

ALTERNATOR TECHNICAL DATASHEET

LSAP 45 M1

Reference : TDS/ACG/709

Nidec Industrial Automation India Private Ltd.
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General Characteristics

Alternator Frame	LSAP 45 M1			
Rating	200.0	kVA	160	kW
Phase	3			
Pole	4			
Rated Speed	1500	RPM		
Rated Voltage [L-L] (V)	415	V		
Rated Current	288.7	A		
Frequency	50	Hz		
Rated Power Factor	0.8	Lag		
Voltage Regulation	±1%	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	<2.5% (L-L @ No load) & <4% for Non Distorting Balanced Load			
Temperature Ambient	40	° C		
Altitude	1000	m		

Electrical Parameters

Stator Wdg Res(L-L) @20°C	0.050	Ω
Rotor Wdg Res @20°C	1.251	Ω
Excn. Current At No Load	0.92	A
Excn. Current At Full Load	4.40	A

Connection & Controls

Stator Winding	Double layer equal winding
Control System	Self-regulated and self-excited
Excitation System	AREP
AVR Type	Analogue
AVR Model	R 180

Performance: Efficiency @0.8 p.f

100% Load	93.7	%
75% Load	94.3	%
50% Load	94.3	%
25% Load	92.7	%

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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	0.350
X_d Dir Axis Reactance	2.857
X'_d Dir Axis Transient Reactance	0.194
X''_d Dir Axis Sub Transient Reactance	0.127
X_q Quad Axis Reactance	1.173
X''_q Quad Axis Subtransient Reactance	0.146
X_l Leakage Reactance	0.037
X_2 Negative Sequence Reactance	0.135
X_0 Zero Sequence Reactance	0.023

Time Constant

T'_d Transient Time Constant	0.091
T''_d Sub Transient Time Constant	0.015
T'_{do} O.C Field Time Constant	0.865
T_a Armature Time Constant	0.023

Mechanical Parameters

Protection	IP 23
Cooling	IC01
Air flow	0.26 m ³ /sec
WR^2 kg-m ²	1.875
Bearing Drive End	NA
Bearing Non-Drive End	BALL 6312 ZZ
Coupling	Single bearing
Maximum Over Speed	120% for 2 mins
Dimensional Drawing	AG318027
Machine Dim. L x B x H (mm)	Refer Dimension Drawing
Alternator Weight	576 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