

# DATA SHEET

## Synchronous Alternator



Customer		Notes:	
Customer reference			
Product line	: AG10-355MI70AI	Product code	: 14402879
Area classification	: Safe		1010213250

<b>General data</b>		Degree of protection	: IP21
Frame (IEC)	: 355	Mounting style	: B35T
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	: 2654 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	416	440	480	-			
	YY (parallel star) connection	190	200	208	-	190	208	220	240	-			
	Δ (series delta) connection	220	230	239	-	220	240	254	277	-			
	ΔΔ (parallel delta) connection	110	115	120	-	110	120	127	138	-			
	Zig-zag or single phase delta	-	-	-	-	-	-	-	-	-			
Output power (kVA)	Continuous 80/40	840	880	836		920	982	1024	1120				
	Continuous 105/40	962	1008	958		1054	1125	1173	1283				
	<b>Continuous 125/40</b>	<b>1050</b>	<b>1100</b>	<b>1045</b>		<b>1150</b>	<b>1228</b>	<b>1280</b>	<b>1400</b>				
	Standby 150/40	1100	1150	1092		1280	1343	1400	1450				
	Standby 163/27	1150	1200	1140		1310	1394	1480	1520				
Electrical data (PF=0.8 / Continuous 125/40 (H))	Xd(%) Dir. axis synchronous reactance	214.0	189.5	180.0		312.9	257.3	240.4	200.95				
	X'd(%) Dir. axis transient reactance	15.0	13.9	13.2		20.4	17.7	16.5	14.76				
	X''d(%) Dir. axis subtrans. reactance	11.0	10.0	9.5		14.6	12.7	11.9	10.63				
	Xq(%) Quad. axis sync. reactance	76.0	65.2	61.9		123.5	82.7	87.6	69.1				
	X''q(%) Quad. axis subtrans. react.	11.0	10.6	10.0		15.3	22.1	12.4	11.2				
	X2(%) Negative sequence reactance	11.0	10.3	9.8		14.9	17.4	12.1	10.92				
	X0(%) Zero sequence reactance	2.0	1.7	1.6		2.4	2.1	2.0	1.77				
	T'd(ms) Short Circ. Trans. time const.	162.0	161.6	161.6		163.6	162.4	162.7	161.6				
	T'd(ms) Short Circ. Sub. time const.	1.0	1.0	1.0		1.4	1.1	1.2	1.0				
	T'do(ms) Open Circ. time const Trans	2337	2222	2222		2539	2370	2392	2221.9				
	T''do(ms) Open Circ. time const Subt	2.0	2.0	2.0		2.1	2.0	2.0	2.0				
	Ta(ms) Armature time const.	29	27	27		40	31	32	28.93				
	uc(V) Full load excitation voltage	43.0	45.0	45.0		37.6	40.8	39.2	42.0				
	ic(A) Full load excitation current	4.0	3.8	3.8		3.1	3.5	3.3	3.5				
ic(A) No load excitation current	1.0	1.3	1.3		0.8	1.0	1.0	1.18					
Icc(A) Sustained Short-Circ. Current	4786	4763	4361		5242	5020	5039	5051.81					
Kcc Short-circuit ratio	0.47	0.53	0.56		0.32	0.38	0.42	0.5					
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	89.3	91.4	89.1	91.3	89.2	91.4	89.9	92.7	90.6	92.5	90.4	92.3
	50% of load	93	94.5	92.9	94.5	93	94.6	93.8	95.2	93.8	95.2	93.8	95.2
	75% of load	93.8	95.2	93.8	95.3	93.9	95.4	94.3	95.6	94.5	95.7	94.6	95.8
	100% of load	94	95.4	94	95.5	94.1	95.6	94.3	95.6	94.5	95.7	94.6	95.9
	125% of load	93.8	95.3	93.9	95.4	94	95.5	94	95.3	94.2	95.6	94.5	95.8

<b>Other characteristics</b>		<b>Automatic voltage regulator</b>		<b>According to:</b>	
Air flow	: 1.75 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	: 0.00138 ohm	Analog input	: Yes	NEMA MG1	
Rotor winding resistance	: 3.6 ohm	Digital input	: No	VDE530	
Stator winding layers	: 2	Peak current	: 10 A/10 s	ISO 8528	
Inertia WR²	: 20.0 kgm²	Droop / TC	: Yes	CSA	
NDE Bearing	: 6318 C3	Dynamic recovery	: 8 to 500 ms		
DE bearing	: 6322 C3	U/F	: Yes		
Flange	: SAE 0	Internal voltage adjustment	: +/- 15%		
Coupling disc	: NOT APPLICABLE	External voltage adjustment	: +/- 10%		
		Transient recovery time for ΔU=20%	: 500 ms		

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