



ALTERNATOR E1S10L L

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

Technical Data Sheet

E1S10L L

COMMON DATA

Rated Power at 50Hz	kVA	10	
Rated Power at 60Hz	kVA	12	
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	3.6 at 50Hz	4.5 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		Single layer with auxiliary winding	
Rotor Winding		with damping cage	
Number of Leads of Stator		6	
Stator Winding Resistance		0.65 at 20°C	
Rotor Winding Resistance		23.5 at 20°C	
THD at full load		<4% (L-L)	
THD at no load		<3% (L-L)	
Excitation at no load	A _{DC}	1.3	
Excitation at full load	A _{DC}	4.5	

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)	kW		10		12
Rated Power in Class F (105°C/40°C)	kW		9.3		11

EFFICIENCY IN CL. H

4/4		82.6%			82.7%
3/4		83.1%			83.3%

REACTANCES AND TIME CONSTANTS

pcc		0.67
X _d - dir. axis synchronous		290%
X' _d - dir. axis transient		20.0%
X'' _d - dir. axis subtransient		6.5%
X _q - quad. axis reactance		170%
T' _{do} - O.C. field time constant		550ms
T' _d - Transient time constant		33ms
T'' _d - Sub-transient time constant		6ms

MECHANICAL DATA

Bearing non drive end		6204-2Z-C3	
Bearing drive end (B3/B14 form)		6305-2Z-C3	
Weight of generator	in B2	kg	\
	in B3/B14	kg	42.1
	in B3/B9	kg	41.4

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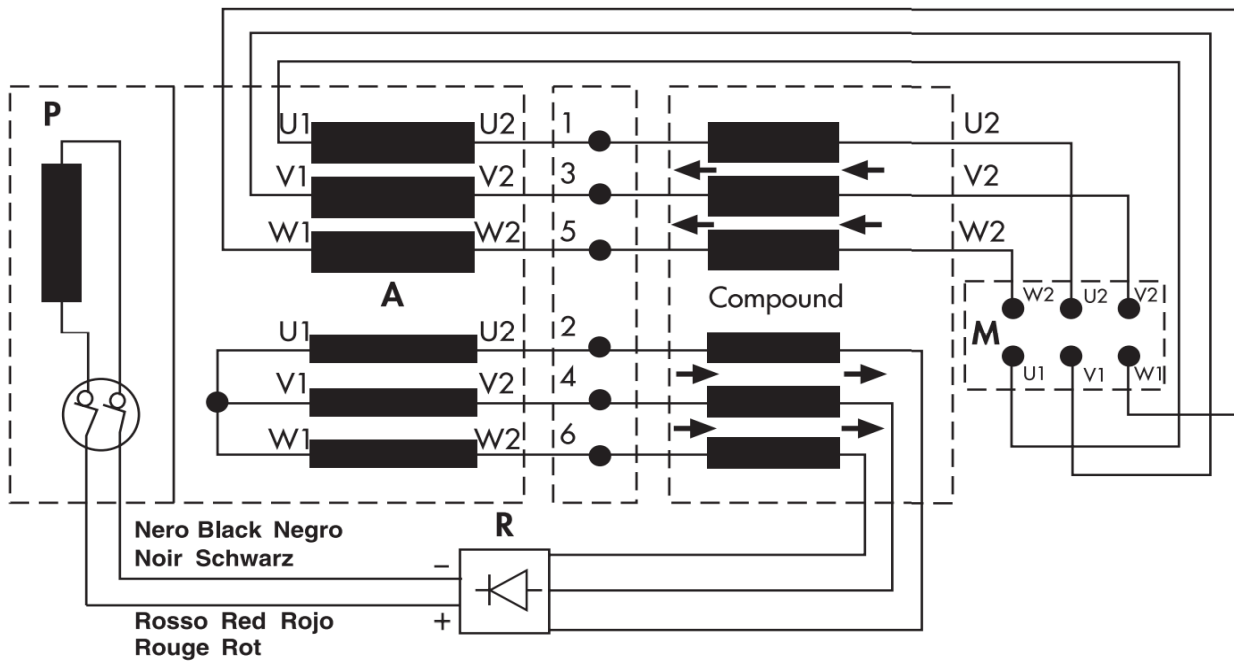
MOMENT OF INERZIA

B3/B9	kg·m ²	0.022
B3/B14	kg·m ²	0.022
B2	kg·m ²	\

POWER VARIATION ACCORDING TO TEMPERATURE AND ALTITUDE

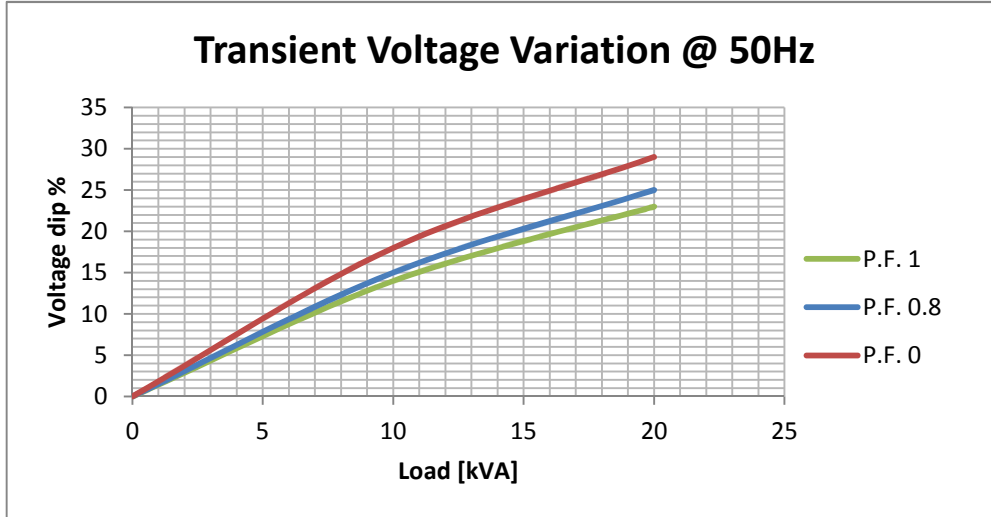
Altitude	Ambient temperature				
	25°C	40°C	45°C	50°C	55°C
< 1000m	1.09	1	0.96	0.93	0.91
1000m - 1500m	1.01	0.96	0.92	0.89	0.87
1500m - 2000m	0.96	0.91	0.87	0.84	0.83
2000m - 3000m	0.9	0.85	0.81	0.78	0.76

WIRING DIAGRAM



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TRANSIENT VOLTAGE VARIATION 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

