

TECHNICAL DATA SHEET



ALTERNATOR SLS18 MD

Single-Phase brushless synchronous alternator with AVR - 4 poles

SLS18 MD

COMMON DATA

Rated Power at 50Hz	kVA	15
Rated Power at 60Hz	kVA	18
Rated Power Factor		0,8
Nominal Temperature	°C	40
Control System		self-excited
Execution		brushless
Regulation Type		AVR
Insulation Class		H
Protection		IP23
Maximum Over speed	rpm	2250
Overload		110% of rated power for one hour in a cycle of 6 hours
Air Flow Requirement	m ³ /min	5,5 at 50Hz 5,7 at 60Hz
R.F.I. Suppression		Standard EN55011

REGULATION DATA

AVR		HVR11
Sensing		single-phase
Voltage Regulation		±1%
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	Ω	0,12 at 20°C
Rotor Winding Resistance	Ω	2,43 at 20°C
Exciter Stator Resistance	Ω	15 at 20°C
Exciter Rotor Resistance	Ω	0,72 at 20°C
THD at full load		<5%
THD at no load		<3%
Excitation at no load	A _{dc}	1
Excitation at full load	A _{dc}	2,5

STANDARD

References	EN60034-1 ISO8528-3 EN55011
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ON REQUEST

UL 1446, Systems of Insulating Materials - General CSA-C22.2 No. 0, Appendix B, General Requirements - Canadian Electrical Code, Part I
 CAN/CSA - C22.2 No. 100-14 (R2009) Motors and Generators, UL1004-1 2nd ed. Rotating Electrical Machines - General Requirements, UL1004-4 2nd ed. Electric Generators

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ELECTRICAL DATA

Frequency		50Hz - 1500rpm			60Hz - 1800rpm		
Voltage Series Star	V	220	230	240	220	230	240
Rated Power in Class H (125°C/40°C)	kVA	15	15	15	18	18	18
	kW	12	12	12	14,4	14,4	14,4
Rated Power in Class F (105°C/40°C)	kVA	13	13,5	13,5	16	16,5	16,5
	kW	10,4	10,8	10,8	12,8	13,2	13,2
Rated Power Standby (150°C/40°C)	kVA	15	15,5	15,5	18	18,5	18,5
	kW	12	12,4	12,4	14,4	14,8	14,8
Rated Power Standby (163°C/27°C)	kVA	15,5	16	16	18,5	19	19
	kW	12,4	12,8	12,8	14,8	15,2	15,2

EFFICIENCY IN CL. H (PF=1)

4/4		84,5%		84,7%
3/4		84,8%		85,0%
2/4		82,5%		82,7%
1/4		78,5%		79,0%

REACTANCES AND TIME CONSTANTS

pcc		0,61		0,61
X _d - dir. axis synchronous		236%	216%	198%
X' _d - dir. axis transient		18,6%	17,0%	15,6%
X'' _d - dir. axis subtransient		9,1%	8,3%	7,6%
X _q - quad. axis reactance		131%	120%	110%
T' _{do} - O.C. field time constant		103ms		
T' _d - Transient time constant		7ms		
T'' _d - Sub-transient time constant		5ms		

MECHANICAL DATA

Bearing non drive end	6306-2RS-C3		
Bearing drive end (B3/B14 form)	\		
Weight of generator	in B2	kg	115
	in B3/B14	kg	\
	in B3/B9	kg	\

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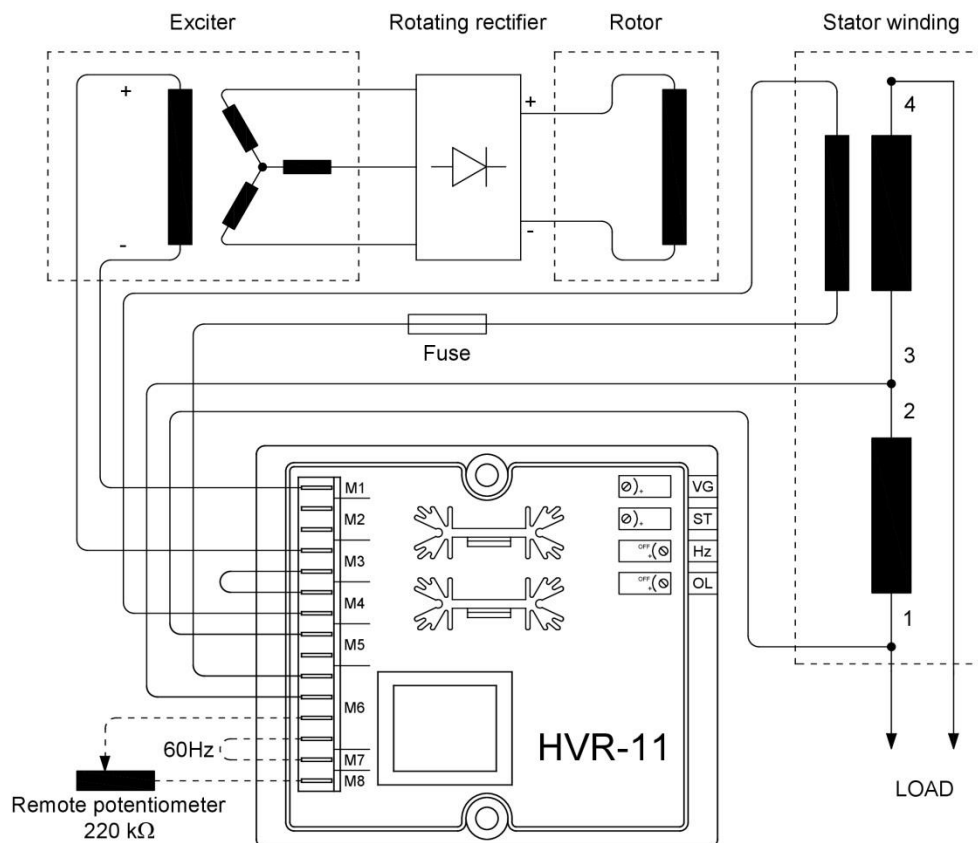
MOMENT OF INERZIA

B3/B9	kg·m ²	\
SAE 7½	kg·m ²	0,211
SAE 8	kg·m ²	0,220
SAE 10	kg·m ²	0,236
SAE 11½	kg·m ²	0,256
SAE 14	kg·m ²	\
SAE 18	kg·m ²	\
B3/B14	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	1,00	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	0,90	0,85	0,81	0,78	0,76

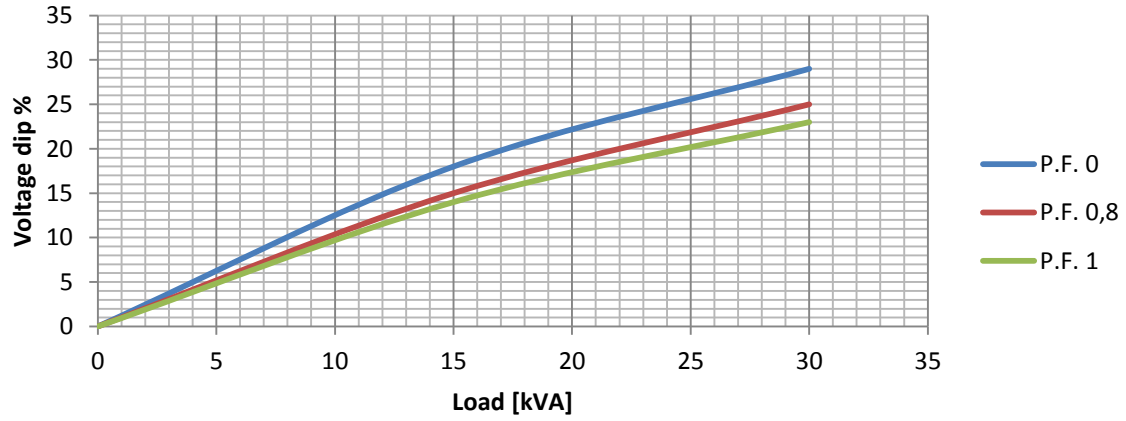
WIRING DIAGRAM



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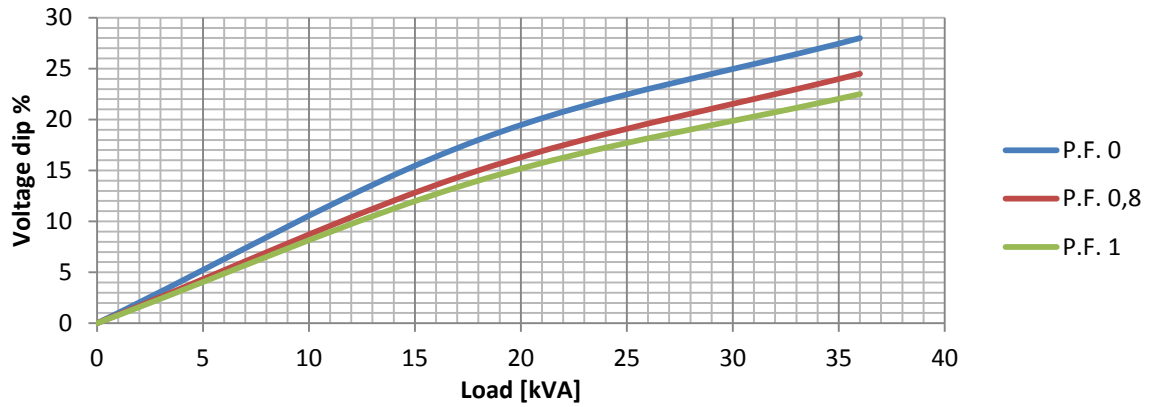
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

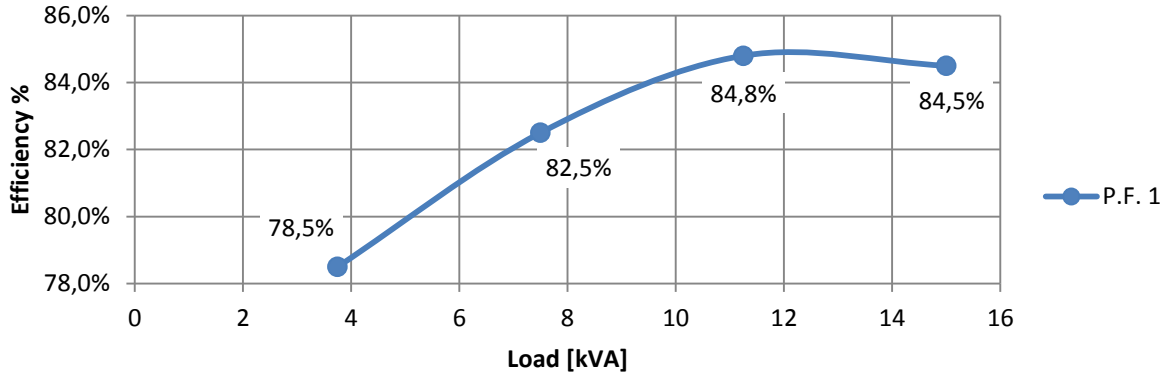
Transient Voltage Variation @ 60Hz



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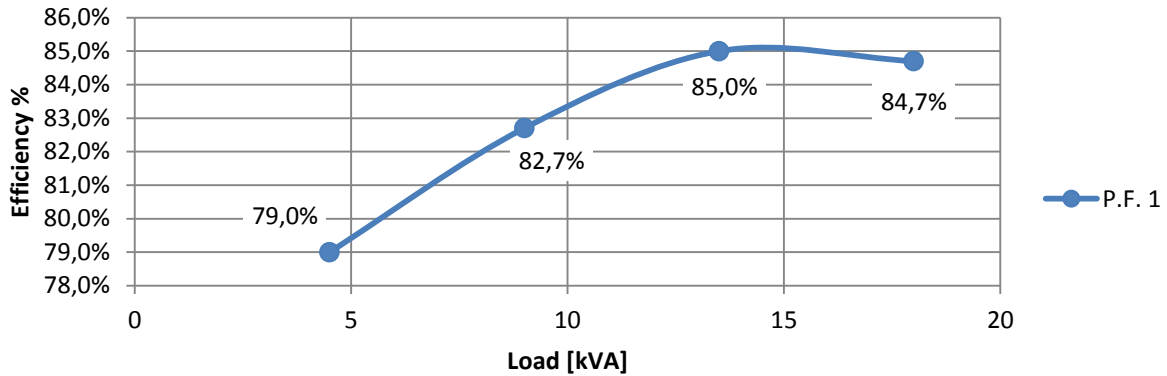
EFFICIENCY 50Hz

Three Phase Efficiency Curves @ 50Hz



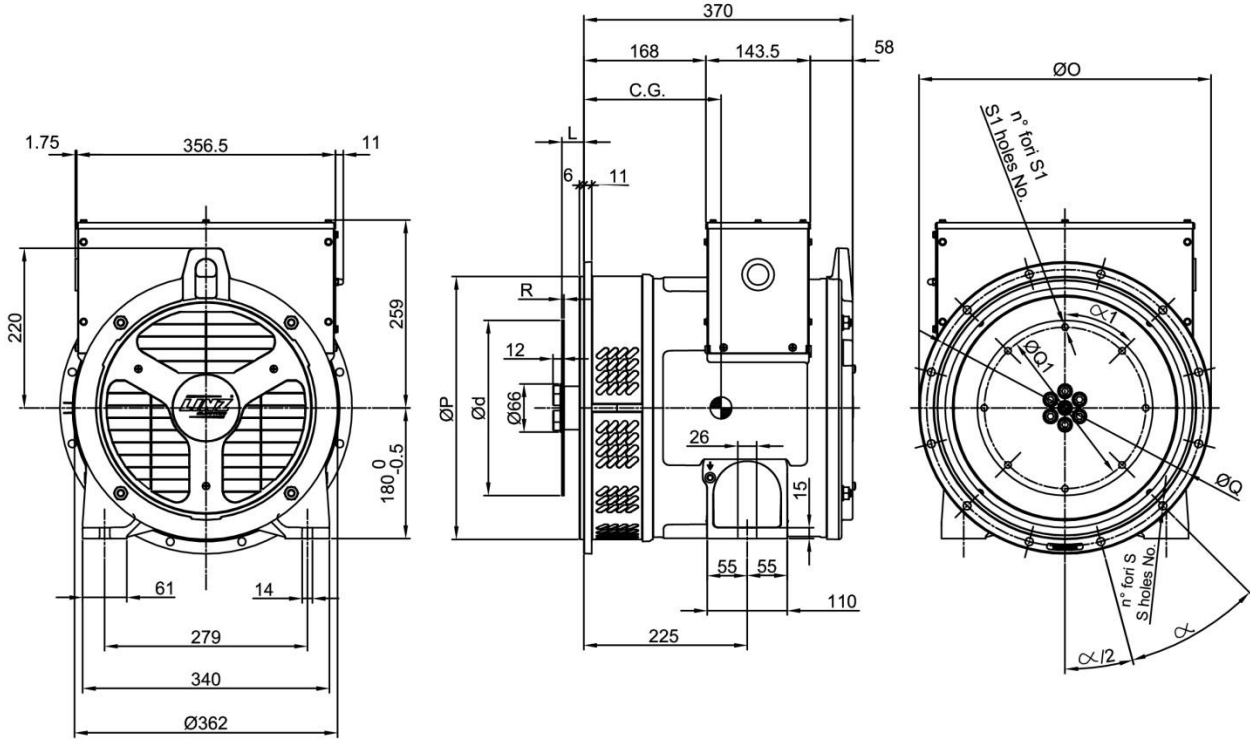
EFFICIENCY 60Hz

Three Phase Efficiency Curves @ 60Hz



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FORMA - FORM SAE



TIPO - TYPE	C.G.
SLS/SLT18 MC MD35	190
SLS/SLT18 MD MD35	192

SAE N.	FLANGIE - FLANGES - BRIDAS					
	Ø O	Ø P	Ø Q	n. fori holes No.	S	α
5	356	314.3	333.4	8	11	45°
4	402	362	381	12		30°
3	451	409.6	428.6	12		30°

SAE N.	GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS						
	L	Ø d	Ø Q1	n. fori holes No.	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°	