

STATIC FREQUENCY CONVERTERS

GROUND POWER UNITS -GPU
1 KVA – 500 KVA



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Static Frequency Converters (SFC) convert supply frequency to a frequency that the desired load accepts for proper functioning. Typical applications are 50 to 60Hz or 83.3 conversion and 50 to 400Hz conversion, although conversion can be done to any frequency.

Designed based on the digital double conversion technology employing PWM power electronic technique using IGBTs. A rectifier converts the input frequency to DC and an inverter converts the DC to the required output voltage & frequency. A battery bank can be connected to the DC to achieve availability of power during short or long-term supply disruptions or severe disturbances. Static DSP based technology achieves high current capacity, storage efficiency and reliability with lower mean time to repair and running costs than traditional rotary technology.

Applications:

Typical SFC Industry Applications Include:

- Aviation Industry
- Medical Testing Equipment
- Communications
- Naval and Air Force Applications
- Shipping & Dockyards



SFC features and benefits

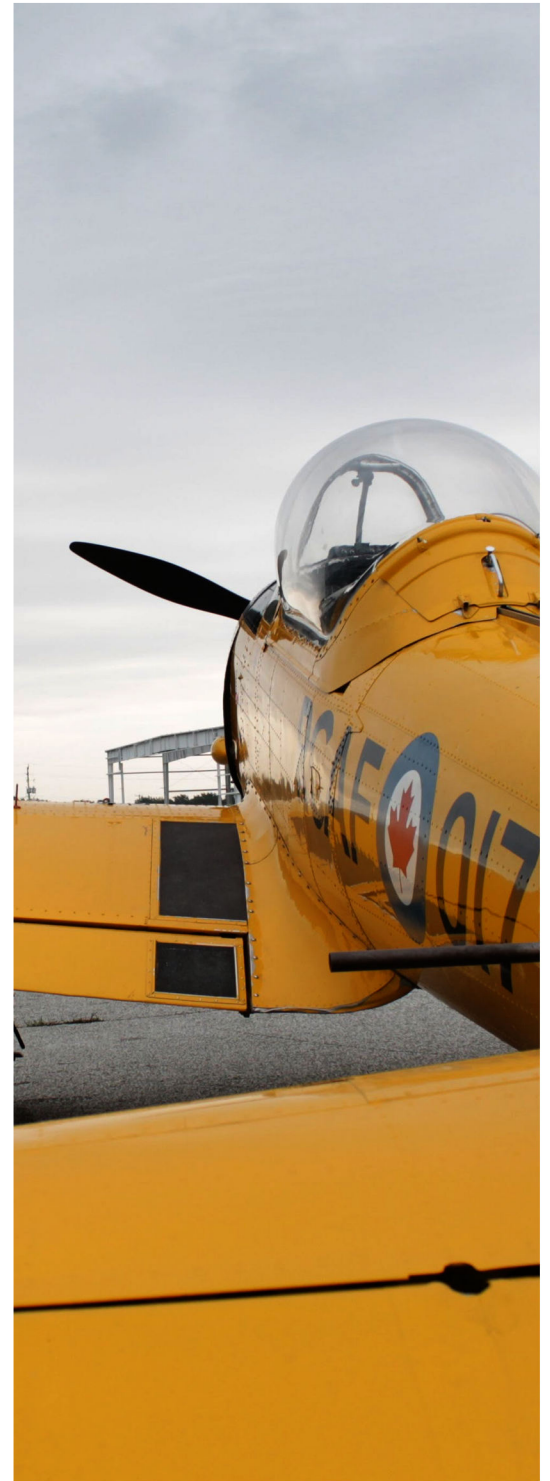
- Static IGBT based Digital PWM Technology
- Conforms to IEC 62040-1-2-3
- DSP based user friendly diagnostics and controls
- High efficiency
- Multiple output voltage options available
- Low input harmonic distortion
- Input unity power factor
- IP-42 enclosure protection for harsh site conditions
- Indoor or outdoor enclosures
- Battery backup options available

We can also deliver aircraft Ground Power Unit (GPU) consisting of these SFCs which are practically a mobile unit that powers, or starts, aircraft, whilst on the ground. Ground Power Units usually provide either 28V DC or 115V, 400Hz AC, although certain aircraft will require a more specialized power derivative. Please also refer to our DC rectifier catalog for 28V DC rectifier supply units.

Technical Specifications

1KVA – 500KVA

INPUT	
Voltage	380/400/415V +/-15%, AC 3 Phase, 4 wire + E
Frequency	45 – 55 Hz
Input current harmonics THDi	< 5% at 100% load
Input Power factor	Unity
OUTPUT	
Voltage	36V/208/380/400/415V +/-1%, AC 3 phase, 4 wire +E 115V +/-1%, 1 phase, 2 wire + E
Frequency	60 – 400Hz or any other
Max crest factor	3:1
Overall efficiency	85 - 90%
RECTIFIER	
AC voltage range	-25% + 15%
Efficiency	95%
Overload capacity	As required at the output
Inrush current	none
INVERTER	
Static regulation	+/- 1% at 0 – 100% load
Dynamic regulation	+/- 8%, recovering to +/-5% in 50 mSec
Total harmonic distortion	<3% on 100% linear load
Overload capacity	As required
Frequency stability	+/-0.1% crystal controlled
Power factor	0.8 lagging
Efficiency	95%
Protections	Short circuit by electronic limiting and shutdown
BATTERY BACK UP (OPTIONAL)	
Type of batteries	VRLA, TUBULAR/PLANTE or Ni-Cd
Back up time	Typically, 30 min or any other
DC Bus	Typically, 360VDC or any other
CONNECTIVITY	
Physical	RS 485
Protocols	MODBUS RS 485 MODBUS TCP/IP Monitoring by Web and SNMP
ENVIRONMENTAL	
Ambient temperature	Up to 45 degree
Relative humidity	Up to 95% RH, non-condensing
Noise	< 65dBA
MECHANICAL	
Enclosure material	CRCA mild steel
Protection class	IP-20 or any other up to IP-42
REF STANDARD	IEC 62040-1-2-3



Technical Support

Our inhouse sales and engineering teams are available to answer you immediately on selection of right transformer for your application. They are technically trained and can answer most questions on the phone. Drawings, documentation, expediting, quotations or technical information are always readily available. Our commitment to sales support is paramount and it means you will be an informed, relaxed, and satisfied customer as quickly as possible. Call our sales team or mail us at info@livelineindia.com or visit our website.



LIVELINE ELECTRONICS

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All information contained in this brochure are subject to change without prior notice.

Our systems are manufactured in an ISO9000 & 14000 certified plant.

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