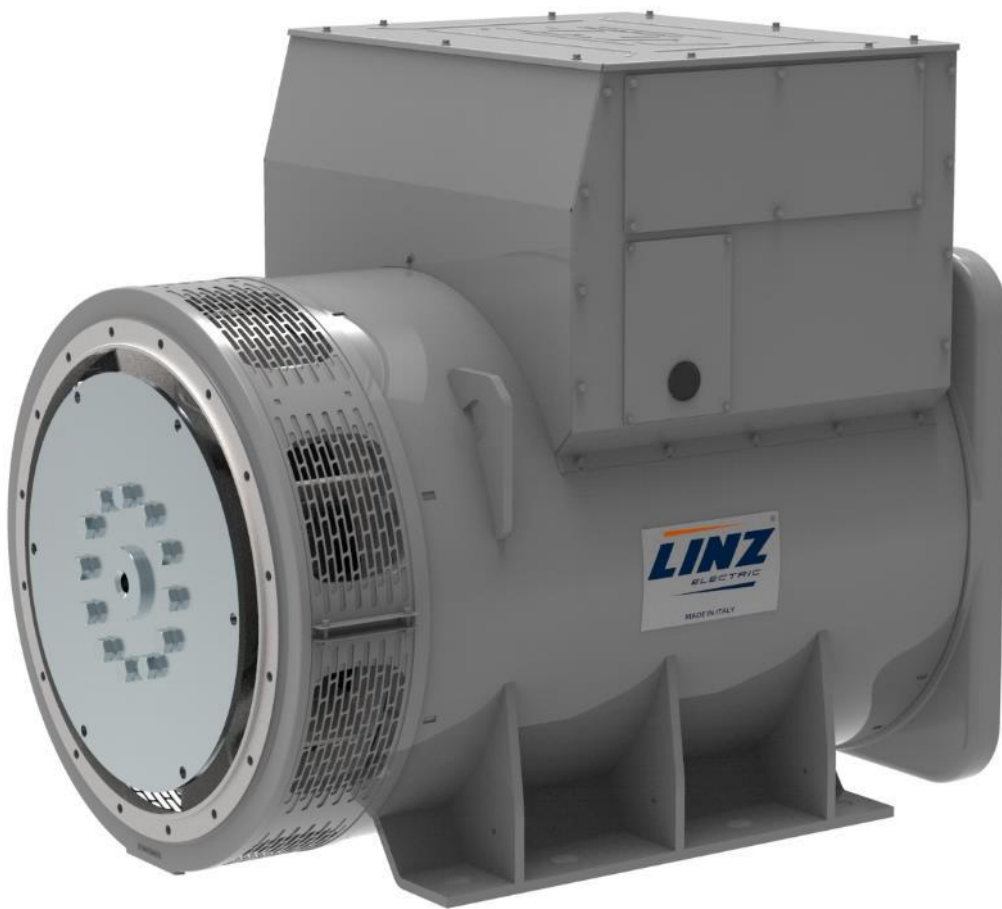


TECHNICAL DATA SHEET



**ALTERNATOR PRO40S B/4**

*Three-Phase brushless synchronous alternator with AVR - 4 poles*

## PRO40S B/4

### COMMON DATA

Rated Power at 50Hz	kVA	1050
Rated Power at 60Hz	kVA	1260
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 <sup>3</sup> /min	94 at 50Hz      113 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	0,00895 at 20°C
Rotor Winding Resistance	Ω	0,687 at 20°C
Exciter Stator Resistance	Ω	13,3 at 20°C
Exciter Rotor Resistance	Ω	0,051 at 20°C
THD at full load		<3%
THD at no load		<3%
Excitation at no load	Adc	0,71
Excitation at full load	Adc	2,98

Note (\*): 230/400V - 460/800V 50Hz  
277/480V - 554/960V 60Hz

### STANDARD

References		EN60034-1 ISO8528-3 EN55011
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## PRO40S B/4

### ELECTRICAL DATA

Frequency		50Hz - 1500rpm				60Hz - 1800rpm			
Voltage Series Star	V	<b>380/220</b>	<b>400/230</b>	<b>415/240</b>	<b>440/254</b>	<b>415/240</b>	<b>440/254</b>	<b>460/266</b>	<b>480/277</b>
Rated Power in Class H (125°C/40°C)	kVA	1050	1050	1050	1010	1100	1200	1260	1260
	kW	840	840	840	808	880	960	1008	1008
Rated Power in Class F (105°C/40°C)	kVA	980	980	980	940	1020	1120	1176	1176
	kW	784	784	784	752	816	896	940,8	940,8
Rated Power Standby (150°C/40°C)	kVA	1140	1140	1140	1100	1130	1280	1370	1370
	kW	912	912	912	880	904	1024	1096	1096
Rated Power Standby (163°C/27°C)	kVA	1180	1180	1180	1110	1200	1320	1416	1416
	kW	944	944	944	888	960	1056	1132,8	1132,8

### EFFICIENCY IN CL. H

4/4	95,6%							96,3%
3/4	95,8%							96,5%
2/4	95,4%							96,1%
1/4	92,7%							93,9%

### REACTANCES AND TIME CONSTANTS

pcc		0,31							
X <sub>d</sub> - dir. axis synchronous		325%	294%	273%	233%	343%	333%	320%	294%
X' <sub>d</sub> - dir. axis transient		35,0%	31,6%	29,4%	25,1%	36,9%	35,8%	34,4%	31,6%
X'' <sub>d</sub> - dir. axis subtransient		15,0%	13,5%	12,5%	10,7%	15,8%	15,3%	14,7%	13,5%
X <sub>q</sub> - quad. axis reactance		173%	156%	145%	124%	182%	176%	170%	156%
T' <sub>do</sub> - O.C. field time constant		1773ms							
T' <sub>d</sub> - Transient time constant		190ms							
T'' <sub>d</sub> - Sub-transient time constant		19ms							

### MECHANICAL DATA

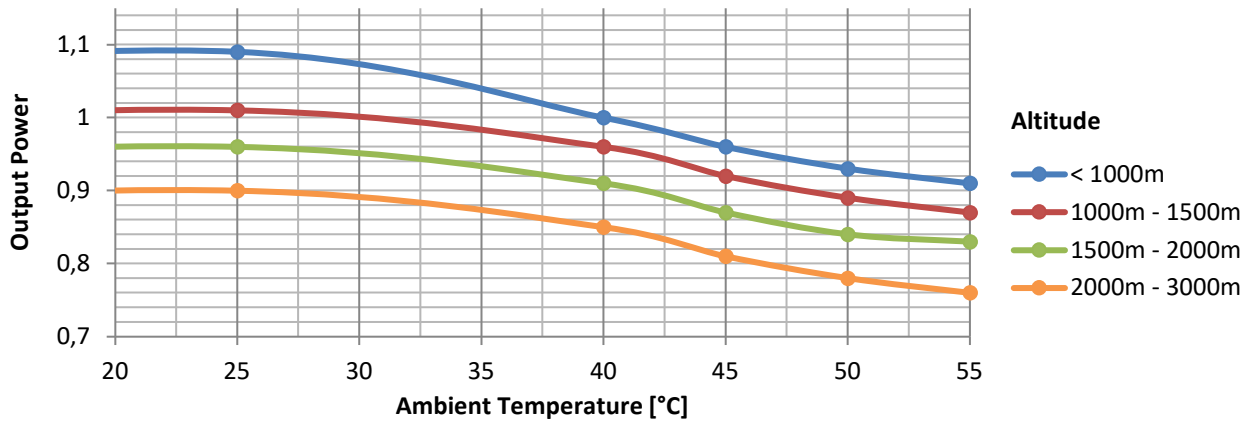
Bearing non drive end	6318-2RS1-C3								
Bearing drive end (B3/B14 form)	6324-C3								
Weight of generator in B2	kg	2045							
generator in B3/B14	kg	2100							

# PRO40S B/4

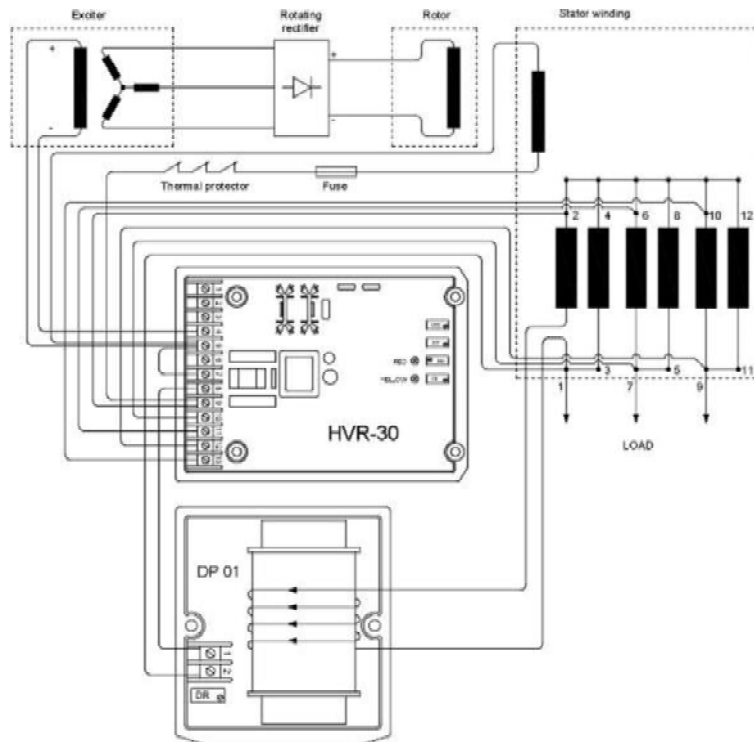
## MOMENT OF INERZIA

SAE 14	kg·m <sup>2</sup>	17,824
SAE 18	kg·m <sup>2</sup>	18,217
SAE 21	kg·m <sup>2</sup>	18,867
B3/B14	kg·m <sup>2</sup>	16,617

## DERATING CURVES



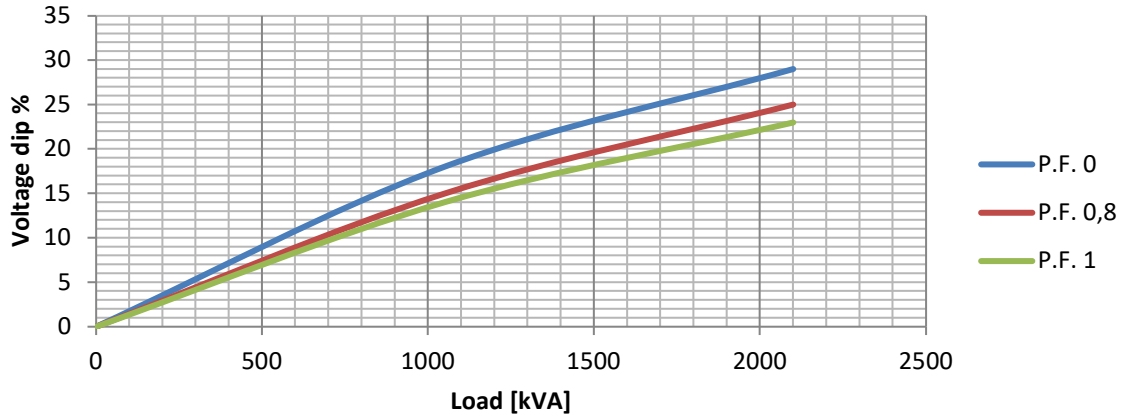
## WIRING DIAGRAM



# PRO40S B/4

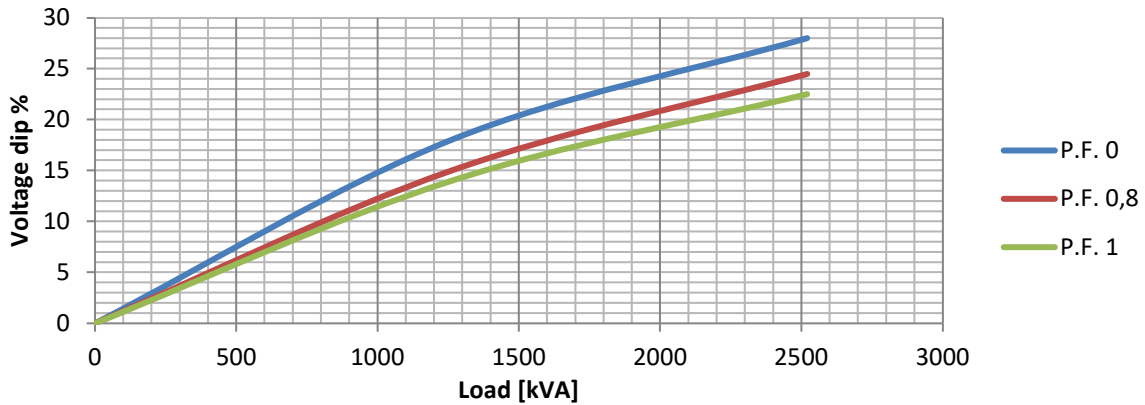
## TRANSIENT VOLTAGE VARIATION 50Hz

### Transient Voltage Variation @ 50Hz



## TRANSIENT VOLTAGE VARIATION 60Hz

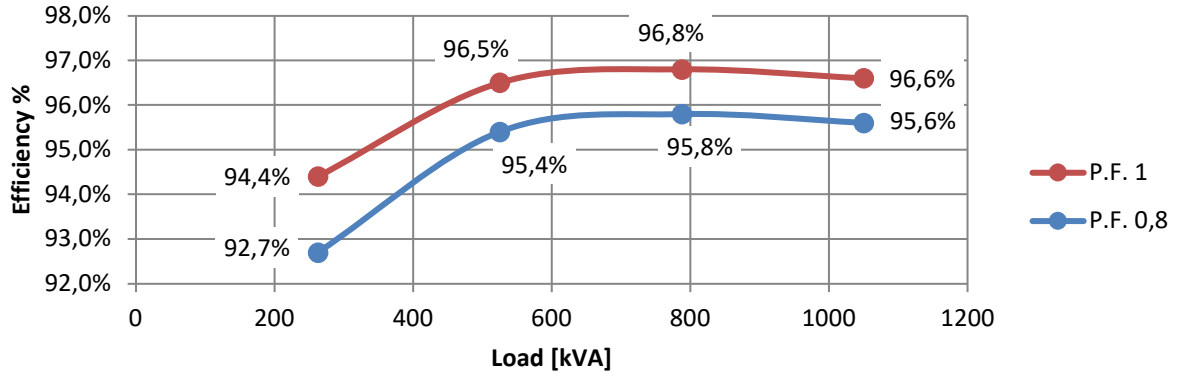
### Transient Voltage Variation @ 60Hz



# PRO40S B/4

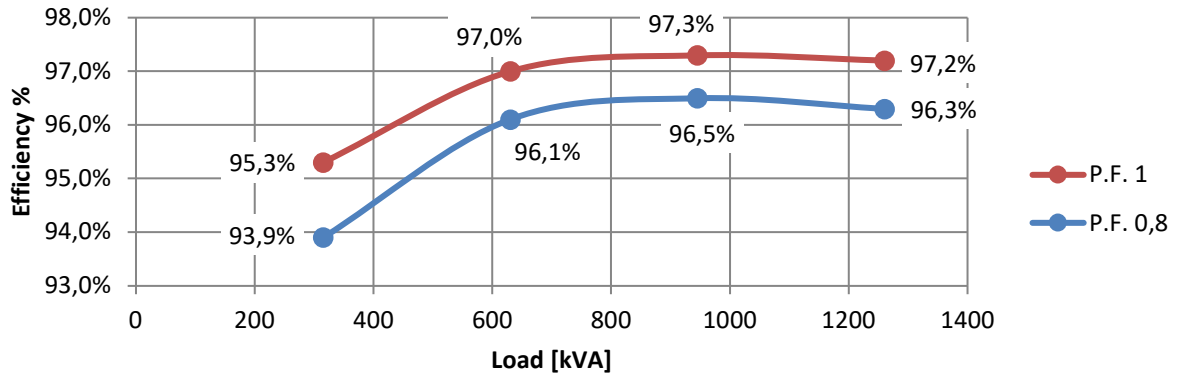
## EFFICIENCY 50Hz

### Efficiency Curves @ 50Hz



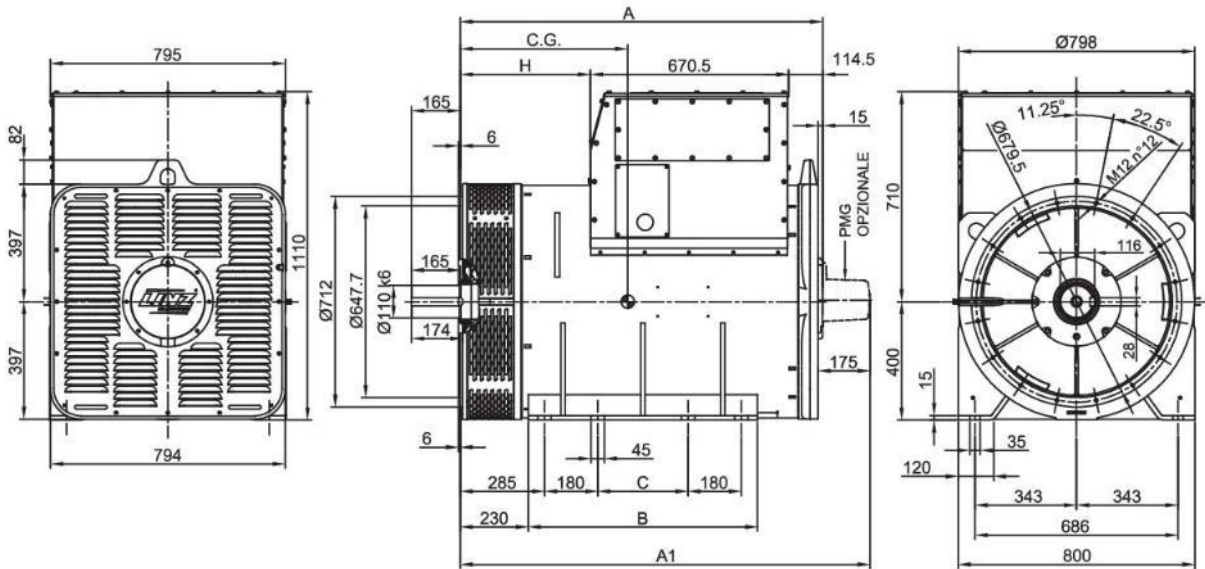
## EFFICIENCY 60Hz

### Efficiency Curves @ 60Hz

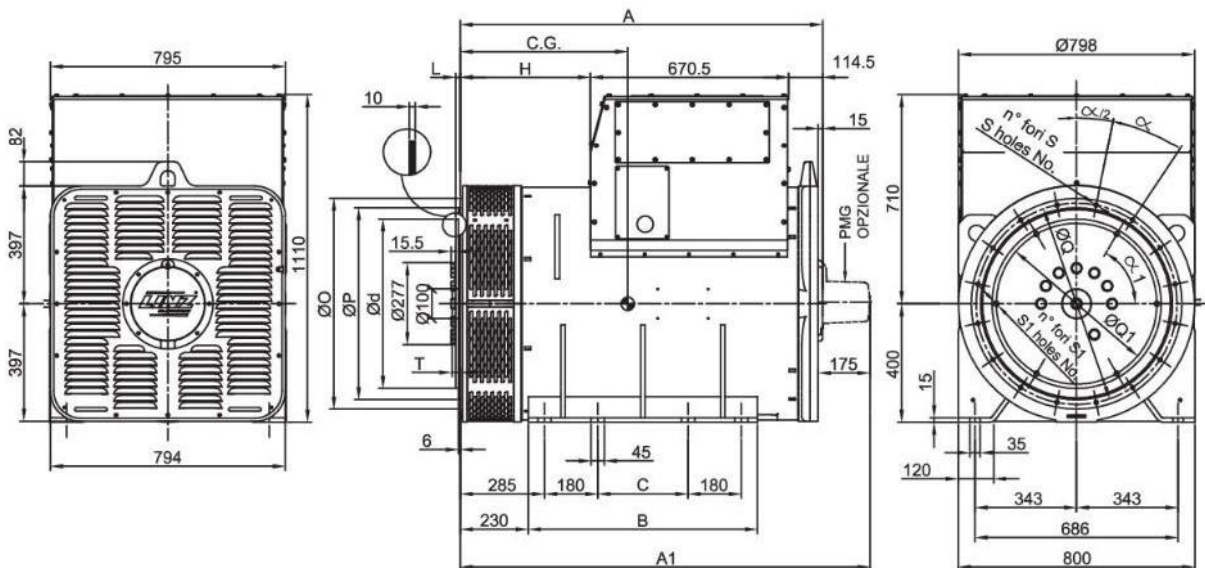


# PRO40S B/4

FORMA - FORM B3/B14



FORMA - FORM SAE



FORMA - FORM	A	H	A1	B	C	
B3/B14	PRO40 S	1225	440	1385	775	305
	PRO40 M	1420	635	1580	775	305
	PRO40 L	1625	840	1785	965	495
SAE	PRO40 S	1225	440	1385	775	305
	PRO40 M	1420	635	1580	775	305
	PRO40 L	1625	840	1785	965	495

TIPO - TYPE	C.G.
PRO40S A/4	597
PRO40S B/4	597
PRO40M C/4	648
PRO40M D/4	693
PRO40L E/4	795

SAE N.	FLANGIE - FLANGES - BRIDAS					
	ØO	ØP	ØQ	n. fori holes No.	S	α
OO	883	787.4	850.9	16	14	22.5°
O	710	647.7	679.5	16	14	22.5°

SAE N.	GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS						
	L	Ød	ØQ1	n. fori holes No.	S1	α1	T
14	25.4	466.72	438.15	8	14	45°	2
18	15.7	571.5	542.92	6	17	60°	12
21	0	673.1	641.35	12	17	30°	28