

TECHNICAL DATA SHEET



ALTERNATOR PRO28S D/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO28S D/4

COMMON DATA

Rated Power at 50Hz	kVA	250	
Rated Power at 60Hz	kVA	300	
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	36,5 at 50Hz	43,1 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	0,0069 at 20°C	
Rotor Winding Resistance	Ω	2,26 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	0,62	
Excitation at full load	Adc	2,3	

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

PRO28S D/4

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	250	250	250	235	290	300	300	300
	kW	200	200	200	188	232	240	240	240
Rated Power in Class F (105°C/40°C)	kVA	210	210	210	197	240	250	250	250
	kW	168	168	168	157,6	192	200	200	200
Rated Power Standby (150°C/40°C)	kVA	266	266	266	250	310	320	320	320
	kW	212,8	212,8	212,8	200	248	256	256	256
Rated Power Standby (163°C/27°C)	kVA	280	280	280	260	320	335	335	335
	kW	224	224	224	208	256	268	268	268

EFFICIENCY IN CL. H

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

REACTANCES AND TIME CONSTANTS

pcc		0,38							
X _d - dir. axis synchronous		388%	350%	325%	272%	453%	417%	381%	350%
X' _d - dir. axis transient		19,9%	18,0%	16,7%	14,0%	23,3%	21,4%	19,6%	18,0%
X'' _d - dir. axis subtransient		11,1%	10,0%	9,3%	7,8%	12,9%	11,9%	10,9%	10,0%
X _q - quad. axis reactance		235%	212%	197%	165%	274%	252%	231%	212%
T' _{do} - O.C. field time constant		1850ms							
T' _d - Transient time constant		115ms							
T'' _d - Sub-transient time constant		14ms							

MECHANICAL DATA

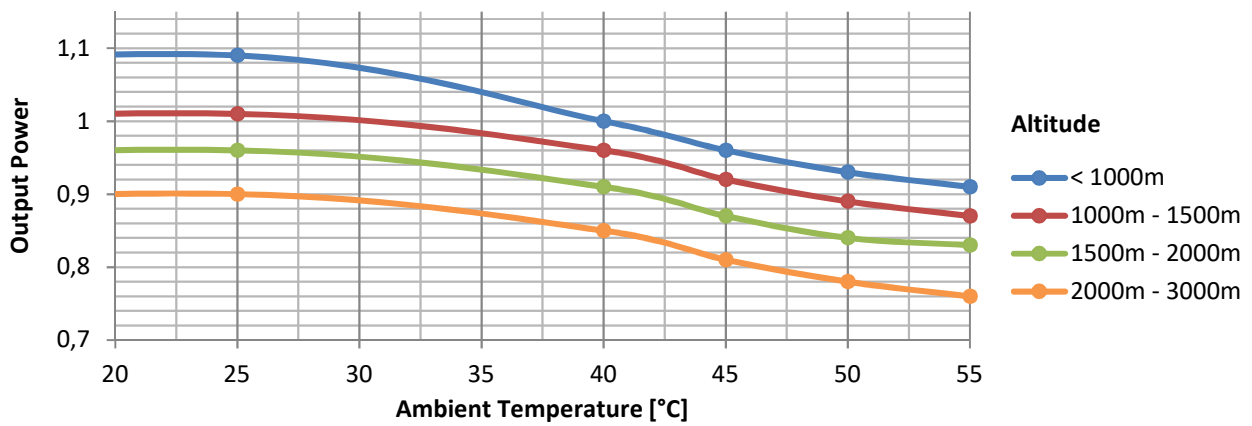
Bearing non drive end				6314-2RS-C3
Bearing drive end (B3/B14 form)				6316-2RS-C3
Weight of generator	in B2	kg		730,5
	in B3/B14	kg		741,5
	in B3/B9	kg		\

PRO28S D/4

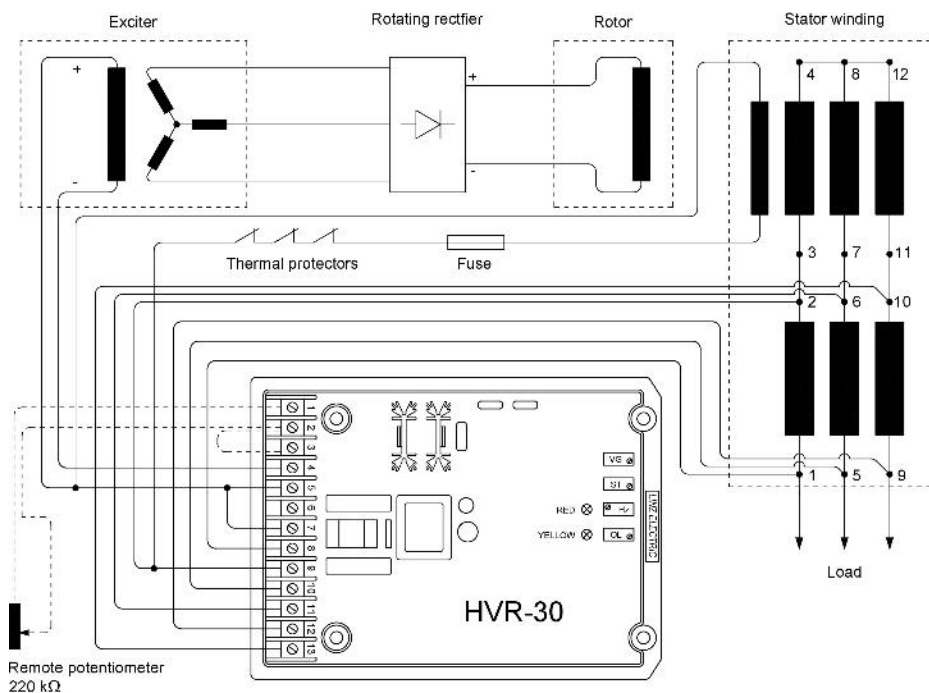
MOMENT OF INERZIA

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	3,252
SAE 14	kg·m ²	3,368
SAE 18	kg·m ²	\
B3/B14	kg·m ²	3,073

DERATING CURVES



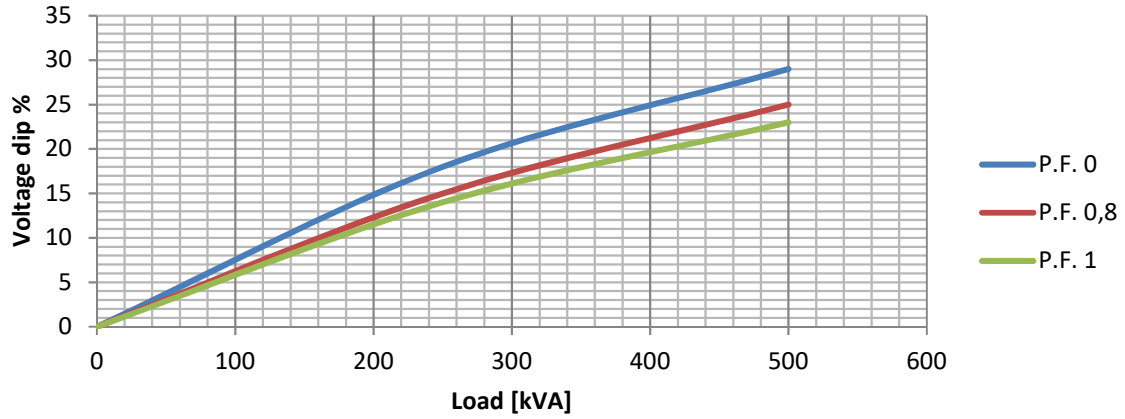
WIRING DIAGRAM



PRO28S D/4

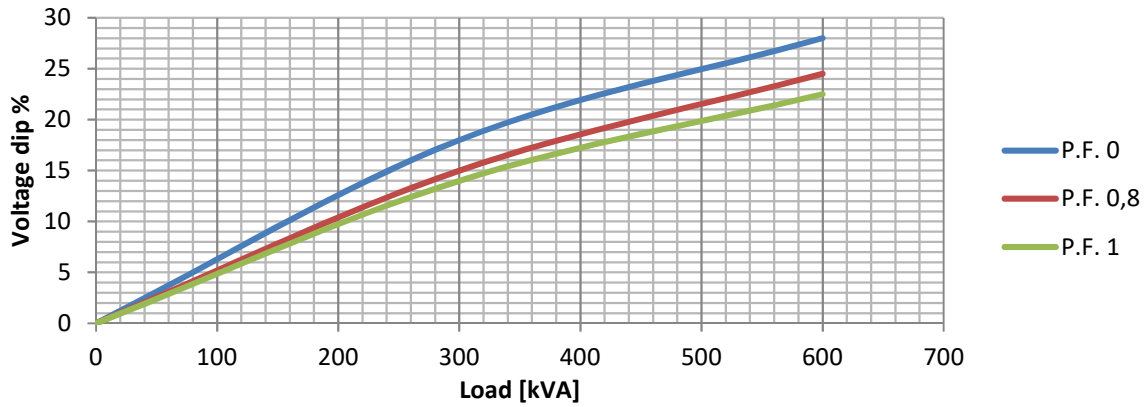
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



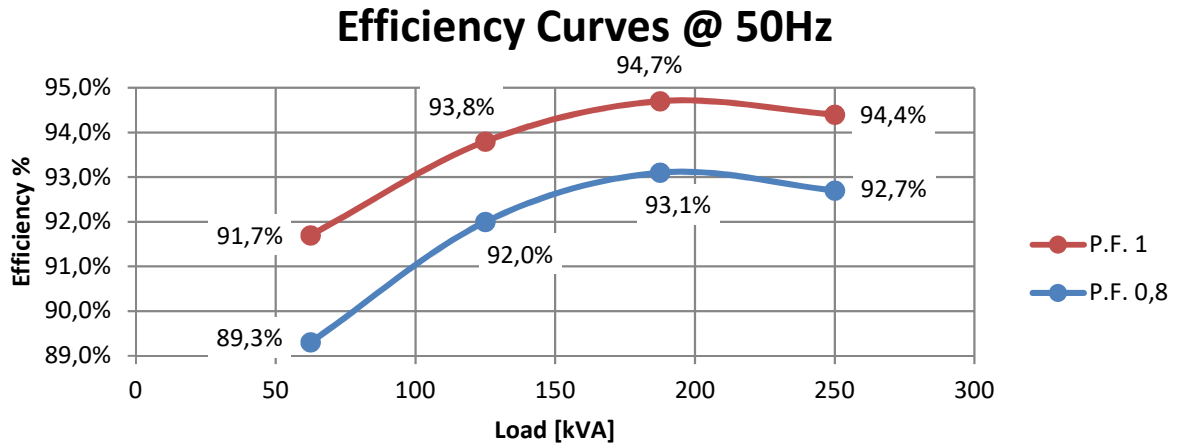
TRANSIENT VOLTAGE VARIATION 60Hz

Transient Voltage Variation @ 60Hz

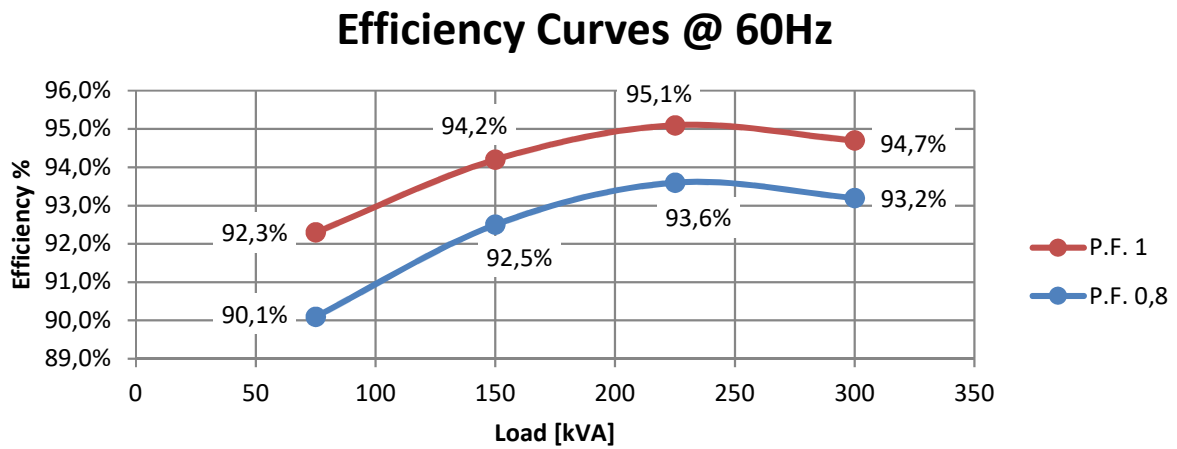


PRO28S D/4

EFFICIENCY 50Hz

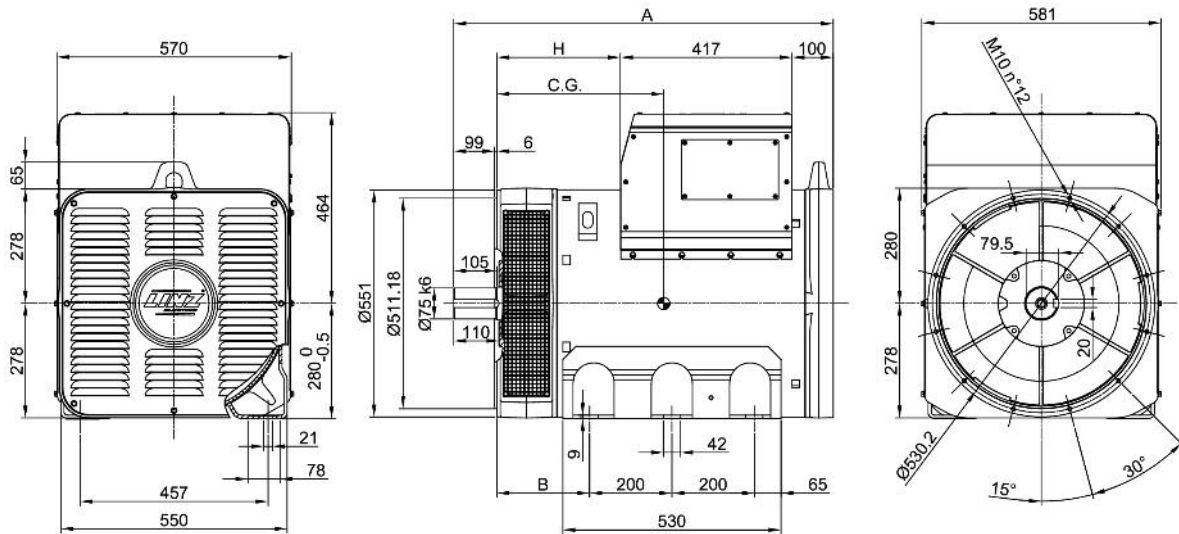


EFFICIENCY 60Hz

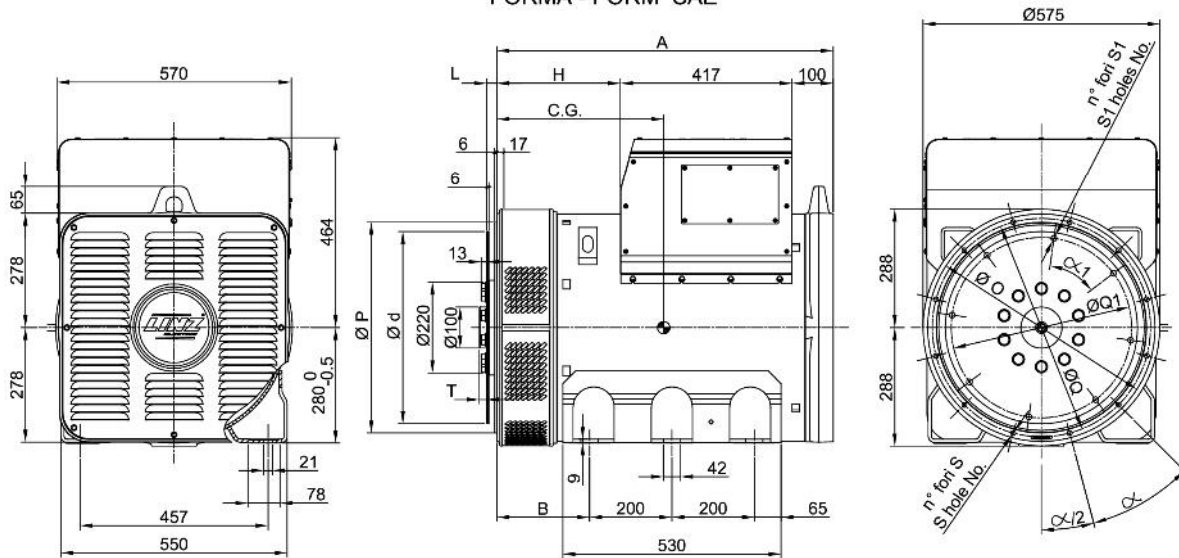


PRO28S D/4

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