



ALTERNATOR PRO35S 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	450
Rated Power at 60Hz	kVA	540
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	52 at 50Hz 65.6 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	12
Stator Winding Resistance	0.0078 at 20°C
Rotor Winding Resistance	1.1 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	<2.5%
Excitation at no load	A _{dc} 0.5
Excitation at full load	A _{dc} 2.25

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	450	450	450	420	480	520	540	540
	kW	360	360	360	336	384	416	432	432
Rated Power in Class F (105°C/40°C)	kVA	405	405	405	380	440	465	485	485
	kW	324	324	324	304	352	372	388	388
Rated Power Standby (150°C/40°C)	kVA	480	480	480	440	520	550	575	575
	kW	384	384	384	352	416	440	460	460
Rated Power Standby (163°C/27°C)	kVA	495	495	495	460	530	565	590	590
	kW	396	396	396	368	424	452	472	472

EFFICIENCY IN CL. H

4/4		94.2%						95.5%
3/4		94.7%						96.2%
2/4		92.3%						95.7%
1/4		89.2%						90.7%

REACTANCES AND TIME CONSTANTS

pcc			0.28						
X _d - dir. axis synchronous		386%	348%	323%	268%	414%	399%	379%	348%
X' _d - dir. axis transient		21.1%	19.0%	17.7%	14.7%	22.6%	21.8%	20.7%	19.0%
X'' _d - dir. axis subtransient		14.4%	13.0%	12.1%	10.0%	15.5%	14.9%	14.2%	13.0%
X _q - quad. axis reactance		229%	207%	192%	160%	246%	237%	225%	207%
T' _{do} - O.C. field time constant	2156ms								
T' _d - Transient time constant	118ms								
T'' _d - Sub-transient time constant	12ms								

MECHANICAL DATA

Bearing non drive end			6316-2RS-C3
Bearing drive end (B3/B14 form)			6319-C3
Weight of generator	in B2	kg	1184
	in B3/B14	kg	1198
	in B3/B9	kg	\

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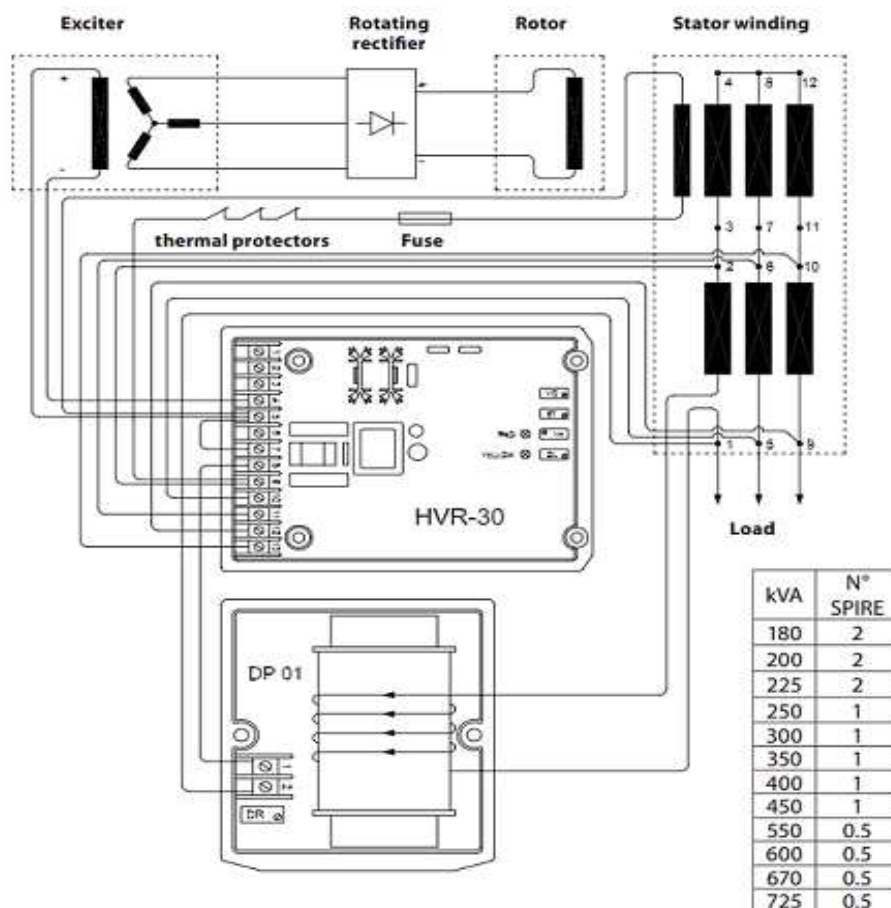
MOMENT OF INERZIA

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	8.742
SAE 18	kg·m ²	9.088
B3/B14	kg·m ²	8.188

POWER VARIATION ACCORDING TO TEMPERATURE AND ALTITUDE

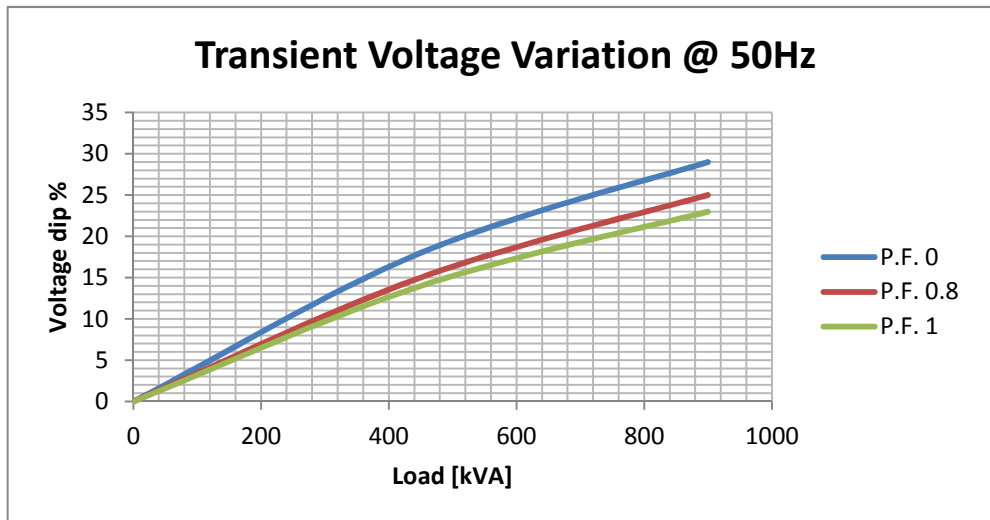
Altitude	Ambient temperature				
	25°C	40°C	45°C	50°C	55°C
< 1000m	1.09	1	0.96	0.93	0.91
1000m - 1500m	1.01	0.96	0.92	0.89	0.87
1500m - 2000m	0.96	0.91	0.87	0.84	0.83
2000m - 3000m	0.9	0.85	0.81	0.78	0.76

WIRING DIAGRAM

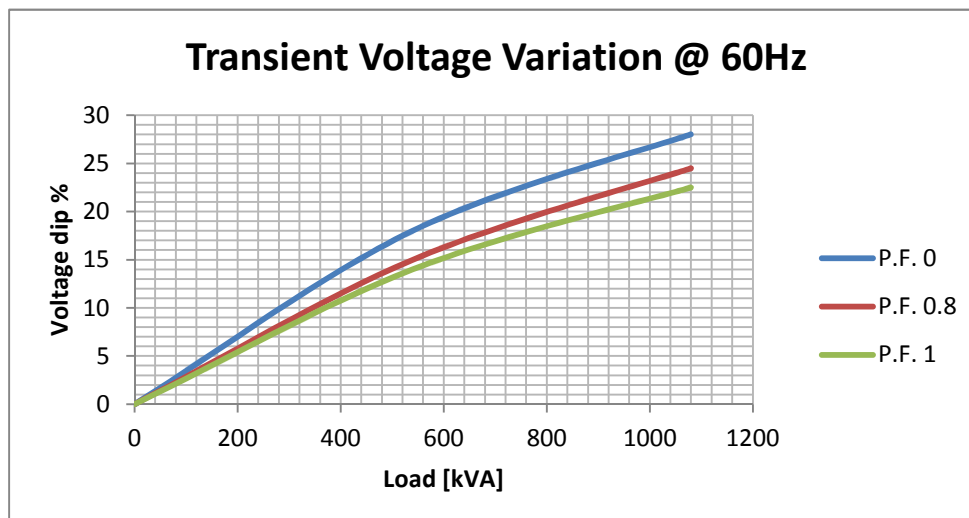


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TRANSIENT VOLTAGE VARIATION 50Hz

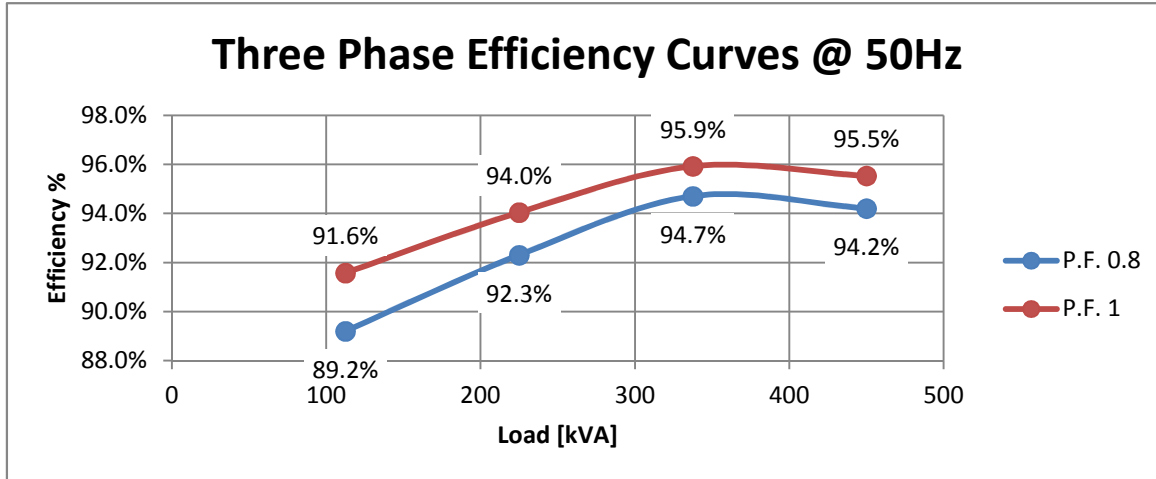


TRANSIENT VOLTAGE VARIATION 60Hz



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EFFICIENCY 50Hz



EFFICIENCY 60Hz

