



# Flatpack2

## DC Power Systems

### Scalable power, flexible distribution

Eltek Valere's *Flatpack2* line consists of a range of versatile, scalable, and highly-configurable systems tailored to individual needs and requirements. Use of established components—including the efficient and reliable *Flatpack2* rectifier, the robust *Smartpack* controller, and remarkably flexible distribution—make for optimal system design and cost-effective deployment.

**NEW!** Flatpack2 systems fully support the unrivaled **96%** efficient **Flatpack2 HE** rectifier. Visit us on the web at [www.eltekvalere.com](http://www.eltekvalere.com) for more information.

### Components

#### Flatpack2 Rectifier

Eltek Valere's *Flatpack2* rectifier provides reliable, high-quality DC power. It is a hot-plug, digital switched-mode power supply module that operates on a wide range of input voltages (85 to 290V<sub>AC</sub>) and outputs 2000W at 48V<sub>DC</sub> and 24V<sub>DC</sub>. A 19" power shelf holds up to four Flatpack2 rectifiers and mounts in either 19" or 23" telecommunications racks.

**NEW!** Visit us on the web at [www.eltekvalere.com](http://www.eltekvalere.com) to learn more about the seamlessly compatible **Flatpack2 HE** rectifier.

#### Smartpack Controller

Eltek Valere's *Smartpack* controller provides powerful, cost-effective control and monitoring for Flatpack2 power systems. A simple front display and sophisticated computer interface deliver comprehensive information and in-depth system management. *Smartpack* controllers are even equipped with master-slave functionality for system expansion.

#### Distribution

With sizes ranging from 1RU to 6RU in height and 19" to 23" in width, *Flatpack2* system distributions are designed to meet individual application requirements. All distributions feature both breaker and bulk output landings and have low-voltage disconnect (LVD) options. A unique three-bus breaker panel provides a convenient manner in which to power equipment from up to three different voltage types (e.g., converter output) or arrange distribution to load equipment and batteries in a variety of ways.

### Features

#### Systems

- Power output options range from 150A to 1200A
- Scalable from 2RU to 10RU in height
- Low-cost, reliable solutions due to standardized components
- Module communication via CAN bus (rectifiers and controller)
- NEBS certified
- Optional Flatpack converters and shelves
- Optional AC junction box for larger systems

#### Rectifiers and Shelves

- Surge and short circuit protection
- Temperature monitoring and over-temperature protection
- Status LEDs on each rectifier
- Autonomous, active current sharing between rectifiers
- Typical rectifier power factor >0.99 at 50% load or more
- Low input current distortion (THD)
- Individual and dual AC feed options for each shelf

#### Controller

- USB port and PowerSuite software for computer interface
- Web/SNMP model with Ethernet port for network interface
- Optional slave controller with additional alarm contacts for larger systems
- Advanced battery monitoring and control features

#### Distribution

- Configurable three-bus breaker panel available with either 20 or 24 breaker positions (19" or 23" width, respectively)
- LVBD and LVLD options
- Two-hole bulk battery landings (quantity depends on system size and configuration)
- Emergency power-off (EPO) feature for larger systems (600A and 1200A)
- Additional distribution panel option for larger systems

See reverse side for specifications

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## Technical Specifications

Rectifier Modules	
Flatpack2 HE 48V/2000W	Input voltage: 85-290 V <sub>AC</sub> Maximum input current: 12.5 A <sub>RMS</sub> (@ nominal input and full load) Output voltage: 43.5-57.6 V <sub>DC</sub> Maximum output current: 41.7 A (@ 48 V <sub>DC</sub> and nominal input) Typical efficiency: >96%
Flatpack2 48V/2000W	Input voltage: 85-290 V <sub>AC</sub> Maximum input current: 12.5 A <sub>RMS</sub> (@ nominal input and full load) Output voltage: 43.5-57.6 V <sub>DC</sub> Maximum output current: 41.7 A (@ 48 V <sub>DC</sub> and nominal input) Typical efficiency: 92%
Flatpack2 24V/2000W	Input voltage: 85-290 V <sub>AC</sub> Maximum input current: 13.4 A <sub>RMS</sub> (@ nominal input and full load) Output voltage: 21.0-29.0 V <sub>DC</sub> Maximum output current: 84.0A (@ 24 V <sub>DC</sub> and nominal input) Typical efficiency: 89%

Temperature Range	
Storage	-40°C to +85°C (-40° to +185°F)
Operating	-40°C to +75°C (-40° to +167°F) Derating above +45°C (+113°F)

Control and Alarm Options	
Smartpack Extended	Symmetry monitoring for two battery strings Six digital alarm inputs Six user-defined form C output relays
Smartpack Extended with Slave	Symmetry monitoring for four battery strings Twelve digital alarm inputs Twelve user-defined form C output relays
Smartpack Web/SNMP	10/100BASE-T Ethernet port Symmetry monitoring for two battery strings Two digital alarm inputs Two user-defined form C output relays
Smartpack Web/SNMP with Slave	10/100BASE-T Ethernet port Symmetry monitoring for four battery strings Eight digital alarm inputs Eight user-defined form C output relays

Standard Configurations*							
System	Designation	Controller Slots	Rectifier Slots	Distribution	Battery Landings	LVD Contactor Options	Total Height
	48V/150A	1	4	1RU, 19" panel with controller slot Four 30A bullet-style breaker positions Two 60A bullet-style breaker positions or a 65A, 12-position GMT fuse block	Up to 2	One LVBD or LVLD	2RU (3.5")
	48V/300A	1	7	4RU, 19" panel Separate controller section 20 position, three-bus breaker panel	4	One LVBD and/or one LVLD	6RU (10.5")
	48V/600A	2	16	4RU, 23" panel Separate 1RU controller and alarm section 24 position, three-bus breaker panel	8	One LVBD and/or one LVLD	9RU (15.75")
	24V/600A	2	8	4RU, 23" panel Separate 1RU controller and alarm section 24 position, three-bus breaker panel	8	One LVBD and/or one LVLD	7RU (12.25")
	24V/1200A	2	16	6RU, 23" panel with controller and alarm section 24 position, three-bus breaker panel	8	One LVBD and/or one LVLD	10RU (17.5")

\*Please consult with a sales representative for other available configurations

Applicable Standards			
NEBS	GR-63-CORE, GR-1089-CORE - Level 3	EN 61000-4-2	Electrostatic discharge (ESD) immunity test
IEC 60950-1	Electrical safety	EN 61000-4-3	Electromagnetic field immunity test
UL 60950-1		EN 61000-4-4	Electrical fast transient/burst immunity test
EN 55022 (CISPER 22)	Radiated disturbance at enclosure port Conducted emission at DC output ports Conducted emission at AC mains ports	EN 61000-4-5	Surge immunity test
		EN 61000-4-6	Conducted radio-frequency (RF) immunity test
		EN 61000-4-8	Power frequency magnetic field/pulse magnetic field
		EN 61000-4-9	
EN 61000-3-2 EN 61000-3-3 20	Harmonic current emissions	EN 61000-4-11	Voltage dips, short interruptions and voltage variations

Specifications are subject to change without notice

[www.elteckvalere.com](http://www.elteckvalere.com)

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