

Powerpack

Rectifier Module 48V

11kW 480VAC / 10kW 400VAC

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

241246.000.DS3 – rev7.1

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.

Model	Powerpack 11kW 48V 480Vac
Part number	241246.000
INPUT DATA	
Voltage (nominal)	430 - 530 V _{AC 3ph (Y)}
Voltage (operating range)	260 - 550 V _{AC 3ph (Y)}
Frequency	45 - 66 Hz
Current (maximum)	16.5 A _{RMS}
Power Factor	> 0.99 at 50% load or more @ 480 V _{AC}
Total Harmonic distortion (THD)	< 5% at 50% load or more @ 480 V _{AC}
Protection	Fuse in L ₁ , L ₂ & L ₃ , Varistor
OUTPUT DATA	
Voltage (default)	53.5 V _{DC}
Voltage (adjustable range)	43 - 58 V _{DC}
Power (maximum)	11 kW
Power (maximum) - linear derating for V _{IN} < 430 V _{AC}	4.6 kW (@V _{IN} = 260 V _{AC}) / 9 kW (@V _{IN} = 360 V _{AC})
Current (maximum)	230 Amps (@ 48 V _{DC})
Current sharing (10 - 100% load)	±3% of maximum current from 10 to 100% load
Static Voltage regulation (0 - 100% load)	±0.5%
Dynamic Voltage regulation	±3.5% for 10-90% or 90-10% load variation, regulation time < 10ms
Hold-up time	> 20ms; output voltage > 44 V _{DC} at full load
Ripple and Noise	< 100 mV _{P-P} (30 MHz bandwidth) / < 2.0 mV _{RMS} psophometric noise
Protection	Overvoltage shutdown (level adjustable), Overload and Short circuit proof and High temperature protection
OTHER SPECIFICATIONS	
Efficiency	93.50 %
Isolation	3.0 kV _{AC} - input to output, 1.5 kV _{AC} - input to earth, 1 kV _{DC} - output to earth
Rectifier Alarms	Low and high mains alarm, Low output voltage alarm, Over voltage shutdown alarm, Current limit alarm, Current sharing alarm, Fan Alarm, Temperature alarm and Rectifier failure alarm
Alarms (Red LED)	Rectifier failure
Warnings (Yellow LED)	Power de-rating (V _{IN} or temperature) or lost communication with controller
Normal (Green LED)	Input and output ok
User interface	LCD + 3 buttons / ON/OFF switch
Cooling	3 Fans (front to back airflow, temperature regulated speed)
Acoustic noise	< 72 dBA, compliant to ETS 300 753
MTBF (Telcordia SR-332 Issue I method III (a))	>200 000 (@ T _{ambient} : 20 °C)
Operating temperature	-10 to +70°C (14 to +158°F), humidity 5 - 95% RH non-condensing, de-rating above 55°C (131°F)
Storage temperature	-40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing
Dimensions[WxHxD] / Weight	23" x 2U x 505mm / 18.4 kg (40.8 lbs)
DESIGN STANDARDS	
Electrical safety	UL 60950-1, EN 60950-1
EMC	EN 61000-6-1 / -2 / -3 / -4, EN 61000-3-2 ETSI EN 300 386 V.1.3.1
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 NEBS Telcordia GR-63 CORE Zone 4