

TECHNICAL DATA SHEET



ALTERNATOR PRO28S C/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO28S C/4

COMMON DATA

Rated Power at 50Hz	kVA	225	
Rated Power at 60Hz	kVA	270	
Rated Power Factor		0,8	
Nominal Temperature	°C	40	
Control System		self-excited	
Execution		brushless	
Regulation Type		AVR	
Insulation Class		H	
Protection		IP23	
Maximum Over speed	rpm	2250	
Overload		110% of rated power for one hour in a cycle of 6 hours	
Air Flow Requirement	m ³ /min	32,5 at 50Hz	39 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	Ω	0,0093 at 20°C	
Rotor Winding Resistance	Ω	2,1 at 20°C	
Exciter Stator Resistance	Ω	15 at 20°C	
Exciter Rotor Resistance	Ω	0,25 at 20°C	
THD at full load		<3%	
THD at no load		<3%	
Excitation at no load	Adc	0,6	
Excitation at full load	Adc	2,36	

STANDARD

References	EN60034-1 ISO8528-3 EN55011
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ON REQUEST

UL 1446, Systems of Insulating Materials - General CSA-C22.2 No. 0, Appendix B, General Requirements - Canadian Electrical Code, Part I

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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	225	225	225	215	260	270	270	270
	kW	180	180	180	172	208	216	216	216
Rated Power in Class F (105°C/40°C)	kVA	200	200	200	190	225	240	240	240
	kW	160	160	160	152	180	192	192	192
Rated Power Standby (150°C/40°C)	kVA	255	255	255	245	290	305	305	305
	kW	204	204	204	196	232	244	244	244
Rated Power Standby (163°C/27°C)	kVA	265	265	265	250	295	315	315	315
	kW	212	212	212	200	236	252	252	252

EFFICIENCY IN CL. H

4/4	92,1%							92,7%
3/4	92,5%							93,0%
2/4	91,2%							91,6%
1/4	89,7%							90,4%

REACTANCES AND TIME CONSTANTS

pcc		0,36							
X _d - dir. axis synchronous		398%	359%	334%	284%	462%	427%	391%	359%
X' _d - dir. axis transient		22,5%	20,3%	18,9%	16,0%	26,2%	24,2%	22,1%	20,3%
X'' _d - dir. axis subtransient		11,3%	10,2%	9,5%	8,1%	13,1%	12,1%	11,1%	10,2%
X _q - quad. axis reactance		253%	228%	212%	180%	294%	271%	248%	228%
T' _{do} - O.C. field time constant		1825ms							
T' _d - Transient time constant		113ms							
T'' _d - Sub-transient time constant		16ms							

MECHANICAL DATA

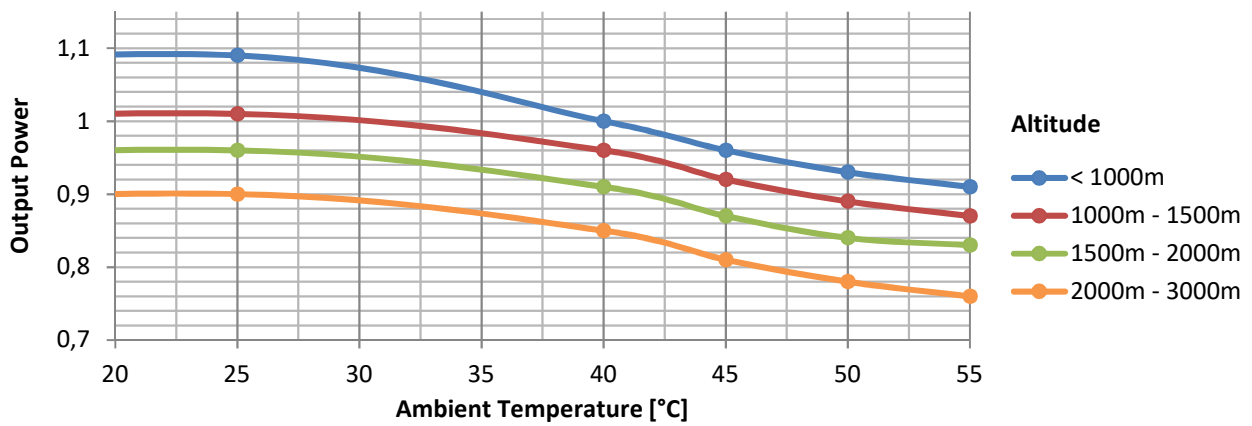
Bearing non drive end		6314-2RS-C3	
Bearing drive end (B3/B14 form)		6316-2RS-C3	
Weight of generator	in B2	kg	668
	in B3/B14	kg	679
	in B3/B9	kg	\

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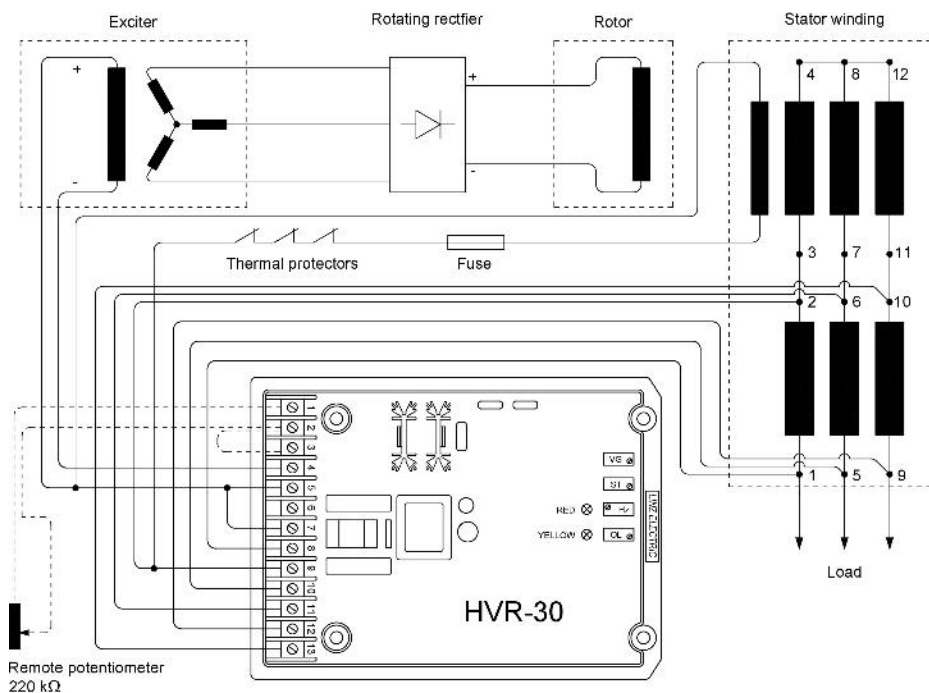
MOMENT OF INERZIA

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	2,902
SAE 14	kg·m ²	3,018
SAE 18	kg·m ²	\
B3/B14	kg·m ²	2,723

DERATING CURVES



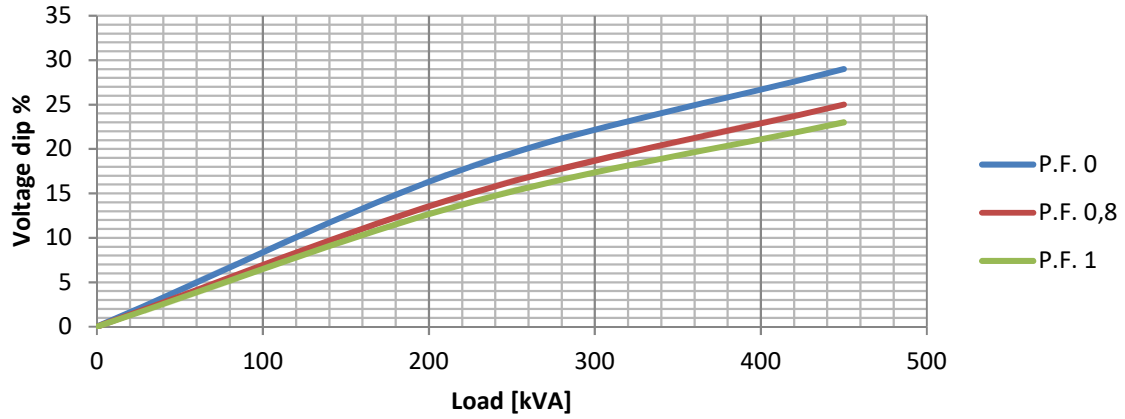
WIRING DIAGRAM



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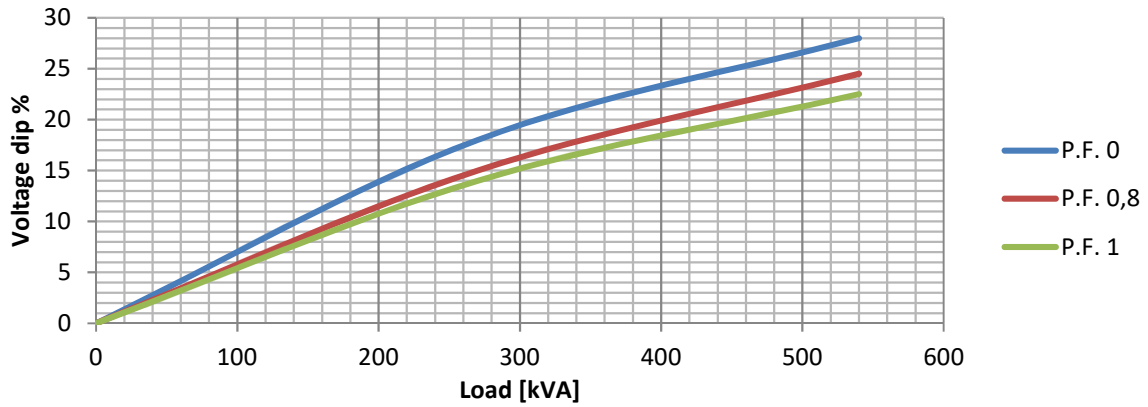
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

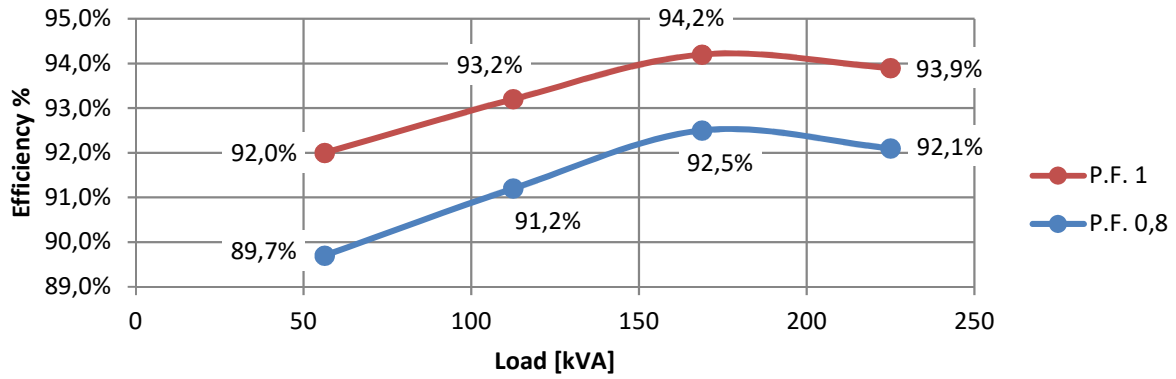
Transient Voltage Variation @ 60Hz



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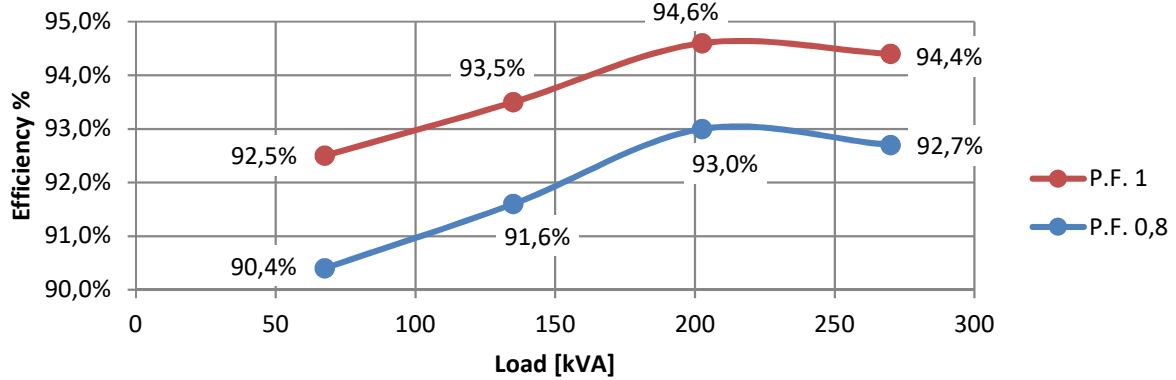
EFFICIENCY 50Hz

Efficiency Curves @ 50Hz



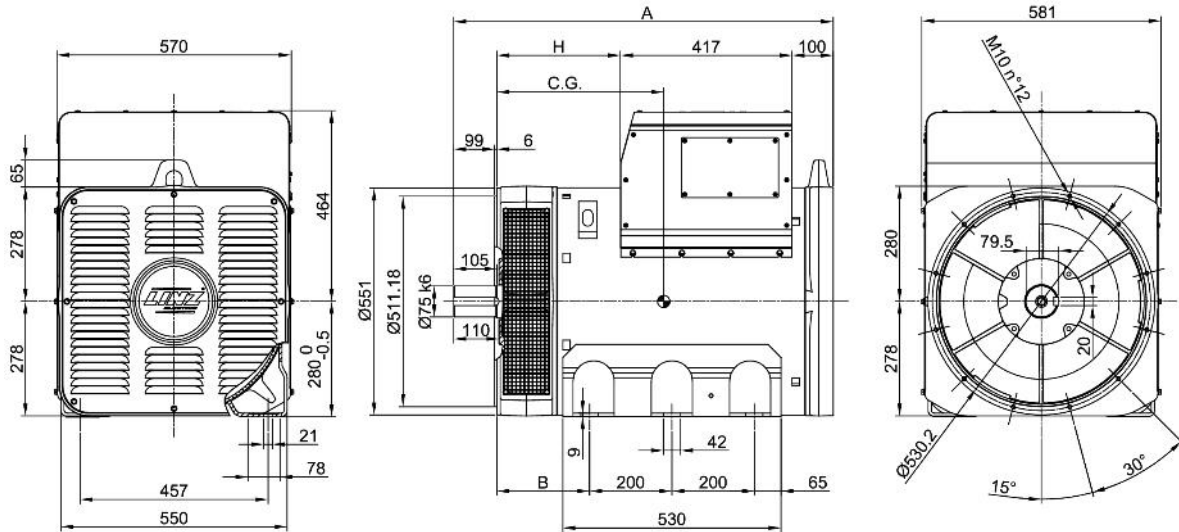
EFFICIENCY 60Hz

Efficiency Curves @ 60Hz

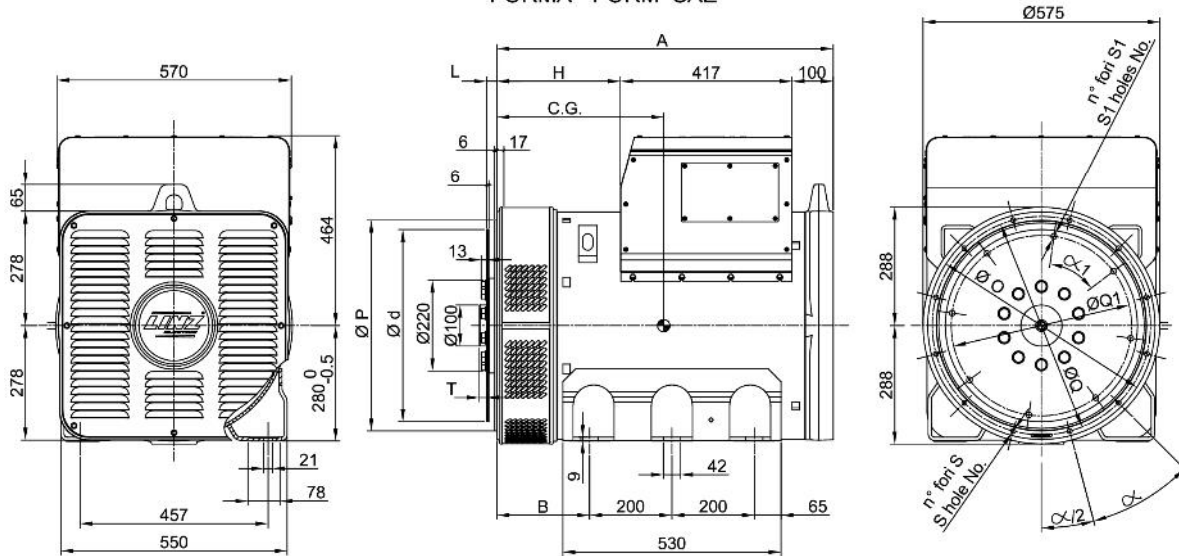


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FORMA - FORM B3/B14



FORMA - FORM SAE



FORMA - FORM		A	B	H
B3/B14	PRO 28S	922	225	300
	PRO 28M	1072		450
	PRO 28L	1137	325	515
SAE	PRO 28S	817	225	300
	PRO 28M	967		450
	PRO 28L	1032	325	515

TIPO - TYPE	C.G.
PRO28S A/4	376
PRO28S B/4	380
PRO28S C/4	394
PRO28S D/4	406
PRO28M E/4	452
PRO28M F/4	480
PRO28L G/4	513

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