

# DATA SHEET

## Synchronous Alternator



Customer	:		Notes:	
Customer reference	:			
Product line	:	AG10-355MI90EI	Product code	: 14621584
Area classification	:	Safe		1051947909

<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	: 6	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	400		-	480				-
	YY (parallel star) connection			-					-
	Δ (series delta) connection	230		-	277				-
	ΔΔ (parallel delta) connection			-					-
	Zig-zag or single phase delta	-	-	-	-	-	-	-	-
Output power (kVA)	Continuous 80/40	1200			1440				
	Continuous 105/40	1375			1650				
	<b>Continuous 125/40</b>	<b>1500</b>			<b>1800</b>				
	Standby 150/40	1600			1950				
	Standby 163/27	1650			2000				
Electrical data (PF=0.8 / Continuous 125/40 (H))	Saturated reactances values								
	Xd(%) Dir. axis synchronous reactance	329.9			320.7				
	X'd(%) Dir. axis transient reactance	21.6			21.0				
	X''d(%) Dir. axis subtrans. reactance	15.6			15.2				
	Xq(%) Quad. axis sync. reactance	123.0			119.6				
	X''q(%) Quad. axis subtrans. react.	16.4			16.0				
	X2(%) Negative sequence reactance	16.0			15.6				
	X0(%) Zero sequence reactance	2.6			2.5				
	T'd(ms) Short Circ.Trans.time const.	163.2			163.2				
	T''d(ms) Short Circ. Sub. time const.	1.3			1.3				
	T'do(ms) Open Circ. time const Trans	2519			2519				
	T''do(ms) Open Circ. time const Subt	2.0			2.0				
	Ta(ms) Armature time const.	43			41				
	uc(V) Full load excitation voltage	59.0			48.1				
ic(A) Full load excitation current	4.9			4.0					
ic(A) No load excitation current	1.2			1.0					
Icc(A) Sustained Short-Circ. Current	5413			6495					
Kcc Short-circuit ratio	0.3			0.31					
Efficiency (%)	Power factor	0.8	1.0		0.8	1.0			
	25% of load	91.8	93.5		92.4	94			
	50% of load	94	95.4		94.6	95.9			
	75% of load	94.2	95.6		94.9	96.1			
	100% of load	93.9	95.3		94.8	96			
	125% of load	93.4	94.9		94.4	95.7			

<b>Other characteristics</b>		<b>Automatic voltage regulator</b>		<b>According to:</b>	
Air flow	: 2.42 m³/s	Accuracy (stability)	: +/- 0.5%	IEC 60034	
Exciter stator winding resistance at 20°C	: 11.0 ohm	Rated current	: 7 A	NBR 5117	
Stator winding resistance at 20°C	: 0.00121 ohm	Analog input	: Yes	NEMA MG1	
Rotor winding resistance	: 3.61 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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