

Trilogy with Smartpack2

DC Power System

Overview

Eltek's Trilogy DC power system, powered by the Flatpack2 line of power modules, brings 150A-600A to applications where space is limited. Use of the highly-efficient and reliable Flatpack2 rectifier, remarkably flexible distribution, and the advanced Smartpack2 controller make for optimal system design and cost-effective deployment.



Trilogy with Smartpack2 Controller, 48V/600A System

TRIOLOGY WITH SMARTPACK2

DC POWER SYSTEM

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APPLICATIONS

Eltek's Trilogy system is a high-efficiency power solution with an optimal footprint for 150A to 600A applications where space is limited—both in typical racks and some cabinet installations.

The Trilogy system can power both single-voltage telecommunication infrastructure (such as -48V LTE or +24V legacy TDMA) as well as dual-voltage sites (e.g., where both -48V and +24V equipment coexist). DC-to-DC converters are available for converting 24V to 48V (or vice-versa) within a single Trilogy system.

PRODUCT DESCRIPTION

At only 16" to 18" deep (depending on model), the Trilogy system is designed for use in rack spaces and cabinets. Both 19" and 23" rack widths are available.

Powered by Flatpack2 HE rectifier modules, typical efficiency exceeds 95% at both 24 Vdc and 48 Vdc output. Flatpack2 DC-to-DC converters can also be added within the same system footprint.

The distribution sections features unique circuit breaker holders that facilitate at-will assignment in the field to one of two output buses. Bulk cable connections are available in the rear of the distribution. All cabling is vertical, further reducing horizontal space demands.

KEY FEATURES

- **COMPACT DESIGN**
Small overall dimensions are ideal for both rack and cabinet solutions.
- **CONFIGURABLE DISTRIBUTION**
Circuit breakers can be assigned at-will to one of two output busses; bulk output landings are available; and an LVD contactor can be included.
- **DIGITAL CONTROLLERS**
The Smartpack2 digital controller system provides comprehensive monitoring and regulation by utilizing a variety of specialized data collection devices.
- **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 ¹ (24V 1800W or 48V 2000W rectifiers) 100 – 277 VAC ¹ (48V 3000W rectifiers) 100 – 250 VDC ¹ (48V 1500W solar charger)
Input Connections	Top Access, ² Individual (Compression Terminal Block) Top Access, ² Dual (Compression Terminal Block) Rear Access, ² Individual (IEC320-C20) ³ Rear Access, ² Individual (MATE-N-LOK™) ⁴
¹ Full output power for highline input voltages; see module datasheet for further details. ² See system depth specifications. ³ Limited to rectifier of 2000W or less. ⁴ Optional input cables, with a single plug and two MATE-N-LOK connectors, are available to power two rectifiers per line cord.	

OUTPUT SPECIFICATIONS

	24 VDC Systems	48 VDC Systems
Adjustable Voltage Range	21.7 V – 28.8 V (24V 1800W rectifier) 24.0 V – 28.0 V (24V 1350W converter)	43.5 V – 57.6 V (48 V 2000W rectifier) 43.2 V – 57.6 V (48V 3000W rectifier) 48.0 V – 57.6 V (48V 1500W solar charger) 48.0 V – 58.5 V (48V 1350W converter)
Rated Voltage	0 – 54 V	0 – 54 V
Rated Current	600A	600A

PHYSICAL ATTRIBUTES

Nominal rack sizes	19" / 23"
Depth	16" (top access); 18" (rear access)
Height	Distribution, 4 RU (up to 2); rectifier shelves, 1 RU (up to 4); converter shelves, 1 RU (only 1)

DC DISTRIBUTION OPTIONS (VARY BY SYSTEM)

Distribution configurations*	Top bus options include battery, converter, or LVLD. For systems with a converter or LVLD, battery connections are on the bulk bus bars Bottom bus is the primary load bus. Bulk battery bus
*For additional details see the Trilogy Product Guide, Doc. No. 2151193.	
Available breaker positions; positions are configurable in the field for top or bottom bus.	19" systems – 20 breaker positions per panel.* 23" systems – 24 breaker positions per panel.* *Up to two panels
Bulk battery connections	Eight (8) 3/8-16 studs, 1" center-to-center Four (4) 3/8-16 studs, 1" center-to-center and eight (8) 1/4-20 studs, 5/8" center-to-center
Low voltage disconnect options	None, battery (LVBD), load (LVLD), or both LVBD and LVLD
Breaker sizes	Single pole, 0 – 100A Double pole, 125 – 200A

CONTROLLER

Monitoring Unit	Smartpack2 Master, Basic, and I/O Monitor2
Inputs/Outputs	3 configurable inputs: digital (NO/NC) or temperature (battery or ambient) [†] 6* configurable inputs: digital (NO/NC), pull up/pull down, or diode matrix [‡] 6* outputs: dry contact (NO/NC) * Expandable to 12 with second I/O monitor. [†] See Smartpack2 datasheet for more details (Doc. No. 242100.50X.DS3). [‡] See CAN Nodes datasheet for more details (Doc. No. 242100.CAN.DS3).

MODULES (SOLD SEPARATELY)

241115.105	Flatpack2 48V, 2000W HE Rectifier
241119.105	Flatpack2 48V, 3000W HE Rectifier
241115.205	Flatpack2 24V, 1800W HE Rectifier
241115.600	Flatpack2 24V, 1350W Converter
241115.602	Flatpack2 48V, 1350W Converter
241115.650	Flatpack2 48V, 1500W Solar Charger

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 nd edition IEC 60950-1, 2 nd edition
EMI/EMC	GR-1089-CORE
Environment	GR-63-CORE