

# Flatpack | 1500

Switch Mode Power Supply 48 VDC



POWERFUL TECHNOLOGY



**The Flatpack 1500 48V 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.**

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.

The Flatpack 1500 48V will operate in ambient temperatures up to +70°C (+158°F). At higher temperatures, the rectifier will derate the output power and deliver the maximum possible power until it goes into an over-temperature shutdown.

The rectifier provides 1500 W output power at 230 VAC nominal input voltage. The rectifier provides max. 600 W output power at 48 VDC at 120 VAC nominal input voltage.



<b>FLATPACK 1500 48 V</b>	
<b>SPECIFICATIONS</b>	
<b>INPUT</b>	
Input voltage	85-300 VAC*
Frequency	45 to 66Hz
Maximum Current	9.2 Arms maximum at 185 VAC and 1500 W output
Power factor	> 0.99 at 50% load or more
Total harmonic distortion (THD)	< 5%
Input protection	Soft start Surge protection (varistors) Internal fuses (L & N) Disconnect above 312VAC
<b>OUTPUT</b>	
Voltage	48 VDC (range: 44-59 VDC)
Output power	550 W at 85-150 VAC 1100 W at 150-185 VAC 1500 W at 185-275 VAC
Maximum current	31.25 Amps at 48 VDC (230 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	±4.0% for 10-90% or 90-10% load variation, regulation time < 10ms
Hold up time	20ms; output voltage > 44 VDC
Ripple and Noise	< 100 mV peak to peak, 30 MHz bandwidth < 0.96mV rms psophometric
Output Protection	Overvoltage shutdown Blocking diode Short circuit proof High temperature protection

\* The module will disconnect itself from the mains for voltages above 300Vac. For voltages between 275 and 300Vac, the module will operate with reduced power factor.

<b>OTHER SPECIFICATIONS</b>	
Efficiency	> 90%
Isolation	3.0 KVAC – input and output 1.5 KVAC – input earth 1.0 KVDC – output earth
Rectifier Alarms	Mains failure Module failure Overvoltage shutdown Fan failure
Visual indications	Green LED: ON, no faults Red LED: Rectifier failure Yellow LED bargraph: 10 LEDs showing load current (0-100%)
Operating temp	-40 to +70°C (-40 to +158°F)
Storage temp	-40 to +85°C (-40 to +185°F)
Cooling	2 fans (front to back airflow) Brushless w/ magnetic bearing
Fan Speed	Temperature regulated
MTBF	> 213,600 hours Telcordia Issue I, method III (a)
Acoustic Noise	< 55dBA (sound pressure)
Humidity	Operating: 5% to 95% RH non-condensing Storage: 0% to 99% RH non-condensing
Dimensions	214 x 41.5 x 243mm (wxhxd) (8.43 x 1.64 x 9.57")
Weight	2.8kg (6,17lbs)
<b>APPLICABLE STANDARDS</b>	
Electrical safety	EN 60950 UL 60950
EMC	ETSI EN 300 386 V.1.3.1 (telecommunication network) EN 61000-6-3 (emission, light industry) EN 61000-6-2 (immunity, industry) Telcordia GR1089 CORE
Harmonics	EN 61000-3-2
Environment	ETSI EN 300 019-2 ETSI EN 300 132-2 Telcordia GR63 CORE Zone 4

Specifications are subject to change without notice.

### ORDERING INFORMATION

Part no.	Description
241114.100	FLATPACK 1500 48V 230VAC rectifier module
241114.100.DS3 v.08	

Location	Company	Telephone	Fax
Europe	Eltek Energy AS	+47 32 20 32 00	+47 32 20 32 10
Americas	Eltek Energy, LLC	+1 815 459 9100	+1 815 459 9118
Asia/Pacific	Eltek Energy Pte Ltd.	+65 6 7732326	+65 6 7753602
China	Eltek Energy Ltd.	+852 28982689	+852 28983189
Middle East	Eltek Middle East	+971 4 887 1176	+971 4 887 1175