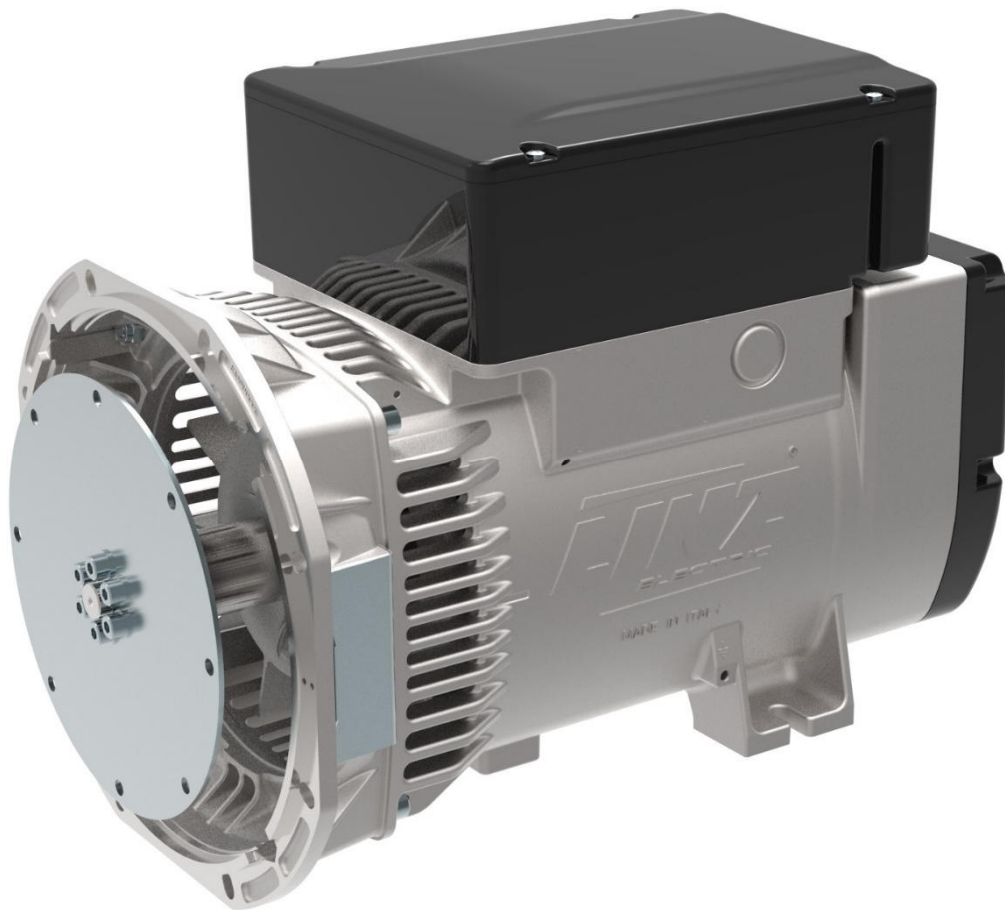


TECHNICAL DATA SHEET



ALTERNATOR E1X13S B/2

Three-Phase brushless synchronous alternator with AVR - 2 poles

E1X13S B/2

COMMON DATA

Rated Power at 50Hz	kVA	10,0	
Rated Power at 60Hz	kVA	12,5	
Rated Power Factor		0,8	
Nominal Temperature	°C	40	
Control System		self-excited	
Execution		brushless	
Regulation Type		AVR	
Insulation Class		H	
Protection		IP21	
Maximum Over speed	rpm	4500	
Overload		110% of rated power for one hour in a cycle of 6 hours	
Air Flow Requirement	m ³ /min	4,0 at 50Hz	4,8 at 60Hz
R.F.I. Suppression		Standard EN55011	

REGULATION DATA

AVR	HVR11	HVR30
Sensing	single-phase	three-phase
Voltage Regulation	±1%	±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	1,07 at 20°C
Rotor Winding Resistance	Ω	9,42 at 20°C
Exciter Stator Resistance	Ω	16,5 at 20°C
Exciter Rotor Resistance	Ω	2,15 at 20°C
THD at full load	<3%	
THD at no load	<3%	
Excitation at no load	A _{dc}	0,19
Excitation at full load	A _{dc}	1,03

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
 CAN/CSA - C22.2 No. 100-14 (R2009) Motors and Generators, UL1004-1 2nd ed. Rotating Electrical Machines - General Requirements, UL1004-4 2nd ed. Electric Generators

E1X13S B/2

ELECTRICAL DATA

Frequency		50Hz - 3000rpm					60Hz - 3600rpm				
Voltage	V	Double Delta	Series High Wye Parallel Low Wye			Double Delta	Series High Wye Parallel Low Wye				
		115/230	380/220 190/110	400/230 200/115	415/240 208/120	440/254 220/127	120/240	415/240 208/120	440/254 220/127	460/266 230/133	480/277 240/138
Rated Power in Class H (125°C/40°C)	kVA	6,5	10,0	10,0	10,0	8,5	7,2	11,0	12,5	12,5	12,5
	kW	5,2	8,0	8,0	8,0	6,8	5,76	8,8	10,0	10,0	10,0
Rated Power in Class F (105°C/40°C)	kVA	6,0	9,5	9,5	9,5	7,8	6,5	10,0	11,5	11,5	11,5
	kW	4,8	7,6	7,6	7,6	6,24	5,2	8,0	9,2	9,2	9,2
Rated Power Standby (150°C/40°C)	kVA	7,2	11,0	11,0	10,8	9,0	8,0	12,0	13,5	13,5	13,5
	kW	5,76	8,8	8,8	8,64	7,2	6,4	9,6	10,8	10,8	10,8
Rated Power Standby (163°C/27°C)	kVA	7,4	11,4	11,4	11,0	9,4	8,4	12,5	14,2	14,2	14,2
	kW	6,92	9,12	9,12	8,8	7,52	6,72	10,0	11,36	11,36	11,36

EFFICIENCY IN CL. H

4/4			81,5%							82,0%
3/4			81,6%							82,3%
2/4			78,0%							78,7%
1/4			74,0%							74,6%

REACTANCES AND TIME CONSTANTS

pcc			0,42							
X _d	- dir. axis synchronous	432%	390%	362%	274%		459%	464%	425%	390%
X' _d	- dir. axis transient	36,6%	33,0%	30,7%	23,2%		38,8%	39,3%	35,9%	33,0%
X'' _d	- dir. axis subtransient	13,3%	12,0%	11,1%	8,4%		14,1%	14,3%	13,1%	12,0%
X _q	- quad. axis reactance	255%	230%	214%	162%		271%	274%	250%	230%
T' _{do}	- O.C. field time constant	320ms								
T' _d	- Transient time constant	27ms								
T'' _d	- Sub-transient time constant	7,9ms								

MECHANICAL DATA

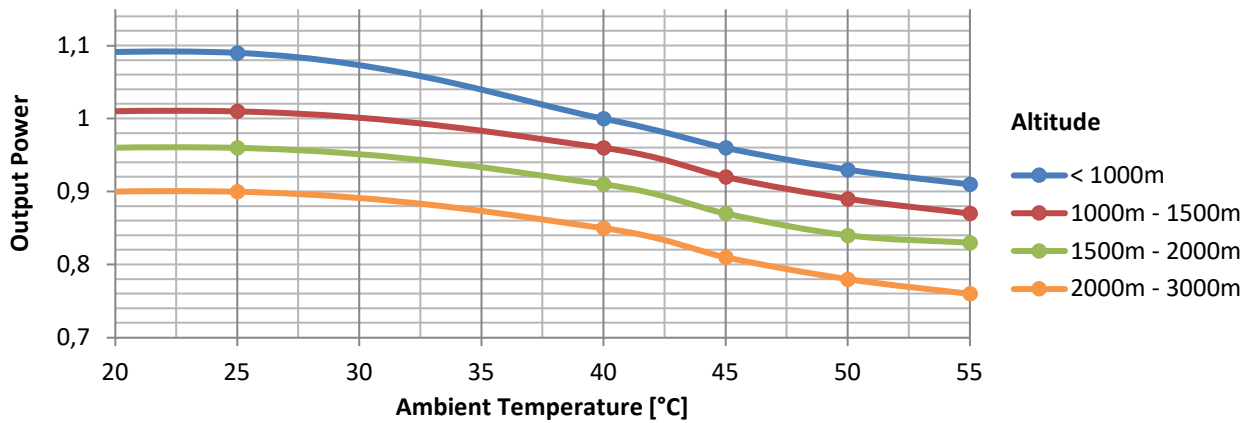
Bearing non drive end					6305-2Z-C3
Bearing drive end (B3/B14 form)					6208-2Z-C3
Weight of generator	in B2	kg			66,0
	in B3/B14	kg			61,9
	in B3/B9	kg			\

E1X13S B/2

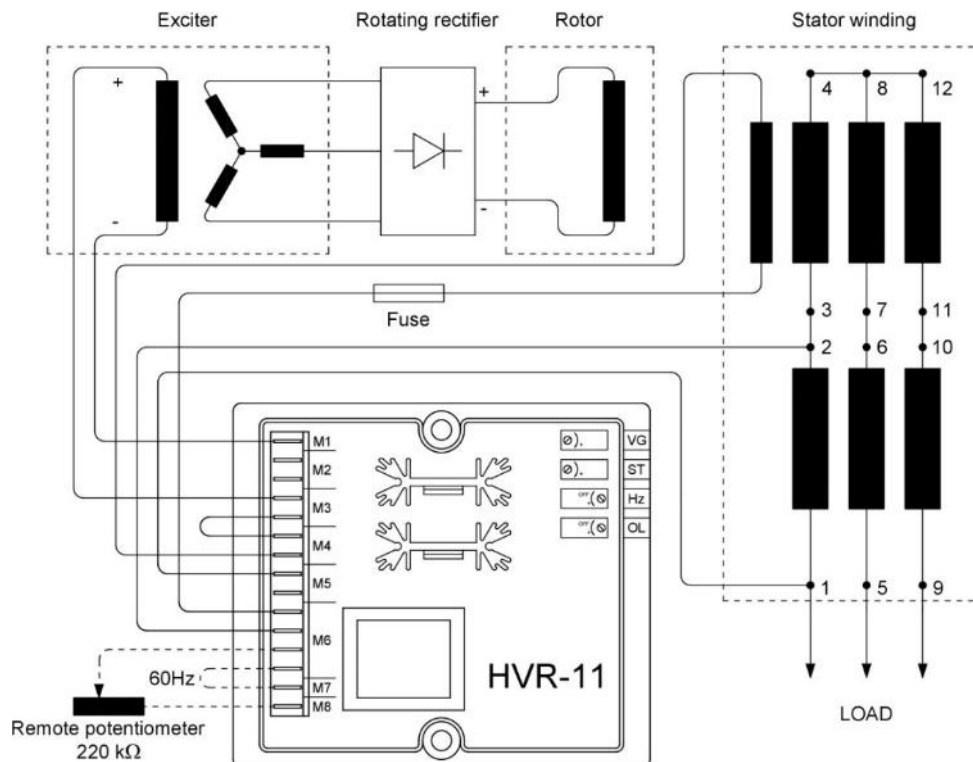
MOMENT OF INERZIA

B3/B9	kg·m ²	\
SAE 7½	kg·m ²	0,060
B2	kg·m ²	0,062

DERATING CURVES



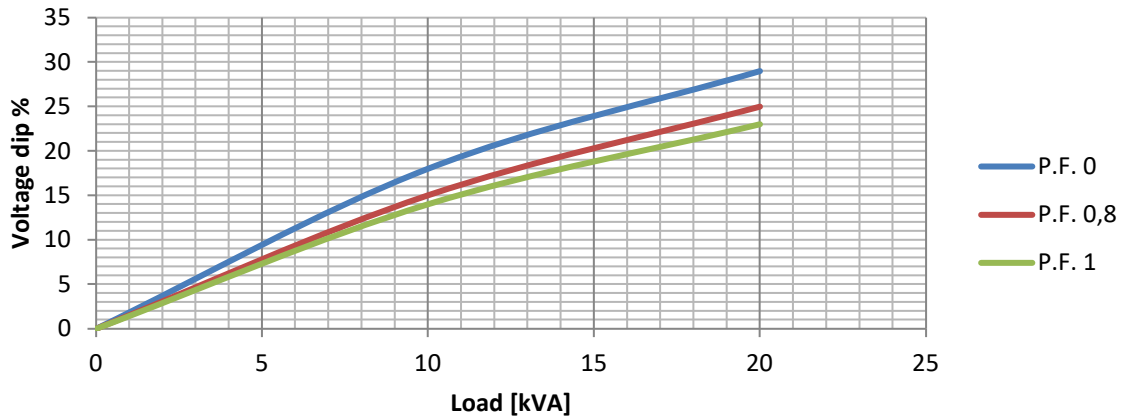
WIRING DIAGRAM



E1X13S B/2

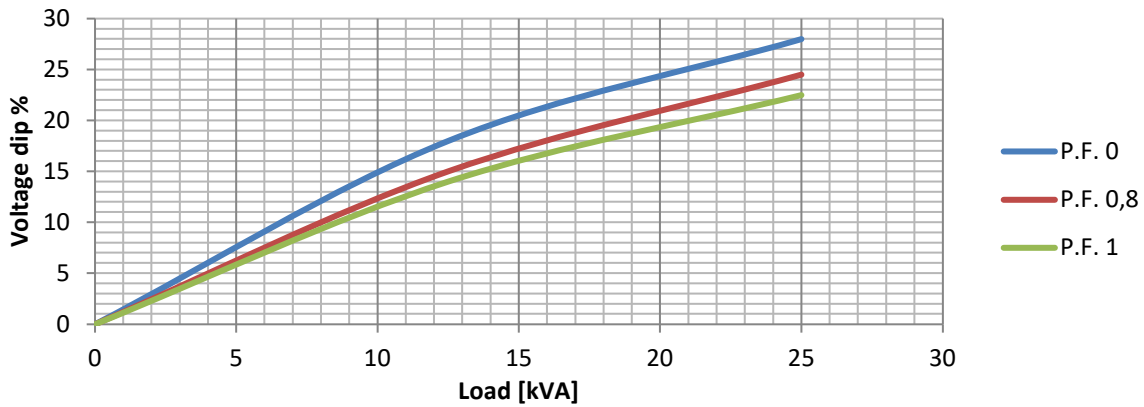
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

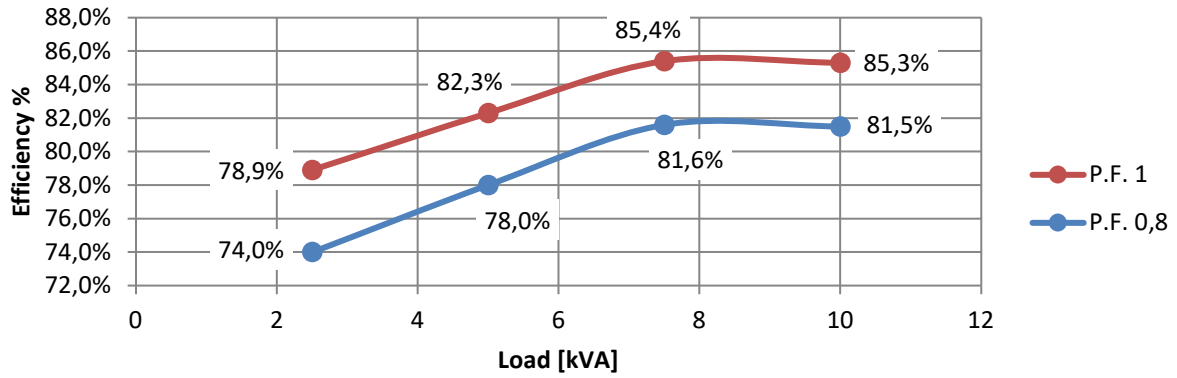
Transient Voltage Variation @ 60Hz



E1X13S B/2

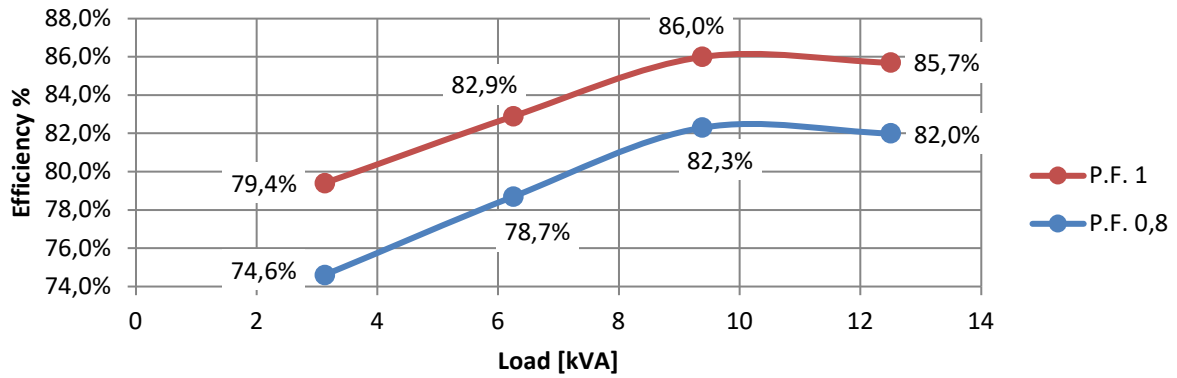
EFFICIENCY 50Hz

Efficiency Curves @ 50Hz



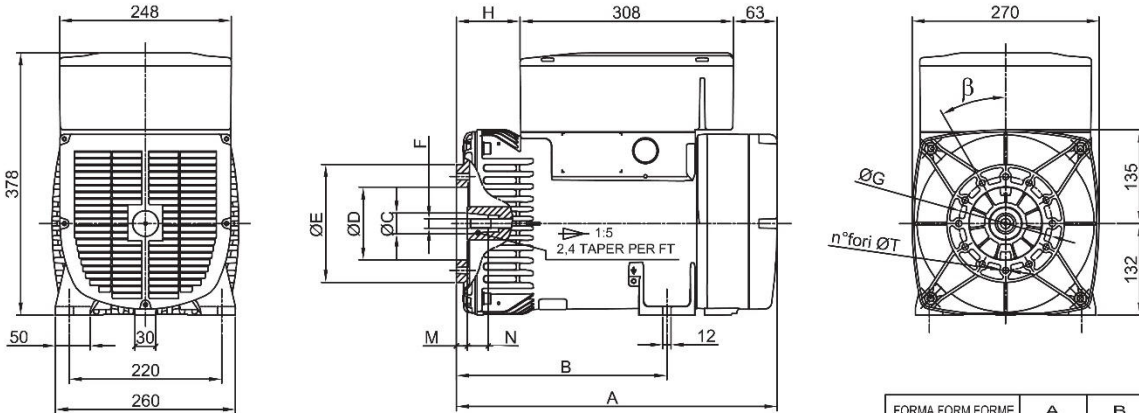
EFFICIENCY 60Hz

Efficiency Curves @ 60Hz



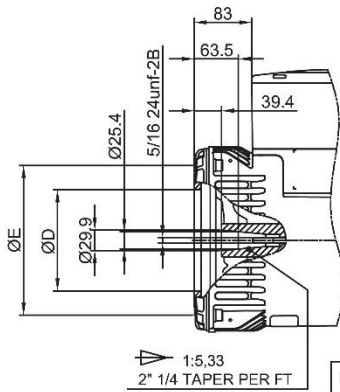
E1X13S B/2

FORMA FORM FORME B3/B9



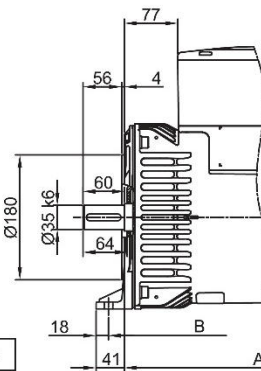
FORMA FORM FORME	$\varnothing C$	$\varnothing D$	$\varnothing E$	F	$\varnothing G$	H	M	N	n° fori	$\varnothing T$	β
cono $\varnothing 30$	$\varnothing 30$	$\varnothing 105$	$\varnothing 170$	M14x1.5	$\varnothing 135$	92	16	30	12	$\varnothing 9$	30°
cono $\varnothing 38$	$\varnothing 38$	$\varnothing 125$	$\varnothing 185$	M18x1.5	$\varnothing 150$	83	5	30	4	$\varnothing 11$	$\beta/2$ 45°

FORMA FORM FORME	A	B
B3B9 cono $\varnothing 30$	463	304
B3B9 c. $\varnothing 38$ -J609b	454	295
B3/B14	448	312
MD35 - LOMB. STD	496	337



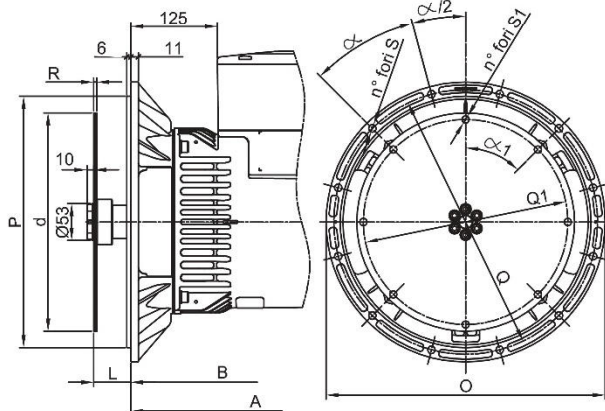
FORMA FORM FORME J609b

FORMA FORM FORME	$\varnothing D$	$\varnothing E$	$\varnothing G$
J609b	$\varnothing 146$	$\varnothing 192$	$\varnothing 165$
	$\varnothing 163.6$	$\varnothing 216$	$\varnothing 196.85$
	$\varnothing 177.8$		

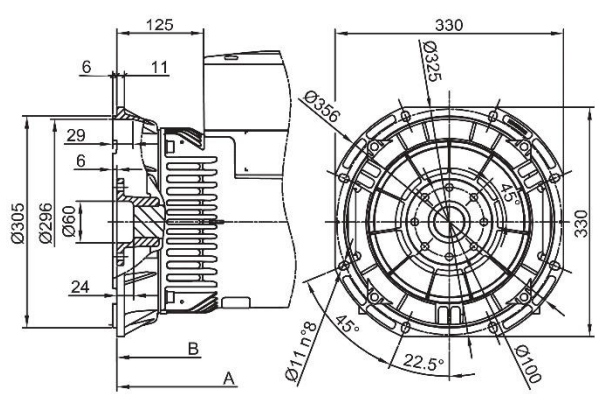


FORMA FORM FORME B3/B14

FORMA FORM FORME MD35



FORMA FORM FORME LOMBARDINI STD



SAE N.	FLANGIE - BRIDE - FLANGE					\varnothing
	O	P	Q	n. fori	S	
5	356	314.3	333.4	8	11	45°
4	403	362	381	12		30
3	451	409.6	428.6	12		30

SAE N.	GIUNTI A DISCO - DISC COUPLING - ACC. DISQUE						
	L	d	Q1	n. fori	S1	$\varnothing 1$	R
6 1/2	30.2	215.9	200	6	9	60°	3
7 1/2	30.2	241.3	222.25	8	9	45°	
8	62	263.52	244.47	6	10.5	60	4.5
10	53.8	314.32	295.27	8	10.5	45°	
11 1/2	39.6	352.42	333.37	8	10.5	45°	