



SINE33-I SFC
STATIC
FREQUENCY
CONVERTER



SINE33I - SFC
STATIC FREQUENCY CONVERTER
500 to 2000kW

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

The SINE33 three phase Static Frequency Converter guarantees a supply free of disturbances and of high quality with maximum reliability.

SINE33 SFC units can be used in a variety of applications:

- Civil and Military Aviation
- Aeronautical Industry
- Maritime/Nautical Industry
- 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)
- **High Efficiency** (up to 94% efficiency)
- **User friendly control panel**
- **Data logging**
- **IP20 enclosures**
- **Low noise emission** (<70dBA@1m)

INPUT

- State of the art semiconductor technology (IGBT) Rectifier
- Power Factor Correction (PF=1)
- 95% efficiency
 - 4 Quadrant Operation (better response of the system)
- Low input harmonics (<1.5% THDi), to comply with the strictest regulations @ any load.

OUTPUT

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

EFFICIENCY

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

PROTECTION AND SAFETY

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

OPTIONAL FEATURES

- Communications
 - Monitoring by Web and SNMP
 - MODBUS Rs485
 - MODBUS TC/IP
 - Remote control box
- RS232

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 61000-6-4:2006 +AMD1:2010** Electromagnetic compatibility (EMC). Part 6-4: Generic standards- Emission standard for industrial environments.
- **IEC 61000-6-2:2016** Electromagnetic compatibility (EMC). Part 6-2: Generic standards - Immunity for industrial environments.

MODELS

- 500kVA and 600kVA
- 800kVA and 900kVA
- 1000kVA and 1200kVA
- 1600kVA
- 2000kVA

SPECIFICATIONS

SINE331-SFC
 STATIC FREQUENCY CONVERTER
 500 to 2000kW

INPUT

3 phase 400V/415V AC	±10%*
50.0Hz / 60.0Hz	±10%
Input current harmonics	<3% @ 100% load

OUTPUT

3 phase 400VAC/440VAC 480VAC	±1%*
50Hz / 60Hz	±1%*
Overall Efficiency	94%
Max. Crest Factor	3:1

RECTIFIER

4 Quadrant Operation	
AC Voltage Range	-15% +10%
Efficiency	97%
Overload Capacity	120% Continuous
Current walk in	5 seconds to maximum
Overall current limit	120%

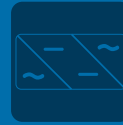
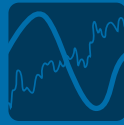
* Other voltages and frequencies available on request
 * Other Electronic Overload limits available on request

INVERTER

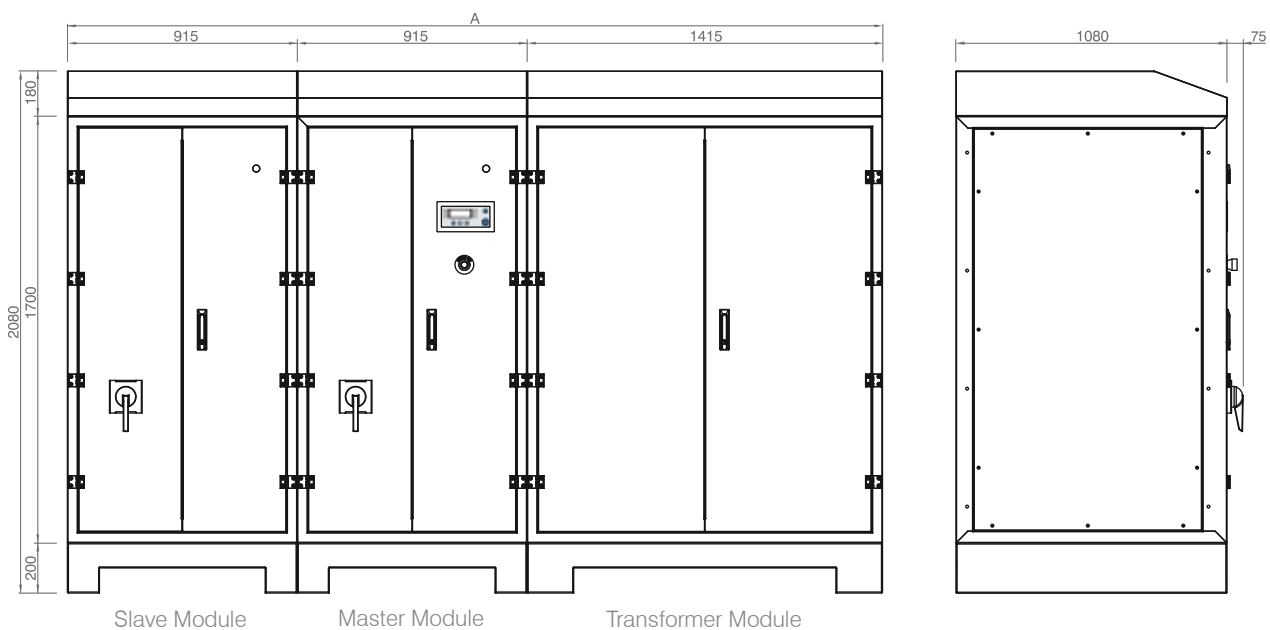
Static Regulation 0 - 100% load	± 1%
Dynamic regulation 100%	5%, recovering to 1% within 40 ms
Total harmonic distortion	Better than 3% (Linear Load)
Electronic Limit Overload	120%@600s; 150%@60s; 200%@2s
Overload Capacity (IGBTs)	150% Continuous
Frequency stability	±0.01% Crystal Controlled
Load power 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 2000 m without de-rating



TECHNICAL DRAWINGS



- 500kVA | 600kVA - A=2745mm (Transformer Module(same size as Slave Module) + MasterModule + Slave Module)
- 800kVA | 900kVA - A=3245mm (Transformer Module + MasterModule + Slave Module)
- 1000kVA | 1200kVA - A=2615mm (Transformer Module + MasterModule + Slave Module(2x))
- 1600kVA - A=5075mm (Transformer Module + MasterModule + Slave Module(3x))
- 2000kVA - A=5990mm (Transformer Module + MasterModule + Slave Module(4x))

Environments and decorative details in this catalogue have an informative purpose only. Result of Sinepower 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.

COM.CAT.EN.SFC.MODULAR.02.19/05