

DATA SHEET

Synchronous Alternator



Customer	:		Notes:	
Customer reference	:			
Product line	:	AG10-355MI90AI	Product code	: 14411267
Area classification	:	Safe		1010214780

General data		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	: 2783 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	1120	1184			1128	1336	1440			
	Continuous 105/40	1283	1356			1292	1531	1650			
	Continuous 125/40	1400	1480			1410	1670	1800			
	Standby 150/40	1500	1600			1550	1790	1950			
	Standby 163/27	1550	1650			1630	1850	2000			
Electrical data (PF=0.8 / Continuous 125/40 (H))	Xd(%) Dir. axis synchronous reactance	351.0	325.5			450.5	380.0	329.9			
	X'd(%) Dir. axis transient reactance	23.0	21.3			27.8	24.2	21.6			
	X''d(%) Dir. axis subtrans. reactance	16.0	15.4			20.1	17.5	15.6			
	Xq(%) Quad. axis sync. reactance	135.0	121.4			186.1	148.3	123.0			
	X''q(%) Quad. axis subtrans. react.	17.0	16.2			21.1	18.4	16.4			
	X2(%) Negative sequence reactance	17.0	15.8			20.6	17.9	16.0			
	X0(%) Zero sequence reactance	3.0	2.6			3.4	2.9	2.6			
	T'd(ms) Short Circ. Trans. time const.	164.0	163.2			163.9	163.8	163.2			
	T''d(ms) Short Circ. Sub. time const.	1.0	1.3			1.5	1.4	1.3			
	T'do(ms) Open Circ. time const Trans	2575	2519			2680	2602	2519			
	T''do(ms) Open Circ. time const Subt	2.0	2.0			2.1	2.0	2.0			
	Ta(ms) Armature time const.	44	42			55	48	43			
	uc(V) Full load excitation voltage	55.0	57.8			45.4	48.0	49.3			
	ic(A) Full load excitation current	5.0	4.8			3.8	4.0	4.1			
ic(A) No load excitation current	1.0	1.2			0.7	0.9	1.0				
Icc(A) Sustained Short-Circ. Current	6381	6409			6427	6574	6495				
Kcc Short-circuit ratio	0.28	0.31			0.22	0.26	0.3				
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	91.7	93.4	91.7	93.5	92.4	94	92.6	94.2	92.6	94.1
	50% of load	93.9	95.3	94	95.4	94.3	95.5	94.6	95.8	94.7	95.9
	75% of load	94.1	95.4	94.2	95.5	94.3	95.6	94.7	95.9	94.9	96.1
	100% of load	93.7	95.2	93.9	95.3	93.9	95.3	94.4	95.7	94.7	95.9
	125% of load	93.2	94.7	93.4	94.9	93.4	94.8	93.9	95.3	94.3	95.6

Other characteristics		Automatic voltage regulator		According to:	
Air flow	: 2.28 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	: 1.6E-4 ohm	Analog input	: Yes	NEMA MG1	
Rotor winding resistance	: 3.71 ohm	Digital input	: No	VDE530	
Stator winding layers	: 2	Peak current	: 10 A/10 s	ISO 8528	
Inertia WR²	: 22.3 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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