

TECHNICAL DATA SHEET



ALTERNATOR PRO18S C/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO18S C/4

COMMON DATA

Rated Power at 50Hz	kVA	30	
Rated Power at 60Hz	kVA	36	
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	6,9 at 50Hz	7,1 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	0,117 at 20°C	
Rotor Winding Resistance	Ω	2,9 at 20°C	
Exciter Stator Resistance	Ω	15 at 20°C	
Exciter Rotor Resistance	Ω	0,72 at 20°C	
THD at full load	<3%		
THD at no load	<3%		
Excitation at no load	Adc	0,92	
Excitation at full load	Adc	2,23	

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

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

PRO18S C/4

ELECTRICAL DATA

Frequency		50Hz - 1500rpm					60Hz - 1800rpm				
Voltage	V	Double Delta	Series Star			Double Delta	Series Star				
		115/230	380/220	400/230	415/240	440/254	138/277	415/240	440/254	460/266	480/277
Rated Power in Class H (125°C/40°C)	kVA	20	30	30	30	25	24	34	35	36	36
	kW	16	24	24	24	20	19,2	27,2	28	28,8	28,8
Rated Power in Class F (105°C/40°C)	kVA	19	28	28	28	24	22,5	32	33	33,5	33,5
	kW	15,2	22,4	22,4	22,4	19,2	18	25,6	26,4	26,8	26,8
Rated Power Standby (150°C/40°C)	kVA	22	33	33	32	27,5	25,5	36	36,5	38	38
	kW	17,6	26,4	26,4	25,6	22	20,4	28,8	29,2	30,4	30,4
Rated Power Standby (163°C/27°C)	kVA	23	34	34	33	28	26	35	37,5	39	39
	kW	18,4	27,2	27,2	26,4	22,4	20,8	28	30	31,2	31,2

EFFICIENCY IN CL. H

4/4			87,1%						88,8%
3/4			87,5%						89,3%
2/4			85,0%						87,0%
1/4			81,3%						82,2%

REACTANCES AND TIME CONSTANTS

pcc			0,58							
X _d	- dir. axis synchronous	269%	243%	226%	167%	307%	281%	265%	243%	
X' _d	- dir. axis transient	21,1%	19,0%	17,7%	13,1%	24,0%	22,0%	20,7%	19,0%	
X'' _d	- dir. axis subtransient	8,9%	8,0%	7,4%	5,5%	10,1%	9,3%	8,7%	8,0%	
X _q	- quad. axis reactance	150%	135%	125%	93%	171%	156%	147%	135%	
T' _{do}	- O.C. field time constant	125ms								
T' _d	- Transient time constant	10ms								
T'' _d	- Sub-transient time constant	5ms								

MECHANICAL DATA

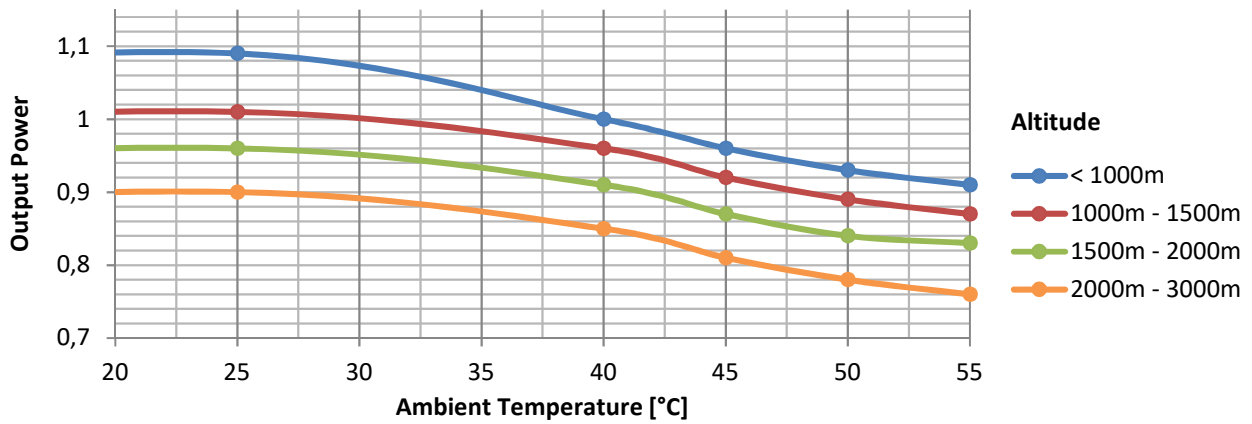
Bearing non drive end	6307-2RS-C3		
Bearing drive end (B3/B14 form)	6309-2RS-C3		
Weight of generator	in B2	kg	150
	in B3/B14	kg	153,5
	in B3/B9	kg	\

PRO18S C/4

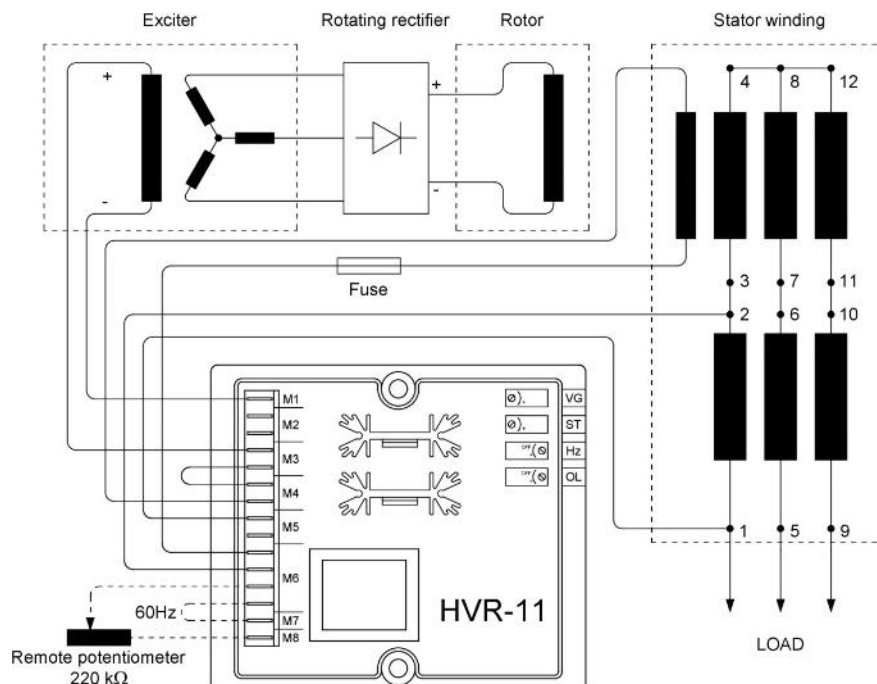
MOMENT OF INERZIA

B3/B9	kg·m ²	\
SAE 7½	kg·m ²	0,281
SAE 8	kg·m ²	0,290
SAE 10	kg·m ²	0,306
SAE 11½	kg·m ²	0,326
SAE 14	kg·m ²	\
SAE 18	kg·m ²	\
B3/B14	kg·m ²	0,272

DERATING CURVES



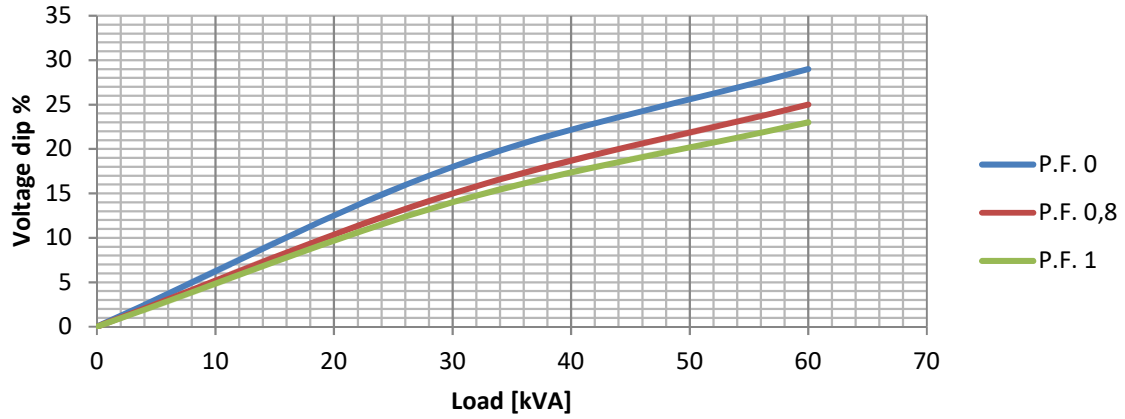
WIRING DIAGRAM



PRO18S C/4

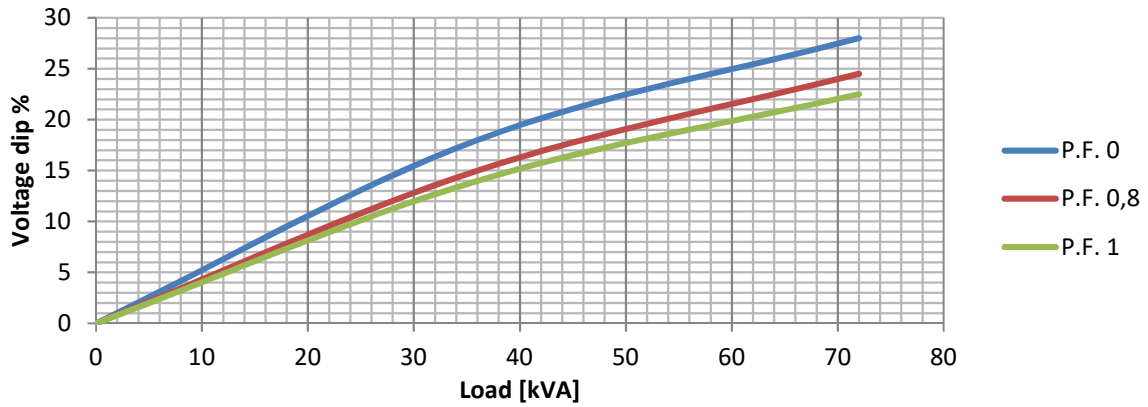
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

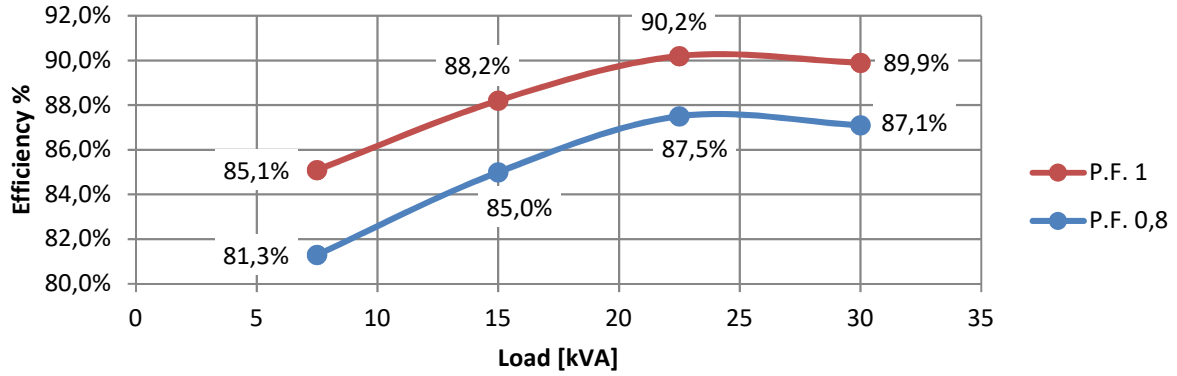
Transient Voltage Variation @ 60Hz



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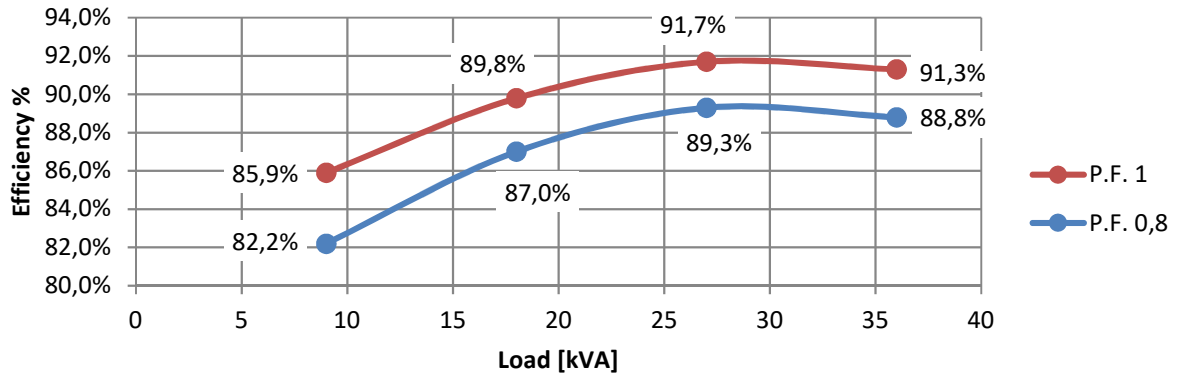
EFFICIENCY 50Hz

Efficiency Curves @ 50Hz



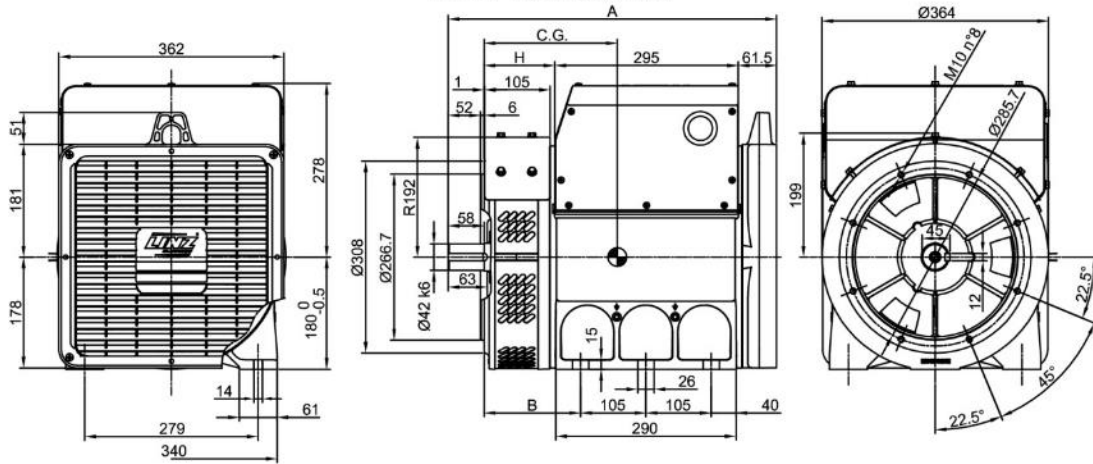
EFFICIENCY 60Hz

Efficiency Curves @ 60Hz

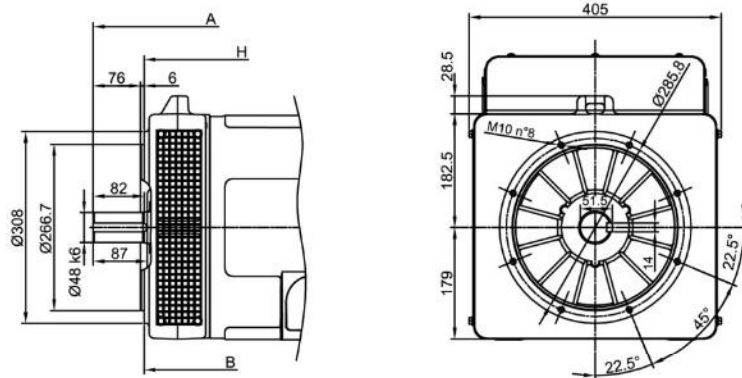


PRO18S C/4

FORMA - FORM B3/B14 'S-M'



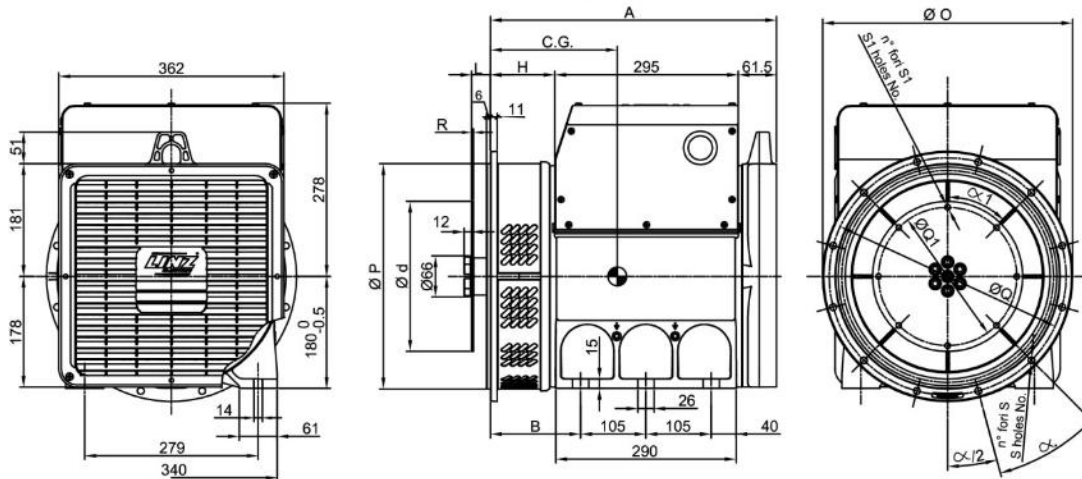
FORMA - FORM B3/B14 'L'



TIPO - TYPE	C.G.
PRO18S A/4 B3/B14	217
PRO18S B/4 B3/B14	221
PRO18S C/4 B3/B14	228
PRO18M D/4 B3/B14	251
PRO18M E/4 B3/B14	262
PRO18L F/4 B3/B14	301
PRO18L G/4 B3/B14	318

TIPO - TYPE	C.G.
PRO18S A/4 SAE	213
PRO18S B/4 SAE	217
PRO18S C/4 SAE	223
PRO18M D/4 SAE	246
PRO18M E/4 SAE	257
PRO18L F/4 SAE	296
PRO18L G/4 SAE	313

FORMA - FORM SAE



FORMA - FORM	A	B	H
B3/B14	PRO 18S	528	113,5
	PRO 18M	598	183,5
	PRO 18L	734	295,5
SAE	PRO 18S	460	103,5
	PRO 18M	530	173,5
	PRO 18L	642	285,5

SAE N.	FLANGIE - FLANGES - BRIDAS					
	Ø O	Ø P	Ø Q	n. fori holes No.	S	α
5	356	314,3	333,4	8	11	45°
4	402	362	381			
3	451	409,6	428,6	12		
2	490	447,7	466,7			

SAE N.	GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS						
	L	Ø d	Ø Q1	n. fori holes No.	S1	α 1	R
6 1/2	30,2	215,9	200	6	9	60°	3
7 1/2		241,3	222,25	8		45°	
8	62	263,52	244,47	6		60°	
10	53,8	314,32	295,27	8	10,5	45°	4,5
11 1/2	39,6	352,42	333,37				