

TECHNICAL DATA SHEET



ALTERNATOR PRO35S C/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO35S C/4

COMMON DATA

Rated Power at 50Hz	kVA	500
Rated Power at 60Hz	kVA	600
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	54,4 at 50Hz 65,3 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	6	
Stator Winding Resistance	Ω	0,0011 at 20°C
Rotor Winding Resistance	Ω	1,15 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	A _{dc}	0,54
Excitation at full load	A _{dc}	2,3

STANDARD

References	EN60034-1 ISO8528-3 EN55011
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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	500	500	500	470	550	580	600	600
	kW	400	400	400	376	440	464	480	480
Rated Power in Class F (105°C/40°C)	kVA	450	450	450	420	495	525	540	540
	kW	360	360	360	336	396	420	432	432
Rated Power Standby (150°C/40°C)	kVA	530	530	530	495	575	615	635	635
	kW	424	424	424	396	460	492	508	508
Rated Power Standby (163°C/27°C)	kVA	550	550	550	515	600	640	660	660
	kW	440	440	440	412	480	512	528	528

EFFICIENCY IN CL. H

4/4	94,9%							95,9%
3/4	95,4%							96,2%
2/4	94,1%							94,7%
1/4	90,5%							91,1%

REACTANCES AND TIME CONSTANTS

pcc		0,31							
X _d - dir. axis synchronous		375%	338%	314%	263%	414%	389%	368%	338%
X' _d - dir. axis transient		19,4%	17,5%	16,3%	13,6%	21,5%	20,1%	19,1%	17,5%
X'' _d - dir. axis subtransient		13,3%	12,0%	11,1%	9,3%	14,7%	13,8%	13,1%	12,0%
X _q - quad. axis reactance		232%	209%	194%	162%	256%	240%	228%	209%
T' _{do} - O.C. field time constant		2230ms							
T' _d - Transient time constant		115ms							
T'' _d - Sub-transient time constant		11ms							

MECHANICAL DATA

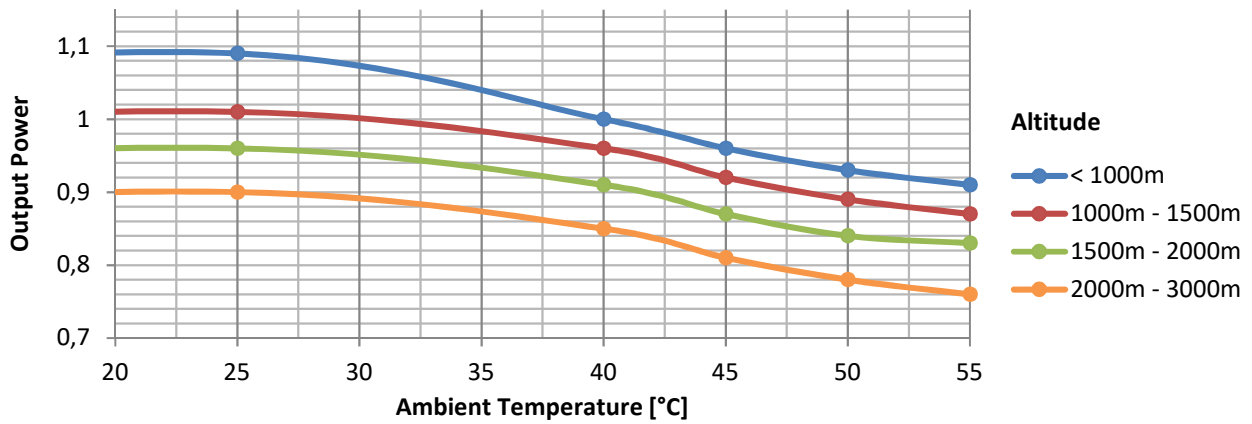
Bearing non drive end			6316-2RS-C3
Bearing drive end (B3/B14 form)			6319-2RS-C3
Weight of generator	in B2	kg	1262,5
	in B3/B14	kg	1276,5
	in B3/B9	kg	\

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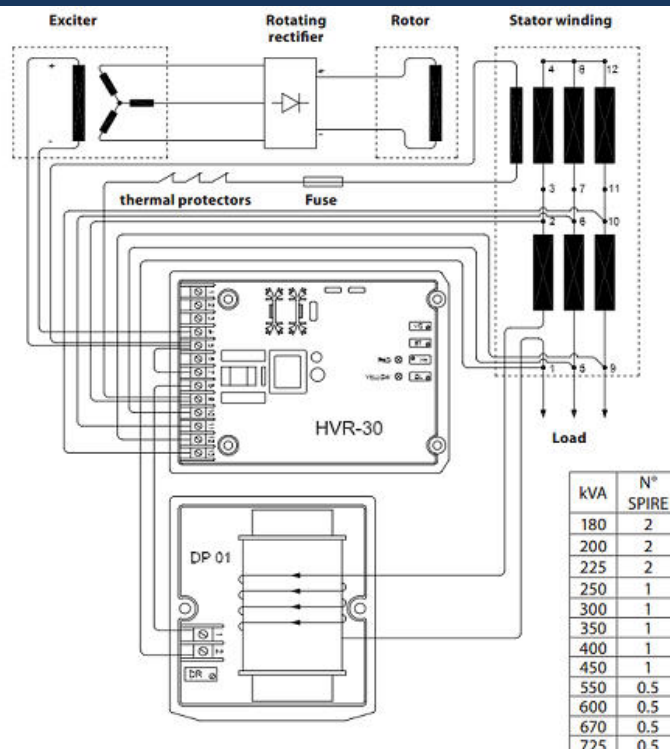
MOMENT OF INERZIA

B3/B9	kg·m ²	\
SAE 7½	kg·m ²	\
SAE 8	kg·m ²	\
SAE 10	kg·m ²	\
SAE 11½	kg·m ²	\
SAE 14	kg·m ²	9,386
SAE 18	kg·m ²	9,726
B3/B14	kg·m ²	8,871

DERATING CURVES



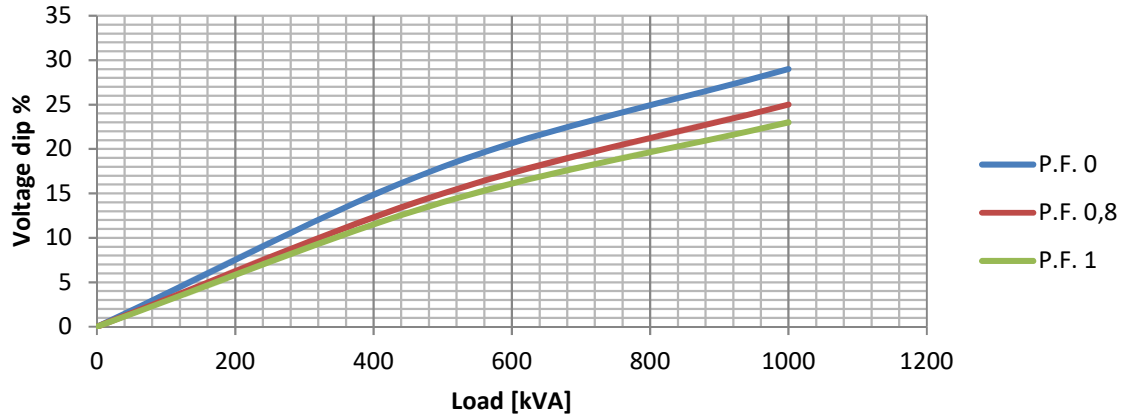
WIRING DIAGRAM



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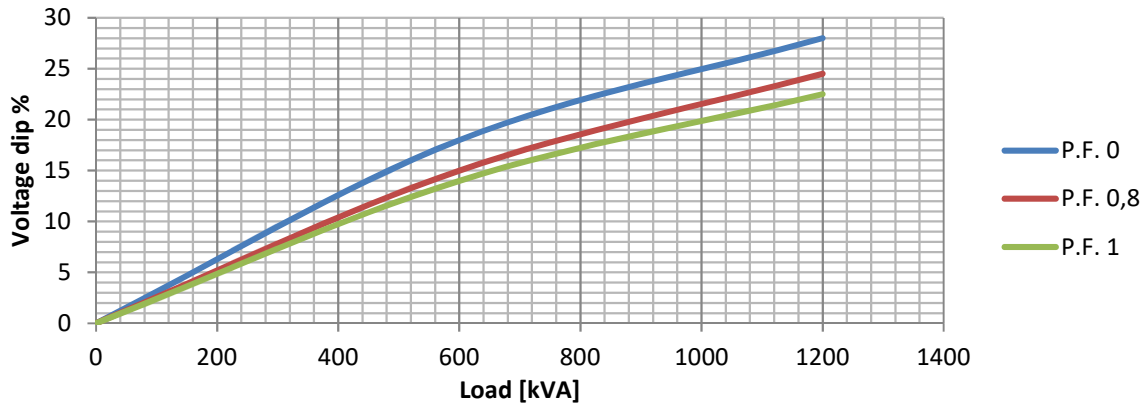
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

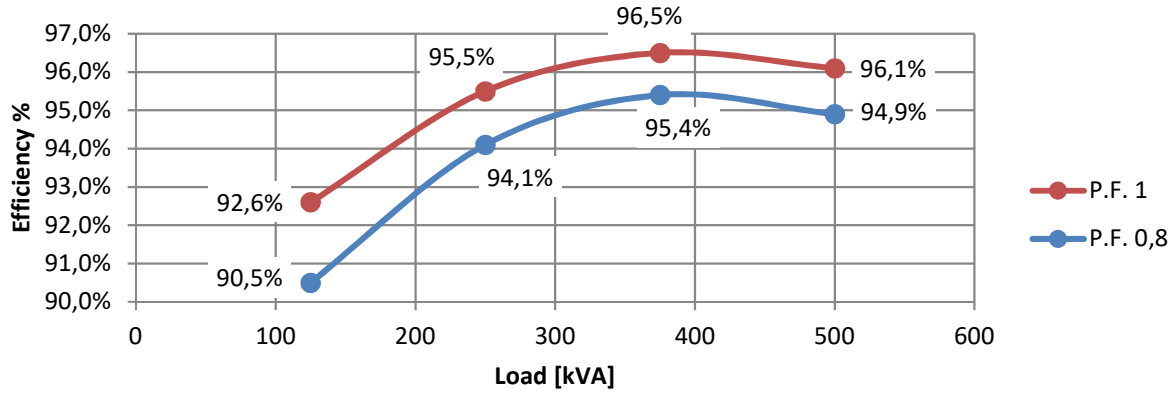
Transient Voltage Variation @ 60Hz



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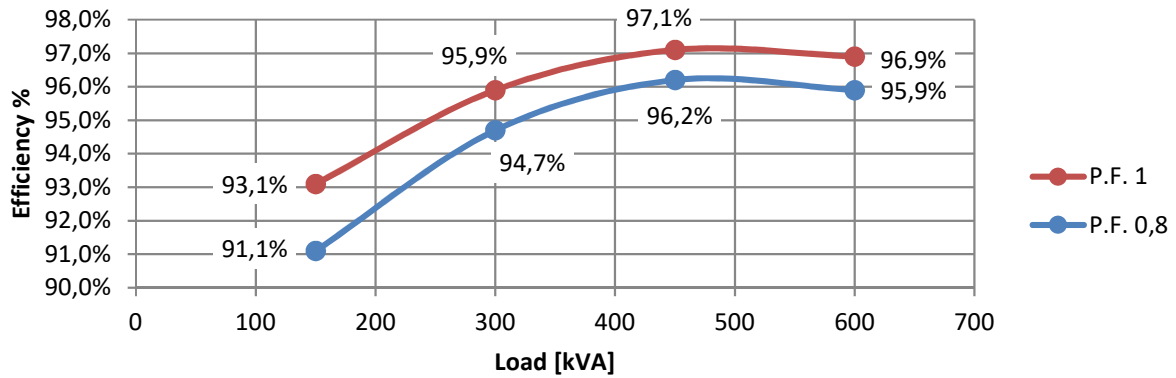
EFFICIENCY 50Hz

Efficiency Curves @ 50Hz



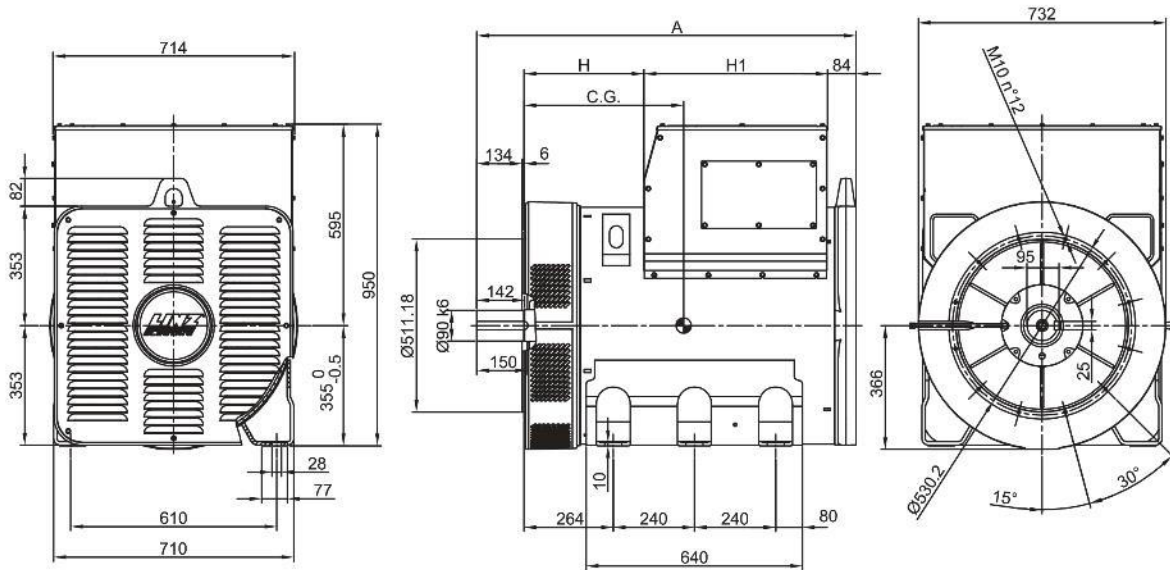
EFFICIENCY 60Hz

Efficiency Curves @ 60Hz

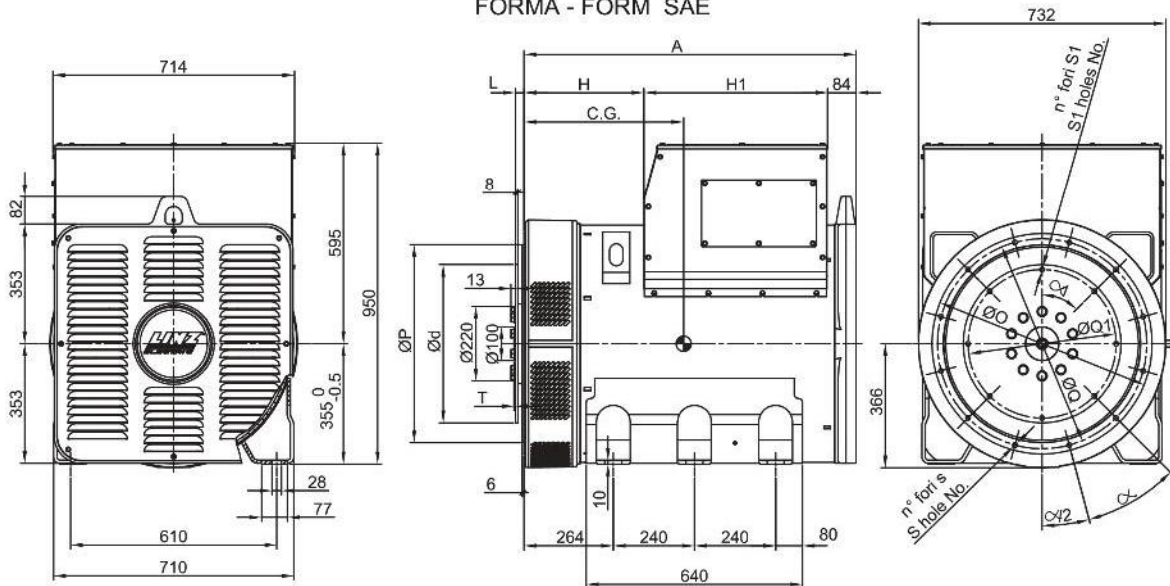


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FORMA - FORM B3/B14



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