



ALTERNATOR PRO18S B/4

three-phase brushless synchronous alternator with AVR - 4 poles

Technical Data Sheet

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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 Overspeed	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	0.16 at 20°C	
Rotor Winding Resistance	2.61 at 20°C	
Exciter Stator Resistance	15 at 20°C	
Exciter Rotor Resistance	0.72 at 20°C	
THD at full load	<3%	
THD at no load	<3%	
Excitation at no load	A _{dc}	0.92
Excitation at full load	A _{dc}	2.23

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	25	25	25	22	26	28	30	30
	kW	20	20	20	17.6	20.8	22.4	24	24
Rated Power in Class F (105°C/40°C)	kVA	23	23	23	20	24	25	27.5	27.5
	kW	18.4	18.4	18.4	16	19.2	20	22	22
Rated Power Standby (150°C/40°C)	kVA	27	27	26	24	28.5	30	32	32
	kW	21.6	21.6	20.8	19.2	22.8	24	25.6	25.6
Rated Power Standby (163°C/27°C)	kVA	28	28	27	25	30	32	34	34
	kW	22.4	22.4	21.6	20	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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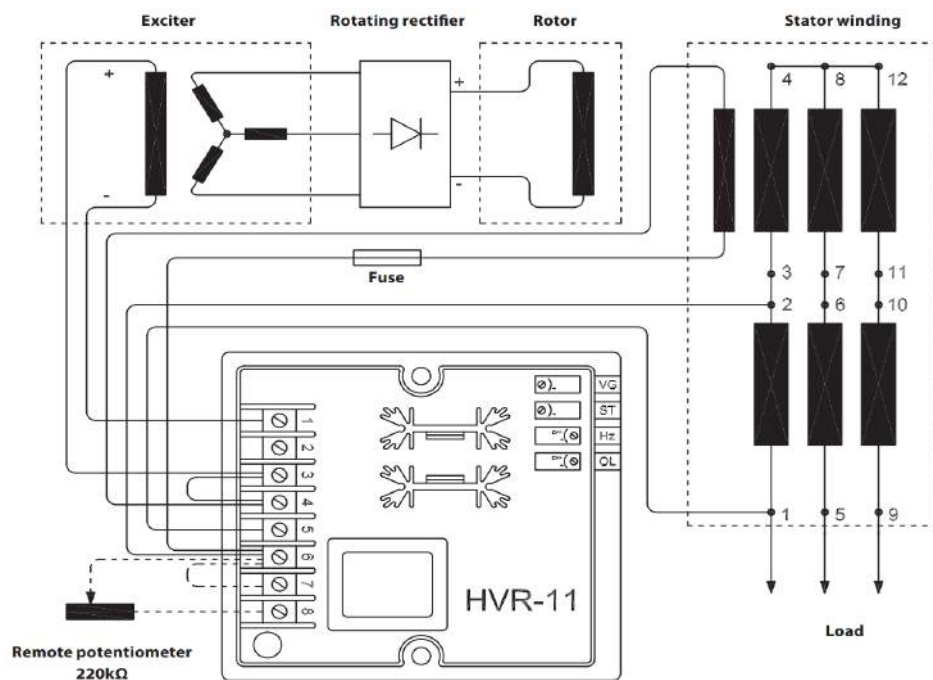
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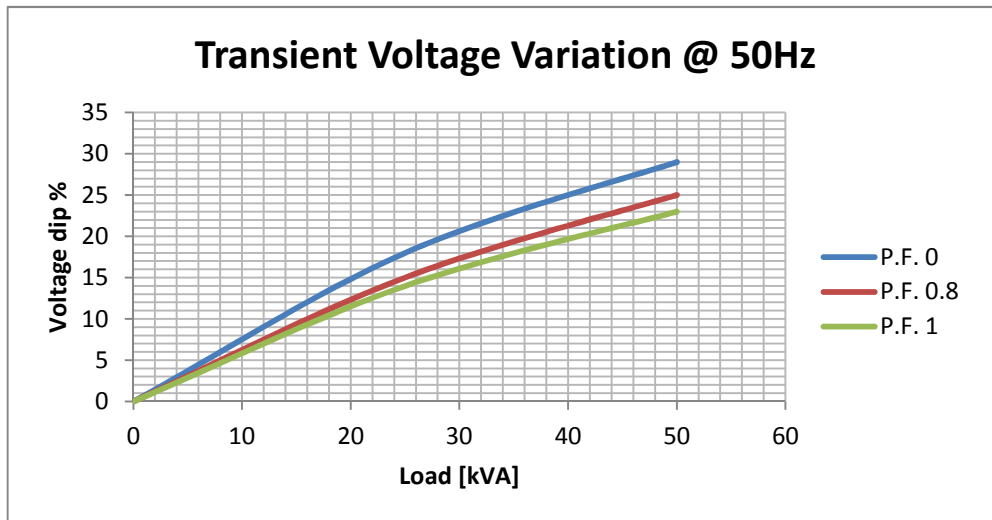
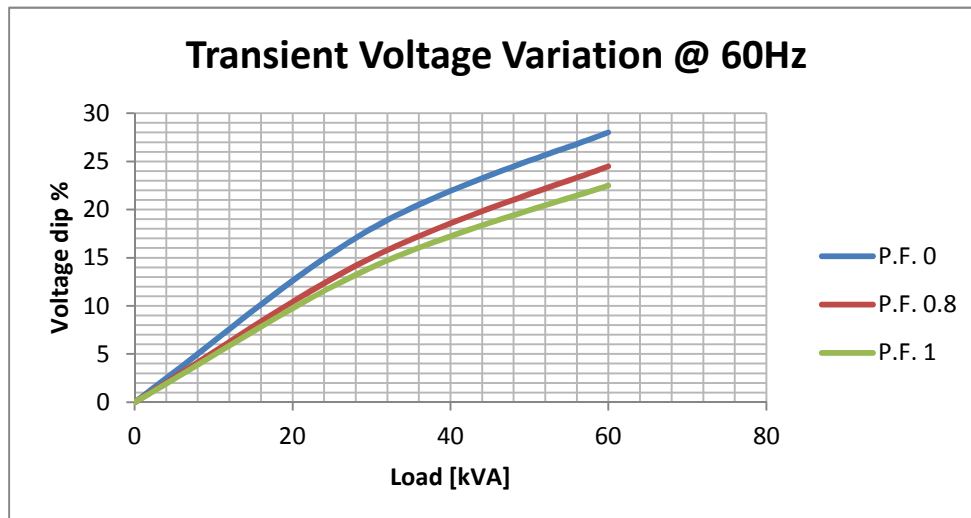
B3/B9	kg·m ²	\
SAE 7½	kg·m ²	0.244
SAE 8	kg·m ²	0.253
SAE 10	kg·m ²	0.27
SAE 11½	kg·m ²	0.289
SAE 14	kg·m ²	\
SAE 18	kg·m ²	\
B3/B14	kg·m ²	0.231

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

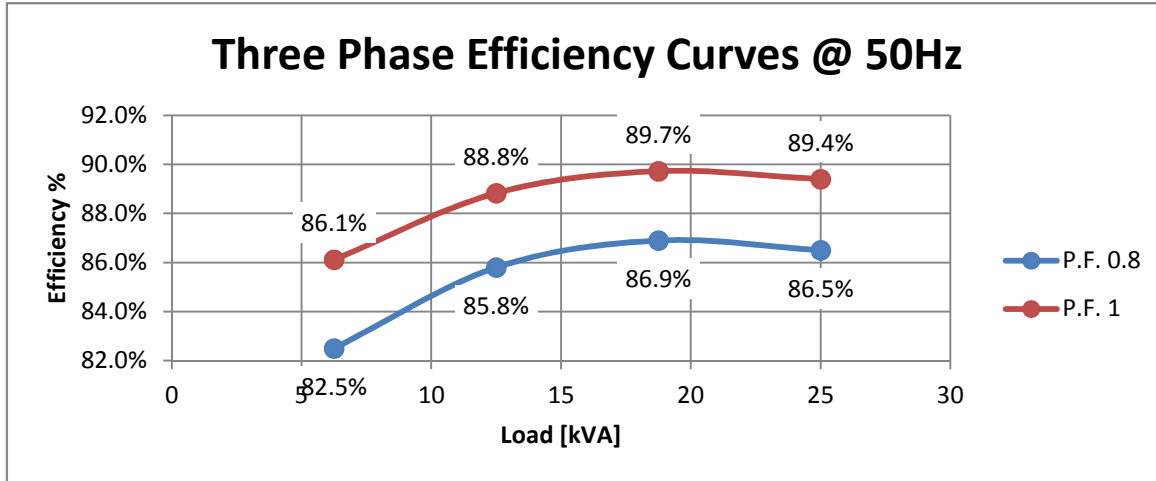
WIRING DIAGRAM



PRO18S B/4**TRANSIENT VOLTAGE VARIATION 50Hz****TRANSIENT VOLTAGE VARIATION 60Hz**

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EFFICIENCY 50Hz



EFFICIENCY 60Hz

