SAVANTECH
The Source of Energy Generators
An Engineering and Technology Company

LINZ ELECTRIC

TECHNICAL DATA SHEET

ALTERNATOR PRO22S A/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO22S A/4

COMMON DATA

Rated Power at 50Hz	kVA	63	
Rated Power at 60Hz	kVA	76	
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	18,2 at 50Hz	21,3 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	> 250% 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	0,049 at 20°C
Rotor Winding Resistance	Ω	2,38 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		<3%
Excitation at no load	Adc	0,8
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

PRO22S A/4

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	41	63	63	63	52	50	65	72	76	76
	kW	32,8	50,4	50,4	50,4	41,6	40	52	57,6	60,8	60,8
Rated Power in Class F (105°C/40°C)	kVA	38,5	59	59	58	48	46	61	67	70,5	70,5
	kW	30,8	47,2	47,2	46,4	38,4	36,8	48,8	53,6	56,4	56,4
Rated Power Standby (150°C/40°C)	kVA	45	69	69	67	55	54	71	78,5	83	83
	kW	36	55,2	55,2	53,6	44	43,2	56,8	62,8	66,4	66,4
Rated Power Standby (163°C/27°C)	kVA	46,5	71	71	69	57	56	73,5	81	85,5	85,5
	kW	37,2	56,8	56,8	55,2	45,6	44,8	58,8	64,8	68,4	68,4

EFFICIENCY IN CL. H

4/4			90,1%							90,4%
3/4			90,4%							90,6%
2/4			87,7%							89,3%
1/4			84,0%							87,5%

REACTANCES AND TIME CONSTANTS

ρcc			0,48							
Xd	- dir. axis synchronous	335%	302%	281%	206%		346%	340%	329%	302%
X'd	- dir. axis transient	21,1%	19,0%	17,7%	13,0%		21,7%	21,4%	20,7%	19,0%
X''d	- dir. axis subtransient	10,5%	9,5%	8,8%	6,5%		10,9%	10,7%	10,3%	9,5%
X_q	- quad. axis reactance	212%	191%	177%	130%		219%	215%	208%	191%
T'_{do}	- O.C. field time constant	236ms								
T'_d	- Transient time constant	20ms								
T''_d	- Sub-transient time constant	12ms								

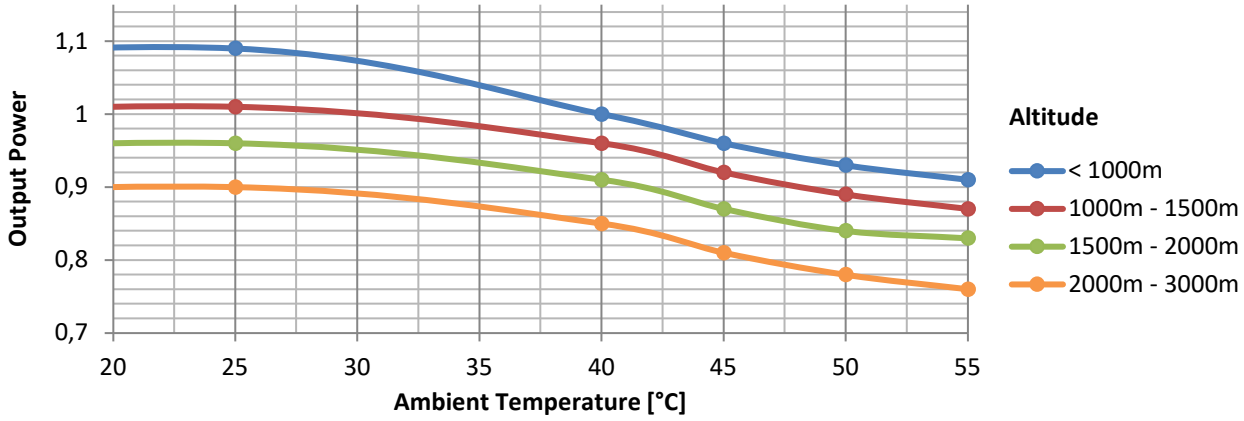
MECHANICAL DATA

Bearing non drive end			6309-2RS-C3
Bearing drive end (B3/B14 form)			6314-2RS-C3
Weight of generator	in B2	kg	280
	in B3/B14	kg	291
	in B3/B9	kg	\

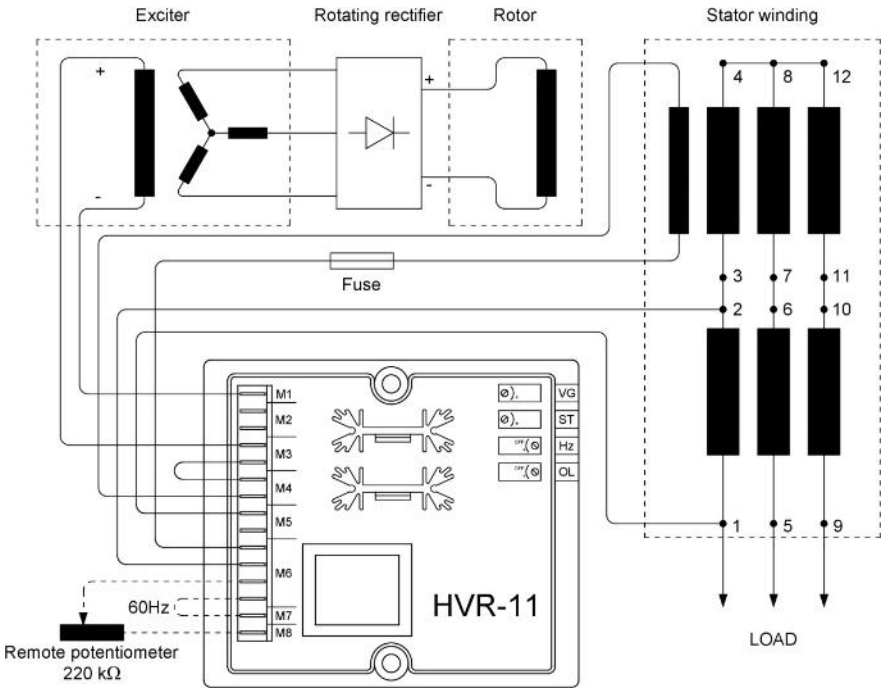
MOMENT OF INERZIA

B3/B9	kg·m²	\
SAE 7½	kg·m²	\
SAE 8	kg·m²	\
SAE 10	kg·m²	\
SAE 11½	kg·m²	0,729
SAE 14	kg·m²	0,878
SAE 18	kg·m²	\
B3/B14	kg·m²	0,652

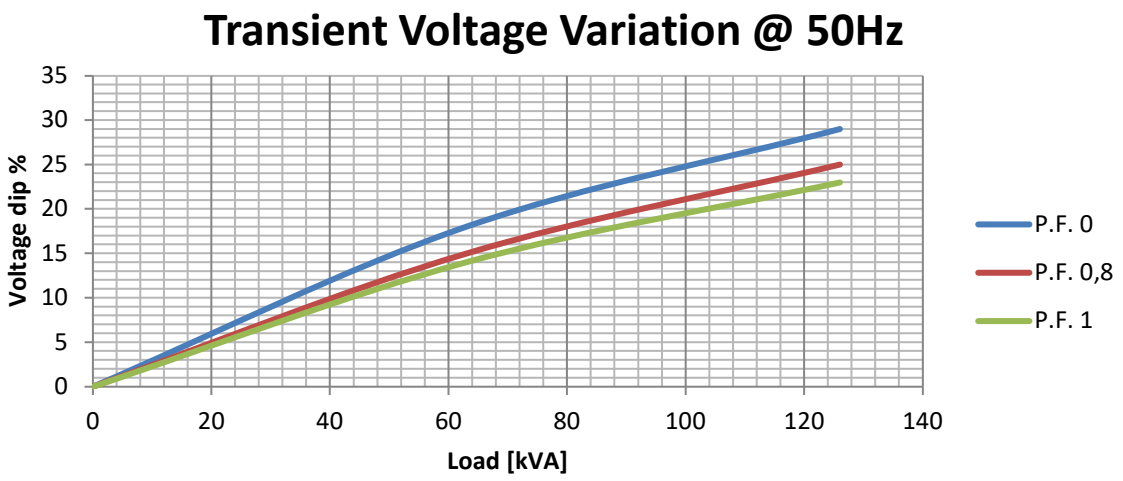
DERATING CURVES



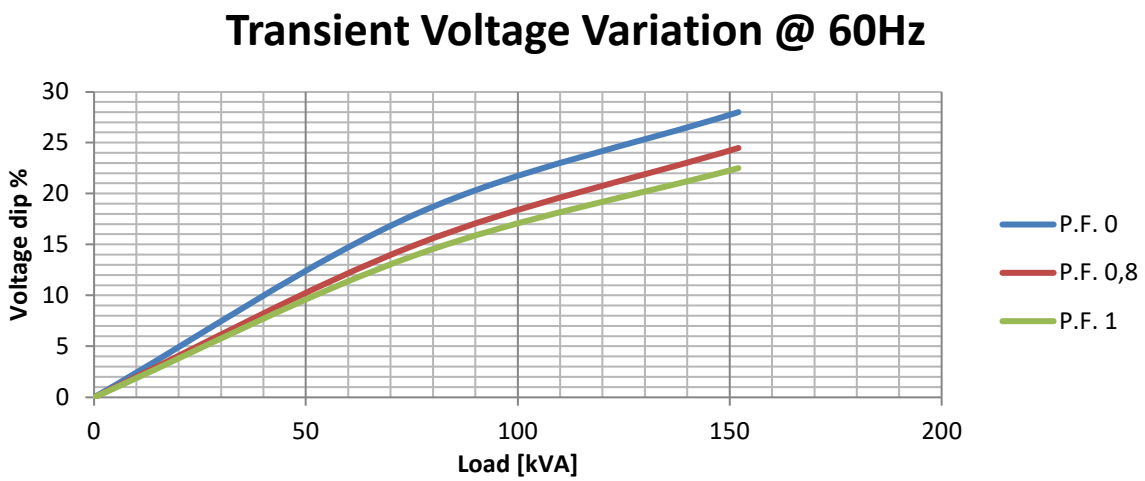
WIRING DIAGRAM



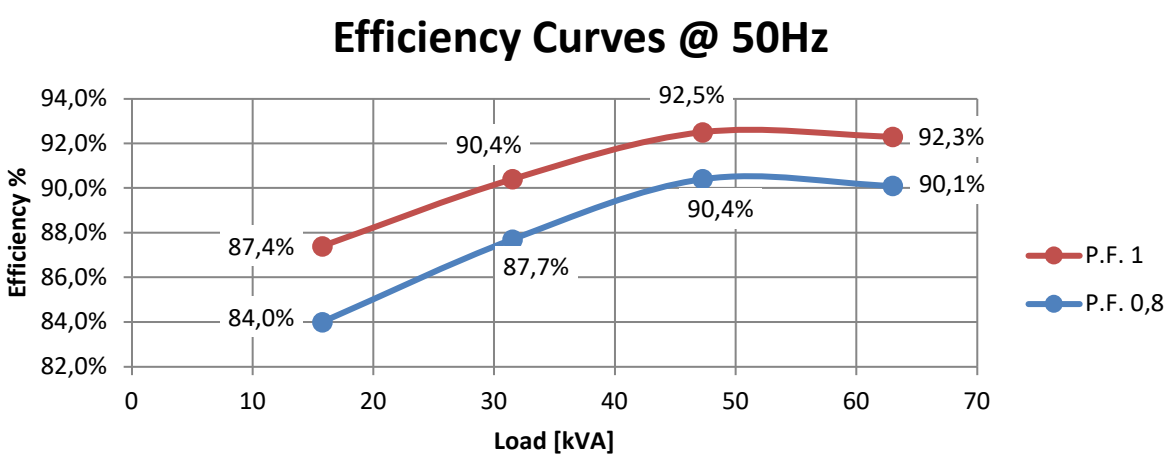
TRANSIENT VOLTAGE VARIATION 50Hz



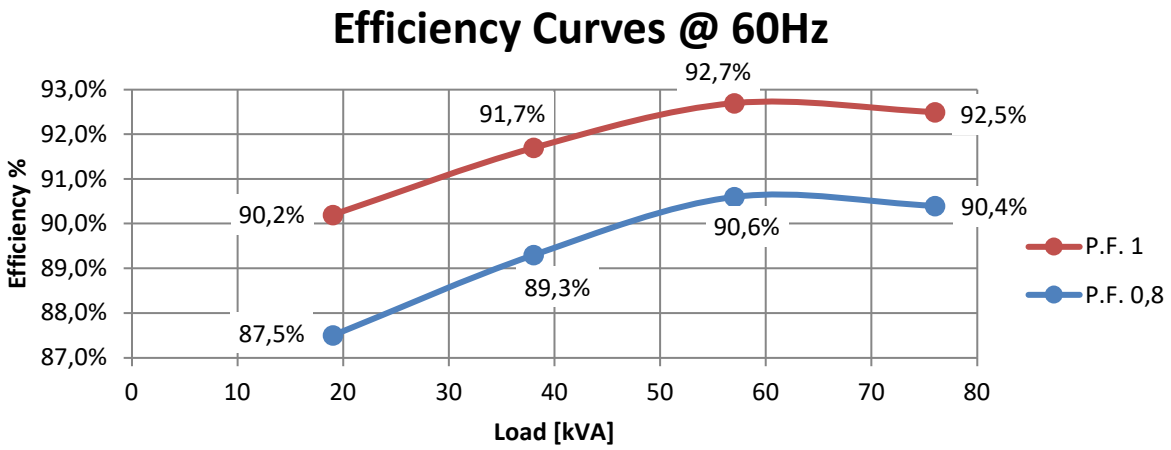
TRANSIENT VOLTAGE VARIATION 60Hz



EFFICIENCY 50Hz

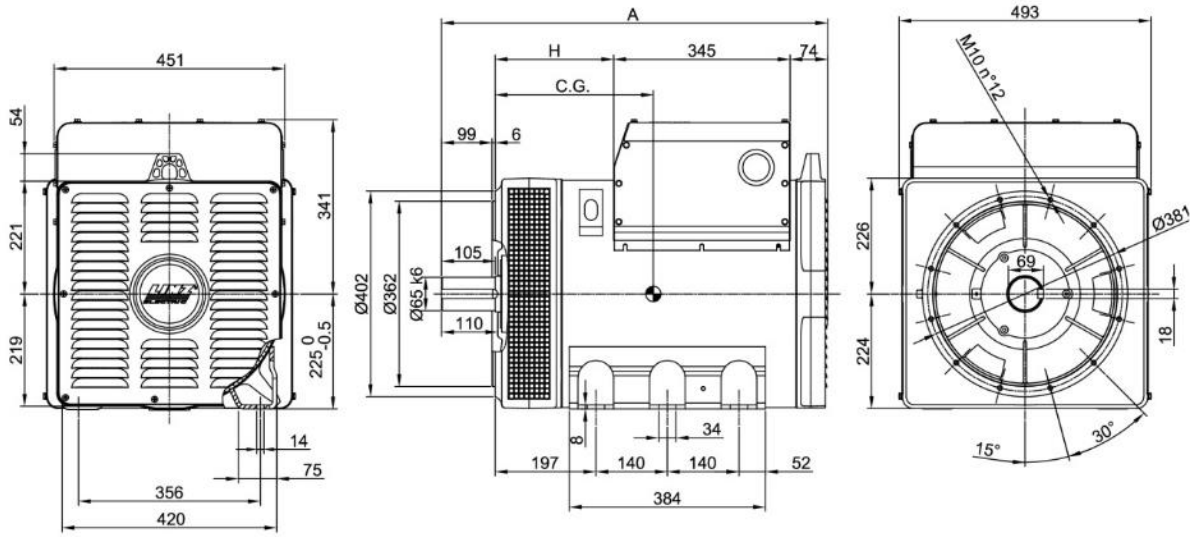


EFFICIENCY 60Hz

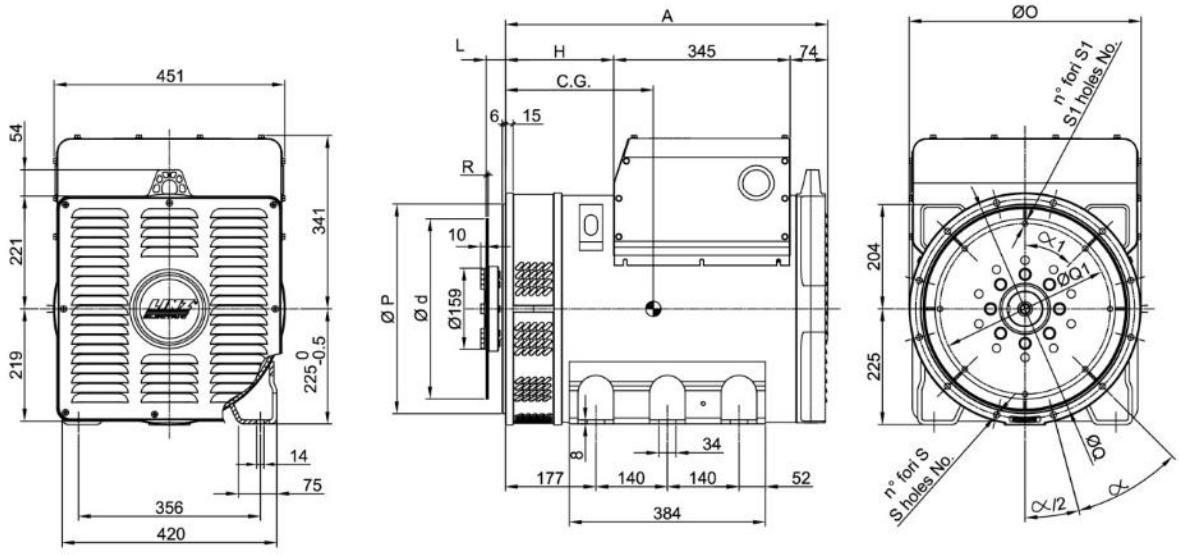


PRO22S A/4

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°	