SINEPOWER manufacture a variety of Static Frequency Converters. Static Frequency Converters convert the source power with a specific input voltage and frequency into a different output voltage and frequency depending on what the client requires.

SINE33 SFC units can be used in a variety of applications: Civil and Military Aviation, Aeronautical industry, Maritime/Nautical Industry and Manufacturing sector.
SINE33 Static Frequency Converters (Solid-state) have no moving parts, except for the fans to cool the systems down, and are highly efficient units (up to 94% efficiency).

Our High frequency IGBT Technology (Rectifier and inverter) guarantees a perfect sinewave input current with low THDi (THDi < 1.5%) and unitary power factor (PF = 1), perfect for all sorts of extreme electrical conditions (compatible with Genset output).

- **CE Mark Certified** - EN61000-6-4 Electromagnetic compatibility - Generic emission standard; EN61000-6-2 Electromagnetic compatibility - Generic immunity standard; Low Voltage Directive (LVD) 2006/95/EC
- **State of the art semiconductor technology** (IGBT) guarantee **Unity Power Factor** and **Low Input Harmonics** (THDi < 1.5%)
- **High Efficiency** (up to 95% efficiency)
- **User friendly control panel**
- **Data logging**
- **IP54 enclosures** for outdoor use in extreme environmental conditions
- **Low noise emission** (<65dBA@1m)
• State of the art semiconductor technology (IGBT) Rectifier
• Power Factor Correction (PF = 1)
• 95% efficiency
• 4 Quadrant Operation (better response of the system and safer operation for NBPT)
• Low input harmonics (<1.5% THDi), to comply with the strictest regulations @ any load.

**EFFICIENCY**

• Up to 94%
• No load losses: <2% of full Load.

**INPUT**

**OUTPUT**

• 4 Quadrant Operation (better response of the system and safer operation for NBPT)
• Vector control Inverter for better response and higher efficiency.

**INTERFACE AND COMMUNICATIONS**

• RS232

**OPTIONAL FEATURES**

• Monitoring by Web and SNMP
• MODBUS Rs485
• MODBUS TC/IP
• Remote control box

**PROTECTION AND SAFETY**

• Enclosure Protection class up to IP54
• Over/under voltage at output
• Overload capability designed for:
  • Power stage 150% - Continuous
  • Magnetics 120% - Continuous
• Overload protections set at:
  • 120% for 600 seconds
  • 150% for 60 seconds
  • 200% for 2 seconds
• Variable fan speed for internal temperature control
• Over temperature protection
• Short circuit proof by electric current limiting and shutdown.

**NORMS AND STANDARDS**

• **IEC 62040-1:2008** Uninterruptible power systems (UPS). Part 1: General and safety requirements for UPS.
• **IEC 61558-2-6:2009** Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1100 V. Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers.
• **IEC 6090-6-2-6:2009** Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1100 V. Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers.

**POWER QUALITY**

Zona Industrial do Mamodeiro
Rua Augusto Marques Branco, Lote 21-A
3810-783 Aveiro, Portugal

Phone: +351 234 946 000
Fax: +351 234 946 007
GPS: N40º34'20", W8º33'48"

sinepower@sinepower.pt
www.sinepower.com

COM.CAT.EN.SFC.100-400kVA.00.19/05
**INPUT**

- **3 phase 400V/415V AC**
  - ±10% *
  - 50Hz / 60Hz ±10%
- **Input current harmonics**
  - <3% @ 100% load

**OUTPUT**

- **3 phase 200VAC/400VAC/480VAC**
  - ±1% *
  - 50Hz / 60Hz ±1%
- **Overall Efficiency**
  - 94%
- **Max. Crest Factor**
  - 3:1

**RECTIFIER**

- **4 Quadrant Operation**
- **AC Voltage Range**
  - 20% + 15%
- **Efficiency**
  - 97%
- **Overload Capacity**
  - 120% Continuous
- **Inrush Current**
  - None
- **Overall current limit**
  - 150% Continuous

* Other voltages and frequencies available on request
* Other Electronic Overload limits available on request

**INVERTER**

- **Static Regulation 0 - 100% load**
  - ±1%
- **Dynamic regulation 100%**
  - 5%, recovering to 1% within 40 ms
- **Total harmonic distortion**
  - <3% (Linear Load)
- **Electronic Limit Overload**
  - 120%@600s; 150%@60s; 200%@2s
- **Overload Capacity (IGBTs)**
  - 150% Continuous
- **Frequency stability**
  - ±0.01% Crystal Controlled
- **Load power factor**
  - 0-1
- **Efficiency**
  - 97%
- **Short circuit proof by electric current limiting and shutdown**

**ENVIRONMENTAL CONDITIONS**

- **Temperature range**
  - Sea Level: -40°C to +40°C (@100% Load)
  - Above 2000m: 30°C (@100% Load)
- **Relative Humidity**
  - 0% - 90% without condensation
- **Noise Level**
  - <70 dBA @ 1 meter
- **Altitude**
  - up to 2700 m without de-rating

* Other voltages and frequencies available on request
* Other Electronic Overload limits available on request

Environments and decorative details in this catalogue have an informative purpose only. Result of Sinpower investment in research and development, the range can be subject of improvements. Therefore we reserve the right to change features and equipment in this catalogue without notice.