

STATIC FREQUENCY CONVERTER

Fixed, Mobile or Passangers bridge mounted

SC20, SA90 to SA180 Model

The only heavy-duty design for ramp applications in extreme conditions

Guinault has used its historical expertise in electrical power conversion for military applications (since 1974) to design the most robust and powerful frequency converter, especially designed for ramp operation, and the increased electrical power requirements of the latest aircraft. Guinault-Lebrun offers two ranges of Static Frequency Converter :

- ❑ **SC20 type** is able to convert 50Hz/60Hz current in continuous 28VDC current required by helicopters, or business and regional aircraft
- ❑ **SA90 and SA180 type** are able to convert 50Hz/60Hz current in A/C 115V/400Hz current to support narrow and wide bodied aircraft during handling, start or maintenance.

HEAVY DUTY DESIGN : The GUINAULT frequency converter is based on a heavy duty chassis, adapted to rough ramp conditions – the same unit can be mounted on trailer, under a passenger bridge, or on the ground – Air is drawn 40 cm from the ground, ensuring cleaner and cooler air, and is driven inside the unit in a separated path rising vertically, helped by natural convection

– Hot air is exhausted on the top of the unit, avoiding interference with air inlet (hot air naturally rises)-

EASY MAINTENANCE : Curved access doors ensure a great accessibility to all components, whatever the configuration (bridge, trailer or ground)

CLEAN POWER : the 12 pulse technology ensures low harmonics rejection in the mains (< 9% compared to 40% without this technology) – SA90/180 is clean and as a consequence ensures savings by avoiding harmonics penalty invoices by the power supplier - Most power suppliers give significant discounts on power supply to clean consumers. The smart filtering ensures < 2% harmonic content on the 400Hz output

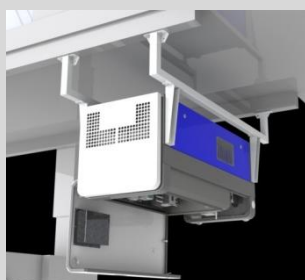
PERFORMANCE ACCORDING TO NEW COMING AIRCRAFT SPECIFICATION : the Guinault converter design ensures 90 kVA at power factor 1 – permanent , whereas most converters on the market are designed for power factor of 0,8 – New generation aircraft base their electrical network design on the availability of 90 kW – permanent per plug –

LOW NOISE : Air inlet / outlet includes noise reduction airflow paths

B787 COMPLIANT (high transformer magnetization inrush current)

Key Words : Low harmonics, 12 pulse, Facilitated Maintenance, B787 compliant

Purpose : From Business Jet to wide body aircraft (A380 ready), Fixed-Mobile-Passengers Bridge mounted



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		SA90 and SA180 Model	
INPUT POWER			
<input type="checkbox"/> Voltage		400V/three phases + Neutral (+/- 15%)	
<input type="checkbox"/> Frequency		50Hz or 60Hz (+/- 5%)	
<input type="checkbox"/> Input Current		125 Amp for SA90 250 Amp for SA180 (400V/50Hz case)	
<input type="checkbox"/> Input Harmonic (rejection to the mains)		< 9% (12 pulse technology)	
OUTPUT POWER			
<input type="checkbox"/> Voltage		115V +/- 0,5% with Automatic line drop compensation. Modulation <2%	
<input type="checkbox"/> Frequency		400Hz +/- 0,5%	
<input type="checkbox"/> Permanent output power		SA90 : 90KW (power factor 1) SA180 : 180KW (power factor 1)	
<input type="checkbox"/> Power Factor		0,6 to1 at full load	
<input type="checkbox"/> Harmonics content (THD)		< 2%	
<input type="checkbox"/> Outputs		1 output for SA90, 2 outputs for SA180, length 15 m. + socket Stanag 3303	
SAFETY FEATURES			
<input type="checkbox"/> Over/Under Voltage	<input type="checkbox"/> Over/Under Frequency	<input type="checkbox"/> NBPT (No Break Power Transfer)	
<input type="checkbox"/> Over Load	<input type="checkbox"/> Input Electrical failures (U, I,f)	<input type="checkbox"/> Overheat	
MAIN ASSEMBLY AND OPERATION			
<input type="checkbox"/> 12 Pulse technology for low harmonic re-injection in the mains (<9%)			
<input type="checkbox"/> Easy to use control panel with very High Luminosity screen VFD (text and pictures)			
<input type="checkbox"/> Last 1000 Defaults records (including full parameters : U, I, f, t...) for easy trouble shooting			
<input type="checkbox"/> Communication by CAN possible up 5 km of the converter - Modbus possible within 1km - RS232 limited to 10 m -)			
<input type="checkbox"/> Cooling system by double aspiration centrifugal fan (including sand and dust chicanes)			
<input type="checkbox"/> Remote monitoring of the unit		<input type="checkbox"/> Alternative bridge, trailer and ground mounted	
<input type="checkbox"/> Optimized vertically rising ventilation		<input type="checkbox"/> Hinged and curved doors for wide access for maintenance	
<input type="checkbox"/> Heavy duty mechanical assembly for ramp operation		<input type="checkbox"/> Designed in modules for plug-play replacement	
<input type="checkbox"/> Cable storage on each side of the unit		<input type="checkbox"/> Indoor and outdoor use	
AVAILABLE OPTIONS			
<input type="checkbox"/> Converter on trailer, fixed cabinet or passenger bridge mounted		<input type="checkbox"/> Coupling of various converters to increase capacity	
		<input type="checkbox"/> Cable retriever	
DIMENSIONS			
<input type="checkbox"/> Weight/Size		SA 90 : 550Kg / L: 1220 mm X W: 720 mm X H: 720 mm	
		SA 180 : 750Kg / L: 1720 mm X W: 720 mm X H: 720 mm	

		SC20	
EINGANGSLEISTUNG			
<input type="checkbox"/> Voltage		400V/ 200V/ 460V three phases + Neutral (+/- 10%)	
<input type="checkbox"/> Frequency		50Hz or 60Hz	
<input type="checkbox"/> Input Current		34 Amp (400V/50Hz case)	
OUTPUT POWER			
<input type="checkbox"/> Voltage		28Vdc – adjustable from 12 to 30Vdc - with Adjustable output current limitation 28Vdc cable - length 10m with standard plug STANAG 3302 Automatic line drop compensation 28Vdc ± 1V at connector / rated load	
<input type="checkbox"/> Current		600 Amp continuously - 2000 Amp in peak	
<input type="checkbox"/> Performances		Voltage ripple at 450A 28Vdc < 0,5V RMS Transients and modulation better than EN2282 standards and AIR2021E	
SAFETIES			
<input type="checkbox"/> Under/Over Voltage		<input type="checkbox"/> Overload	<input type="checkbox"/> Input Electrical failures (phase, voltage, frequency)
MAIN ASSEMBLY			
<input type="checkbox"/> Transformer with 6 thyristors at the secondary + double filtering self			
<input type="checkbox"/> Easy to use control pannel with U, I indicators .		<input type="checkbox"/> Cable storage roof rack (on top of unit)	
<input type="checkbox"/> Tow bar equipped with eyelet (if trailer mounted)		<input type="checkbox"/> Standard operating temperature : -15°C to +55°C	
<input type="checkbox"/> Low pressure pneumatic tyres		<input type="checkbox"/> Indoor and outdoor application	
AVAILABLE OPTIONS			
<input type="checkbox"/> Converter mounted on trailer or fixed cabinet		<input type="checkbox"/> Coupling of various converters to increase capacity	
DIMENSIONS			
<input type="checkbox"/> Weight/Size		350Kg / L: 11950 mm X W: 1100 mm X H: 1135 mm	