

TECHNICAL DATA SHEET



ALTERNATOR PRO18S B/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

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COMMON DATA

Rated Power at 50Hz	kVA	25
Rated Power at 60Hz	kVA	30
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	6,3 at 50Hz 6,5 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	> 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	0,16 at 20°C
Rotor Winding Resistance	Ω	2,61 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

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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	17	25	25	25	22	20	26	28	30	30
	kW	13,6	20	20	20	17,6	16	20,8	22,4	24	24
Rated Power in Class F (105°C/40°C)	kVA	15,5	23	23	23	20	18,5	24	25	27,5	27,5
	kW	12,4	18,4	18,4	18,4	16	14,8	19,2	20	22	22
Rated Power Standby (150°C/40°C)	kVA	18	27	27	26	24	21,5	28,5	30	32	32
	kW	14,4	21,6	21,6	20,8	19,2	17,2	22,8	24	25,6	25,6
Rated Power Standby (163°C/27°C)	kVA	18,5	28	28	27	25	22,5	30	32	34	34
	kW	14,8	22,4	22,4	21,6	20	18	24	25,6	27,2	27,2

EFFICIENCY IN CL. H

4/4			86,5%							88,2%
3/4			86,9%							88,6%
2/4			85,8%							86,7%
1/4			82,5%							83,7%

REACTANCES AND TIME CONSTANTS

pcc			0,57							
X _d	- dir. axis synchronous	266%	240%	223%	175%		278%	267%	261%	240%
X' _d	- dir. axis transient	22,2%	20,0%	18,6%	14,5%		23,2%	22,2%	21,8%	20,0%
X'' _d	- dir. axis subtransient	10,0%	9,0%	8,4%	6,5%		10,4%	10,0%	9,8%	9,0%
X _q	- quad. axis reactance	148%	134%	124%	97%		155%	149%	146%	134%
T' _{do}	- O.C. field time constant	101ms								
T' _d	- Transient time constant	8ms								
T'' _d	- Sub-transient time constant	5ms								

MECHANICAL DATA

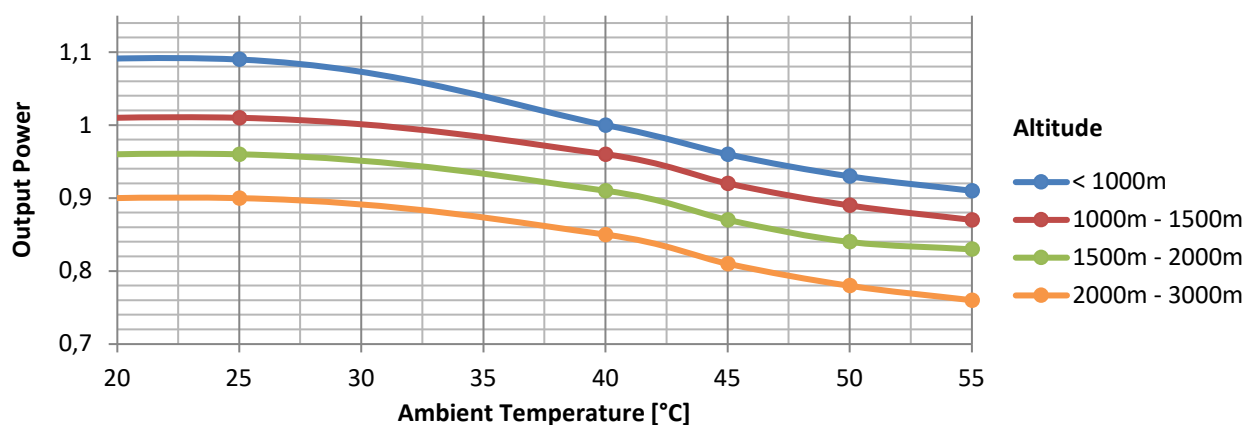
Bearing non drive end			6307-2RS-C3
Bearing drive end (B3/B14 form)			6309-2RS-C3
Weight of generator	in B2	kg	134,5
	in B3/B14	kg	136,5
	in B3/B9	kg	\

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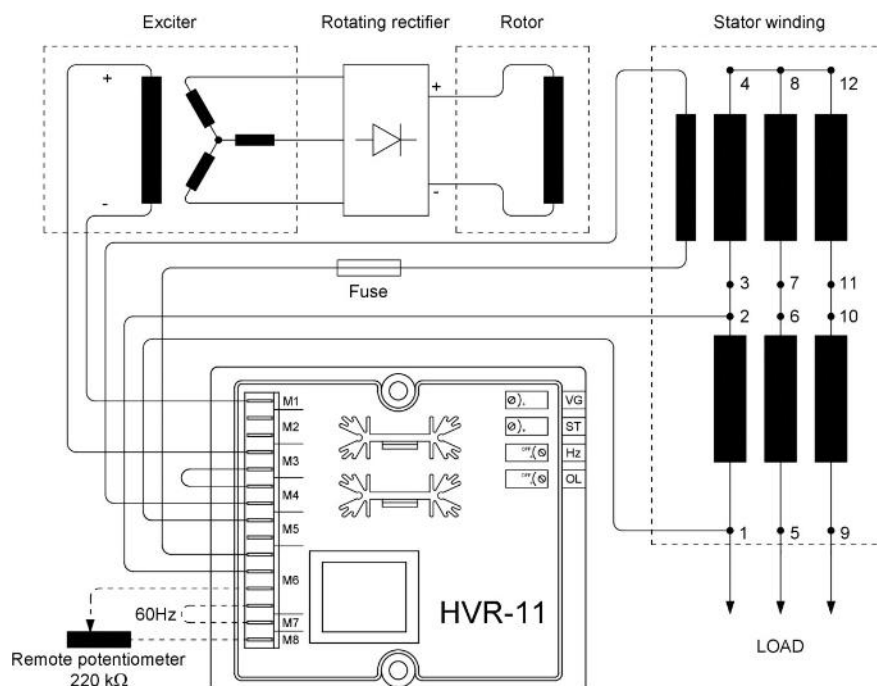
MOMENT OF INERZIA

B3/B9	kg·m ²	\
SAE 7½	kg·m ²	0,244
SAE 8	kg·m ²	0,253
SAE 10	kg·m ²	0,270
SAE 11½	kg·m ²	0,289
SAE 14	kg·m ²	\
SAE 18	kg·m ²	\
B3/B14	kg·m ²	0,231

DERATING CURVES



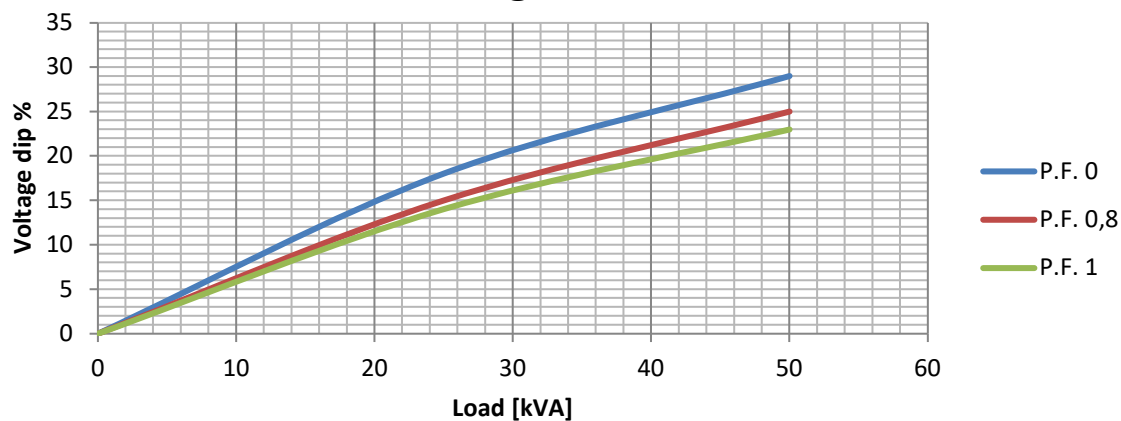
WIRING DIAGRAM



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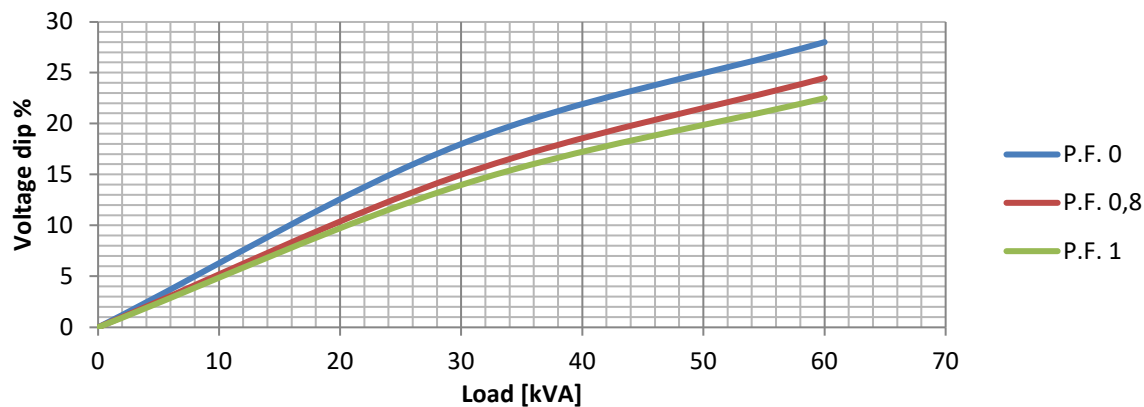
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

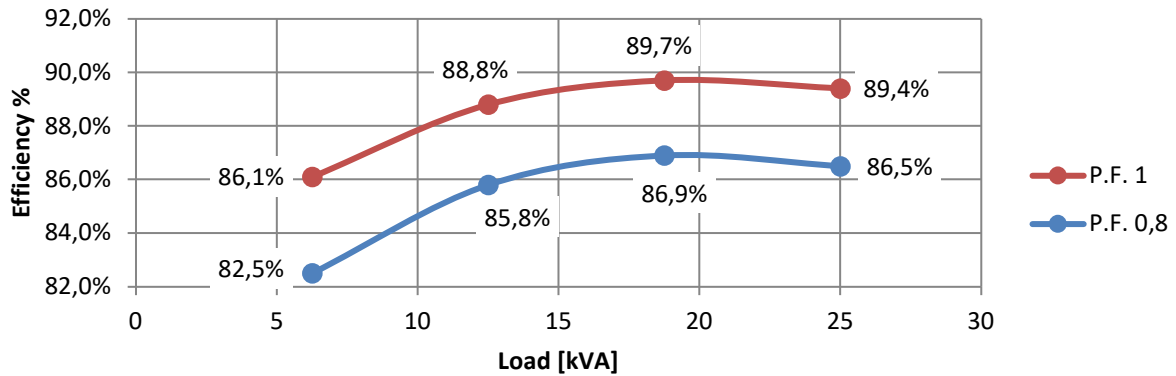
Transient Voltage Variation @ 60Hz



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EFFICIENCY 50Hz

Efficiency Curves @ 50Hz



EFFICIENCY 60Hz

Efficiency Curves @ 60Hz

