

Compact HE rectifier for rail and power utilities applications

Applications in these markets demand state of the art, reliable and safe DC power systems. Flatpack S delivers an industry leading power density in its segment, many safety functions, wide operating temperature range and superb reliability in its small 217mm deep housing.

Used in the 3U rack with Smartpack S controller, the Flatpack S rectifiers cover 2 to 8kW applications using a minimum of space, less than 18 liters, and low heat dissipation.



Flatpack S 24V Rectifier

24/1000 HE

Doc 241122.205.DS3 – v5

APPLICATIONS

RAILWAY & METRO

- Control and protection

POWER UTILITIES

- Control and monitoring systems.
- Alarm systems
- PLC systems



2kW wall box (MFGS0208.001)



3U 8kW system



1U 3kW bulk feed power shelf and 2 pole dist



2pos standalone power shelf (PN: 241122.903)

KEY FEATURES

- SMALL
- SHORT
- POWER DENSE, 26 W / CU IN
- HIGH EFFICIENCY
- ORING PROTECTION ON OUTPUT
- HOT PLUG-ABLE
- VOLTAGE KEYING



Smartpack S controller

Flatpack S 24V Rectifier



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|--|--|
| Model | 24/1000 HE |
| Part number | 241122.205 |
| INPUT DATA | |
| Voltage (nominal range) | 185 V _{AC/DC} - 305 V _{AC} / 300V _{DC} |
| Voltage (operating range) | 85 V _{AC/DC} - 305 V _{AC} / 300V _{DC} |
| Frequency (nominal / range) | 45 - 66 Hz / DC |
| Maximum current | 5.9 A _{RMS} |
| Power Factor | > 0.99 at 50% load or more |
| Protection | Fuse Shutdown above 305 V _{AC} / 300 V _{DC} |
| OUTPUT DATA | |
| Voltage (default) | 26.7 V _{DC} |
| Voltage (adjustable range) | 21 - 29 V _{DC} |
| Max power, nominal input | 1000 W |
| Max power, @ 85 V _{AC/DC} | 440 W |
| Max current | 41.7 A (@V _{OUT} < 24 V _{DC}) |
| Current sharing | ±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 |
| Hold up time | >20ms; output voltage > 21 V _{DC} |
| Ripple | < 150 mV _{PP} , 30 MHz bandwidth |
| Protection | Blocking OR-ing Diode, Short circuit proof, Over voltage protection and High temperature protection |
| OTHER SPECIFICATIONS | |
| Peak Efficiency | 92.5 % |
| Isolation | 3.0 kV _{AC} - input and output, 1.5 kV _{AC} - input earth, 0.5 kV _{DC} - output earth |
| Alarms (Red LED) | Low mains shutdown, High and low temperature shutdown, Rectifier Failure, Overvoltage shutdown on output, Fan failure, Low voltage alarm, CAN bus failure |
| Warnings (Yellow LED) | Rectifier in power de-rate mode, Remote battery current limit activated, Input voltage out of range, flashing at overvoltage |
| Normal (Green LED) | Input and output ok |
| Potential alarm relay (normally closed) | Opens on alarms and mains outage |
| MTBF (Telcordia SR-232 Iss.3 Meth. II Case L1) | >1 975 044 (@ T _{ambient} : 25 °C) |
| Operating temperature (5 - 95% RH non-cond.) | - 40 - 85°C [-40 - 185°F] |
| Max output power de-rates above temp / to | 45°C [+113°F] / 400 W |
| 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 | EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013 IEC 60950-1:2013, UL 60950-1:2014 |
| EMC | EN 61000-6-1:2007, -6-2:2005, -6-3:2007 + A1:2011, -6-4:2007 + A1:2011, TS 61000-6-5, EN 300 386:v1.6.1, FCC CFR 47 Part 15:2013 |
| Marine | DNVGL-CG-0339 ¹⁾ , ABS PDA Certificate ¹⁾ |
| Environment | ETSI EN 300 019: 2-1 (Class 1.2) & 2-2 (Class 2.3) EU 2015/863 (RoHS) & 2012/19/EU (WEEE) Normal operating conditions as per IEC 62040-5-3:2016 clause 4.2. Other operating conditions as per IEC 62040-5-3:2016 clause 4.3, must be advised |

1) only valid for part number 241122.205M

Specifications are subject to change without notice