



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.

Norms and Standards

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

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

- EMC**
- EN6100-6-4 - Electromagnetic compatibility Generic emission standard
 - EN6100-6-2 - 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

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.

Efficiency

- Up to 94% - 30KVA to 90KVA @ load PF = 0.8 to 1.0
- 90% - < 30KVA @ 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 C5-M coating
- No break power transfer compatibility (NBPT)
- Over/Under voltage at output
- Overload capability designed for:
 - Power stage 150% - Continuous
 - Magnetics 120% - Continuous
- 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% switch interlock

Specifications

45 & 90 KVA SOLID STATE 400HZ GROUND POWER UNIT

Input

- 3 phase 460V / 480V 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 | 1.4:4

Rectifier

- 4 Quadrant Operation
- AC Voltage Range | $-25\% + 10\%$
- Efficiency | 95%-97%
- Input Frequency Deviation | 10%
- Overload Capacity | 120% Continuous
- Inrush Current | None
- Overall current limit | 150%

Inverter

- Static Regulation 0 - 100% load | $\pm 1\%$
- Dynamic regulation 100% | 10%, recovering to 1% within 2ms
- Total harmonic distortion | Better than 2% (Linear Load)
- Electronic Limit Overload | 120%@600s; 150%@60s; 200%@5s
- Overload Capacity (IGBTs) | 150% Continuous
- Frequency stability | ± 0.01 Crystal Controlled
- Load power factor | 0-1
- Efficiency | 95% 98%
- 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

