TECHNICAL DATA SHEET

ALTERNATOR PRO28M E/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO28M E/4

COMMON DATA

Rated Power at 50Hz	kVA	300	
Rated Power at 60Hz	kVA	360	
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	38,5 at 50Hz	43,4 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	0,0053 at 20°C
Rotor Winding Resistance	Ω	2,52 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	0,62
Excitation at full load	Adc	2,32

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**	**480/277 240/154**
Rated Power in Class H (125°C/40°C)	kVA	195	300	300	300	288	235	335	360	360	360
	kW	156	240	240	240	230,4	188	268	288	288	288
Rated Power in Class F (105°C/40°C)	kVA	163	250	250	250	240	195	277	300	300	300
	kW	130,4	200	200	200	192	156	221,6	240	240	240
Rated Power Standby (150°C/40°C)	kVA	200	310	310	310	297	240	345	370	370	370
	kW	160	248	248	248	237,6	192	276	296	296	296
Rated Power Standby (163°C/27°C)	kVA	210	325	325	325	312	250	365	390	390	390
	kW	168	260	260	260	249,6	200	292	312	312	312

EFFICIENCY IN CL. H

4/4			92,9%							93,3%
3/4			93,3%							93,7%
2/4			92,3%							92,8%
1/4			89,7%							90,2%

REACTANCES AND TIME CONSTANTS

ρcc			0,39							
Xd	- dir. axis synchronous	390%	352%	327%	279%		438%	419%	383%	352%
X'd	- dir. axis transient	20,5%	18,5%	17,2%	14,7%		23,0%	22,0%	20,1%	18,5%
X''d	- dir. axis subtransient	10,0%	9,0%	8,4%	7,1%		11,2%	10,7%	9,8%	9,0%
X_q	- quad. axis reactance	233%	210%	195%	167%		261%	250%	229%	210%
T'_{do}	- O.C. field time constant	1850ms								
T'_d	- Transient time constant	116ms								
T''_d	- Sub-transient time constant	14ms								

MECHANICAL DATA

Bearing non drive end			6314-2RS-C3
Bearing drive end (B3/B14 form)			6316-2RS-C3
Weight of generator	in B2	kg	833,5
	in B3/B14	kg	844,5
	in B3/B9	kg	\

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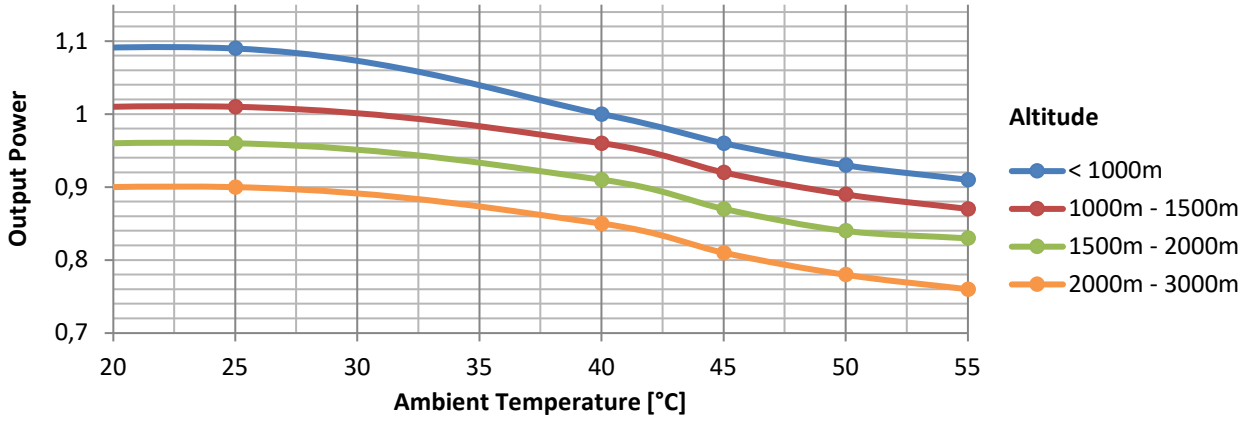
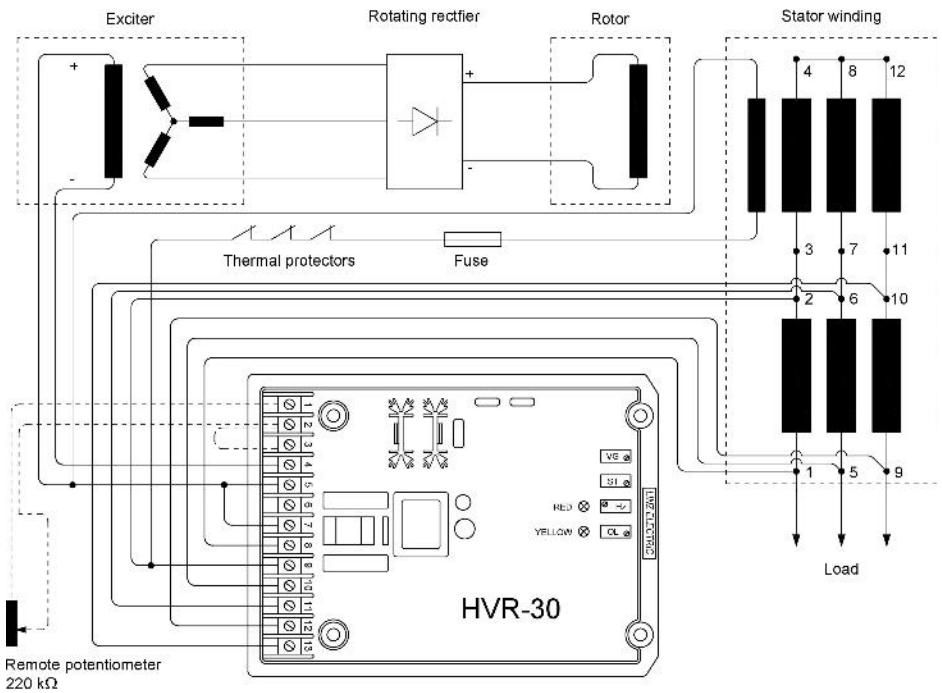
MOMENT OF INERZIA

B3/B9	kg·m²	\
SAE 7½	kg·m²	\
SAE 8	kg·m²	\
SAE 10	kg·m²	\
SAE 11½	kg·m²	3,721
SAE 14	kg·m²	3,836
SAE 18	kg·m²	\
B3/B14	kg·m²	3,542

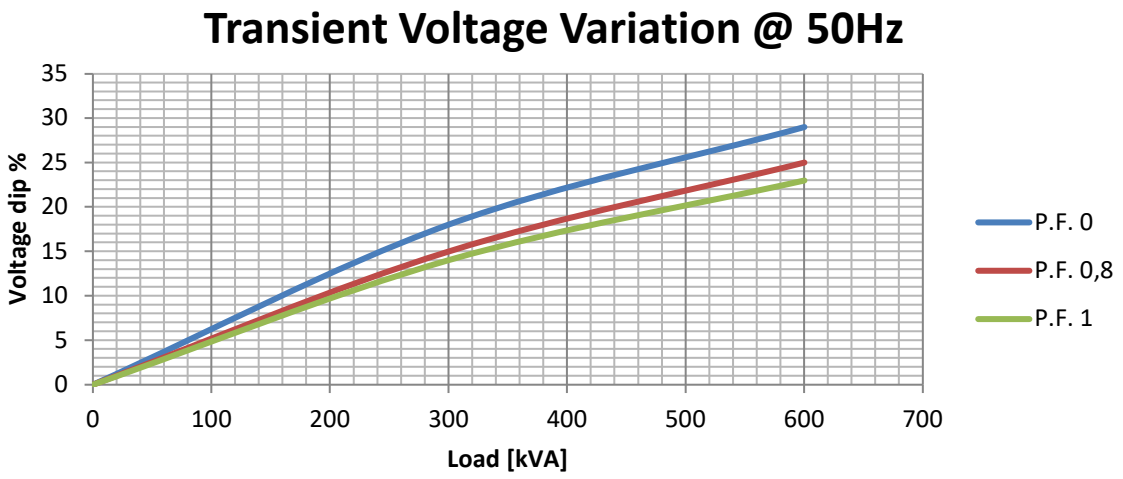
DERATING CURVES



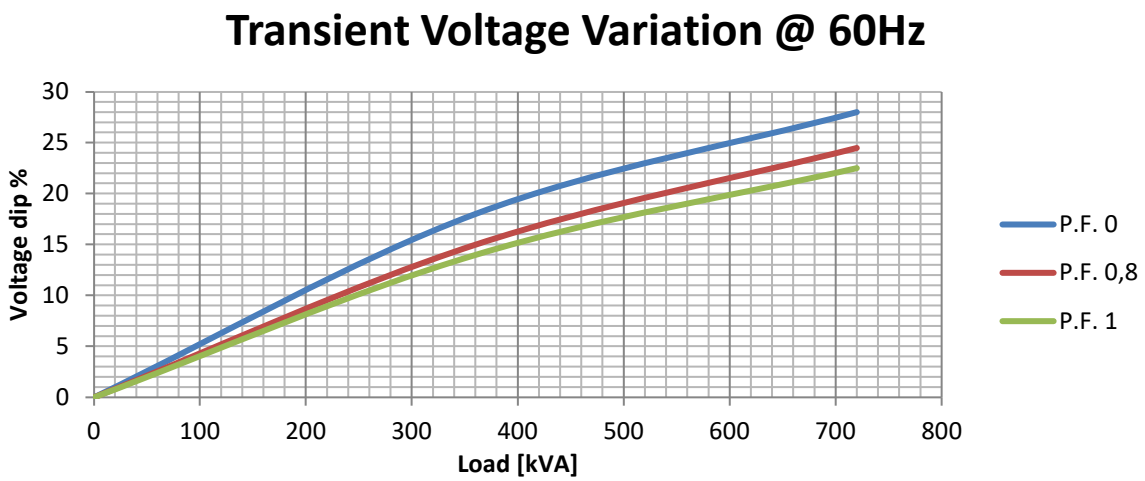
WIRING DIAGRAM



TRANSIENT VOLTAGE VARIATION 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz



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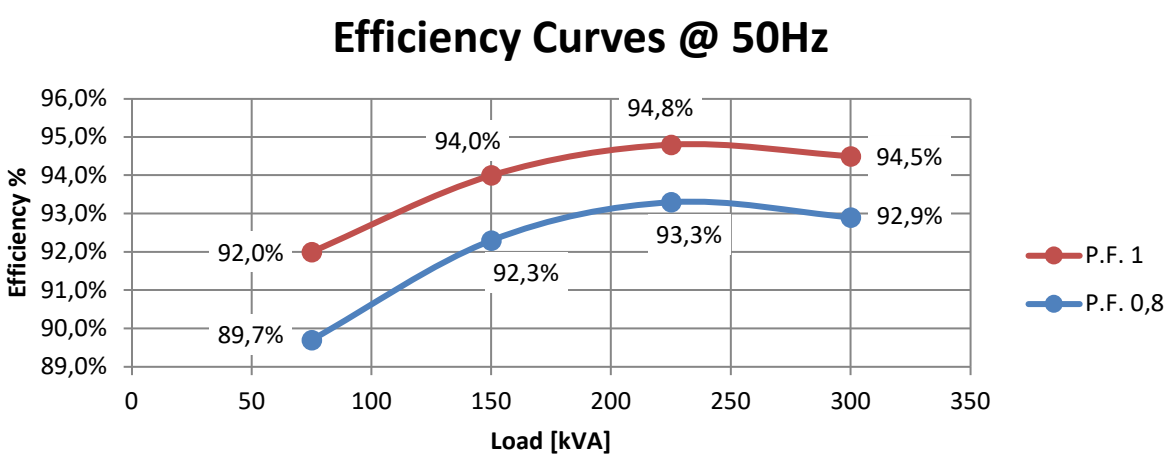
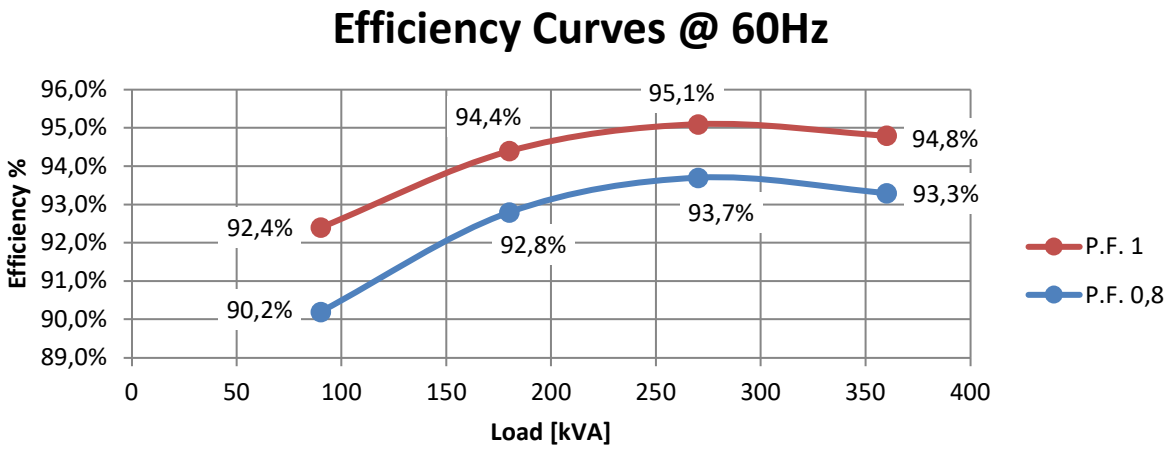
EFFICIENCY 50Hz



EFFICIENCY 60Hz



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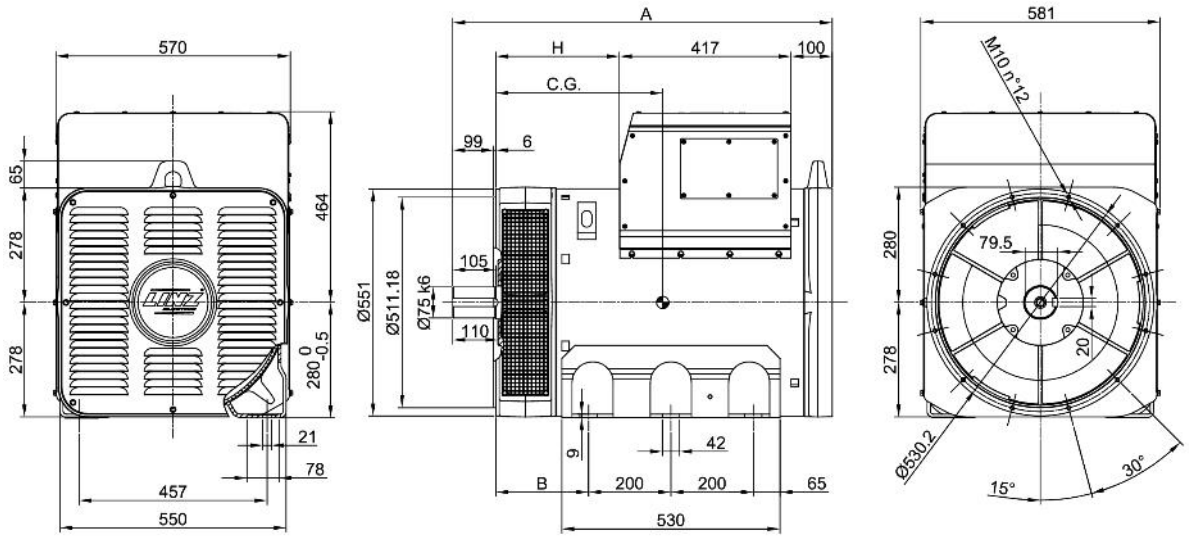
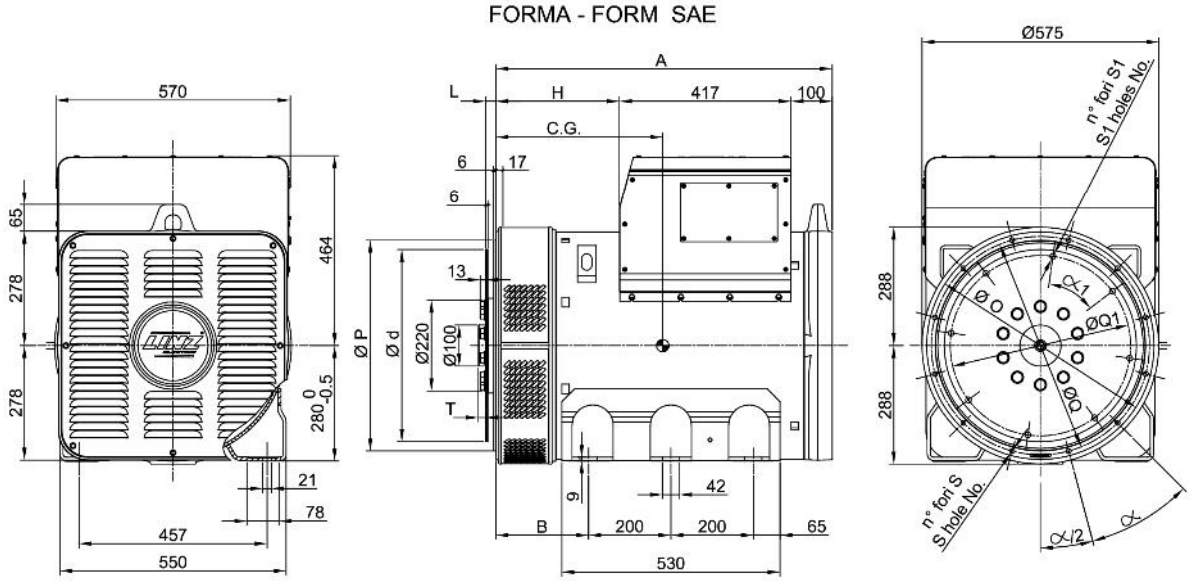
FORMA - FORM B3/B14



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