TECHNICAL DATA SHEET

ALTERNATOR PRO35S B/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO35S B/4

COMMON DATA

Rated Power at 50Hz	kVA	450	
Rated Power at 60Hz	kVA	540	
Rated Power Factor		0,8	
Nominal Temperature	°C	40	
Control System		self-excited	
Execution		brushless	
Regulation Type		AVR	
Insulation Class		H	
Protection		IP23	
Maximum Over speed	rpm	2250	
Overload		110% of rated power for one hour in a cycle of 6 hours	
Air Flow Requirement	m^3/min	52 at 50Hz	65,6 at 60Hz
R.F.I. Suppression		Standard EN55011	

REGULATION DATA

AVR	HVR30
Sensing	three-phase
Voltage Regulation	±1%
Sustained Short Circuit	> 300% of rated current

WINDING DATA

Stator Winding		Double layer with auxiliary winding
Rotor Winding		with damping cage
Winding Pitch		2/3
Number of Leads of Stator		12
Stator Winding Resistance	Ω	0,0078 at 20°C
Rotor Winding Resistance	Ω	1,1 at 20°C
Exciter Stator Resistance	Ω	12,5 at 20°C
Exciter Rotor Resistance	Ω	0,095 at 20°C
THD at full load		<3%
THD at no load		<2,5%
Excitation at no load	Adc	0,5
Excitation at full load	Adc	2,25

STANDARD

References	EN60034-1 ISO8528-3 EN55011

ON REQUEST

UL 1446, Systems of Insulating Materials - General CSA-C22.2 No. 0, Appendix B, General Requirements - Canadian Electrical Code, Part I

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ELECTRICAL DATA

Frequency		50Hz - 1500rpm				60Hz - 1800rpm			
Voltage Series Star	V	**380/220**	**400/230**	**415/240**	**440/254**	**415/240**	**440/254**	**460/266**	**480/277**
Rated Power in Class H (125°C/40°C)	kVA	450	450	450	420	480	520	540	540
	kW	360	360	360	336	384	416	432	432
Rated Power in Class F (105°C/40°C)	kVA	405	405	405	380	440	465	485	485
	kW	324	324	324	304	352	372	388	388
Rated Power Standby (150°C/40°C)	kVA	480	480	480	440	520	550	575	575
	kW	384	384	384	352	416	440	460	460
Rated Power Standby (163°C/27°C)	kVA	495	495	495	460	530	565	590	590
	kW	396	396	396	368	424	452	472	472

EFFICIENCY IN CL. H

4/4		94,2%						95,5%
3/4		94,7%						96,2%
2/4		92,3%						95,7%
1/4		89,2%						90,7%

REACTANCES AND TIME CONSTANTS

ρcc			0,28						
Xd	- dir. axis synchronous	386%	348%	323%	268%	414%	399%	379%	348%
X'd	- dir. axis transient	21,1%	19,0%	17,7%	14,7%	22,6%	21,8%	20,7%	19,0%
X''d	- dir. axis subtransient	14,4%	13,0%	12,1%	10,0%	15,5%	14,9%	14,2%	13,0%
X_q	- quad. axis reactance	229%	207%	192%	160%	246%	237%	225%	207%
T'_{do}	- O.C. field time constant	2156ms							
T'_d	- Transient time constant	118ms							
T''_d	- Sub-transient time constant	12ms							

MECHANICAL DATA

Bearing non drive end			6316-2RS-C3
Bearing drive end (B3/B14 form)			6319-2RS-C3
Weight of generator	in B2	kg	1184
	in B3/B14	kg	1198
	in B3/B9	kg	\

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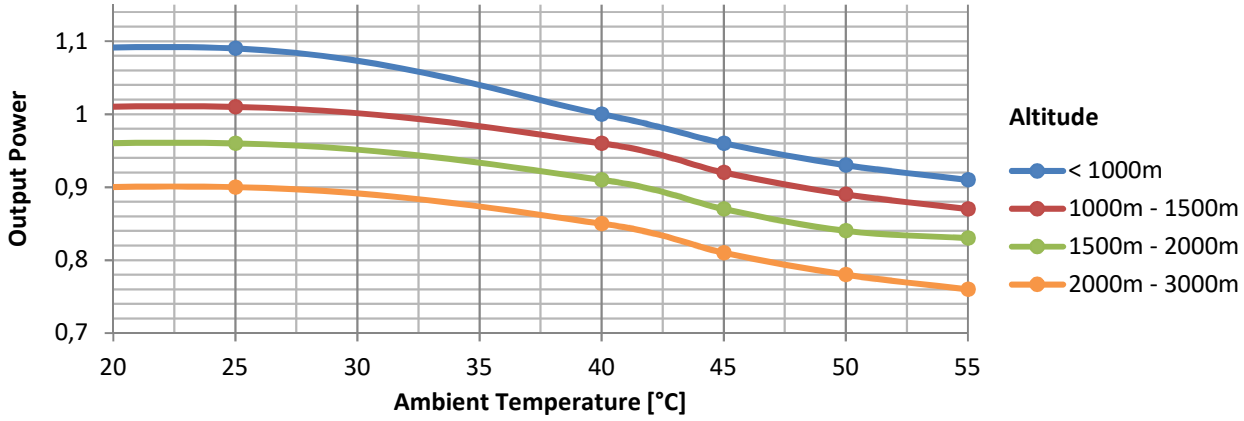
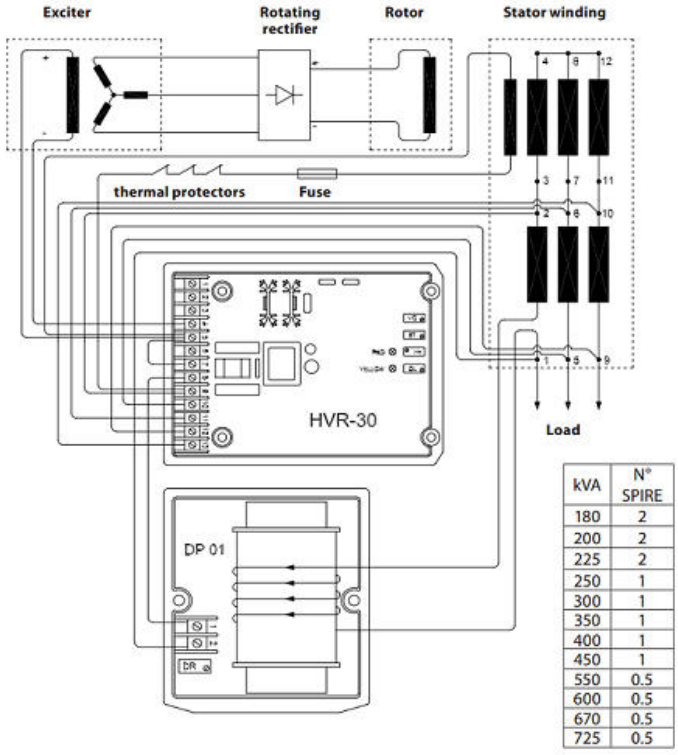
MOMENT OF INERZIA

B3/B9	kg·m²	\
SAE 7½	kg·m²	\
SAE 8	kg·m²	\
SAE 10	kg·m²	\
SAE 11½	kg·m²	\
SAE 14	kg·m²	8,742
SAE 18	kg·m²	9,088
B3/B14	kg·m²	8,188

DERATING CURVES

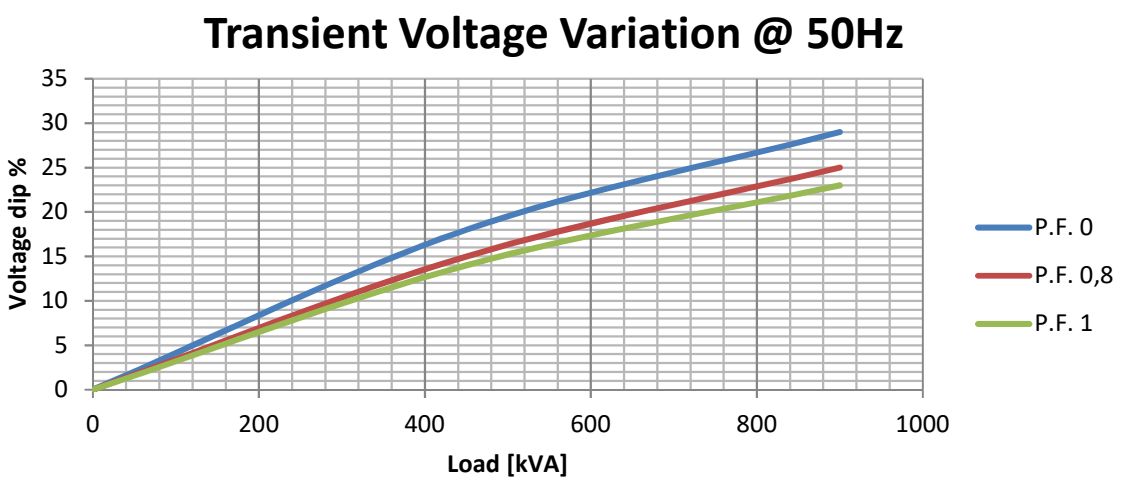


WIRING DIAGRAM

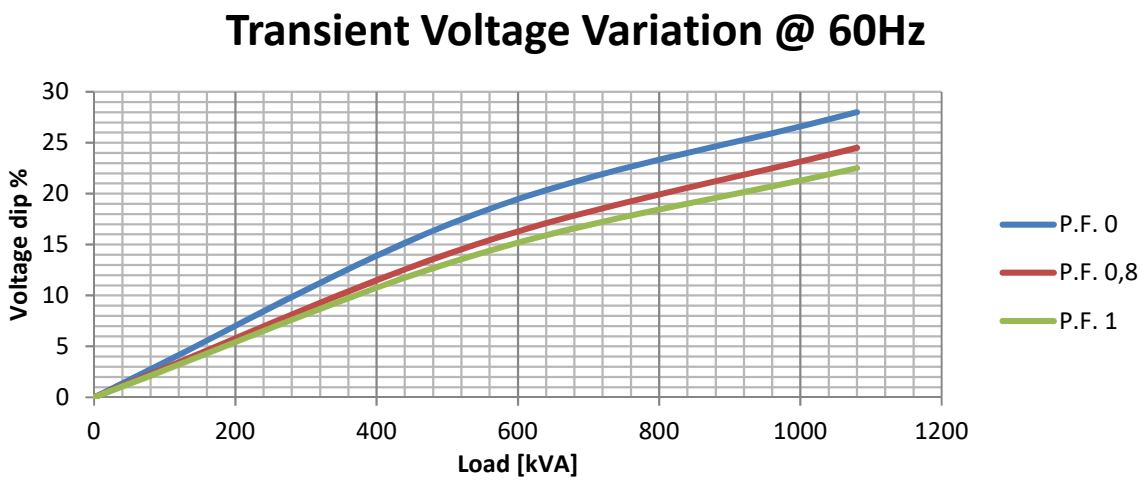


kVA	N° SPIRE
180	2
200	2
225	2
250	1
300	1
350	1
400	1
450	1
550	0.5
600	0.5
670	0.5
725	0.5

TRANSIENT VOLTAGE VARIATION 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz



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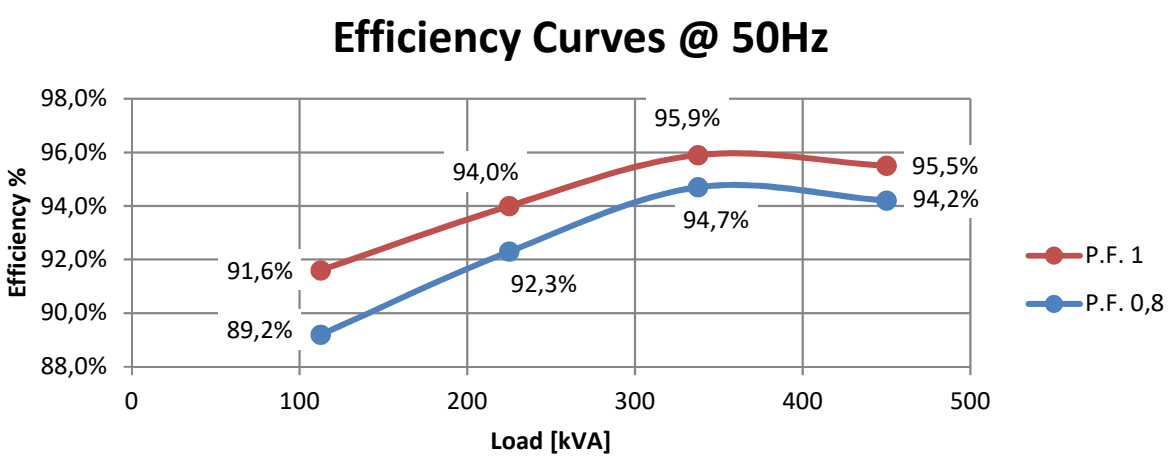
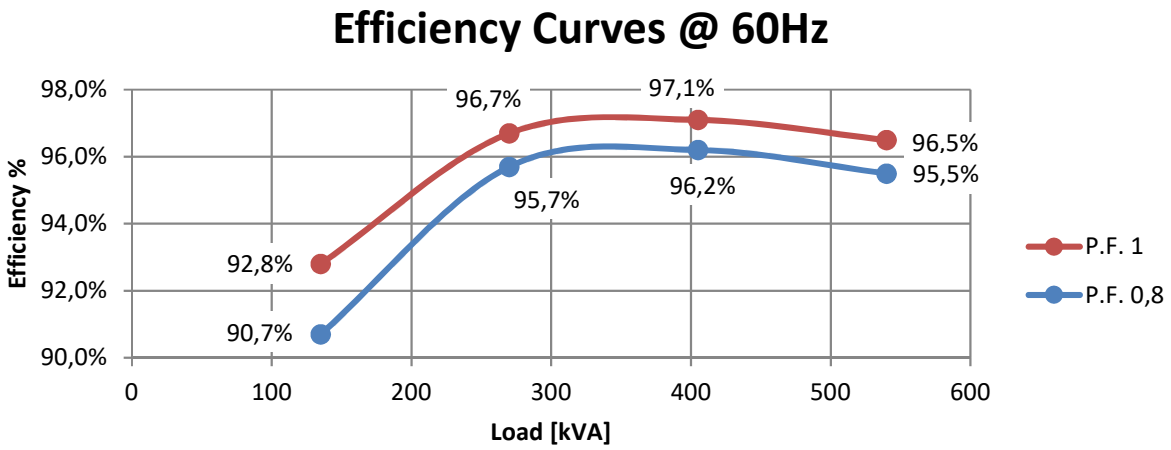
EFFICIENCY 50Hz



EFFICIENCY 60Hz



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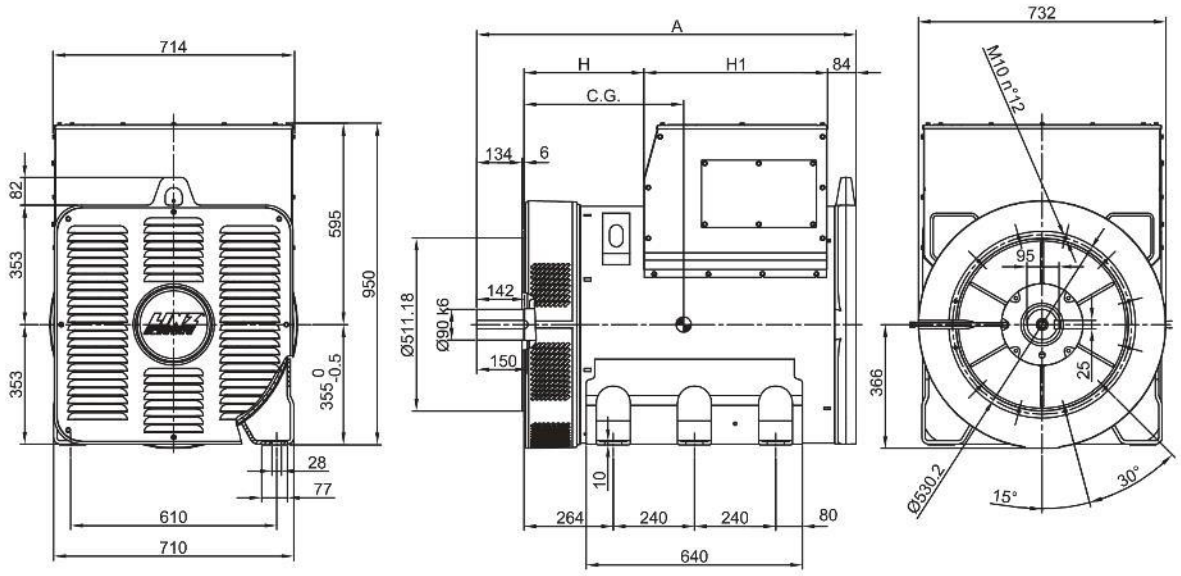
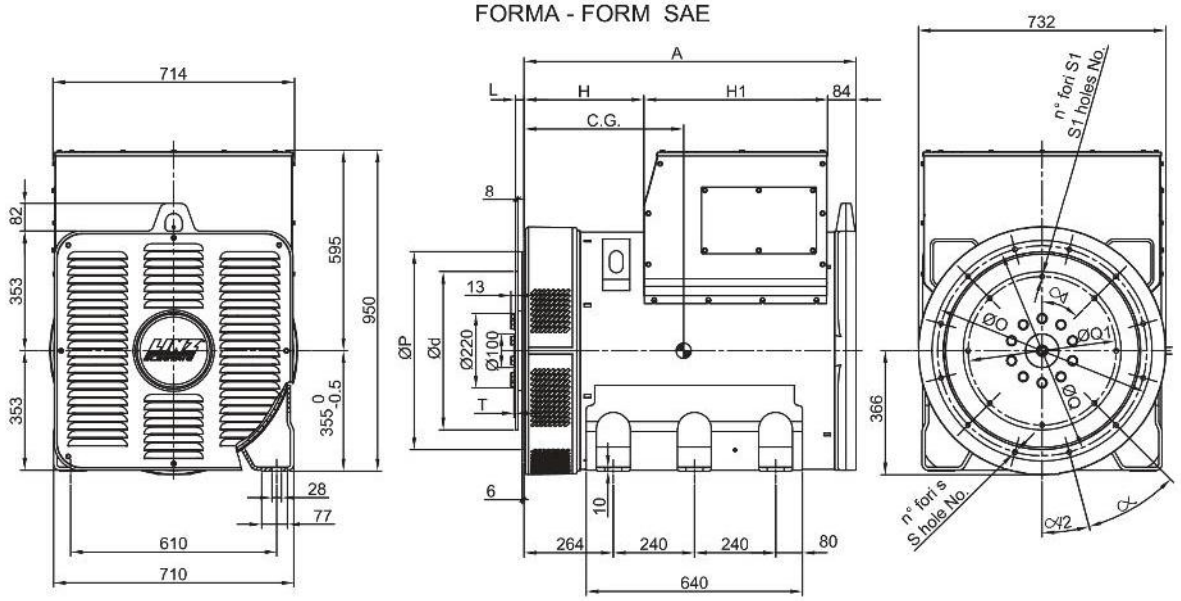
FORMA - FORM B3/B14



FORMA - FORM SAE



FORMA - FORM		A	H	H1
B3/B14	PRO35 S	1122	454.5	443.5
	PRO35 M	1247	479.5	543.5
	PRO35 L	1347	579.5	
SAE	PRO35 S	982	454.5	443.5
	PRO35 M	1107	479.5	543.5
	PRO35 L	1207	579.5	

TIPO - TYPE	C.G.
PRO35S B/4	456
PRO35S C/4	466
PRO35S D/4	478
PRO35M E/4	516
PRO35M F/4	516
PRO35M G/4	539
PRO35L H/4	588

SAE N.	FLANGIE - FLANGES - BRIDAS					
	Ø O	Ø P	Ø Q	n. fori holes No.	S	α
0	710	647.7	679.5	16	14	22.5°
1/2	650	584.2	619.2	12	14	30°
1	552	511.18	530.2	12	12	30°

SAE N.	GIUNTI A DISCO -COUPLING DISCS- JUNTAS A DISCOS						
	L	Ø d	Ø Q1	n. fori holes No.	S1	α1	T
14	25.4	466.72	438.15	8	14	45°	4.3
18	15.7	571.5	542.92	6	17	60°	14