

24 VDC | 48 VDC  
Direct Current alternators  
for telecoms, lighting towers  
and battery charging

40  
years  
1986-2026



**Sincro**<sup>®</sup>  
where energy is passion

# 24 VDC | 48 VDC Direct Current alternators up to 800A

- FIXED OR VARIABLE SPEED
- INVERTERLESS
- VOLTAGE HIGH STABILITY AT LOAD STEP VARIATIONS
- DIGITAL AVR

## Applications

- Hybrid telecom applications
- Battery chargers
- APU (auxiliary power units)
- Low voltage LED lighting towers

## Voltage

- DC constant voltage
- High stability of the voltage in a large speed operation range
- Digital AVR
- Adjustable voltage set-point by trimmer, or external potentiometer, or outer controller
- Low ripple

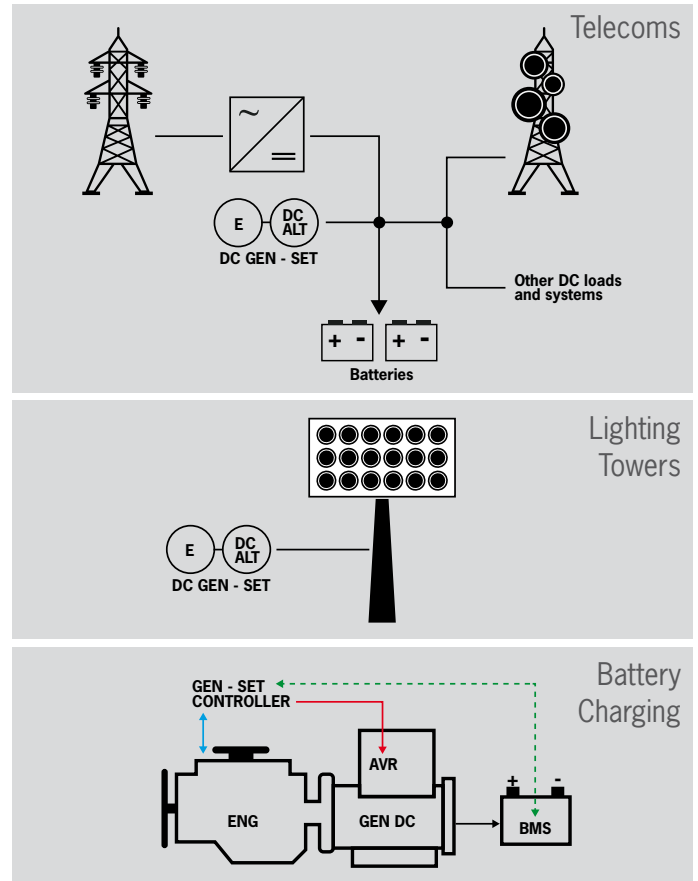
## Highlights

- Integrated AC/DC rectifier bridge providing more compactness and a simpler mounting of the gen-sets
- Wound-type rotor, 2 or 4 poles, large operating speed range
- High efficiency

## Savings €

- No need for inverter / stabilizer
- Reduced fuel consumption
- Minimized need for maintenance
- Optimized assembling costs

## Typical applications



## Data Overview

	E3 3phase	FT 3phase	FB 3phase   9phase	IB 9phase	SK160 9phase
Technology	3-phase AC alternators wound-rotor		9-phase AC alternators with AC/DC rectifier bridge		
Regulation	DIGITAL AVR				
Rectifier	Diode 3-phase (2 poles) Diode 3-phase or 9-phase (4 poles)		Diode 3-phase; diode 9-phase on request (2 poles) Diode 3-phase or 9-phase (4 poles)		
Nominal speed	3000 rpm (2 poles)   1500 rpm (4 poles)				
Operating speed	2700 ÷ 3900 (2 poles)   1350 ÷ 2400 (4 poles)				
Nominal voltage	24 VDC or 48 VDC				
Operating output voltage (settable)	from 22 VDC to 30 VDC or from 46 VDC to 58 VDC				
Dynamic behaviour	Fast recovery time during transient by step load variation				
External voltage input for voltage regulation	0-10 VDC				
Efficiency (@ ¾ load)	0,75 ÷ 0,85 depending on model				
Current overload protection	Included				
Underspeed protection	Included				
Ripple <sup>1</sup>	< 8% standard on 3-phase versions   < 2% standard on 9-phase versions (<0,5% with filter)				
Insulation class	F/H		H		
Temperature rise class	F		H		
Operating temperature	-20°C to +40°C (+55°C with derating)				
EMI/RFI	EN 61000-6-2, EN 61000-6-4				
Protection degree	IP23				
Standards	EN 60034-1, IEC 60034-1, ISO 8528-3				
Cooling system	Axial fan cooling ventilation				

(1) On request reinforced filter for ripple reduction  
Ripple factor is ratio between Volt RMS value and DC component of nominal voltage

**Range**


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2 POLES		3000 RPM	
BRUSHES/AVR	models	A	KW @28VDC
	E3 2-24/120	120	3,4
	E3 2-24/180	180	5
	FT 2-24/350	350	9,8
	FT 2-24/500	500	14
	FT 2-24/600	600	16,8

4 POLES		1500 RPM	
BRUSHES/AVR	models	A	KW @28VDC
	FT 4-24/200	200	5,6
	FT 4-24/300	300	8,4
	FT 4-24/400	400	11,2

BRUSHLESS/AVR	models	A	KW @28VDC
	FB 2-24/300	300	8,4
	SK160 2-24/100	100	2,8
	SK160 2-24/150	150	4,2
	SK160 2-24/200	200	5,6
	SK160 2-24/250	250	7
	SK160 2-24/300	300	8,4
	SK160 2-24/400	400	11,2

BRUSHLESS/AVR	models	A	KW @28VDC
	FB 4-24/200	200	5,6
	FB 4-24/250	250	7
	IB 4-24/500	500	14
	SK160 4-24/100	100	2,8
	SK160 4-24/150	150	4,2
	SK160 4-24/200	200	5,6
	SK160 4-24/250	250	7
	SK160 4-24/300	300	8,4
	SK160 4-24/400	400	11,2

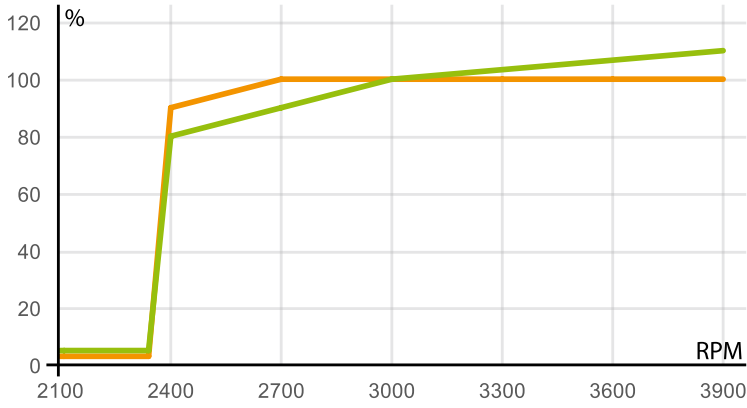


2 POLES		3000 RPM	
BRUSHES/AVR	models	A	KW @56VDC
	E3-48/60	60	3,4
	E3-48/100	100	5,6
	E3-48/150	150	8,4
	FT 2-48/250	250	14
	FT 2-48/300	300	16,8

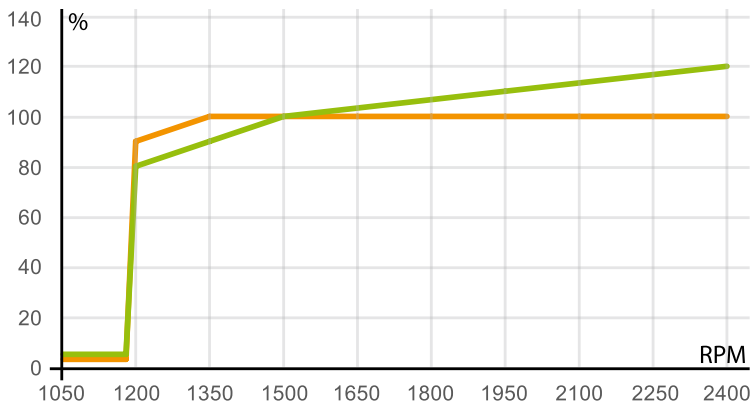
4 POLES		1500 RPM	
BRUSHES/AVR	models	A	KW @56VDC
	FT 4-48/100	100	5,6
	FT 4-48/150	150	8,4
	FT 4-48/200	200	11,2

BRUSHLESS/AVR	models	A	KW @56VDC
	FB 2-48/250	250	14
	FB 2-48/300	300	16,8
	SK160 2-48/100	100	5,6
	SK160 2-48/150	150	8,4
	SK160 2-48/200	200	11,2
	SK160 2-48/250	250	14
	SK160 2-48/300	300	16,8
	SK160 2-48/400	400	22,4

BRUSHLESS/AVR	models	A	KW @56VDC
	FB 4-48/100	100	5,6
	FB 4-48/125	125	7
	FB 4-48/150	150	8,4
	FB 4-48/200	200	11,2
	IB 4-48/500	500	28
	IB 4-48/800	800	44,8
	SK160 4-48/100	100	5,6
	SK160 4-48/150	150	8,4
	SK160 4-48/200	200	11,2
	SK160 4-48/250	250	14
	SK160 4-48/300	300	16,8
	SK160 4-48/400	400	22,4



2 POLES



4 POLES

\* NOMINAL SPEED

V — I

constant voltage in a large speed range



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