

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.

SINE SFC 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 and safer operation for NBPT)
- 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 150% - Continuous
  - Magnetics 120% - Continuous
- Overload protections set at:
  - 120% for 600seconds
  - 150% for 60 seconds
  - 200% for 5 seconds
- Variable fan speed for internal temperature control
- Over temperature protection
- Short circuit proof by electric current limiting and shutdown.



## 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](#)

# SPECIFICATIONS

## INPUT

- 3 phase 400V/415V AC |  $\pm 10\%^*$
- 50/60Hz |  $\pm 10\%$
- Input current harmonics | <2% @ Full Load

## OUTPUT

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

## RECTIFIER

- 4 Quadrant Operation
- AC Voltage Range | -25% +15%
- Efficiency | up to 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

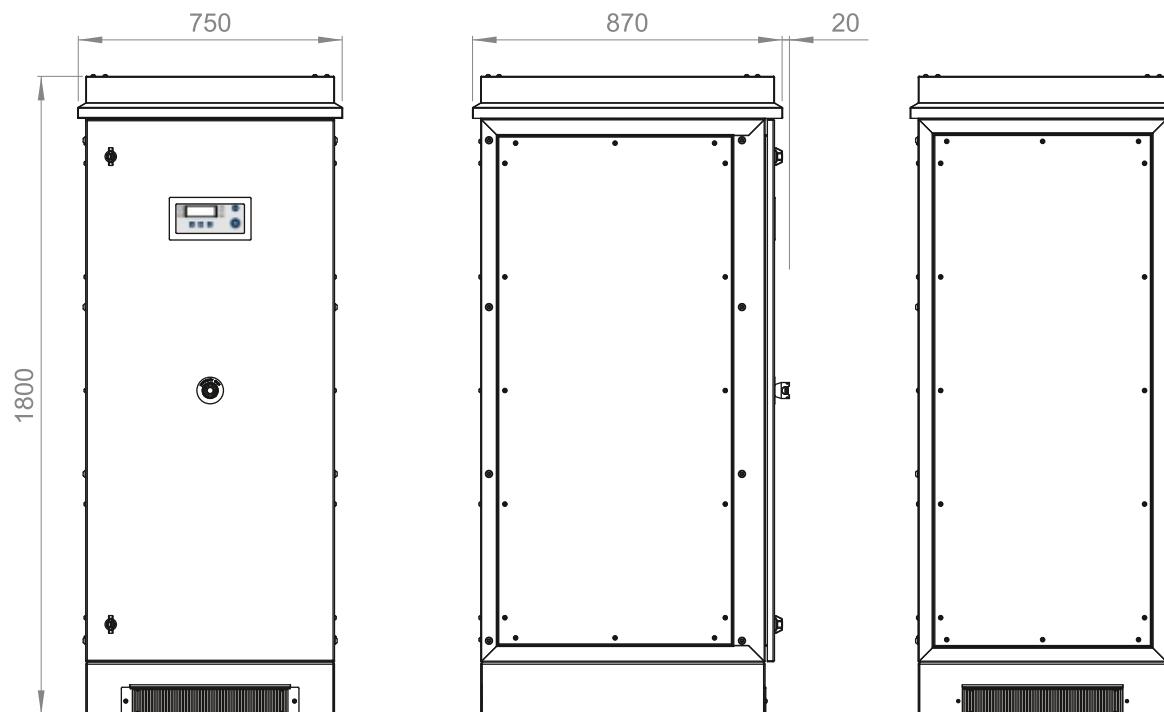
- Static Regulation 0 - 100% load |  $\pm 1\%$
- Dynamic regulation 100% | 5%, recovering to 1% within 40ms
- Total harmonic distortion | < 3% (Linear Load)
- Electronic Limit Overload | 120%@600s; 150%@60s; 200%@2s
- Overload Capacity (IGBTs) | 150% Continuous
- Frequency stability |  $\pm 0.01\%$  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



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