

ALTERNATOR TECHNICAL DATASHEET

LSA 49.1 S5

Reference : TDS/ACG/1914

Nidec Industrial Automation India Private Ltd.
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General Characteristics

Alternator Frame	LSA 49.1 S5		
Rating	700	kVA	560 kW
Phase	3		
Pole	4		
Rated Speed	1500	RPM	
Rated Voltage [L-L] (V)	415	V	
Rated Current	973.8	A	
Frequency	50	Hz	
Rated Power Factor	0.8	Lag	
Voltage Regulation	±0.5%	With 4 % Engine Governing.	
Insulation System	H	Class	
Temperature Rise Limit	H	Class	
Winding Pitch	2/3		
Over Load	10 % Over Load for 1 hour once in 12 hours		
Waveform Distortion	No-Load < 4%		
Temperature Ambient	40	° C	
Altitude	1000	m	

Electrical Parameters

Stator Wdg Res(L-L) @20°C	0.008	Ω
Rotor Wdg Res @20°C	0.333	Ω
Excn. Current At No Load	1.10	A
Excn. Current At Full Load	4.20	A

Connection & Controls

Stator Winding	Double layer concentric winding
Control System	Self-regulated and self-excited
Excitation System	Brushless (AREP)
AVR Type	Analogue
AVR Model	R 450

Performance: Efficiency @0.8 p.f

100% Load	93.5	%
75% Load	94.2	%
50% Load	94.4	%
25% Load	92.5	%

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Reactance & Time constant

Reactances are Saturated & Per Unit at Rating and Voltage Indicated. Time Constant are In Seconds

Reactances

Short Circuit Ratio	0.300
X_d Dir Axis Reactance	3.333
X'_d Dir Axis Transient Reactance	0.210
X''_d Dir Axis Sub Transient Reactance	0.168
X_q Quad Axis Reactance	1.968
X''_q Quad Axis Subtransient Reactance	0.196
X_l Leakage Reactance	0.097
X_2 Negative Sequence Reactance	0.182
X_0 Zero Sequence Reactance	0.009

Time Constant

T'_d Transient Time Constant	0.100
T''_d Sub Transient Time Constant	0.010
T'_{do} O.C Field Time Constant	1.958
T_a Armature Time Constant	0.015

Mechanical Parameters

Protection	IP 23
Cooling	IC01
Air flow	1.00 m ³ /sec
WR^2	8.76 kg-m ²
Bearing Drive End	NA
Bearing Non-Drive End	BALL 6320 C3
Coupling	Single bearing
Maximum Over Speed	120% for 2 mins
Dimensional Drawing	AG319308
Machine Dim. L x B x H (mm)	Refer Dimension Drawing
Weight of Generator	1440 kg

Note: The rating is industrial and conforms to IS:13364 and IS/IEC: 60034-1

Continuous development of our products entitles us to change specification details without notice