



## TECHNICAL DATA SHEET



## ALTERNATOR E1S11M AS

*Three-Phase synchronous alternator with brushes and compound - 2 poles*



## E1S11M AS

### COMMON DATA

Rated Power at 50Hz	kVA	11,5	
Rated Power at 60Hz	kVA	14,0	
Rated Power Factor		0,8	
Nominal Temperature	°C	40	
Control System		self-excited	
Execution		with brushes	
Regulation Type		compound	
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 <sup>3</sup> /min	4,9 at 50Hz	5,9 at 60Hz
R.F.I. Suppression		Standard EN55011	

### REGULATION DATA

Compound	Compound
Voltage Regulation	±4%
Sustained Short Circuit	> 300% of rated current

### WINDING DATA

Stator Winding	Single layer with auxiliary winding		
Rotor Winding	with damping cage		
Number of Leads of Stator	6		
Stator Winding Resistance	Ω	0,63 at 20°C	
Rotor Winding Resistance	Ω	22,3 at 20°C	
THD at full load	<4% (L-L)		
THD at no load	<3% (L-L)		
Excitation at no Load	Adc	1,35	
Excitation at full Load	Adc	4,8	

### 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



## E1S11M AS

### ELECTRICAL DATA

Frequency		50Hz - 3000rpm	60Hz - 3600rpm
Voltage Series Star	V	<b>400/230</b>	<b>480/277</b>
Rated Power in Class H (125°C/40°C)	kVA	11,5	14,0
	kW	9,2	11,2
Rated Power in Class F (105°C/40°C)	kVA	10,7	13,0
	kW	8,56	10,4

### EFFICIENCY IN CL. H

4/4	83,0%	83,5%
3/4	83,2%	83,7%
2/4	81,0%	81,6%
1/4	80,5%	81,2%

### REACTANCES AND TIME CONSTANTS

Pcc	0,62
X <sub>d</sub> - dir. axis synchronous	280%
X' <sub>d</sub> - dir. axis transient	21,0%
X'' <sub>d</sub> - dir. axis subtransient	5,8%
X <sub>q</sub> - quad. axis reactance	155%
T' <sub>do</sub> - O.C. field time constant	530ms
T' <sub>d</sub> - Transient time constant	40ms
T'' <sub>d</sub> - Sub-transient time constant	6ms

### MECHANICAL DATA

Bearing non drive end	6205-2Z-C3	
Bearing drive end (B3/B14 form)	6207-2Z-C3	
Weight of generator	in B2 kg	50,6
	in B3/B14 kg	46,0
	in B3/B9 kg	45,3

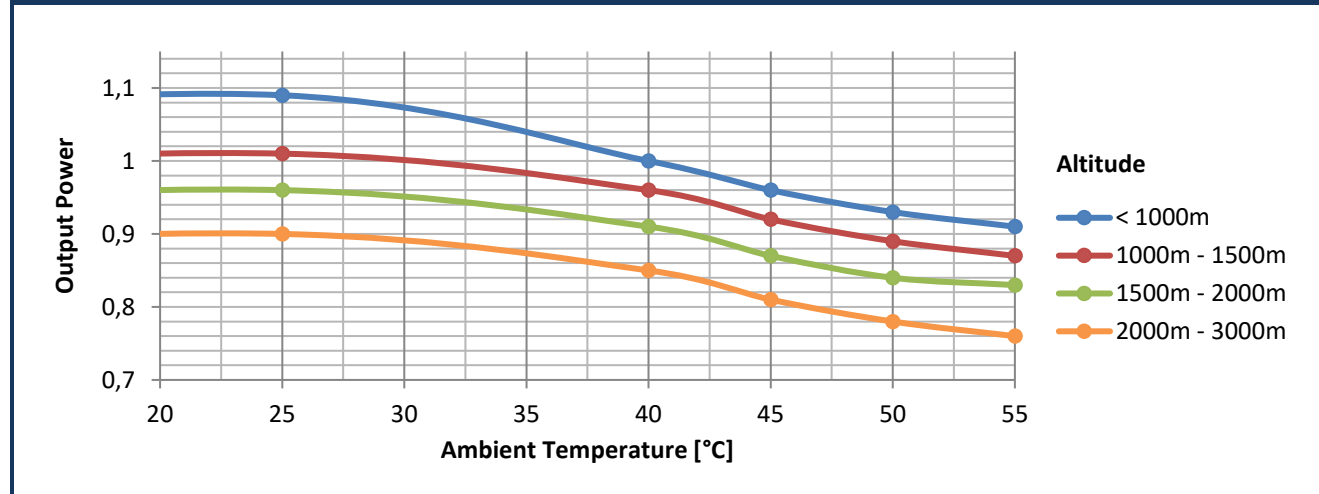


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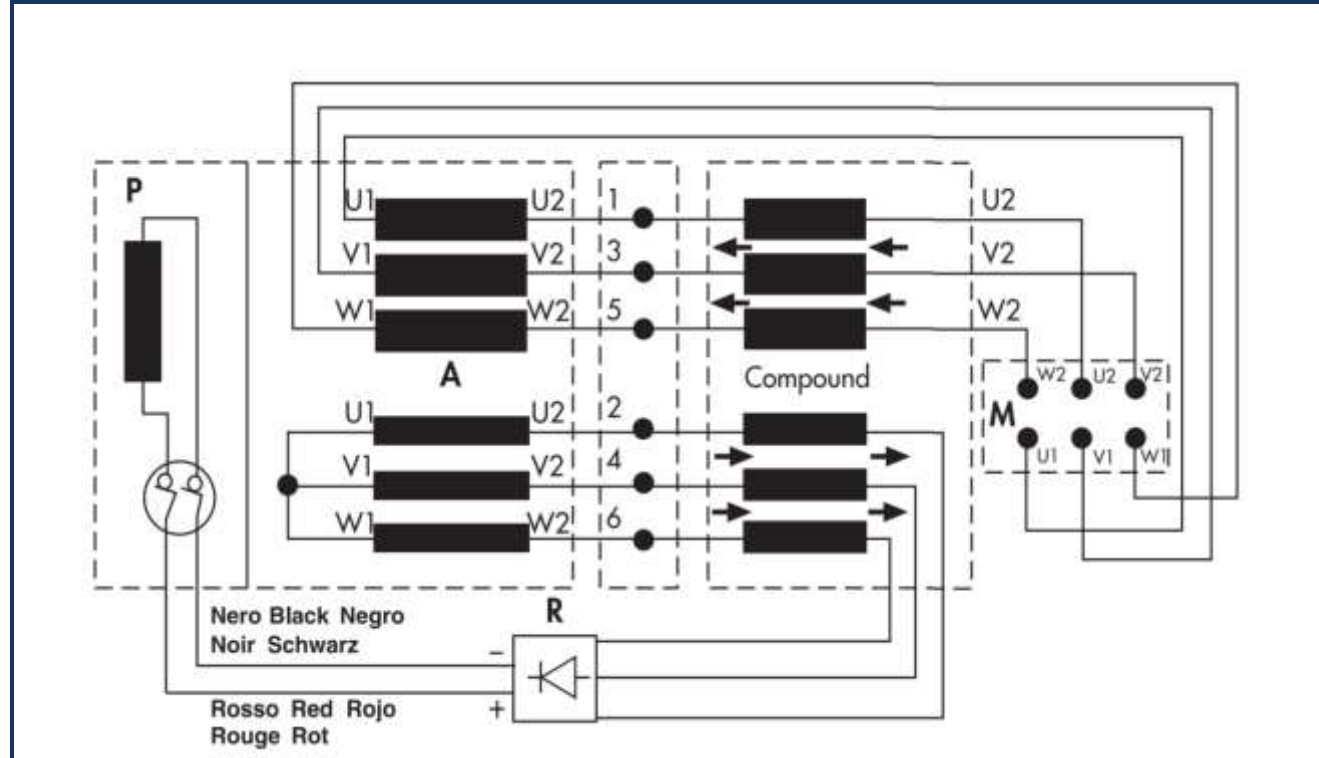
## MOMENT OF INERZIA

B3/B9	kg·m <sup>2</sup>	0,024
B2	kg·m <sup>2</sup>	0,024
B3/B14	kg·m <sup>2</sup>	0,024

## DERATING CURVES



## WIRING DIAGRAM

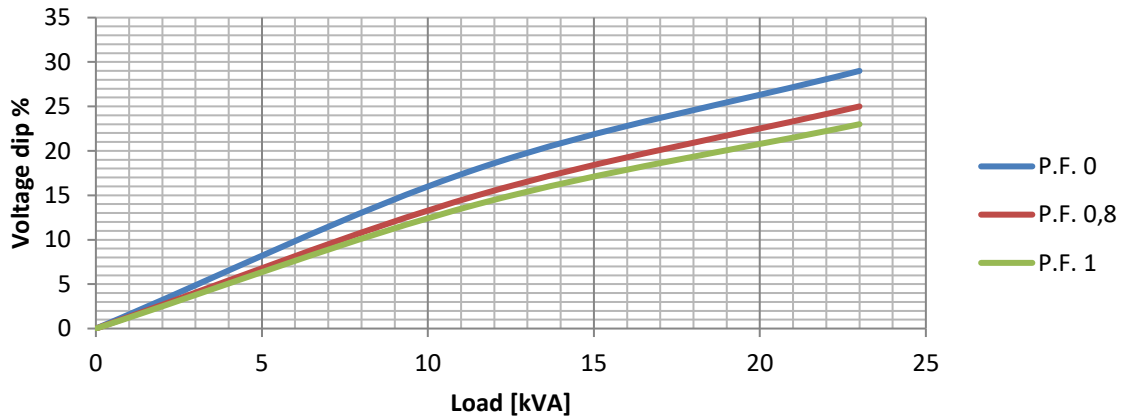




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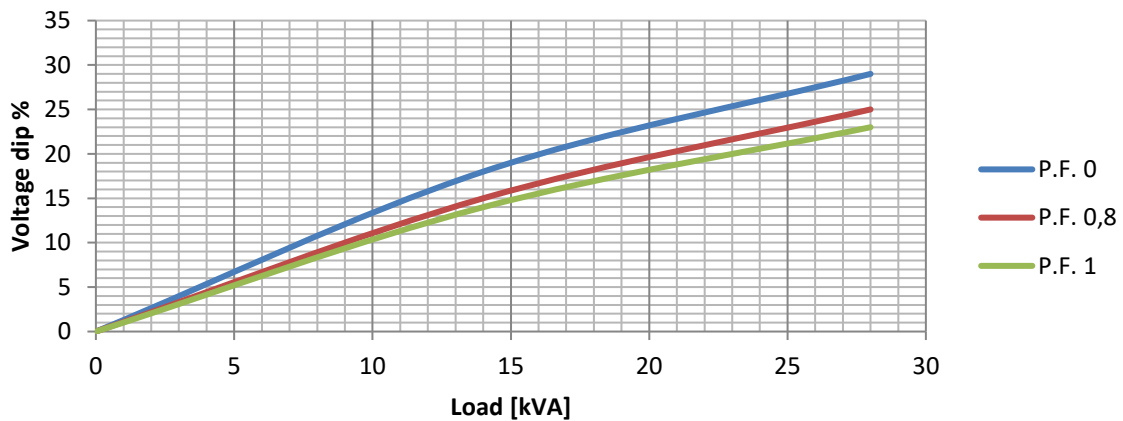
## TRANSIENT VOLTAGE VARIATION 50Hz

### Transient Voltage Variation @ 50Hz



## TRANSIENT VOLTAGE VARIATION 60Hz

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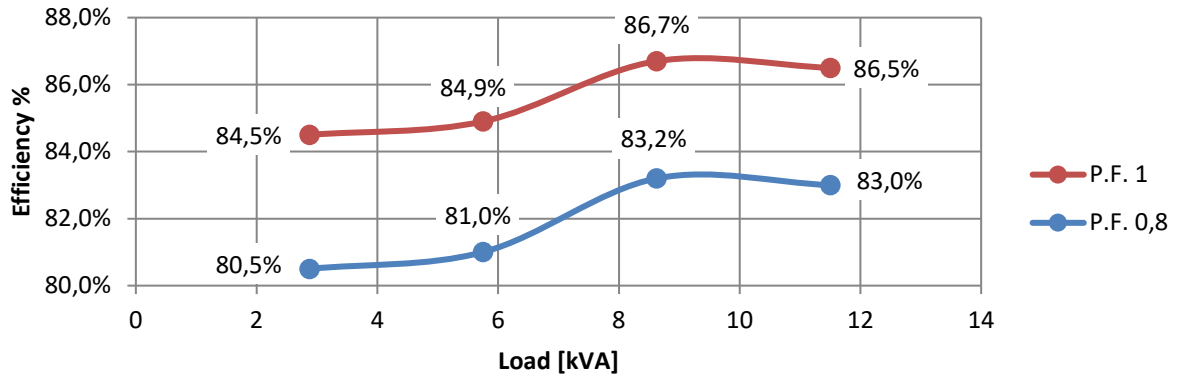




# E1S11M AS

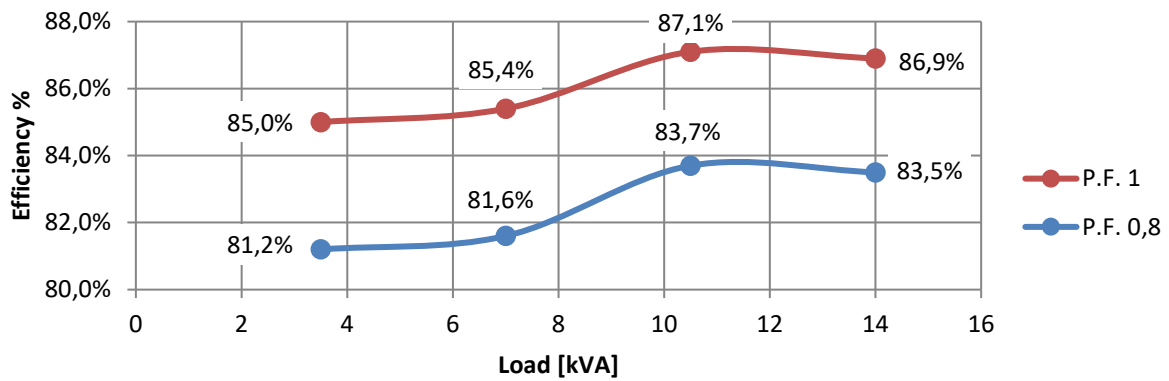
## EFFICIENCY 50Hz

### Three Phase Efficiency Curves @ 50Hz



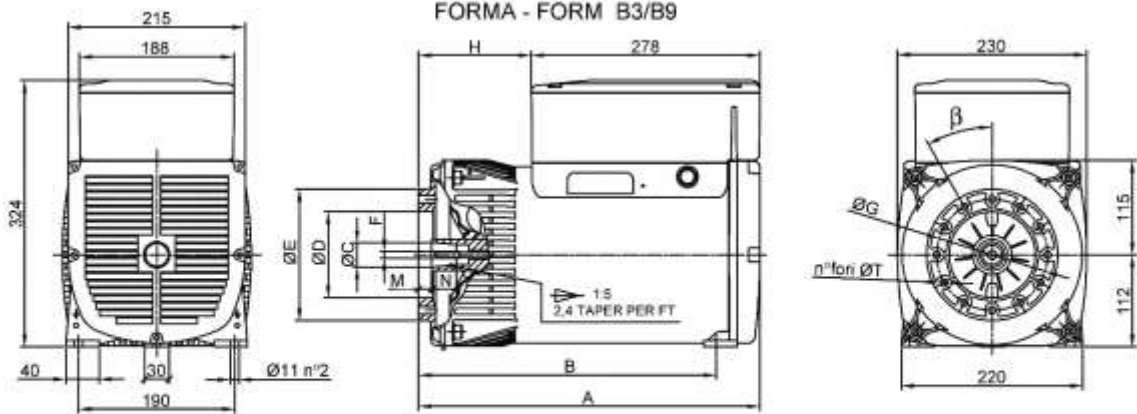
## EFFICIENCY 60Hz

### Three Phase Efficiency Curves @ 60Hz



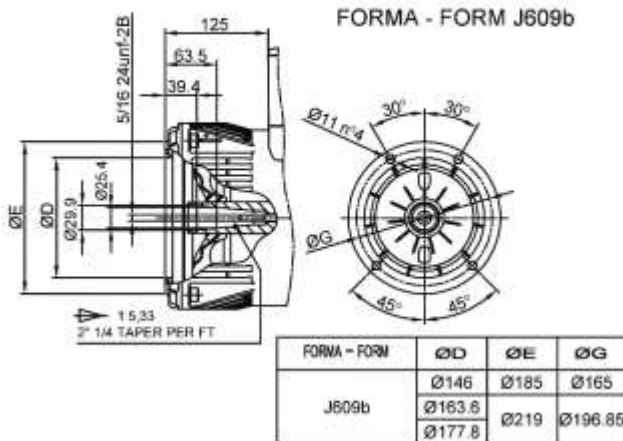


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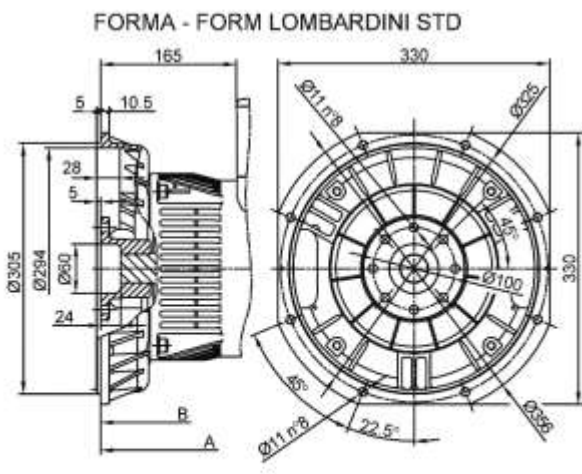
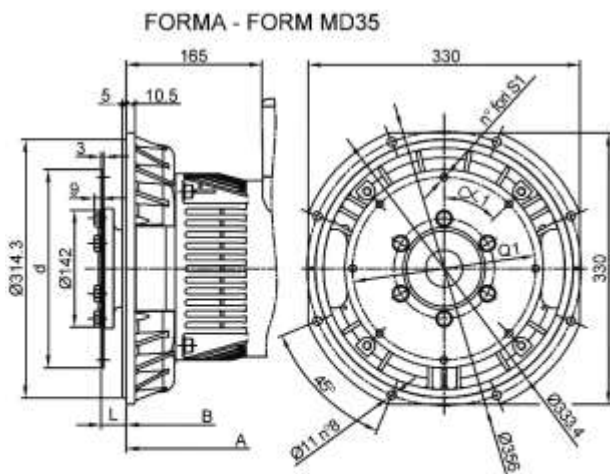
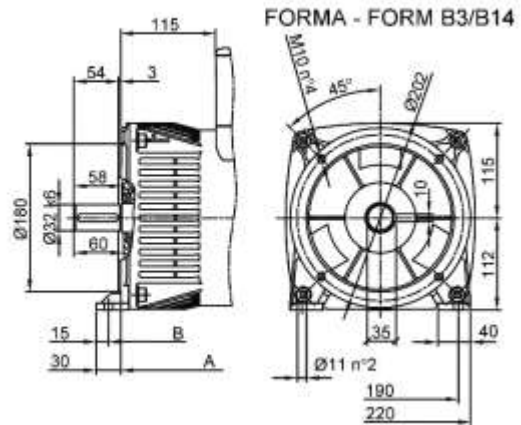


FORMA - FORM	A	B
B3-B9 cono Ø23 Ø30	415	362
B3-B9 cono Ø38	398.5	345.5
J609b	403	350
B3/B14	393	355
MD35-LOMB.STD	443	390

FORMA - FORM	ØC	ØD	ØE	F	ØG	H	M	N	n°fori	ØT	β
cono Ø23	Ø23	Ø105	Ø160	M8	Ø135	137	8	25	12	Ø9	30°
cono Ø30	Ø30			M14x1.5							
cono Ø38	Ø38	Ø125	Ø185	M18x1.5	Ø150	120.5	5	30	4	Ø11	β/2 45°



FORMA - FORM	ØD	ØE	ØG
J609b	Ø146	Ø185	Ø165
	Ø163.6	Ø219	Ø196.85
	Ø177.8		



SAE	GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS					
N.	L	d	Q1	n. fori	S1	α1
6 1/2	30.2	215.9	200	6	9	60°
7 1/2	30.2	241.3	222.25	6	9	45°