



ALTERNATOR PRO18L F/4

three-phase brushless synchronous alternator with AVR - 4 poles

Technical Data Sheet

PRO18L F/4

COMMON DATA

Rated Power at 50Hz	kVA	50
Rated Power at 60Hz	kVA	60
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	10 at 50Hz 11.5 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	> 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	0.05 at 20°C	
Rotor Winding Resistance	4.53 at 20°C	
Exciter Stator Resistance	13 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}	0.91
Excitation at full load	A _{dc}	2.25

STANDARD

References	EN60034-1 ISO8528-3 EN55011
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PRO18L F/4

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	50	50	48	42	56	57	58	60
	kW	40	40	38.4	33.6	44.8	45.6	46.4	48
Rated Power in Class F (105°C/40°C)	kVA	45	45	43.5	40	50	52	53	54
	kW	36	36	34.8	32	40	41.6	42.4	43.2
Rated Power Standby (150°C/40°C)	kVA	53	53	51	48	58	61	63	64
	kW	42.4	42.4	40.8	38.4	46.4	48.8	50.4	51.2
Rated Power Standby (163°C/27°C)	kVA	55	55	53	50	60	63	65	66
	kW	44	44	42.4	40	48	50.4	52	52.8

EFFICIENCY IN CL. H

4/4		89.4%						91.2%
3/4		90.0%						92.0%
2/4		88.1%						88.7%
1/4		85.8%						86.2%

REACTANCES AND TIME CONSTANTS

pcc			0.62						
X _d - dir. axis synchronous		283%	255%	227%	177%	318%	288%	268%	255%
X' _d - dir. axis transient		22.2%	20.0%	17.8%	13.9%	25.0%	22.6%	21.1%	20.0%
X'' _d - dir. axis subtransient		7.8%	7.0%	6.2%	4.9%	8.7%	7.9%	7.4%	7.0%
X _q - quad. axis reactance		162%	146%	130%	101%	182%	165%	154%	146%
T' _{do} - O.C. field time constant	188ms								
T' _d - Transient time constant	14ms								
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	236.5
	in B3/B14	kg	238.5
	in B3/B9	kg	\

PRO18L F/4

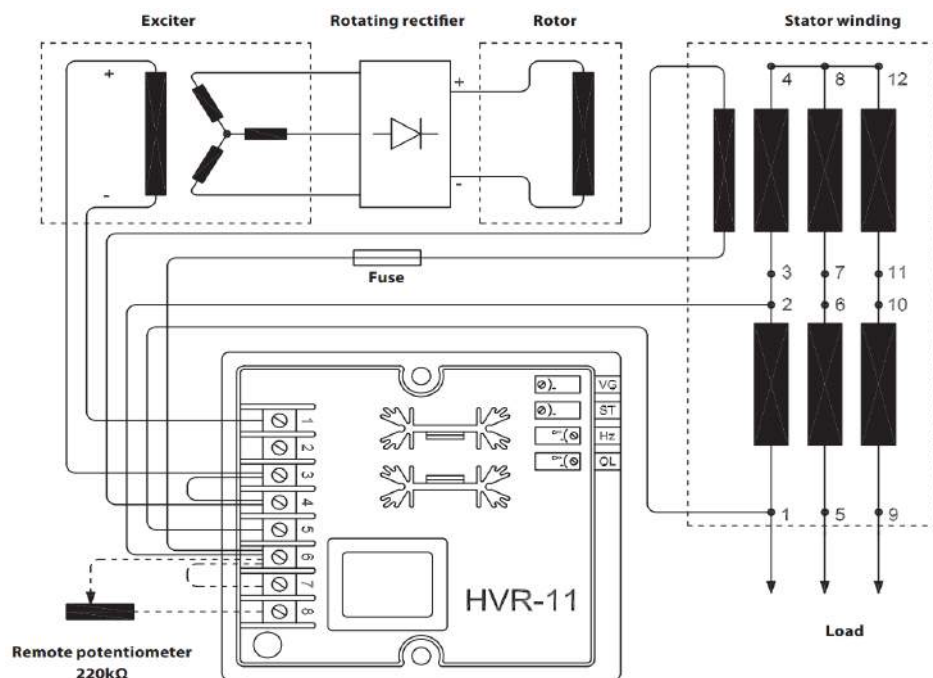
MOMENT OF INERZIA

B3/B9	kg·m ²	\
SAE 7½	kg·m ²	0.441
SAE 8	kg·m ²	0.45
SAE 10	kg·m ²	0.467
SAE 11½	kg·m ²	0.486
SAE 14	kg·m ²	\
SAE 18	kg·m ²	\
B3/B14	kg·m ²	0.436

POWER VARIATION ACCORDING TO TEMPERATURE AND ALTITUDE

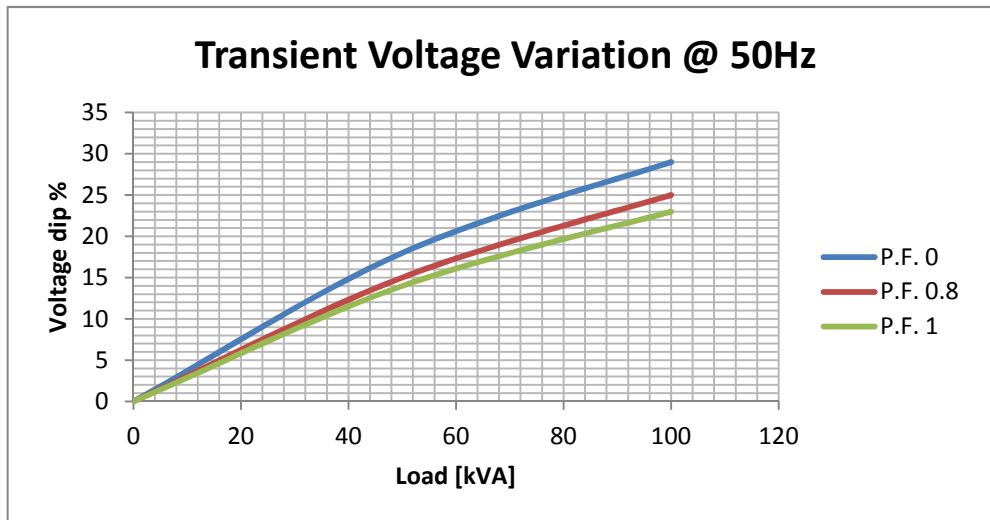
Altitude	Ambient temperature				
	25°C	40°C	45°C	50°C	55°C
< 1000m	1.09	1	0.96	0.93	0.91
1000m - 1500m	1.01	0.96	0.92	0.89	0.87
1500m - 2000m	0.96	0.91	0.87	0.84	0.83
2000m - 3000m	0.9	0.85	0.81	0.78	0.76

WIRING DIAGRAM

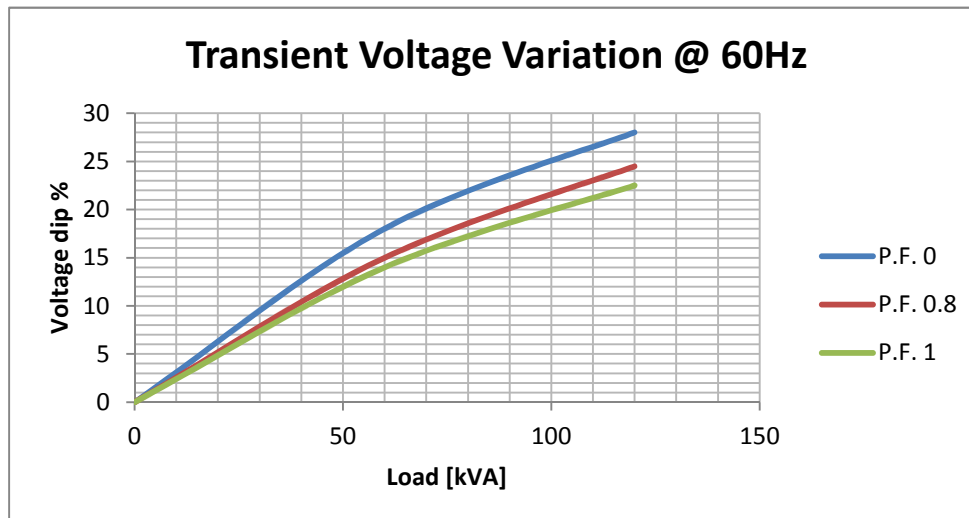


PRO18L F/4

TRANSIENT VOLTAGE VARIATION 50Hz

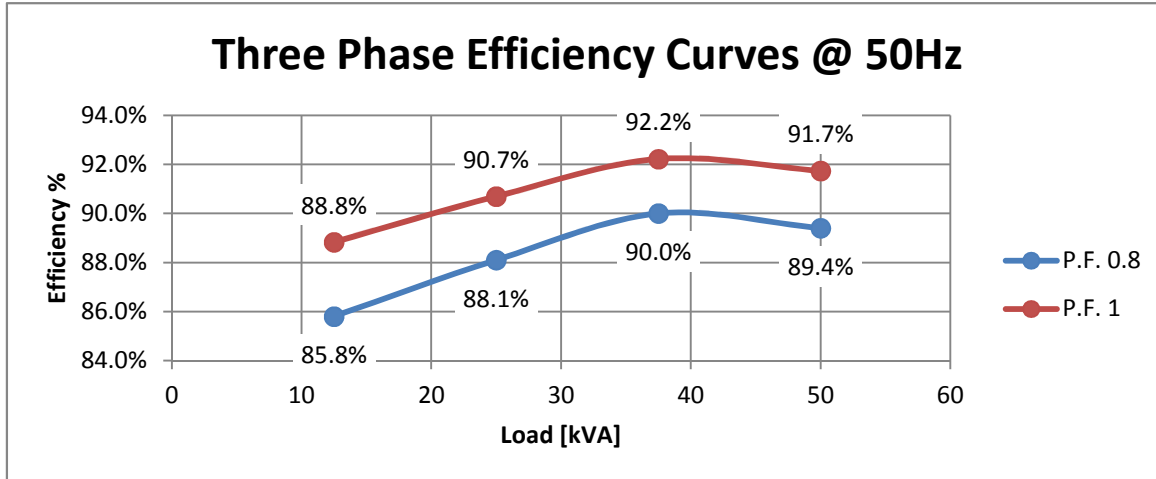


TRANSIENT VOLTAGE VARIATION 60Hz

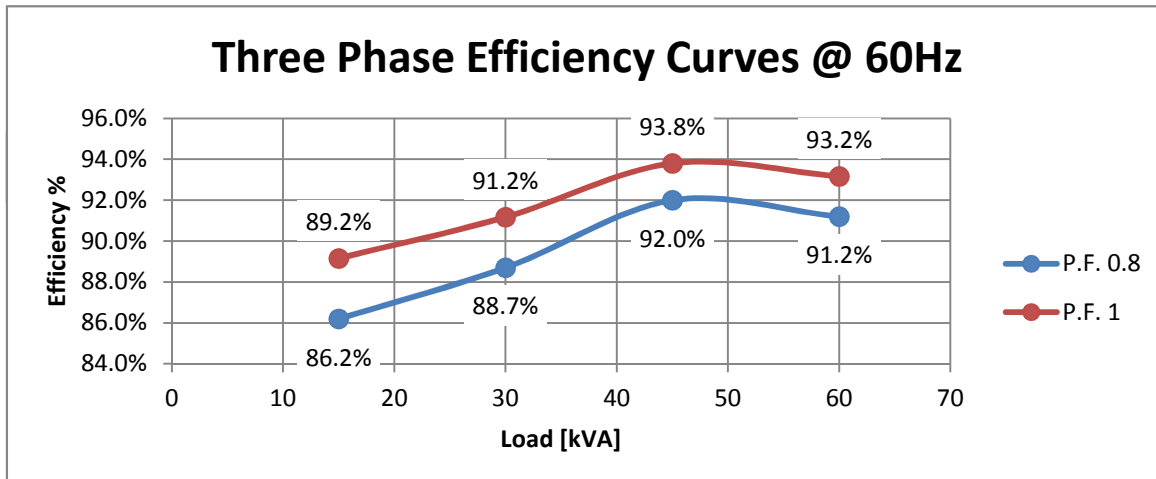


PRO18L F/4

EFFICIENCY 50Hz



EFFICIENCY 60Hz



340		FORMA - FORM				TIPO - TYPE		C.G.		TIPO - TYPE		C.G.	
FORMA - FORM		A	B	H		PRO18S A/4 B3/B14	217			PRO18S A/4 MD35	213		
B3/B14	PRO 18S	528	155	113.5		PRO18S B/4 B3/B14	221			PRO18S B/4 MD35	217		
	PRO 18M	598		183.5		PRO18S C/4 B3/B14	228			PRO18S C/4 MD35	223		
	PRO 18L	710	260	295.5		PRO18M D/4 B3/B14	251			PRO18M D/4 MD35	246		
MD35	PRO 18S	460	145	103.5		PRO18M E/4 B3/B14	262			PRO18M E/4 MD35	257		
	PRO 18M	530		173.5		PRO18L F/4 B3/B14	301			PRO18L F/4 MD35	296		
	PRO 18L	642	250	285.5		PRO18L G/4 B3/B14	318			PRO18L G/4 MD35	313		