

REV: 080518

## PRODUCT FEATURES:

- 1RU Height, 2000W Rectifier Module
- High Efficiency (96% at 30%~70% Load)
- Universal AC Input
- Active PFC for EN61000-3-2 Class D Compliance
- DSP Control; Energy Efficient Operation
- Front Panel LED Indicators
- Full 2000W up to +55°C (derates up to +75°C)
- CAN Bus Communication
- International Safety Approvals



## INPUT SPECIFICATIONS:

|                  |  |
|------------------|--|
| VOLTAGE          | 85VAC ~ 285VAC; see Derating for < 176VAC      |
| FREQUENCY        | 45Hz ~ 63 Hz                                   |
| INRUSH           | ≤ 20A @ 230VAC Full Load (Max Cold Start)      |
| CURRENT          | ≤ 10A @ 230VAC (Max Continuous)                |
| PROTECTION       | 15A Fuse, each line (L, N); TVS for Transients |
| LEAKAGE          | < 3.5mA @ 264VAC                               |
| INPUT PROTECTION | Input Undervoltage; Output Overvoltage         |
| EFFICIENCY       | 96% typical (30%~70% Load)                     |
| HARMONICS        | EN61000-3-2 Class D (>0.99PF; > 50% load)      |

## OUTPUT SPECIFICATIONS:

|                         |   |
|-------------------------|---|
| OUTPUT VOLTAGE          | 54Vdc (typical)   |
| OUTPUT CURRENT          | 37A (2KW max, continuous) @ AC input ≥ 176V                               |
| LINE REGULATION         | ±0.5%, across full input range  |
| LOAD REGULATION         | ±0.5%, across full load range   |
| RIPPLE                  | ≤250mV p-p; ≤ 20mVrms (20MHz BW)  |
| OUTPUT ADJUSTMENT       | 43.5Vdc ~ 58Vdc   |
| EXCURSION               | ±3% max, 50% Step Load  |
| RECOVERY                | 100ms, max  |
| OVER-CURRENT PROTECTION | OCP (see Power Derating curves)<br>OVP, Power Deratings, Thermal Shutdown |

## STATUS LED & COMMUNICATION:

|                    |   |
|--------------------|---|
| STATUS LED/[ALARM] | Green=[OK]; Yellow=[Minor]; Red=[Major] |
| COMMUNICATION      | CAN Bus                                 |

## SAFETY STANDARDS:

|         |   |
|---------|---|
| UL/cUL  | IEC/UL 60950-1                                  |
| CE MARK | Low Voltage Directive                           |
| NEBS    | Designed to Meet Telcordia GR-63-CORE (pending) |

## GENERAL SPECIFICATIONS:

|                       |  |
|-----------------------|--|
| OPERATING TEMPERATURE | -40°C to +75°C (derate 2%/°C above +55°C)      |
| OPERATING HUMIDITY    | 10% ~ 95% (non-condensing)                     |
| STORAGE               | -40°C to +85°C; 5% ~ 95% RH (non-condensing)   |
| COOLING               | Intelligent Fan; Front-to-back airflow         |
| ACOUSTIC NOISE        | < 55dBA (nominal input, full load, Ta > 40°C)  |
| VIBRATION             | 10-55Hz, 2G, 3Min Period, 60 min each (3 axes) |
| SHOCK                 | 20G Peak Acceleration                          |
| RELIABILITY           | >350K Hours (per MIL STD 217F)                 |
| SIZE (WxDxH)          | 108.2mm x 321.7mm x 41.0mm                     |
| WEIGHT                | 2.18kg (4.8 lbs)                               |
| INSULATION            | 3KVAC I-0; 1.5KVAC I-Earth; 0.5KVDC O-Earth    |

## EMISSIONS:

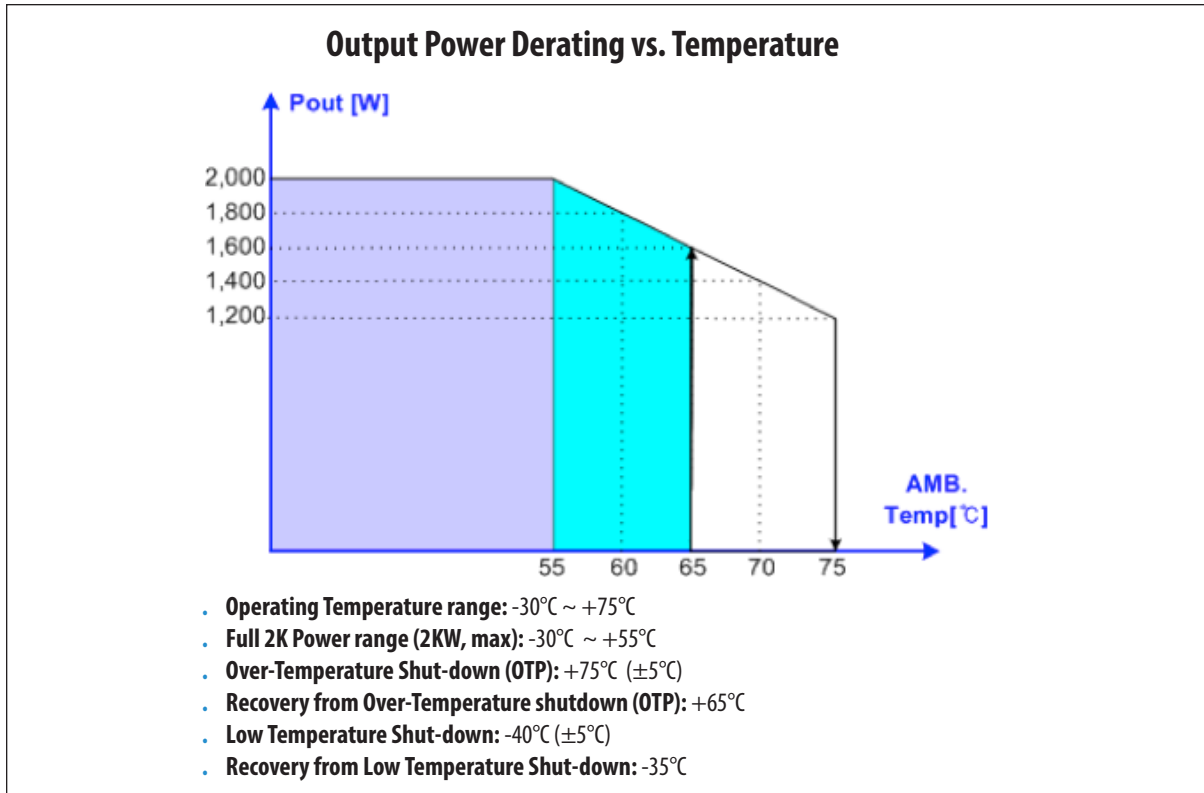
|                         |  |
|-------------------------|--|
| EMISSIONS               | EN55022 Level B (Conducted)                  |
| ELECTROSTATIC DISCHARGE | EN61000-4-2, 4KV Contact/ 8KV Air            |
| RADIATED SUSCEPTIBILITY | EN61000-4-3, 26MHz-2000MHZ, 10V/m, 80%AM     |
| EFT/BURSTS              | EN61000-4-4, 2KV                             |
| SURGES                  | EN61000-4-5, 2KV Earth, 1KV Line-Line        |
| CONDUCTED IMMUNITY      | EN61000-4-6, 150KHz-80MHz, 10Vrms, 80%AM     |
| VOLTAGE DIPS            | EN61000-4-10, 95% Dip, 10ms / 30% Dip, 500ms |
| VOLTAGE INTERRUPTIONS   | EN61000-4-11, 95% reduction, 5ms             |
| FLUCTUATIONS & FLICKER  | EN61000-3-3                                  |

## OUTPUT MODELS:

| Output Model: | Rectifier Output |          |          |
|---------------|------------------|----------|----------|
|               | VDC              | Io (Min) | Io (Max) |
| NESPACE-48/2K | 54V              | 0A       | 37A      |



DERATING CURVES:



| NESPACE RECTIFIER FRONT PANEL INDICATORS |  |
|--|--|
| <b>ALARMS</b>                            |  |
| -  | Low AC Mains / Shutdown  |
| -  | AC Input out-of-range; LEDs Flashing at AC Overvoltage         |
| -  | High Temperature Shutdown                                      |
| -  | Low Temperature Shutdown                                       |
| -  | Rectifier Failure  |
| -  | DC Output Overvoltage Shutdown                                 |
| -  | Fan Failure  |
| -  | DC Low Voltage Alarm at 43.0V                                  |
| <b>WARNINGS</b>                          |  |
| -  | Rectifier in Power Derate mode                                 |
| -  | Loss of CAN Communication with Control Unit (stand-alone mode) |
| <b>VISUAL INDICATORS</b>                 |  |
| <span style="color: green;">■</span>     | GREEN LED: Rectifier is ON with no alarms or warnings          |
| <span style="color: yellow;">■</span>    | YELLOW LED: Rectifier Warning                                  |
| <span style="color: red;">■</span>       | RED LED: Rectifier Failure                                     |



DERATING CURVES:

