disc	: NOT APPLICABLE	External voltage adjustment	: +/- 10%		
		Transient recovery time for ΔU=20%	: 500 ms		

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