

# Flatpack2Bulk Power System

## DC Power System

### Overview

The Eltek Power Core with bulk distribution DC power system can replace your existing rectifiers and controller while allowing you to keep your distribution. The highly-efficient and reliable Flatpack2 rectifier and the advanced Smartpack2 Touch controller update your system to modern requirements.



# FLATPACK2 BULK POWER SYSTEM

## DC POWER SYSTEM

Doc 370084.DS3 Issue 2.3

### APPLICATIONS

The Eltek Bulk Power System is a high-efficiency power solution for applications where controllers and rectifiers need to be updated, while leaving existing distribution in place. These systems provide an optimal footprint:

- 24V systems of 300A or 600A
- 48V systems of 250A, 500A, or 600A
- 380V systems of 32A – 128A

### PRODUCT DESCRIPTION

Powered by Flatpack2 HE rectifier modules, typical efficiency exceeds 95% at both 24 VDC and 48 VDC output.

- 24V – 95%
- 48V – 96%
- 380V – 96.2%
- 380V-to-48V – 98.2%

The Smartpack2 controller provides full control and alarm capabilities, while incorporating your existing distribution alarms; shunt measurement; and low voltage disconnect(s). Additionally, the Smartpack2 controller provides the security you need to meet your IT security requirements.

### KEY FEATURES

- **COMPACT DESIGN**  
Small overall dimensions are ideal for both rack and cabinet solutions.
- **DIGITAL CONTROLLERS**  
The Smartpack2 digital controller system provides comprehensive monitoring and regulation by utilizing a variety of specialized data collection devices.
- **SECURITY FEATURES**  
Security features include HTTPS, FTPS, RADIUS, and SNMPv3
- **HEAT MANAGEMENT**  
Flatpack2 modules feature front-to-back airflow and chassis-integrated heat-sinks, supplementing high-efficiency energy conversion with excellent heat management.
- **COST-EFFICIENCY**  
A true plug-and-play system, the Trilogy system reduces both time-to-install and overall costs.

## INPUT SPECIFICATIONS

|                           |                                                                                                                                                                                                                                                                                                                           |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Input Voltage Range | 100 – 250 VAC (24V 1800W or 48V 2000W rectifiers)<br>100 – 277 VAC (48V 3000W rectifiers)<br>100 – 277 VAC (380V 3000W rectifiers)<br>300 – 400 VDC (380V converters)                                                                                                                                                     |
| Input Connections         | Rear Access, Individual (Terminal Block) *<br>Rear Access, Individual (AMP MATE-N-LOK™)‡<br><small>*Optional bus bar kits are available to power two rectifiers per feed.<br/>‡ Optional input cables, with a single plug and two AMP MATE-N-LOK connectors, are available to power two rectifiers per line cord.</small> |

| OUTPUT SPECIFICATIONS    | 24 VDC Systems                         | 48 VDC Systems                                                                   | 380 VDC Systems                      | Converter Systems                   |
|--------------------------|----------------------------------------|----------------------------------------------------------------------------------|--------------------------------------|-------------------------------------|
| Adjustable Voltage Range | 21.7V – 28.8V<br>(24V 1800W rectifier) | 43.5V – 57.6V<br>(48V 2000W rectifier)<br>43.2V – 57.6V<br>(48V 3000W rectifier) | 300V – 400V<br>(48V 3000W rectifier) | 50V – 55V<br>(380V 3000W converter) |
| Rated Voltage            | 26.7V                                  | 53.5V                                                                            | 381V                                 | 54.5V                               |
| Rated Current            | 600A                                   | 600A                                                                             | 128A                                 | 600A                                |

## PHYSICAL ATTRIBUTES

|                    |                                                                                                                                                                                            |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal rack sizes | 19"                                                                                                                                                                                        |
| Depth              | 19.2" (Terminal Block connections); 20.4" (AMP connections)                                                                                                                                |
| Height             | Distribution, 2 RU; rectifier shelves, 1 RU (up to 4). The system requires at least 1 RU above for airflow; the recommended space above is 3RU, to allow for both airflow and tool access. |

## DC DISTRIBUTION OPTIONS (VARY BY SYSTEM)

|                          |                                              |
|--------------------------|----------------------------------------------|
| Bulk bus bar connections | Eight (8) 3/8"-16 studs, 1" center-to-center |
|--------------------------|----------------------------------------------|

| CONTROLLER      | 24 VDC and 48VDC Systems                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 380 VDC and Converter Systems                                                                                                                                                                                                       |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Monitoring Unit | Smartpack2 Touch with Basic and I/O Monitor2                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Smartpack2 Touch with Basic Industrial                                                                                                                                                                                              |
| Inputs/Outputs  | 3 configurable inputs: digital (NO/NC) or temperature (battery or ambient)†<br>6 configurable inputs: digital (NO/NC), pull up/pull down, or diode matrix‡<br>6 outputs: dry contact (NO/NC)<br>3 LVD outputs(1 Battery/2 Load)<br>1 current sense input (load or battery)<br>2 fuse alarm inputs (load/battery)<br><small>† See Smartpack2 Touch Controller datasheet for more details (Doc. No. 242100.510.DS3).<br/>‡ See CAN Nodes datasheet for more details (Doc. No. 242100.CAN.DS3).</small> | 3 configurable inputs: digital (NO/NC) for temperature (battery or ambient)†<br>3 outputs: dry contact (NO/NC)<br>3 LVD outputs(1 Battery/2 Load)<br>2 current sense inputs (load or battery)<br>2 fuse alarm inputs (load/battery) |
|                 | <small>See Basic/Basic Industrial Controller User Guides (350021.013, 350025.013)</small>                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                     |

## MODULES (SOLD SEPARATELY)

|            |                                           |
|------------|-------------------------------------------|
| 241115.205 | Flatpack2 24V, 1800W HE Rectifier         |
| 241115.105 | Flatpack2 48V, 2000W HE Rectifier         |
| 241119.105 | Flatpack2 48V, 3000W HE Rectifier         |
| 241119.825 | Flatpack2 380V, 3000W HE Rectifier        |
| 241119.907 | Flatpack2 380V, 3000W DC-DC SHE Converter |

## OTHER SPECIFICATIONS

|                       |                                                                                                    |
|-----------------------|----------------------------------------------------------------------------------------------------|
| Operating temperature | -40 to +45°C (-40 to +113°F), de-rates above 46°C (115°F); short-term operation up to 65°C (149°F) |
| Storage temperature   | -40 to +70°C (-40 to +158°F)                                                                       |

## APPLICABLE STANDARDS

|                   |                                                                                 |
|-------------------|---------------------------------------------------------------------------------|
| Electrical Safety | UL/CSA 60950-1, 2 <sup>nd</sup> edition<br>IEC 60950-1, 2 <sup>nd</sup> edition |
| EMI/EMC           | GR-1089-CORE                                                                    |
| Environment       | GR-63-CORE                                                                      |