



ALTERNATOR PRO18L G/4

three-phase brushless synchronous alternator with AVR - 4 poles

Technical Data Sheet

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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	Ω	0.041 at 20°C
Rotor Winding Resistance	Ω	5.23 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	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	50	62	66	66
	kW	44	44	40	36	40	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%						91.4%
3/4		90.1%						91.8%
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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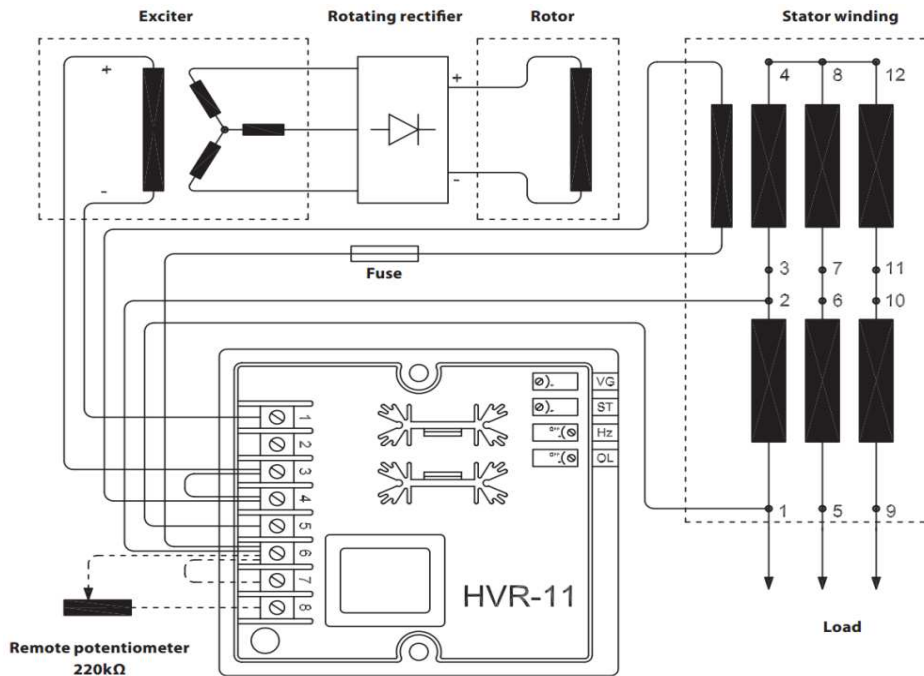
MOMENT OF INERZIA

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

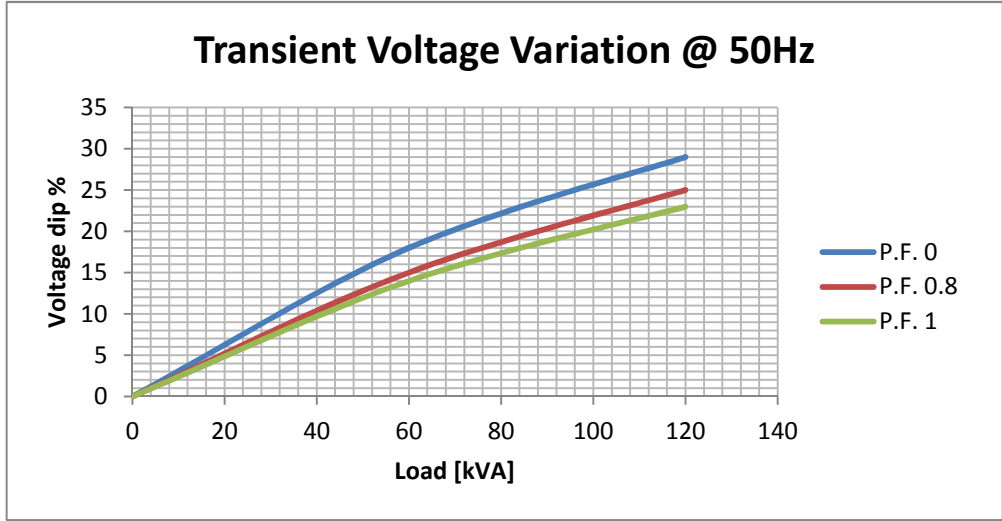
Altitude	Ambient temperature				
	25°C	40°C	45°C	50°C	55°C
< 1000m	1.09	1	0.96	0.93	0.91
1000m - 1500m	1.01	0.96	0.92	0.89	0.87
1500m - 2000m	0.96	0.91	0.87	0.84	0.83
2000m - 3000m	0.9	0.85	0.81	0.78	0.76

WIRING DIAGRAM

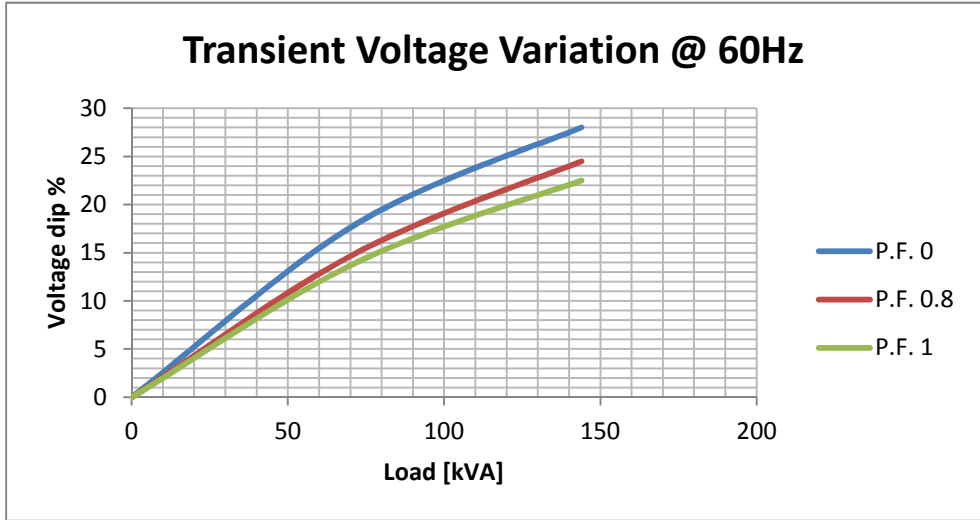


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TRANSIENT VOLTAGE VARIATION 50Hz

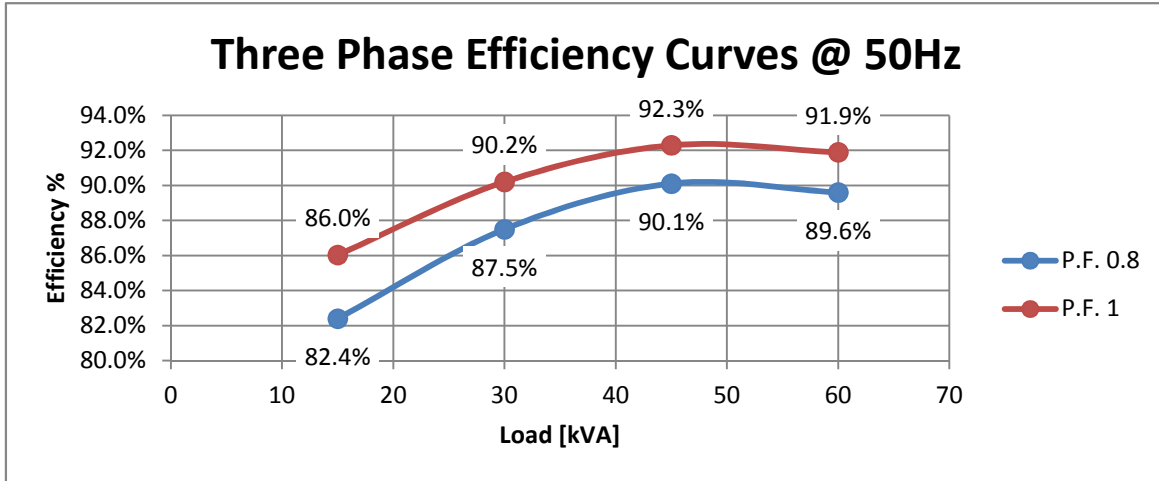


TRANSIENT VOLTAGE VARIATION 60Hz



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EFFICIENCY 50Hz



EFFICIENCY 60Hz

