



ALTERNATOR E1S13S A/4

three-phase synchronous alternator with brushes and compound - 4 poles

Technical Data Sheet

E1S13S A/4

COMMON DATA

Rated Power at 50Hz	kVA	8	
Rated Power at 60Hz	kVA	9.6	
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	2250	
Overload		110% of rated power for one hour in a cycle of 6 hours	
Air Flow Requirement	m ³ /min	5.4 at 50Hz	6.5 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		Double layer
Rotor Winding		with damping cage
Number of Leads of Stator		6
Stator Winding Resistance		1.58 at 20°C
Rotor Winding Resistance		5.73 at 20°C
THD at full load		<3,5%
THD at no load		<3%
Excitation at no load	A _{dc}	3.35
Excitation at full load	A _{dc}	7.8

STANDARD

References	EN60034-1 ISO8528-3 EN55011
------------	-----------------------------

E1S13S A/4

ELECTRICAL DATA

Frequency		50Hz - 1500rpm	60Hz - 1800rpm
Voltage Series Star	V	400/230	480/277
Rated Power in Class H (125°C/40°C)	kVA	8	9.6
	kW	6.4	7.68
Rated Power in Class F (105°C/40°C)	kVA	7.3	9
	kW	5.84	7.2
Rated Power Standby (150°C/40°C)	kVA	8.5	10.3
	kW	6.8	8.24
Rated Power Standby (163°C/27°C)	kVA	9	10.8
	kW	7.2	8.64

EFFICIENCY IN CL. H

4/4	81.0%	81.4%
3/4	81.3%	81.8%
2/4	79.2%	78.0%
1/4	73.0%	73.3%

REACTANCES AND TIME CONSTANTS

pcc	0.90
X _d - dir. axis synchronous	159%
X' _d - dir. axis transient	22.0%
X'' _d - dir. axis subtransient	9.8%
X _q - quad. axis reactance	127%
T' _{do} - O.C. field time constant	358ms
T' _d - Transient time constant	48ms
T'' _d - Sub-transient time constant	5.5ms

MECHANICAL DATA

Bearing non drive end	6305-2Z-C3	
Bearing drive end (B3/B14 form)	6208-2Z-C3	
Weight of generator	in B2 kg	58
	in B3/B14 kg	53.9
	in B3/B9 kg	51

E1S13S A/4

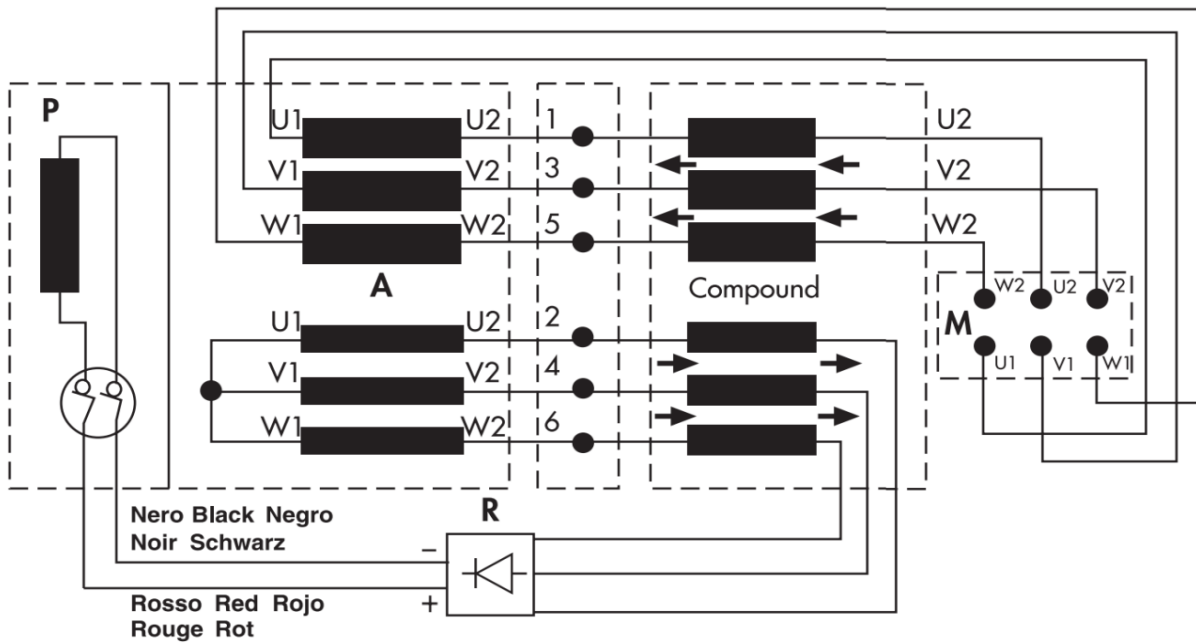
MOMENT OF INERZIA

B3/B9	kg·m ²	0.044
B2	kg·m ²	0.042
B3/B14	kg·m ²	0.044

POWER VARIATION ACCORDING TO TEMPERATURE AND ALTITUDE

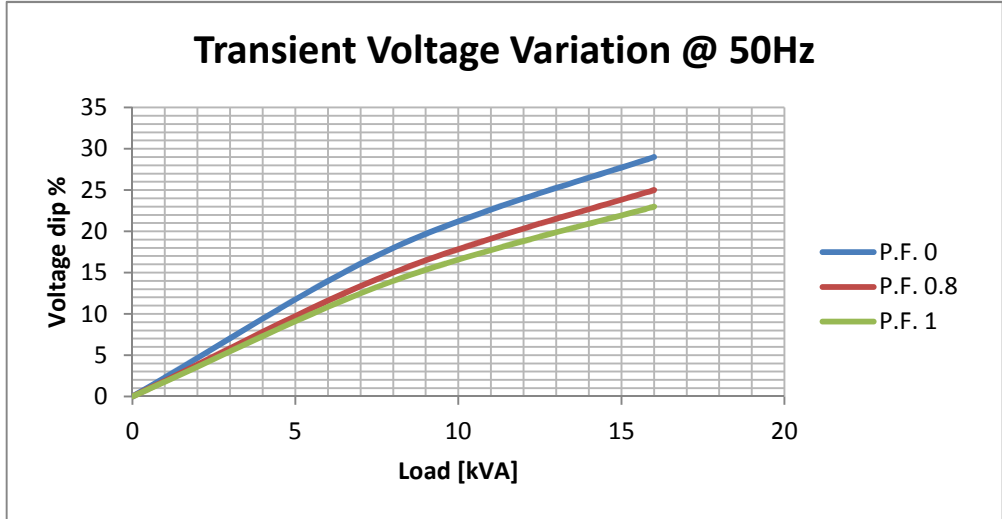
Altitude	Ambient temperature				
	25°C	40°C	45°C	50°C	55°C
< 1000m	1.09	1	0.96	0.93	0.91
1000m - 1500m	1.01	0.96	0.92	0.89	0.87
1500m - 2000m	0.96	0.91	0.87	0.84	0.83
2000m - 3000m	0.9	0.85	0.81	0.78	0.76

WIRING DIAGRAM

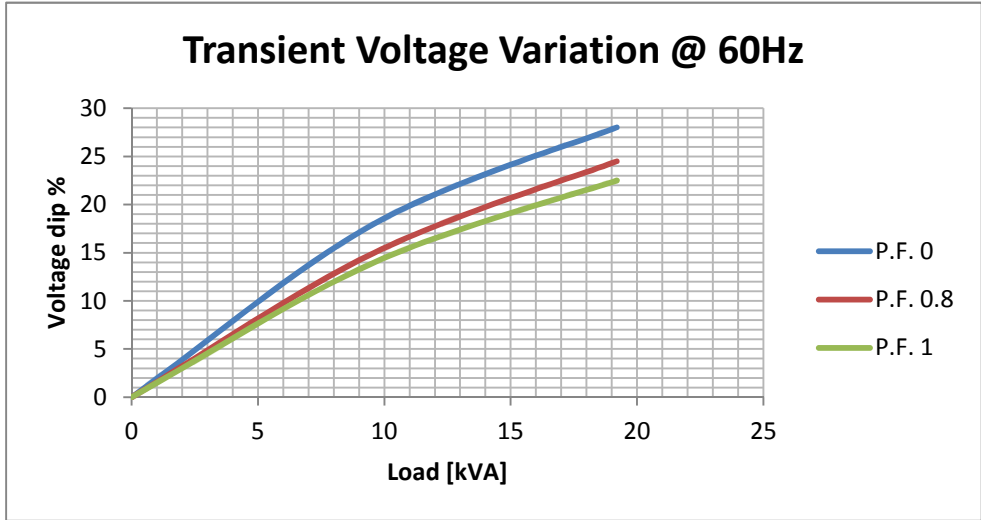


E1S13S A/4

TRANSIENT VOLTAGE VARIATION 50Hz

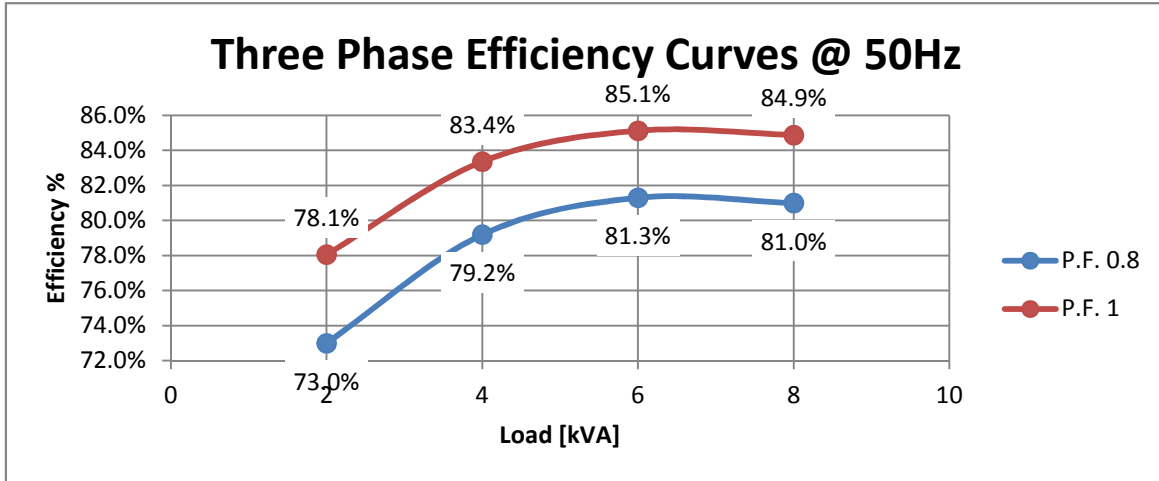


TRANSIENT VOLTAGE VARIATION 60Hz



E1S13S A/4

EFFICIENCY 50Hz



EFFICIENCY 60Hz

