

## Powerpack 48/5800

### Rectifier Module

Versatile and powerful solution for any application

The combination of cost-effective design, power density and reliability makes the Powerpack a product family that truly stands out and provides unparalleled network availability. The versatility of the Powerpack rectifier means that it can be used in a wide variety of 48 V<sub>DC</sub> applications across the globe.



# POWERPACK 48/5800

## RECTIFIER MODULE

241246.500.DS3 – rev3

### APPLICATIONS

#### Wireless, fiber and fixed line communication

Today's communications demand state of the art, cost effective and compact DC power systems. Powerpack 48/5800 delivers an industry leading power density and superb reliability at lowest lifetime cost

#### Broadband and network access

Increasing network speed demands flexible and expandable DC power solutions. The Powerpack rectifiers are your key building blocks for future needs.

#### Small and large

Due to the high power density, cost competitive design and a highly flexible system communication interface, Powerpack rectifiers are used in system solutions from 20 kW to 550 kW.

### PRODUCT DESCRIPTION

The Powerpack is a battery charger and rectifier module designed for working in parallel as part of a DC power system, controlled and monitored by an Eltek control system.

Powerpack 48/5800 is optimized for a medium to large system sizes. Digital communication over CAN bus with the control system simplifies system design and enhances flexibility.

Different shelf solutions are available depending on cabinet size. It is possible to fit 4 rectifiers across a 23" shelf, 3 rectifiers across a 19" shelf or 2 rectifiers across a 12" shelf.

### KEY FEATURES

- **HIGH EFFICIENCY**  
Rectifier technology utilizes soft switching and three-level boost converter that make the module efficiency industry leading and compact size.
- **DIGITAL CONTROLLERS**  
Primary and secondary controls are digitalized, enabling excellent monitoring and regulation characteristics. Thus, the number of component has been reduced by typically 40% compared to conventional technologies - for highly reliable, long life, trouble free DC power systems.
- **HEAT MANAGEMENT**  
Front-to-back air flow with chassis-integrated heat sinks gives the module the most suitable working environment and practically no limitations in the scalability of the desired system solution.
- **UNIQUE CONNECTION**  
A true plug-and-play connection system: time-to-install and cost-reducing solution.
- **GLOBAL APPROVALS**  
Powerpack is CE marked and UL recognized for worldwide installation.

AC INPUT		
Voltage	<ul style="list-style-type: none"> <li>○ Nominal: 400/480VAC 3ph</li> <li>○ Tolerances: 180 – 530VAC 3ph L-L</li> </ul>	
Frequency	44 to 66Hz	
Maximum Current	<ul style="list-style-type: none"> <li>○ &lt;7.5Arms at 480VAC</li> <li>○ &lt;9.1Arms at 400VAC</li> <li>○ &lt;12.2Arms at 304VAC</li> </ul>	
Power Factor	> 0.98 at 400/480VAC at full load	
THD	< 5% at 50-100% load	
Input Protection	<ul style="list-style-type: none"> <li>○ Varistors for transient protection</li> <li>○ Mains fuse in all lines</li> </ul>	
DC OUTPUT		
Voltage	<ul style="list-style-type: none"> <li>○ Nominal output: 53.5 VDC</li> <li>○ Float/Boost range: 48 – 58Vdc</li> <li>○ Standby test range: 42 – 48Vdc</li> </ul>	
Output Power	<ul style="list-style-type: none"> <li>○ 5800 W at nominal input</li> <li>○ Constant Power &gt; 48Vdc</li> <li>○ Derating below 304VAC</li> <li>○ 3750W at 208VAC (+/-10%)</li> </ul>	
Maximum Current	117 Amps at 48 VDC and nominal input Constant Current < 48Vdc	
Current Sharing	±5% of maximum current from 10% to 100% load	
Static voltage regulation	±0.5% from 10% to 100% load	
Dynamic voltage regulation	±5.0% for 25-100% or 100-25% load variation, regulation time < 10ms	
Hold up time	> 10ms; output voltage > 44VDC at full load	
Ripple and Noise	< 180 mV peak to peak, 30 MHz bandwidth	
Output Protection	<ul style="list-style-type: none"> <li>○ Overvoltage shutdown</li> <li>○ Output fuse</li> </ul>	<ul style="list-style-type: none"> <li>○ Short circuit proof</li> <li>○ High temperature protection</li> </ul>
OTHER SPECIFICATIONS		
Efficiency	Typical 92,5%. Min. 92% at 50-100% load	
Isolation	3.0 KVAC – input and output 1.5 KVAC – input earth 0.5 KVAC – output earth	
Visual indication	<ul style="list-style-type: none"> <li>○ Green/Red LED: on, no faults / no mains</li> <li>○ Red LED 2: rectifier failure</li> <li>○ Red LED 3: output over voltage</li> </ul>	<ul style="list-style-type: none"> <li>○ Red LED 4: fan fail</li> <li>○ Yellow LED : rectifier current limited</li> </ul>
Operating temp.	<ul style="list-style-type: none"> <li>○ -40 to +75°C (-40 to +158°F)</li> <li>○ Derating above +50°C (+122°F) linear to 2350W at +75°C (+158°F)</li> </ul>	
Storage temp.	-40 to +85°C (-40 to +185°F)	
Cooling	1 fan (front to back airflow)	
Fan Speed	Temperature and current regulated	
MTBF	> 350, 000 hours Telcordia SR-332 Issue I, method III (a) (T <sub>ambient</sub> : 25°C)	
Acoustic Noise	< 60dBA at nominal input and full load (T <sub>ambient</sub> < 30°C)	
Humidity	<ul style="list-style-type: none"> <li>○ Operating: 5% to 95% RH noncondensing</li> <li>○ Storage: 0% to 99% RH non-condensing</li> </ul>	
Dimensions	133 x 84 x 364mm (wxhxd) (5.2 x 3.3 x 14.3")	
Weight	<5 kg (11 lbs)	
APPLICABLE STANDARDS		
Electrical safety	IEC 60950-1 UL 60950-1 CSA 22.2	
EMC	ETSI EN 300 386 V.1.3.2 (telecommunication network) EN 61000-6-1 (immunity, light industry) EN 61000-6-2 (immunity, industry)	EN 61000-6-3 (emission, light industry) EN 61000-6-4 (emission, industry) Telcordia NEBS GR1089-CORE
Mains Harmonics	EN 61000-3-2	
Environment	ETSI EN 300 019-2 (-1, -2, -3) ETSI EN 300 132-2	Telcordia NEBS GR63-CORE (Zone 4) RoHS compliant
ORDERING INFORMATION		
Part No.	Description	
241246.500	Powerpack 48/5800 208/400/480VAC	