

High efficiency and reliable rectifiers

The most efficient power conversion module in the industry! Since the launch the Flatpack 2 family has expanded into a wide selection of power ratings and voltages



FLATPACK2 110-125V RECTIFIERS

110V_{DC}/2000W HE & 110-120V_{DC}/20A HE

Doc 24111x.805.DS3 – v4

APPLICATIONS

POWER UTILITIES

- SWITCH TRIPPING
- CONTROL & PROTECTION SYSTEMS
- EMERGENCY LIGHTING

RAILWAY INFRASTRUCTURE

- CONVERTER STATIONS
- POWER STATIONS

VARIOUS OTHER APPLICATIONS IN DEMANDING INDUSTRIES LIKE MARINE, OIL & GAS, PROCESS ETC.



FLATPACK2 POWER RACK FOR HVDC(PN: 268035)



CTO30210.XXX FLATPACK2 WALLBOX - A 2 RECTIFIERS SYSTEM

KEY FEATURES

- PROVEN RELIABILITY
- HIGH POWER DENSITY
- APPLICATION FLEXIBILITY, 2KW - 2MW
- ACCEPTS DC INPUT (DC/DC CONVERTER)
- GLOBAL COMPLIANCE (CE, UL, NEBS)
- MARINE & OFFSHORE CERTIFICATIONS
- PATENTED TECHNOLOGY
- DIGITAL CONTROLLERS

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APPLICABLE SYSTEMS

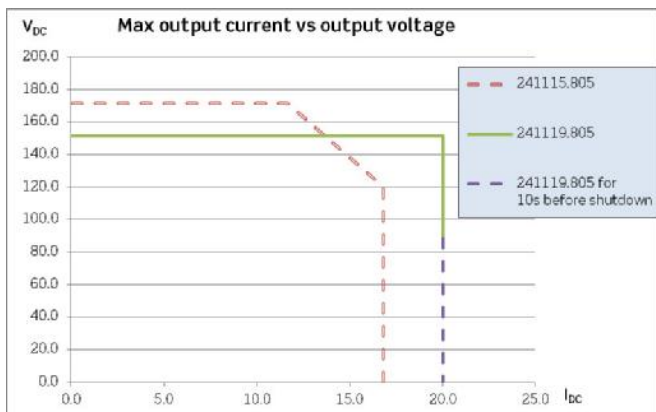


2U FLATPACK2 BULK OUTPUT RACK WITH EARTH FAULT DETECTION



IBB SYSTEM IN FPC CABINET

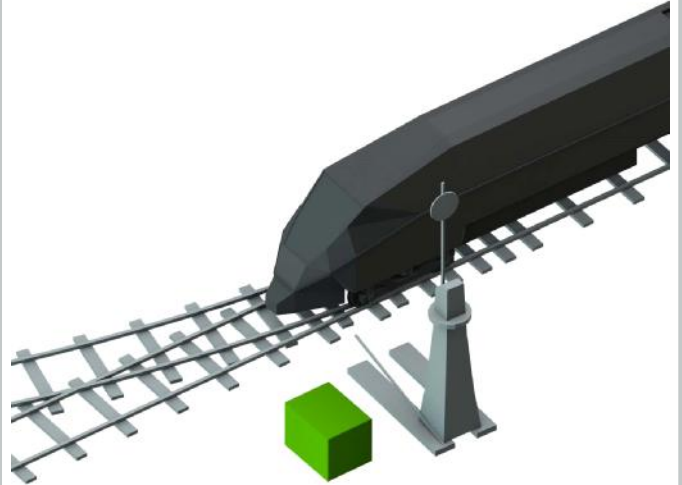
AVAILABLE CURRENT AT NOMINAL INPUT



IBB SYSTEM IN FPC CABINET

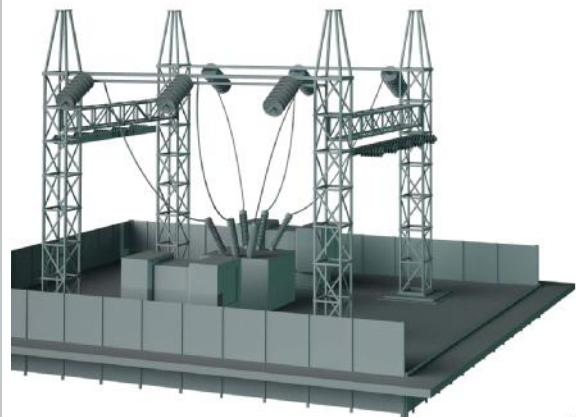
APPLICATION EXAMPLE

RELIABLE POWER FOR RAIL & METRO



Uninterruptable power solutions based on 110V_{DC} have many advantages and provide an extreme power reliability and power availability.

HV AND MV SWITCHGEAR



Safe and energy efficient powering of HV and MV switchgear

FLATPACK2 110-125V RECTIFIERS



110V_{DC}/2000W HE & 110-120V_{DC}/20A HE

| Model | 110 / 2000 HE WOR | 110-120 / 20A HE |
|--|--|---|
| Part number | 241115.805 | 241119.805 |
| INPUT DATA | | |
| Voltage range (nominal) | 185 - 275 V _{AC/DC} | 176 - 277 V _{AC} ¹⁾ |
| Voltage range | 85 - 300 V _{AC/DC} | 85 - 305 V _{AC} ¹⁾ |
| Frequency | 0 - 66 Hz | 45 - 66 Hz |
| Maximum current | 11.9 A _{RMS} | 18.64 A _{RMS} |
| Power Factor | 0.99 (@ 50-100 % load) | 0.99 (@ 50-100 % load) |
| THD (@ 230 V _{AC}) | < 5 % (@ full load) | < 4 % (@ full load) |
| Protection | Varistor for transient protection, fuse in both lines, shutdown above 300/305 V | |
| OUTPUT DATA | | |
| Default voltage | 122.5 V _{DC} | |
| Voltage range | 89.2 ²⁾ - 171.6 V _{DC} | 90.0 ²⁾ - 151.25 V _{DC} ¹⁾ |
| # Pb cell supported (1.8 - 2.4 V _{DC} /cell) | 54 - 71 | 54 - 60 |
| # NiCad cell supported (1.05 - 1.65 V _{DC} /cell) | 85 - 104 | 86 - 91 |
| Max power, nominal input | 2000 W | 3025 W ¹⁾ |
| Max power, 85V input | 850 W | 1280 W |
| Max current | 16.7 A | 20 A |
| Hold-up time, default voltage and 1500 W load | 20 ms, V _{OUT} > 99.7 V _{DC} | 10 ms, V _{OUT} > 99.7 V _{DC} |
| Current sharing | ±5% of maximum current from 10 to 100% load | |
| Static voltage regulation | ±0.5% from 10% to 100% load and nominal input | |
| Dynamic voltage regulation | ±5.0% for 10-80% or 80-10% load variation, regulation time < 50ms | |
| Rippel and noise, 30 MHz bandwidth | < 500 mV _{PP} | |
| Protection | Overvoltage shutdown, short circuit proof, high temperature, hot plug-in inrush current limiting, ORing diode | |
| OTHER SPECIFICATIONS | | |
| Efficiency | > 94% | > 94% |
| Isolation | 3.0 kV _{AC} – input and output, 1.5 kV _{AC} – input earth, 1.5 kV _{DC} – output earth 3 kV _{AC} CAN – input, 3kV _{AC} CAN – output | |
| 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 derate mode, Remote battery current limit activated, Input voltage out of range, flashing at overvoltage | |
| Normal (Green LED) | Input and output ok | |
| MTBF (Telcordia SR-332 Issue I method III (a)) | >391 000h (@T _{AMBIENT} = 25°C) | >400 000h (@T _{AMBIENT} = 25°C) |
| Operating temperature (5 - 95% RH non-cond.) | -40 to +75°C [-40 to +167°F] | |
| Output power de-rates above temp / to | +55°C / 1350W @ +75°C +50°C / 1150 W @ +75°C | |
| Storage temperature | -40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing | |
| Dimensions[WxHxD] / Weight | 109 x 41.5 x 327mm (WxHxD) [4.25 x 1.69 x 13"] / 1.950 kg [4.3lbs] | |
| DESIGN STANDARDS | | |
| Electrical safety | UL 60950-1, EN 60950-1, CSA 22.2 | |
| EMC | ETSI EN 300 386 V.1.3.2 EN 61000-6-1 / -2 / -3 / -4 / -5 | |
| Mains Harmonics | EN 61000-3-2 | |
| Environment | ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3) & 2-3 (Class 3.2) ETSI EN 300 132-2 2011/65/EU (RoHS) & 2008/98/EC (WEEE) | |
| Marine compliance (EMC class B with AC filter) | DnV Rules for Classification of Ships, High Speed & Light Craft and DnV Offshore Standards | |
| ¹⁾ Specification valid for HW version 2 and newer. For older revision see DS:24111x.805.DS3 ver1. ²⁾ Output voltage will increase at light loads (< 1.6A) | | |