

TECHNICAL DATA SHEET



**ALTERNATOR CPT18 LG**

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

## CPT18 LG

### COMMON DATA

Rated Power at 50Hz	kVA	25
Rated Power at 60Hz	kVA	30
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	6,3 at 50Hz      6,5 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	0,33 at 20°C
Rotor Winding Resistance	Ω	2,70 at 20°C
Exciter Stator Resistance	Ω	12 at 20°C
Exciter Rotor Resistance	Ω	0,82 at 20°C
THD at full load	<3%	
THD at no load	<3,5%	
Excitation at no load	Adc	0,95
Excitation at full load	Adc	2,90

### 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

## CPT18 LG

### 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	16	24	25	25	23	19	26	28	29	30
	kW	12,8	19,2	20	20	18,4	15,2	20,8	22,4	23,2	24
Rated Power in Class F (105°C/40°C)	kVA	14,5	22	23	23	21	17,4	23,5	25	26,5	27,5
	kW	11,6	17,6	18,4	18,4	16,8	13,9	18,8	20	21,2	22
Rated Power Standby (150°C/40°C)	kVA	17,5	26	27	27	25	20,5	28	30	31,5	32,5
	kW	14	20,8	21,6	21,6	20	16,4	22,4	24	25,2	26
Rated Power Standby (163°C/27°C)	kVA	18	27	28	28	26	21,5	29	31,5	33	34
	kW	14,4	21,6	22,4	22,4	20,8	17,2	23,2	25,2	26,4	27,2

### EFFICIENCY IN CL. H @ 0.8P.F

4/4			85,6%							88,2%
3/4			86,5%							89,1%
2/4			83,1%							85,5%
1/4			76,4%							79,6%

### REACTANCES AND TIME CONSTANTS

pcc			0,33							
X <sub>d</sub> - dir. axis synchronous		306%	288%	268%	219%		334%	320%	303%	288%
X' <sub>d</sub> - dir. axis transient		27,8%	26,1%	24,3%	19,8%		30,3%	29,0%	27,5%	26,1%
X'' <sub>d</sub> - dir. axis subtransient		13,4%	12,6%	11,7%	9,6%		14,6%	14,0%	13,3%	12,6%
X <sub>q</sub> - quad. axis reactance		173%	162%	151%	123%		188%	180%	171%	162%
T' <sub>do</sub> - O.C. field time constant							500ms			
T' <sub>d</sub> - Transient time constant							45ms			
T'' <sub>d</sub> - Sub-transient time constant							12ms			

### MECHANICAL DATA

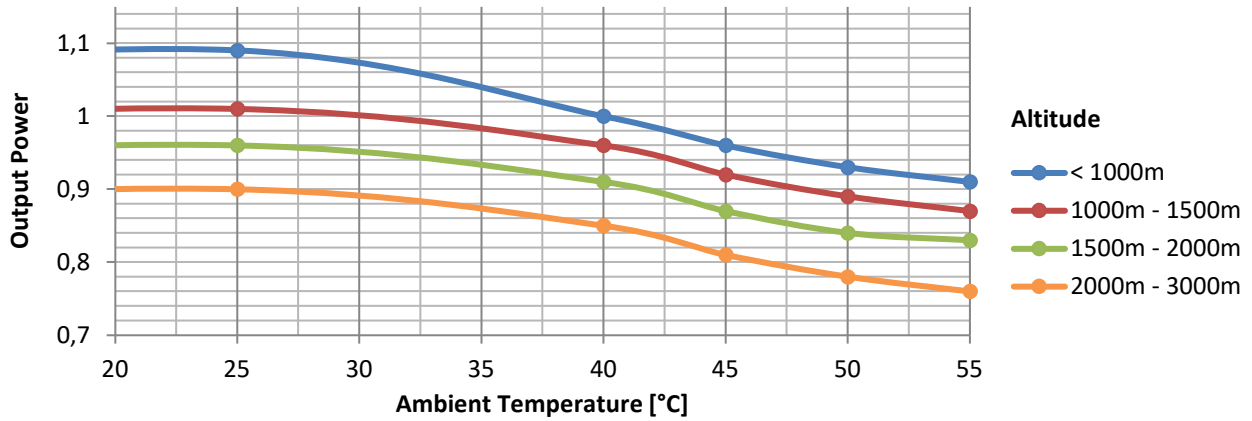
Bearing non drive end			6306-2RS-C3
Bearing drive end (B3/B14 form)			\
Weight of generator	in B2	kg	107,4
	in B3/B14	kg	\
	in B3/B9	kg	\

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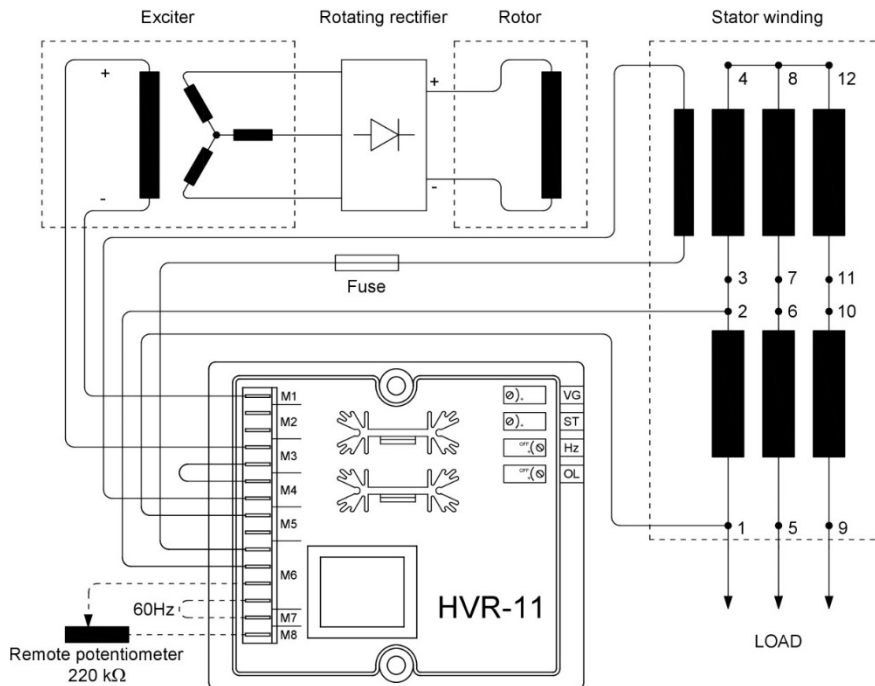
## MOMENT OF INERZIA

SAE 6½	kg·m <sup>2</sup>	0,198
SAE 7½	kg·m <sup>2</sup>	0,201

## DERATING CURVES



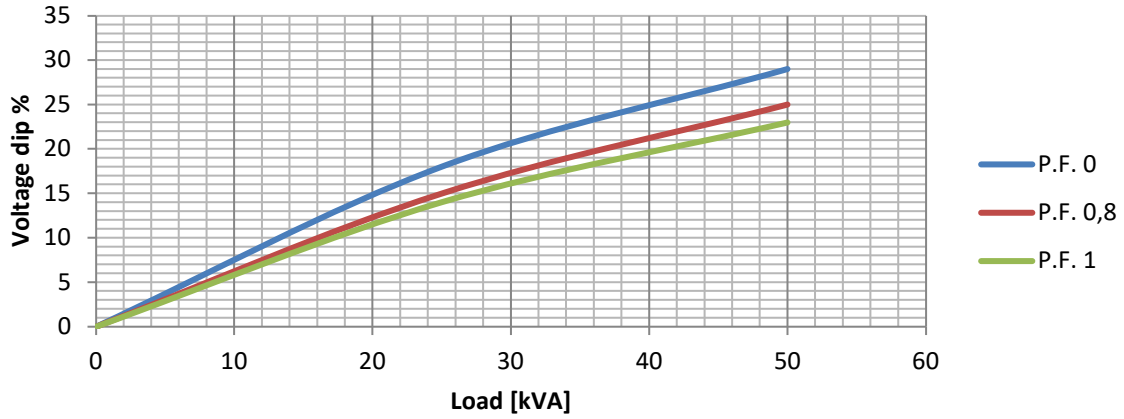
## WIRING DIAGRAM



# CPT18 LG

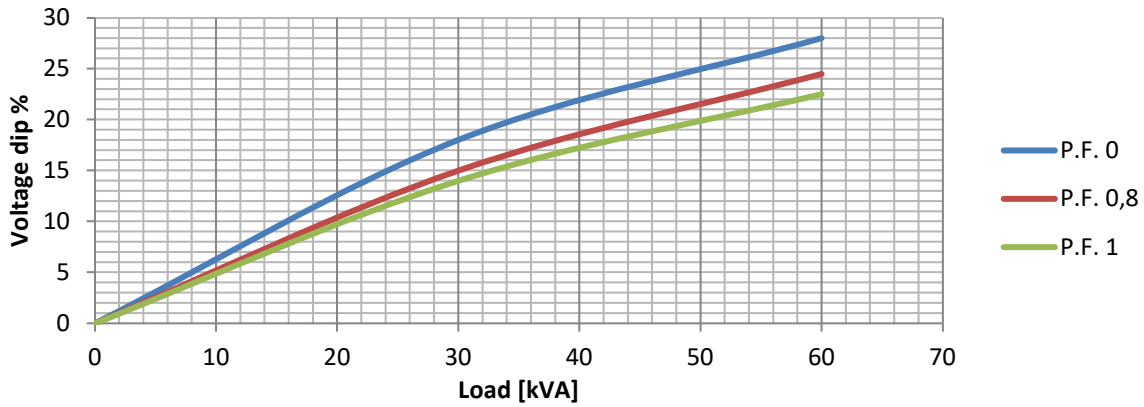
## TRANSIENT VOLTAGE VARIATION 50Hz

### Transient Voltage Variation @ 50Hz



## TRANSIENT VOLTAGE VARIATION 60Hz

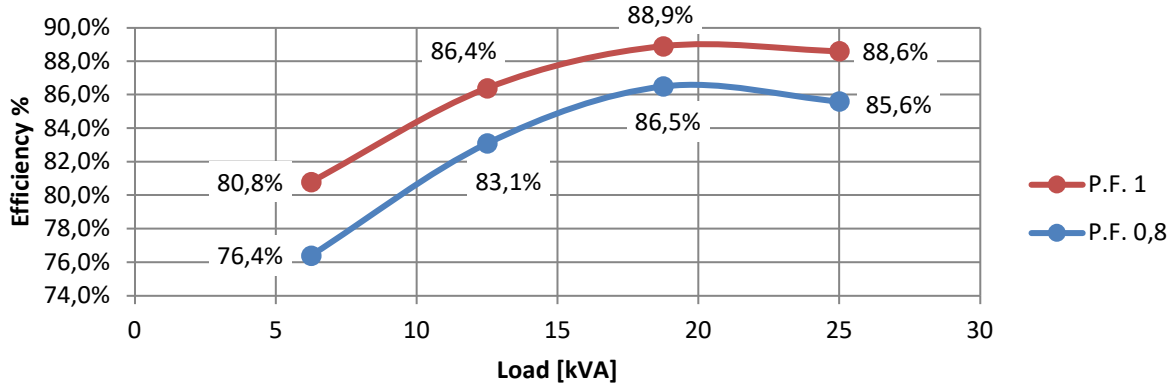
### Transient Voltage Variation @ 60Hz



# CPT18 LG

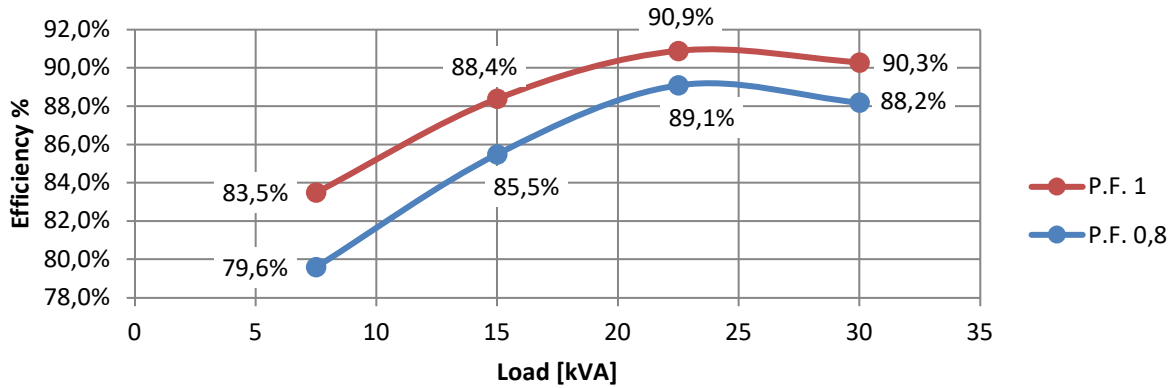
## EFFICIENCY 50Hz

### Efficiency Curves @ 50Hz

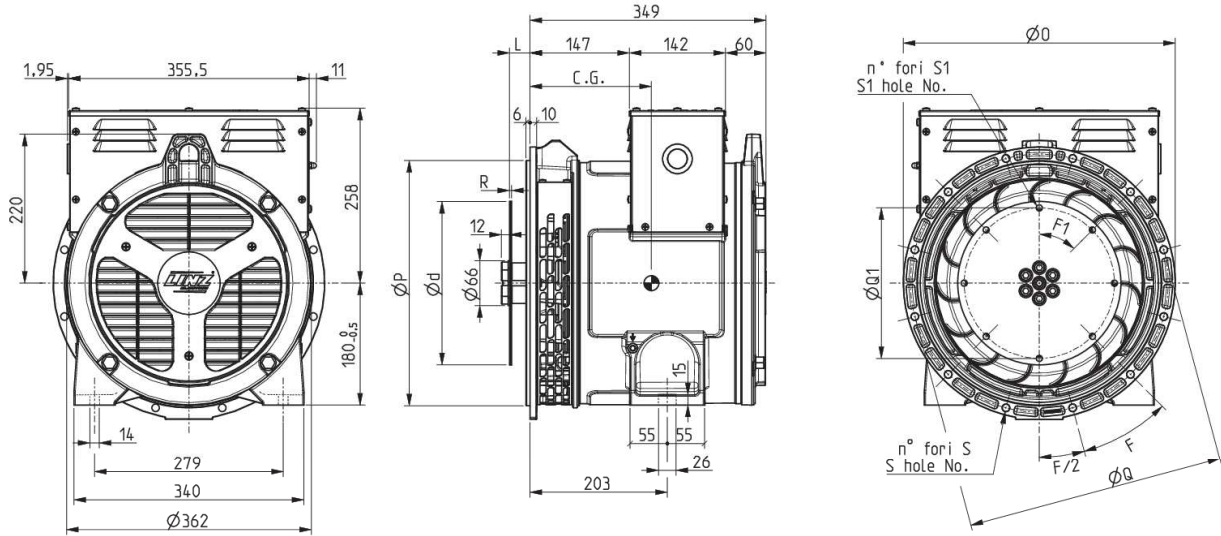


## EFFICIENCY 60Hz

### Efficiency Curves @ 60Hz



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TYPE	C.G.
CP 18LG	162

SAE N.	FLANGIE - FLANGES - BRIDAS					
	Ø0	ØP	ØQ	n. fori holes No.	S	F
5	356	314,3	333,4	8	11	45°
4	402	362	381	12		30°

SAE N.	GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS						
	L	Ød	ØQ1	n. fori holes No.	S1	F1	R
6 1/2	30,2	215,9	200	6	9	60°	3
7 1/2		241,3	222,25	8		45°	