

TECHNICAL DATA SHEET



**ALTERNATOR CPT18 MF**

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

## CPT18 MF

### 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	5,8 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	0,50 at 20°C	
Rotor Winding Resistance	Ω	2,60 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	0,97	
Excitation at full load	Adc	3,0	

### 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

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### 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	19	20	20	18	15,5	21	22	23	24
	kW	10,4	15,2	16	16	14,4	12,4	16,8	17,6	18,4	19,2
Rated Power in Class F (105°C/40°C)	kVA	12	18	18,5	18,5	16,5	14	19	20	21	22
	kW	9,6	14,4	14,8	14,8	13,2	11,2	15,2	16	16,8	17,6
Rated Power Standby (150°C/40°C)	kVA	14	20,5	21,5	21,5	19,5	17	23	24	25	26
	kW	11,2	16,4	17,2	17,2	15,6	13,6	18,4	1,2	20	20,8
Rated Power Standby (163°C/27°C)	kVA	14,5	21	22	22	20	17,5	23,5	24,5	26	27
	kW	11,6	16,8	17,6	17,6	16	14	18,8	19,6	20,8	21,6

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

4/4			86,1%							87,8%
3/4			87,0%							88,7%
2/4			85,2%							87,4%
1/4			80,3%							83,0%

### REACTANCES AND TIME CONSTANTS

pcc		0,45								
X <sub>d</sub> - dir. axis synchronous		222%	211%	196%	157%		247%	230%	220%	211%
X' <sub>d</sub> - dir. axis transient		19,5%	18,5%	17,2%	13,8%		21,7%	20,2%	19,3%	18,5%
X'' <sub>d</sub> - dir. axis subtransient		9,2%	8,7%	8,1%	6,5%		10,2%	9,5%	9,1%	8,7%
X <sub>q</sub> - quad. axis reactance		124%	118%	110%	88%		138%	129%	123%	118%
T' <sub>do</sub> - O.C. field time constant							431ms			
T' <sub>d</sub> - Transient time constant							38ms			
T'' <sub>d</sub> - Sub-transient time constant							7ms			

### MECHANICAL DATA

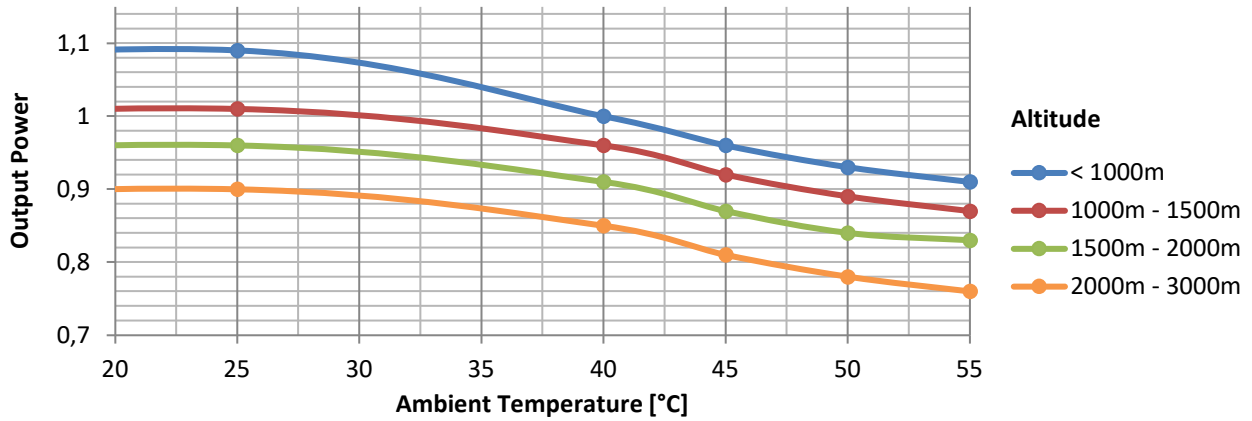
Bearing non drive end			6306-2RS-C3
Bearing drive end (B3/B14 form)			\
Weight of generator	in B2	kg	95,0
	in B3/B14	kg	\
	in B3/B9	kg	\

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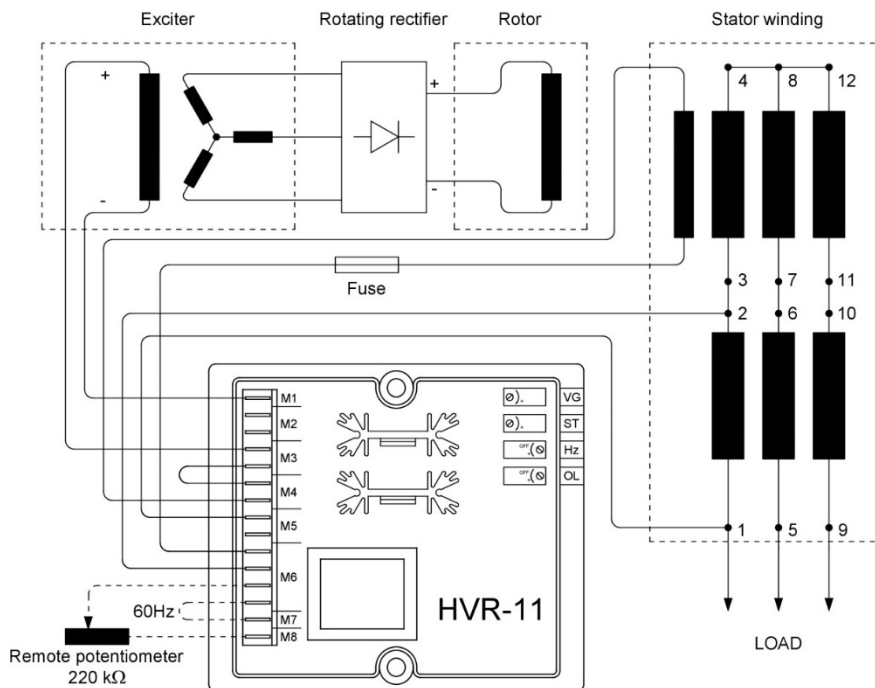
## MOMENT OF INERZIA

SAE 6½	kg·m <sup>2</sup>	0,168
SAE 7½	kg·m <sup>2</sup>	0,171

## DERATING CURVES



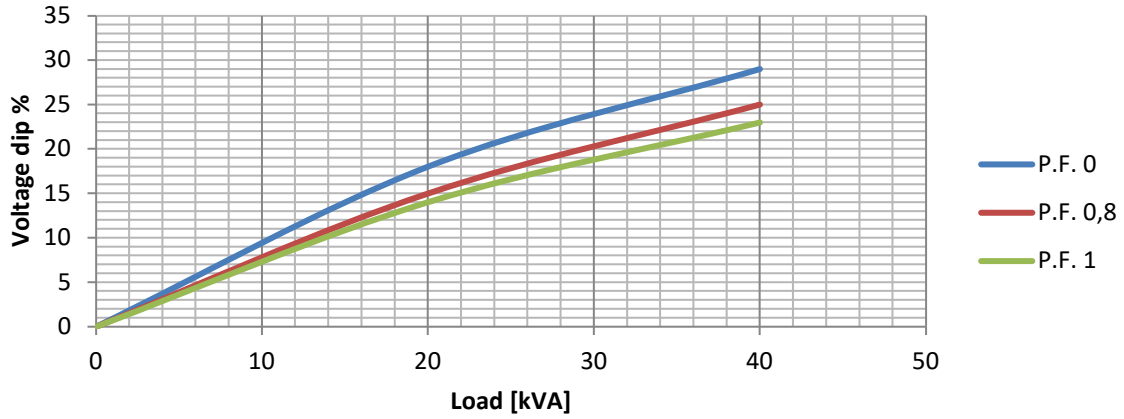
## WIRING DIAGRAM



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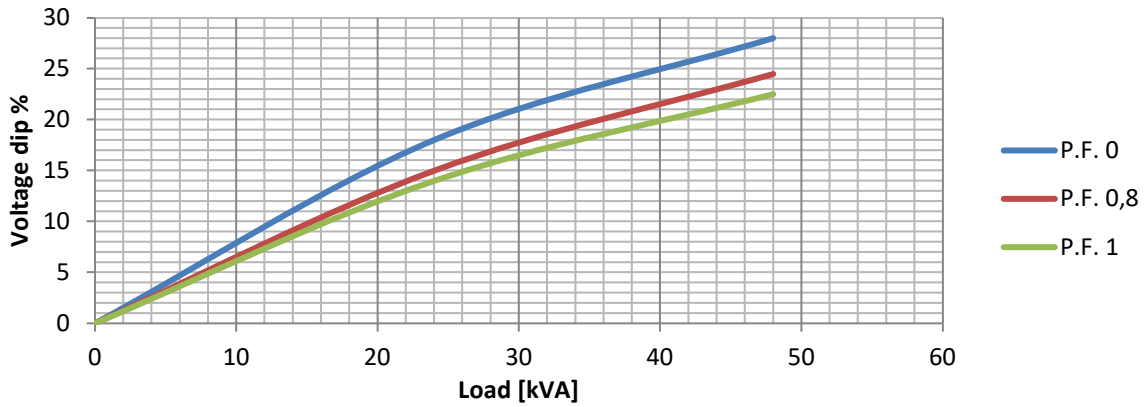
## TRANSIENT VOLTAGE VARIATION 50Hz

### Transient Voltage Variation @ 50Hz



## TRANSIENT VOLTAGE VARIATION 60Hz

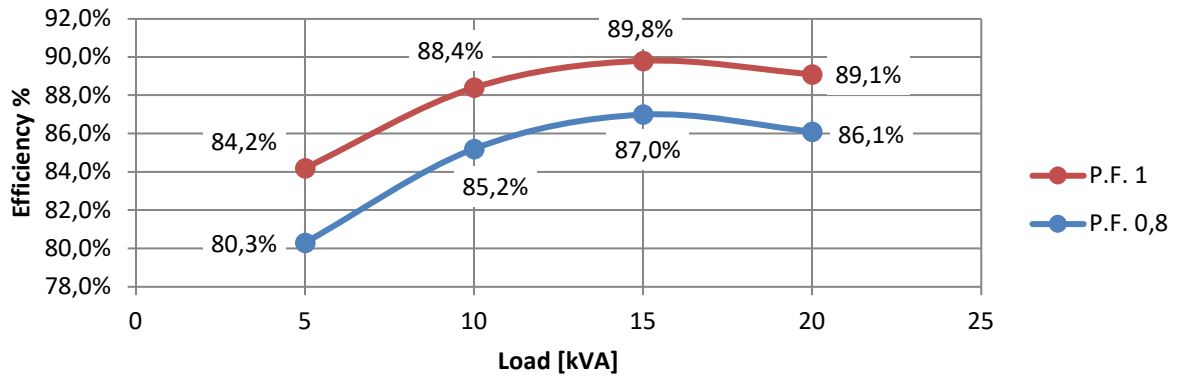
### Transient Voltage Variation @ 60Hz



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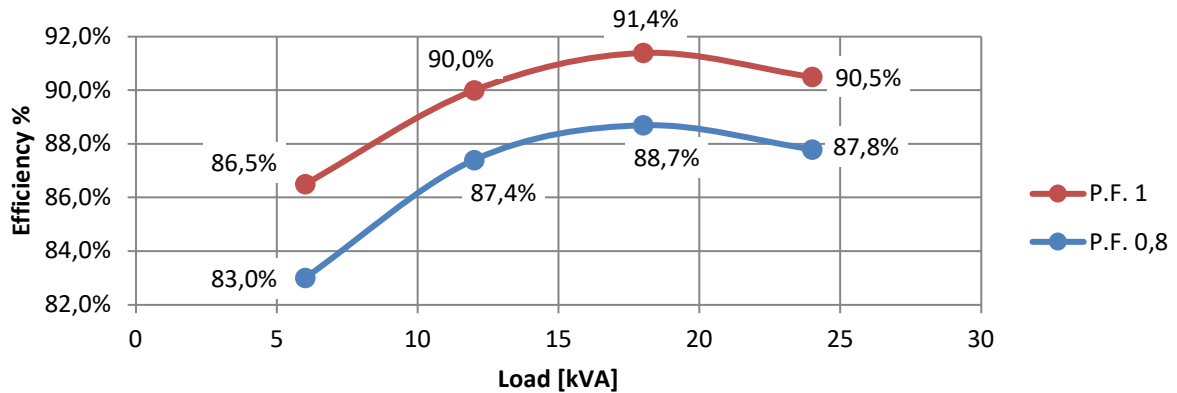
### EFFICIENCY 50Hz

#### Efficiency Curves @ 50Hz

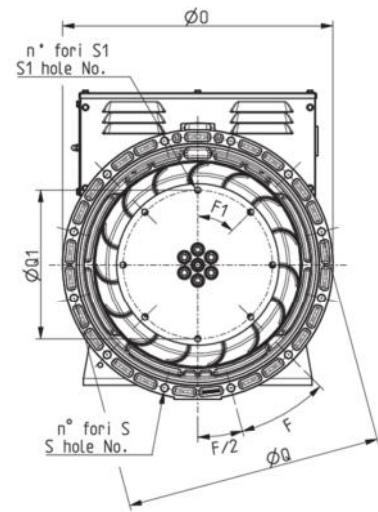
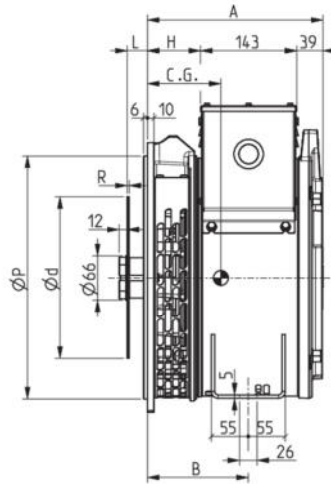
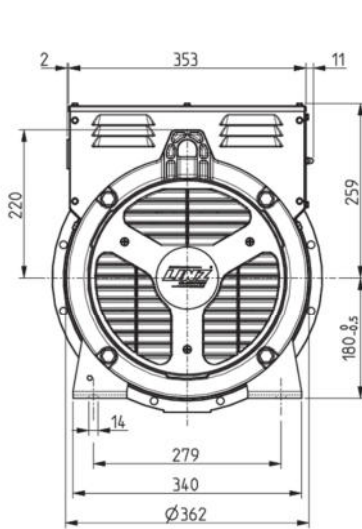


### EFFICIENCY 60Hz

#### Efficiency Curves @ 60Hz



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FORMA - FORM	A	B	H
CP 18XS	261	150	79
SAE CP 18S	276	165	94
CP 18M	316	205	134

SAE N.	FLANGIE - FLANGES - BRIDAS					
	$\varnothing 0$	$\varnothing P$	$\varnothing Q$	n. fori holes No.	S	F
5	356	314.3	333.4	8	11	45°
4	402	362	381	12		30°

TYPE	C.G.
CP 18XSA	125
CP 18SB	131
CP 18SC	132
CP 18MD	146
CP 18ME	147
CP 18MF	150

SAE N.	GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS						
	L	$\varnothing d$	$\varnothing Q1$	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°	