



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

SINESFC units can be used in a variety of applications:

- Civil and Military Aviation
- Aeronautical industry
- Maritime/Nautical Industry
- Manufacturing sector.



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.



TECHNOLOGY

- 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.



OPTIONS

- Communications
 - MODBUS Rs485
 - Remote control box



NORMS AND STANDARDS

- EMC**
- EN61000-6-4 - Electromagnetic compatibility - Generic emission standard
 - EN61000-6-2 - Generic immunity standard

- SAFETY**
- IEC 60529 - Degrees of protection provided by enclosures (IP Code)
 - IEC 62477-1 - Safety requirements for power electronic converter systems and equipment

- ENVIRONMENTAL**
- Dry heat test (steady state) IEC 60068-2-2 subclause 5.3
 - Damp heat test IEC 60068-2-78 subclause 6
 - Vibration test IEC 60068-2-6 subclause 6
 - Salt mist test IEC 60068-2-52 subclause 6
 - Dust and sand test Test Lc1 of IEC 60068-2-68



MODELS

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

SPECIFICATIONS

SINESFC STATIC FREQUENCY CONVERTER 500 to 2000kVA

INPUT

- 3 phase 400V/415V AC | $\pm 10^*$
- 50/60Hz | $\pm 10\%$
- Input current harmonics | $< 3\%$ @ Full Load

OUTPUT

- 3 phase 200VAC / 400VAC / 480VAC | $\pm 1\%^*$
- 50Hz/60Hz | $\pm 1\%^*$
- Overall Efficiency | up to 94%
- Max. Crest Factor | 3:1

RECTIFIER

- 4 Quadrant Operation
- AC Voltage Range | $-15\% + 10\%$
- Efficiency | up to 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

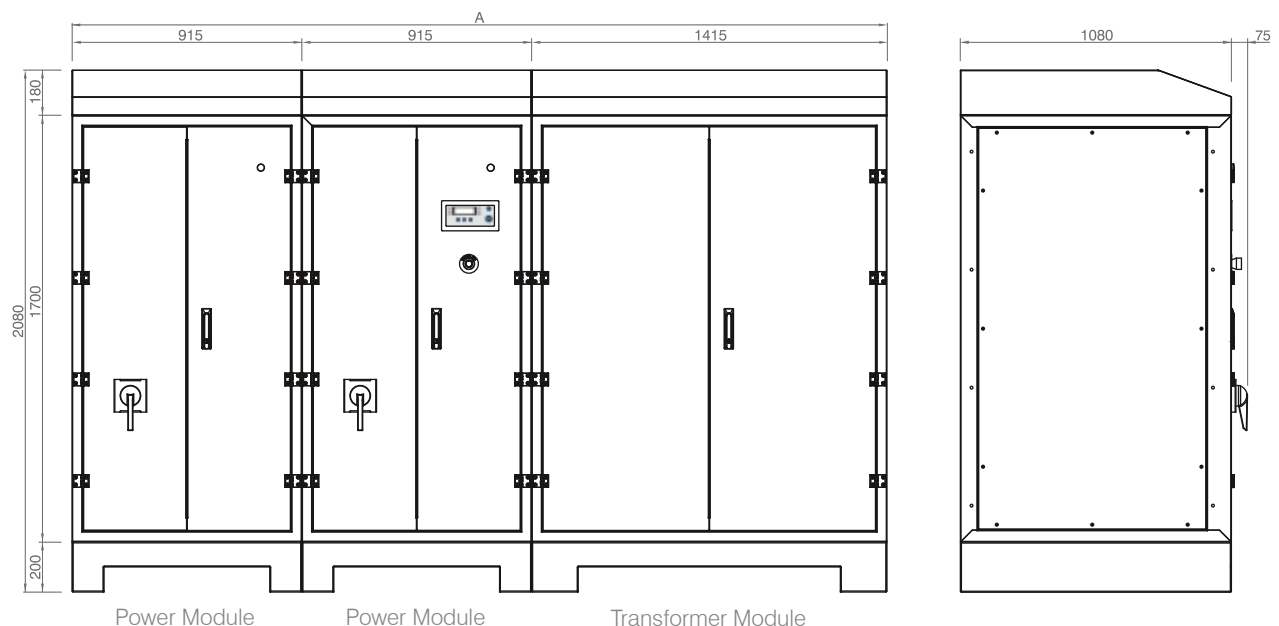
- Static Regulation 0 - 100% load | $\pm 1\%$
- Dynamic regulation 100% | 5%, recovering to 1% within 40ms
- Total harmonic distortion | $< 3\%$ (Linear Load)
- Electronic Limit Overload | 120% @ 600s; 150% @ 60s; 200% @ 2s
- Overload Capacity (IGBTs) | 150% Continuous
- Frequency stability | $\pm 0.01\%$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

ENVIRONMENTAL CONDITIONS

- Coolant temperature (max) | Forced air up to 40°C
- Ambient temperature (min/max) | -40°C to +40°C
- Relative humidity (min/max) | 0% to 90% without condensation
- Pollution degree | 2
- OVC (Overvoltage Category) | 3
- Altitude | Up to 2000m



TECHNICAL DRAWING



- 500kVA - A=2745mm (Transformer Module(same dimensions as Power Modules) +Power Module(2x250kVA))
- 600kVA | 800kVA - A=2745mm (Transformer Module(same dimensions as Power Modules) +Power Module(2x400kVA))
- 1000kVA | 1200kVA - A=3660mm (Transformer Module(same dimensions as Power Modules) +Power Module(3x400kVA))
- 1600kVA - A=4575mm (Transformer Module(same dimensions as Power Modules) +Power Module(4x400kVA))
- 2000kVA - A=5490mm (Transformer Module(same dimensions as Power Modules) +Power Module(5x400kVA))

 **sinepower** 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: N40°34'20", W8°33'48"

sinepower@sinepower.pt
www.sinepower.com

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.08.24/01