TECHNICAL DATA SHEET

ALTERNATOR PRO22S B/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO22S B/4

COMMON DATA

Rated Power at 50Hz	kVA	75	
Rated Power at 60Hz	kVA	90	
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	18 at 50Hz	21,6 at 60Hz
R.F.I. Suppression		Standard EN55011	

REGULATION DATA

AVR	HVR11	HVR30
Sensing	single-phase	three-phase
Voltage Regulation	±1%	±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	0,03 at 20°C
Rotor Winding Resistance	Ω	2,6 at 20°C
Exciter Stator Resistance	Ω	14,3 at 20°C
Exciter Rotor Resistance	Ω	0,47 at 20°C
THD at full load		<3%
THD at no load		<2,5%
Excitation at no load	Adc	0,9
Excitation at full load	Adc	2,5

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

CAN/CSA - C22.2 No. 100-14 (R2009) Motors and Generators, UL1004-1 2nd ed. Rotating Electrical Machines - General Requirements, UL1004-4 2nd ed. Electric Generators

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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	75	75	70	65	81	86	90	90
	kW	60	60	56	52	64,8	68,8	72	72
Rated Power in Class F (105°C/40°C)	kVA	69	69	65	62	75	80	83	83
	kW	55,2	55,2	52	49,6	60	64	66,4	66,4
Rated Power Standby (150°C/40°C)	kVA	80	80	75	70	86	90	95	95
	kW	64	64	60	56	68,8	72	76	76
Rated Power Standby (163°C/27°C)	kVA	85	85	80	75	90	93	98	98
	kW	68	68	64	60	72	74,4	78,4	78,4

EFFICIENCY IN CL. H

4/4		90,3%						90,4%
3/4		90,5%						90,7%
2/4		89,5%						90,6%
1/4		86,2%						87,3%

REACTANCES AND TIME CONSTANTS

ρcc			0,53						
Xd	- dir. axis synchronous	334%	301%	261%	216%	362%	342%	328%	301%
X'd	- dir. axis transient	21,1%	19,0%	16,5%	13,6%	22,9%	21,6%	20,7%	19,0%
X''d	- dir. axis subtransient	10,5%	9,5%	8,2%	6,8%	11,4%	10,8%	10,3%	9,5%
X_q	- quad. axis reactance	216%	195%	169%	140%	235%	222%	212%	195%
T'_{do}	- O.C. field time constant	245ms							
T'_d	- Transient time constant	21ms							
T''_d	- Sub-transient time constant	12ms							

MECHANICAL DATA

Bearing non drive end			6309-2RS-C3
Bearing drive end (B3/B14 form)			6314-2RS-C3
Weight of generator	in B2	kg	295
	in B3/B14	kg	315
	in B3/B9	kg	\

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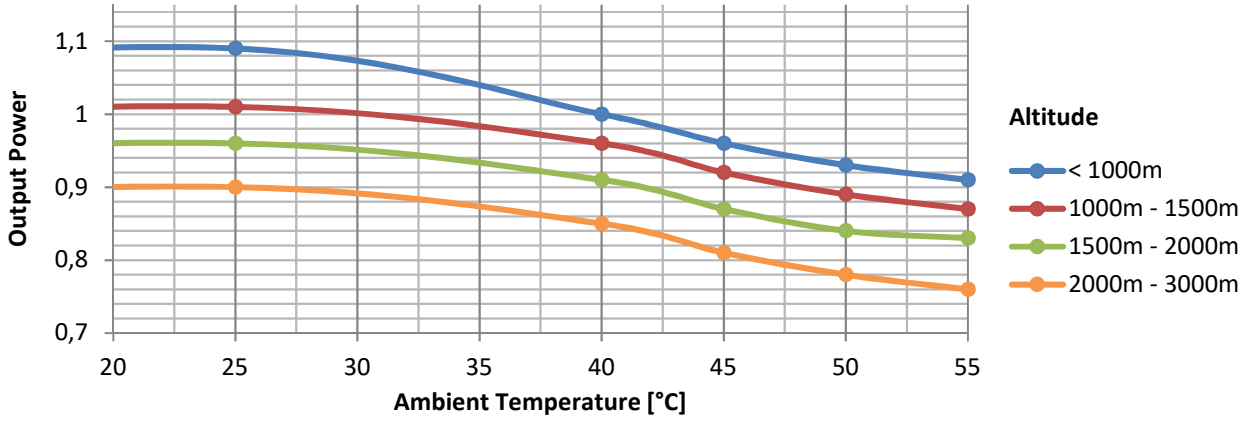
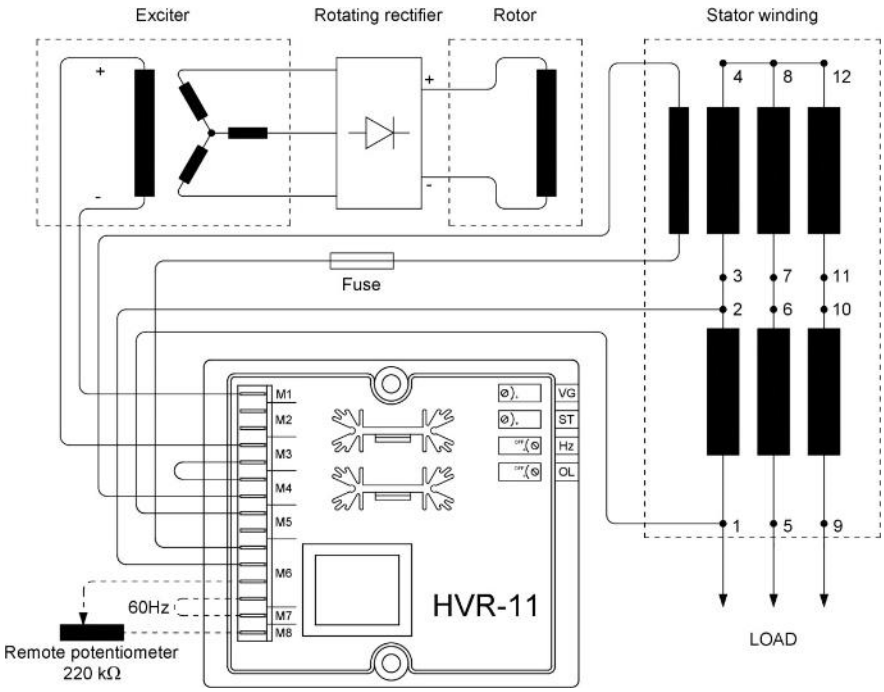
MOMENT OF INERZIA

B3/B9	kg·m²	\
SAE 7½	kg·m²	\
SAE 8	kg·m²	\
SAE 10	kg·m²	\
SAE 11½	kg·m²	0,853
SAE 14	kg·m²	1,001
SAE 18	kg·m²	\
B3/B14	kg·m²	0,775

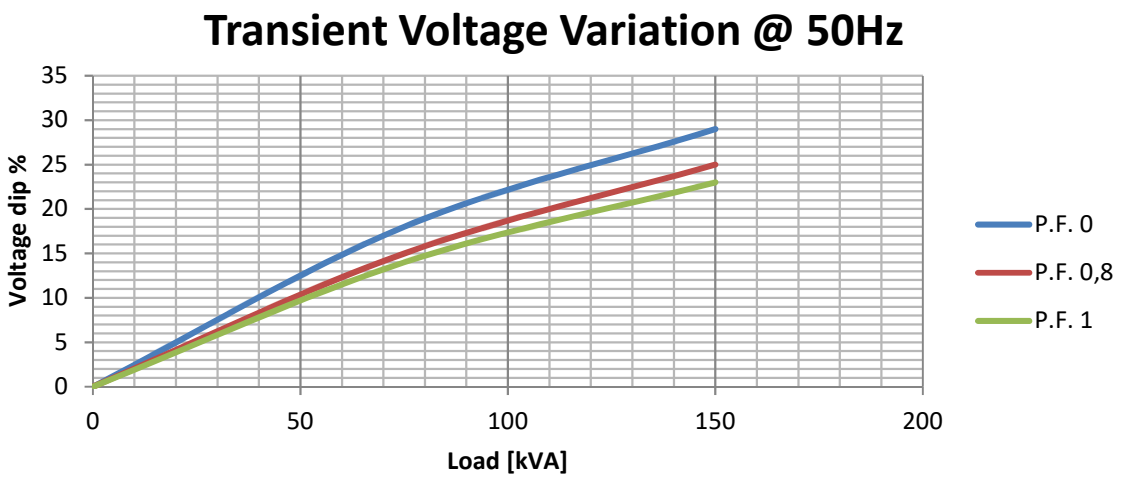
DERATING CURVES



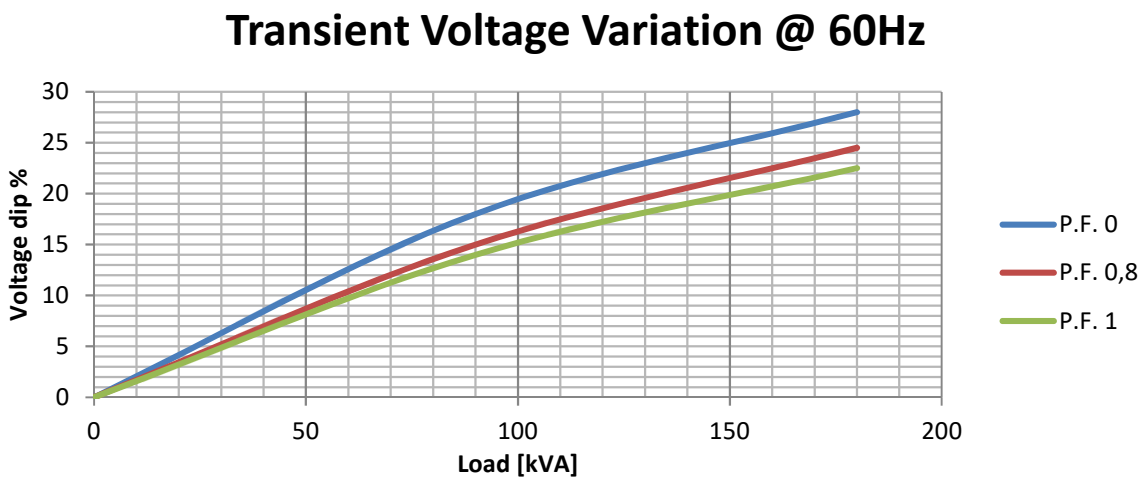
WIRING DIAGRAM



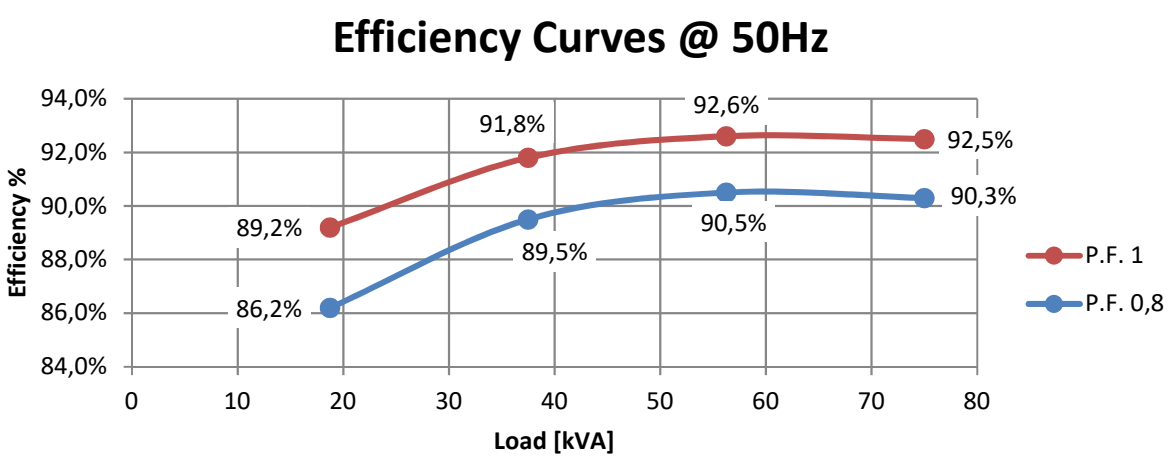
TRANSIENT VOLTAGE VARIATION 50Hz



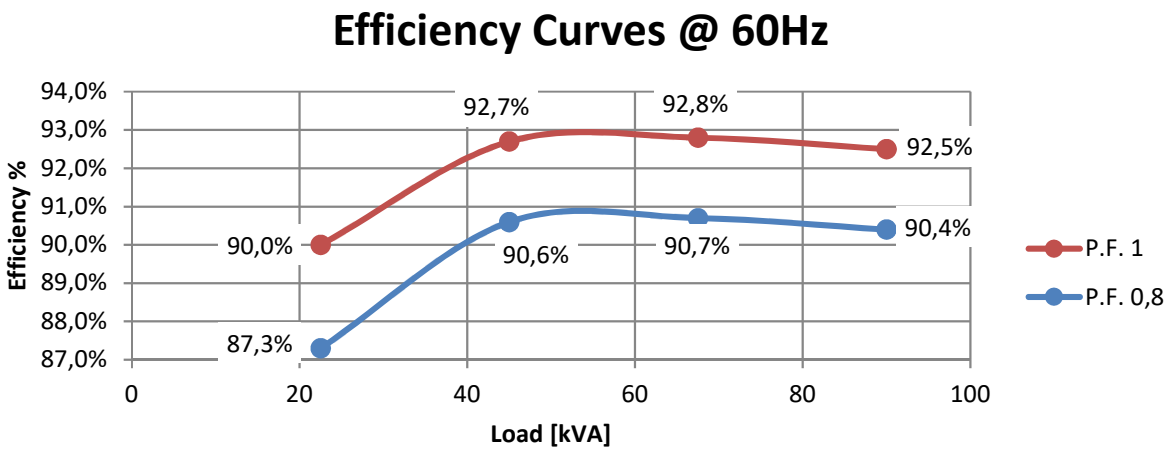
TRANSIENT VOLTAGE VARIATION 60Hz



EFFICIENCY 50Hz



EFFICIENCY 60Hz



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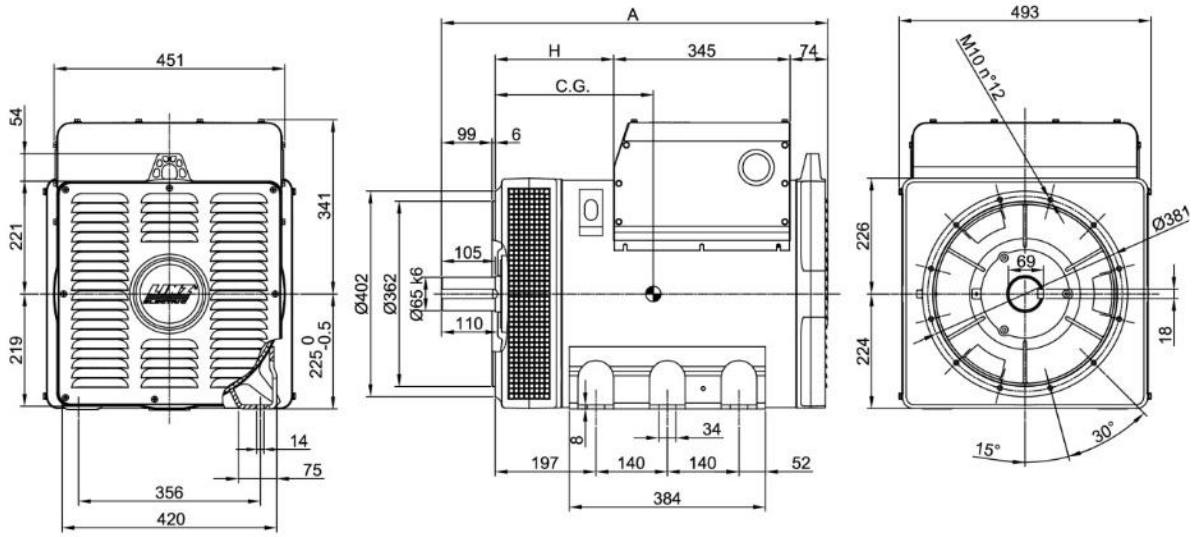
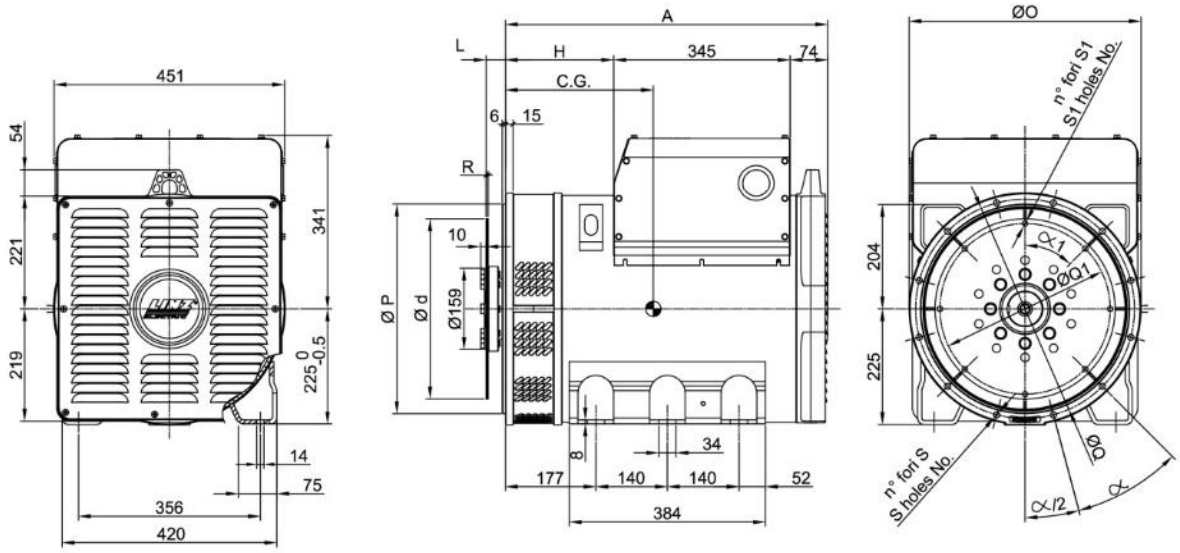
FORMA - FORM B3/B14



FORMA - FORM SAE



FORMA - FORM		A	H
B3/B14	PRO 22S	756	232
	PRO 22M	886	362
SAE	PRO 22S	631	212
	PRO 22M	761	342

TIPO - TYPE	C.G.
PRO22S A/4 B3/B14	284
PRO22S B/4 B3/B14	293
PRO22S C/4 B3/B14	299
PRO22S D/4 B3/B14	313
PRO22M E/4 B3/B14	359
PRO22M F/4 B3/B14	377

TIPO - TYPE	C.G.
PRO22S A/4 SAE	270
PRO22S B/4 SAE	279
PRO22S C/4 SAE	285
PRO22S D/4 SAE	298
PRO22M E/4 SAE	344
PRO22M F/4 SAE	362

SAE N.	FLANGIE - FLANGES - BRIDAS					
	Ø O	Ø P	Ø Q	n. fori holes No.	S	α
3	454	409.6	428.6	12	12	30°
2	492	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	R
11 1/2	39.6	352.42	333.37	8	10.5	45°	6
14	25.4	466.72	438.15	8	14	45°	