

TECHNICAL DATA SHEET



**ALTERNATOR SLS18 MC**

*Single-Phase brushless synchronous alternator with AVR - 4 poles*

## SLS18 MC

### 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		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 <sup>3</sup> /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	0,195 at 20°C
Rotor Winding Resistance	Ω	2,22 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	Adc	0,86
Excitation at full load	Adc	2

### 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

## SLS18 MC

### ELECTRICAL DATA

Frequency		50Hz - 1500rpm			60Hz - 1800rpm		
Voltage Series Star	V	<b>220</b>	<b>230</b>	<b>240</b>	<b>220</b>	<b>230</b>	<b>240</b>
Rated Power in Class H (125°C/40°C)	kVA	10	10	10	12	12	12
	kW	8	8	8	9,6	9,6	9,6
Rated Power in Class F (105°C/40°C)	kVA	9	9	8,5	11	11	10,5
	kW	7,2	7,2	6,8	8,8	8,8	8,4
Rated Power Standby (150°C/40°C)	kVA	10,8	10,8	10,4	13	13	12,3
	kW	8,64	8,64	8,32	10,4	10,4	9,84
Rated Power Standby (163°C/27°C)	kVA	11,2	11,2	10,8	13,4	13,4	13
	kW	8,96	8,96	8,64	10,72	10,72	10,4

### EFFICIENCY IN CL. H (PF=1)

4/4		83,6%			84,1%	
3/4		84,0%			84,6%	
2/4		81,4%			82,0%	
1/4		80,2%			80,8%	

### REACTANCES AND TIME CONSTANTS

pcc			0,67			0,67	
X <sub>d</sub>	- dir. axis synchronous	231%	211%	194%	231%	211%	194%
X' <sub>d</sub>	- dir. axis transient	17,5%	16,0%	14,7%	17,5%	16,0%	14,7%
X'' <sub>d</sub>	- dir. axis subtransient	8,1%	7,4%	6,8%	8,1%	7,4%	6,8%
X <sub>q</sub>	- quad. axis reactance	129%	118%	108%	129%	118%	108%
T' <sub>do</sub>	- O.C. field time constant	99ms					
T' <sub>d</sub>	- Transient time constant	6ms					
T'' <sub>d</sub>	- Sub-transient time constant	5ms					

### MECHANICAL DATA

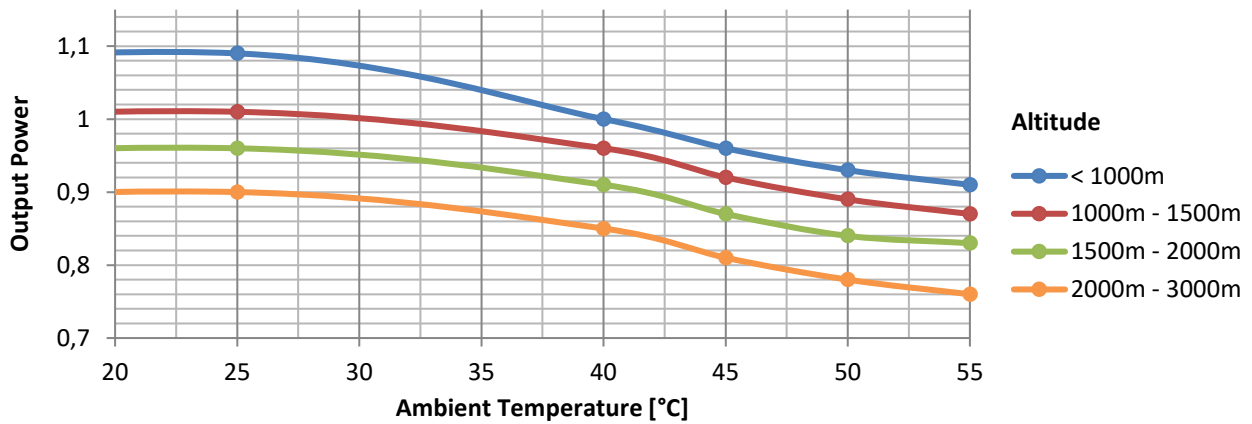
Bearing non drive end	6306-2RS-C3					
Bearing drive end (B3/B14 form)	\					
Weight of generator	in B2	kg	112			
	in B3/B14	kg	\			
	in B3/B9	kg	\			

# SLS18 MC

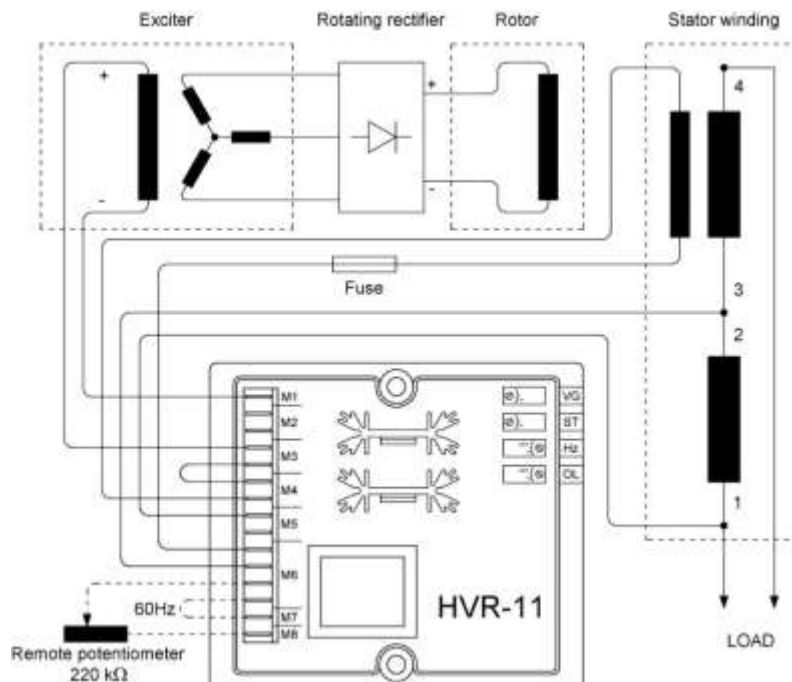
## MOMENT OF INERZIA

B3/B9	kg·m <sup>2</sup>	\
SAE 7½	kg·m <sup>2</sup>	0,192
SAE 8	kg·m <sup>2</sup>	0,201
SAE 10	kg·m <sup>2</sup>	0,218
SAE 11½	kg·m <sup>2</sup>	0,237
SAE 14	kg·m <sup>2</sup>	\
SAE 18	kg·m <sup>2</sup>	\
B3/B14	kg·m <sup>2</sup>	\

## DERATING CURVES



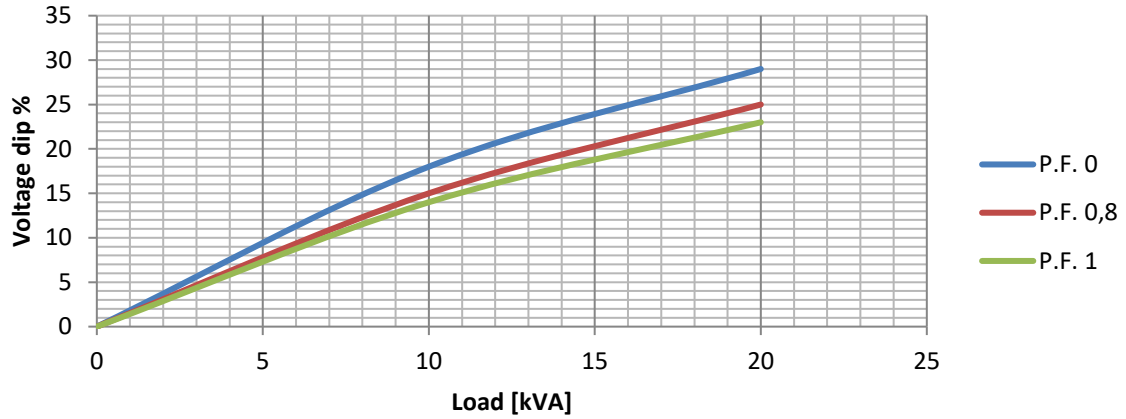
## WIRING DIAGRAM



# SLS18 MC

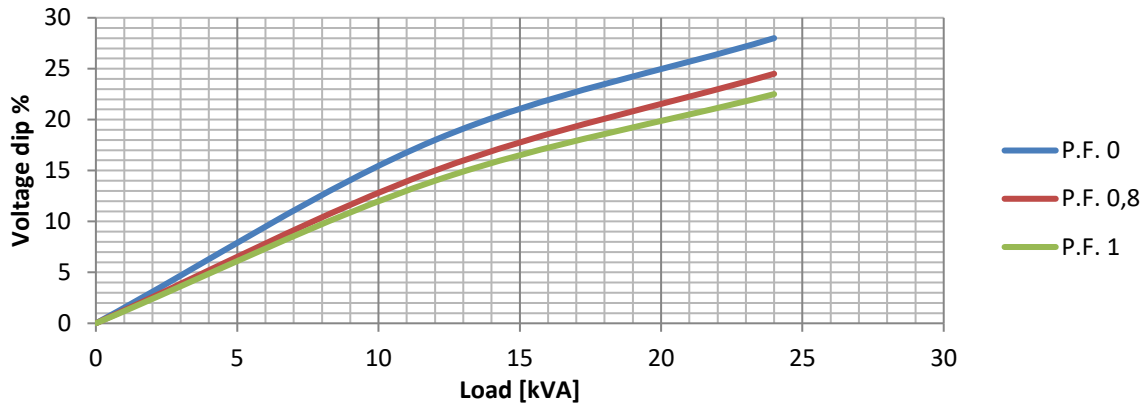
## TRANSIENT VOLTAGE VARIATION 50Hz

### Transient Voltage Variation @ 50Hz



## TRANSIENT VOLTAGE VARIATION 60Hz

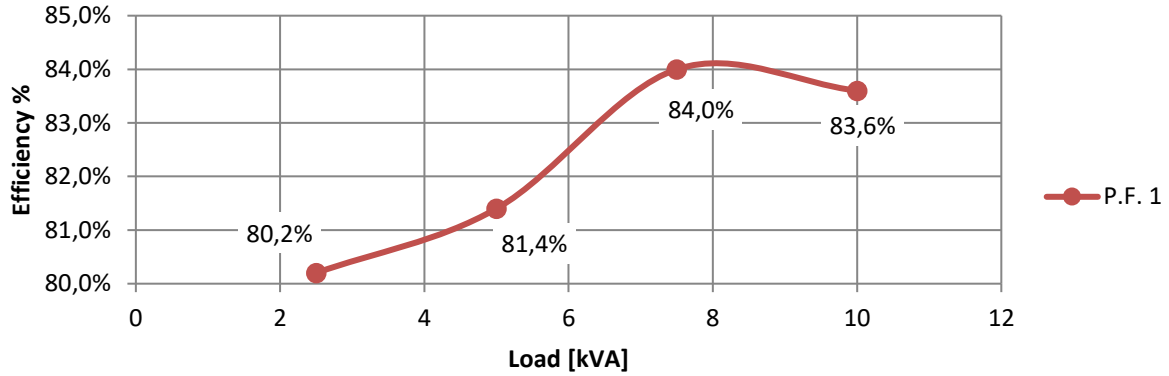
### Transient Voltage Variation @ 60Hz



# SLS18 MC

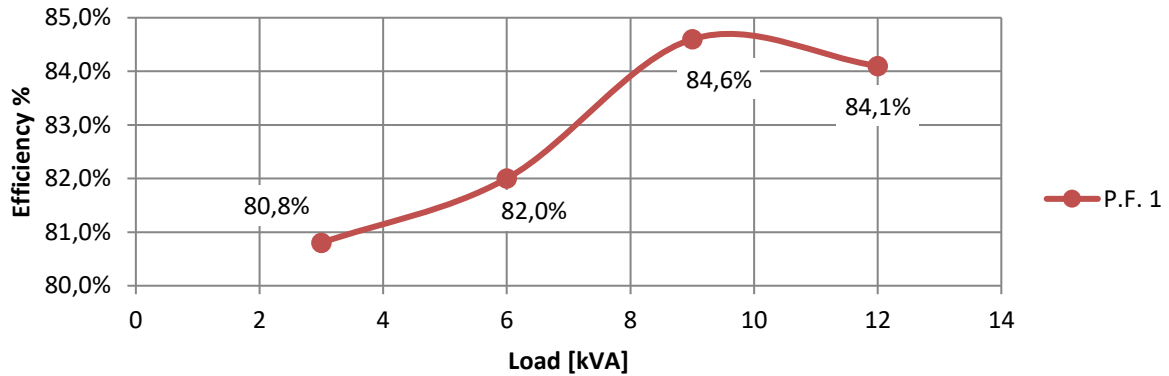
## EFFICIENCY 50Hz

### Efficiency Curves @ 50Hz



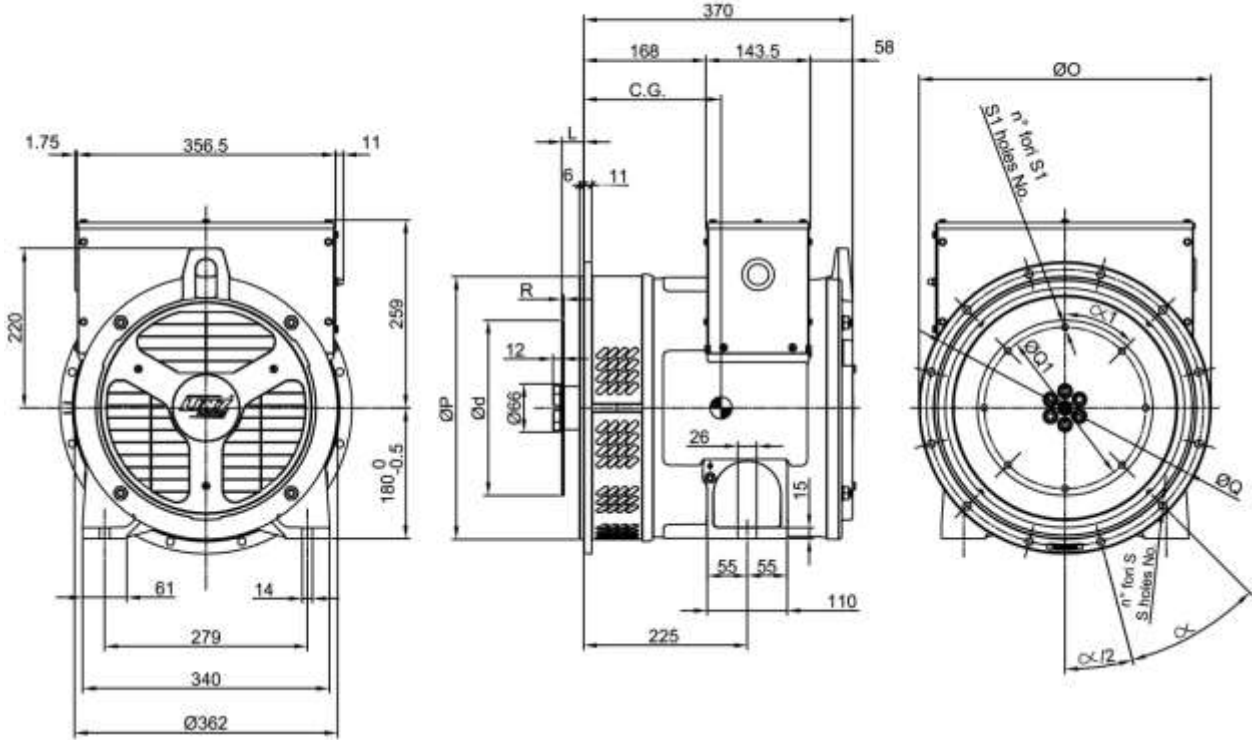
## EFFICIENCY 60Hz

### Efficiency Curves @ 60Hz



# SLS18 MC

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°	