



ALTERNATOR E1S11M AS

three-phase synchronous alternator with brushes and compound - 2 poles

Technical Data Sheet

E1S11M AS

COMMON DATA

Rated Power at 50Hz	kVA	11.5	
Rated Power at 60Hz	kVA	14	
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 Overspeed	rpm	4500	
Overload		110% of rated power for one hour in a cycle of 6 hours	
Air Flow Requirement	m ³ /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		0.63 at 20°C	
Rotor Winding Resistance		22.3 at 20°C	
THD at full load		<4% (L-L)	
THD at no load		<3% (L-L)	
Excitation at no load	A _{dc}	1.35	
Excitation at full load	A _{dc}	4.8	

STANDARD

References		EN60034-1 ISO8528-3 EN55011	
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ELECTRICAL DATA

Frequency		50Hz - 3000rpm		60Hz - 3600rpm	
Voltage Series Star	V		400/230		480/277
Rated Power in Class H (125°C/40°C)	kVA		11.5		14
	kW		9.2		11.2
Rated Power in Class F (105°C/40°C)	kVA		10.7		13
	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 _d - dir. axis synchronous		280%
X' _d - dir. axis transient		21.0%
X'' _d - dir. axis subtransient		5.8%
X _q - quad. axis reactance		155%
T' _{do} - O.C. field time constant		530ms
T' _d - Transient time constant		40ms
T'' _d - 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
	in B3/B9	kg	45.3

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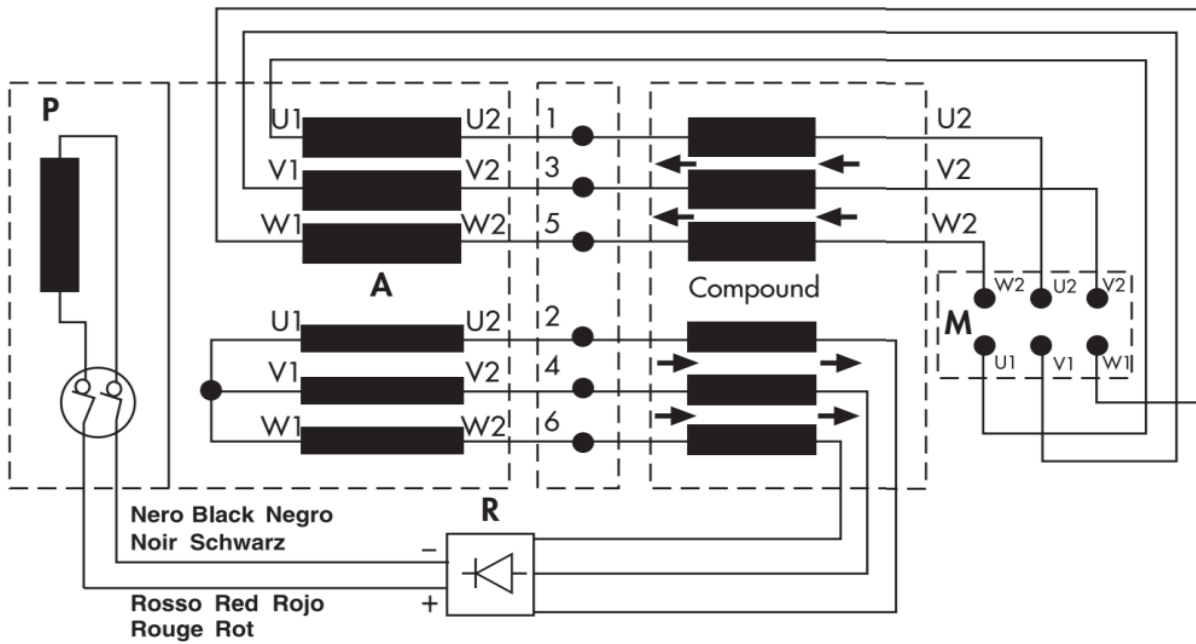
MOMENT OF INERZIA

B3/B9	kg·m ²	0.024
B2	kg·m ²	0.024
B3/B14	kg·m ²	0.024

POWER VARIATION ACCORDING TO TEMPERATURE AND ALTITUDE

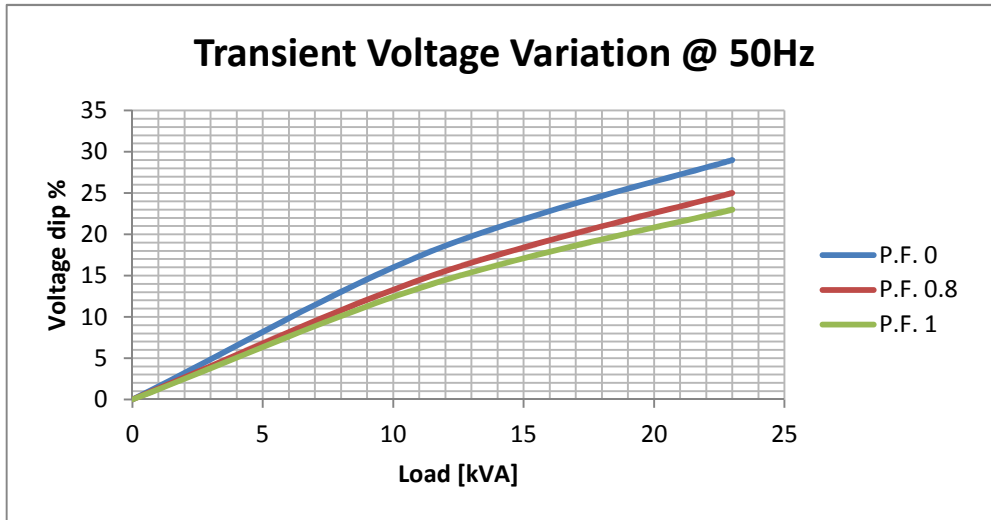
Altitude	Ambient temperature				
	25°C	40°C	45°C	50°C	55°C
< 1000m	1.09	1	0.96	0.93	0.91
1000m - 1500m	1.01	0.96	0.92	0.89	0.87
1500m - 2000m	0.96	0.91	0.87	0.84	0.83
2000m - 3000m	0.9	0.85	0.81	0.78	0.76

WIRING DIAGRAM

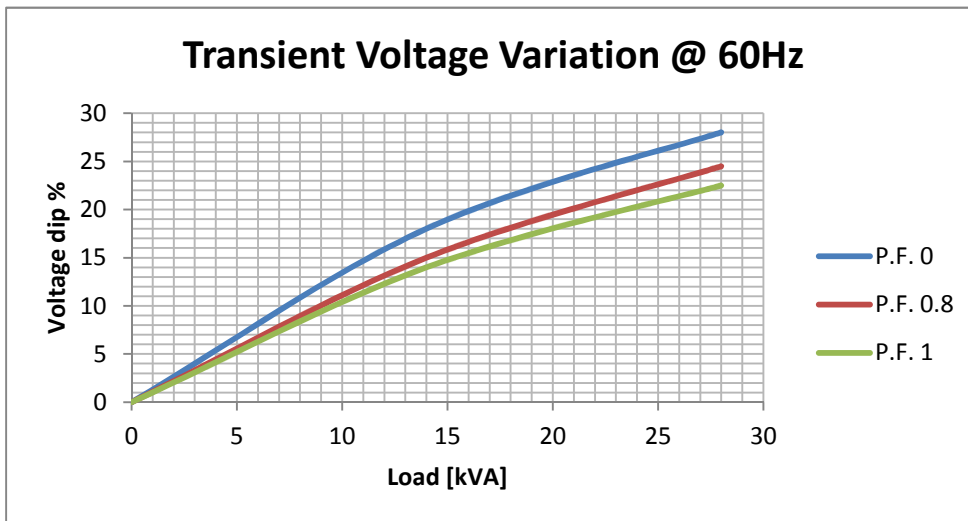


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TRANSIENT VOLTAGE VARIATION 50Hz

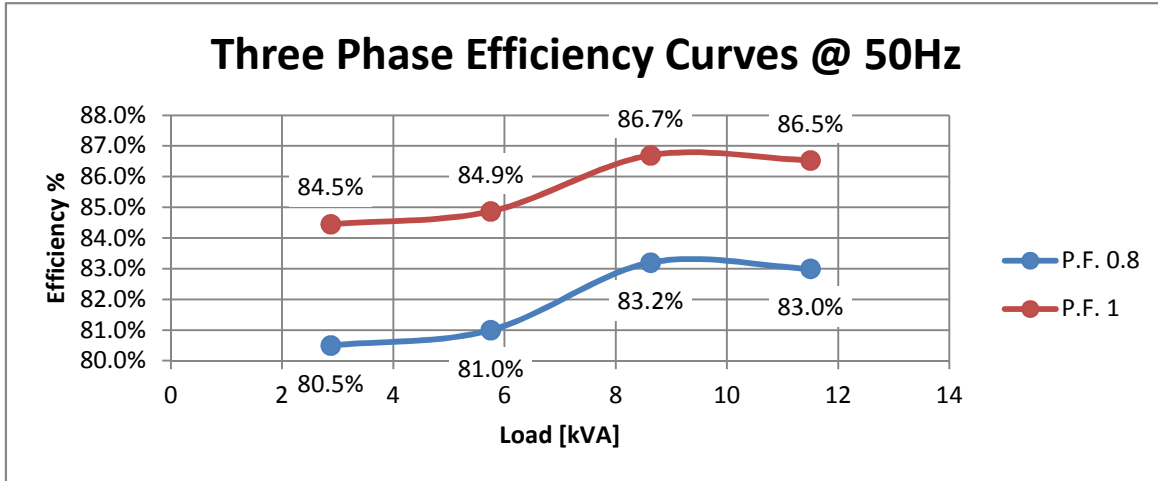


TRANSIENT VOLTAGE VARIATION 60Hz

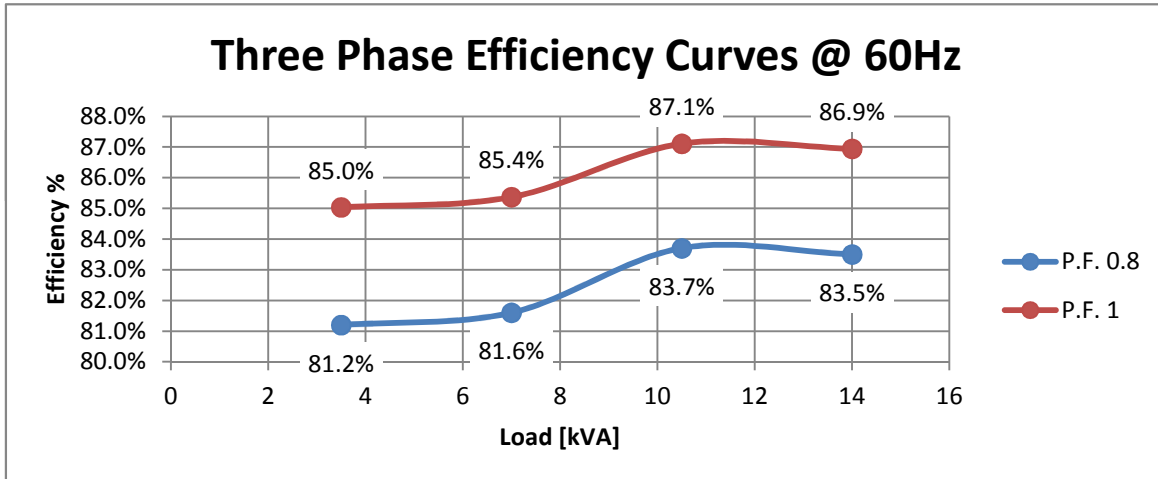


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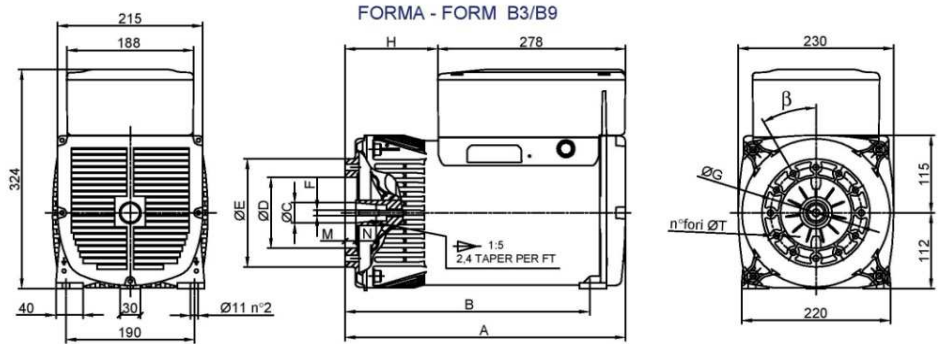
EFFICIENCY 50Hz



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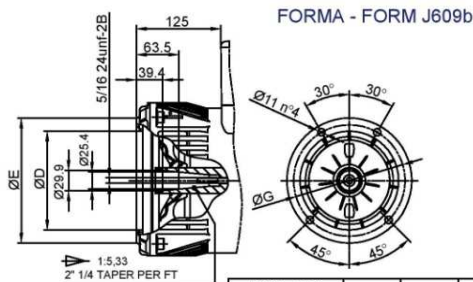


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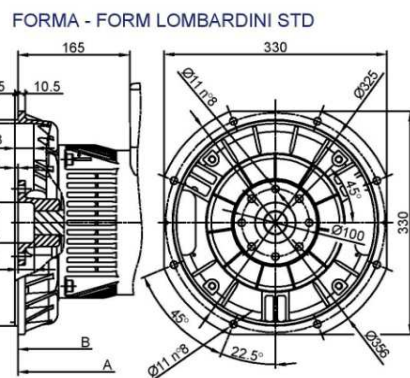
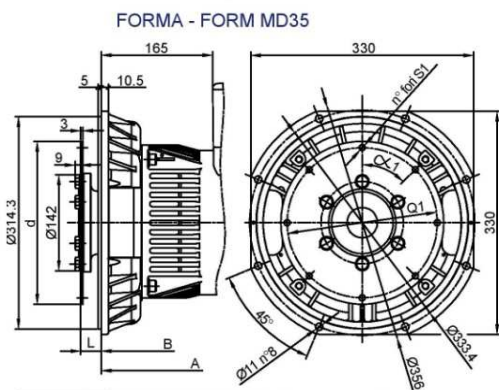
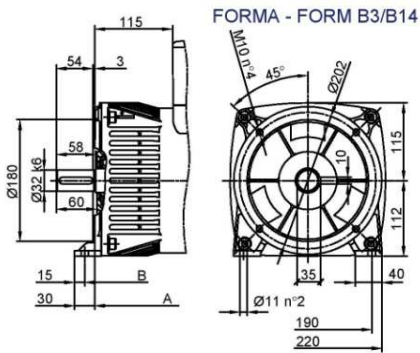


FORMA - FORM	A	B
B3-B9 cono Ø23 Ø30	415	362
B3-B9 cono Ø38	398.5	345.5
J069b	403	350
B3B14	393	355
MD35-LOMB.STD	443	390

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	8	9	45°