



ALTERNATOR PRO18L G/4

three-phase brushless synchronous alternator with AVR - 4 poles

Technical Data Sheet

PRO18L G/4

COMMON DATA

Rated Power at 50Hz	kVA	60
Rated Power at 60Hz	kVA	72
Rated Power Factor		0.8
Nominal Temperature	°C	40
Control System		self excited
Execution		brushless
Regulation Type		AVR
Insulation Class		H
Protection		IP23
Maximum Overspeed	rpm	2250
Overload		110% of rated power for one hour in a cycle of 6 hours
Air Flow Requirement	m ³ /min	11.7 at 50Hz 14 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	0.041 at 20°C
Rotor Winding Resistance	5.23 at 20°C
Exciter Stator Resistance	13 at 20°C
Exciter Rotor Resistance	0.72 at 20°C
THD at full load	<3%
THD at no load	<3%
Excitation at no load	A _{dc} 0.86
Excitation at full load	A _{dc} 2.4

STANDARD

References	EN60034-1 ISO8528-3 EN55011
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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	60	60	58	50	60	68	72	72
	kW	48	48	46.4	40	48	54.4	57.6	57.6
Rated Power in Class F (105°C/40°C)	kVA	55	55	50	45	48	62	66	66
	kW	44	44	40	36	38.4	49.6	52.8	52.8
Rated Power Standby (150°C/40°C)	kVA	62	62	60	52	62	70	76	76
	kW	49.6	49.6	48	41.6	49.6	56	60.8	60.8
Rated Power Standby (163°C/27°C)	kVA	65	65	62	55	64	72	78	78
	kW	52	52	49.6	44	51.2	57.6	62.4	62.4

EFFICIENCY IN CL. H

4/4		89.6%						94.4%
3/4		90.1%						92.2%
2/4		87.5%						89.1%
1/4		82.4%						84.3%

REACTANCES AND TIME CONSTANTS

pcc			0.63						
X _d - dir. axis synchronous		288%	260%	233%	179%	290%	292%	283%	260%
X' _d - dir. axis transient		23.3%	21.0%	18.9%	14.5%	23.4%	23.6%	22.9%	21.0%
X'' _d - dir. axis subtransient		7.8%	7.0%	6.3%	4.8%	7.8%	7.9%	7.6%	7.0%
X _q - quad. axis reactance		164%	148%	133%	102%	165%	166%	161%	148%
T' _{do} - O.C. field time constant	195ms								
T' _d - Transient time constant	15ms								
T'' _d - Sub-transient time constant	9ms								

MECHANICAL DATA

Bearing non drive end			6307-2RS-C3
Bearing drive end (B3/B14 form)			6309-2RS-C3
Weight of generator	in B2	kg	267.5
	in B3/B14	kg	269.5
	in B3/B9	kg	\

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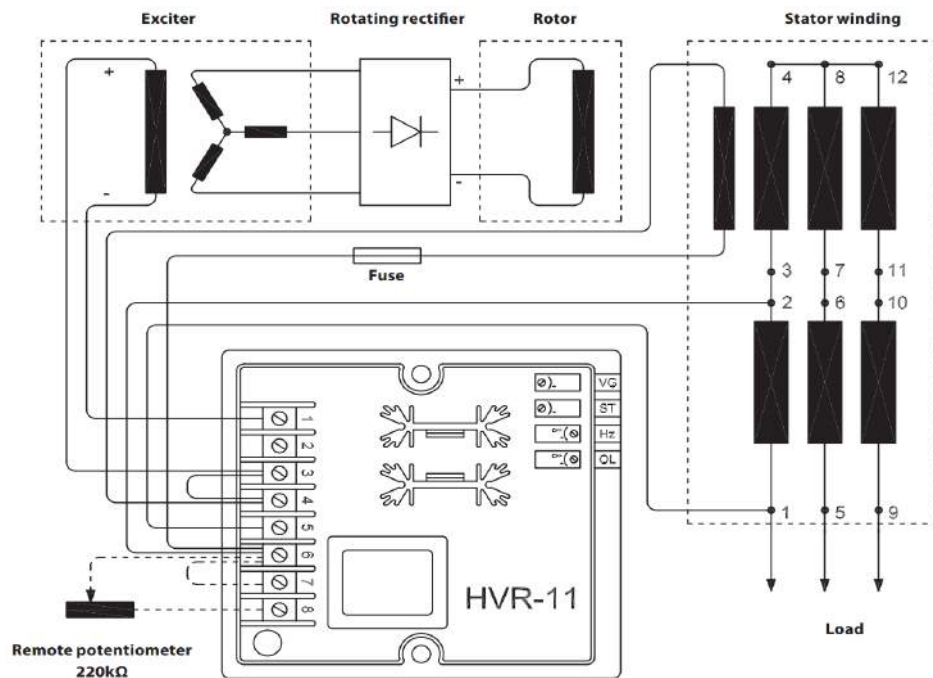
MOMENT OF INERZIA

B3/B9	kg·m ²	\
SAE 7½	kg·m ²	0.511
SAE 8	kg·m ²	0.521
SAE 10	kg·m ²	0.537
SAE 11½	kg·m ²	0.557
SAE 14	kg·m ²	\
SAE 18	kg·m ²	\
B3/B14	kg·m ²	0.523

POWER VARIATION ACCORDING TO TEMPERATURE AND ALTITUDE

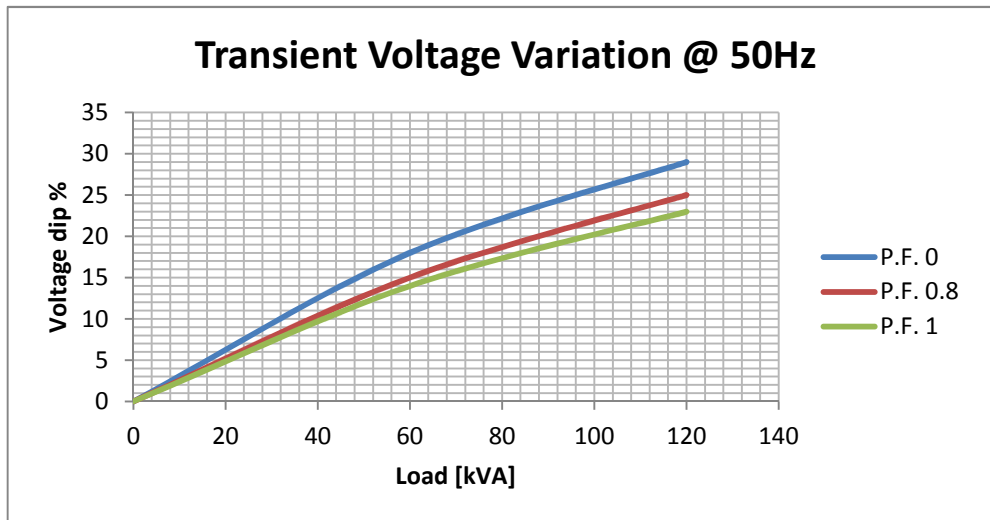
Altitude	Ambient temperature				
	25°C	40°C	45°C	50°C	55°C
< 1000m	1.09	1	0.96	0.93	0.91
1000m - 1500m	1.01	0.96	0.92	0.89	0.87
1500m - 2000m	0.96	0.91	0.87	0.84	0.83
2000m - 3000m	0.9	0.85	0.81	0.78	0.76

WIRING DIAGRAM

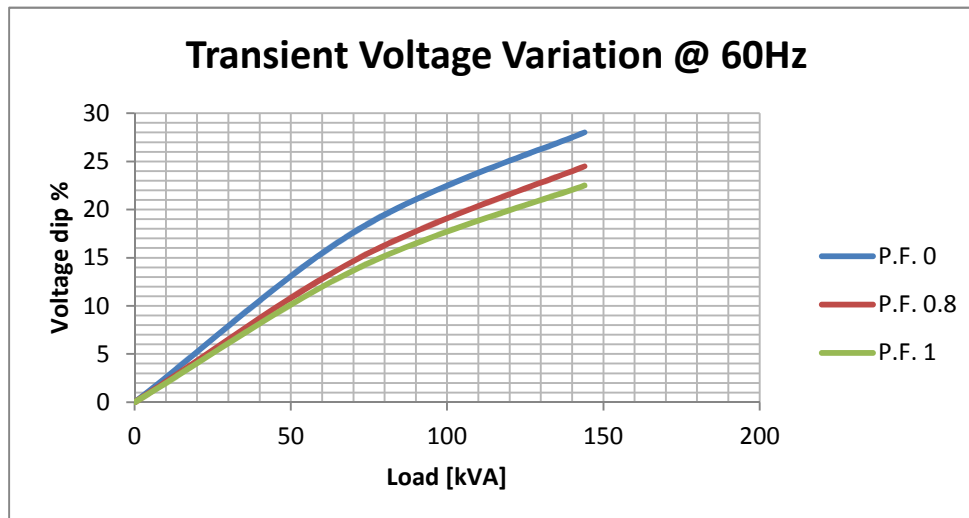


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TRANSIENT VOLTAGE VARIATION 50Hz

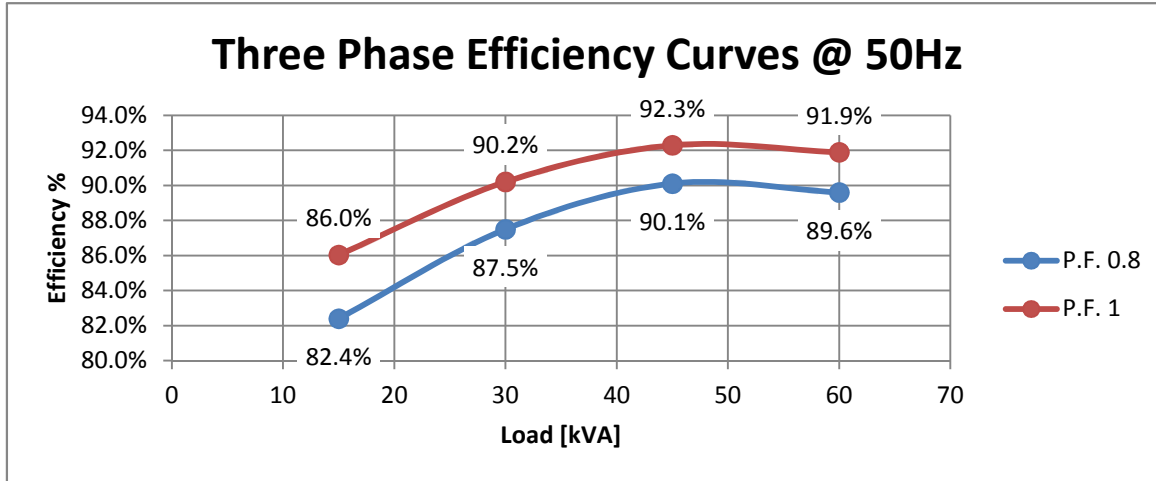


TRANSIENT VOLTAGE VARIATION 60Hz

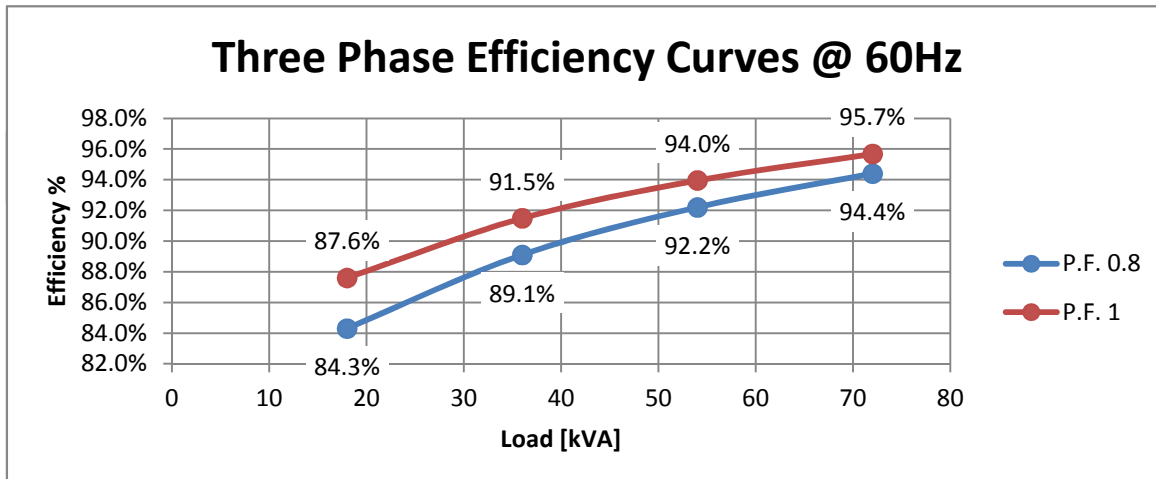


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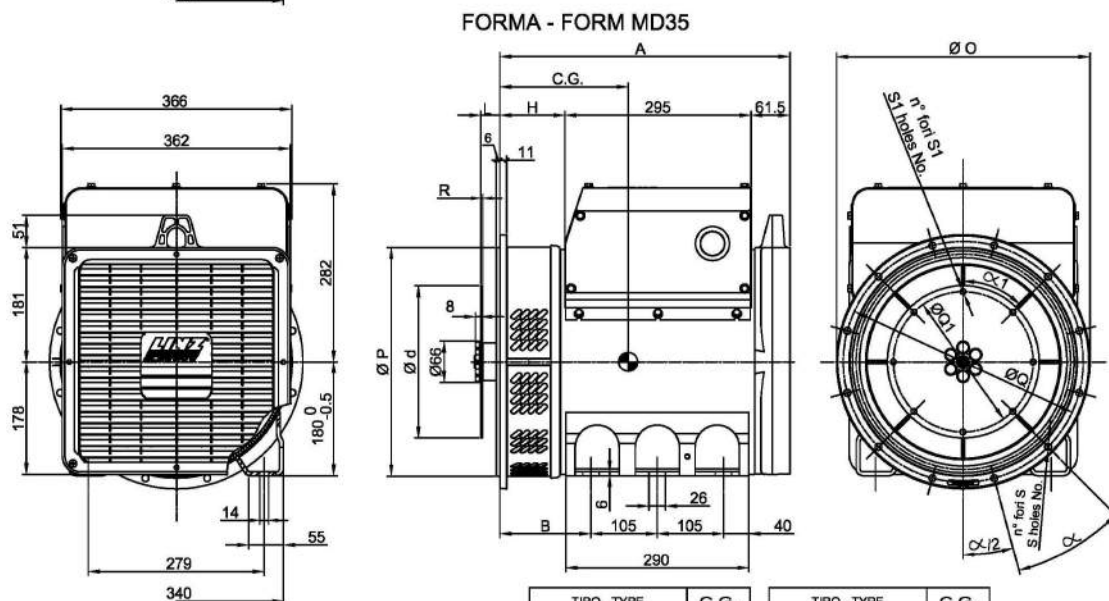
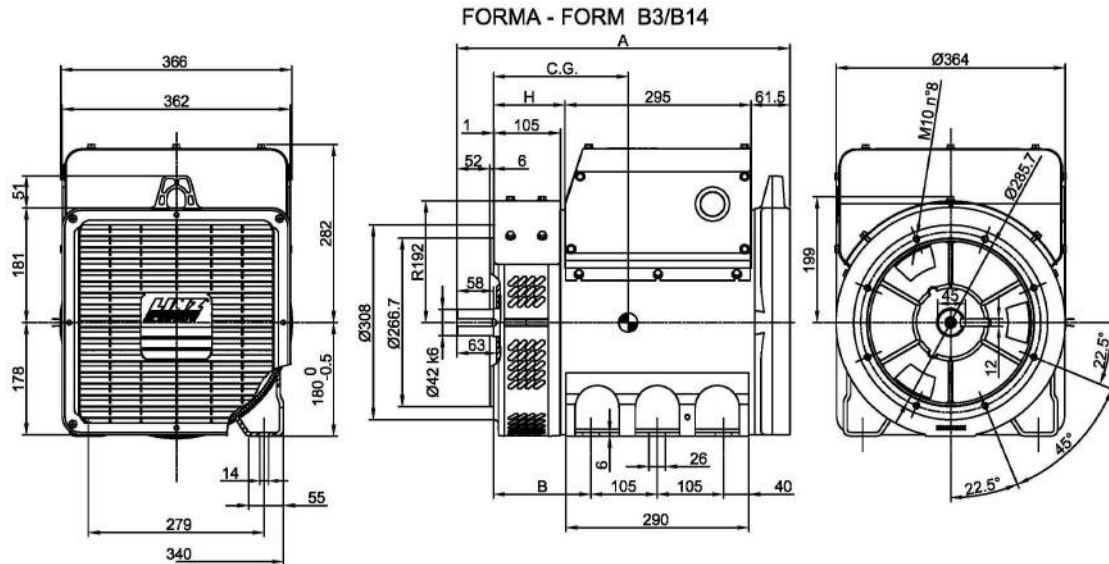
EFFICIENCY 50Hz



EFFICIENCY 60Hz



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FORMA - FORM		A	B	H
B3/B14	PRO 18S	528	155	113.5
	PRO 18M	598	183.5	
	PRO 18L	710	260	295.5
	PRO 18S	460	103.5	
MD35	PRO 18M	530	173.5	
	PRO 18L	642	250	285.5

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 MD35	213
PRO18S B/4 MD35	217
PRO18S C/4 MD35	223
PRO18M D/4 MD35	246
PRO18M E/4 MD35	257
PRO18L F/4 MD35	296
PRO18L G/4 MD35	313

SAE FLANGIE - FLANGES - BRIDAS						
N.	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	12		30°
2	490	447.7	466.7	12		30°

SAE GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS							
N.	L	Ø d	Ø Q1	n. fori holes No.	S1	α1	R
6 1/2	30.2	215.9	200	6	9	60°	3
7 1/2	30.2	241.3	222.25	8	9	45°	
8	62	263.52	244.47	6	10.5	60°	
10	53.8	314.32	295.27	8	10.5	45°	
11 1/2	39.6	352.42	333.37	8	10.5	45°	4.5