

TECHNICAL DATA SHEET



ALTERNATOR PRO18M E/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO18M E/4

COMMON DATA

Rated Power at 50Hz	kVA	42
Rated Power at 60Hz	kVA	50
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	9,8 at 50Hz 11 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	0,068 at 20°C
Rotor Winding Resistance	Ω	3,74 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	2,4

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	27	42	42	42	36	32	48	50	50	50
	kW	21,6	33,6	33,6	33,6	28,8	25,6	38,4	40	40	40
Rated Power in Class F (105°C/40°C)	kVA	24,5	39	39	39	32	29	45	47	47	47
	kW	19,6	31,2	31,2	31,2	25,6	23,2	36	37,6	37,6	37,6
Rated Power Standby (150°C/40°C)	kVA	29	47	47	45	42	35	50	53	55	55
	kW	23,2	37,6	37,6	36	33,6	28	40	42,4	44	44
Rated Power Standby (163°C/27°C)	kVA	30,5	48	48	46	44	36	52	55	57	57
	kW	24,4	38,4	38,4	36,8	35,2	28,8	41,6	44	45,6	45,6

EFFICIENCY IN CL. H

4/4			89,3%							91,1%
3/4			89,9%							91,7%
2/4			86,3%							87,8%
1/4			81,1%							83,4%

REACTANCES AND TIME CONSTANTS

pcc			0,60							
X _d	- dir. axis synchronous	280%	253%	235%	179%		325%	301%	275%	253%
X' _d	- dir. axis transient	22,2%	20,0%	18,6%	14,2%		25,7%	23,8%	21,8%	20,0%
X'' _d	- dir. axis subtransient	8,9%	8,0%	7,4%	5,7%		10,3%	9,5%	8,7%	8,0%
X _q	- quad. axis reactance	156%	141%	131%	100%		181%	168%	154%	141%
T' _{do}	- O.C. field time constant						180ms			
T' _d	- Transient time constant						14ms			
T'' _d	- Sub-transient time constant						8ms			

MECHANICAL DATA

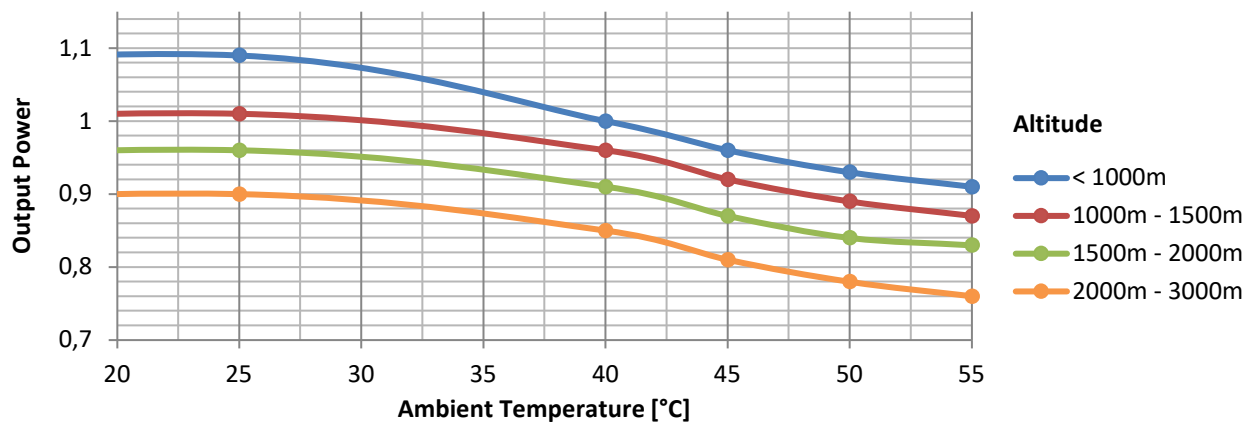
Bearing non drive end			6307-2RS-C3
Bearing drive end (B3/B14 form)			6309-2RS-C3
Weight of generator	in B2	kg	200
	in B3/B14	kg	202
	in B3/B9	kg	\

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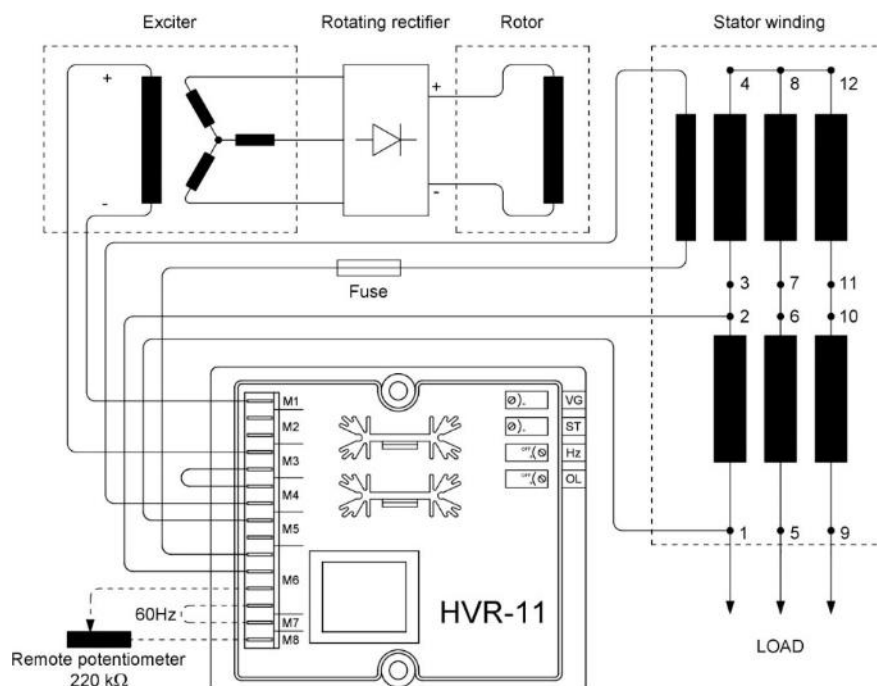
MOMENT OF INERZIA

B3/B9	kg·m ²	\
SAE 7½	kg·m ²	0,369
SAE 8	kg·m ²	0,378
SAE 10	kg·m ²	0,395
SAE 11½	kg·m ²	0,415
SAE 14	kg·m ²	\
SAE 18	kg·m ²	\
B3/B14	kg·m ²	0,367

DERATING CURVES



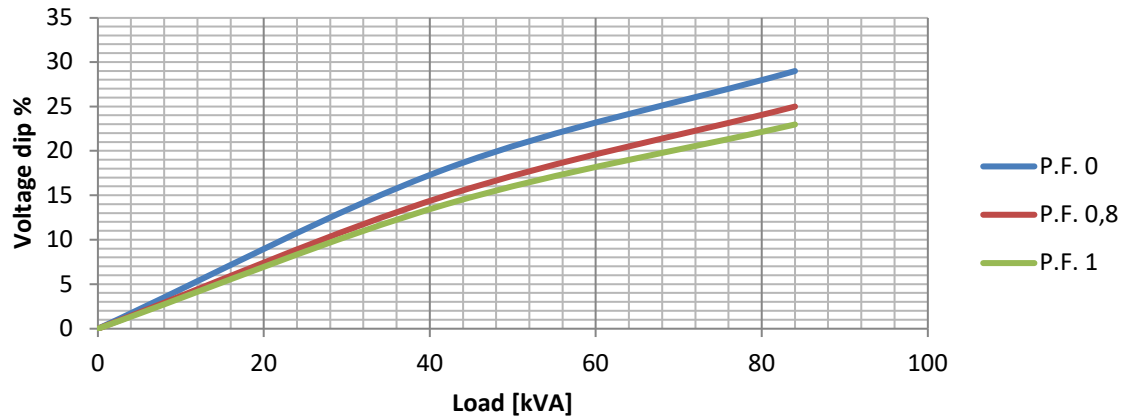
WIRING DIAGRAM



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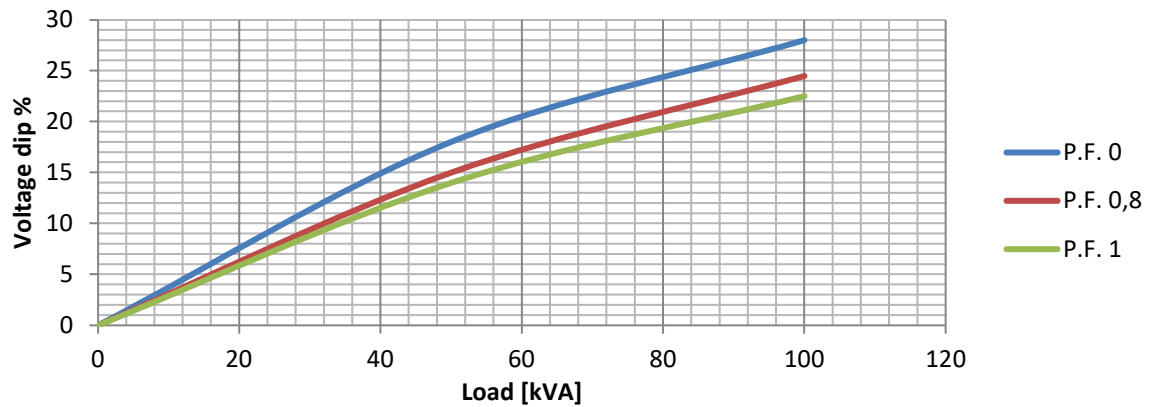
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

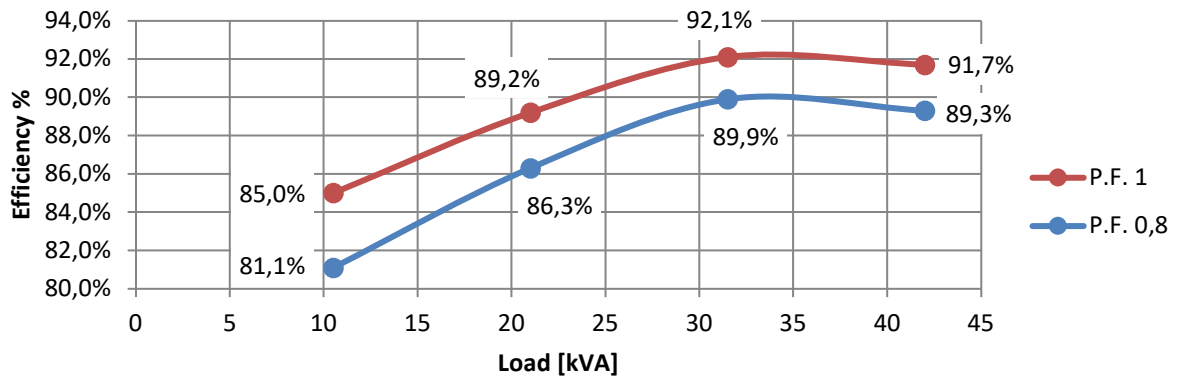
Transient Voltage Variation @ 60Hz



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EFFICIENCY 50Hz

Efficiency Curves @ 50Hz



EFFICIENCY 60Hz

Efficiency Curves @ 60Hz

