

TECHNICAL DATA SHEET



ALTERNATOR PRO28L G/4

Three-Phase brushless synchronous alternator with AVR - 4 poles

PRO28L G/4

COMMON DATA

Rated Power at 50Hz	kVA	400
Rated Power at 60Hz	kVA	480
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	44,4 at 50Hz 49,6 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	6	
Stator Winding Resistance	Ω	0,0061 at 20°C
Rotor Winding Resistance	Ω	3,15 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	2,2

STANDARD

References	EN60034-1 ISO8528-3 EN55011
------------	-----------------------------

ON REQUEST

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

PRO28L G/4

ELECTRICAL DATA

Frequency		50Hz - 1500rpm					60Hz - 1800rpm				
Voltage	V	Delta 1~	Series High Wye				Delta 1~	Series High Wye			
		230	380/220	400/230	415/240	440/254	277	415/240	440/254	460/266	480/277
Rated Power in Class H (125°C/40°C)	kVA	260	400	400	400	380	315	430	460	480	480
	kW	208	320	320	320	304	252	344	368	384	384
Rated Power in Class F (105°C/40°C)	kVA	235	360	360	360	340	280	386	415	430	430
	kW	188	288	288	288	272	224	308,8	332	344	344
Rated Power Standby (150°C/40°C)	kVA	267	410	410	410	390	320	435	470	490	490
	kW	213,6	328	328	328	312	256	348	376	392	392
Rated Power Standby (163°C/27°C)	kVA	273	420	420	420	400	325	445	480	500	500
	kW	218,4	336	336	336	320	260	356	384	400	400

EFFICIENCY IN CL. H

4/4			93,8%							94,2%
3/4			94,0%							94,4%
2/4			93,1%							93,5%
1/4			90,0%							90,1%

REACTANCES AND TIME CONSTANTS

pcc			0,41							
X _d	- dir. axis synchronous	366%	330%	307%	259%		395%	376%	359%	330%
X' _d	- dir. axis transient	19,9%	18,0%	16,7%	14,1%		21,6%	20,5%	19,6%	18,0%
X'' _d	- dir. axis subtransient	10,0%	9,0%	8,4%	7,1%		10,8%	10,3%	9,8%	9,0%
X _q	- quad. axis reactance	233%	210%	195%	165%		252%	240%	229%	210%
T' _{do}	- O.C. field time constant	1910ms								
T' _d	- Transient time constant	116ms								
T'' _d	- Sub-transient time constant	14ms								

MECHANICAL DATA

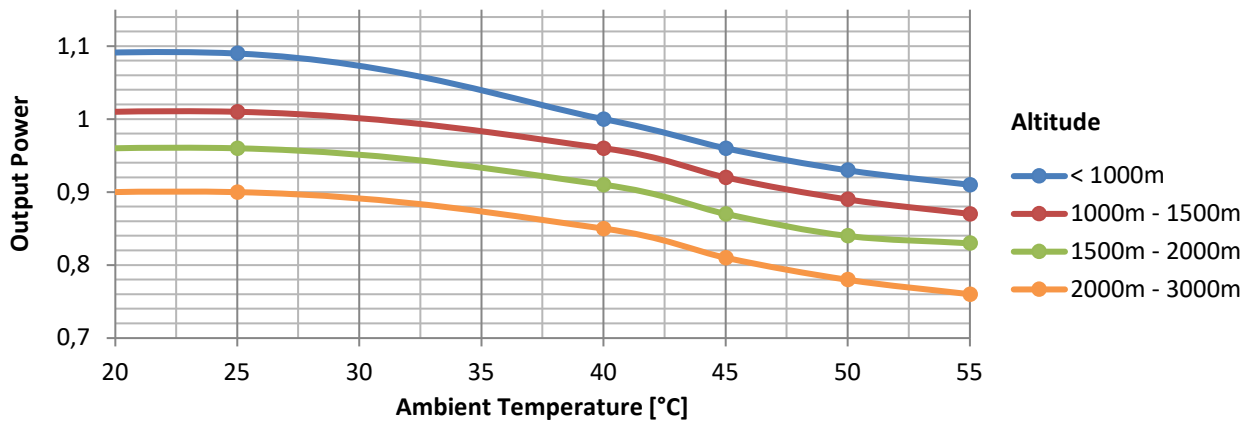
Bearing non drive end				6314-2RS-C3
Bearing drive end (B3/B14 form)				6316-2RS-C3
Weight of generator	in B2	kg	1034	
	in B3/B14	kg	1045	
	in B3/B9	kg	\	

PRO28L G/4

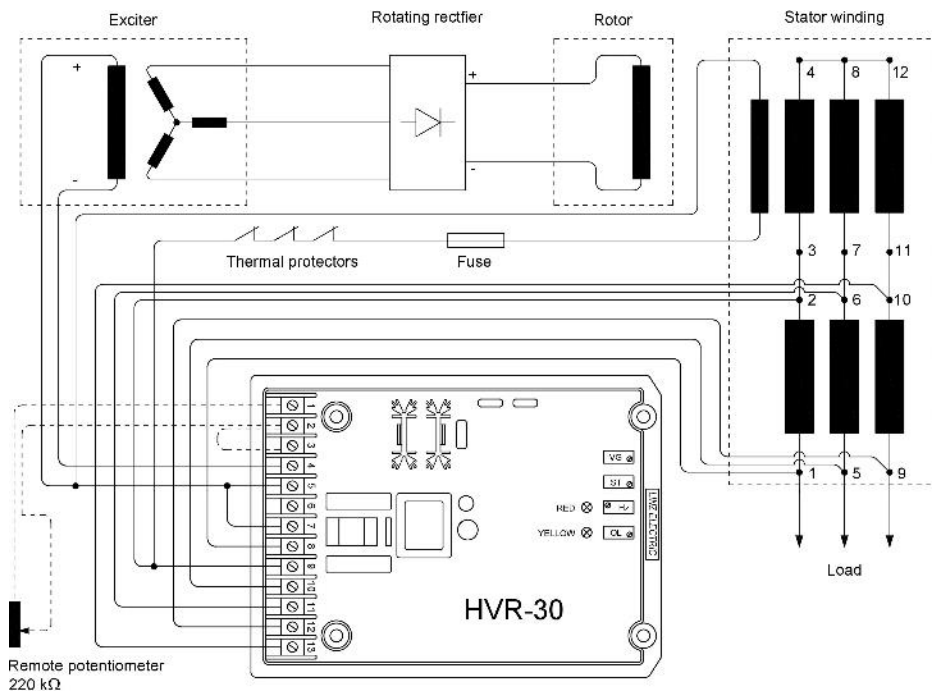
MOMENT OF INERZIA

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	4,916
SAE 14	kg·m ²	5,032
SAE 18	kg·m ²	\
B3/B14	kg·m ²	4,737

DERATING CURVES



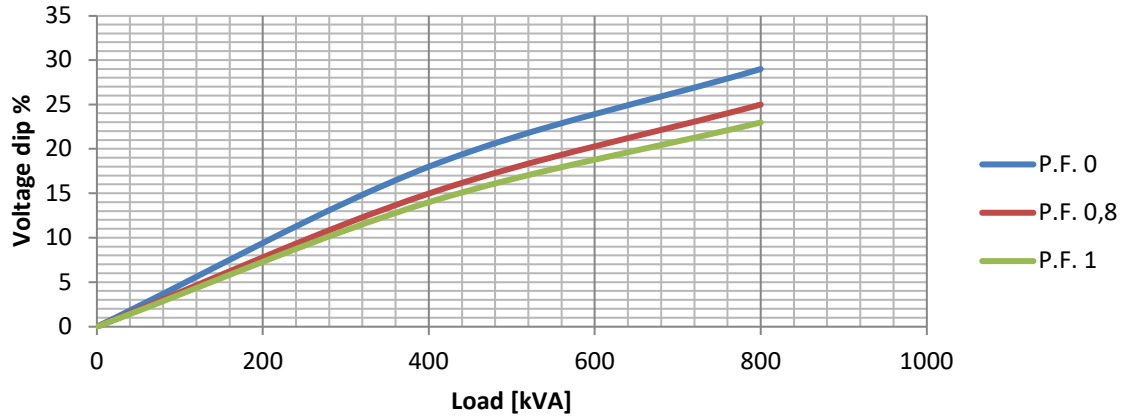
WIRING DIAGRAM



PRO28L G/4

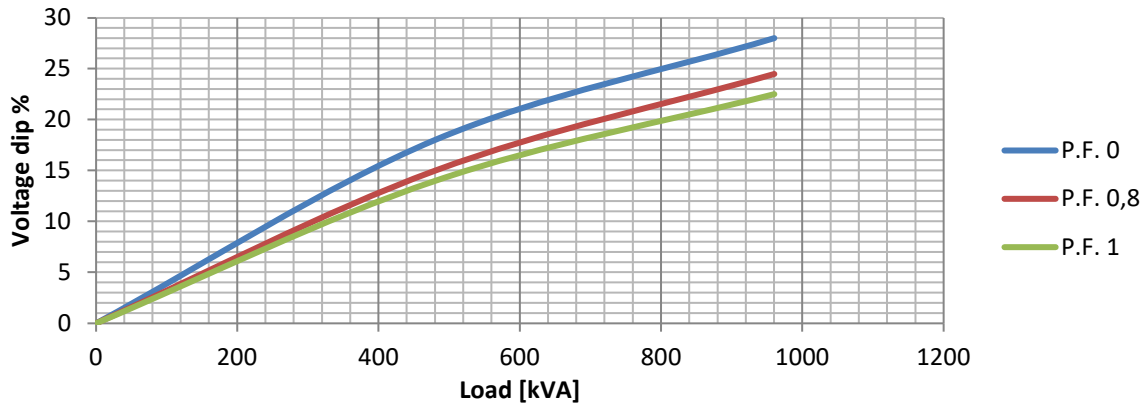
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

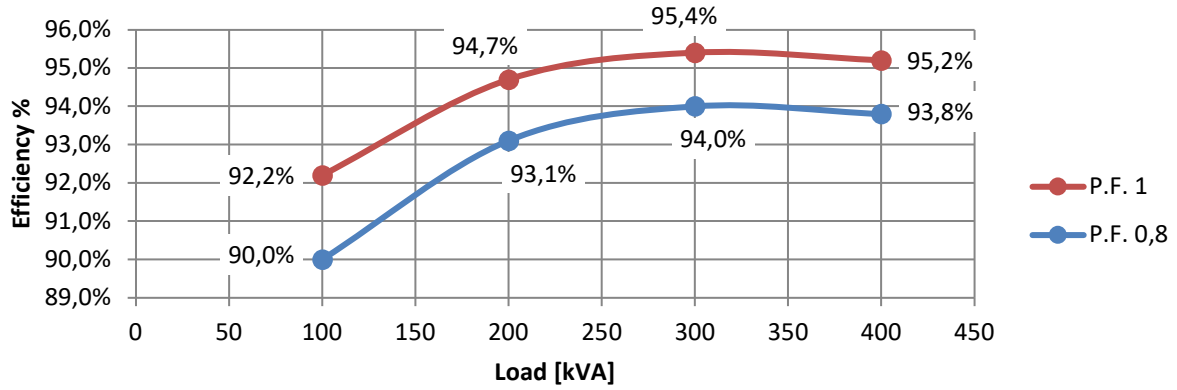
Transient Voltage Variation @ 60Hz



PRO28L G/4

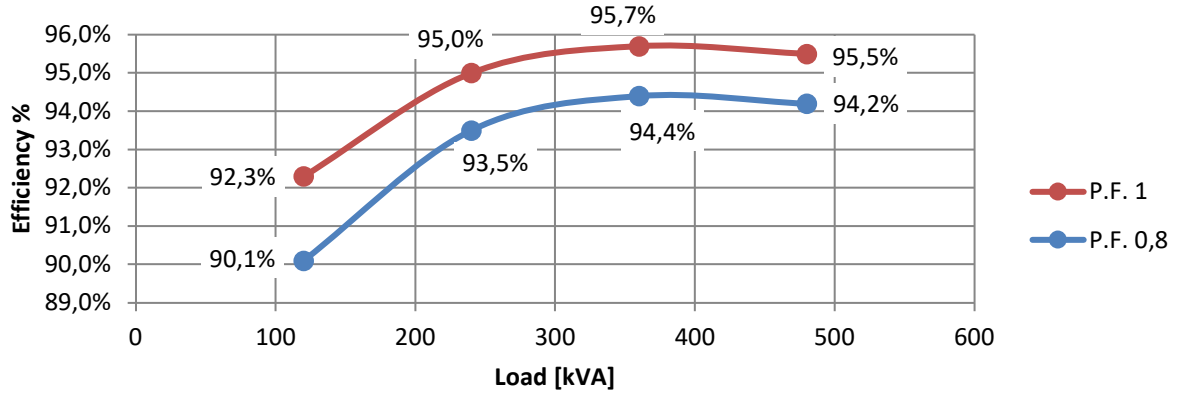
EFFICIENCY 50Hz

Efficiency Curves @ 50Hz



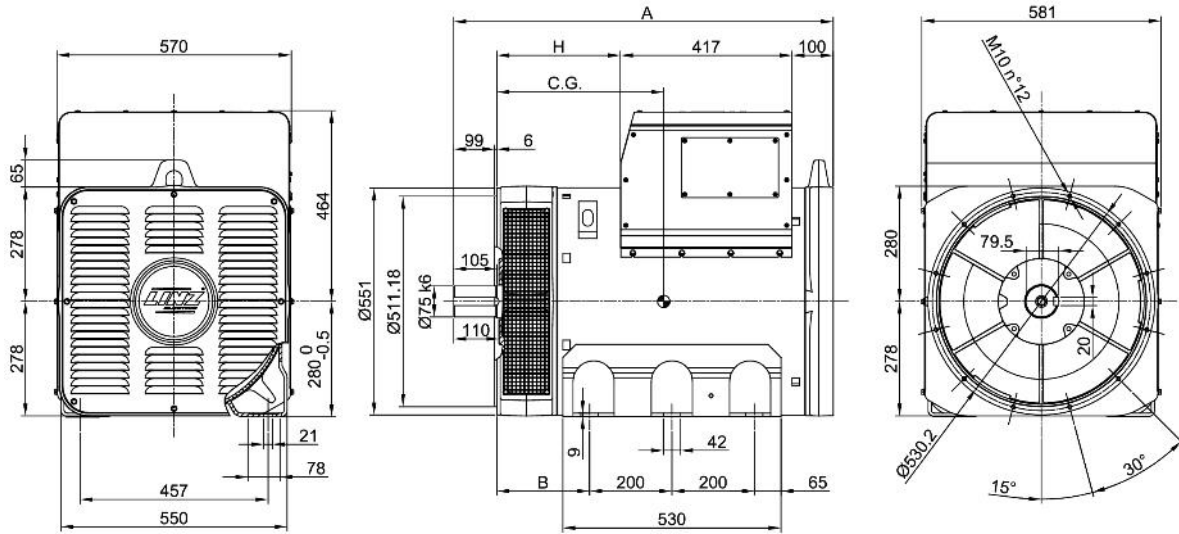
EFFICIENCY 60Hz

Efficiency Curves @ 60Hz

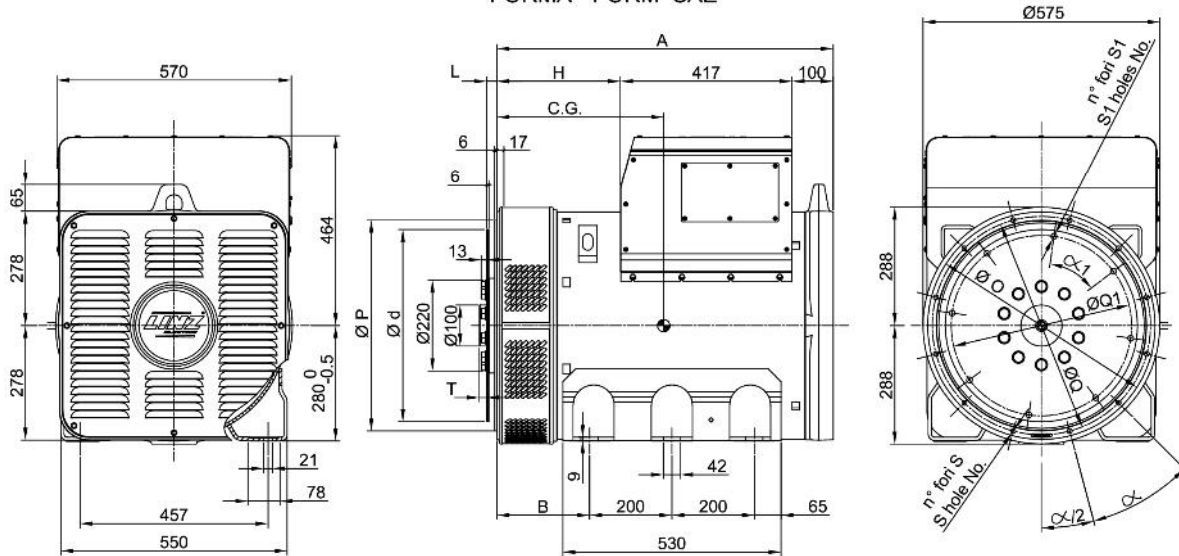


PRO28L G/4

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