

TECHNICAL DATA SHEET



ALTERNATOR PRO18M D/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO18M D/4

COMMON DATA

Rated Power at 50Hz	kVA	35	
Rated Power at 60Hz	kVA	42	
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	8 at 50Hz	8,3 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	> 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	0,087 at 20°C	
Rotor Winding Resistance	Ω	3,24 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	0,91	
Excitation at full load	Adc	2,28	

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

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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	35	35	35	29	38,5	40	42	42
	kW	28	28	28	23,2	30,8	32	33,6	33,6
Rated Power in Class F (105°C/40°C)	kVA	32	32	31	27,5	36	37	38,5	38,5
	kW	25,6	25,6	24,8	22	28,8	29,6	30,8	30,8
Rated Power Standby (150°C/40°C)	kVA	37	37	36	30	40	42	45	45
	kW	29,6	29,6	28,8	24	32	33,6	36	36
Rated Power Standby (163°C/27°C)	kVA	39	39	37	31	42	45	47	47
	kW	31,2	31,2	29,6	24,8	33,6	36	37,6	37,6

EFFICIENCY IN CL. H

4/4		88,6%						90,4%
3/4		89,1%						90,9%
2/4		86,0%						87,5%
1/4		82,5%						83,0%

REACTANCES AND TIME CONSTANTS

pcc		0,58						
X _d - dir. axis synchronous		266%	240%	223%	164%	294%	272%	240%
X' _d - dir. axis transient		19,9%	18,0%	16,7%	12,3%	22,1%	20,4%	18,0%
X'' _d - dir. axis subtransient		7,8%	7,0%	6,5%	4,8%	8,6%	7,9%	7,0%
X _q - quad. axis reactance		147%	133%	124%	91%	163%	151%	133%
T' _{do} - O.C. field time constant		147ms						
T' _d - Transient time constant		11ms						
T'' _d - Sub-transient time constant		6ms						

MECHANICAL DATA

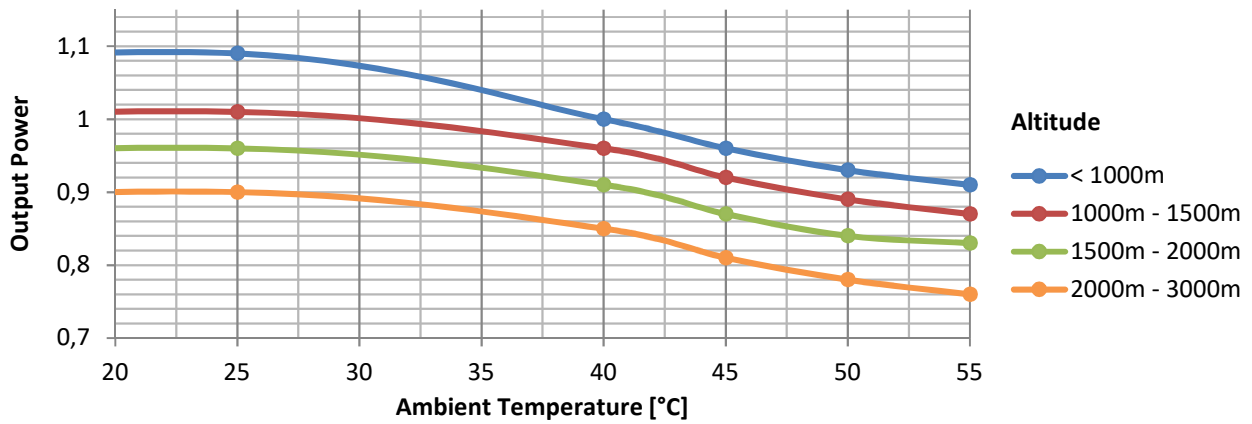
Bearing non drive end		6307-2RS-C3	
Bearing drive end (B3/B14 form)		6309-2RS-C3	
Weight of generator	in B2	kg	170
	in B3/B14	kg	172
	in B3/B9	kg	\

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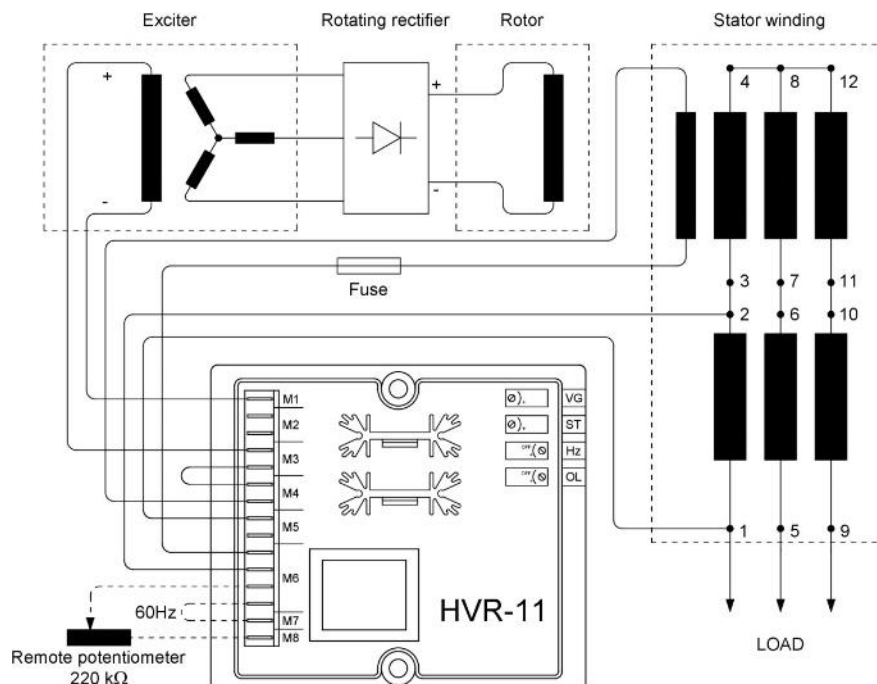
MOMENT OF INERZIA

B3/B9	kg·m ²	\
SAE 7½	kg·m ²	0,316
SAE 8	kg·m ²	0,325
SAE 10	kg·m ²	0,342
SAE 11½	kg·m ²	0,362
SAE 14	kg·m ²	\
SAE 18	kg·m ²	\
B3/B14	kg·m ²	0,313

DERATING CURVES



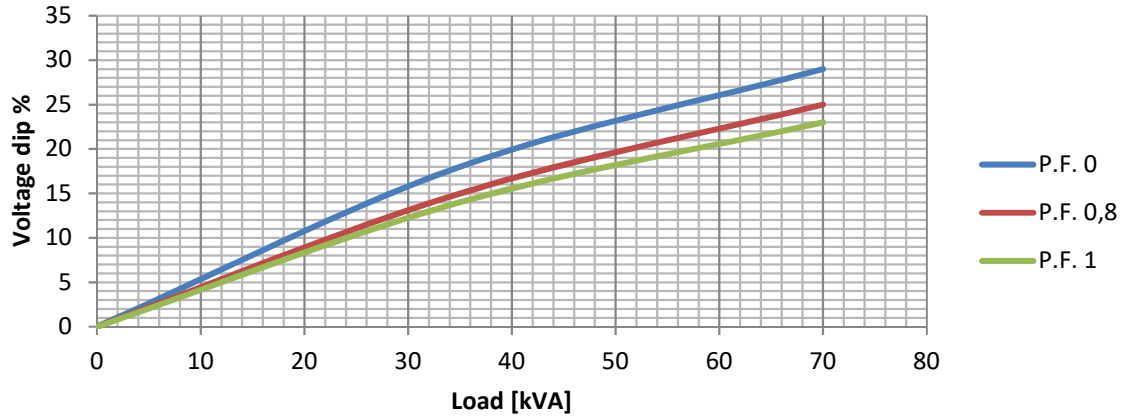
WIRING DIAGRAM



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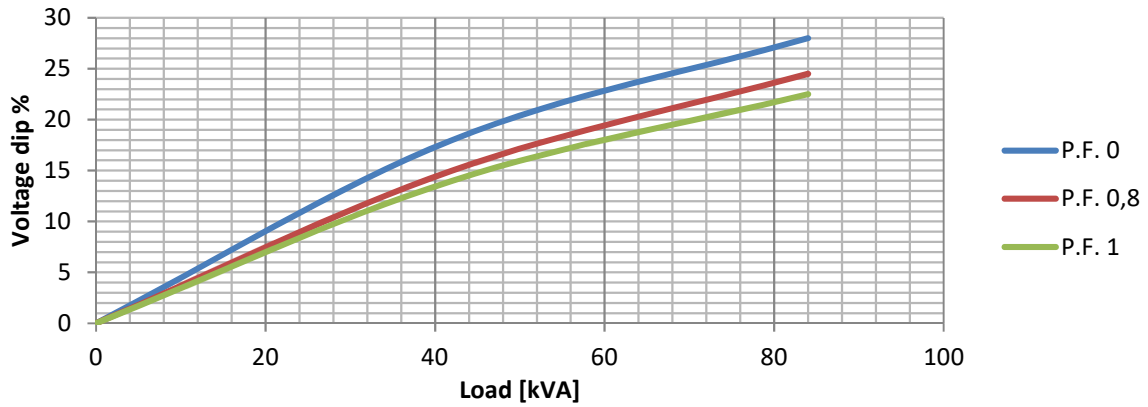
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

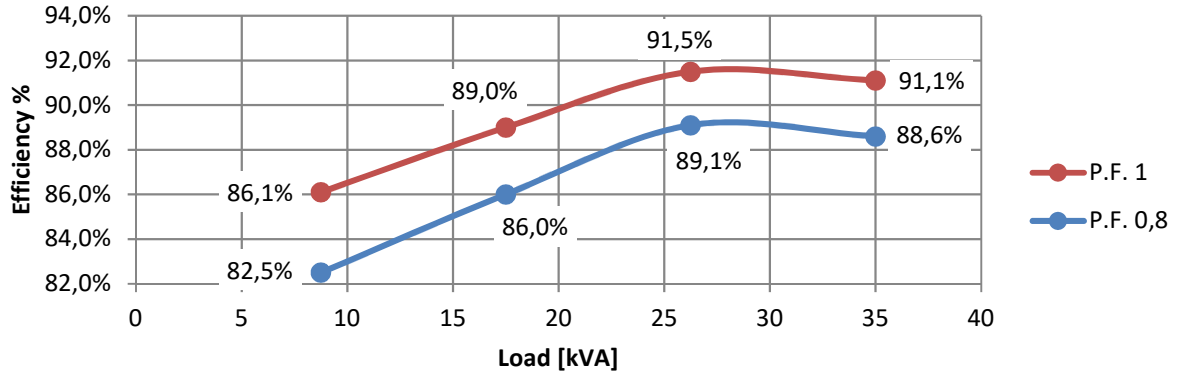
Transient Voltage Variation @ 60Hz



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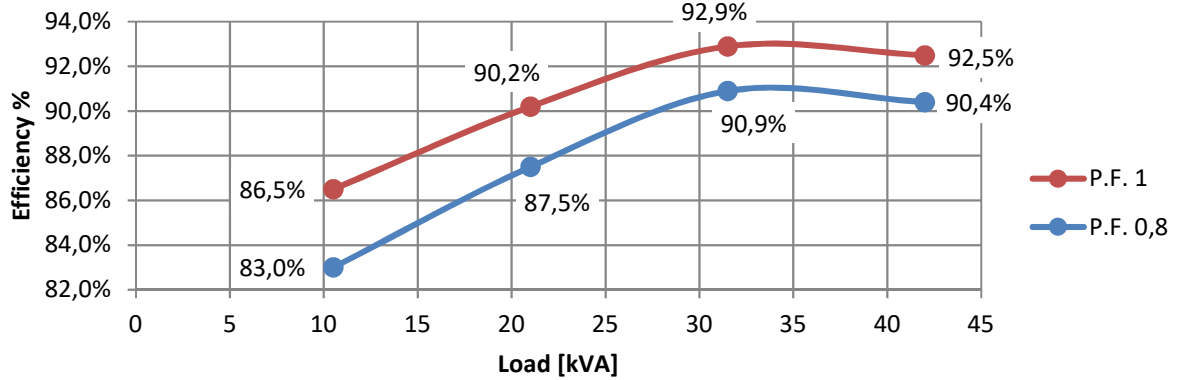
EFFICIENCY 50Hz

Efficiency Curves @ 50Hz



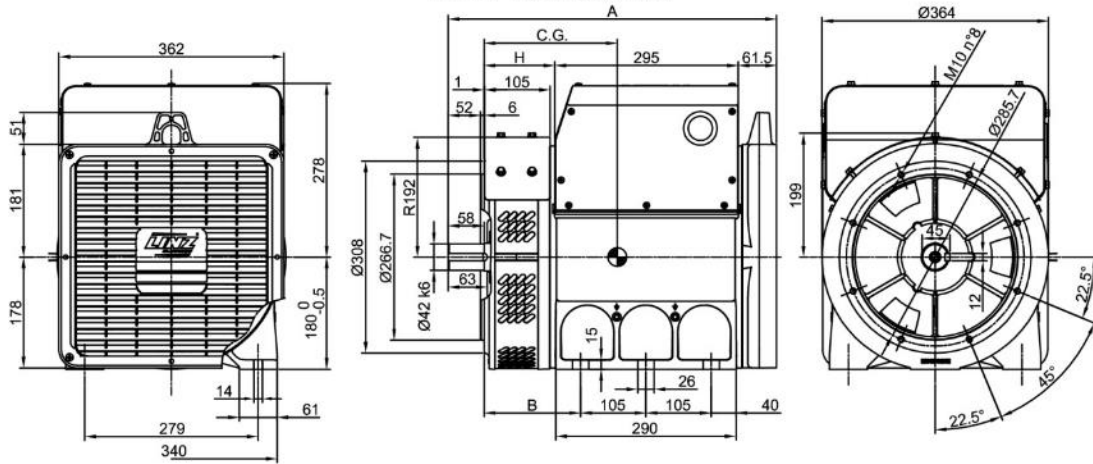
EFFICIENCY 60Hz

Efficiency Curves @ 60Hz

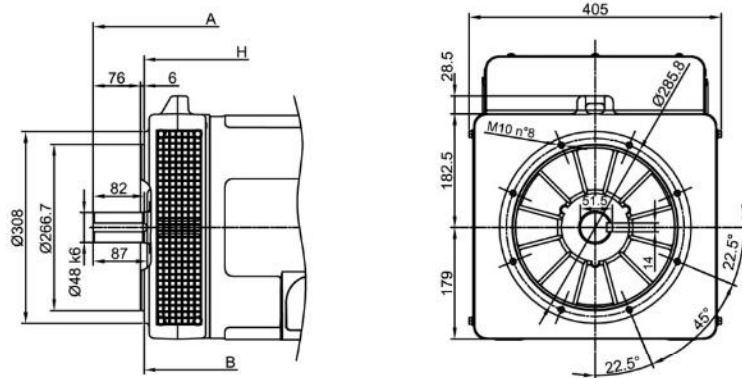


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FORMA - FORM B3/B14 'S-M'



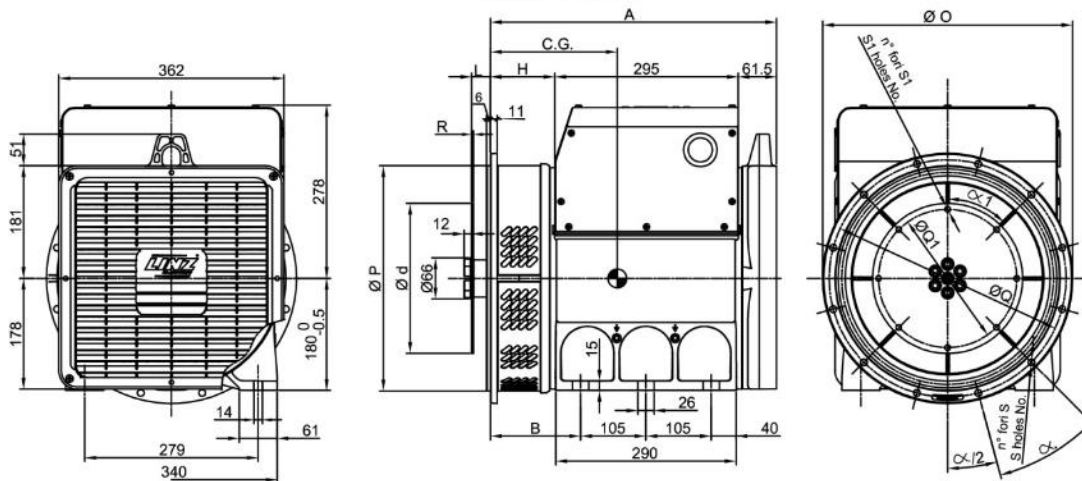
FORMA - FORM B3/B14 'L'



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	12		30°
3	451	409,6	428,6			
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				