

TECHNICAL DATA SHEET



ALTERNATOR PRO35S D/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO35S D/4

COMMON DATA

Rated Power at 50Hz	kVA	550	
Rated Power at 60Hz	kVA	660	
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	54,3 at 50Hz	65,2 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	0,0025 at 20°C	
Rotor Winding Resistance	Ω	1,21 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}	0,52	
Excitation at full load	A _{dc}	2,35	

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	550	550	550	500	580	635	660	660
	kW	440	440	440	400	464	508	528	528
Rated Power in Class F (105°C/40°C)	kVA	495	495	495	465	510	575	590	590
	kW	396	396	396	372	408	460	472	472
Rated Power Standby (150°C/40°C)	kVA	580	580	570	540	615	665	695	695
	kW	464	464	456	432	492	532	556	556
Rated Power Standby (163°C/27°C)	kVA	605	605	600	570	640	695	725	725
	kW	484	484	480	456	512	556	580	580

EFFICIENCY IN CL. H

4/4	95,0%							95,9%
3/4	95,5%							96,5%
2/4	94,3%							95,6%
1/4	90,5%							91,4%

REACTANCES AND TIME CONSTANTS

pcc		0,35							
X _d - dir. axis synchronous		398%	359%	334%	270%	422%	411%	391%	359%
X' _d - dir. axis transient		18,8%	17,0%	15,8%	12,8%	20,0%	19,5%	18,5%	17,0%
X'' _d - dir. axis subtransient		12,2%	11,0%	10,2%	8,3%	12,9%	12,6%	12,0%	11,0%
X _q - quad. axis reactance		233%	210%	195%	158%	247%	240%	229%	210%
T' _{do} - O.C. field time constant		2298ms							
T' _d - Transient time constant		109ms							
T'' _d - Sub-transient time constant		10ms							

MECHANICAL DATA

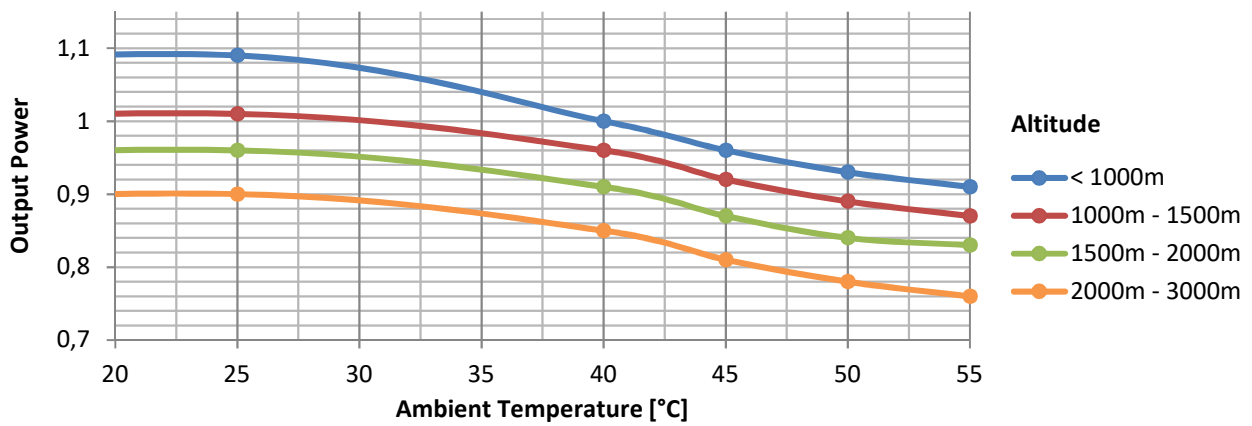
Bearing non drive end			6316-2RS-C3
Bearing drive end (B3/B14 form)			6319-2RS-C3
Weight of generator	in B2	kg	1342,5
	in B3/B14	kg	1356,5
	in B3/B9	kg	\

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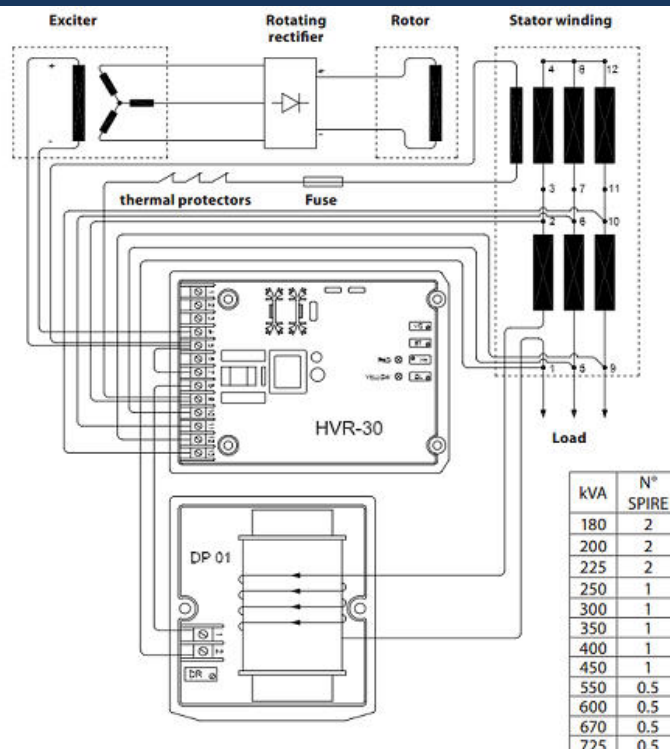
MOMENT OF INERZIA

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	10,189
SAE 18	kg·m ²	10,529
B3/B14	kg·m ²	9,674

DERATING CURVES



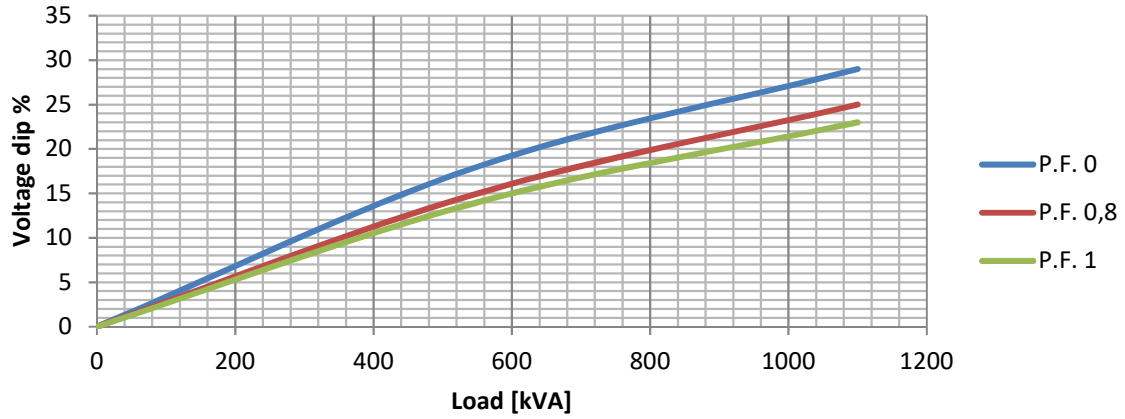
WIRING DIAGRAM



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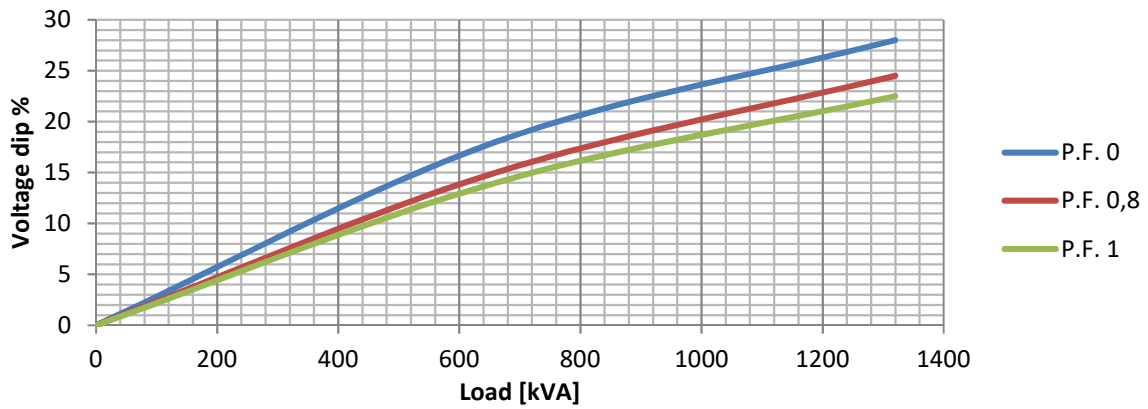
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

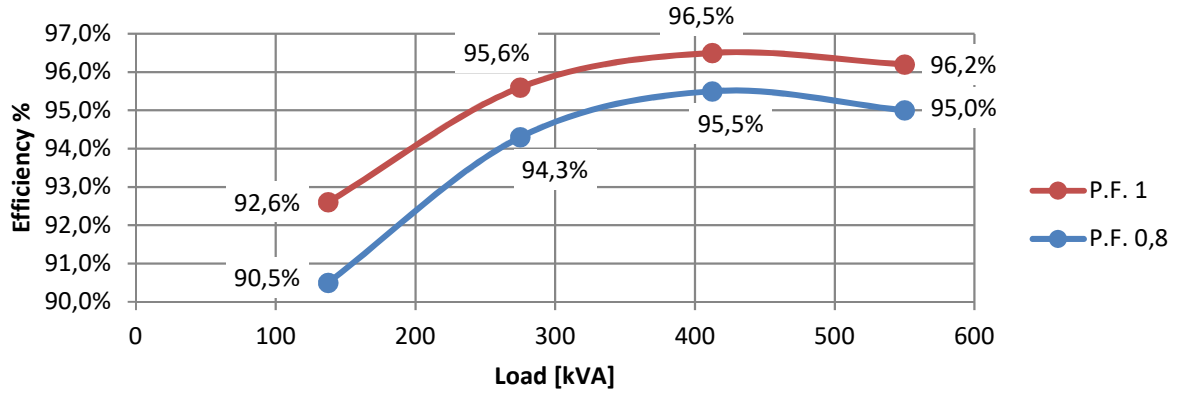
Transient Voltage Variation @ 60Hz



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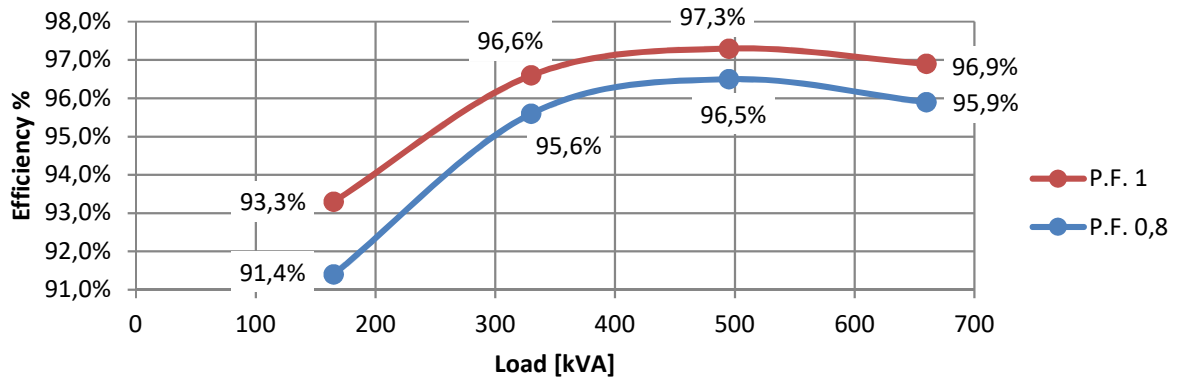
EFFICIENCY 50Hz

Efficiency Curves @ 50Hz



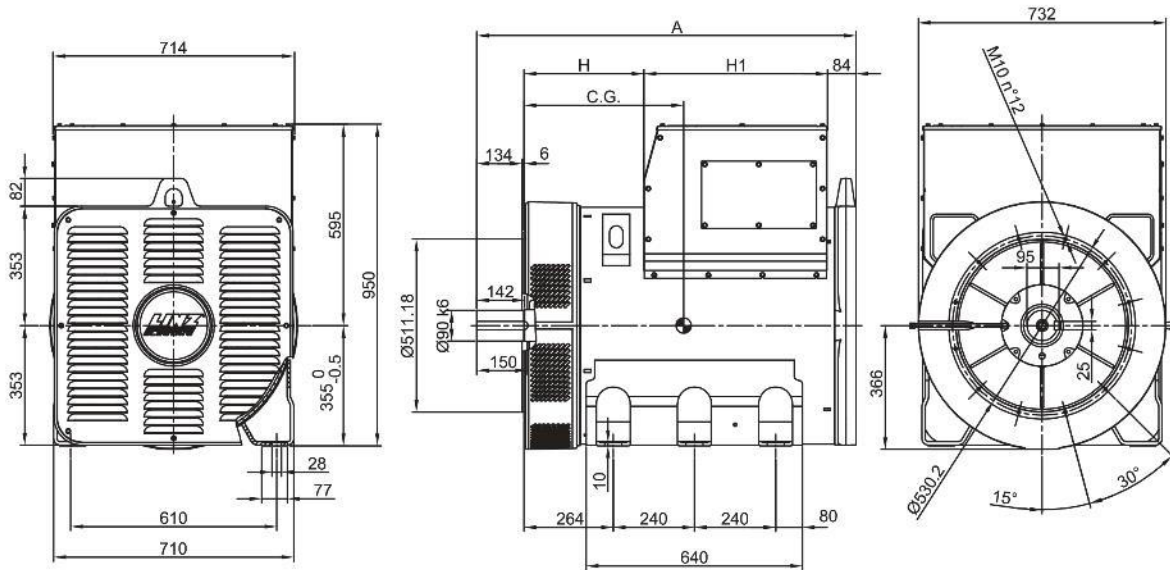
EFFICIENCY 60Hz

Efficiency Curves @ 60Hz

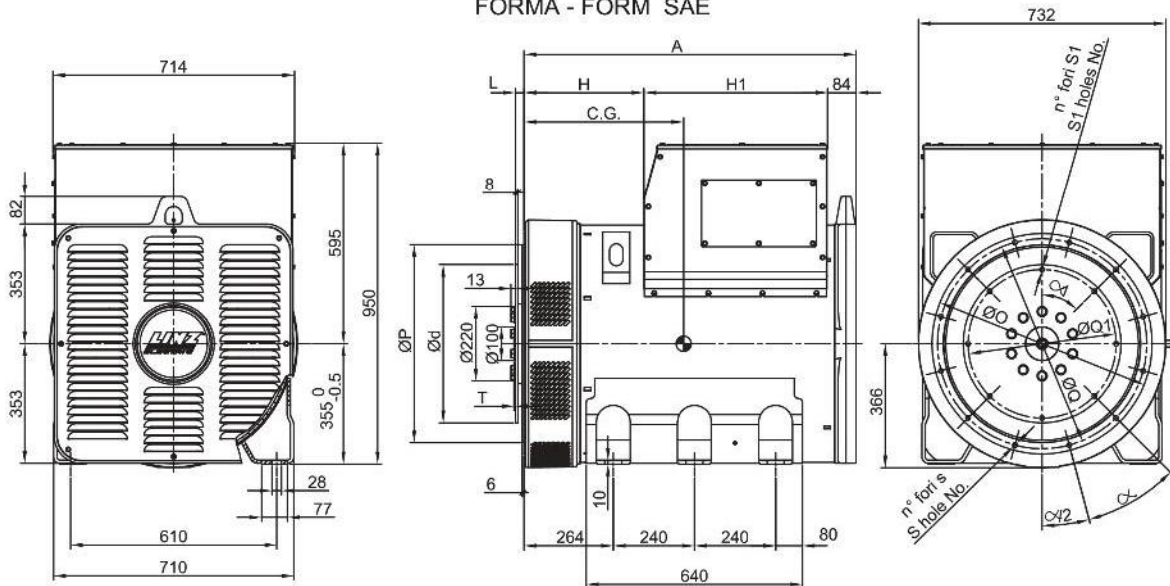


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FORMA - FORM B3/B14



FORMA - FORM SAE



FORMA - FORM		A	H	H1	TIPO - TYPE	C.G.
B3/B14	PRO35 S	1122	454.5	443.5	PRO35S B/4	456
	PRO35 M	1247	479.5	543.5	PRO35S C/4	466
	PRO35 L	1347	579.5		PRO35S D/4	478
SAE	PRO35 S	982	454.5	443.5	PRO35M E/4	516
	PRO35 M	1107	479.5	543.5	PRO35M F/4	516
	PRO35 L	1207	579.5		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