



ALTERNATOR E1C13M F/4

single-phase brushless synchronous alternator with capacitor - 4 poles

Technical Data Sheet

E1C13M F/4

COMMON DATA

Rated Power at 50Hz	kVA	12.5	
Rated Power at 60Hz	kVA	15	
Rated Power Factor		1	
Nominal Temperature	°C	40	
Control System		self excited	
Execution		brushless	
Regulation Type		capacitor	
Insulation Class		H	
Protection		IP21	
Maximum Overspeed	rpm	2250	
Overload		110% of rated power for one hour in a cycle of 6 hours	
Air Flow Requirement	m ³ /min	4.6 at 50Hz	5.5 at 60Hz
R.F.I. Suppression		Standard EN55011	

REGULATION DATA

capacitor	Capacitor with aluminium Technology		
Voltage Regulation	±5%		
Sustained Short Circuit	> 250% of rated current		

WINDING DATA

Stator Winding	Single layer with auxiliary winding		
Rotor Winding	with damping cage		
Number of Leads of Stator	4		
Stator Winding Resistance	0.113 at 20°C		
Rotor Winding Resistance	2.53 at 20°C		
THD at full load	<5.5%		
THD at no load	<5%		

STANDARD

References	EN60034-1 ISO8528-3 EN55011		
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ELECTRICAL DATA

Frequency		50Hz - 1500rpm		60Hz - 1800rpm	
Voltage Series Star	V	115/230		110/220	
Rated Power in Class H (125°C/40°C)	kW	12.5		15	
Rated Power in Class F (105°C/40°C)	kW	11		13	
Rated Power Standby (150°C/40°C)	kW	13.5		16	
Rated Power Standby (163°C/27°C)	kW	14		16.5	

EFFICIENCY IN CL. H

4/4	81.5%	81.5%
3/4	82.0%	82.5%
2/4	77.5%	79.0%
1/4	74.2%	75.5%

MECHANICAL DATA

Bearing non drive end			6305-2Z-C3
Bearing drive end (B3/B14 form)			6208-2Z-C3
Weight of generator	in B2	kg	87.1
	in B3/B14	kg	83
	in B3/B9	kg	80.1

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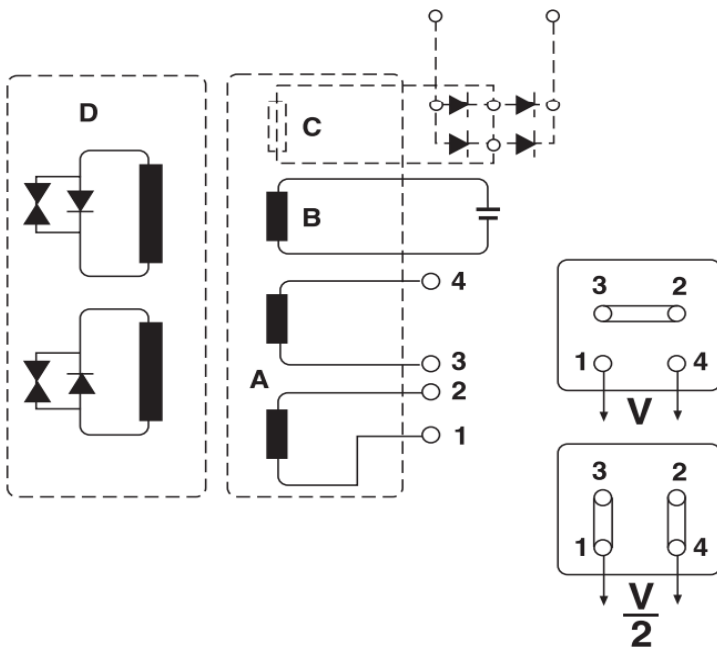
MOMENT OF INERZIA

B3/B9	kg·m ²	0.075
SAE	kg·m ²	0.083
B3/B14	kg·m ²	0.075

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

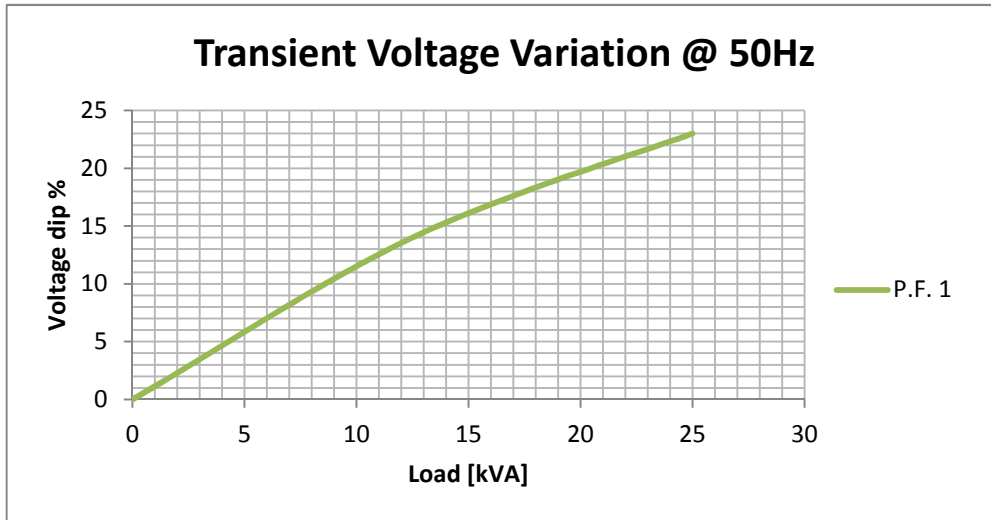
WIRING DIAGRAM



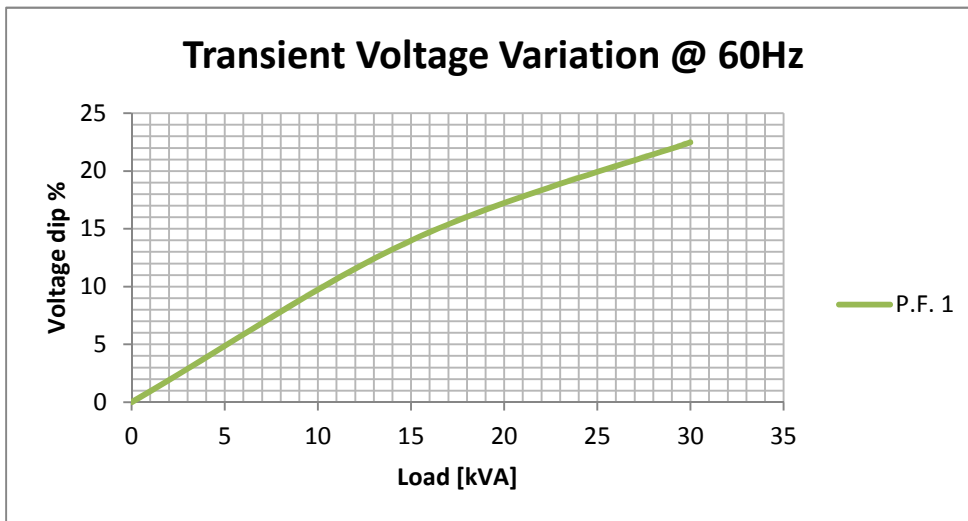
- A Main Winding**
- B Excitation Winding**
- C Battery Charger Circuit**
- D Polar wheel**

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TRANSIENT VOLTAGE VARIATION 50Hz

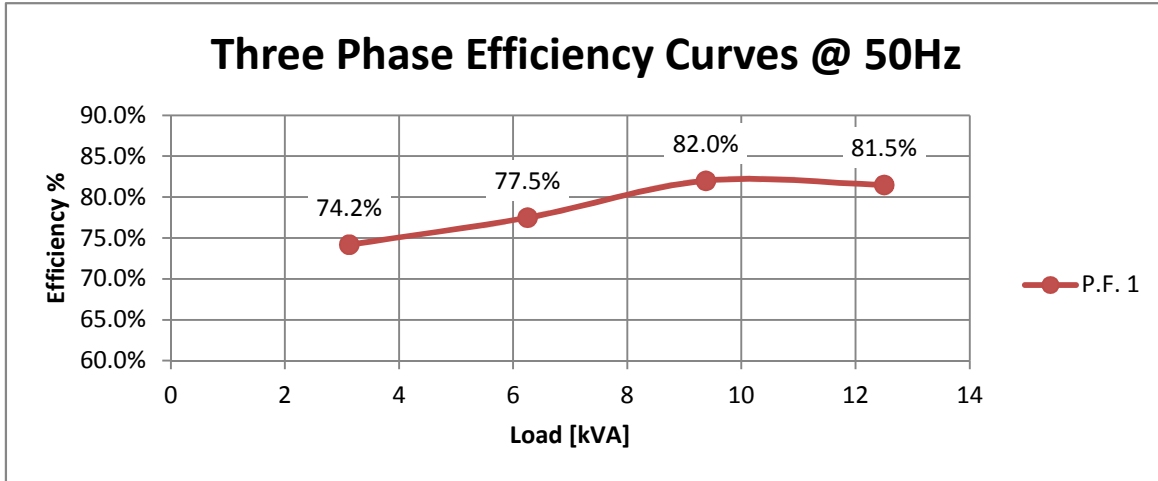


TRANSIENT VOLTAGE VARIATION 60Hz

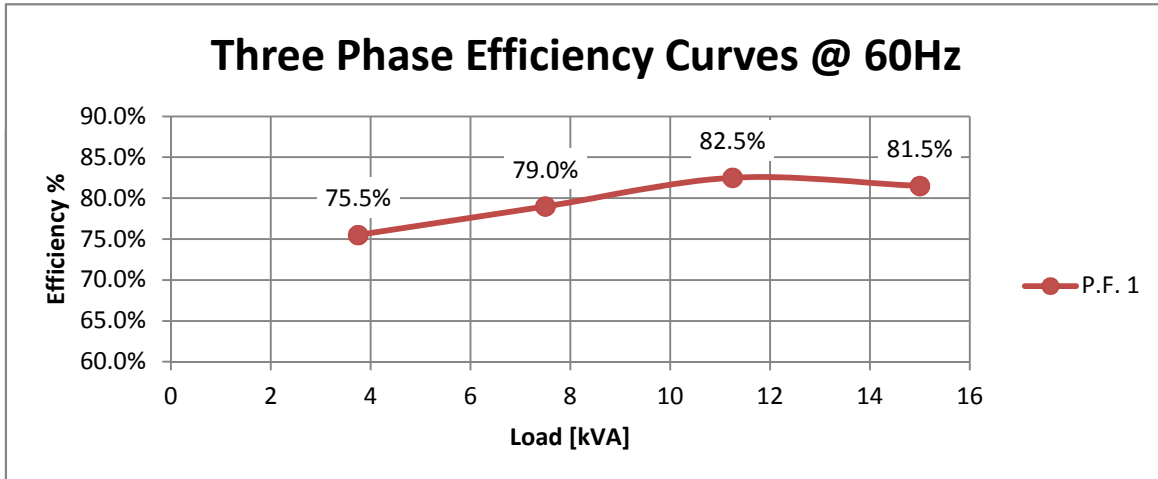


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EFFICIENCY 50Hz

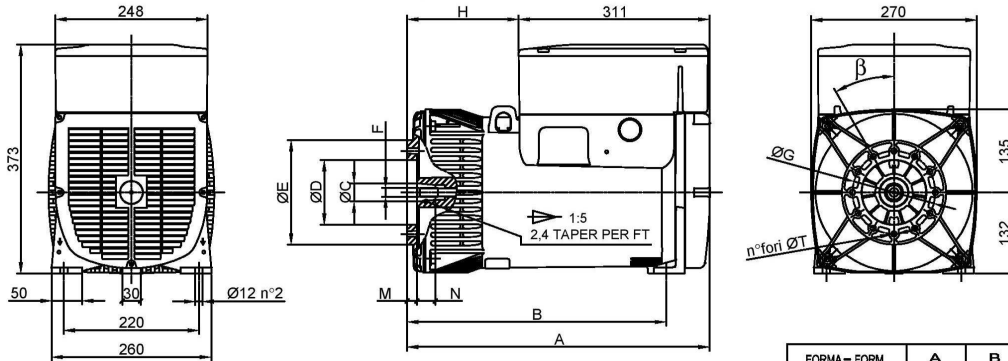


EFFICIENCY 60Hz



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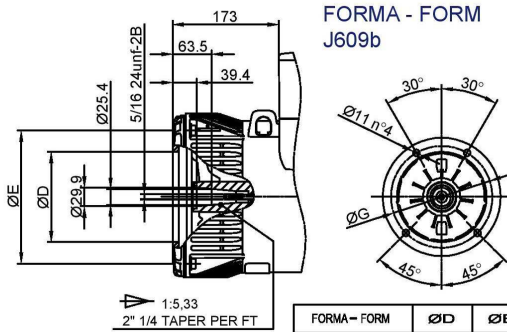
FORMA - FORM B3/B9



FORMA - FORM	ØC	ØD	ØE	F	ØG	H	M	N	n°fori	ØT	β
cono Ø30	Ø30	Ø105	Ø170	M14x1.5	Ø135	182	16	30	12	Ø9	30°
cono Ø38	Ø38	Ø125	Ø185	M18x1.5	Ø150	173	5	30	4	Ø11	β/2 45°

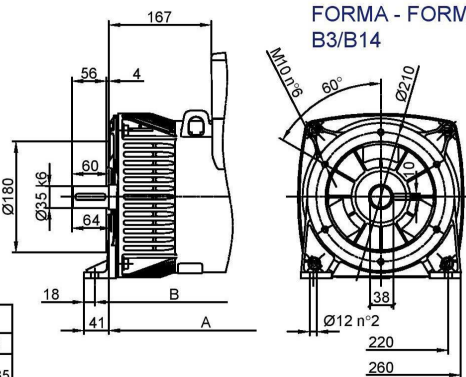
FORMA - FORM	A	B
B3B9 cono Ø30	493	422
B3B9 c. Ø38-J609b	484	413
B3/B14	478	430
MD35 - LOMB. STD	526	455

FORMA - FORM J609b

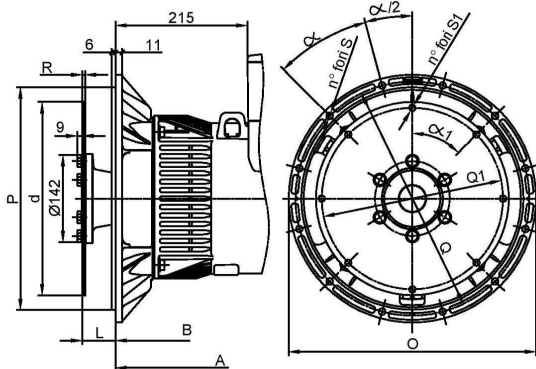


FORMA - FORM	ØD	ØE	ØG
J609b	Ø146	Ø192	Ø165
	Ø163.6	Ø216	Ø196.85
	Ø177.8		

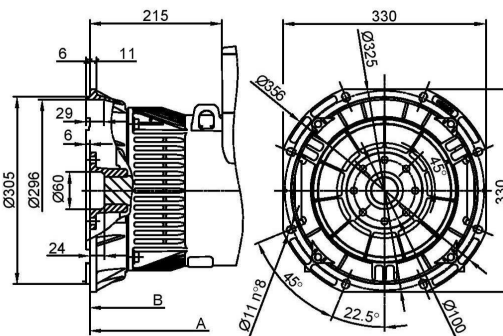
FORMA - FORM B3/B14



FORMA - FORM MD35



FORMA - FORM LOMBARDINI STD



SAE N.	O	P	Q	n. fori	S	α
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.	L	d	Q1	n. fori	S1	α1	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°	