

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

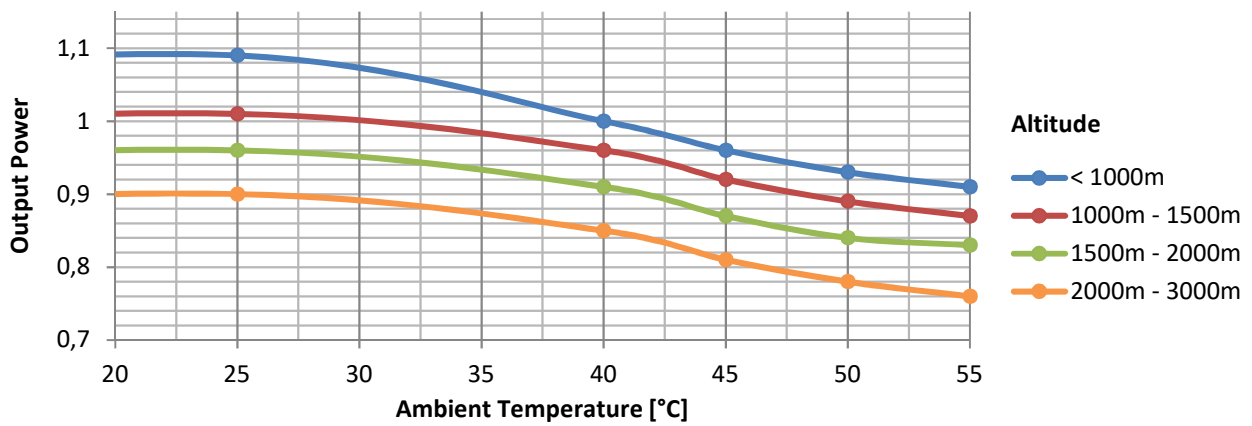
Bearing non drive end		6314-2RS-C3	
Bearing drive end (B3/B14 form)		6316-2RS-C3	
Weight of generator	in B2	kg	668
	in B3/B14	kg	679
	in B3/B9	kg	\

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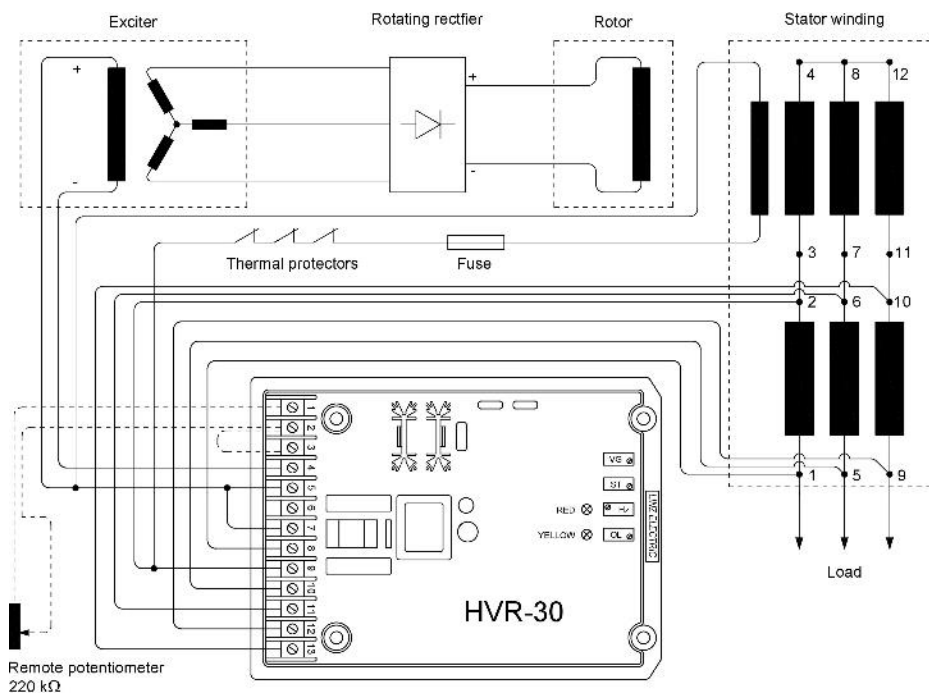
MOMENT OF INERZIA

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



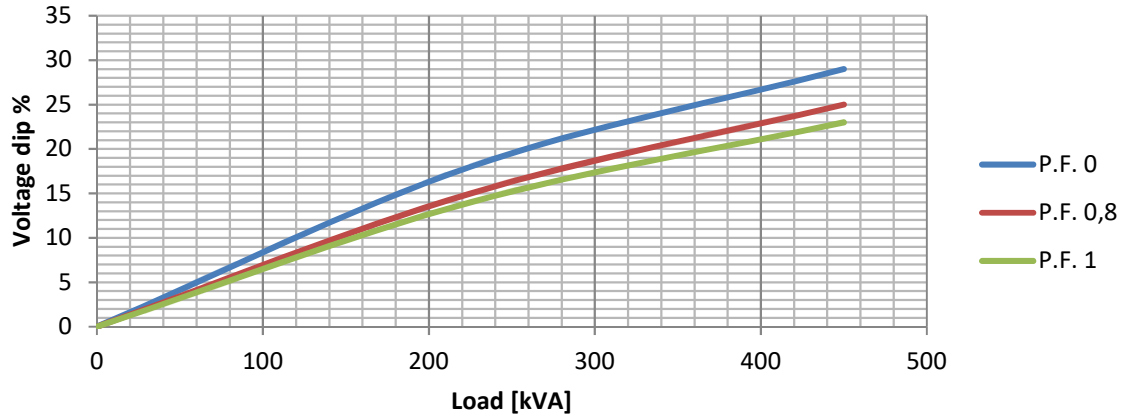
WIRING DIAGRAM



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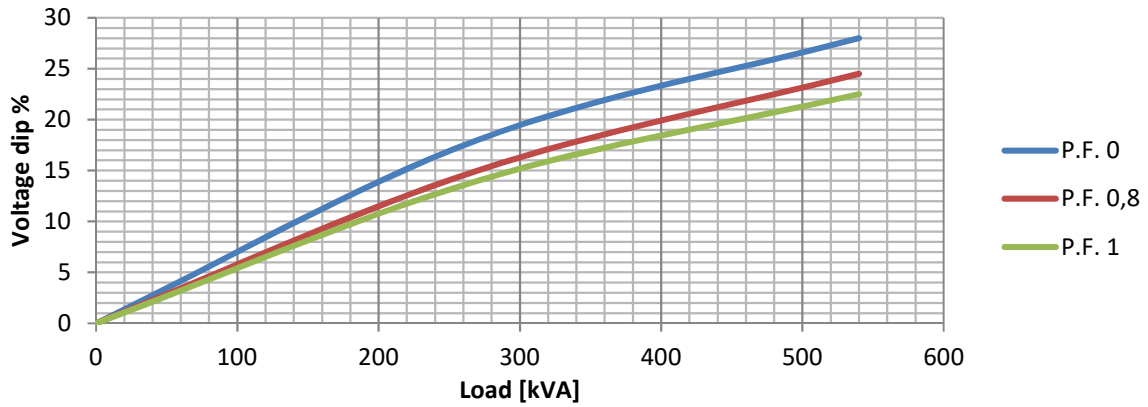
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

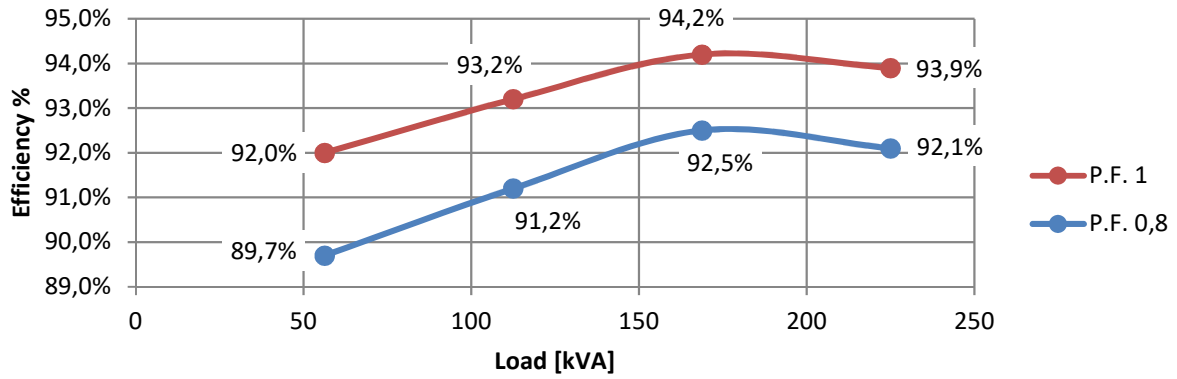
Transient Voltage Variation @ 60Hz



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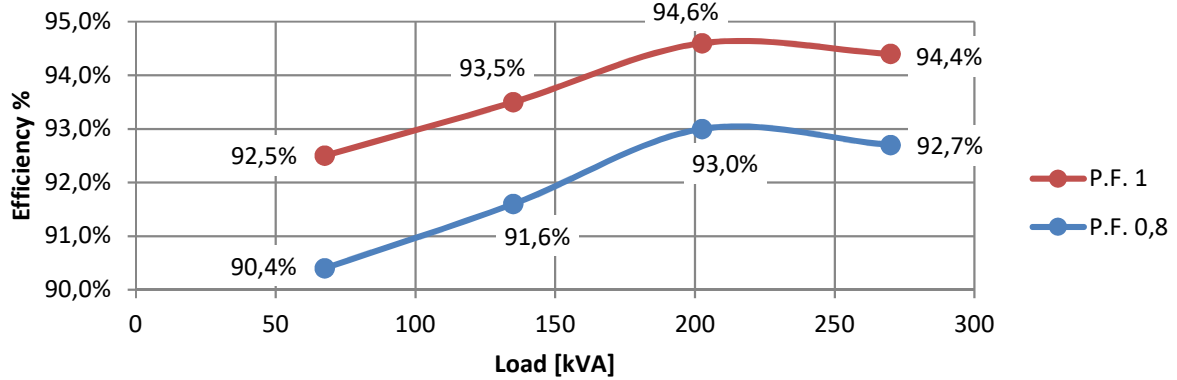
EFFICIENCY 50Hz

Efficiency Curves @ 50Hz



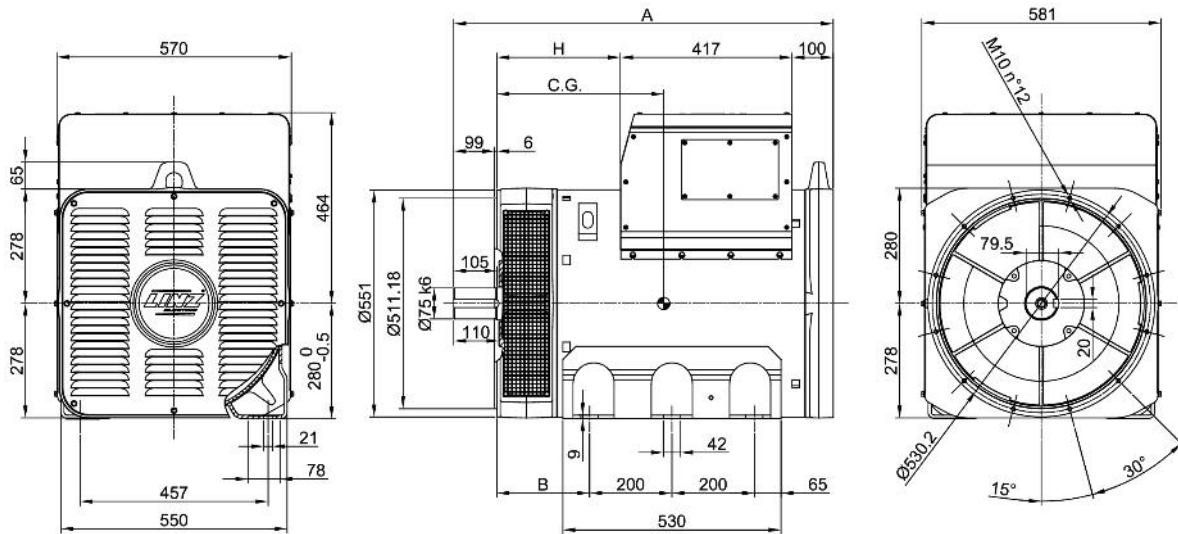
EFFICIENCY 60Hz

Efficiency Curves @ 60Hz

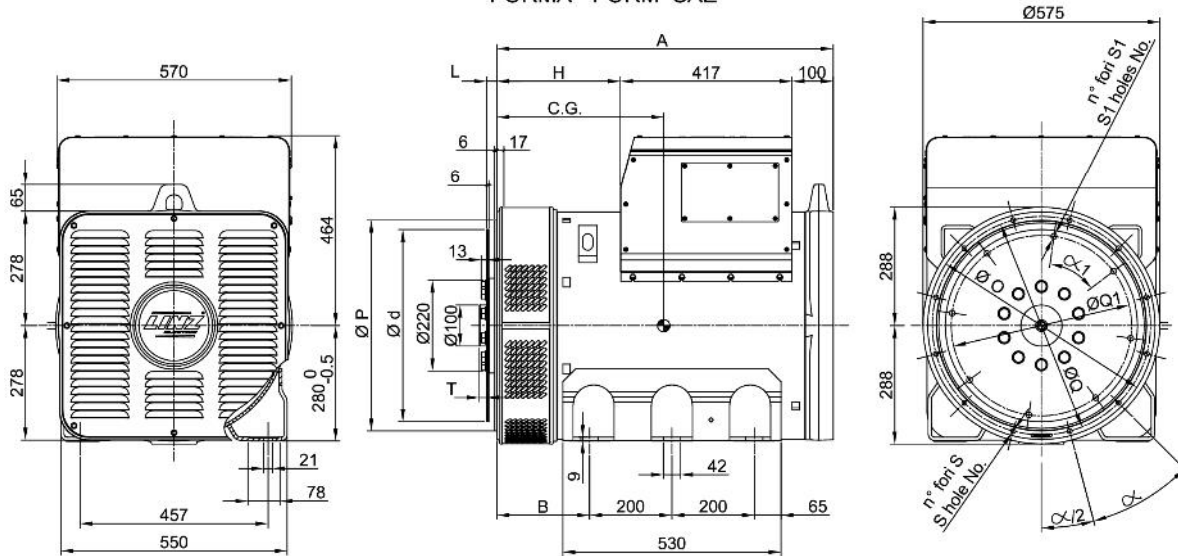


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FORMA - FORM B3/B14



FORMA - FORM SAE



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