



ALTERNATOR PRO28S 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	200	
Rated Power at 60Hz	kVA	240	
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	32 at 50Hz	38 at 60Hz
Telephone Interference		<2%	
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 Winding	12		
Stator Winding Resistance	0.022Ω at 20°C		
Rotor Winding Resistance	1.9Ω at 20°C		
Exciter Stator Resistance	15Ω at 20°C		
Exciter Rotor Resistance	0.25Ω at 20°C		
THD at full load	<3%		
THD at no load	<3%		
Excitation at no load	A _{dc}	0.63	
Excitation at full load	A _{dc}	2.4	

STANDARD

References	EN60034-1, ISO8538, EN55011
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ELECTRICAL DATA

Frequency		50Hz - 1500rpm				60Hz - 1800rpm			
		380/220	400/230	415/240	440/254	415/240	440/254	460/266	480/277
Voltage Series Star	V	380/220	400/230	415/240	440/254	415/240	440/254	460/266	480/277
Voltage Parallel Star	V	190/110	200/115	207/120	220/127	207/120	220/127	230/133	240/138
Voltage Series Delta	V	220	230	240	254	240	254	266	277
Rated Power in Class H (125°C/40°C)	kVA	200	200	200	180	225	240	240	240
	kW	160	160	160	144	180	192	192	192
Rated Power in Class F (105°C/40°C)	kVA	175	175	175	160	200	210	210	210
	kW	140	140	140	128	160	168	168	168
Rated Power Standby (150°C/40°C)	kVA	215	215	215	195	245	260	260	260
	kW	172	172	172	156	196	208	208	208
Rated Power Standby (163°C/27°C)	kVA	220	220	220	200	250	265	265	265
	kW	176	176	176	160	200	212	212	212

EFFICIENCY IN CL. H

4/4		91.7%						92.5%
3/4		92.3%						93.1%
2/4		90.8%						91.6%
1/4		88.7%						89.5%

REACTANCES AND TIME CONSTANTS

pcc	0.34							
X _d - dir. axis synchronous	431%	389%	361%	289%	488%	463%	424%	389%
X' _d - dir. axis transient	23.3%	21.0%	19.5%	15.6%	26.3%	25.0%	22.9%	21.0%
X'' _d - dir. axis subtransient	12.3%	11.1%	10.3%	8.3%	13.9%	13.2%	12.1%	11.1%
X _q - quad. axis reactance	265%	239%	222%	178%	300%	284%	260%	239%
T' _{do} - O.C. field time constant	1810 ms							
T' _d - Transient time constant	113 ms							
T'' _d - Sub-transient time constant	17 ms							

MECHANICAL DATA

Bearing non drive end	6314-2RS-C3		
Bearing drive end (B3/B14 form)	6316-2RS-C3		
Weight of generator	in B2	kg	603
	in B3/B14	kg	608

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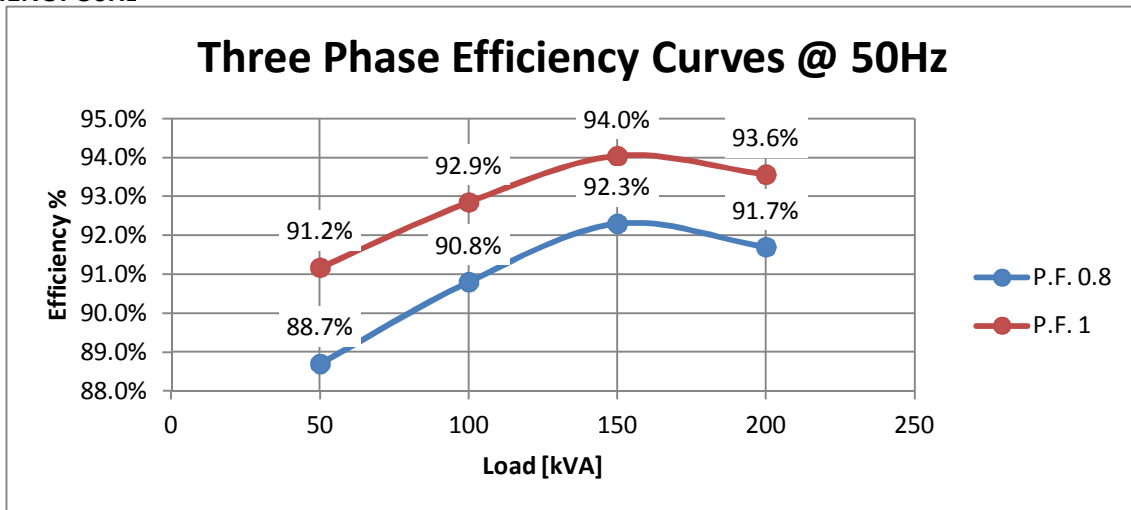
MOMENT OF INERZIA

SAE 11½	kg·m ²	2.261
SAE 14	kg·m ²	2.407
B3/B14	kg·m ²	2.092

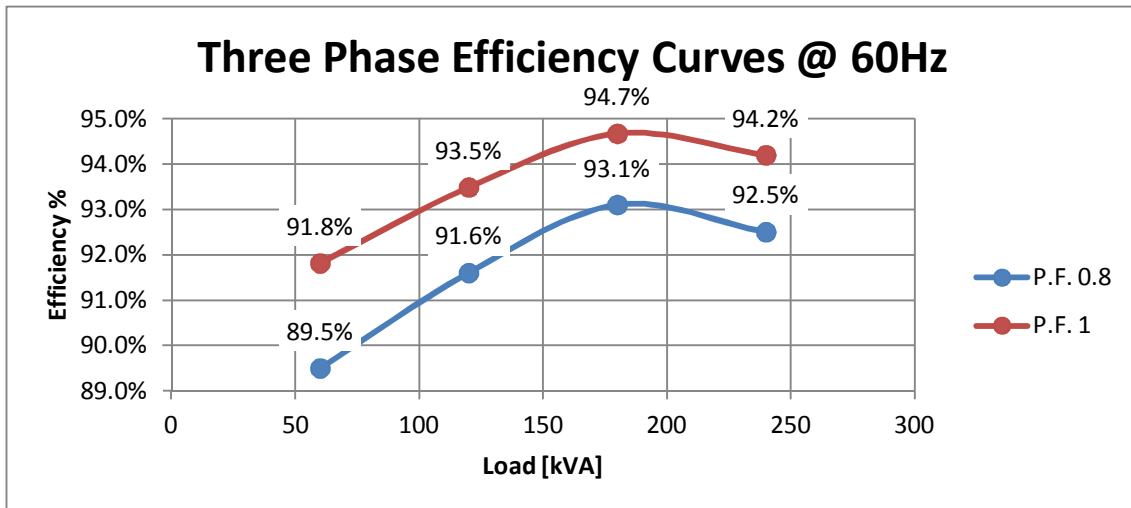
POWER VARIATION ACCORDING TO TEMPERATURE AND ALTITUDE

Ambient temperature					
Altitude	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

EFFICIENCY 50Hz

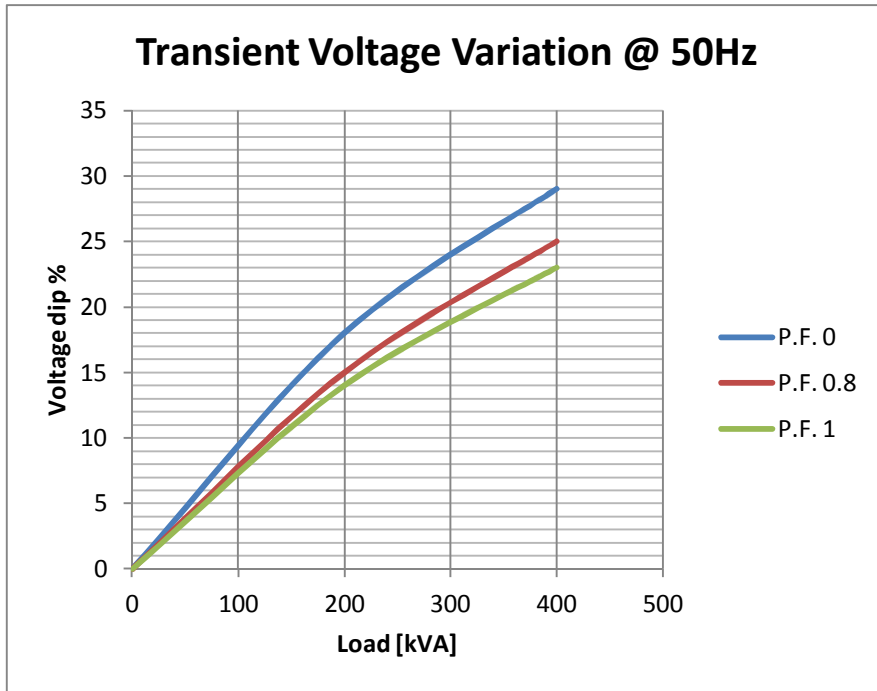


EFFICIENCY 60Hz

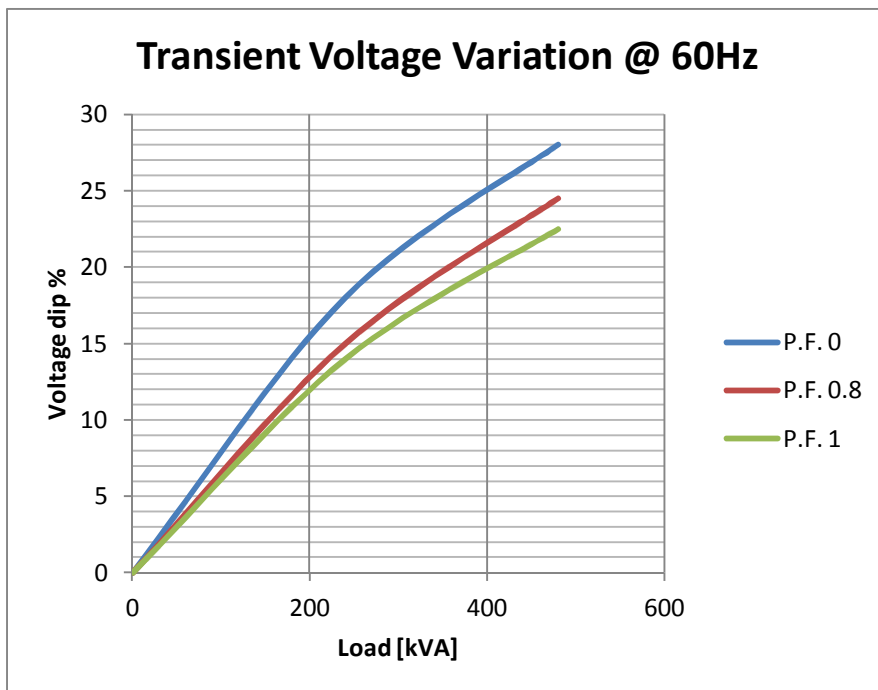


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TRANSIENT VOLTAGE VARIATION 50Hz

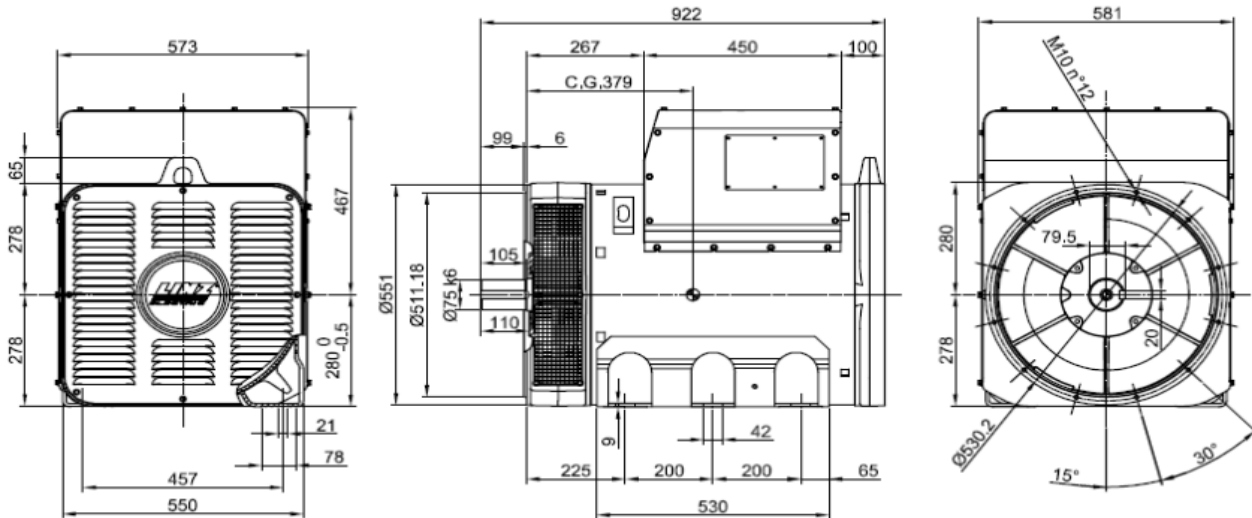


TRANSIENT VOLTAGE VARIATION 60Hz

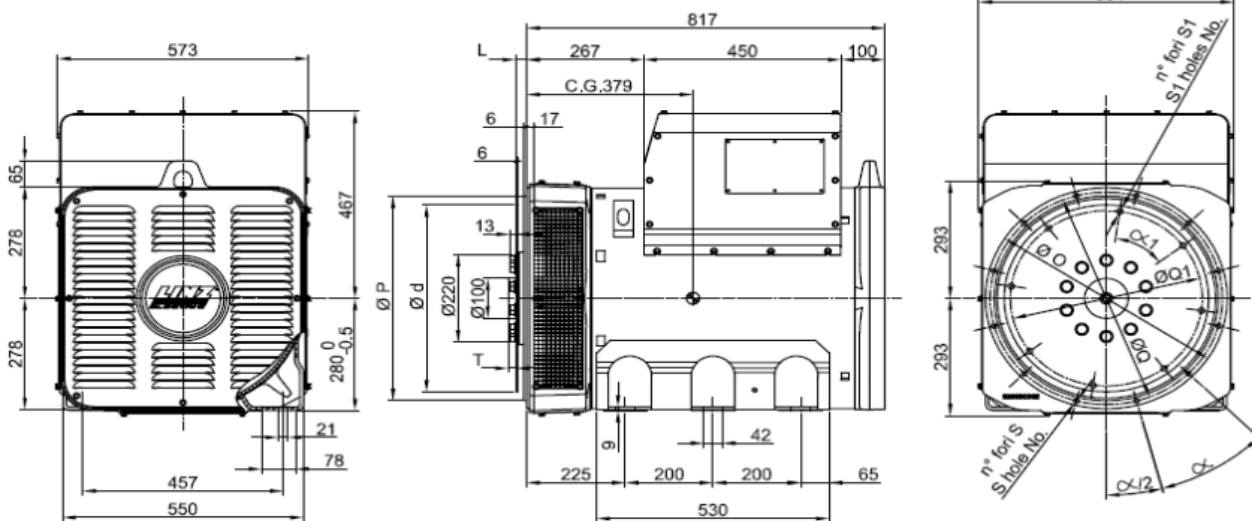


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FORMA - FORM B3/B14



FORMA - FORM MD35



SAE N.	FLANGIE - FLANGES - BRIDAS					
	Ø O	Ø P	Ø Q	n. fori holes No.	S	α
3	451	409.6	428.6			
2	490	447.68	466.7	12	12	30°
1	552	511.18	530.2			

SAE N.	GIUNTI A DISCO -COUPLING DISCS- JUNTAS A DISCOS						
	L	Ø d	Ø Q1	n. fori holes No.	S1	α1	T
11 1/2	39.6	352.42	333.37	8	10.5	45°	0
14	25.4	466.72	438.15	8	14	45°	17.3