

TECHNICAL DATA SHEET



ALTERNATOR PRO18S C/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO18S C/4

COMMON DATA

Rated Power at 50Hz	kVA	30
Rated Power at 60Hz	kVA	36
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	6,9 at 50Hz 7,1 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	0,117 at 20°C
Rotor Winding Resistance	Ω	2,9 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

PRO18S C/4

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	20	30	30	30	25	24	34	35	36	36
	kW	16	24	24	24	20	19,2	27,2	28	28,8	28,8
Rated Power in Class F (105°C/40°C)	kVA	19	28	28	28	24	22,5	32	33	33,5	33,5
	kW	15,2	22,4	22,4	22,4	19,2	18	25,6	26,4	26,8	26,8
Rated Power Standby (150°C/40°C)	kVA	22	33	33	32	27,5	25,5	36	36,5	38	38
	kW	17,6	26,4	26,4	25,6	22	20,4	28,8	29,2	30,4	30,4
Rated Power Standby (163°C/27°C)	kVA	23	34	34	33	28	26	35	37,5	39	39
	kW	18,4	27,2	27,2	26,4	22,4	20,8	28	30	31,2	31,2

EFFICIENCY IN CL. H

4/4			87,1%							88,8%
3/4			87,5%							89,3%
2/4			85,0%							87,0%
1/4			81,3%							82,2%

REACTANCES AND TIME CONSTANTS

pcc			0,58							
X _d	- dir. axis synchronous	269%	243%	226%	167%		307%	281%	265%	243%
X' _d	- dir. axis transient	21,1%	19,0%	17,7%	13,1%		24,0%	22,0%	20,7%	19,0%
X'' _d	- dir. axis subtransient	8,9%	8,0%	7,4%	5,5%		10,1%	9,3%	8,7%	8,0%
X _q	- quad. axis reactance	150%	135%	125%	93%		171%	156%	147%	135%
T' _{do}	- O.C. field time constant	125ms								
T' _d	- Transient time constant	10ms								
T'' _d	- Sub-transient time constant	5ms								

MECHANICAL DATA

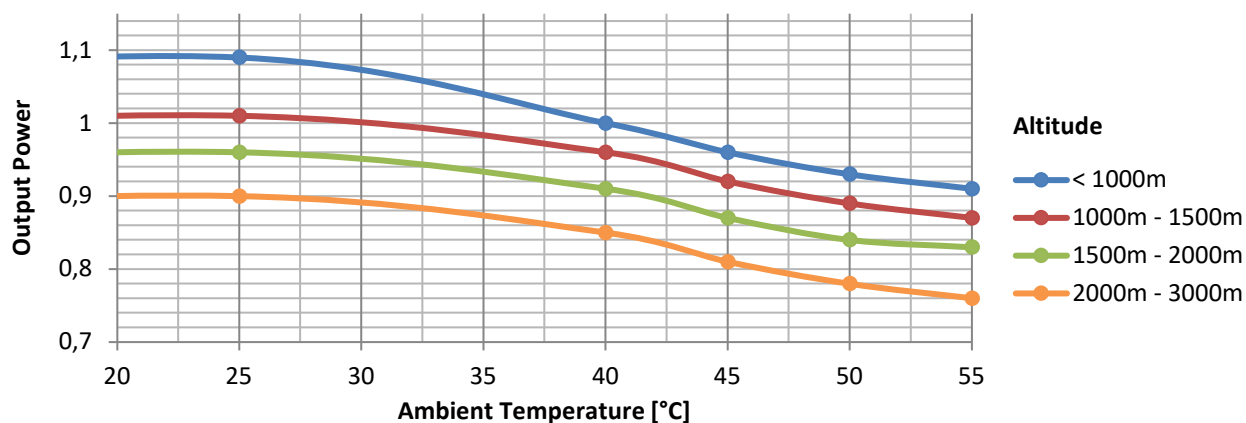
Bearing non drive end			6307-2RS-C3
Bearing drive end (B3/B14 form)			6309-2RS-C3
Weight of generator	in B2	kg	150
	in B3/B14	kg	153,5
	in B3/B9	kg	\

PRO18S C/4

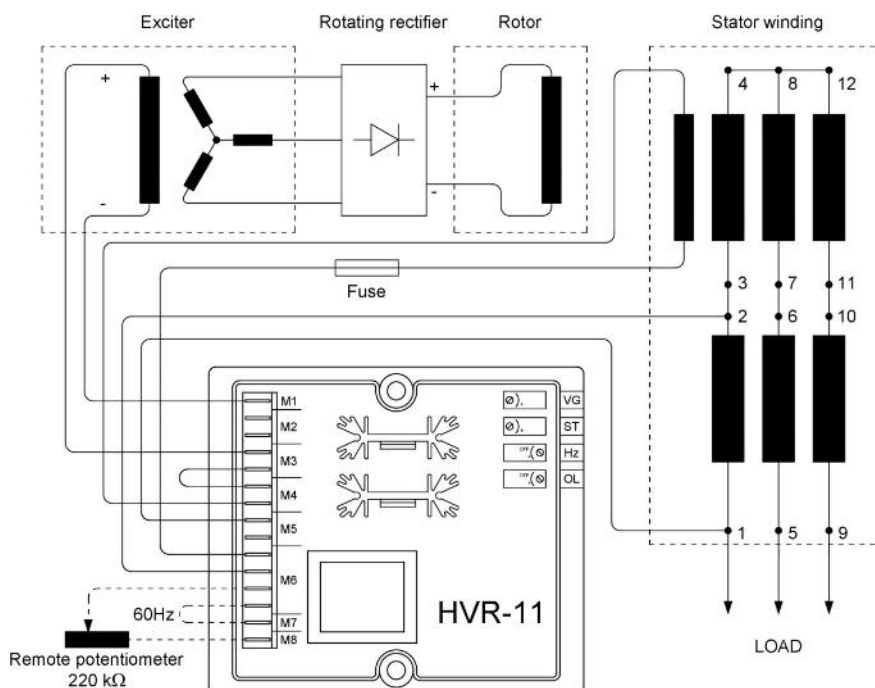
MOMENT OF INERZIA

B3/B9	kg·m ²	\
SAE 7½	kg·m ²	0,281
SAE 8	kg·m ²	0,290
SAE 10	kg·m ²	0,306
SAE 11½	kg·m ²	0,326
SAE 14	kg·m ²	\
SAE 18	kg·m ²	\
B3/B14	kg·m ²	0,272

DERATING CURVES



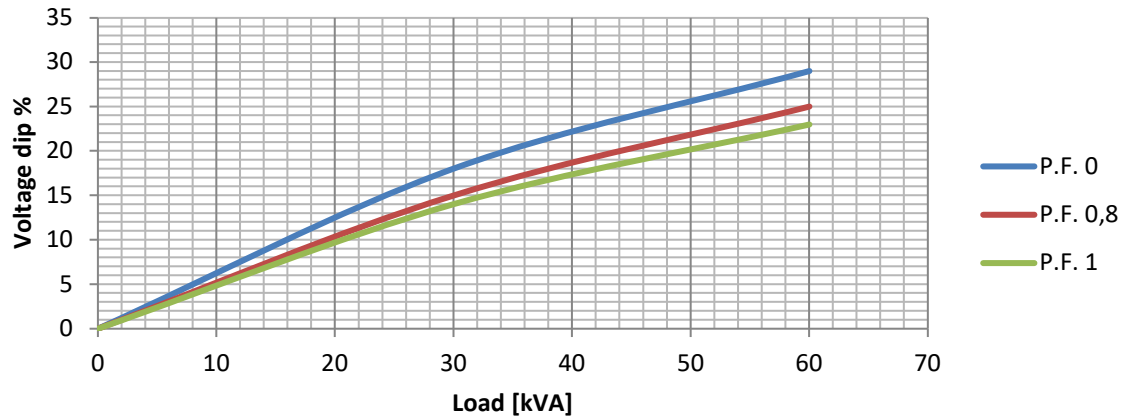
WIRING DIAGRAM



PRO18S C/4

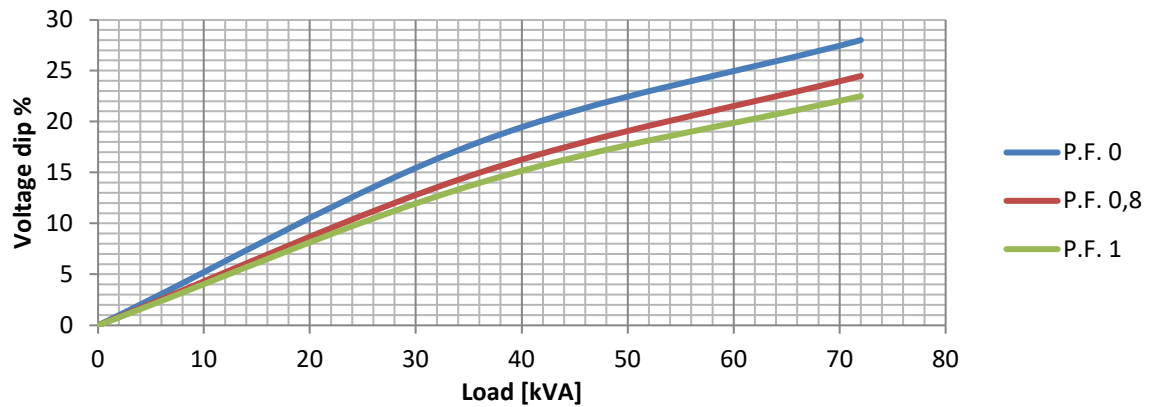
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

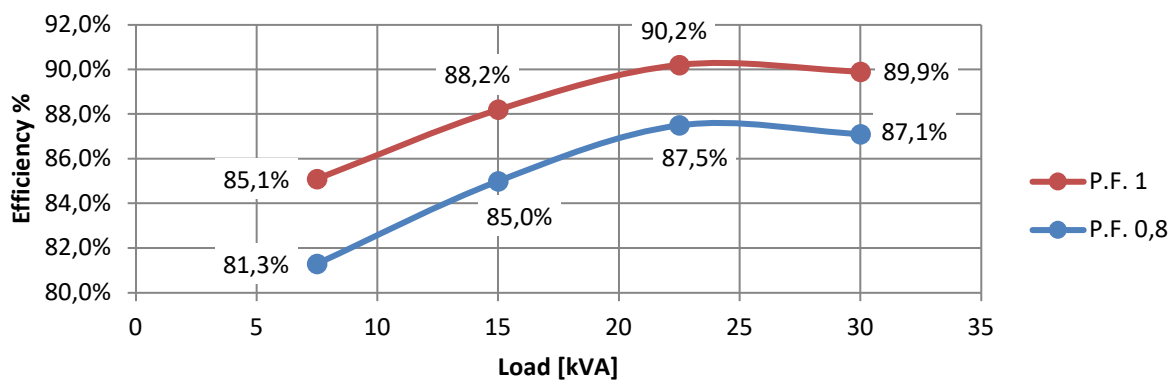
Transient Voltage Variation @ 60Hz



PRO18S C/4

EFFICIENCY 50Hz

Efficiency Curves @ 50Hz



EFFICIENCY 60Hz

Efficiency Curves @ 60Hz

