Flatpack 1500

Flatpack Systems

Eltek

Flatpack Systems

Global Standard for Telecom Power

The Flatpack System Solutions from Eltek, with a maximum system potential of 33.6 KW and the highest power density available in the market, are designed to meet the specific requirements of the emerging 3G/UMTS applications.

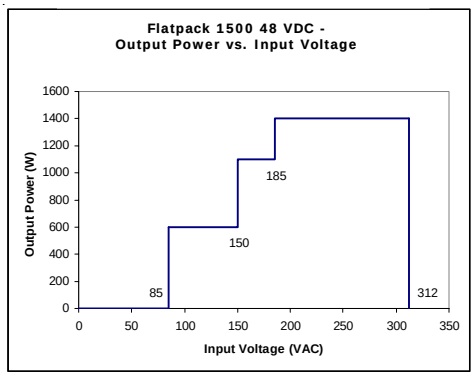
With size and functionality in mind, the Flatpack 1500 will provide solutions for a variety of Telecom applications including small transmission systems as well as 2.5 and 3G base station power requirements.

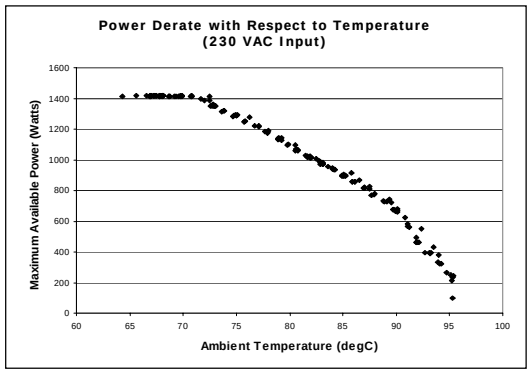
Flexible and expandable

Wide operating AC input, compact profile and high ambient operating temperature make the Flatpack rectifier ideal for indoor as well as outdoor cabinet solutions.

Latest technology

Switch mode technology with soft switching and high switching frequency is used to minimize volume and weight, and to obtain fast output voltage regulation. The module accepts large variations on the input voltage (85-300 VAC) and draws sinusoidal current with a soft start power-up.





Main features

- High Power Density offering Small Footprint and increased free rack space
- Wide AC Input Operating Range (85-300 VAC) for Worldwide Applications
- Wide Ambient Operating Temperature (-40°C to+70°C (40°F to 158°F)) for various Telecom Power Applications

Flatpack 1500
3U Power System (5.6 kW)

Flatpack 1500 Rectifier*

The Flatpack 1500 is a battery charger and rectifier for stand-alone use, or for working in parallel as part of a power rack system controlled by the Flatpack MCU Monitoring & Control Unit. When connected in parallel, the rectifiers provide active current sharing, with or without the Monitoring & Control Unit.

The Flatpack 1500 will operate in ambient temperatures up to +70°C (+158°F). It delivers maximum output power up to an ambient temperature of +40°C (+104°F). At higher temperatures, the rectifier will de-rate the output power and deliver maximum possible power until it goes into an over-temperature shutdown at an ambient temperature higher than +70°C (+158°F).

The Flatpack 1500 is hot swappable, providing for easy installation and maintenance.

** See back page for complete rectifier specifications.*

Flatpack MCU

Flatpack MCU is the Monitoring & Control Unit in Eltek's Flatpack Power Supply Systems. The unit allows both local and remote monitoring/control of the Power Supply System via front keypads and LCD and an RS-232 serial interface.

Main Specifications*

- Front panel LCD and keypad for on-site service (local operation)
- RS-232 interface for PC connection or remote monitoring/control via modem or SNMP agent
- 6 user programmable relay outputs for traditional remote monitoring (extendable to 11 relays)
- 4 user programmable inputs for monitoring of other equipment on site
- Battery monitoring and testing without site attendance
- Temperature Compensated Charge Voltage for increased battery lifetime
- Hot Plug-in
- Modem Call-back functionality
- Password protected operator access levels
- Alarm/event log with time and date
- Site Text/ID
- Windows-based PC communication software (WinPower Silver)

** See Flatpack DCD 125A datasheet for complete technical specifications.*

Flatpack DCD 125A

The Flatpack DCD 125A DC distribution is used in our most compact system solutions, developed to occupy minimum rack height. These systems range from 2U to 3U height and will fit into 300mm (12") deep and 19" wide cabinets. The smallest system configuration is 2U high and can accommodate two Flatpack 1500 rectifiers.

The distribution unit can be used in Flatpack systems with up to 5.6 KW output power including redundancy.

Main Specifications*

- 1 Battery Fuse Rated at 125 Amps (max.)
- 1 Load Fuse Rated at 125 Amps (max.)
- 3 Load Breakers rated 2-32 Amps
- Optional Low Voltage Load and/or Battery Disconnect
- Mounting Arrangement for Flatpack MCU Controller

** See Flatpack DCD 125A datasheet for complete technical specifications.*

Other Monitor and Distribution options are available.
Contact an Eltek representative for other applications.

WinPower Silver

Monitoring and control for Flatpack Systems is made easy thanks to WinPower Silver.
This windows based system transforms your PC screen into an active window displaying the power supply system status. All critical data is presented on the main screen with direct access to system settings and interrogation of the Flatpack MCU monitoring & control unit via clear sub-menus.

Different passwords can be programmed for different access levels. Authorised personnel can thereby be given access to change the systems parameters or set-up, while others are restricted to read-only access.

Local or remote
The communication set-up differs whether the PC is local, or on a remote location.
Local communication is achieved using an RS-232 cable connecting the PC and the monitoring unit, whereas
remote communication is available via the Public Switched Telephone Network (PSTN), using modems.
Remote communication is also possible via Ethernet (TCP/IP) through an SNMP agent. There may be some differences in functionality between the different communication methods.

Technical specifications

Flatpack 1500
Switch Mode
Power Supply 48 VDC

Input	
Input Voltage / max. Output power (up to 40°C (104°F) ambient)	85-150 VAC / 550 W at 54 VDC 600 W at 48 VDC 150-185 VAC / 1100 W at 48-59 VDC 185-275 VAC / 1400 W at 48-59 VDC 275-300 VAC / Full output power (1400 W) reduced power factor
High Voltage	The rectifier disconnects itself from the mains input at 312 VAC ± 5 VAC. It will automatically restart when the input voltage is within a safe level
Low Voltage	The rectifier will shut down at mains voltages between 75 VAC and 85 VAC
Frequency	45Hz to 66Hz
Harmonics	According to IEC 1000-3-2
Maximum Current	8.5 Amps maximum at 185 VAC and 1400 W output
Power Factor	> 0.99 at 50% load or more
Total Harmonic Distortion	< 9%
Input Protection	Soft start, Surge protection (varistors), Internal fuses (L & N), Automatic disconnect at high input voltage
Output	
Voltage	48 VDC (range: 40-58 VDC)
Max. Output Power	550 W at 85-150 VAC, 1100 W at 150-185 VAC, 1400 W at 185-275 VAC
Max. Output Current	29 Amps 48 VDC (230 VAC nom.) 12.5 Amps at 48 VDC (120 VAC nom.)
Current Share	± 1 Amp from true average current between modules
Static Voltage Regulation	± 0.5% from 0 to full load
Dynamic Voltage Regulation	± 1.0% for 10-90% or 90-10% load variation
Hold Up Time	> 10ms (20ms: Output voltage > 43 VDC)
Ripple and Noise	< 100mV peak to peak, 30MHz bandwith < 0.96mV (< 0.4 mV typical) rms psophometric
Output protection	High voltage shutdown Blocking diode
Other specifications	
Efficiency	> 90%
Complies to the following standards	
Electrical safety	EN 60950, UL 1950
EMC	EN 300 386 V.1.3.1 (telecommunication network) EN 50081-1 (emission light industry) EN 61000-6-2 / EN 50082-2 (immunity, industry)
Environment	ETS 300 019-2 Bellcore GR63 CORE Zone 4
Isolation	3.0 kVAC – input and output, 1.5 kVAC – input earth, 1.0 kVDC – output earth
Protection	Output blocking diode Mains voltage monitoring and disconnect at high/low voltage Non-destructive short circuit operation and high output voltage shutdown
Rectifier Alarm (Alarms that operate the internal alarm relay)	Input voltage out of range (shutdown) High output voltage shutdown High temperature shutdown Fan Failure
Visual indications	Green LED: ON, no faults Red LED: Rectifier failure Green LED bargraph: output current from 0 Amps to 29 Amps (max.)
Operating Temp	-40°C to +70°C (-40°F to +158°F)
Storage Temp.	-40°C to +85°C (-40°F to + 185°F)
Cooling	2 fans (front to back airflow)
Fan speed	50% to 100% speed, depending on output current
Acoustic noise	< 55dB (A)
Humidity	Operating: 5% to 95% RH non-condensing, Storage: 0% to 99% RH non-condensing
Dimensions	H: 41.5mm (1.64") W: 214mm (8.43") D: 243mm (9.57")
Weight	2.8kg (6.17lbs.)

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