SINE33I-GPU solid-state Ground Power Units are safe and reliable.

Sinepower’s GPU units were designed with Power factor correction to guarantee a perfect sinusoidal input current from 25% to 150% load and a low THD (<3%).
Sinepower ensure high quality, efficient and secure electrical power supplies.
Design

- Robust mechanical design
- Integrated galvanic isolation (output as standard)
- High fault-clearing capability - short circuit clearance
- Designed to withstand Harsh environmental conditions (temperature, altitude, humidity)

Energy Efficiency

- Up to 95% efficiency using state of the art semiconductor technology (IGBT)
- High Efficiency and low noise
- Power Factor Correction
- 4 Quadrant Operation (Regenerative loads)
- Double Conversion with Sinewave Output

Footprint

- Small footprint.
- Front and back access for quick, safe and easy maintenance

Safety

- Safe accessable electronics panel
- All power electronics components guarded by protective panels

Interface and Communication

- Monitoring and Display controlled by Microprocessor
- Monitoring by Web and SNMP (NetAgent)
- MODBUS and JBUS Monitoring (optional)

Low THDi

- Low input harmonics (< 3 % THDi), to comply with the strictest regulations

Specific Requirements and Custom Made Options

- Optional input voltages
- Selectable Ingress Protection (up to IP55)
- Isolated Neutral with earth fault detection

Other Features

- Long product lifetime with minimal servicing required
- PF=1 for all electric aircrafts (B787;A350;A380)
- Mobile solutions
- MTBF 60000Hrs
- Vertically removable Power Pack for maintenance.
Specifications

Input:
3 phase 400V/415V AC ..................................................................................± 15%*
45Hz up to 65Hz ..........................................................................................± 5%*
Input current harmonics ...............................................................................<3% at Full Load (Sinusoidal)

Output:
3 phase 200V AC -400Hz ................................................................................± 1%*
Overall Efficiency ..........................................................................................87%-95%
Max. Crest Factor ..........................................................................................3:1

Rectifier:
4 Quadrant Operation
AC Voltage Range .......................................................................................- 25% +10%
Efficiency .........................................................................................................93%-97%
Input Frequency Deviation .........................................................................±5%
Overload Capacity ..........................................................................................120% Continuous
Current walk in ...............................................................................................5 seconds to maximum
Overall current limits ....................................................................................120%

Inverter:
Static Regulation 0 - 100% load ...................................................................± 1%
Dynamic regulation 100% .............................................................................5%, recovering to 1% within 40 millisecond
Total harmonic distortion ...........................................................................< 3% (Linear Load)
Electronic Limite Overload .........................................................................120%@60s;150%@5s;200%@2s
Overload Capacity ..........................................................................................120%; 150%@60s
Frequency stability ........................................................................................± 0.01% Crystal Controlled
Load power factor ..........................................................................................0.7-1
Efficiency .........................................................................................................93%-98%
Short circuit proof by electric current limiting and shutdown

Environmental Conditions:
Temperature range at sea level: ...............................................................-40°C to +52 °C (Full Load)
30 °C at 2000m (Full Load)

Humidity:
Recommended .............................................................................................40% to 60%
Extreme ......................................................................................................... 90%
Noise Level .................................................................................................< 65 dBA at 1 metre
Altitude ................................................................................................. up to 2500 m

Communications:
Ethernet Connection ..................................................................................Standard with NetAgent
CAN (with Remote Panel) ............................................................................Optional
MODBUS and JBUS .....................................................................................Optional

* Other voltages and frequencies available on request
Unit
SINE33I-GPU
SOLID STATE 400HZ GROUND POWER UNIT

Powers Available:
30KVA - 45KVA - 60KVA and 90KVA

Main Characteristics:
High frequency IGBT Technology
Double Conversion with Sinewave Output
Galvanic Isolation of Inverter via Inverter Transformer
Power Factor Correction
4 Quadrant Operation
Sinusoidal Input Current (low THD)
Monitoring and Display controlled by Microprocessor
Front Access for maintenance
Monitoring by Web and SNMP (NetAgent)
High Efficiency and low noise
Robust design for aeronautical applications
CE MARK

Norms and Standards
DFS400 Specification for 400 Hz aircraft power
ISO 6858 Aircraft ground support electric supplies
BS 2G 219 General requirements for ground support equipment
MIL-STD-704 Aircraft electric power characteristics
SAE ARP 5015 Ground equipment 400 Hz ground power performance requirement
EN62040-1-1 General & safety requirement
EN61558-2-6 General & safety requirement
EN61000-6-4 Electromagnetic compatibility - Generic emission standard
EN61000-6-2 Generic immunity standard

Sinepower
Centro Empresarial de Aveiro Pav.1
Zona Industrial Aveiro Sul
3810-783 Aveiro

Phone: +351 234 946 000
Fax: +351 234 946 007
GPS: N40°34'20", W8°33'48"

E-mail: sinepower@sinepower.pt
Webpage: www.sinepower.com