



Sinpower has been developing and manufacturing 400Hz solid state Frequency Converters for more than a decade now.

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Sinpower's GPU units were designed with Power factor correction to guarantee a perfect sinusoidal input current from 25% to 100% load and a low THDi (<2%).

Sinpower ensures high quality, efficient and secure electrical power supplies.



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.



OUTPUT

- Voltage compensation (Load Dependent or via Remote Feedback – Real PLUG &PLAY. Connect GPU to aircraft and voltage compensation is done automatically, no user adjustment required or additional accessories)
- 4 Quadrant Operation (better response of the system and safer operation for NBPT)
- Vector control Inverter for better response and higher efficiency.



NORMS AND STANDARDS

- AVIATION**
- ISO 6858 - Aircraft ground support electric supplies
 - SAE ARP 5015 - Ground equipment 400 Hz ground power performance requirement

- MILITAR**
- MIL-STD-704 - Aircraft electric power characteristics

- 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 60068-2-2:2007 subclause 5.3
 - Damp heat test IEC 60068-2-78:2012 subclause 6
 - Vibration test IEC 60068-2-6:2007 subclause 6
 - Salt mist test IEC 60068-2-52:1996 subclause 6
 - Dust and sand test Test Lc1 of IEC 60068-2-68



EFFICIENCY

- Up to 94% - 30KVA to 45kVA @ load PF=0.8 to 1.0
- Green Standby Function - losses: 20 W
- No load losses: <1%



TECHNOLOGY

- Enclosure Protection class up to IP55
- Enclosure with C4-M coating
- No break power transfer compatibility (NBPT)
- Over/under voltage at output
- Regulator 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
- 90% insertion detection

SPECIFICATIONS

SINEGPU MOBILE 30 & 45 KVA SOLID STATE 400HZ MOBILE GROUND POWER UNIT

INPUT

- 3 phase 380V/400V/415V AC* | $\pm 10\%$
- 50/60Hz | $\pm 10\%$
- Input current harmonics | $< 2\%$ @ Full Load

OUTPUT

- 3 phase 200V AC -400Hz* | $\pm 1\%$
- Overall Efficiency | 90%-95%
- Max. Crest Factor | 1.4:1

RECTIFIER

- 4 Quadrant Operation
- AC Voltage Range | $\pm 10\%$
- Input Frequency Deviation | $\pm 10\%$
- Inrush Current | None

* Other voltages and frequencies available on request

** Other Electronic Overload limits available on request

INVERTER

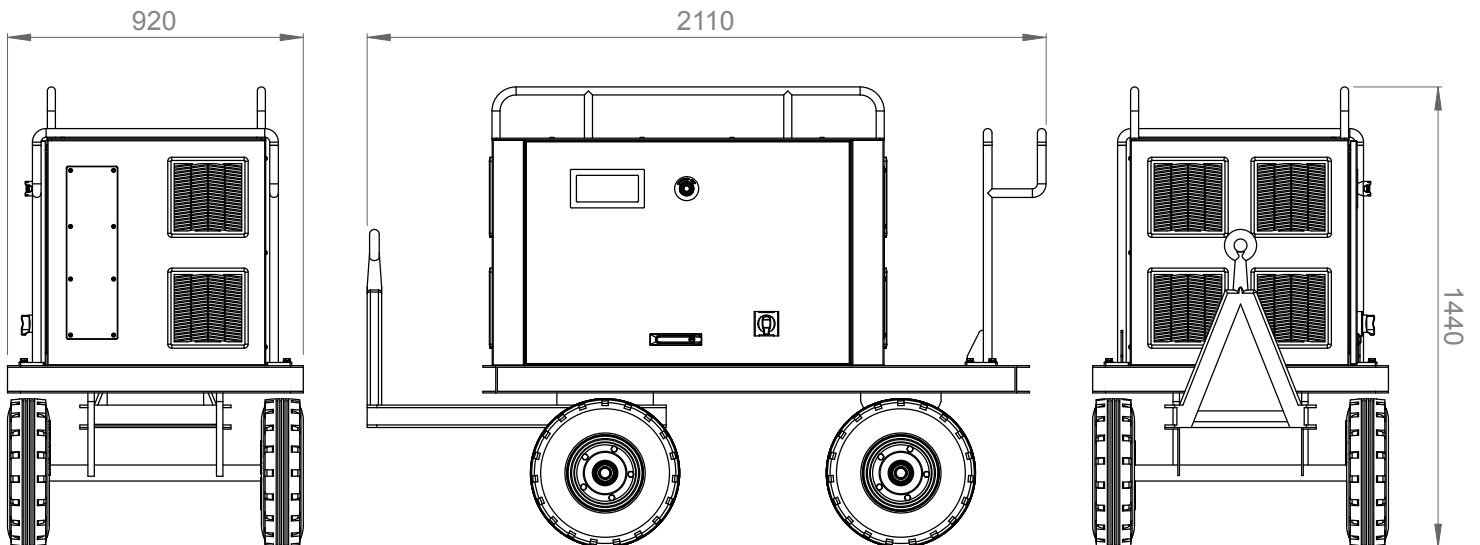
- Static Regulation 0 - 100% load | $\pm 1\%$
- Dynamic regulation 100% | 10%, recovering to 1% within 20ms
- Total harmonic distortion | Better than 2% (Linear Load)
- Electronic Limit Overload | 120%@600s; 150%@60s; 200%@5s**
- Frequency stability | $\pm 0.01\%$ Crystal Controlled
- Load power factor | 0-1
- Short circuit proof by electric current limiting and shutdown

ENVIRONMENTAL CONDITIONS

- Cooling | 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
- Sound power level | $L_w \leq 65\text{dba}$ according to ISO 3747:2010



TECHNICAL DRAWING



TROLLEY SPECIFICATIONS

- Max. load | 2500Kg
- Useful length | 1700mm
- Platform height | 570mm
- Platform | Non sliding steel plate
- Max. speed | 25Km/h
- Useful width | 920mm
- Wheels | Pneumatic tyres type 18-7x8

 **sinepower** Zona Industrial do Mamodeiro
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3810-783 Aveiro, Portugal

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COM.CAT.EN.SINEGPU-30-45kVA-T.01.24/02



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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.



OUTPUT

- Voltage compensation (Load Dependent or via Remote Feedback – Real PLUG &PLAY. Connect GPU to aircraft and voltage compensation is done automatically, no user adjustment required or additional accessories)
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NORMS AND STANDARDS

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EFFICIENCY

- Up to 94% - 60KVA to 90kVA @ load PF=0.8 to 1.0
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TECHNOLOGY

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- 90% insertion detection

SPECIFICATIONS

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INPUT

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- 50/60Hz | $\pm 10\%$
- Input current harmonics | $<2\%$ @ Full Load

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- 3 phase 200V AC -400Hz* | $\pm 1\%$
- Overall Efficiency | 90%-95%
- Max. Crest Factor | 1.4:1

RECTIFIER

- 4 Quadrant Operation
- AC Voltage Range | $\pm 10\%$
- Input Frequency Deviation | $\pm 10\%$
- Inrush Current | None

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** Other Electronic Overload limits available on request

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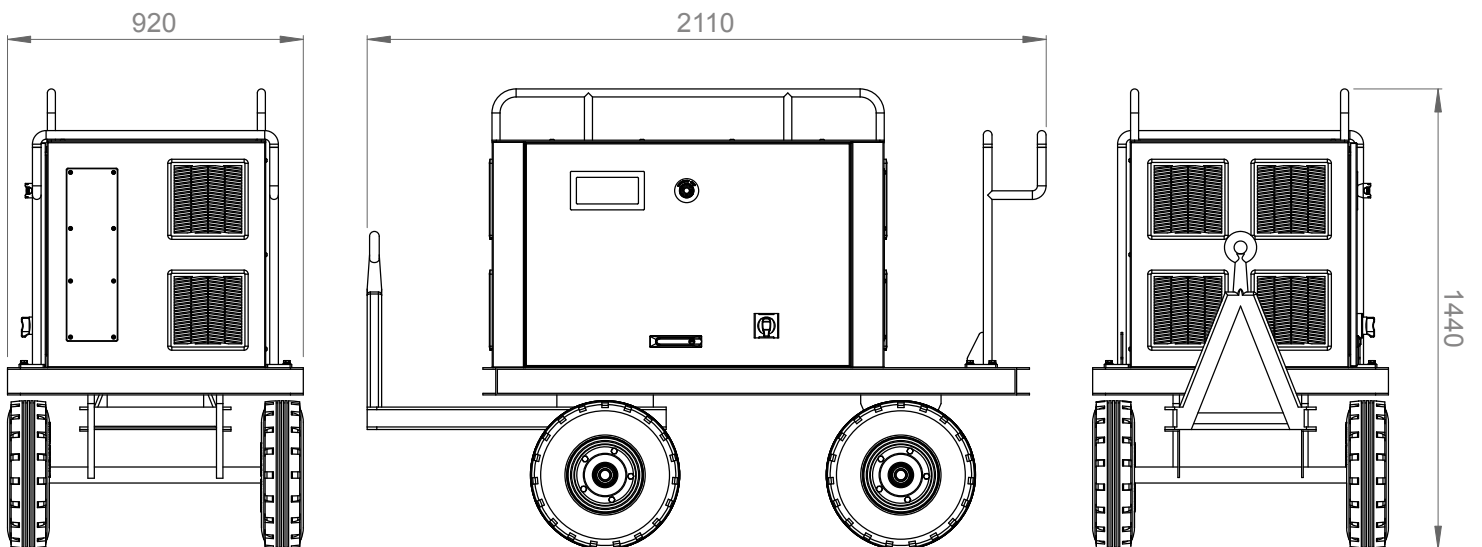
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- Frequency stability | $\pm 0.01\%$ Crystal Controlled
- Load power factor | 0-1
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ENVIRONMENTAL CONDITIONS

- Cooling | Forced air up to 40°C
- Ambient temperature (min/max) | -40°C to +40°C
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- OVC (Overvoltage Category) | 3
- Altitude | Up to 2000m
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TECHNICAL DRAWING



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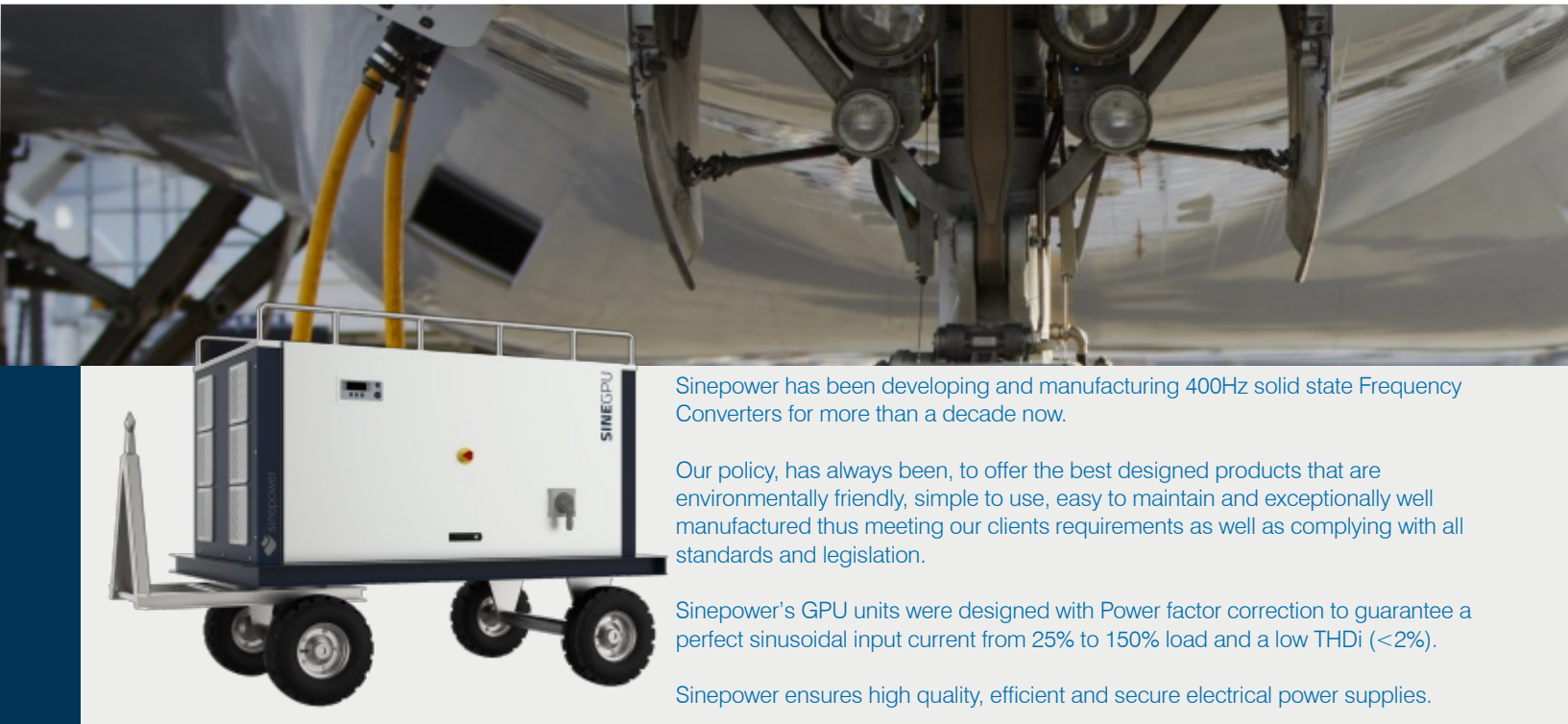
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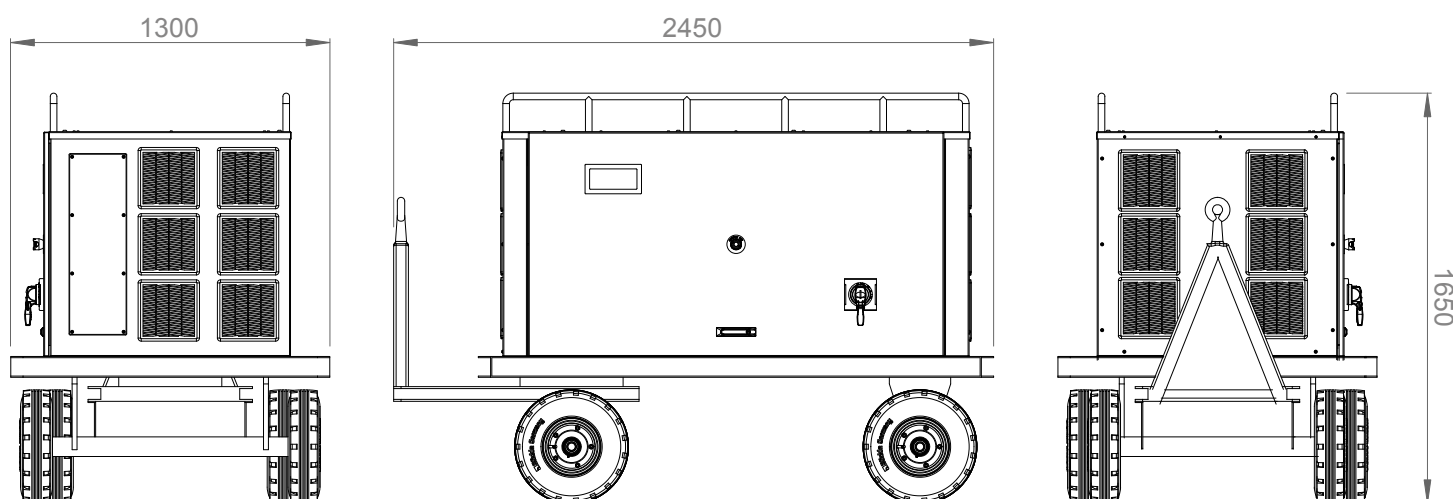
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