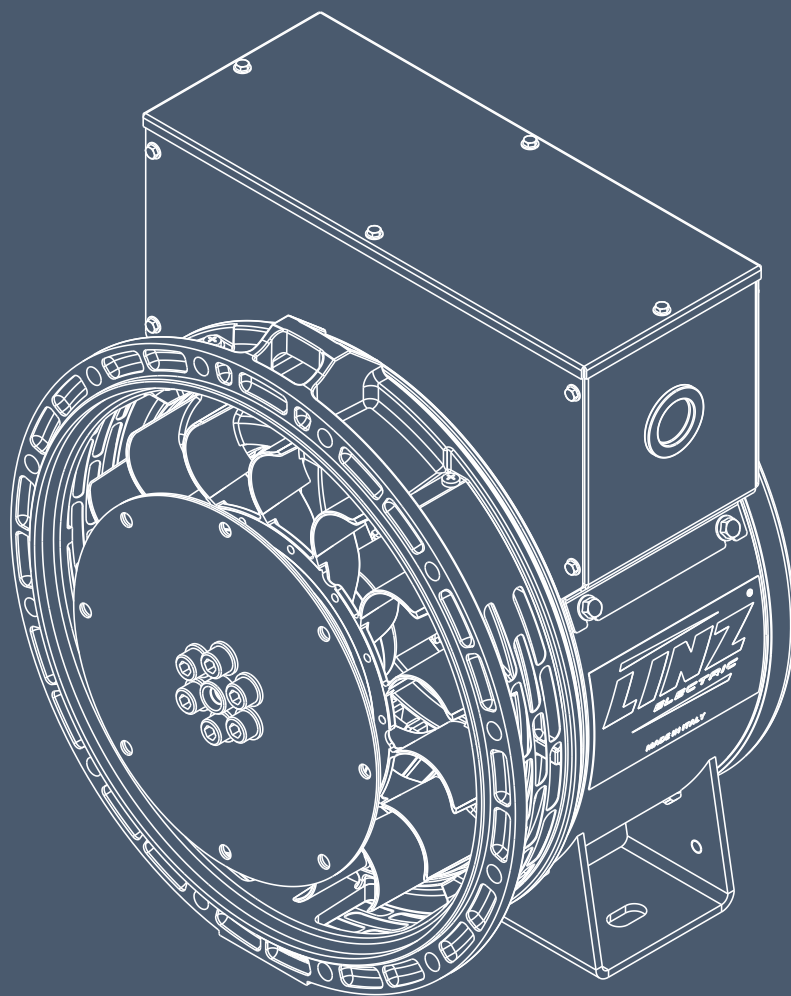


LINZ[®]
ELECTRIC

PEDROLLO[®]
GROUP



Shorter, Lighter, Cooler

COMPATTO 60HZ
4-POLE BRUSHLESS AVR



THE COMPANY

LINZ ELECTRIC S.p.A., part of the Pedrollo Group of companies, is specialized in the production of alternators and rotating machines for the most varied application fields: i.e. portable generators, industrial gen-sets, cogeneration, telecom, lighting towers, welders. It was founded in 2002 and became in few years one of the major players in the sector. The knowledge and long experience of its designers together with the strong propensity for innovation and a natural tendency for investment has quickly led to the development of a full range of Made in Italy products whose high quality standards are recognised and appreciated worldwide by the most important gen-sets manufacturers. In accordance with its deep values the main focus of Linz Electric has always been the customer satisfaction by controlling the key points of the production through a strong vertical integration, a constant focus on the product quality and a quick and complete service.

Our Mission is to produce the best electric rotating machines and the most efficient solutions in the energy transformation to impact successfully on ours and our customers' development.

LINZ ELECTRIC lands in the States in 2015, with a new subsidiary, LINZ ELECTRIC INC. Thanks to this important step and to the proximity to the market we have been offering an optimized pre- and after-sales service to our North American customers, quick deliveries and customer support through the competence that always distinguishes Linz Electric and its people.



COMPATTO

The COMPATTO series includes single and three-phase synchronous alternators, **4-pole brushless with exciter and electronic regulation.**

This series has been realized focusing on compactness and high reliability criteria for use in continuous service applications and in particular conditions such as dusty, humid, and saline environments, and high temperatures.



Key Features

- extreme compactness for limited space applications
- continuous duty ratings
- auxiliary winding with sustained short circuit
- withstands up to 300% of the rated current for 10 seconds
- robust structure
- cast iron bearing seat
- oversized bearing pre-lubricated for life
- low total harmonic distortion
- tropicalization process and phenolic paint on all wound parts
- high temperature resistant components
- quick and easy assembly



Applications and Uses



LEISURE AND SMALL PROFESSIONAL MARINE



TELECOM



RAIL



PRIME POWER AND STANDBY GENERATORS



VEHICLE GENERATORS



LIGHTING TOWERS

Three-phase brushless synchronous alternators with electronic regulation - 4 poles

- 60Hz /1800 RPM - 4 POLES
- 0.8 Power Factor
- Class H Insulation
- 12 Leads

TYPE	3 Phase 277/480V - High WYE 138/240V - Low WYE kVA				3 Phase 240/416V - High WYE 120/208V - Low WYE kVA				Single Phase 120/240V - Series Parallel kVA				Net weight SAE (lbs)
	150/40	125/40	105/40	80/40	150/40	125/40	105/40	80/40	150/40	125/40	105/40	80/40	
CPT18 XSA	10.5	10	9.2	8	9.3	9	8.5	7	6	5.5	5	4.6	137.79
CPT18 SB	13	12	11	9.5	11.5	10.8	10	8.6	7.7	7	6.4	5.5	149.25
CPT18 SC	15.8	14.5	13.3	11.5	14	13	12	10.5	8.7	8	7.3	6.4	154.41
CPT18 MD	20	18	16.5	14.5	17.5	16	15	13	11.5	10.5	9.5	8.5	180.34
CPT18 MF	26	24	22	19	24	21	20	17	15.6	13.7	13	11	209.44
CPT18 LG	32	30	27.5	24	28.5	26	24	21	18.6	17	15.6	14	236.78

TYPE	Leads	3 Phase 277/480V - High WYE 138/240V - Low WYE 60 Hz - 1800 rpm - $\cos\phi = 0.8$		
		Efficiency %		
		kVA	4/4	3/4
CPT18 XSA	12	10	76.1	77.6
CPT18 SB	12	12	78.6	80.0
CPT18 SC	12	14.5	80.7	82.3
CPT18 MD	12	18	83.8	84.9
CPT18 MF	12	24	87.8	88.7
CPT18 LG	12	30	88.2	89.1

Dedicated single-phase brushless synchronous alternators with electronic regulation - 4 poles

- 60Hz / 1800 RPM - 4 POLES
- 1 Power Factor
- Class H Insulation
- 4 Leads

TYPE	Single Phase 120/240V - Series Parallel kVA				Net weight SAE (lbs)	Efficiency % $\cos\phi = 1$	
	150/40	125/40	105/40	80/40		4/4	3/4
CPS18 XSA	7.7	7	6.4	5.6	136.69	77.2	80.2
CPS18 SB	9.8	9	8.2	7.2	147.71	80.0	83.8
CPS18 SC	11	10	9.3	8	155.87	81.3	83.9
CPS18 MD	13.6	12.5	11.5	10	178.35	84.0	86.1
CPS18 ME	16.4	15	13.8	12	189.82	87.0	88.5
CPS18 MF	19.7	18	16.5	14.5	206.79	88.3	90.0
CPS18 LG	24	22	20	17.6	233.69	90.0	91.2



UL RECOGNIZED INSULATION SYSTEM (Standards: UL 1446, Systems of Insulating Materials - General CSA-C22.2 No. 0, Appendix B, General Requirements - Canadian Electrical Code, Part II)

General technical specifications

WINDINGS AND THD

All windings are made of Class H materials, 12 leads three phase series and 4 leads single phase series are wound to 2/3 pitch to reduce the voltage THD by keeping it constantly within 3%. The galvanic insulated auxiliary power winding ensures a perfect regulation and functioning even in case of non-linear load. Every model of COMPATTO series has a damping cage to further improve the quality of the wave form thus allowing to work in presence of distorting single-phase or unbalanced three phase loads. Standard damping cage on all the models provides added value since the market for applications using electronic loads is growing rapidly (UPS, inverter, chopper and switching power supply units).

AUXILIARY POWER WINDING

The auxiliary power winding guarantees that the power supply to the electronic regulator is not affected by the load connected to the generator. This winding ensures that the regulator operates perfectly whatever the load type, even with a severe non-linear load. The auxiliary winding is galvanically insulated and independent of the main windings. It has been dimensioned to guarantee a permanent short-circuit current equal to 300% the rated current for at least 10 seconds, thus providing optimal function during heavy start-up transients of asynchronous motors.

OVERLOADS

The following overloads are allowed: 10% of the rated power for 1 hour every 6 hours.
A 10 seconds overload can be extremely high (up to 3 times the rated current).

REGULATION SYSTEMS

The voltage is regulated by an electronic regulator powered by an auxiliary winding galvanically insulated from the main winding.

The voltage regulators have been designed, built and tested entirely in our factories. They are made with state-of-the-art electronic components and technologies that ensure reliability and sturdiness under any generator working conditions.

Main features of the regulators

- Voltage accuracy <1%
- Stability control adjustment to guarantee the best dynamic response for any situation
- Adjustment of the low frequency protection
- Adjustment of the over-excitation protection setting
- Remote potentiometer voltage control inlet
- 50Hz or 60Hz working possibility

All adjustments are made with multiturn trimmers that allow an extremely accurate setting.

Digital AVR

On request we can supply a special AVR completely digital in all the following different stages: power supply, input data stage, signal and power control.





MECHANICAL FEATURES

The COMPATTO series is a durable, short, light and mechanical resistant series designed to be used in all applications where compactness and weight matter. The particularly robust structure has been designed to absorb the characteristic impacts on vehicle applications. Oversized and high resistant lifelong lubricated bearing and extremely strong rotors to resist the escape velocity of drive engines allow this 4 pole series to be considered a product with high reliability and resistance suitable to be used either in harsh or standard applications.

IMPREGNATION

Further to a tropicalization process, all windings of COMPATTO series undergo a treatment with a phenolic paint. A protective insulating phenolic resin is applied to all the generator wound parts forming a flexible film with excellent mechanical, heat, and chemical resistance. This is particularly important in dusty, wet, and saline environments.

TERMINAL BOX AND AVR

The COMPATTO series allows an easy access to the terminal board and electronic regulator. A specific side opening facilitates the access to the regulator trimmers to easily carry out voltage setting and adjustments operations. One of the main feature of this series is the high temperature resistance of all the components including AVR, thanks to use of high temperature resistant electronic components.

QUICK ASSEMBLY

The design of COMPATTO series permits a quick and easy coupling without disassembling the flange.

REFERENCE STANDARDS

The COMPATTO series are built in accordance with the provisions specified in the EN 60034-1, EN 60204-1, EN61000-6-2, EN61000-6-4, EN55014-1, EN 55011 standards and the 2006/95/CE and 2004/108/CE directives. On request are available UL insulation systems (UL 1446-CSA C22.2 No.0) certification.

OPTIONALS

The COMPATTO series can be fit with the following accessories and optionals:

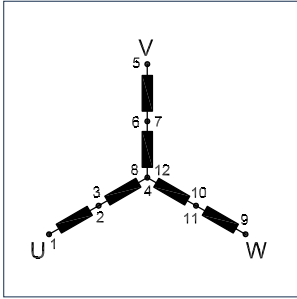
- PTC thermistors
- PT100 on windings and/or bearings,
- EMI filter
- Digital AVR

POWER VARIATION ACCORDING TO TEMPERATURE AND ALTITUDE

ALTITUDE m	AMBIENT TEMPERATURE				
	25 °C	40 °C	45 °C	50 °C	55 °C
< 1000	1.09	1	0.96	0.93	0.91
1000 - 1500	1.01	0.96	0.92	0.89	0.87
1500 - 2000	0.96	0.91	0.87	0.84	0.83
2000 - 3000	0.9	0.85	0.81	0.78	0.76

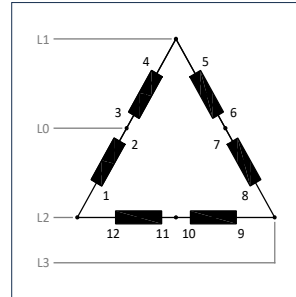
Connection Diagrams (12 Leads)

SERIES HIGH WYE (SERIES STAR)



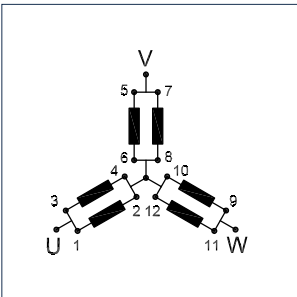
Hz	L-N	L-L
60	240	415
	254	440
	266	460
	277	480
50	220	380
	230	400
	240	415
	254	440

3 PHASE 4 WIRES
DELTA WITH NEUTRAL



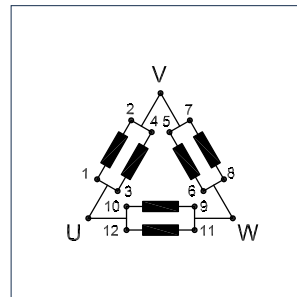
HZ	L-L	L1-L0	L2-L0	L3-L0
60	240	120	120	208
	254	127	127	220
	266	133	133	230
	277	138	138	240
50	220	110	110	190
	230	115	115	200
	240	120	120	208
	254	127	127	220

PARALLEL LOW WYE (PARALLEL STAR)



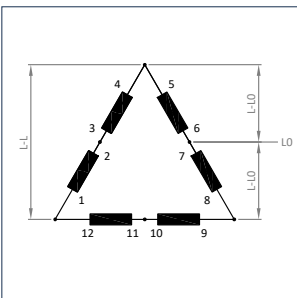
Hz	L-N	L-L
60	120	208
	127	220
	133	230
	139	240
50	110	190
	115	200
	120	208
	127	220

PARALLEL LOW DELTA



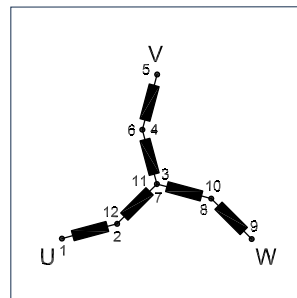
Hz	L-N	L-L
60		120
		127
		133
		139
50		110
		115
		120
		127

SERIES HIGH DELTA



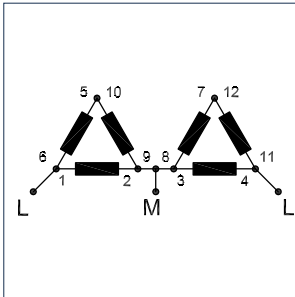
Hz	L-L	L-L0
60	240	120
	254	127
	266	133
	277	138
50	220	110
	230	115
	240	120
	254	127

ZIG-ZAG



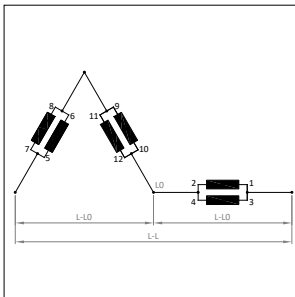
Hz	L-N	L-L
60	208	360
	220	380
	230	400
	240	415
50	191	330
	200	346
	208	360
	220	380

DOUBLE DELTA (SINGLE PHASE CONNECTION)



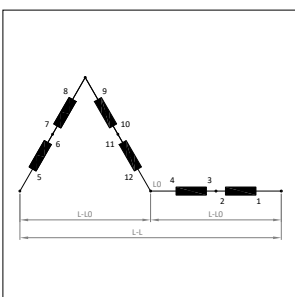
Hz	L-M	L-L
60	120	240
	127	254
	133	266
	139	277
50	110	220
	115	230
	120	240
	127	254

PARALLEL LOW ZIGZAG (SINGLE PHASE CONNECTION)



HZ	L-L	L-L0
60	240	120
	254	127
	266	133
	277	138
50	220	110
	230	115
	240	120
	254	127

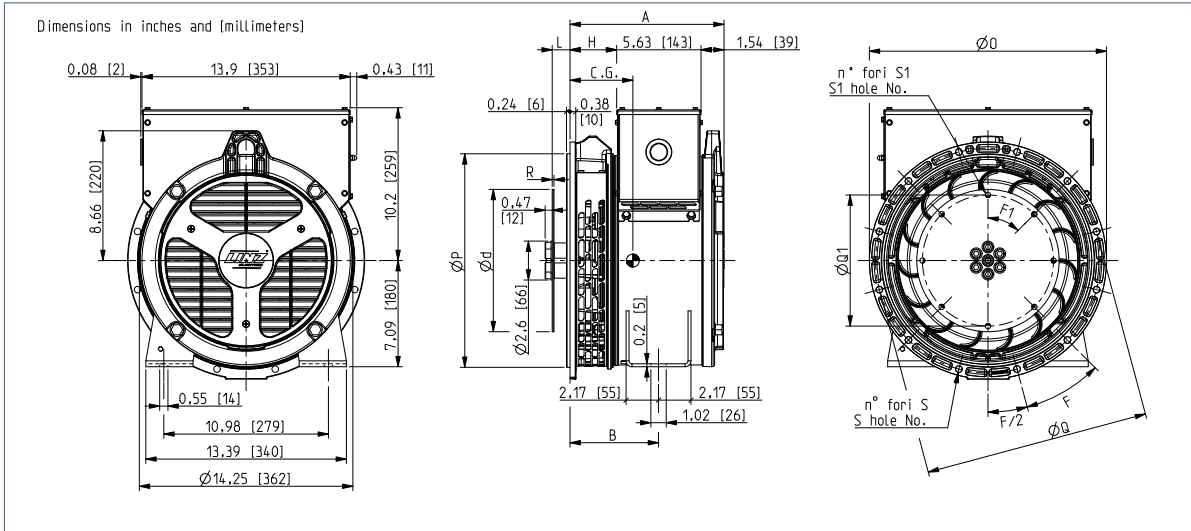
SERIES HIGH ZIGZAG (SINGLE PHASE CONNECTION)



HZ	L-L	L-L0
60	480	240
	508	254
	532	266
	554	277
50	440	220
	460	230
	480	240
	508	254

Dimensions CPS18 - CPT18

XS - S - M

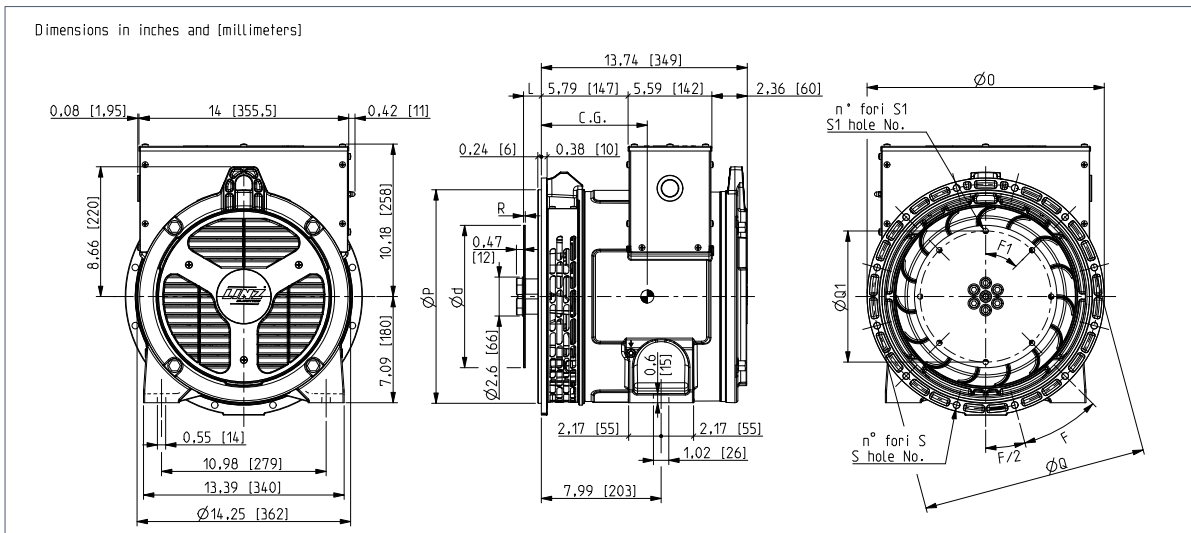


MODEL	A	B	H
CP - XS	10.27 [261]	5.9 [150]	3.11 [79]
CP - S	10.86 [276]	6.5 [165]	3.7 [94]
CP - M	12.44 [316]	8.07 [205]	5.27 [134]

SAE N.	FLANGES					
	Ø0	ØP	ØQ	holes No.	S	F
5	14.01 [356]	12.37 [314.3]	13.13 [333.4]	8	0.43 [11]	45°
4	15.83 [402]	14.25 [362]	15 [381]	12		30°

SAE N.	COUPLING DISCS						
	L	Ød	ØQ1	holes No.	S1	F1	R
6 1/2	1.19 [30.2]	8.5 [215.9]	7.87 [200]	6	0.35 [9]	60°	0.12 [3]
7 1/2		9.5 [241.3]	8.75 [222.2]	8		45°	

L



SAE N.	FLANGES					
	Ø0	ØP	ØQ	holes No.	S	F
5	14.01 [356]	12.37 [314.3]	13.13 [333.4]	8	0.43 [11]	45°
4	15.83 [402]	14.25 [362]	15 [381]	12		30°

SAE N.	COUPLING DISCS						
	L	Ød	ØQ1	holes No.	S1	F1	R
6 1/2	1.19 [30.2]	8.5 [215.9]	7.87 [200]	6	0.35 [9]	60°	0.12 [3]
7 1/2		9.5 [241.3]	8.75 [222.2]	8		45°	

MODEL	C.G.
CP-18XSA	4.92 [125]
CP-18SB	5.16 [131]
CP-18SC	5.20 [132]
CP-18MD	5.75 [146]
CP-18ME	5.79 [147]
CP-18MF	5.9 [150]
CP-18LG	6.38 [162]

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