

TECHNICAL DATA SHEET



**ALTERNATOR SLT18 MD**

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

## SLT18 MD

### COMMON DATA

Rated Power at 50Hz	kVA	20	
Rated Power at 60Hz	kVA	24	
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		Double layer with auxiliary winding	
Rotor Winding		with damping cage	
Winding Pitch		2/3	
Number of Leads of Stator		12	
Stator Winding Resistance	Ω	0,224 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		<3%	
THD at no load		<3%	
Excitation at no load	Adc	0,92	
Excitation at full load	Adc	2,4	

### 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

## SLT18 MD

### ELECTRICAL DATA

Frequency		50Hz - 1500rpm					60Hz - 1800rpm				
Voltage	V	Double Delta	Series Star			Double Delta	Series Star				
		115/230	380/220	400/230	415/240	440/254	138/277	415/240	440/254	460/266	480/277
Rated Power in Class H (125°C/40°C)	kVA	13	20	20	20	18	16	21	23	24	24
	kW	10,4	16	16	16	14,4	12,8	16,8	18,4	19,2	19,2
Rated Power in Class F (105°C/40°C)	kVA	12	18,5	18,5	18,5	17	14,4	20	21	22	22
	kW	9,6	14,8	14,8	14,8	13,6	11,5	16	16,8	17,6	17,6
Rated Power Standby (150°C/40°C)	kVA	14,5	22	22	21,5	20	17,4	24	25	26	26
	kW	9,6	17,6	17,6	17,2	16	13,9	19,2	20	20,8	20,8
Rated Power Standby (163°C/27°C)	kVA	15	23	23	22,5	21	18	25	26	27	27
	kW	12	18,4	18,4	18	16,8	14,4	20	20,8	21,6	21,6

### EFFICIENCY IN CL. H

4/4			86,1%						87,8%
3/4			86,3%						88,1%
2/4			84,5%						86,3%
1/4			82,0%						83,8%

### REACTANCES AND TIME CONSTANTS

pcc		0,57								
X <sub>d</sub>	- dir. axis synchronous	268%	242%	225%	180%	283%	276%	264%	242%	
X' <sub>d</sub>	- dir. axis transient	21,1%	19,0%	17,7%	14,1%	22,2%	21,7%	20,7%	19,0%	
X'' <sub>d</sub>	- dir. axis subtransient	10,0%	9,0%	8,4%	6,7%	10,5%	10,3%	9,8%	9,0%	
X <sub>q</sub>	- quad. axis reactance	147%	133%	124%	99%	156%	152%	145%	133%	
T' <sub>do</sub>	- O.C. field time constant	103ms								
T' <sub>d</sub>	- Transient time constant	7ms								
T'' <sub>d</sub>	- Sub-transient time constant	5ms								

### MECHANICAL DATA

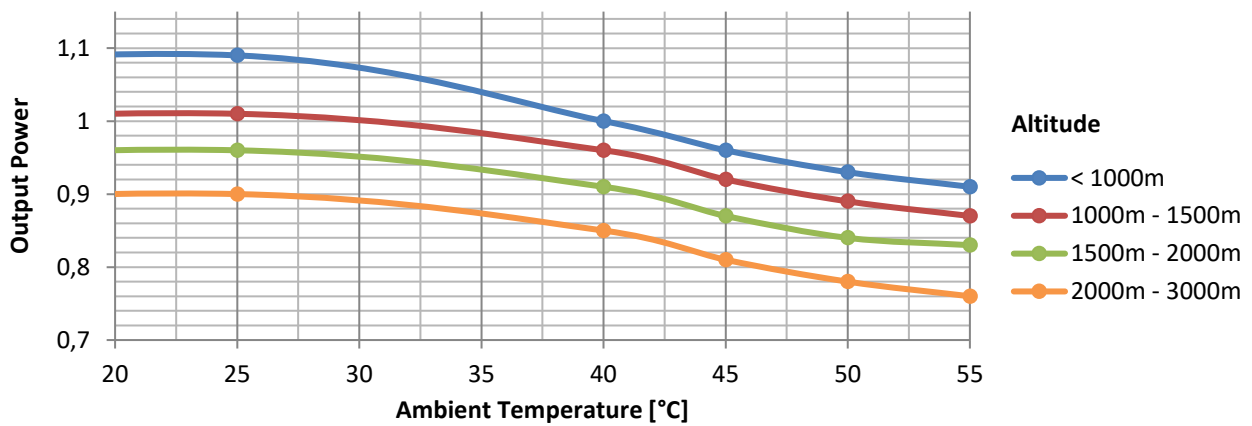
Bearing non drive end	6306-2RS-C3		
Bearing drive end (B3/B14 form)	\		
Weight of generator	in B2	kg	116
	in B3/B14	kg	\
	in B3/B9	kg	\

# SLT18 MD

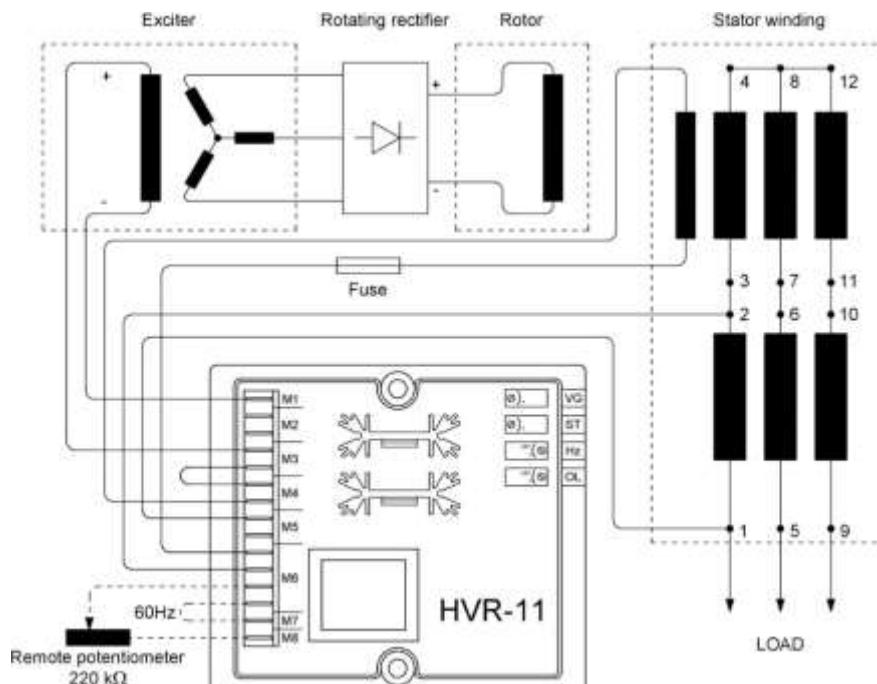
## MOMENT OF INERZIA

B3/B9	kg·m <sup>2</sup>	\
SAE 7½	kg·m <sup>2</sup>	0,211
SAE 8	kg·m <sup>2</sup>	0,220
SAE 10	kg·m <sup>2</sup>	0,236
SAE 11½	kg·m <sup>2</sup>	0,256
SAE 14	kg·m <sup>2</sup>	\
SAE 18	kg·m <sup>2</sup>	\
B3/B14	kg·m <sup>2</sup>	\

## DERATING CURVES



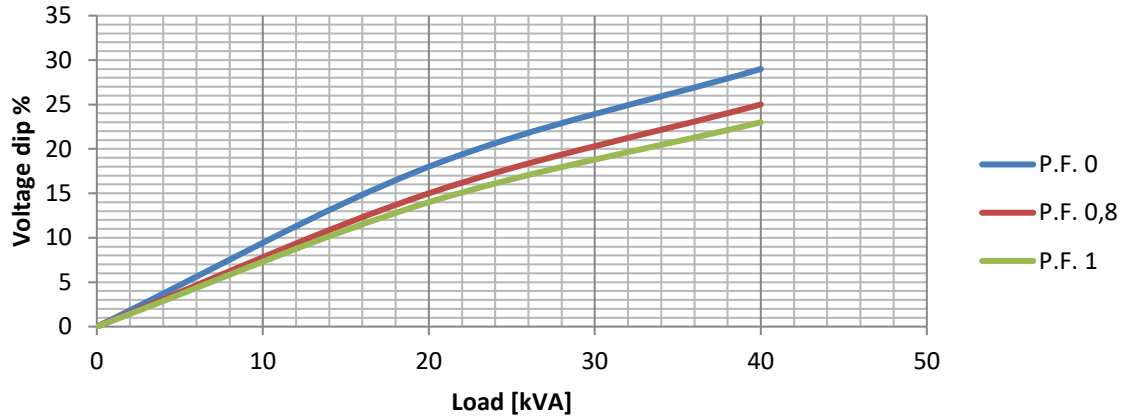
## WIRING DIAGRAM



# SLT18 MD

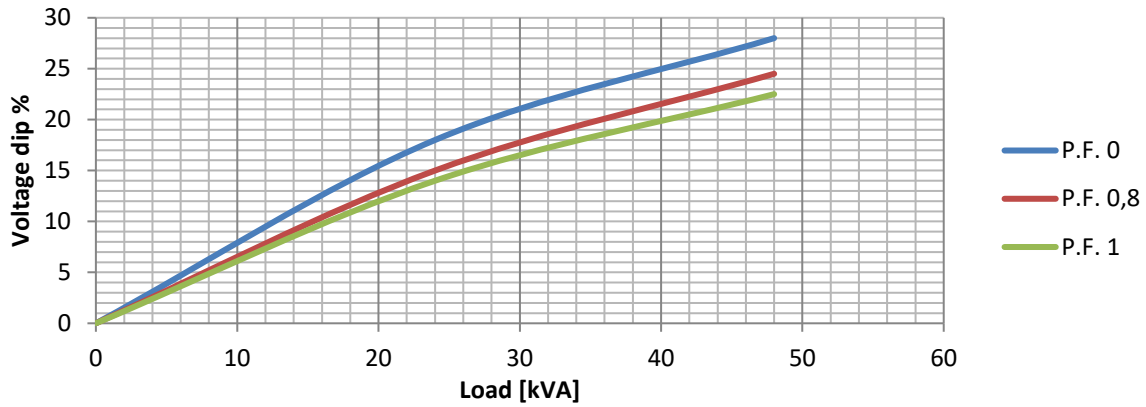
## TRANSIENT VOLTAGE VARIATION 50Hz

### Transient Voltage Variation @ 50Hz



## TRANSIENT VOLTAGE VARIATION 60Hz

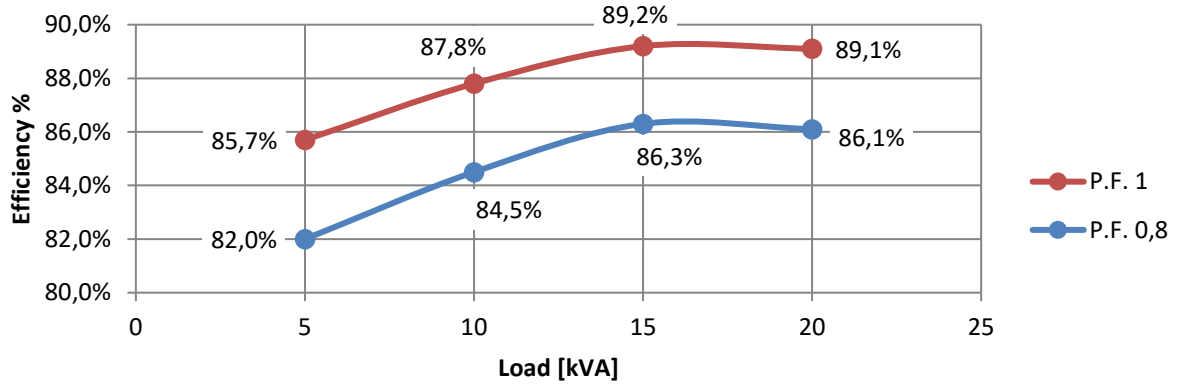
### Transient Voltage Variation @ 60Hz



# SLT18 MD

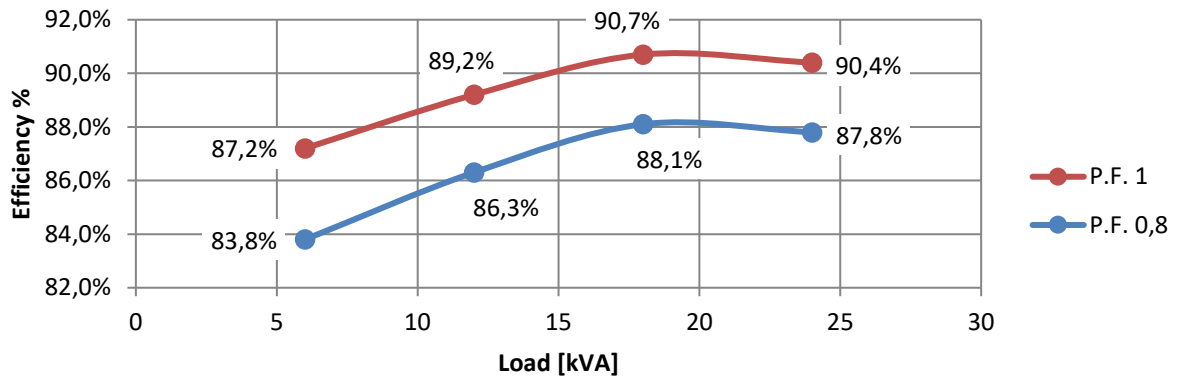
## EFFICIENCY 50Hz

### Efficiency Curves @ 50Hz



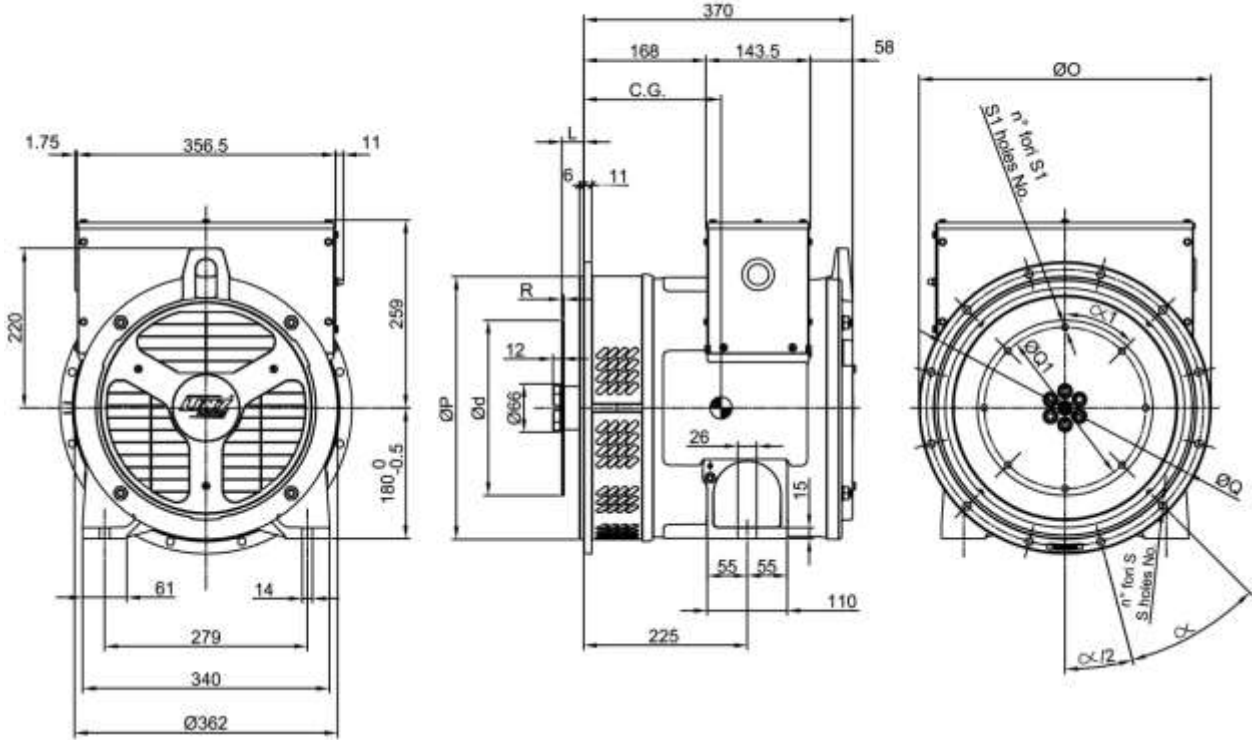
## EFFICIENCY 60Hz

### Efficiency Curves @ 60Hz



# SLT18 MD

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°	