



ALTERNATOR PRO35M F/4

three-phase brushless synchronous alternator with AVR - 4 poles

Technical Data Sheet

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COMMON DATA

Rated Power at 50Hz	kVA	670	
Rated Power at 60Hz	kVA	804	
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	56 at 50Hz	67.2 at 60Hz
R.F.I. Suppression		Standard EN55011	

REGULATION DATA

AVR	HVR30	\
Sensing	three-phase	\
Voltage Regulation	±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	6	
Stator Winding Resistance	0.0148 at 20°C	
Rotor Winding Resistance	1.42 at 20°C	
Exciter Stator Resistance	12.5 at 20°C	
Exciter Rotor Resistance	0.095 at 20°C	
THD at full load	<3%	
THD at no load	<3%	
Excitation at no load	A _{dc}	0.56
Excitation at full load	A _{dc}	2.41

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	655	670	670	625	715	760	804	804
	kW	524	536	536	500	572	608	643.2	643.2
Rated Power in Class F (105°C/40°C)	kVA	600	615	615	570	650	690	730	730
	kW	480	492	492	456	520	552	584	584
Rated Power Standby (150°C/40°C)	kVA	680	700	700	660	750	790	840	840
	kW	544	560	560	528	600	632	672	672
Rated Power Standby (163°C/27°C)	kVA	715	735	735	675	780	830	880	880
	kW	572	588	588	540	624	664	704	704

EFFICIENCY IN CL. H

4/4		94.7%						95.4%
3/4		95.0%						95.8%
2/4		93.8%						95.0%
1/4		92.6%						93.8%

REACTANCES AND TIME CONSTANTS

pcc		0.31							
X _d	- dir. axis synchronous	407%	376%	349%	290%	447%	423%	409%	376%
X' _d	- dir. axis transient	20.5%	18.9%	17.6%	14.6%	22.5%	21.3%	20.6%	18.9%
X'' _d	- dir. axis subtransient	12.9%	11.9%	11.1%	9.2%	14.2%	13.4%	13.0%	11.9%
X _q	- quad. axis reactance	249%	230%	214%	177%	274%	259%	250%	230%
T' _{do}	- O.C. field time constant	2350ms							
T' _d	- Transient time constant	120ms							
T'' _d	- Sub-transient time constant	10ms							

MECHANICAL DATA

Bearing non drive end				6316-2RS-C3
Bearing drive end (B3/B14 form)				6319-2RS1-C3
Weight of generator	in B2	kg	1500.5	
	in B3/B14	kg	1524.5	
	in B3/B9	kg	\	

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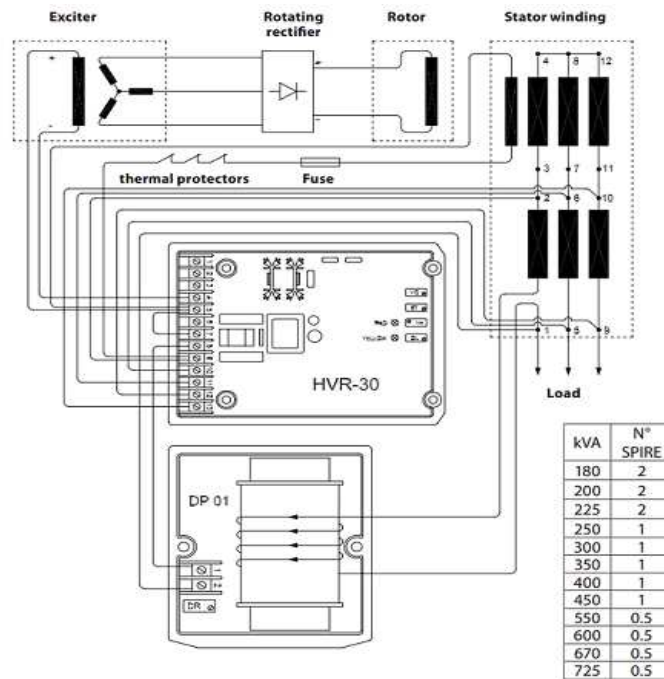
MOMENT OF INERZIA

B3/B9	kg·m ²	\
SAE 7½	kg·m ²	\
SAE 8	kg·m ²	\
SAE 10	kg·m ²	\
SAE 11½	kg·m ²	\
SAE 14	kg·m ²	11.352
SAE 18	kg·m ²	11.692
B3/B14	kg·m ²	10.838

POWER VARIATION ACCORDING TO TEMPERATURE AND ALTITUDE

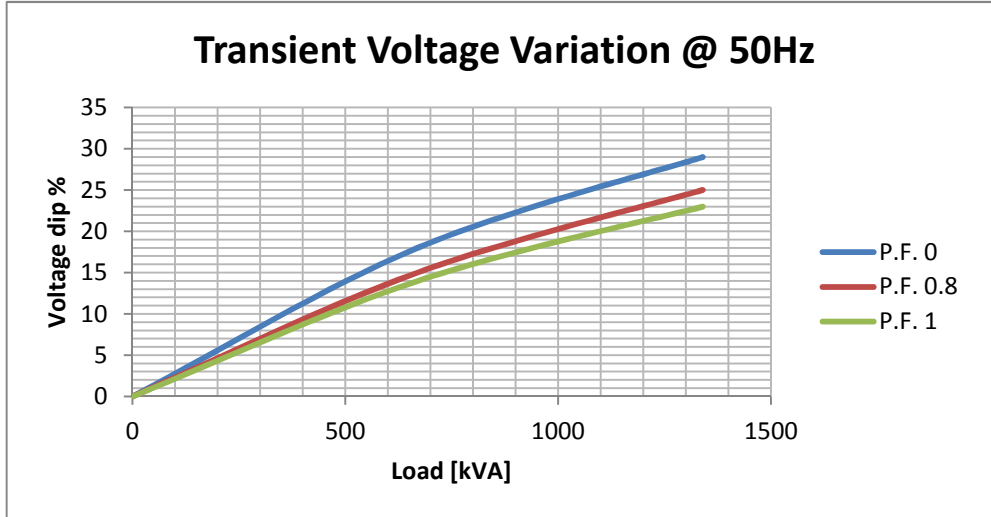
Altitude	Ambient temperature				
	25°C	40°C	45°C	50°C	55°C
< 1000m	1.09	1	0.96	0.93	0.91
1000m - 1500m	1.01	0.96	0.92	0.89	0.87
1500m - 2000m	0.96	0.91	0.87	0.84	0.83
2000m - 3000m	0.9	0.85	0.81	0.78	0.76

WIRING DIAGRAM

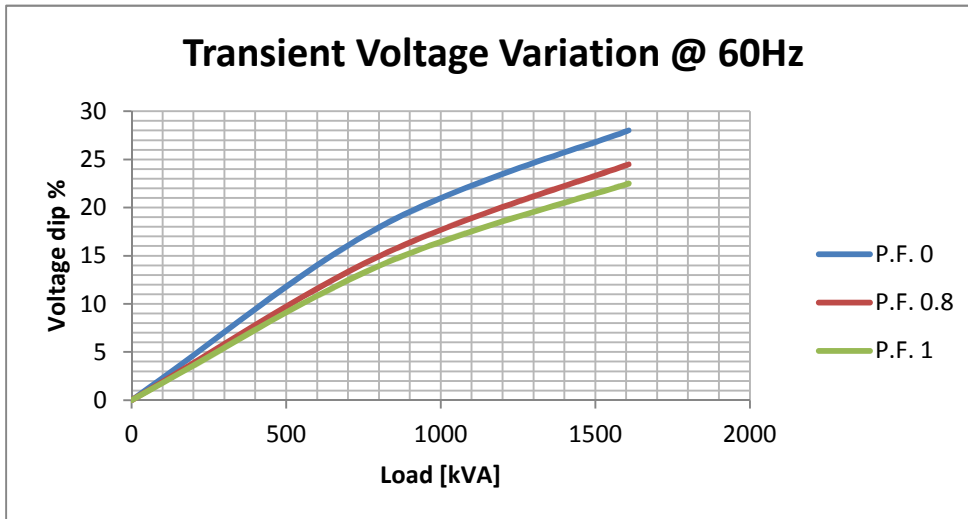


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TRANSIENT VOLTAGE VARIATION 50Hz

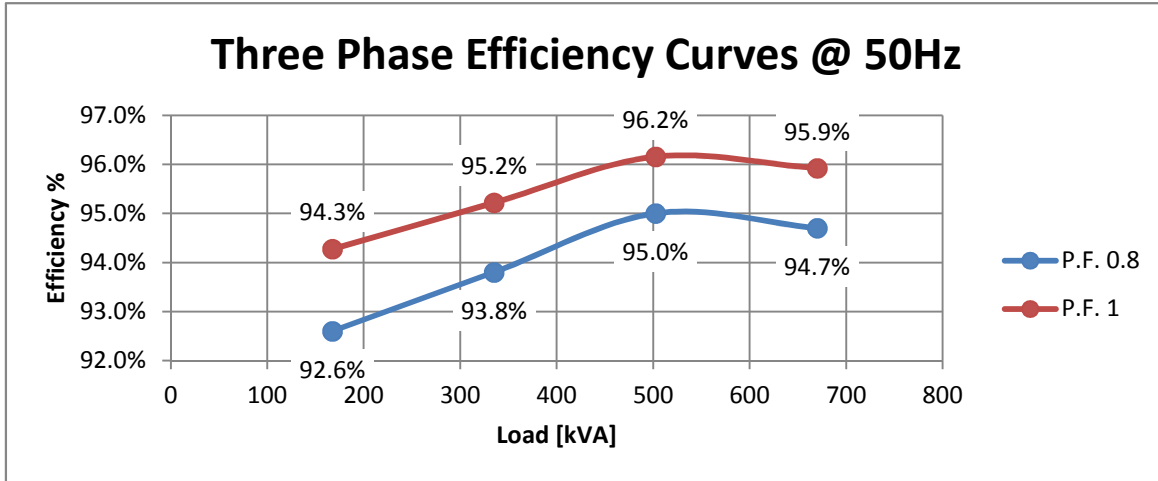


TRANSIENT VOLTAGE VARIATION 60Hz



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EFFICIENCY 50Hz



EFFICIENCY 60Hz

