Powerpack

Rectifier Module 48V, 11kW 208VAC

Powerful 3 phase AC DC rectifier module

The Powerpack rectifier is optimized for medium and large system sizes. Bay configuration of Powerpack systems is possible by adding up to 10 modules in a 23” cabinet.

POWERPACK

241246.100.DS3 rev5

APPLICATIONS

Wireless, fiber and fixed line communication

Today’s communications demand state of the art, cost efficient and compact DC power systems. Powerpack has a space saving power density of 650W/liter.

Broadband and network access

Increasing network speed demands flexible and expandable DC power solutions. Powerpack is your key building block for future needs.

PRODUCT DESCRIPTION

The Powerpack is a battery charger and rectifier for working in parallel as part of a DC power system controlled and monitored by the Smartpack. Digital communication over CAN bus with Smartpack simplifies system design and improves flexibility.

KEY FEATURES

- HIGH EFFICIENCY
  Rectifier technology utilizes soft switching and three-level boost converter that make the module efficiency industry leading and compact size.
- LOCAL MODULE MONITORING
  Display and push buttons gives easy local monitoring of individual rectifier as an addition to the Smartpack monitoring.
- HEAT MANAGEMENT
  Front-to-back air flow with chassis integrated heat-sinks and chimney gives the module the best reliable working environment.
- UNIQUE CONNECTION
  It is a real plug-and-play connection system that shortens installation time and reduces total cost. User friendly handles lock the module to the shelf.
- GLOBAL APPROVALS
  Powerpack is CE marked, UL recognized and NEBS certified for worldwide installation.

POWERPACK

RECTIFIER MODULE — 48V, 11KW 208VAC

AC INPUT

Voltage	Nominal: 185 – 250 VAC 3ph Tolerances: 180 – 264 VAC 3ph
Frequency	45 to 66Hz
Maximum Current	38.5 Arms maximum at nominal input and full load
Power Factor	> 0.99 at 50% load or more @208VAC
Total Harmonic distortion (THD)	< 5% at 50% load or more @208VAC
Input Protection	○ Varistors for transient protection ○ Mains fuse in all lines

DC OUTPUT

Voltage	53.5 VDC (adj. range: 43-58.5 VDC)
Output Power	11 kW at nominal input
Maximum Current	230 Amps at 48 VDC and nominal input
Current Sharing	±3% of maximum current from 10% to 100% load
Static voltage regulation	±0.5% at 0-100% load
Dynamic voltage regulation	±3.5% for 10-90% or 90-10% load variation, regulation time < 10ms
Hold up time	> 20ms; output voltage > 44 VDC at full load
Ripple and Noise	○ < 100 mV peak to peak, 30 MHz bandwidth ○ < 2.0 mV $_{rms}$ psophometric
Output Protection	○ Overvoltage shutdown (level adjustable) ○ Overload and Short circuit proof ○ High temperature protection

OTHER SPECIFICATIONS

Efficiency	Typical 92%, 93.5% at 50% load	
Isolation	○ 3.0 kVAC – input / output ○ 1.5 kVAC – input / earth	○ 1.0 kVDC – output / earth
Rectifier Alarms	○ Low mains alarm ○ High mains alarm ○ Low output voltage alarm ○ Over voltage shutdown alarm ○ Current limit alarm	○ Current sharing alarm ○ Fan Alarm ○ Temperature alarm ○ Rectifier failure alarm
Visual indication	○ Green LED: ON, no faults ○ Red LED: rectifier failure	○ Yellow LED blinking: no communication ○ Yellow LED solid: derating power
User interface	○ LCD and 3 push buttons	○ ON/OFF switch
Operating temp.	-10 to +70°C (-40 to +158°F). Derating above +55°C (+131°F)	
Storage temp.	-25 to +85°C (-13 to +185°F)	
Cooling	Fans (front to back airflow) ball bearing	
Fan Speed	Temperature regulated	
MTBF	> 200, 000 hours Telcordia Issue I, method III (a) at 20°C ambient	
Acoustic Noise	< 72dBA, compliant to ETS 300 753	
Humidity	○ Operating: 5% to 95% RH non-condensing ○ Storage: 0% to 99% RH non-condensing	
Dimensions	23” x 2U x 500 mm (wxhxd)	
Weight	18.5 kg (40.8 lbs)	

APPLICABLE STANDARDS

Electrical safety	○ IEC 60950-1 ○ UL 60950-1
EMC	○ ETSI EN 300 386 V.1.3.1 (telecommunication network) ○ EN 61000-6-3 (emission, light industry) ○ EN 61000-6-2 (immunity, industry) ○ NEBS Telcordia GR-1089 CORE
Mains Harmonics	EN 61000-3-2
Environment	○ ETSI EN 300 019-2 (-1. -2, -3) ○ ETSI EN 300 132-2 ○ NEBS Telcordia GR-63 CORE Zone 4

ORDERING INFORMATION

Part No.	Description
241246.100	Powerpack 48/11kW 3ph 208VAC