TECHNICAL DATA SHEET

ALTERNATOR PRO28S B/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO28S B/4

COMMON DATA

Rated Power at 50Hz	kVA	200	
Rated Power at 60Hz	kVA	240	
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	32 at 50Hz	38 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	0,011 at 20°C
Rotor Winding Resistance	Ω	1,9 at 20°C
Exciter Stator Resistance	Ω	15 at 20°C
Exciter Rotor Resistance	Ω	0,25 at 20°C
THD at full load		<3%
THD at no load		<3%
Excitation at no load	Adc	0,63
Excitation at full load	Adc	2,4

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	V	Double Delta	Series High Wye Parallel Low Wye				Double Delta	Series High Wye Parallel Low Wye			
		115/230	**380/220 190/110**	**400/230 200/115**	**415/240 208/120**	**440/254 220/127**	**138/277**	**415/240 208/120**	**440/254 220/127**	**460/266 230/133**	**480/277 240/138**
Rated Power in Class H (125°C/40°C)	kVA	130	200	200	200	180	156	225	240	240	240
	kW	104	160	160	160	144	124,8	180	192	192	192
Rated Power in Class F (105°C/40°C)	kVA	114	175	175	175	160	137	200	210	210	210
	kW	91,2	140	140	140	128	109,6	160	168	168	168
Rated Power Standby (150°C/40°C)	kVA	140	215	215	215	195	170	245	260	260	260
	kW	112	172	172	172	156	136	196	208	208	208
Rated Power Standby (163°C/27°C)	kVA	143	220	220	220	200	172	250	265	265	265
	kW	114,4	176	176	176	160	137,6	200	212	212	212

EFFICIENCY IN CL. H

4/4			91,7%							92,5%
3/4			92,3%							93,1%
2/4			90,8%							91,6%
1/4			88,7%							89,5%

REACTANCES AND TIME CONSTANTS

ρcc			0,34							
Xd	- dir. axis synchronous	431%	389%	361%	289%		488%	463%	424%	389%
X'd	- dir. axis transient	23,3%	21,0%	19,5%	15,6%		26,3%	25,0%	22,9%	21,0%
X''d	- dir. axis subtransient	12,3%	11,1%	10,3%	8,3%		13,9%	13,2%	12,1%	11,1%
X_q	- quad. axis reactance	265%	239%	222%	178%		300%	284%	260%	239%
T'_{do}	- O.C. field time constant	1810ms								
T'_d	- Transient time constant	113ms								
T''_d	- Sub-transient time constant	17ms								

MECHANICAL DATA

Bearing non drive end			6314-2RS-C3
Bearing drive end (B3/B14 form)			6316-2RS-C3
Weight of generator	in B2	kg	591
	in B3/B14	kg	602
	in B3/B9	kg	\

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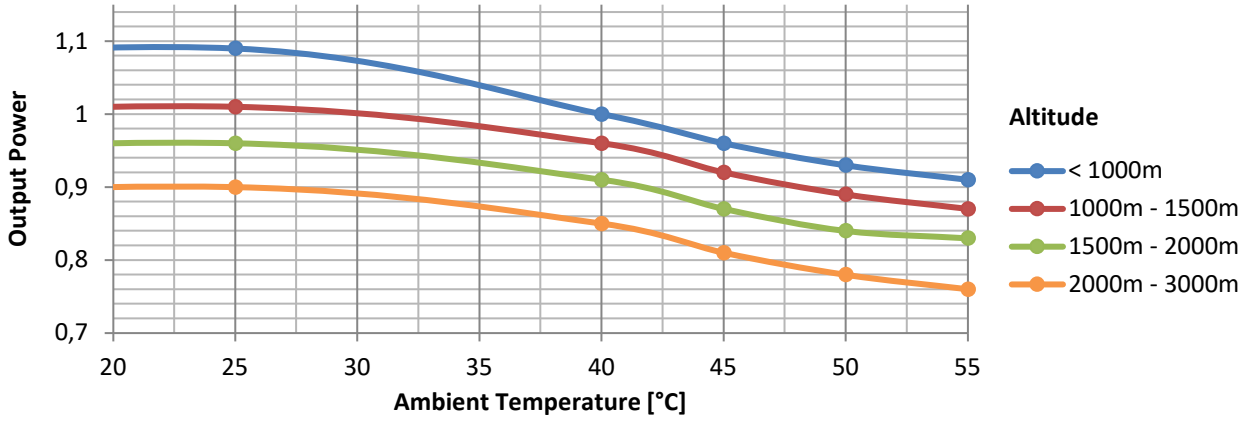
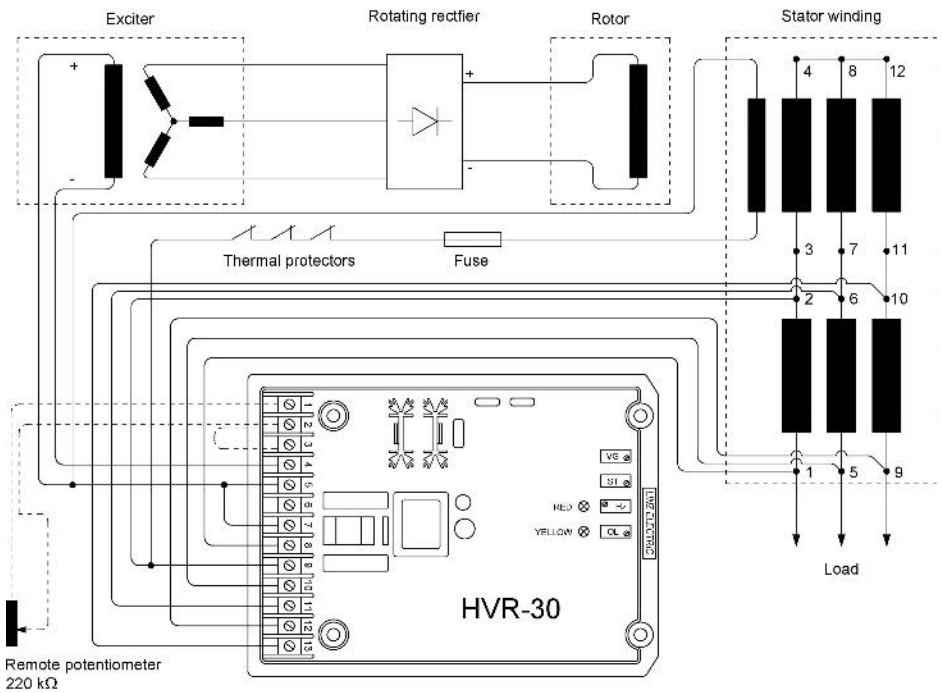
MOMENT OF INERZIA

B3/B9	kg·m²	\
SAE 7½	kg·m²	\
SAE 8	kg·m²	\
SAE 10	kg·m²	\
SAE 11½	kg·m²	2,445
SAE 14	kg·m²	2,56
SAE 18	kg·m²	\
B3/B14	kg·m²	2,265

DERATING CURVES



WIRING DIAGRAM



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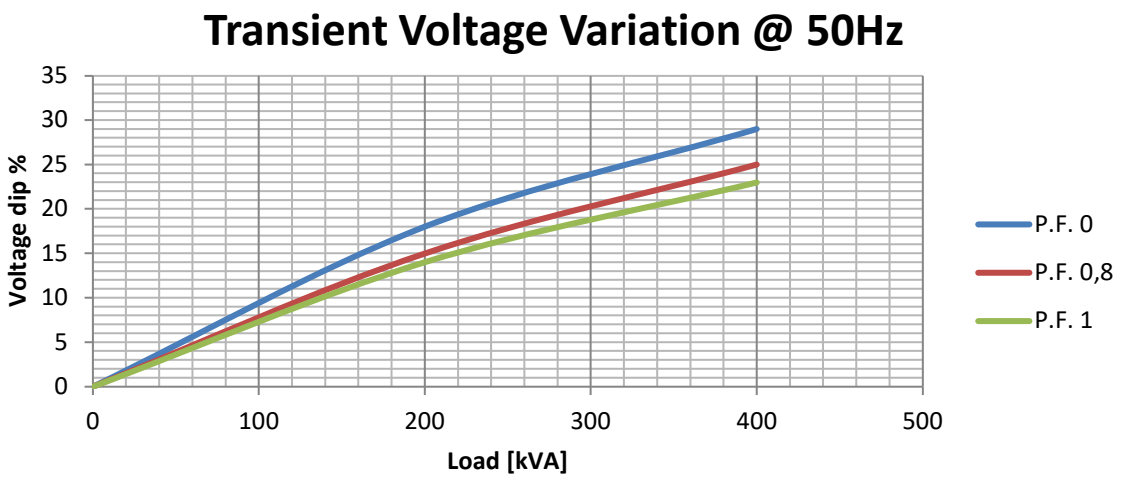
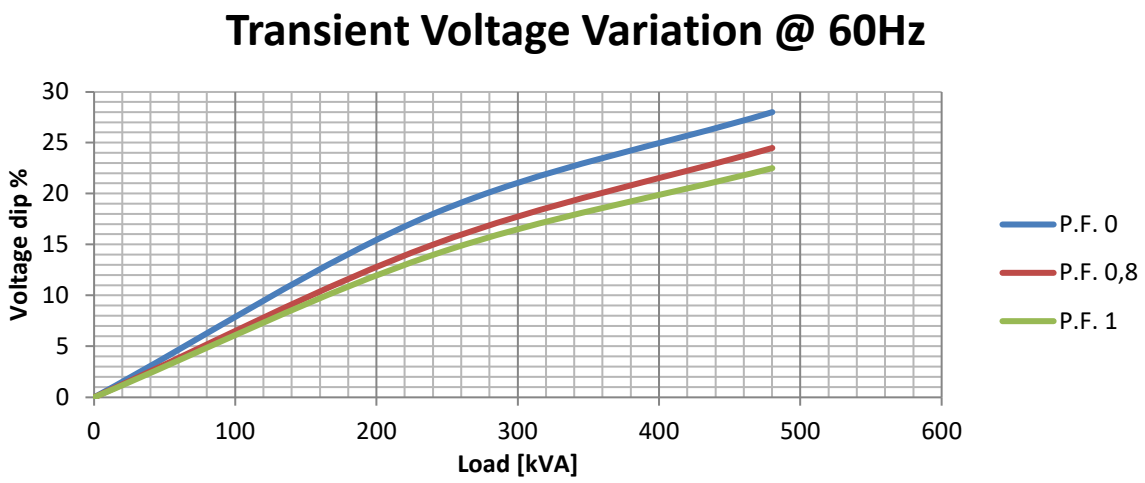
TRANSIENT VOLTAGE VARIATION 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz



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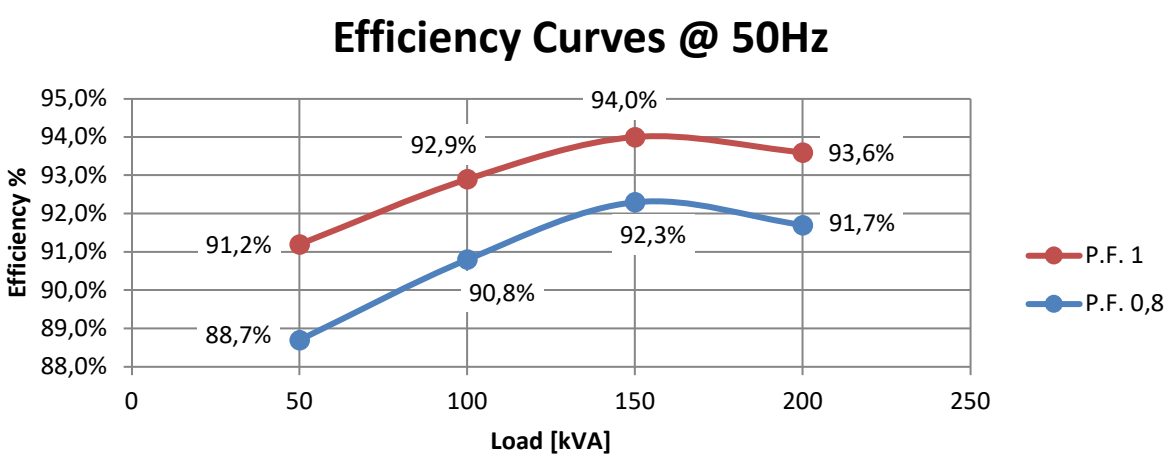
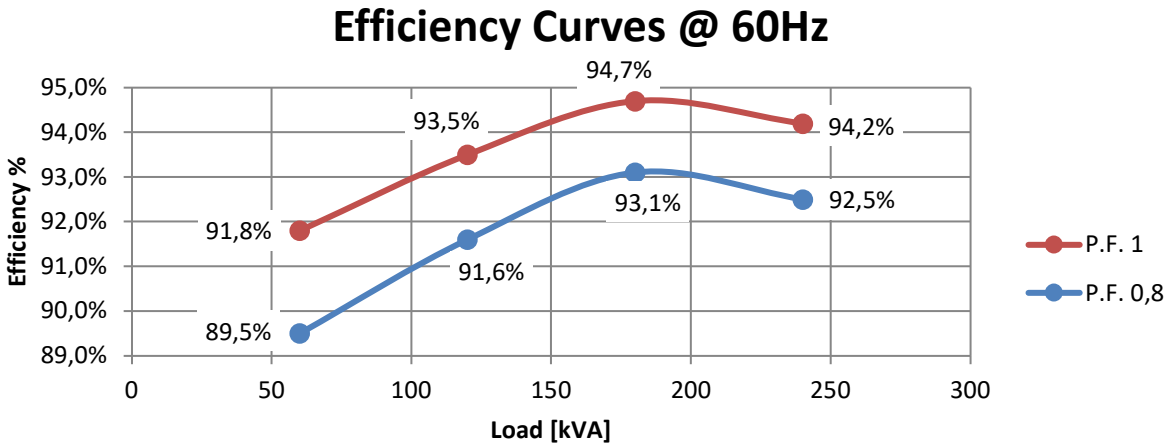
EFFICIENCY 50Hz



EFFICIENCY 60Hz



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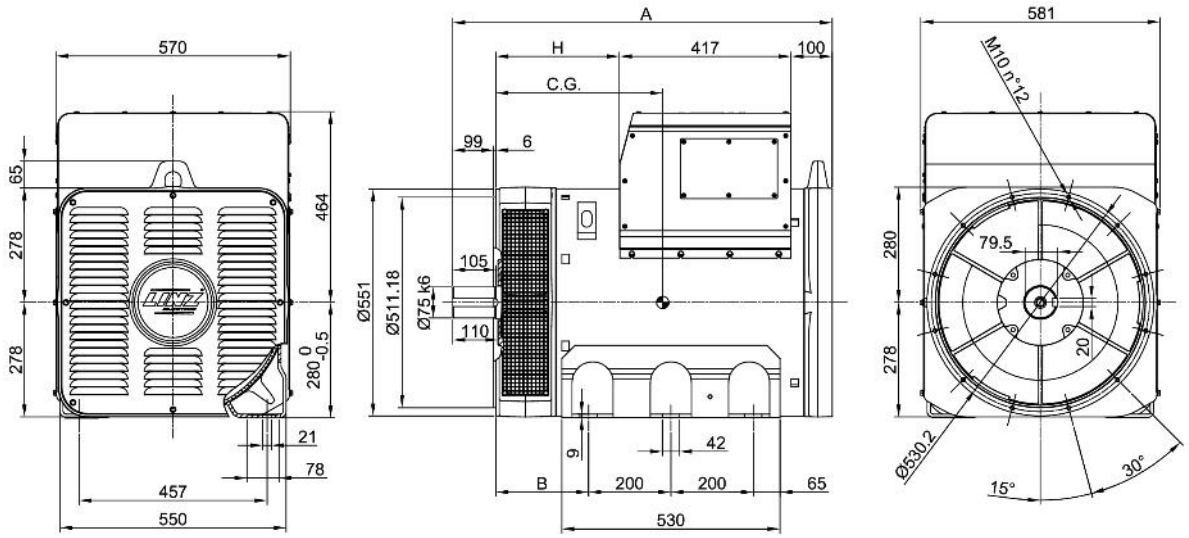
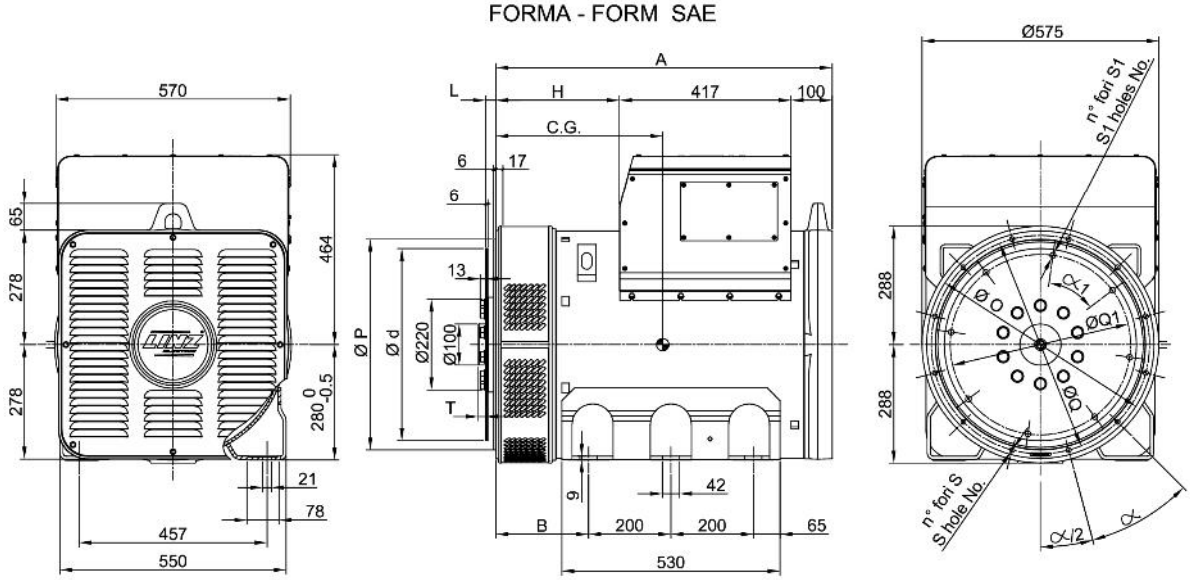
FORMA - FORM B3/B14



FORMA - FORM SAE



FORMA - FORM		A	B	H
B3/B14	PRO 28S	922	225	300
	PRO 28M	1072		450
	PRO 28L	1137	325	515
SAE	PRO 28S	817	225	300
	PRO 28M	967		450
	PRO 28L	1032	325	515

TIPO - TYPE	C.G.
PRO28S A/4	376
PRO28S B/4	380
PRO28S C/4	394
PRO28S D/4	406
PRO28M E/4	452
PRO28M F/4	480
PRO28L G/4	513

SAE N.	FLANGIE - FLANGES - BRIDAS					
	Ø O	Ø P	Ø Q	n. fori holes No.	S	α
3	451	409.6	428.6	12	12	30°
2	490	447.68	466.7			
1	552	511.18	530.2			

SAE N.	GIUNTI A DISCO -COUPLING DISCS- JUNTAS A DISCOS						
	L	Ø d	Ø Q1	n. fori holes No.	S1	α1	T
11 1/2	39.6	352.42	333.37	8	10.5	45°	0
14	25.4	466.72	438.15	8	14	45°	17.3