



ALTERNATOR E1S11M B KE

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

Technical Data Sheet

E1S11M B KE

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		avr and 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	4.8 at 50Hz	5.8 at 60Hz
R.F.I. Suppression		Standard EN55011	

REGULATION DATA

avr and compound		Compound and HVR10	
Voltage Regulation		±1%	
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		0.46 at 20°C	
Rotor Winding Resistance		24.6 at 20°C	
THD at full load		<4% (L-L)	
THD at no load		<3% (L-L)	
Excitation at no load	A _{DC}	1.45	
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	10.5	12.8
	kW	8.4	10.24

EFFICIENCY IN CL. H

4/4	83.5%	84.0%
3/4	83.7%	84.3%

REACTANCES AND TIME CONSTANTS

pcc	0.72
X _d - dir. axis synchronous	239%
X' _d - dir. axis transient	19.0%
X'' _d - dir. axis subtransient	4.6%
X _q - quad. axis reactance	130%
T' _{do} - O.C. field time constant	580ms
T' _d - Transient time constant	46ms
T'' _d - Sub-transient time constant	5.9ms

MECHANICAL DATA

Bearing non drive end	6205-2Z-C3	
Bearing drive end (B3/B14 form)	6207-2Z-C3	
Weight of generator	in B2 kg	56.8
	in B3/B14 kg	52.2
	in B3/B9 kg	51.5

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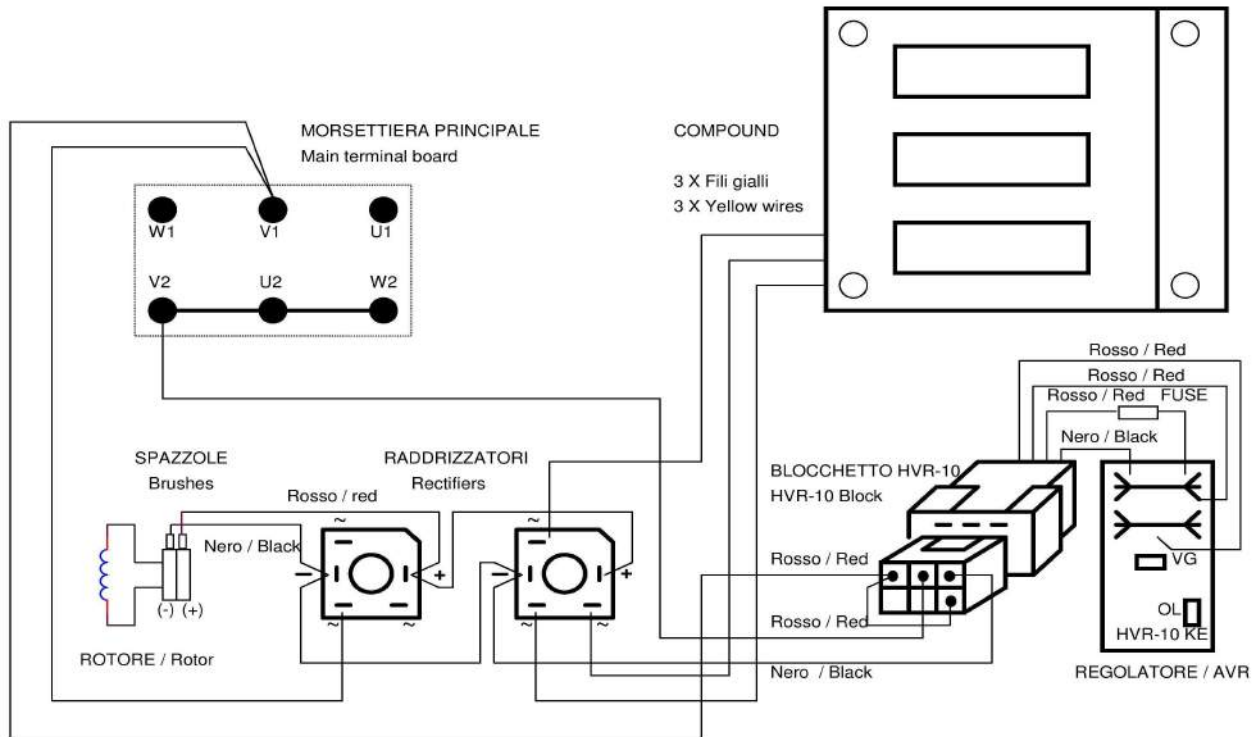
MOMENT OF INERZIA

B3/B9	kg·m ²	0.027
B3/B14	kg·m ²	0.027
B2	kg·m ²	0.027

POWER VARIATION ACCORDING TO TEMPERATURE AND ALTITUDE

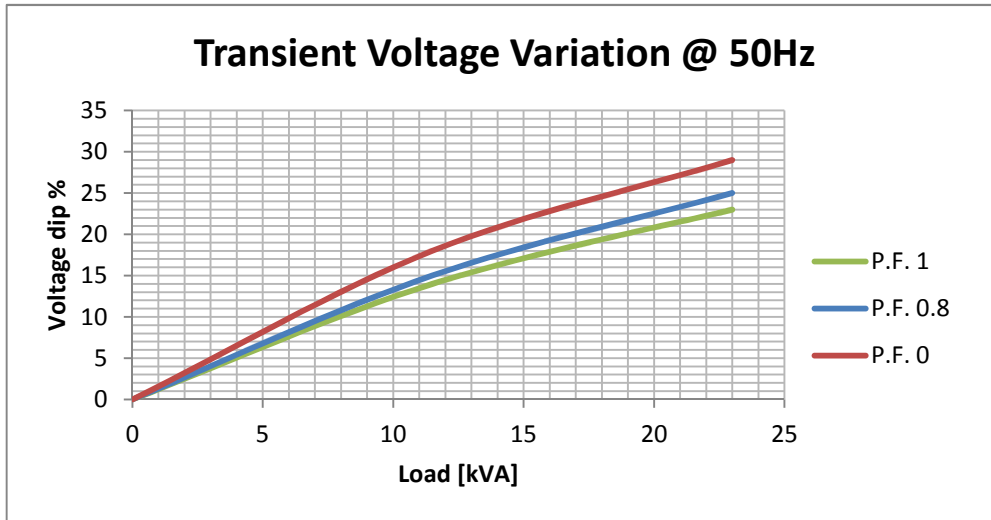
Altitude	Ambient temperature				
	25°C	40°C	45°C	50°C	55°C
< 1000m	1.09	1	0.96	0.93	0.91
1000m - 1500m	1.01	0.96	0.92	0.89	0.87
1500m - 2000m	0.96	0.91	0.87	0.84	0.83
2000m - 3000m	0.9	0.85	0.81	0.78	0.76

WIRING DIAGRAM

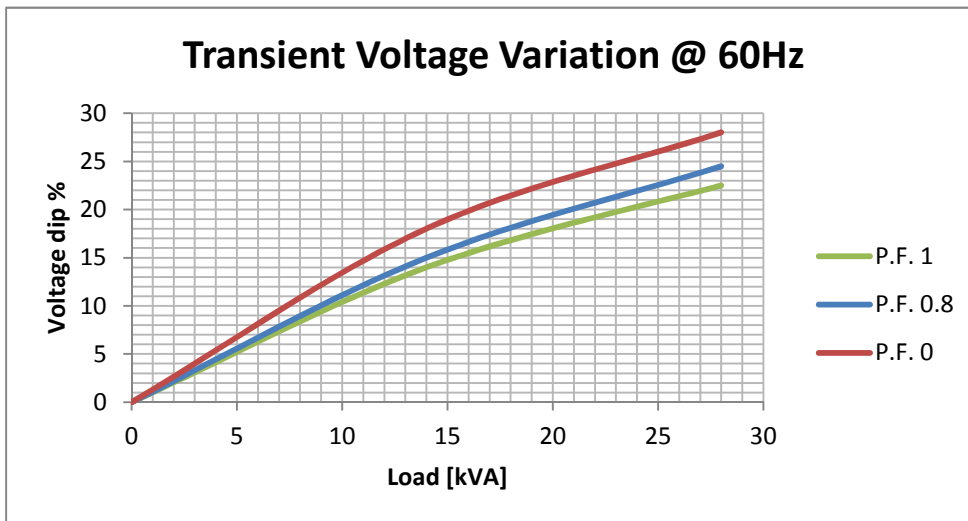


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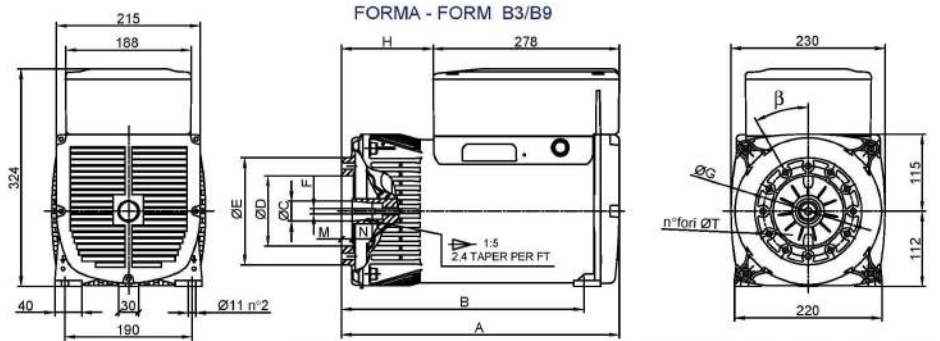
TRANSIENT VOLTAGE VARIATION 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

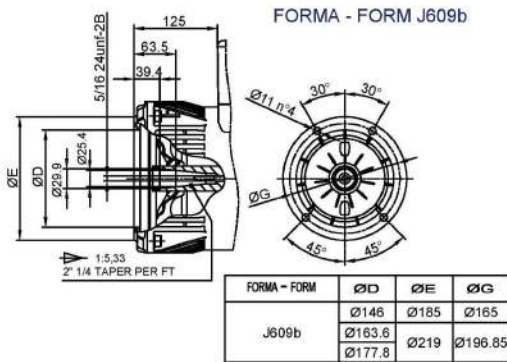


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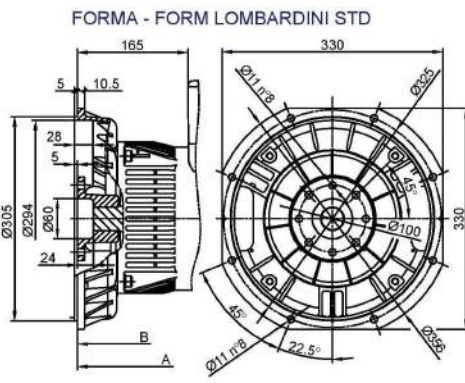
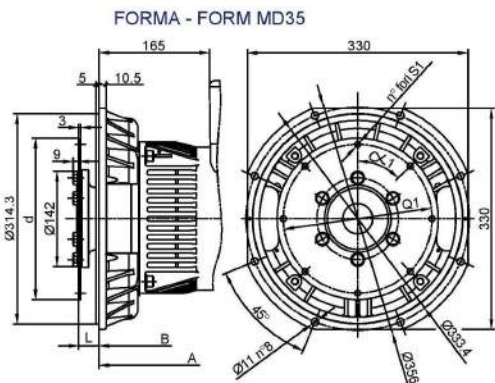
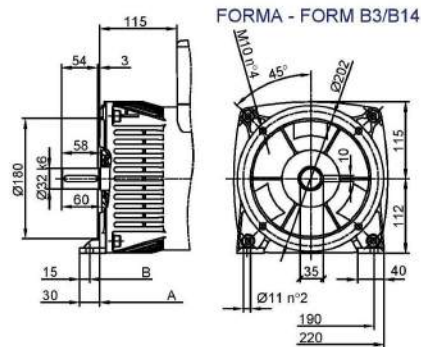


FORMA - FORM	A	B
B3-B9 cono Ø23 Ø30	415	362
B3-B9 cono Ø38	398.5	345.5
J069b	403	350
B3/B14	393	355
MD35-LOMB.STD	443	390

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			16	30			
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	Ø185
	Ø183.6	Ø219	Ø196.85
	Ø177.8		



SAE	GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS					
N.	L	d	Q1	n. fori	S1	Øx1
6 1/2	30.2	215.9	200	6	9	60°
7 1/2	30.2	241.3	222.25	8	9	45°