



Red Box's policy, has always been, to offer the best designed products that are environmentally friendly, simple to use, easy to maintain and exceptionally well manufactured thus meeting our clients requirements as well as complying with all standards and legislation.

Red Box offer 28VDC solid-state Ground Power Supplies that range from 300 A continuous – 1200 A Peak load to 600 A continuous – 2400 A Peak load.

Red Box ensures high quality, efficient and secure electrical power supplies.

Red Box Aviation is now part of LPA Connection Systems.
To find out more visit www.lpa-group.com



INPUT

- State of the art semiconductor technology (IGBT) Rectifier
- Power Factor Correction (PF=1)
- Up to 90% efficiency
- Low input harmonics (<1.5% THDi), to comply with the strictest regulations @ any load



OUTPUT

- 800Hz DC-DC
- Converter Galvanic Isolation



EFFICIENCY

- Up to 90% efficiency
- Green Standby Function - losses: 20
- W No load losses: <0.5 kW.



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** 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**



TECHNOLOGY

- Enclosure Protection class up to Ip55
- Enclosure with C5-M coating
- Over/under voltage at output:
- Under voltage <20V (4 sec)
- Over voltage >34V (4 sec)
- Short Circuit <5V at current limit (4 sec)
- Overload capability designed for:
- Power stage 150% - Continuous
- Magnetics 120% - Continuous
- Overload protections set at:
- 1200A - 5 seconds
- 2400A - 5 seconds
- Over temperature protection.

SPECIFICATIONS

RED BOX 28VDC 28VDC GROUND POWER UNIT

INPUT

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

OUTPUT

- Output 28.5VDC | $\pm 1\%^*$
- Continuous current capability (at 28.5VDC) | 300A/600A*
- Maximum Current Limit (at 28VDC) | 1200/2400A for up to 5sec
- Current Limit adjusting steps (from 600A) Voltage | $\pm 0.5\%$
- regulation up to 600A | 1%
- Ripple | $<0.5\%$
- Dynamic Recovery to 90% VDC | $<40\text{ms}$
- Voltage Compensation | 0-4V up to 600A (remote feedback)
- Galvanic Isolation | 800Hz Transformer
- IGBT + DIODE Rectifier

*Other voltages and frequencies available on request

*Other Electronic Overload limits available on request

ENVIRONMENTAL CONDITIONS

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



TECHNICAL DRAWING

