

Compact HE rectifiers for small to medium telecom applications

The Flatpack S rectifiers incorporate Telecom specifications, high efficiency, ORing protection on output and high power in a small, 217 mm deep box.

Used in the 1U high, 2 or 3 rectifier positions power rack with Smartpack S controller and battery and load distributions, the Flatpack S rectifiers cover 2 to 5.4kW applications using a minimum of space, less than 6 liters, and low heat dissipation.



Flatpack S 48V Rectifiers

1000W HE & 1800W HE

Doc 241122.1x5.DS3 – v3

APPLICATIONS

TELECOM – MOBILE / WIRELESS

- RADIO BASE STATIONS/ CELL SITES
- LTE / 4G / WIMAX
- DISTRIBUTED ANTENNA SYSTEMS
- MICROWAVE
- BROADBAND

TELECOM - FIXED

- TELEPHONY SERVERS / SWITCHES
- FIBER OPTICS / FTTX
- MICROWAVE
- CABLE
- BROADBAND



1U 50A system



1U 100A system



3U system BULK OUTPUT

KEY FEATURES

- SMALL
- SHORT
- POWER DENSITY - 47 W/INCH 3
- HIGH EFFICIENCY
- ORING PROTECTION ON OUTPUT
- HOT PLUGGABLE
- VOLTAGE AND POWER KEYING



Smartpacks SYSTEM CONTROLLER

Flatpack S 48V Rectifiers



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| Model | 48/1000 HE | 48/1800 HE |
|---|---|---|
| Part number | 241122.105 | 241122.125 |
| INPUT DATA | | |
| Voltage (nominal) | 185 - 270 V _{AC} / 185 - 250 V _{DC} ¹⁾ | 195 - 277 V _{AC} / 195 - 250 V _{DC} ¹⁾ |
| Voltage (operating range) | 85 - 300 V _{AC} / 85 - 250 V _{DC} ¹⁾ | 85 - 305 V _{AC} / 85 - 250 V _{DC} ¹⁾ |
| Current (maximum) @ nominal input, full load | 5.9 A _{RMS} | 9.9 A _{RMS} |
| Frequency | 45 - 66 Hz / 15 - 18.5 Hz ²⁾ / 0 Hz ¹⁾ | 45 - 66 Hz / 0 Hz ¹⁾ |
| Power Factor | > 0.99 at 50% load or more | |
| Protection | Fuse in L & N, Varistor, Shutdown when input voltage is out of operating range | |
| OUTPUT DATA | | |
| Voltage (default) | 53.5 V _{DC} | |
| Voltage (adjustable range) | 43.5 - 57.6 V _{DC} | |
| Power (maximum) @ nominal input | 1000 W | 1800 W |
| Power @ 85 VAC | 420 W | 700 W ²⁾ |
| Current (maximum) @ nominal input | 20.9 A (@V _{OUT} < 48V _{DC}) | 37.5 A (@V _{OUT} < 48V _{DC}) |
| Hold up time, maximum output power | >20ms; output voltage > 41 V _{DC} | >10ms; output voltage > 42 V _{DC} |
| Current sharing (10 - 100% load) | ±5% of maximum current from 10 to 100% load | |
| Static Voltage regulation (10 - 100% load) | ±0.5% | |
| Dynamic Voltage regulation | ±5.0% for 10-90% or 90-10% load variation, regulation time < 50ms | |
| Ripple | < 150 mV _{PP} , 30 MHz bandwidth | |
| Protection | ORing FET, Short circuit proof, High temperature protection, Over voltage Shutdown | |
| OTHER SPECIFICATIONS | | |
| Efficiency | Up to 95.5 % | Up to 95.8 % |
| Isolation | 3.0 kV _{AC} - input to output, 1.5 kV _{AC} - input to earth, 710 V _{DC} - output to earth | |
| Alarms: Red LED | Low / high input voltage shutdown, High / low temperature shutdown, Rectifier Failure, Overvoltage shutdown on output, Fan failure, Low output voltage alarm, CAN bus failure | |
| Warnings: Yellow LED | Rectifier in power de-rate mode, Remote output current limit activated, Input voltage out of range, flashing at overvoltage, Loss of CAN communication with controller | |
| Normal operation: Green LED | | |
| MTBF (Telcordia SR-332 Iss.I method III (a)) | >315 000 (@ T _{ambient} : 25 °C) | >300 000 (@ T _{ambient} : 25 °C) |
| Operating temp. (5-95% RH n.cond. hum.) | -40 to + 85°C [-40 to +185°F] | |
| Max output power de-rates above temp / to | 45°C [113°F] / 600W @ 85°C[185°F] | 45°C [113°F] / 1000W @ 85°C[185°F] |
| Storage temperature | -40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing | |
| Dimensions[WxHxD] / Weight | 72 x 41.5 x 217mm (2.83 x 1.63 x 8.54") / < 850 g (1.9 lbs) | |
| DESIGN STANDARDS | | |
| Electrical safety | UL 60950-1:2014, EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013 IEC 60950-1:2013 | |
| EMC | ETSI EN 300 386 v1.5.1, FCC CFR 47 Part 15 EN 61000-6-1:2007 / -3:2007 + A1:2011 / -4:2007 + A1:2011 IEC 61000-6-5:2001 | |
| Environment | ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3) & 2-3 (Class 3.2) RoHS (2011/65/EU) and WEEE (2012/19/EU) compliant | |
| ¹⁾ DC input only allowed when up-stream breaker is rated for the applicable DC input voltage and has a maximum current rating of 32A ²⁾ Power derating 415W@ 15Hz and 450W@16 2/3 Hz | | |

Specifications are subject to change without notice.