

TECHNICAL DATA SHEET



ALTERNATOR PRO18L F/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO18L F/4

COMMON DATA

Rated Power at 50Hz	kVA	50
Rated Power at 60Hz	kVA	60
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	10 at 50Hz 11,5 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	0,05 at 20°C
Rotor Winding Resistance	Ω	4,53 at 20°C
Exciter Stator Resistance	Ω	13 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	2,25

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	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	33	50	50	48	42	39	56	57	58	60
	kW	26,4	40	40	38,4	33,6	31,2	44,8	45,6	46,4	48
Rated Power in Class F (105°C/40°C)	kVA	29,5	45	45	43,5	40	35	48	52	53	54
	kW	23,6	36	36	34,8	32	28	38,4	41,6	42,4	43,2
Rated Power Standby (150°C/40°C)	kVA	34,5	53	53	51	48	42	58	61	63	64
	kW	27,6	42,4	42,4	40,8	38,4	33,6	46,4	48,8	50,4	51,2
Rated Power Standby (163°C/27°C)	kVA	36	55	55	53	50	43	60	63	65	66
	kW	28,8	44	44	42,4	40	34,4	48	50,4	52	52,8

EFFICIENCY IN CL. H

4/4		89,4%								91,2%
3/4		90,0%								92,0%
2/4		88,1%								88,7%
1/4		85,8%								86,2%

REACTANCES AND TIME CONSTANTS

pcc			0,62							
X _d	- dir. axis synchronous	283%	255%	227%	177%		318%	288%	268%	255%
X' _d	- dir. axis transient	22,2%	20,0%	17,8%	13,9%		25,0%	22,6%	21,1%	20,0%
X'' _d	- dir. axis subtransient	7,8%	7,0%	6,2%	4,9%		8,7%	7,9%	7,4%	7,0%
X _q	- quad. axis reactance	162%	146%	130%	101%		182%	165%	154%	146%
T' _{do}	- O.C. field time constant						188ms			
T' _d	- Transient time constant						14ms			
T'' _d	- Sub-transient time constant						9ms			

MECHANICAL DATA

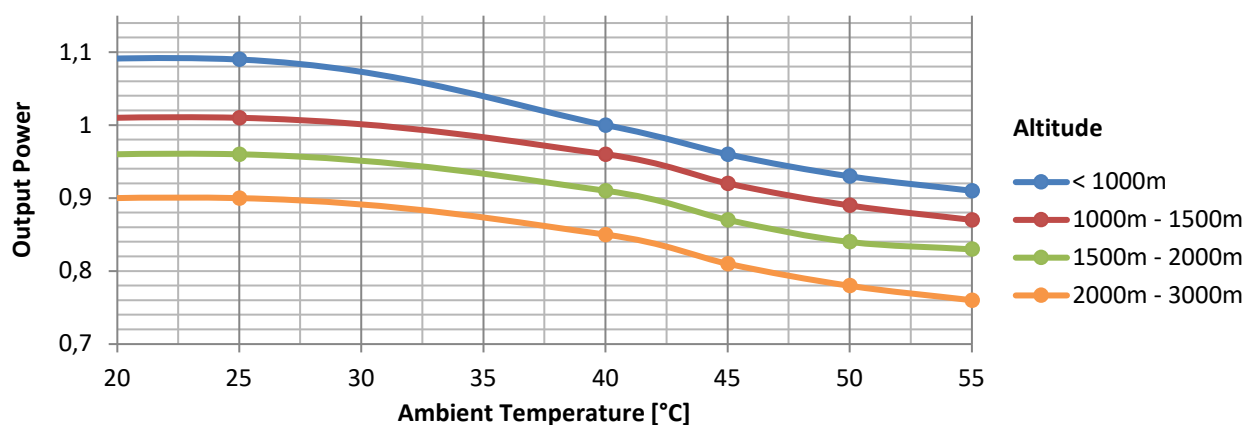
Bearing non drive end			6307-2RS-C3
Bearing drive end (B3/B14 form)			6309-2RS-C3
Weight of generator	in B2	kg	236,5
	in B3/B14	kg	238,5
	in B3/B9	kg	\

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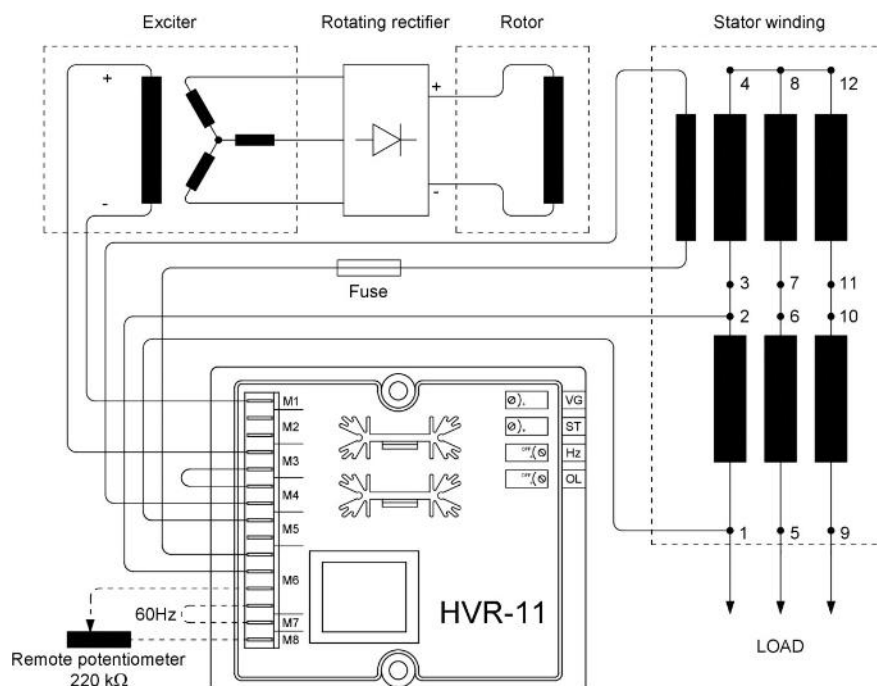
MOMENT OF INERZIA

B3/B9	kg·m ²	\
SAE 7½	kg·m ²	0,441
SAE 8	kg·m ²	0,450
SAE 10	kg·m ²	0,467
SAE 11½	kg·m ²	0,486
SAE 14	kg·m ²	\
SAE 18	kg·m ²	\
B3/B14	kg·m ²	0,436

DERATING CURVES



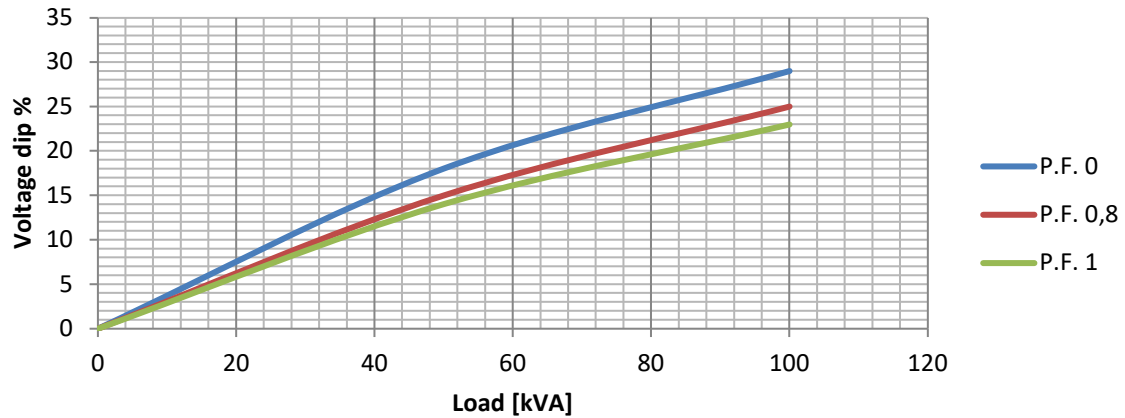
WIRING DIAGRAM



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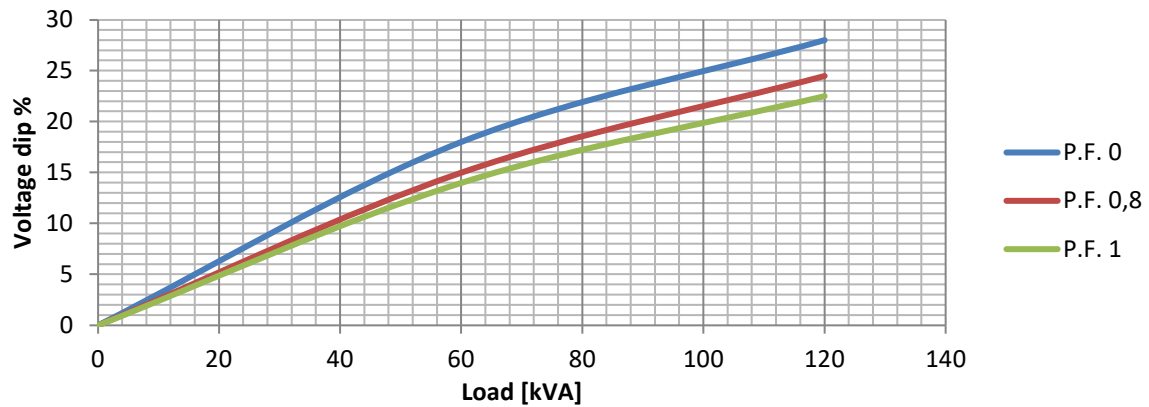
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

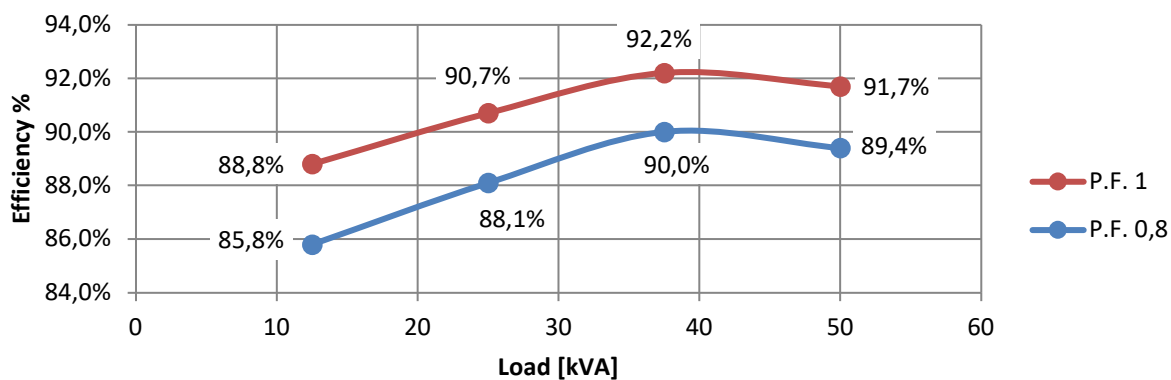
Transient Voltage Variation @ 60Hz



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EFFICIENCY 50Hz

Efficiency Curves @ 50Hz



EFFICIENCY 60Hz

Efficiency Curves @ 60Hz

