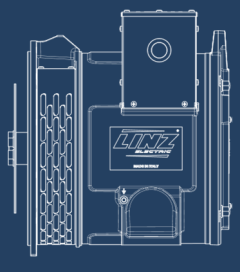
TECHNICAL DATA SHEET



SLT18 MD

Three-Phase brushless synchronous alternator with AVR - 4 poles

COMMON DATA			
Rated Power at 50Hz	kVA	20	
Rated Power at 60Hz	kVA	25	
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		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		< 3.5%
THD at no load		< 3%
Excitation at no load	A_{dc}	0.92
Excitation at full load	A_{dc}	2.2

TECHNICAL DATA SHEET
SLT18 MD
Three-Phase brushless synchronous alternator with AVR - 4 poles

REFERENCES

EN60034-1 ISO8528-3 EN55011

ON REQUEST:

UL 1446, Systems of Insulating Materials - General CSA-C22.2 No. 0, Appendix B, General Requirements - Canadian Electrical Code,

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

ELECTRICAL DATA @50Hz

Frequency		50Hz - 1500rpm				
Voltage		3 Phase Series High WYE				1 Phase Reconnected Double Delta
	V	**380/220**	**400/230**	**415/240**	**440/254**	**115/230**
Rated Power in Class H (125°C/40°C)	kVA	20	20	20	18	13
	kW	16	16	16	14.4	10.4
Rated Power in Class F (105°C/40°C)	kVA	18.5	18.5	18.5	17	12
	kW	14.8	14.8	14.8	13.6	9.6
Rated Power Standby (150°C/40°C)	kVA	22	22	21.5	20	14
	kW	17.6	17.6	17.2	16	11.2
Rated Power Standby (163°C/27°C)	kVA	23	23	22.5	21	15
	kW	18.4	18.4	18	16.8	12

EFFICIENCY IN CL. H OF RATED POWER @50Hz - 0.8 P.F.

4/4 (100%)	85.7%	86.1%	85.9%	85.8%
3/4 (75%)	86.4%	86.3%	86.1%	85.4%
2/4 (50%)	85.9%	85.6%	84.8%	83.2%
1/4 (25%)	81.1%	80.3%	78.7%	75.5%

REACTANCES AND TIME CONSTANTS @50Hz

ρcc			0.57		
Xd	- dir. axis synchronous	268%	242%	225%	180%
X'd	- dir. axis transient	21.1%	19.0%	17.7%	14.1%
X''d	- dir. axis subtransient	10.0%	9.0%	8.4%	6.7%
X_q	- quad. axis reactance	147%	133%	124%	99%
T'_{do}	- O.C. field time constant	103ms			
T'_d	- Transient time constant	7ms			
T''_d	- Sub-transient time constant	5ms			

TECHNICAL DATA SHEET
SLT18 MD
Three-Phase brushless synchronous alternator with AVR - 4 poles

ELECTRICAL DATA @60Hz

Frequency		60Hz - 1800rpm				
Voltage		3 Phase Series High WYE				1 Phase Reconnected Double Delta
	V	415/240	440/254	460/266	480/277	138/277
Rated Power in Class H (125°C/40°C)	kVA	21	23	24	25	16.5
	kW	16.8	18.4	19.2	20	13.2
Rated Power in Class F (105°C/40°C)	kVA	20	21	22	23	15
	kW	16	16.8	17.6	18.4	12
Rated Power Standby (150°C/40°C)	kVA	24	25	26	27	18
	kW	19.2	20	20.8	21.6	14.4
Rated Power Standby (163°C/27°C)	kVA	25	26	27	27.5	18.5
	kW	20	20.8	21.6	22	14.8

EFFICIENCY IN CL. H OF RATED POWER @60Hz - 0.8 P.F.

4/4		87.3%	87.5%	87.8%	87.6%
3/4		87.8%	88.0%	88.2%	88.0%
2/4		87.1%	87.4%	87.6%	87.3%
1/4		82.3%	82.7%	82.9%	82.4%

REACTANCES AND TIME CONSTANTS @60Hz

ρcc					0.55
Xd	- dir. axis synchronous	283%	276%	263%	252%
X'd	- dir. axis transient	22.3%	21.7%	20.7%	19.8%
X''d	- dir. axis subtransient	10.6%	10.3%	9.8%	9.4%
X_q	- quad. axis reactance	156%	152%	145%	139%
T'_{do}	- O.C. field time constant	103ms			
T'_d	- Transient time constant	7ms			
T''_d	- Sub-transient time constant	5ms			

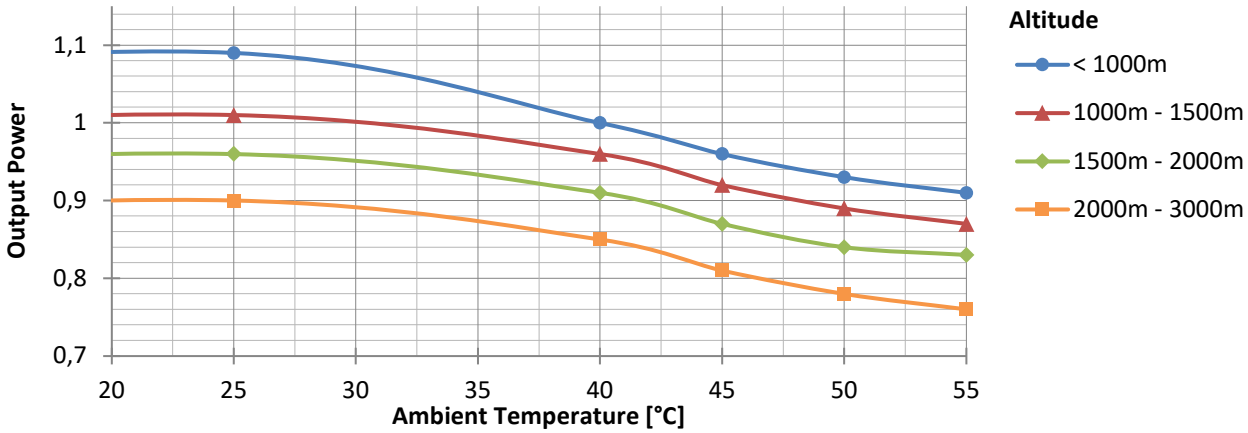
MECHANICAL DATA

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

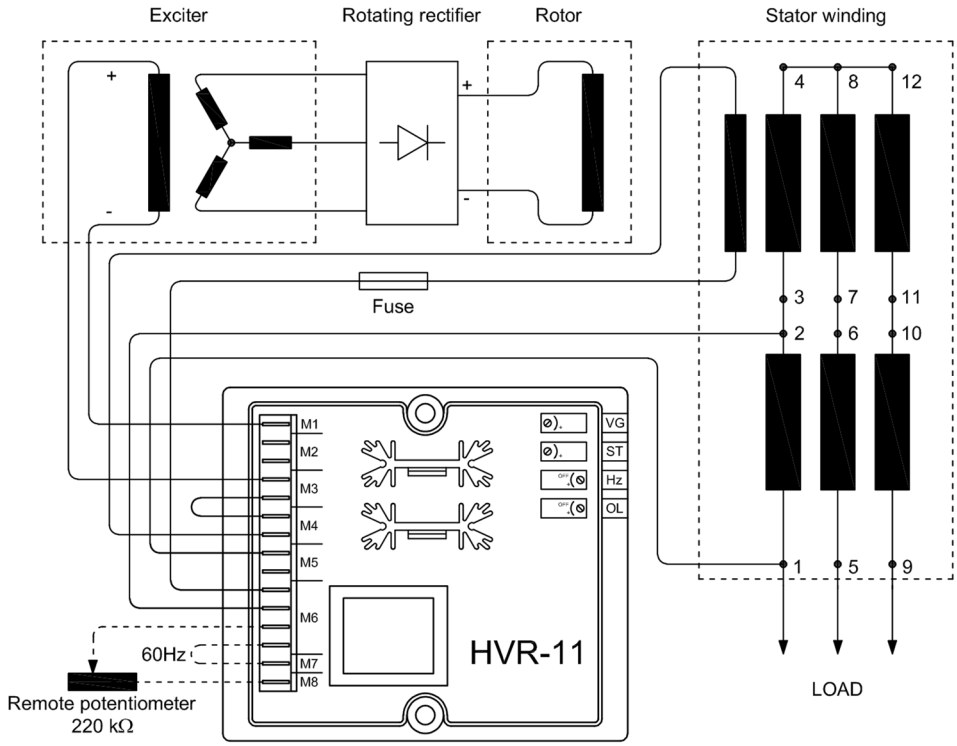
MOMENT OF INERZIA

B3/B9	kg·m²	/
SAE 7½	kg·m²	0.211
SAE 8	kg·m²	0.220
SAE 10	kg·m²	0.236
SAE 11½	kg·m²	0.256
SAE 14	kg·m²	/
SAE 18	kg·m²	/
B3/B14	kg·m²	/

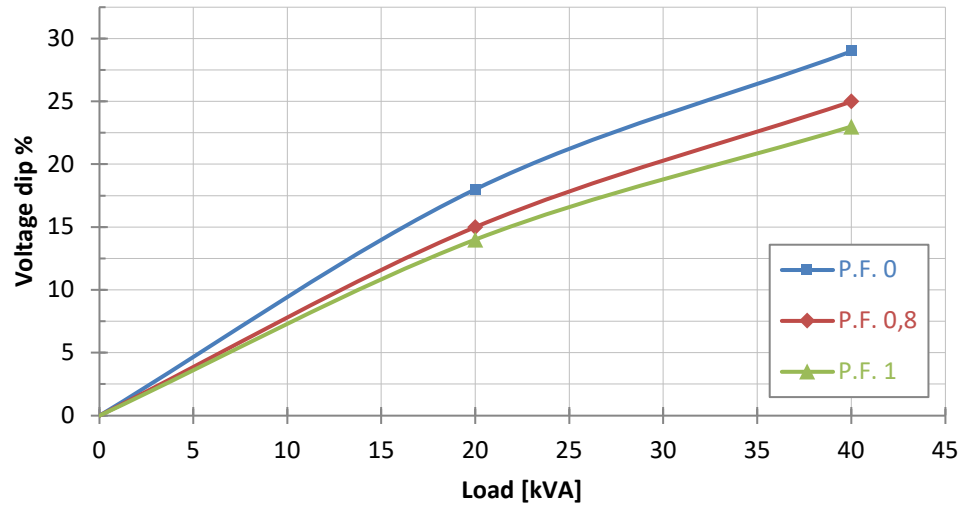
DERATING CURVES



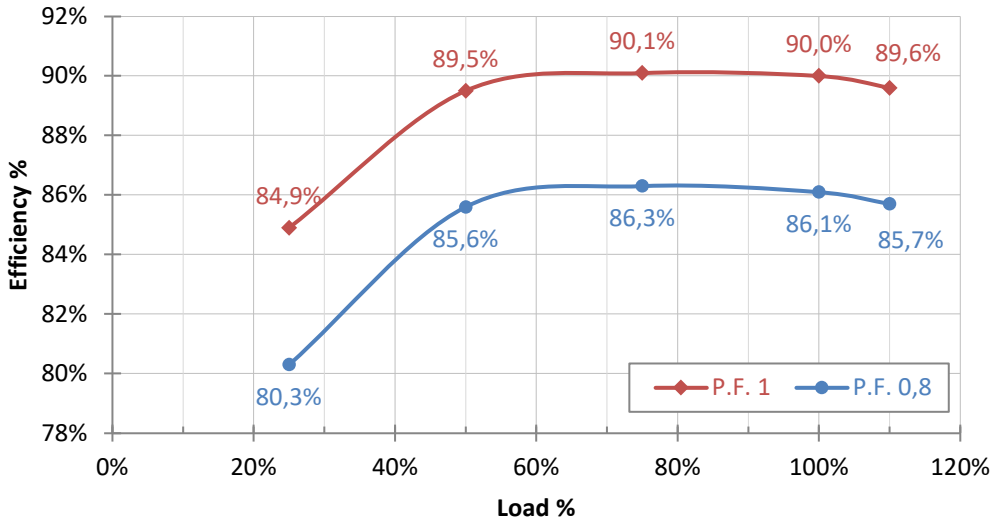
WIRING DIAGRAM



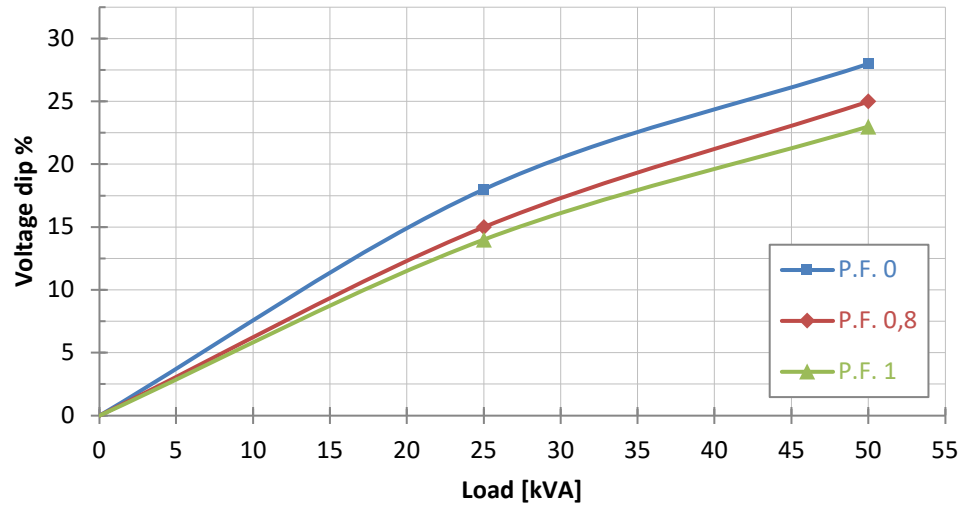
TRANSIENT VOLTAGE VARIATION @50Hz - 230/400V



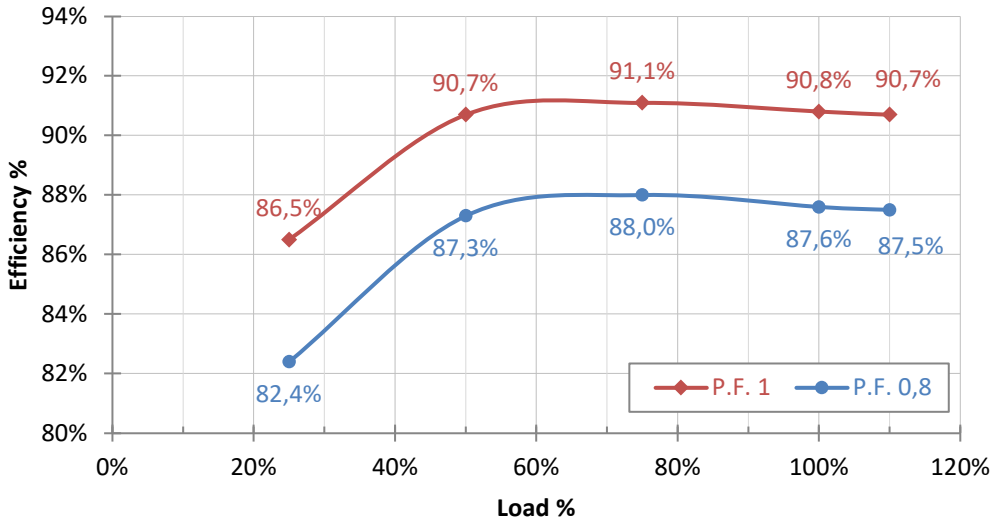
EFFICIENCY CURVES @50Hz - 230/400V



TRANSIENT VOLTAGE VARIATION @60Hz - 277/480V

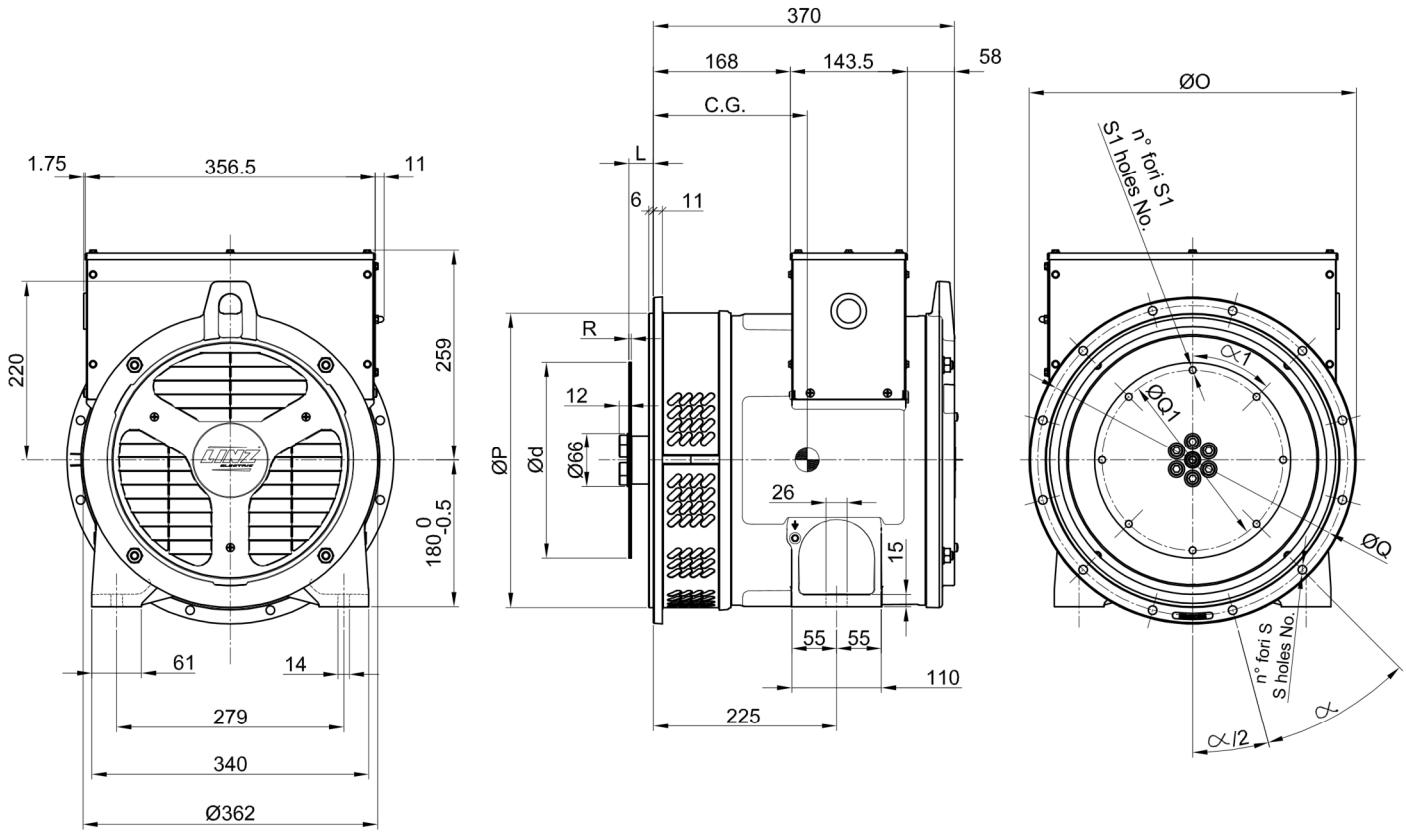


EFFICIENCY CURVES @60Hz - 277/480V



OVERALL DIMENSIONS

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°	