2004-05 | product catalog





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Welcome to Eltek!

Dear valued customer,

As a global company with 100% focus on Telecom Power, Eltek is in a unique position in today's market. All efforts throughout our organization are directed towards Telecom Power. This enables us to meet global as well as local requirements through market knowledge and dedicated personnel.

Over the last 2 to 3 years Eltek has chosen the opposite path of other actors in the Telecom Power Market. While others have reorganized and reduced their staff, Eltek has significantly increased the number of R&D engineers. The result of our efforts can be seen in the comprehensive and cost effective product range presented in this catalog.

As you will see from the catalog, Eltek have products to match any requirement. Small sites are covered by systems based on the SMPS 200 or Flatpack 700 rectifier modules, the medium range by the successful Flatpack 1500 module and larger sites by AEON rectifier systems. The Flatpack DC/DC converters further enable us to provide

systems providing both 24 and 48 VDC from one battery bank again giving a very cost effective and compact solution.

Remote management of DC Power systems over the web is an increasingly discussed topic. We have responded to this requirement and are proud to present WebPower. With WebPower we have integrated SNMP functionality with very easy system access over the web as well as mail alert.

Eltek can provide turn key solutions for indoor as well as outdoor applications.

We hope that you will find products to match your requirement in this catalog. We are only a phone-call or e-mail away and we are all more than happy to respond to any enquiry you may have.

Yours sincerely For Eltek Energy AS

Morten Schoyen Director Telecom Support and Product Management



The products herein reflect our vision "To become the global center of excellence within Telecom Power".

MORTEN SCHØYEN

DC Power Systems Feature Matrix for CE systems

	SMALL AND MEDIUM			
Features	MPSU 200	FP MPSU 3000	FP MPSU 6000	FP MPSU 9000
Max. Power level	1600 W	3000 W	6000 W	9000 W
Voltages	48 VDC	24, 48, 60* VDC	24, 48, 60* VDC	24, 48, 60* VDC
Max. Number of rectifiers	8 SMPS 200	2 Flatpack 1500 or Flatpack 700	4 Flatpack 1500	6 Flatpack 1500
AC input	230 VAC	230/400 + N VAC	230/400 + N VAC	230/400 + N VAC
Approvals	CE	CE	CE	CE
Temperature rating	-10°C to +55°C	-40°C to +60°C	-40°C to +60°C	-40°C to +60°C
Cooling System monitoring	Convection AL 175NT with Display/ RS-232/ Ethernet/ Modem/Web/SNMP	Forced convection MCU with Display/ RS-232/ Ethernet/ Modem/Web/SNMP	Forced convection MCU with Display/ RS-232/ Ethernet/ Modem/Web/SNMP	Forced convection MCU with Display/ RS-232/ Ethernet/ Modem/Web/SNMP
Battery monitor	Temp comp/ Volt/	Temp comp/ Volt/	Temp comp/ Volt/	Temp comp/ Volt/
<u>12 </u>	Current/ Capacity	Current/ Capacity	Current/ Capacity	Current/ Capacity
DC distribution	Circuit breakers	Circuit breakers	Circuit breakers	Circuit breakers
Typical applications				
	Point of Presence (POPs) Digital Loop Carrier (DLC) Fiber Repeater E911 (Public Safety) Microwave Digital Subscriber Line (DSL) Micro Cell Base Station	Small UMTS & GSM Base Stations Point of Presence (POPs) Digital Loop Carrier (DLC) Fiber Repeater E911 (Public Safety) Microwave Digital Subscriber Line	UMTS & GSM Base Stations Point of Presence (POPs) Digital Loop Carrier (DLC) Fiber Repeater E911 (Public Safety) Microwave Digital Subscriber Line	UMTS & GSM Base Stations Digital Loop Carrier (I E911 (Public Safety) Microwave Digital Subscriber Li Co-location Telephone Switches

LARGE

MPSU 12 kW FP PRSB 15 kW FP PRSB 21 kW FP PRSB 30 kW **AEON 4000** kW 15 kW 21 kW 30 kW 24 VDC/ 320 kW, 48, 60 VDC/ 384 kW , 48, 60* VDC 24, 48, 60* VDC 24, 48, 60* VDC 24, 48, 60* VDC 24, 48, 60 VDC latpack 1500 10 Flatpack 1500 14 Flatpack 1500 20 Flatpack 1500 24 SMPS 4000 (single cabinet) 230/400/480 VAC 0/400 + N VAC 230/400 + N VAC 230/400 + N VAC 230/400 + N VAC CE CE CE CE 0°C to +60°C -40°C to +60°C -40°C to +60°C -40°C to +60°C -10°C to +55°C Forced convection MCU with Display/ Forced convection MCU with Display/ Forced convection AEON Gold with Display/ rced convection Forced convection U with Display/ RS-MCU with Display/ 2/ Ethernet/ RS-232/ Ethernet/ RS-232/ Ethernet/ RS-232/ Ethernet/ RS-232/ Ethernet/ dem/Web/SNMP Modem/Web/SNMP Modem/Web/SNMP Modem/Web/SNMP Modem np comp/ Volt/ Temp comp/ Volt/ Temp comp/ Volt/ Temp comp/ Volt/ Temp comp/ Volt/ Current/ Capacity Current/ Capacity Current/ Capacity Current/ Capacity rrent/ Capacity Circuit breakers/ Fuses Circuit breakers/ Fuses Circuit breakers/ Fuses Circuit breakers/ Fuses cuit breakers

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gital Subscriber Line
-location
ephone Switches
ernet Hubs

Stations Digital Loop Carrier (DLC) E911 (Public Safety) Telephone Switches Data Center Internet Hubs Optical Switches Co-location GSM Backbone Stations

UMTS & GSM Base

UMTS & GSM Base Stations Digital Loop Carrier (DLC) E911 (Public Safety) Telephone Switches Data Center Internet Hubs Optical Switches Co-location GSM Backbone Stations UMTS & GSM Base Stations Digital Loop Carrier (DLC) E911 (Public Safety) Telephone Switches Data Center Internet Hubs Optical Switches Co-location GSM Backbone Stations Telephone Switches Data Center Internet Hubs Optical Switches Co-location Fixed Net Backbone Sites

DC Power Systems Feature Matrix for UL systems

	SMALL AND MEDIUM		
Features	DCD 125AP Flatpack system	DCD 3FM-200A Flatpack system	400A Flatpack system
		0000 11/	
Max. Power level	6000 W	9000 W	18 kW
Voltages	48 VDC	48 VDC	48 VDC
Max. Number of rectifiers	4 Flatpack 1500		
Approvals	UL, CE, NEBS level 3	UL, CE, NEBS level 3	UL, CE, NEBS level 3
Temperature rating Cooling	-40 C to +70 C Forced convection	-40 C to +70 C Forced convection	-40 C to +70 C Forced convection
System monitoring	MCU with Display/ RS-232/ Ethernet/Modem/Web/SNMP	MCU with Display/RS-232/ Ethernet/Modem/Web/SNMP	MCU with Display/RS-232/ Ethernet/Modem/Web/SNMP
Battery monitor	Temp comp/Volt/Current/ Capacity	Temp comp/Volt/Current/ Capacity	Temp comp/Volt/Current/ Capacity
DC distribution	Circuit breaker and Fuses	Up to 14 Circuit breakers or	Up to 24 Circuit breakers or
Typical applications		Fuses	Fuses
	UMTS and GSM Base Stations Point of Presence (POPs) Digital Loop Carrier (DLC) Fiber Repeater E911 (Public Safety) Small Microwave Digital Subscriber Line	UMTS and GSM Base Stations Point of Presence (POPs) Digital Loop Carrier (DLC) Fiber Repeater E911 (Public Safety) Small Microwave Digital Subscriber Line	UMTS and GSM Base Station Point of Presence (POPs) Digital Loop Carrier (DLC) Fiber Repeater E911 (Public Safety) Small Microwave Digital Subscriber Line

DC Power systems

This section outlines the standard DC Power systems offered by Eltek. Our systems cover the entire range of application areas within the telecommunications industry. A typical DC Power system includes rectifiers, control and monitoring modules, AC distribution for rectifier input, DC distribution, batteries, and low voltage disconnect options. All of our systems use state of the art "hot plug-in" switchmode rectifiers for easily upgradable system power capability. Multiple rectifiers operate in parallel to ensure redundant operation. For the purpose of this catalog Eltek's systems are classified according to safety agency recognition into CE-marked and UL-recognized. Furthermore the systems are classified into two power ranges: small and medium, and large systems.





Small and medium systems are designed for both stand-alone and integrated solutions. The systems provide both convection (MPSU 200, MPSU 4000, MPSU 5000, MPSU 6000) and forced air-cooling (Flatpack systems) regimes for all colocated equipment. Applications in either indoor or outdoor cabinets are typically used to power equipment such as POPs (Points of Presence), DLC (Digital Loop Carrier) cabinets, E911 (Public Safety), 3G Wireless base stations, Fiber Repeaters, GSM/TDMA/-CDMA wireless network base stations, Small Microwave Networks and Small Telephone Switches.

The Flatpack Power systems are Eltek's latest development in the small and medium power range and represents the ultimate choice for compact, reliable, flexible and durable power systems at low cost. A typical Flatpack Power system contains Flatpack 1500 rectifiers, Power Racks (PRs), a Monitoring and Control Unit (MCU) and a DC distribution system of appropriate size and configuration. Multiple PRs may be combined and paralleled to form power systems ranging from 1500 W to 60 kW. The building block philosophy enables Eltek to tailor highly advanced power systems according to customer requirements iin short timescale and at low cost. Flatpack systems can be delivered as rack mountable units, or

in cabinets of different sizes with optional space for internal batteries.

Large systems are designed for stand-alone solutions where high power is required. These systems are typically used for Central Office Switches, Internet Hubs, Web Hosting Sites, Optical Switches and Fixed Net Backbone Switches. AEON 4000 operates from 230 single phase VAC or 400 three phase VAC + N input. The High Current AEON 4000 also operates from a 208/480 VAC three phase input, for installations in the Americas.

All Eltek products and systems comply with international and local standards. Our ambition is, however, to provide power solutions that offer

more than just technical compliance. Our aim is to build products and systems that are easy to install and maintain, with user-friendly software and monitoring systems, simple maintenance procedures, and an attractive technical and visual design. We seek to build systems for the future that comply with the strictest environmental requirements - anywhere in the world. Our success also means success for our customers.

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CE-marked DC Power systems and DC Distribution products

All Eltek core elements, including rectifiers, converters and system monitors, are approved for worldwide applications including UL, CE and NEBS recognition and approval.

This section of our catalog details different system solutions bearing

CE marking.

CE-marking is a European marking of conformity that indicates that a product complies with the essential requirements of the applicable European laws or Directives with respect to safety, health, environment and consumer protection.

DC distribution options for CE-marked systems are also described in this part of the catalogue.

Flatpack MPSU 3000



E

Description

The Flatpack MPSU 3000 has been specifically designed to meet the demand for higher density and more compact power solutions. The Flatpack MPSU 3000 is a compact power system containing a Monitoring and Control Unit (MCU), LVD, battery and load MCBs. It can house up to two Flatpack 700 or 1500 rectifier modules. The system accepts large variations in the input voltage and draws sinusoidal current with a soft start power-up. The Flatpack MPSU 3000 will operate in ambient temperatures up to +60°C (+140°F). At higher temperatures, each rectifier will

derate the output power for self-protection. Flatpack MPSU 3000 is available in 24, 48, and 60 VDC configurations.

Typical applications

- Small UMTS and GSM Base Stations
- Point of Presence (POPs)
- Digital Loop Carrier (DLC)
- Fiber Repeater
- E911 (Public Safety)
- Microwave
- Digital Subscriber Line

Flatpack MPSU 3000 with 1U distribution



Flatpack MPSU 3000 with 3U distribution



KEY FEATURES

System

- Max. number of rectifiers: 2
 - Input voltage:
 - 1 phase 230 VAC
 - 3 phase 230 VAC (△)
 - 3 phase 400 VAC+N (Y) Frequency: 45 to 66Hz
- Prequency: 45 to 6602
 Operating temperature: -40 to +60°C (-40 to +140°F)
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Dimensions (wxdxh):

= 482 × 300 × 99877776 (410)+90×11+8.8×375"

- Weight: approx. excl. rectifiers
- 2U/5kg (11lbs)
- 4U/7kg (15.5lbs)

Rectifier

- Flatpack 700
- Flatpack 1500
- **Monitoring Unit**
- Flatpack MCU

DC Distribution

- Flatpack MPSU 3000 2U, DC distribution in 1U

 Option 1:
 - 2 battery MCBs and 6 load MCBs
 - Programmable LVD:
 - Standard/1 LVBD (max. 125 Amps)
 - Optional/1 LVLD (max. 125 Amps)
- Option 2*:
- 3 load MCBs, 1 load fuse and 1 battery fuse
 Programmable LVD:
- Standard/1 LVBD (max. 125 Amps) Optional/1 LVLD (max. 125 Amps)

Flatpack MPSU 3000 4U, DC distribution in 3U

- Up to 4 battery MCBs and up to 19 load MCBs
- Programmable LVD:
 - Standard/1 LVBD (max. 250 Amps)
 - Optional/1 LVLD (max. 250 Amps)

Applicable standards

- Safety: EN 60950, UL 60950
- EMC:
- = ETSI 1500-69-386 Milsion, (telecomuseywork)
- EN 61000-6-2 (immunity, industry)
- Environment:
- ETSI EN 300 019-2
- ETSI EN 300 132-2

Approvals

Flatpack MPSU 6000



E

Description

The Flatpack MPSU 6000 has been specifically designed to meet the demand for higher density and more compact power solutions. It is suitable for applications needing an expandable, easily serviceable and reliable power supply, fitting within a minimal space. The Flatpack MPSU 6000 is a compact power system containing a Monitoring and Control Unit (MCU), LVD, battery and load MCBs. It can house up to four Flatpack 700 or 1500 rectifier modules. The system accepts large variations in the input voltage and draws sinusoidal current with a soft start power-up. The

Flatpack MPSU 6000 will operate in ambient temperatures up to $+60^{\circ}C$ ($+140^{\circ}F$). At higher temperatures, each rectifier will derate the output power for self-protection. Flatpack MPSU 6000 is available in 24, 48 and 60 VDC configurations.

Typical applications

- UMTS and GSM Base Stations
- Point of Presence (POPs)
- Digital Loop Carrier (DLC)
- Fiber Repeater
- E911 (Public Safety)
- MicrowaveDigital Subscriber Line

Flatpack MPSU 6000 with 1U distribution



Flatpack MPSU 6000 with 3U distribution



KEY FEATURES

System

- Max. number of rectifiers: 4
 - Input voltage:
 - 1 phase 230 VAC
 - 3 phase 230 VAC (△)
 - 3 phase 400 VAC+N (Y) Frequency: 45 to 66Hz
- Prequency: 45 to 66HZ
 Operating temperature: -40 to +60°C (-40 to +140°F)
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Dimensions (wxdxh):
 - = 482 × 300 × 223mm (3U)/19 × 11:8 × 5:3"
 - Weight: approx. excl. rectifiers - 3U/6kg (13.2lbs) - 5U/10kg (22lbs)

Rectifier

- Flatpack 700
- Flatpack 1500
- **Monitoring Unit**
- Flatpack MCU

DC Distribution

- Flatpack MPSU 6000 3U, DC distribution in 1U
 Option 1:
 - 2 battery MCBs and 6 load MCBs
 - Programmable LVD:
 - Standard/1 LVBD (max. 125 Amps)
 - Optional/1 LVLD (max. 125 Amps)
- Option 2*:
- 3 load MCBs, 1 load fuse and 1 battery fuse Programmable LVD:
- Standard/1 LVBD (max. 125 Amps) Optional/1 LVLD (max. 125 Amps)

Flatpack MPSU 6000 5U, DC distribution in 3U

 Up to 4 battery MCBs and up to 19 load MCBs
 Programmable LVD: Standard/1 LVBD (max. 250 Amps) Optional/1 LVLD (max. 250 Amps)

Applicable standards

- Safety: EN 60950, UL 60950
- EMC:
 - = ERSE E00308-386e V1.3.3.1n(telecom.onetwork)
- EN 61000-6-2 (immunity, industry) Environment:
- ETSI EN 300 019-2
 - ETSI EN 300 132-2

Approvals

* UL-recognition for MPSU 6000 3U, DC distribution in 1U, Option 2

Flatpack MPSU 9000



E

Description

The Flatpack MPSU 9000 has been specifically designed to meet the demand for higher density and more compact power solutions. It is suitable for applications needing an expandable, easily serviceable and reliable power supply, fitting within a minimal space. The Flatpack MPSU 9000 is a compact power system containing a Monitoring and Control Unit (MCU), LVD, battery and load MCBs. It can house up to six Flatpack 700 or 1500 rectifier modules. The system accepts large variations in the input voltage and draws sinusoidal current with a soft start power-up. The

Flatpack MPSU 9000 will operate in ambient temperatures up to $+60^{\circ}C$ ($+140^{\circ}F$). At higher temperatures, each rectifier will derate the output power for self-protection. Flatpack MPSU 9000 is available in 24, 48 and 60 VDC configurations.

Typical applications

- UMTS and GSM Base Stations
- Digital Loop Carrier (DLC)
- E911 (Public Safety)
- Microwave
- Digital Subscriber Line
- Telephone SwitchesCo-location

Flatpack MPSU 9000



KEY FEATURES

System

- Max. number of rectifiers: 6
 - Input voltage:
 - 1 phase 230 VAC
 - 3 phase 230 VAC (△)
 - 3 phase 400 VAC+N (Y) Frequency: 45 to 66Hz
- Operating temperature: -40 to +60°C (-40 to +140°F)
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Dimensions (wxdxh):

Rectifier

- Flatpack 700
- Flatpack 1500

Monitoring Unit

Flatpack MCU

DC Distribution

- Up to 4 battery MCBs and 19 load MCBs
- Programmable LVD:
- Standard/1 LVBD (max. 250 Amps)
- Optional/1 LVLD (max. 250 Amps)

Applicable standards

- Safety: EN 60950, UL 60950
- EMC:
- ETSI EN 300 386 V.1.3.1 (telecom. network)
- EN 61000-6-3 (emission, light industry)
- EN 61000-6-3 (emission, light industry)
 EN 61000-6-2 (immunity, industry)
- Environment:
- FTSI EN 300 019-2
- ETSI EN 300 132-2

Approvals

Flatpack MPSU 12 kW



E

Description

The Flatpack MPSU 12 kW has been specifically designed to meet the demand for higher density and more compact power solutions. It is suitable for applications needing an expandable, easily serviceable and reliable power supply, fitting within a minimal space. The Flatpack MPSU 12 kW is a compact power system containing a Monitoring and Control Unit (MCU), LVD, battery and load MCBs. It can house up to eight Flatpack 1500 rectifier modules. The system accepts large variations in the input voltage and draws sinusoidal current with a soft start power-up.

The Flatpack MPSU 12 kW will operate in ambient temperatures up to +60 °C (+140 °F). At higher temperatures, each rectifier will derate the output power for self-protection. Flatpack MPSU 12 kW is available in 48 and 60 VDC configurations.

Typical applications

- UMTS and GSM Base Stations
- Digital Loop Carrier (DLC)
- E911 (Public Safety)
- Microwave
- Digital Subscriber Line
- Telephone SwitchesInternet Hubs
- Co-location

Flatpack MPSU 12 kW



KEY FEATURES

System

- Max. number of rectifiers: 8
- Input voltage:
- 1 phase 230 VAC
- 3 phase 230 VAC (△)
- 3 phase 400 VAC+N (Y) Frequency: 45 to 66Hz
- Operating temperature: -40 to +60°C (-40 to +140°F)
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Dimensions (wxdxh):
- Weight? gppr32.2 MRg (36/bs) Extl. Pectifiers"

Rectifier

- Flatpack 1500
- Monitoring Unit
- Flatpack MCU

DC Distribution

- Up to 4 battery MCBs and 19 load MCBs
- Programmable LVD:
 - Standard/1 LVBD (max. 250 Amps)
 - Optional/1 LVLD (max. 250 Amps)

Applicable standards

- Safety: EN 60950, UL 60950
- EMC:
 - ETSI EN 300 386 V.1.3.1 (telecom. network)
- EN 61000-6-3 (emission, light industry)
- EN 61000-6-2 (immunity, industry)
- Environment:
 - ETSI EN 300 019-2
- ETSI EN 300 132-2

Approvals

Description

The Flatpack PRSB 9000 has been specifically designed to meet the demand for higher density and more compact power solutions. It is suitable for applications needing an expandable, easily serviceable and reliable power supply, fitting within a minimal space. The Flatpack PRSB 9000 is a compact power system containing a Monitoring and Control Unit (MCU), LVD, battery and load MCBs. It can house up to six Flatpack 1500 rectifier modules, is capable of handling up to 250 Amps and may be delivered in different indoor floor cabinets according to the required

battery size. The system accepts large variations in the input voltage and draws sinusoidal current with a soft start power-up. The Flatpack PRSB 9000 will operate at full power in ambient temperatures up to +60°C (+140°F). At higher temperatures, each rectifier will derate the output power for self-protection. Flatpack PRSB 9000 is available in 24, 48 and 60 VDC configurations.

Typical applications

- UMTS and GSM Base Stations
- Digital Loop Carrier (DLC)
- E911 (Public Safety)
- MicrowaveDigital Subscriber Line

KEY FEATURES

System

- Max. number of rectifiers: 6
- Input voltage:
 - 1 phase 230 VAC
- 3 phase 230 VAC (
- 3 phase 400 VAC+N (Y) Frequency: 45 to 66Hz
- Operating temperature: -40 to +60°C (-40 to +140°F)
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Dimensions (wxdxh):

= 600 x 600 x 900mm/23:6 x 23:6 x 34:4"

- 600 x 600 x 1800mm/23.6 x 23.6 x 70.9"
- Weight: approx. excl. rectifiers
 - 630mm/35kg (77lbs) - 900mm/40kg (88lbs)
 - 1800mm/70kg (154lbs)
 - 1800mm//0kg (1

Rectifier

- Flatpack 1500
- **Monitoring Unit**
- Flatpack MCU

DC Distribution

- Up to 4 battery MCBs and 19 load MCBs
- Programmable LVD:
 - Standard/1 LVBD (max. 250 Amps)
 - Optional/1 LVLD (max. 250 Amps)

Applicable standards

- Safety: EN 60950
- EMC:
 - ETSI EN 300 386 V.1.3.1 (telecom. network)
 - EN 61000-6-3 (emission, light industry)
 - EN 61000-6-2 (immunity, industry)
 - Environment:
 - ETSI EN 300 019-2 - ETSI EN 300 132-2

Approvals

• CE-marked

Flatpack PRSB 15 kW



E

Description

The Flatpack PRSB 15 kW has been designed to meet the demand for higher DC power capacity and the requirements for telecommunication applications including mobile phone networks. The Flatpack PRSB 15 kW contains the Monitoring and Control Unit (MCU), LVBD, temperature sensor, integrated DC distribution, battery MCBs and battery compartments. The PRSB 15 kW can house up to ten Flatpack 1500 rectifier modules and may be delivered in different indoor floor cabinets according to the required battery size (up to 400 Ah/48 VDC).

The system accepts large variations in the input voltage and draws sinusoidal current with a soft start power-up. The system is supplied via a single or three phase configurable input connection. The Flatpack PRSB 15 kW will operate in ambient temperatures up to $+60^{\circ}$ C ($+140^{\circ}$ F). At higher temperatures, each rectifier will derate the output power for self-protection. Flatpack PRSB 15 kW is available in 24, 48 and 60 VDC configurations.

Typical applications

- UMTS & GSM Base Stations
- Digital Loop Carrier (DLC)
 E911 (Public Safety)
- Telephone Switches
- Data Center
- Internet Hubs
- Optical Switches
- Co-location
- GSM Backbone Stations



Flatpack PRSB 15 kW 2 and 4 battery banks

KEY FEATURES

System

- Max. number of rectifiers: 10
- Input voltage:
- 1 phase 230 VAC
- 3 phase 230 VAC (△) - 3 phase 400 VAC+N (Y)
- Frequency: 45 to 66Hz
- Operating temperature: -40 to +60°C (-40 to +140°F)
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Dimensions (wxdxh):
 - = 600 × 600 × 1500mm/23:6 × 23:6 × 70."9"
 - 600 x 600 x 2000mm/23.6 x 23.6 x 78.7"
 - 600 x 600 x 2200mm/23.6 x 23.6 x 86.6"
 - Weight: approx. excl. rectifiers
 - 1.5m/75kg (165lbs)
 - 1.8m/85kg (187lbs)
 - 2.0m/92kg (203lbs)
 - 2.2m/97kg (214lbs)

Rectifier

• Flatpack 1500

Monitoring Unit

• Flatpack MCU

DC Distribution

- Up to 27 load MCBs and up to 3 battery NH2
- Programmable LVD: 1 LVBD (400 Amps)

Applicable standards

- Safety: EN 60950, UL 60950
- EMC:
 - ETSI EN 300 386 V.1.3.1 (telecom. network)
 - EN 61000-6-3 (emission, light industry)
 - EN 61000-6-2 (immunity, industry)
- Environment:
- ETSI EN 300 019-2
- ETSI EN 300 132-2

Approvals

Flatpack PRSB 21 kW



ΞE

Description

The Flatpack PRSB 21 kW has been designed to meet the demand for higher DC power capacity. The Flatpack DC power systems are specifically designed to meet the requirements for telecommunication applications including mobile phone networks. The Flatpack PRSB 21 kW contains the Monitoring and Control Unit (MCU), LVBD, temperature sensor, integrated DC distribution, battery circuit breakers and battery compartments. The PRSB 21 kW can house up to 14 Flatpack 1500 rectifier modules and may be delivered in different indoor floor cabinets according to the required

battery size (up to 400 Ah/48 VDC).

The system accepts large variations in the input voltage and draws sinusoidal current with a soft start power-up. The Flatpack PRSB 21 kW will operate in ambient temperatures up to +60°C (+140°F). At higher temperatures, each rectifier will derate the output power for self-protection. Flatpack PRSB 21 kW is available in 24, 48 and 60 VDC configurations.

Typical applications

- UMTS & GSM Base Stations
- Digital Loop Carrier (DLC)
 E911 (Public Safety)
- Telephone Switches
- Data Center
- Internet Hubs
- Optical Switches
- Co-location
- GSM Backbone Stations



Flatpack PRSB 21 kW

1 and 3 battery banks

KEY FEATURES

System

- Max. number of rectifiers: 14
 - Input voltage:
 - 1 phase 230 VAC
 - 3 phase 230 VAC (△)
 - 3 phase 400 VAC+N (Y)
- Frequency: 45 to 66Hz
 Operating temperature: -40 to +60°C (-40 to +140°F)
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Dimensions (wxdxh):
 - = 600 × 600 × 1500mm/23:6 × 23:6 × 70."9"
 - 600 x 600 x 2000mm/23.6 x 23.6 x 78.7"
 - 600 x 600 x 2200mm/23.6 x 23.6 x 86.6"
 - Weight: approx. excl. rectifiers
 - 1.5m/80kg (177lbs)
 - 1.8m/90kg (199lbs)
 - 2.0m/97kg (214lbs)
 - 2.2m/102kg (225lbs)

Rectifier

Flatpack 1500

Monitoring Unit

Flatpack MCU

DC Distribution

- Up to 27 load MCBs
- Up to 2 load NH2 (max. 400 Amps)
- Up to 4 battery NH2 (max. 400 Amps)
- Programmable LVD: 1 LVBD (max. 400 Amps)

Applicable standards

- Safety: EN 60950, UL 60950
- EMC:
 - ETSI EN 300 386 V.1.3.1 (telecom. network)
 - EN 61000-6-3 (emission, light industry)
 - EN 61000-6-2 (immunity, industry)
 - Environment:
 - ETSI EN 300 019-2
 - ETSI EN 300 132-2

Approvals

Flatpack PRSB 30 kW



E

Description

The Flatpack PRSB 30 kW has been designed to meet the demand for higher DC power capacity. The Flatpack DC power systems are specifically designed to meet the requirements for telecommunication applications including mobile phone networks.

The Flatpack PRSB 30 kW contains the Monitoring and Control Unit (MCU), LVBD, temperature sensor, integrated DC distribution, battery CB and battery compartments. The PRSB 30 kW can house up to 20 Flatpack 1500 rectifier

modules and may be delivered in different indoor floor cabinets according to the required battery size (up to 400 Ah/48 VDC).

The system accepts large variations in the input voltage and draws sinusoidal current with a soft start power-up. The Flatpack PRSB 30 kW will operate in ambient temperatures up to +60°C (+140°F). At higher temperatures, each rectifier will derate the output power for self-protection. Flatpack PRSB 30 kW is available in 24, 48 and 60 VDC configurations.

Typical applications

- UMTS & GSM Base Stations
- Digital Loop Carrier (DLC)
 E911 (Public Safety)
- Telephone Switches
- Data Center
- Internet Hubs
- Optical Switches
- Co-location
- GSM Backbone Stations





Flatpack PRSB 30 kW

KEY FEATURES

System

- Max. number of rectifiers: 20
 - Input voltage:
 - 1 phase 230 VAC
 - 3 phase 230 VAC (△)
 - 3 phase 400 VAC+N (Y) Frequency: 45 to 66Hz
- Operating temperature: -40 to +60°C (-40 to +140°F)
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Dimensions (wxdxh):
 - = 600 × 600 × 1500mm/23:6 × 23:6 × 70".9"
 - 600 x 600 x 2000mm/23.6 x 23.6 x 78.7"
 - 600 x 600 x 2200mm/23.6 x 23.6 x 86.6"
 - Weight: approx. excl. rectifiers
 - 1.5m/88kg (194lbs)
 - 1.8m/98kg (216lbs)
 - 2.0m/105kg (231lbs)
 - 2.2m/110kg (242lbs)

Rectifier

• Flatpack 1500

Monitoring Unit

Flatpack MCU

DC Distribution

- Up to 27 load MCBs
- Up to 2 load NH3 (max. 630 Amps)
- Up to 4 battery NH3 (max. 630 Amps)
- Programmable LVD: 1 LVBD (max. 600 Amps)

Applicable standards

- Safety: EN 60950, UL 60950
- EMC:
 - ETSI EN 300 386 V.1.3.1 (telecom. network)
 - EN 61000-6-3 (emission, light industry)
 - EN 61000-6-2 (immunity, industry)
 - Environment:
 - ETSI EN 300 019-2
 - ETSI EN 300 132-2

Approvals

Flatpack Wallbox 3000



E

Description

The Flatpack Walbox 3000 has been designed for smaller applications requiring a compact and economical solution. It includes standard alarms and functions for this application and is a very cost effective alternative. The Flatpack Wallbox 3000 is a compact and flexible power system including a built-in monitoring unit, input MCB, battery and load MCBs. The Flatpack Wallbox 3000 can house up to two Flatpack 1500 rectifier modules giving output power of 3000 W/ 48 VDC or 2700 W/ 24 VDC.

The Flatpack Wallbox 3000 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.

Typical applications

- Private Automatic Branch Exchange (PABX)
- Digital Subscribe Line
- Micro Cell Base Stations



Flatpack Wallbox 3000

KEY FEATURES

System

- Max. number of rectifiers: 2
- Input voltage:
- 1 phase 230 VAC
- Frequency: 45 to 66Hz Operating temperature: -40 to +70°C (-40 to +158°F)
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Dimensions (wxdxh):
- 333 x 114 x 440mm/13.1 x 4.5 x 17.3"
- Weight: approx.
 - = \$295kg7(21).5)bs) qh crefters

Rectifier

- Flatpack 700
- Flatpack 1500

Monitoring Unit

Wallbox FMA unit

- Local operation: Alarm reset
- Alarm relays: 3 programmable outputs
 - Visual indications:
 - Green LED Power ON
 - Red LED Active alarm(s)
- LCD system information Current measurement: Battery current
 - Alarms:
 - Load fuse alarm
 - Module alarm
 - Mains failure
 - Battery fuse alarm
 - High battery temperature (2 levels)
 - Low battery temperature (2 levels)
 - Low output voltage (2 levels)
 - High output voltage (2 levels)

DC Distribution

- One battery MCB and up to 5 load MCBs
- Programmable LVD:
- 48 VDC/1 x 60 Amps
- 24 VDC/1 x 120 Amps

Applicable standards

- Safety: EN 60950 ٠
- EMC:
 - ETSI EN 300.386 V.1.3.1 (telecom. network)
- EN 61000-6-3 (emission, light industry) - EN 61000-6-2 (immunity, industry)
- Environment:
 - ETSI EN 300 019
 - ETSI EN 300 132-2

Approvals

CF-marked

Flatpack **Power Tower**



E

Description

The Flatpack Power Tower has been designed to limit the occupied floor space where this is either limited or expensive, thus significantly reducing the lifetime cost of the installation.

The Power Tower is a compact slim-line power rack system containing a Monitoring and Control Unit (MCU), LVD, battery and load MCBs. It can house up to six Flatpack 1500 rectifier modules and 200Ah of battery capacity. The system accepts large variations in the input voltage and

draws sinusoidal current with a soft start power-up.

The Flatpack Power Tower will operate in ambient temperatures up to +60°C (+140°F). At higher temperatures, each rectifier will derate the output power for self-protection. Flatpack Power Tower is available in 24, 48 and 60 VDC configurations.

Typical applications

- UMTS and GSM Base Stations
- Digital Loop Carrier (DLC)
- Fiber Repeater E911 (Public Safety)
- Microwave
- Digital Subscriber Line



KEY FEATURES

System

- Max. number of rectifiers: 6
 - Input voltage:
 - 1 phase 230 VAC
 - 3 phase 230 VAC (△)
 - 3 phase 400 VAC+N (Y) Frequency: 45 to 66Hz
- Operating temperature: -40 to +60°C (-40 to +140°F)
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Dimensions (wxdxh):

3008x 600.6x 180.0mm (38U)/

Weight: approx. 66kg (143lbs) excl. rectifiers and batteries

Rectifier

- Flatpack 700
- Flatpack 1500

Monitoring Unit Flatpack MCU

DC Distribution options

- Up to 15 load MCBs
- Up to 2 battery MCBs
 - Programmable LVD:
 - Standard/1 LVBD (max. 200 Amps) - Optional/1 LVLD (max. 200 Amps)

Applicable standards

- Safety: EN 60950, UL 60950
- EMC:
 - ETSI EN 300 386 V.1.3.1
- (telecom, network)
- EN 61000-6-3 (emission, light industry)
- EN 61000-6-2 (immunity, industry)
- Environment:
- ETSI EN 300 019-2 - ETSI EN 300 132-2

Approvals

MPSU 200



Ξ

Description

The MPSU 200 is a rack mountable DC Standby Power Solution designed for integration within customer equipment racks, typically in Access Network applications. These applications require a scaleable, expandable, easily serviceable and reliable power solution.

The different plug-in distributions, single output (front connection), 6-way MCB (top connection) or 14-way glass fuse (front connection), allows either $6 \times 200 \text{ W}$ (6 or 14 way distribution) or $8 \times 200 \text{ W}$ (single distri-

bution) SMPS 200 rectifier units. All distribution units allow input from two separate battery banks via two 30 Amps MCBs. The AL 175NT alarm unit controls the LVBD to prevent deep discharge of the batteries.

Typical applications

- Point of Presence (POPs)
- Digital Loop Carrier (DLC)
- Fiber Repeater
- E911 (Public Safety)
- Small Microwave
- Digital Subscriber Line
- Micro Cell Base Stations

MPSU 200 with MCB distribution



MPSU 200 with external distribution



MPSU 200 with glass fuses



KEY FEATURES

System

- Max. number of rectifiers: 6 or 8
- Input voltage:
 - 1 phase 230 VAC
- Frequency: 45 to 66Hz
 Operating temperature: -10 to +55°C (14 to +131°F)
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Dimensions (wxdxh): 482 x 267 x 134mm (3U)/ 19 x 10.5 x 5.3"
- Weight: approx. 8kg (17.6lbs) excl.

Rectifier

SMPS 200

- Monitoring Unit
- AL 175NT

Distribution

- Up to 6 load MCBs (2-40 Amps)
- Up to 14 load fuses (glass) (5 or 10 Amps)

Applicable standards

- 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)
- Environment:
- ETSI EN 300 019-2 - ETSI EN 300 132-2
- ETSI EN SOU I

Approvals

Description

The MPSU 4000 is a rack mountable power system prepared for integration into telecommunication equipment racks. The MPSU 4000 contains DC distribution, AL 175NT monitoring control unit and up to four SMPS 1000 plug-in rectifier modules providing up to 4000 W DC power.

The highly reliable and versatile AL 175NT provides a comprehensive range of monitoring and control features. Together with the flexible internal DC distribution, the MPSU 4000 can be tailored to meet most needs in

telecommunications applications in the low power range. Rectifiers and monitoring units are UL-recognized components. The Following options are possible: temperature probe for temperature compensated charging, load disconnect unit, battery disconnect unit, modem and external SNMP agent. MPSU 4000 is available in 24, 48 and 60 VDC configurations.

Typical applications

- Point of Presence (POPs)
- Digital Loop Carrier (DLC)
- Fiber Repeater
- E911 (Public Safety)
- Small MicrowaveDigital Subscriber Line
- Cellular Base Stations

MPSU 4000

KEY FEATURES

System

- Input voltage:
- 1 phase 230 VAC
- 3 phase 230 VAC ()
- 3 phase 400 VAC+N (Y)
- Dimensions (wxdxh):
 482 x 280 x 267mm
- 482 x 280 x 267mm (6U)/19 x 11 x 10.52"
 Weight: approx. 8kg (17.6lbs) excl. rectifiers

Rectifier

- SMPS 1000
- Monitoring UnitAL 175NT

Distribution

- Up to 10 load circuit breakers (2-50 Amps)
- One battery MCB (100 Amps)
- LVBD unit controlled by timer or voltageLVLD unit controlled by timer or voltage

Applicable standards

- Safety: EN 60950, UL 60950
- EMC:
 - EN 61000-6-3 (emission)
 - EN 61000-6-2 (immunity, industry)
- EN 300 386-2 (immunity)
- Network Rail Certificate of Acceptance
- Approvals
- CE-marked

MPSU 5000



Ξ

Description

The MPSU 5000 is a rack mountable power system prepared for integration into telecommunication equipment racks. The MPSU 5000 contains DC distribution, AL 175NT monitoring control unit and up to five SMPS 1000 plug-in rectifier modules providing up to 5000 W DC power. The 21" (ETSI) wide and 6U high system is a modular concept that allows expansion and service without power shut down and increases system reliability.

The highly reliable and versatile AL 175NT provides a comprehensive

range of monitoring and control features. The MPSU 5000 is available in three different system voltages: 24 VDC/192 Amps, 48 VDC/105 Amps or 60 VDC/83 Amps. The DC distribution has one or two large load outputs, up to four additional small load outputs and a fused battery connection. It provides an ideal configuration for one or two Radio Base Station cabinets that require a single DC feed. The Rectifiers and monitoring unit are ULrecognized components. The Following options are possible: temperature probe for temperature compensated charging, battery disconnect unit, modem and external SNMP agent. MPSU 5000 is available in 24, 48 and 60 VDC configurations.

Typical applications

- Point of Presence (POPs)
- Digital Loop Carrier (DLC)
- Fiber Repeater
- E911 (Public Safety)
- Small Microwave
- Cellular Base Stations
- 3G

MPSU 5000



KEY FEATURES

System

- Input voltage:
 - 1 phase 230 VAC
 - 3 phase 230 VAC (△)
- 3 phase 400 VAC+N (Y)
 The input terminals are configurable on-site to any of the above mains configurations
- Dimensions (wxdxh):
 Dimensions (wxdxh):
- 533 x 375 x 267mm/ETSI /21 x 14.75 x 10.5" • Weight: 12.5kg (27.6lbs) excl. rectifiers

Rectifier

- SMPS 1000
- **Monitoring Unit**
- AL 175NT

Distribution

- Option 1:
- 4 load MCBs (2-63 Amps)
- 2 load MCBs (80 Amps)
 one battery MCB (250 Amps)
- Option 2:
 4 load MCBs (2-63 Amps)
 one load MCB (160 Amps)
- one battery MCB (250 Amps)
- LVBD controlled by timer or voltageOther distribution configurations may
- be constructed upon request

Applicable standards

- Safety: EN 60950
- EMC:
- EN 61000-6-3 (emission)
- EN 61000-6-2 (immunity, industry)
- EN 300 386-2 (immunity)
- Environment:
 ETSI EN 300 019-2-1
 - ETSI EN 300 019-2-2
 - ETSI EN 300 019-2-3

Approvals

MPSU 6000



E

Description

The MPSU 6000 is a rack mountable power system prepared for integration into telecommunication equipment racks. MPSU 6000 contains DC distribution, AL 175NT monitoring control unit and up to six SMPS 1000 plug-in rectifier modules providing up to 6000 W DC power. The 21" (ETSI) wide system is a modular concept that allows expansion and service without power shut down and increases the reliability. Eltek can provide custom made solutions utilizing enclosures that house the MPSU 6000, batteries and all associated equipment.

The MPSU 6000 is available in three different system voltages: 24 VDC/231 Amps, 48 VDC/126 Amps or 60 VDC/100 Amps.

The highly reliable and versatile AL 175NT provides a comprehensive range of monitoring and control features. Together with the flexible internal DC distribution, the MPSU 6000 can be tailored to meet most needs in telecommunications applications in the medium power range. The rectifiers and monitoring unit are UL-recognized components. The following options are possible: temperature probe for temperature compensated charging, load disconnect unit, battery disconnect unit, modem and external SNMP

agent. MPSU 6000 is available in 24, 48 and 60 VDC configurations.

Typical applications

- Point of Presence (POPs)
- Digital Loop Carrier (DLC)
- Fiber Repeater
- E911 (Public Safety)
- Small Microwave
- Cellular base stations
- 3G



KEY FEATURES

System

- Max. number of rectifiers: 6
- Input voltage:
 - 1 phase 230 VAC
 - 3 phase 230 VAC (\triangle)
 - 3 phase 400 VAC+N (Y)
- The input terminals are configurable on-site to any of the above mains configurations
- Dimensions (wxhxd):
- 533 x 375 x 445/ETSI /21 x 14.75 x 17.5"
- Weight: 12.5kg (27.6lbs) excl. rectifiers

Rectifier 1000

Monitoring Unit

• AL 175NT

Distribution

- Up to 16 load MCBs (2-63 Amps)
- Up to 2 NH00 (max. 160 Amps)
- LVBD controlled by timer or voltage
- LVLD controlled by timer or voltage
 Other external distribution options are available

Applicable standards

- Safety: EN 60950
- EMC:
 - EN 61000-6-3 (emission)
 - EN 61000-6-2 (immunity, industry)
- EN 300 386-2 (immunity)
- Environment:
- ETSI EN 300 019-2
- Network Rail Certificate of Acceptance

Approvals

CE-marked

24

Description

The PRS 700 AC to DC power system is a complete rack including up to 21 rectifiers, an AL 175NT monitoring unit and distribution. A common system design forms a flexible basis that can be configured to meet most requirements in the medium power range. The modular concept with plug-in rectifiers and rectifier shelves offers system solutions in three different power levels: 7 kW, 14 kW and 21 kW, with respectively one, two and three rectifier shelves mounted. The wide range of cabinet solutions includes various distribution options with or without internal

battery back-up. Internal battery back-up is dependent on the number of rectifier shelves. The system is equipped with the AL 175NT monitoring and control unit that offers a comprehensive range of monitoring and control features. The rectifiers and the monitoring unit are UL-recognized components. The following options are possible: external SNMP agent, temperature probe for temperature compensated charging, load disconnect unit, battery disconnect unit and modem.

Typical applications

- Point of Presence (POPs)
- TETRA
- Cellular Base StationsAmplifier Sites

KEY FEATURES

System

- Max. number of rectifiers: 21
 - Input voltage:
 - 1 phase 230 VAC
 - 3 phase 230 VAC (
 - 3 phase 400 VAC+N ($\rm Y$)
 - The input terminals are configurable on-site to any of the above mains configurations
- Dimensions (wxdxh):
 - 600 x 400 x 1800-2200mm (6U)/
 - ETSI /21" x 15.75 x 70.87-86.61"
 - 600 x 600 x 1800-2200mm (6U)/

ETSI /21" x 23.62 x 70.87-86.61"

- Rectifier
- SMPS 1000

Monitoring Unit

AL 175NT

Distribution

- Option 1: - Up to 6 NH00 (160 Amps)
- Up to 27 load MCBs (2-50 Amps)
- Option 2:
- Up to 2 NH2 (250 Amps) - Up to 27 load MCBs (2-50 Amps)
- A wide range of customized distribution solutions, such as High Ohmic Distribution and others that differ from our standard configurations are available.

Applicable standards

- Safety: EN 60950
- EMC:
- EN 61000-6-3 (emission)
- EN 61000-6-2 (immunity, industry)
- EN 300 386-2 (immunity)
- Network Rail Certificate of Acceptance

Approvals

AEON 4000



Ξ

Description

The AEON 4000 power system is one of the most advanced and compact DC Power systems on the market. Consisting of 4000 W rectifier modules and an AEON Gold control and monitoring unit. It represents a perfect choice for applications within the medium to high power applications. Total system power ranges from 24 kW to 72 kW in a single cabinet, but in total, it is possible to get output power up to 384 kW. AEON 4000 power system is available in 24, 48 and 60 VDC configurations.

Larger systems require separate rectifier cabinets and DC distribution cabinets. The AEON 4000 AM is specifically configured for the requirements of North and South American customers.

Typical applications

- Telephone Switches
- Data Center
- Internet Hubs
- Optical Switches
- Co-location
- Fixed Net Backbone sites



KEY FEATURES

System

- Max. number of rectifiers: 96 (in standard system)
- Input voltage:
 - 1 phase 230 VAC
 - 3 phase 230 VAC (△) - 3 phase 400 VAC+N (Y)
- 3 phase 400 VAC+N (Y
 Max. power 3 PR system:
 - 24 VDC/20 kW per shelf, 750 Amps,
 - 60 kW per cabinet, 2250 Amps - 48 VDC/24 kW per shelf, 510 Amps,
 - 72 kW per cabinet, 1530 Amps
 - 92 KWG/24 ckWinter, shelf 246 Amps,
- Total front access
- Dimensions (wxdxh):
- 600 x 600 x 2000mm/23.62 x 23.62 x 78.74"
- Battery shelves can be integrated

Rectifier

• SMPS 4000

Monitoring Unit

AEON Gold

Distribution

- Option 1:
 - Up to 6 NH3 (630 Amps)
 - Up to 27 load circuit breakers (max. 63 Amps)
- Option 2:
- Up to 2 NH00 six NH3 (630 Amps)
 Up to 54 load circuit breakers
 - (max. 63 Amps)
- Option 3:
- Front access plug-in circuit breaker distribution panel
- 24 breakers (max. 100 Amps each)
- LVBD or LVLD are available

Approvals

- CE-marked
- UL-recognition of SMPS 4000 and AEON Gold
- NEBS Level 3 certified

SVS system



E

Description

The RM 14400 rectifier module is the basic component for building large Power supply system with three phase input. This 14.4 kW rectifier (48 VDC/250 Amps or 60 VDC/200 Amps) is fan cooled and operates from 230/400 VAC, 3 phase input. Up to five 250 Amps rectifiers can be installed in one GRS 1250 Power Rack. Each rack delivers up to 1250 Amps. The power racks can be used in parallel operation simply by connecting the integrated DC copper bus with the next rack. Furthermore, the standard Battery and Distribution Rack (BVS 1250 and BVS 2500)

offers all the connections required for battery and load outlets as well as enough space to integrate an optional LVD.

The system comprises a Micro Processor Controller Unit, which is programmable with the integrated 3-button keyboard or with an external laptop computer. All required interfaces, using volt free contacts, RS-232 and RS-485, are standard. For remote control purposes the power supply can optionally be equipped with a modem (analogue, ISDN and GSM). It is possible to apply remote control using our SNMP/ TCP/IP Ethernet adapters.

A typical 2500 Amps System consists of two GRS 1250 power racks and one BVS 2500, two Battery Fuses (2 x 1250 Amps each) and enough space for Power Outlets are available. The whole SVS system design is fully digital and highly modular. It is possible to build systems greater than 10 000 Amps as well as to extend existing systems under full load conditions if required. Several versions, such as the SVS 750 with an integrated DC distribution for medium power, are also available.

Typical applications

- DSL and SDH Networks
- Telephone Switches
- Large Fiber Repeaters
- Data Center and Internet Hubs
- Optical Switches

(Refer to pictures on the next page...)

KEY FEATURES

System

- Max. number of rectifiers per rectifier cabinet:
 - SVS 48/60V 750/600A/3
 - SVS 48/60V 1250/1000A/5, system expandable with parallelable cabinets up to > 10 000 Amps
 - SVS 48/60V 2500/2000A/10, system expandable with parallelable cabinets up to > 10 000 Amps
- Input voltage: 400 VAC
- Frequency: 45 to 65 Hz
- Phareting tropper attroviel \$6005 (\$40°F) with derating
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Dimensions (wxdxh):
 SVS 48/60V 750/600A/
 - 600 x 600 x 2000mm/23.6 x 23.6 x 78.7" - SVS 48/60V - 1250/1000A/
 - 1400 x 600 x 2000mm/55.2 x 23.6 x 78.7" - SVS 48/60V - 2500/2000A/
- 2000 x 600 x 2000mm/78.7 x 23.6 x 78.7"
- Weight: fully equipped - SVS 48/60V - 750/600A/
- 315 kg (694.5lbs)
- SVS 48/60V 1250/1000A/
- 519kg (1144.2lbs)
- SVS 48/60V 2500/2000A/ 889kg (1959.9lbs)

Rectifier

• RM 14400 Type: D60/200WBrug - 2 GRM

Monitoring Unit

SVS-SM5/SVS-SP1

- Input voltage: 24 VDC/48 VDC/60 VDC
- Buttons for data request and adjustments
- Display of measured values and error reports
 Communications interfaces: Internal (controller)/ analog + RS 485, External (service laptop)/ RS 232
- Remote alarm: Modem, SNMP, TCP/IP
- Event storage
- Characteristics: Float charging /Boost charging
- Load voltage compensation battery voltage
- DC-Voltage/Current displays
 Voltage monitors: Battery/Load: Over veltage/Under veltage
- Over voltage/Under voltageBattery discharge protection control
- Battery charging current limit
- Battery availability test (total battery)
 - Battery balance monitoring
- System data: Serial number, rated voltage, others
- LCD display/buttons
- Expandable by means of external signaling modules
- Operating status signals: LED, Telecommunications signals (urgent, not urgent)

Continues on the next page...



SVS system: Refer to text on the previous page...



Power supply system SVS 750

SVS 2500 with additional AC-rack NV 630



Continues from previous page...

- Faults:
 - System fault (centralized signal)
- Rectifier fault
- Redundancy monitoring
- Battery/Load voltage fault
 Battery availability test fault
- Battery availability test
- Battery deep discharge
- Temperature fault
- Mains failure
- Voltage monitoring
- Fuse monitoring
- Signaling of site-based signal
- (freely available): optionally expandable Potential free contacts:
- Fault
- Mains failure
- Boost charging characteristic
- (ventilator control)
- Others: optionally expandable

DC Distribution options

- Standard configurations available up to 750 Amps/1250 Amps/2500 Amps capacity respectively.
- Regional adaptations to local requirements are available.
- Customized solutions can be engineered upon request.

Applicable standards Safety: EN 60950, class 1

- EMC:
- EN 61000-6-3 (emission)
- EN 61000-6-2 (immunity)
- Environ ment :
- ETSI EN 300 019-2
- ETSI EN 300 132-2
- Protection class: IP20, EN 60529
- Approvals

• CE- marked

28

PDU 19" MCB distribution 24 way



E

Description

The PDU Power Distribution Unit 250 Amps 3U/19" DC distribution has been specifically designed to meet the demand for smaller and more compact power solutions. It is suitable for applications needing an expandable, easily serviceable and reliable DC distribution fitting within a minimal space.

The PDU 3U/19" DC distribution is a very compact distribution which can house up to 24 standard 17mm wide fuses.

Typical applications

PDU Power Distribution Unit is used in 19" DC distribution systems. This unit may be combined with AC input circuit breakers and a lightning protection unit.

PDU 19" MCB distribution 24 way



KEY FEATURES

- Voltage: 24 VDC/48 VDC/60 VDC
- Max. current: 250 Amps
- 24 load breakers Siemens 5SX and 5SY series (max. 63 Amps)
- Load MCB connections:
 - Negative: directly in the breakersPositive: common positive bus bars
 - (positive distribution on request) Alarm detections: Diode matrix on top of fuse
- Alarm detections: Diode matrix on top of fuse rail

Other specifications

- Operating temperature: -40 to +70°C
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Dimensions (wxdxh): 483 x 33 x 140mm (3U)/19 x 1.3 x 5.5"
- Weight: approx. 2.2kg (4.8lbs) excl. fuses

Approvals

DCD 22 Way and 40 Way with LVBD



Ξ

Description

The Eltek DC Distribution Unit has been designed to operate with AC to DC rectifiers and a standby battery. The flexible unit design allows connection to various types of power solutions operating at a nominal -48 VDC.

Typical applications

Customer equipment cabinets (Broadband and Access Network applications).

DC Distribution Unit 22 way



DC Distribution Unit 40 way



KEY FEATURES

Operation

DCD 22 Way with LVBD

- 22 Way Load Distribution via 5 Amp Glass
 Fuses
- Connection to Rectifier/Battery Charger and Battery
 Auvillary Connection for additional input (out)
- Auxiliary Connection for additional input/output
- LVBD
- Battery over-rideExternal control/alarm

DCD 40 Way with LVBD

- Austral Load Distribution via 5 Amp Glass
- Connection to Rectifier and Battery
 - LVBD

Alarm and control

General

DCD 22 Way with LVBD

- Rating: all connections are rated at 45 Amps
 Dimensions (wxdxh): 485 x 45 x 220mm (plus 50mm for rear connection cables)/
 - 19 x 1.77 x 8.66" (plus 1.96")
- Weight: 2kg (4.4lbs)

DCD 40 Way with LVBD

- Rating: all connections are rated at 63 Amps
 Dimensions (wxdxh): 485 x 89 x 200mm (plus 70 mm for rear
- connection cables)/ `` 19 x 3.5 x 7.87" (plus 2.75")
- Weight: 2.5kg (5.5lbs)

Approvals

DCD 4000 system



E

Description

Eltek can provide tailor-made, large capacity DC Distribution plants from their range of standard building blocks. The modular construction of the distribution units allow customer specific panels to be made quickly and cost efficient. Systems are rated from 2000 to 8000 Amps (96 kW to 384 kW) and are used in conjunction with the AEON 4000 product range.

A typical DCD 4000 distribution system will consist of a Master Control Cubicle, DC Distribution cabinets and optional cable management bays.

The Master Control cubicle provides individual fused inputs for connecting rectifier cabinets and parallel connecting battery banks. The rating of the battery fusing can be fitted to match the standby requirements and will support autonomy periods from one to eight hours. This cubicle will also contain the AEON Gold alarm module and will therefore provide a single point for all control and monitoring functions.

Each Master Control Cubicle can connect to up to four distribution cabinets. Each distribution cabinet is built to accept up to eight plug-in distribution units (PIDU). The customer can plug-and-play with the various PIDU options therefore making installation and expansion flexible and easy. In

a variety of applications the size and number of outgoing cables are large due to voltage drop restraints. Installation and expansion is therefore made easier by the deployment of adjacent cable management bays. Low voltage disconnect is available through the use of Eltek's Battery Disconnect Unit (BDU), which aids installation and maintenance. These distribution plants often support secondary distribution panels such as the Eltek PDU. The overall system will support both under floor and overhead cabling with top and bottom cable access. The systems can also be configured to work in dual feed – "A" and "B" feed systems in accordance with site-specific requirements.

Typical applicationsTelephone Switches

- Data Centers
- Data Centers
- Internet Hubs
- Co-location



DCD 4000 system

KEY FEATURES

Operation

Master Distribution Cabinets

- AEON Gold control unit and all I/O interfaces
- Fused inputs for AEON 4000 rectifier cabinets
- Fused inputs rated up to 1250 Amps for battery banks

Distribution Cubicles

 Up to 8 PIDU positions that can be made up of the following options: 18 x plug-in DC circuit breakers rated up to 100 Amps, 1 x 800, 1000, 1250 or 1600 Amps blade fuse,

260 ዓም285 ዓብትያ የምድራቅ የተያደ 246,1480, 600, 800, 1250 or 1600 Amps MCCB, 3 x 125 or 160 Amps MCCB

- Customer specific panels available upon request
- Cable Management Bays fit adjacent to Distribution cubicles

General

- Dimensions per cubicle/bay (wxdxh):
- 600 x 600 x 2000mm/23.62 x 23.62 x 78.74"
 Cable management cabinets may have half width (wxdxh):
 - 300 x 600 x 2000mm/11.81 x 23.62 x 78.74"

Approvals

PDU



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Description

The Power Distribution Unit, PDU, provides a dual bay "A" and "B" – DC distribution unit to provide diverse feeds to load equipment such as telecommunications switching and transmission.

The PDU offers a dual input rack rated at 600 Amps for each input, which support up to 40 circuit breakers, rated from 5 to 100 Amps. The cabinet uses plug-in circuit breakers to facilitate installation and expansion. The PDU is designed as a secondary distribution cabinet in medium to large

power applications.

The inputs are fed via switched isolators whilst a unique cable management facilitates output cable installation for either top or bottom exit, thus allowing safe and easy expansion. Both local and remote monitoring is provided with metering of voltage, bay current, input supply fail and breaker trip.

The unit can also be configured to provide a single 1200 Amp, 80 Way distribution cabinet.

Typical applications

Facilitating a fully redundant "A" and "B" distribution system it fits into applications where the power

quality is absolutely essential.

- Telephone Switches
- Data Centers
- Internet Hubs
- Co-location



KEY FEATURES

Operation

- Input voltage: -48 VDC Nominal, total range: 40-60 VDC
- Input current: 600 Amps per feed; 1200 Amps as a single product
- Input protection: Isolator link, fuse available upon request
- Input connections: 4 x M12 per feed - Negative 8 x M12- Common Return
 - Output fusing: 40 Way plug in circuit breaker per feed, 5 to 100 Amps
- ณิชามประการสารระบาท เป็นสารระบาท เป็นสารระบาท
- Alarm types: MCB Fail A, MCB Fail B, Input Fail Bay A, Input Fail Bay B
- Alarm indication: volt free contact and red LED indication
- Metering: system voltage and current for both feeds

General

- Dimensions (wxdxh):
- 600 x 600 x 2200mm/23.6 x 23.6 x 86.6"
- Weight: 125kg (275.6lbs)

Approvals

CE-marked

PDU

BDU



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Description

The Eltek wall mounted battery isolator/disconnect unit is designed to provide automatic battery disconnection to prevent deep discharge damage of batteries. This is achieved by the activation/de-activation of a contactor by an external control signal provided by the AEON Gold control and monitoring unit.

Typical applications

The BDU 1000 is suitable in applications where a safe low voltage battery

disconnection is required and a number of parallel battery strings are applied. Normally the BDU 1000 is mounted on the battery stand and provides disconnection and isolation facilities for individual battery strings. Up to twelve BDUs 1000 can work in parallel, controlled by the same AEON Gold unit. The BDU can be used with other power systems if required. The unit is especially well suited on sites with high power and long back-up times, requiring a number of large capacity battery strings to be paralleled. This includes:

- Co-location
- Telecom Centers
- Internet Backbone Sites



KEY FEATURES

Operation

- Voltage: -48 VDC Nominal, 40-60 VDC total range
- Maximum current: 1000 Amps
- Fusing: Single blade fuse, 400-630-800-1000 Amps
- Manual override: the BDU will normally be controlled by a contactor feed signal from the AEON Gold. A manual override control is available to lock the contactor in the 'closed' position
- Manual isolate: a manual isolate switch will
- Alarm Outputs: contractor for maintenance. signals for contractor tripped/failed and fuse fail that can be fed back via the AEON Gold.
 - Indicators:
 - Green LED: BDU healthy and in operation
 Red LED: Contactor is open. Battery disconnected
 - Green and Red LED together: BDU in manual override

General

- Dimensions (wxdxh):
- 450 x 250 x 600mm/17.7 x 9.7 x 23.6"
- Weight: 22kg (48.5lbs)

Approvals

- CE-marked
- Safety: EN 60950

UL-recognized DC Power systems and DC Distribution products

All Eltek core elements, including rectifiers, converters and system monitors, are approved for worldwide applications including UL, CE and NEBS recognition and approval.

This section of our catalog details various system solutions that have been designed to incorporate UL related approvals at a system level as well.

Eltek has created many different system designs for applications throughout the world. A key element that often differentiates system design is the adherence to local safety agency regulations and listings.

One of the most common safety agency listings, especially for systems used within the United States, is Underwriters Laboratories Inc or "UL". Adherence to UL and other requirements are needed to demonstrate regulatory and market requirements. If UL certification is required for your application please select a solution from the following pages. If your ideal system is not displayed in this section, please contact your nearest Eltek representative so we can develop

a solution tailored to your specific needs.

DCD 125AP Flatpack system



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Description

The DCD 125AP is a 125 Amps Flatpack system with a 1U distribution device and up to two Flatpack power racks. The DCD 125AP is the smallest in both size (1U) and current rating (125 Amps) of the Flatpack systems. This particular device has a single battery input protected by a circuit breaker rated up to 125 Amps and large main load output protected by a circuit breaker rated up to 125 Amps. This distribution device also offers twelve GMT load fuse positions rated up to 15 Amps each.

The DCD 125AP has optional contactors for battery disconnect, or load disconnect. It has two current shunts to monitor battery and load current and a place to plug-in the MCU controller for the Flatpack rectifiers.

This compact system is ideally suited for small cabinetized applications but can also be mounted into a standard relay rack or indoor cabinet. This system is ideal for loads up to 6 kW.

Typical applications

- UMTS and GSM Base Stations
- Point of Presence (POPs)Digital Loop Carrier (DLC)
- Fiber Repeater
- E911 (Public Safety)
- Small Microwave
- Digital Subscriber Line

DCD 125AP Flatpack system



KEY FEATURES

Operation

- Compact size (1U, 19")
- Max. total current: 125 Amps
- One large battery breaker (max. 125 Amps)
- One large breaker load output (max. 125 Amps)
- 12 GMT fuse outputs- max. fuse size 15 Amps, maximum rating of GMT fuse block 60 Amps.
- This system accommodates up to 4 Flatpack rectifiers, and 2 PRs.
- Optional battery disconnect contactor
- (Antional lead this cange of carter dorput)
- 6 alarm relays

Rectifier

- Flatpack 700
- Flatpack 1500
- **Monitoring Unit**
- Flatpack MCU

General

- Full system dimensions (wxdxh):
- 439 x 304 x 121mm/17.3 x 11.95 x 4.75"
 Weight: max. 4.7kg (10.4lbs) excl. the MCU, max. 5.4kg (11.9lbs) incl. the MCU
- Connections: rear
- Operating temperature: -40 to +70°C (-40 to +158°F)

Approvals

- CE-marked
- UL-recognized UL 1950
- NEBS Level 3 certified

DCD 3FM-200A Flatpack system



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Description

The DCD 3FM-200A is a 200 Amps Flatpack power system that includes a 3U distribution unit and up to three Flatpack power racks. The DCD 3FM-200A is a completely front access unit with a maximum current rating of 200 Amps. This particular device has fourteen plug-in overcurrent protection devices that can be either fuses or breakers. These plug-in overcurrent protection devices can be configured for combinations of either battery or load distribution.

The DCD 3FM-200A has optional contactors for battery disconnect, load disconnect and a combination of both for load shedding. It has two current shunts to monitor battery and load current and a place to plug-in the MCU controller for the Flatpack rectifiers. This compact system is ideally suited for small cabinetized applications but can also be mounted into a standard relay rack or indoor cabinet. This system is ideal for loads up to 9 kW.

Typical applications

- UMTS and GSM Base Stations
- Point of Presence (POPs)
- Digital Loop Carrier (DLC)Fiber Repeater
- E911 (Public Safety)
- Small Microwave
- Digital Subscriber Line

KEY FEATURES

Operation

- Compact size (3U, 19")
- Max. total current: 200 Amps
- Up to 4 battery breakers
- Up to 12 load breakersThis system accommodates up to
- 6 Flatpack rectifiers, and 3 PRs.Optional LVBD
- Optional LVBD
 Optional LVLD
- 6 alarm relays

Rectifier

• Flatpack 790o

Monitoring Unit

Flatpack MCU

General

- Full system dimensions (wxdxh): 439 x 320 x 267mm/7.3 x 12.6 x 10.5"
- Weight: 21.7kg (48lbs)
- Connections: front access
- Operating temperature: -40 to +70°C (-40 to +158°F)

Approvals

- CE-marked
- UL-recognized UL 1950NEBS Level 3 certified

DCD 3FM-200A Flatpack system


400A/600A Flatpack system



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Description

The 400A/600A Flatpack system is a 4U distribution unit designed to work with the Flatpack rectifier systems. The 400A/600A is a front and rear access unit with a current rating of 400 Amps or 600 Amps. The distribution unit accepts plug in breakers. The 19" version houses 20 breakers and the 23" version houses 24 breakers.

The 1U MCU panel has 400 Amps shunts for both battery and load monitoring. The MCU holder has front access connection for all control and

monitoring functions and a slot to plug in the MCU. A 2U MCU panel rated for 600 Amps with all the above same attributes is also available.

The 400A/600A has optional contactors for battery disconnect, load disconnect and both for load shedding. The system can be configured for both battery and load breakers and accepts plug in fuses as well. If more distribution is required, another breaker panel can be easily added.

This compact system is ideally suited for small cabinetized applications but can also be mounted into a standard relay rack or indoor cabinet. This system is ideal for loads up to 21 600 W.

Typical applications

- UMTS and GSM Base Stations
- Point of Presence (POPs)
- Digital Loop Carrier (DLC)
- Fiber Repeater
- E911 (Public Safety)
- Small Microwave
- Digital Subscriber Line

400A Flatpack system



600A Flatpack system

KEY FEATURES

System

- Max. number of rectifiers: 14 (7 PRs)
- Compact size (400A/600A in 12U, 19 or 23")
- Max. total current: 600 Amps
- Eleven alarm relays
- Operating temperature: -40 to +60°C (-40 to +140°F)
 - Dimensions full system 400A (wxdxh): - 439 x 368 x 533mm/17.3 x 14.5 x 21.0" - with rear covers/
 - 439 x 379 x 533mm/17.3 x 14.9 x 21.0"
- Weight: 17484 kgar (1651 hs)nt

Rectifier

- Flatpack 700
- Flatpack 1500

Monitoring Unit

Flatpack MCU

DC Distribution options

- Up to 8 battery breakers
- Up to 24 load breakers
- Optional LVBD
- Optional LVLD

- CE-marked
- UL-recognized UL 60950
 NEBS Level 3 certified

Flatpack Cabinetized system



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Description

The Flatpack Cabinetized Power system is a complete cabinet including up to twenty rectifiers, control module and distribution. A common system design forms a flexible basis that can be configured to meet most requirements in the medium power range. The modular concept with plug-in rectifiers and rectifier shelves offers system solutions in many different configurations.

The system can accommodate up to 72 plug-in load breakers or fuses,

contactors for battery and load, and many different battery distribution options. The cabinets come in both non-seismic and seismic rated (Telcordia GR-63-CORE Zone 4).

Typical applications

- Point of Presence (POPs)
- Large Fiber Repeater
- Telephone Switches
- Data Center
- Internet Hubs
- Optical Switches
- Co-locationCellular Base Station
- Fixed Net Backbone Sites





KEY FEATURES

System

- Max. number of rectifiers: 20 (10 PRs)
- Max. total current: 600 Amps
- Eleven alarm relays
- Connections: front
- Operating temperature: -40 to +60°C (-40 to +140°F)
- Dimensions (wxdxh):
- 610 x 610 x 2134mm/24 x 24 x 84" • Weight: 170kg (375lbs) (typical)

Rectifier

Flatpack 790o

Monitoring Unit

Flatpack MCU

Distribution

- Up to 8 battery MCBs and up to 24 load MCBs
- Optional LVBD
- Optional LVLD

- CE-marked
- UL-recognized UL 60950
- NEBS Level 3 certified

TwinPack Plus® Power system



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Description

The TwinPack Plus® power system is a modular DC power product utilizing the proven TwinPack Plus® switch mode rectifier. These power systems meet -48 VDC power system requirements of up to 600 Amps and are scalable to grow with changing system requirements. This new TwinPack Plus® system leverages the new TWPP-RC rectifier and the Flatpack MCU to provide updated features of the Flatpack rectifier systems to those who prefer the TWPP rectifier form factor.

The result is a completely self-contained, battery-backed DC power plant - in a single rack footprint. Optional load shedding architecture and a modular load distribution unit provide extended battery back-up time compared to other systems. Rectifier output voltage is automatically controlled by the MCU and does not require periodic re-adjustment. The MCU is hot swappable in a live system without affecting the system's ability to deliver charge and load current.

Individual battery disconnect circuit breakers are provided at each battery tray. Individual battery strings may be disconnected for maintenance without affecting the system load. Integrated temperature compensated

charge control and battery symmetry monitoring serve to maximize battery life and protect against battery damage.

Typical applications

- UMTS and GSM Base Stations
- Point of Presence (POPs)
- Digital Loop Carrier (DLC)
- Fiber Repeater
- E911 (Public Safety)
- Small Microwave
- Digital Subscriber Line



KEY FEATURES

System

The 5U (8.75") high, 23" rack mount DC distribution unit has high volumetric efficiency, with the following features integrated by design:

- Max. number of rectifiers: 12 (max. 3 PRs)
- Spacious AC input junction box with terminal block supporting single AC feed per rectifier
- Current measuring resistive shunts, for monitoring of rectifier, battery, and load
- FYOFC access alarm relay connections (10 software-configurable Form C relays)
- Battery symmetry and temperature
 monitoring
- Three-tier load shedding via the LVD contactors
- Two-hole lug connections on all DC load and return bus bar positions
- Master Battery EPO / Remote Disconnect capability via 600A battery contactor
- Operating temperature: -40 to +70°C (-40 to +158°F)
- Dimensions (wxdxh):
- 718 x 610 x 2134mm/29.25 x 24 x 84"
- Weight: 214.5kg (473lbs)

Rectifier

TwinPack Plus® RC rectifier

Monitoring Unit

Flatpack MCU

DC Distribution options

- Plug-in DC load breakers and fuses; single and multi-pole variants supported
- LVBD and LVLD options

Applicable standards

 Telcordia GR-63-CORE Zone 4 qualified seismic rack and battery trays are standard

Approvals

- CE-marked
- UL-recognized UL 60950
- NEBS Level 3 certified

TwinPack Plus® Power system

AEON 4000 AM Single Cabinet system



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Description

The AEON AM power system provides a complete, high quality DC power solution for medium to high power applications. The AEON AM system is based around the SMPS 4000 rectifier module, a compact 4000 W rectifier module designed to provide a high power density in a small size. This American version of the AEON system encloses all power system components in a single power rack design. The system configurations allow for up to eighteen SMPS 4000 rectifier modules to be contained in one cabinet, giving a total power output range of 4 kW to 72 kW. Within each

power system, the SMPS 4000 rectifier modules are controlled and monitored by a microprocessor based controller called the AEON Gold.

The AEON Gold monitoring unit can be accessed locally by a user-friendly LCD screen and keypad. The AEON Gold can also be accessed via WinPower, a Windows based software developed by Eltek Energy. Using this interface makes the set up of AEON AM less complicated and much quicker. The AEON AM can also accommodate remote access communication through SNMP or TCP/IP protocols. The AEON AM Power system also offers versatile features such as: up to 72 plug-in breaker/fuse positions, large scale distribution or

battery protection devices rated to 800 Amps, DC/DC converters with independent distribution options, and LVD functionality for battery, load, or load shedding. Telcordia GR-63-CORE Zone 4 rated cabinets are available.

Typical applications

- Point of Presence (POPs)
- Large Fiber Repeater
- Telephone Switches
- Data CenterInternet Hubs
- Optical Switches
- Co-location
- Cellular base station
- Fixed Net Backbone Sites



KEY FEATURES

System

- Max. number of rectifiers: 18
- AC Inputs:
 - 3 phase (3 or 4 wire) 480 VAC
 - 3 phase (4 wire) 400/380 VAC
 - 3 phase (3 wire) 230 VAC
 - 3 phase (3-wire) 208 VAC Max. total current: 2250 Amps (24 VDC)
- Max. total current: 2250 Amps (24 VDC) and 1530 Amps (48 VDC)
 Dimensions (wwdxh): 610 x 610 x 2124m
- Dimensions (wxdxh): 610 x 610 x 2134mm/ 24 x 24 x 84"
- Weight: depends on cabinet configuration,

Connections: Front

 Operating temperature: -10 to +50°C (+14 to +131°F)

Rectifier

• SMPS 4000

Monitoring

AEON Gold

Distribution

- Up to 8 battery breakers
- Up to 24 load breakers
- Optional LVBD
- Optional LVLD

Approvals

- CE-markedUL-recognition of SMPS 4000 and
- AEON Gold
- NEBS Level 3 certified



AEON 4000 AM

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High Current AEON systems





Description

The high current AEON 4000 Power system is a multi-cabinet, high capacity power system available in -48 VDC. System sizes can range from 1200 Amps up to 10 000 Amps and can be configured using either centralized or distributed architecture.

The centralized architecture is described as a system that consists of rectifier cabinets, primary load distribution cabinets and primary battery distribution cabinets all connected in series. All the copper bus work for

the system must be rated for the maximum current rating of the system. This system provides the user the ultimate of flexibility on how the batteries and loads are connected into the DC Power system.

The distributive architecture is described as a system of many cabinets connected together. Each cabinet has rectifiers; primary load distribution and battery load distribution collocated in each cabinet. Up to six cabinets can be connected in series to provide more current for the user. The real benefit of this system is the smaller copper bus bars required. The largest amperage connection required between cabinets is the maximum current of a single cabinet. A recent upgrade to AEON Gold software allows Eltek

to offer distributive architecture with SMPS 4000 rectifiers.

Typical applications

- Point of Presence (POPs)
- Large Fiber Repeater
- Telephone Switches
- Data Center
- Internet Hubs
- Optical Switches
- Co-location
- Cellular Base Station
- Fixed Net Backbone Sites



High Current AEON systems

KEY FEATURES

System

- Max. number of rectifiers: 96
- Distributive or Centralized Architecture
- AC Inputs:
- 3 phase (3 or 4 wire) 480 VAC
- 3 phase (4 wire) 400/380 VAC - 3 phase (3 wire) 230 VAC
- 3 phase (3-wire) 208 VAC
- Max. total current: up to 8160 Amps
- Max. power: up to 384 kW
- Dimensions (wxdxh): per cabinet
- 610 x 610 x 2134mm/24 x 24 x 84"
- Wpightrange 227 kg (30005) configuration, (7501bs) per cabinet
- Connections: front
- Operating temperature: -10 to +50°C (+14 to +131°F)

Rectifier

- SMPS 4000
- Monitor
- AEON Gold

Distribution

- Primary Load and Battery Distribution
- Optional LVBD
- Optional LVLD
- Secondary Load Distribution

- CE-marked
- UL-recognition of SMPS 4000 and AEON Gold
- NEBS Level 3 certified

4U Plug-in PDU



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Description

The Plug-in PDU provides power distribution with plug-in breakers and/or fuses for up to 24 circuits in only 4U of rack space. The Plug-in PDU accepts circuit breakers or fuses. Connections are made with two-hole lugs on both the load and ground return. The panel is rated for a maximum of 600 Amps and can be configured for either a single bus or split bus "A" and "B" arrangement.

Local indication is provide by a front panel red LED that illuminates when

a device is tripped. One set of Form C contact provides remote alarm indication. The 23" mount unit provides 24 breakers and the 19" version provides 16 positions. Rear covers can be orders as an option.

Plug-in Distribution Devices

The PDU offers the convenience and versatility of Plug-in distribution devices. Plug-in breakers are offered in single pole up to 100 Amps, double pole up to 175 Amps and triple pole up to 250 Amps. The larger breakers can utilize an expansion bus to allow larger gauge wires to be terminated. If fuses are preferred, a single pole fuse holder is available and will accommodate TLS type fuses rated from 5 Amps to 100 Amps.

All alarming is accomplished by detecting auxiliary contact changes on the back of the distribution devices.

KEY FEATURES

Operation

- 1-100 Amps single pole breakers, 125-175 Amps two-pole breakers and 200-250 Amps three-pole breakers, fuses single pole 1-100 Amps.
- Tin-plated copper bus bars
- 600 Amps
- Two-hole lugs for load and ground returns
- Top cable entryTop and rear cover options

General

- Binensing (1801/20.1 x 14.9 x 6.3"
- Weight: 13.5kg (29.75lbs)

Typical applications

- Telephone Switches
- Data Center
- Internet Hubs
- Co-location

4U Plug-in PDU



144 Position Plug-in PDU



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Description

The 144 Position Plug-in PDU is designed to distribute and monitor DC loads to various types of telecommunication equipment. Typically utilized as a secondary distribution point, it can be installed directly or adjacent to the DC Power system, or deployed at another remote point in the installation. The 144 Position Plug-in PDU comes in seismic or non-seismic cabinets and accepts either fuses or breakers for the distribution devices.

There are a total of 144 distribution points divided into six, 24 position

breaker/fuse sections that can be separated into either two redundant feeds, four redundant feeds or six redundant feeds. Each input is rated for 650 Amps, and is designed for a maximum of an 800 Amps fuse/breaker feed.

Optional Digital Meter

An optional digital meter is available to measure current in each bus and each breaker/fuse panel. The optional digital meter panels mounts on the front door and has an LED display (xxx.x). It measures two bus currents ("A" and "B"), main battery voltage and up to six branch currents Full scale and zero offset adjustment potentiometers are provided and accessible

from the rear of the panel.

Plug-in Distribution Devices

The 144 Position PDU offers the convenience and versatility of Plug-in distribution devices. Plug-in breakers are offered in single pole up to 100 Amps, double pole up to 175 Amps, and triple pole up to 250 Amps. The larger breakers utilize an expansion bus to allow larger gauge wires to be terminated. If fuses are preferred, a single pole fuse holder is available and will accommodate TLS type fuses rated from 5 Amps to 100 Amps. Each breaker that is plugged into the 144 Position

Plug-in PDU is individually alarmed to the alarm bus, using the built in contacts on the back of the breaker.

Typical applications

- Telephone Switches
- Data Center
- Internet Hubs
- Co-location

KEY FEATURES

Operation

- Six 24-position circuit breaker/fuse distribution panels
- 1-100 Amps single pole breakers, 125-175 Amps two-pole breakers and 200-250 Amps three-pole breakers, fuses single pole 1-100 Amps
- Tin-plated copper bus bars
- 650 Amps
- Two-hole lugs for load and ground returns
- Bottom or top cable entry
 Isolation pad to isolate the enclosed rack
- Isolation pad to isolate the enclosed i
- frame from the floor

Mechanical Information

- Dimensions (wxdxh): 610 x 610 x 2134mm/24 x 24 x 84" Weight:
 - seismic cabinet fully loaded 219.5kg (484lbs)
- non-seismic cabinet fully loaded 199kg (439lbs)





144 Position Plug-in PDU

GMT Fuse distribution



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Description

The GMT fuse panel provides power distribution and current protection for small loads. These panels are 1U in height, 19" rack mount with a depth of 3". The units come in three varieties: 10 fuses, 10A/10B or 20A/20B. These units also come in both 24 and 48 VDC. Each of the GMT type fuse holders accommodates from a 1 to 15 Amps fuse. Maximum output current rating for the panel is 120 Amps (65 Amps per bus). Remote alarm (Form C contacts) and a visual alarm (red LED) are provided for any fuse failure. A green LED indicates that input power is present. The

panel 's wide operating temperature range makes it suitable for most indoor and outdoor environments.

Typical applications

- Point of Presence (POPs)
- Digital Loop Carrier (DLC)
- Fiber Repeater
- E911 (Public Safety)
- Small Microwave
- Cellular base stations
- 3G
- Data CenterCo-location

GMT Fuse distribution



KEY FEATURES

Operation

- Available in 24 VDC and -48 VDC
- Two isolated groups of GMT Fuses
- Major/Minor Alarm Contacts
 120 Amps of Output Current (65 Amps max. per bus)

General

- Single 44mm (1.75") mounting height (1U)
- Reversible brackets for 482mm (19") and 584mm (23") rack mounting
- Panel depth 76mm (3")

- UL-recognized UL 1801
- NEBS Level 3 certified



Rectifiers and converters

This section outlines the switchmode power supplies offered by Eltek. The rectifier will always be the core component, the "heart" of a DC Power system. Eltek therefore devotes much of its R&D efforts to the development of new state of the art designs, which have the quality and the functionality expected in modern telecommunications business.

Eltek offers single phase rectifier modules with output power from 200 W to 4 kW and three phase rectifier modules at 14.4 kW per module. All are hot plug-in units intended for parallel operation in a DC Power system. Normally they serve as a combination of power supply and battery charger, but they can also be utilized in applications where batteries are not present, supplying high quality DC power. As a truly global company we seek to fulfill the most stringent requirements throughout the world especially with regard to the input voltage range. Most rectifiers have active power factor correction making the mains distortion minimal.





For **small and medium systems** we offer following rectifiers: The SMPS 200 is a 200 W convection cooled rectifier that operates at 230 VAC input. Flatpack 700 is a fan-cooled rectifier providing 700 W power for universal input voltage range. When more power is needed the SMPS 1000, a 1000 W convection cooled rectifier that operates from a 230 VAC input, is an option. Eltek's Flatpack 1500 compact rectifier provides complete flexibility by offering 1500 W output at 230 VAC. The TwinPack Plus® rectifier is available in a 1500 W version for operation in 120 VAC systems, and a 3000 W version for operation with 240 VAC input.

For **large systems** the SMPS 4000, a 4000 W fan-cooled rectifier can be utilized. All rectifiers have load-sharing features independent of any monitoring and control unit. This optimizes an already long lifetime (MTBF) expected for our rectifiers. We also have a three phase option in the 14.4 kW module, RM 14400.

Slimpack is a rectifier designed by Eltek Energy especially for stand-alone use.

The Flatpack DC/DC is a modular hot plug-in DC/DC converter prepared

for stand-alone use, or for working in parallel as part of a DC/DC rack system.

Through our affiliations with major Universities specializing in power electronics in both Europe and the US, we are in the forefront of new technologies. As we continue to develop our switching techniques, we are able to improve the efficiency of our rectifiers and increase the power density. The density is also improved through better thermal management. Either natural or forced convection accomplishes efficient cooling of the rectifiers. All rectifiers developed by Eltek are CE and UL marked. In addition, we seek to comply with National standards. Furthermore, we

strive to design products that not only comply to high quality standards and customer demands, but also represent the best in power supplies on the market.

RECTIFIERS AND CONVERTERS

Flatpack 700 and 1500	48
Slimpack	50
SMPS 200	51
SMPS 1000	52
TwinPack Plus®	53
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Flatpack 700 and 1500



Description

The compact fan-cooled Flatpack 700 and 1500 rectifiers are designed to endure any extreme operating conditions that can be expected in telecommunication installations and industrial applications. Minimum size, a universal input voltage range, wide operating temperature, high immunity against surges and overvoltage are key features incorporated into the Flatpack 700 and 1500.

The Flatpack 700 and 1500 are rectifiers for stand-alone use or parallel

operation in a power rack system. Its very high power density, cost efficient design and ability to accept a wide input voltage range and tough ambient conditions, makes it the perfect choice in any telecom network.

Two Flatpack rectifiers can be plugged into a 1U high, 19" wide and 293mm (11.5") deep power shelf providing 1400 W (Flatpack 700), 2700 W (Flatpack 1500 24 VDC) or 3000 W (Flatpack 1500 48 VDC) DC power. Multiple Power Racks may be combined and paralleled to achieve the required amount of DC power. The Flatpack rectifier modules can also be mounted vertically. When connected in parallel, the rectifiers provide active current sharing independent of the Monitoring and Control Unit.

Switchmode 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 of the input voltage and draws sinusoidal current with a soft start power-up.

Typical applications

The rectifier is used in Flatpack Power systems.

(Refer to pictures on the next page...)

KEY FEATURES

Input

- Input operating voltage: 85-310 VAC
- Frequency: 45 to 66 Hz
- Max. Current: - Flatpack 1500 24 VDC/8.5 Arms
 - max. at 185 VAC and 1350 W output Flatpack 1500 48 VDC/9.2 Arms
 - max. at 185 VAC and 1500 W output
- Flatpack 1500 60 VDC/9.2 Arms max. at 185 VAC and 1500 W output
- Flatpack 700 48 VDC/7.5 Arms
- max. at 110 VAC, 3.6 Arms
- Power fatto? > 0.99 at 50% load or more
- Input protection: Soft start, Surge protection (varistors), Internal fuses (L & N), Automatic disconnect above 310 VAC

Output

- Voltage:
- 24 VDC/range: 20-29.5 VDC
- 48 VDC/range: 44-59 VDC
- 60 VDC/range: 50-70 VDC
- Output power:
- Flatpack 1500 24 VDC /1350 W
- Flatpack 1500 48 VDC/1500 W
- Flatpack 1500 60 VDC/1500 W
- Flatpack 700 48 VDC/700 W
- universal input Maximum current:
- Flatpack 1500 24 VDC/50 Amps at 27 VDC
 Flatpack 1500 48 VDC/31.25 Amps at
- 48 VDC
- Flatpack 1500 60 VDC/25 Amps at 60 VDC
 Flatpack 700 48 VDC/15 Amps at 48 VDC
- Flatpack 700 48 VDC/15
 Hold up time: 20 ms
- Efficiency:
 - Flatpack 1500 24 VDC/> 88%
 - Flatpack 1500 24 VDC/> 90%
 - Flatpack 1500 40 VDC/> 90%
 - Flatpack 700 48 VDC/> 88% at 110 VAC, > 90% at 230 VAC

General

- Rectifier alarm:
- Mains failure
- Module failure,
- Over voltage shutdown
- Visual indications:
 - Green LED: ON, no faults
 - Red LED: Rectifier failure
 Green LED bargraph: 10 LEDs showing load current
- Operating temperature: -40 to +70°C (-40 to +158°F)
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Cooling: two fans (front to back airflow), brushless w/ magnetic bearing
- MTBF: > 210 000 hours Telcordia Issue I, method III (a)

Continues on the next page...





Flatpack 1500 24 VDC



Flatpack 1500 48 VDC



Continues from previous page...

- Acoustic Noise: < 55dBA
- Dimensions (wxhxd): 214 x 41.5 x 243mm/8.43 x 1.64 x 9.57" •
- Weight: 2.8kg (6.17lbs) .

Applicable standards

- 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 GR-1089-CORE
 - Harmonics: EN 61000-3-2
- ٠ Environ ment :
- ETSI EN 300 019-2
 - ETSI EN 300 132-2
- Telcordia GR-63-CORE Zone 4

- CE-marked ٠
- UL-recognized
- NEBS Level 3 certified

Slimpack



Description

The Slimpack is an AC/DC converter and battery charger/rectifier for stand-alone use. It is a switchmode power supply designed for battery charging and supplying high quality DC power to telecom equipment and similar applications. Switchmode 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 in the input voltage and draws sinusoidal current with a soft start power-up.

The controller card contains a mains sense circuit, battery contactor, reverse battery polarity protection and battery current limit circuit. Modern, yet well-proven technology makes the Slimpack a compact and reliable power supply. In addition, a wide range of features are integrated.

Typical applications

The rectifier is used for all DC power requirements where a N+1 solution is not required, typically powering equipment such as:

• Digital Subscriber Line



KEY FEATURES

Input

- Input operating voltage: 85 -310 VAC
- Frequency: 45 to 66 Hz
- Max. current: 8.4 Arms max. at 150 VAC and 1130 W output
- Power Factor: > 0.99 at 50% load or more

Output

- Output voltage: 54.5 VDC (range 40-58 VDC) .
 - Output power: 1130 W
 - Max. current: 10 Amps at 85-150 VAC, up to 20 Amps at 150-300 VAC
 - Endering 30% at full load

General

- Rectifier alarms:
- Input voltage derating
- Temperature derating
- Over voltage shutdown
- Current limit operation,
- Fan failure
- Visual indications: - Green LED: ON, no faults
 - Red LEDs:
 - Rectifier failure Mains abnormal
 - Battery polarity reversed
 - LVBD disconnected
- Potentiometers
 - LVBD threshold
 - Float voltage
- Max. Battery Recharge current
- Equalize voltage
- Operating temperature: -40 to +70°C (-40 to +158°F), no derating -40 to +55°C
- (-40 to +131°F) Storage temperature: -40 to +85℃ (-40 to +185°F)
- Cooling: two fans (back to front airflow), brushless w/ magnetic bearing
- Fan Speed: temperature regulated.
- MTBF:> 210 000 hours Telcordia Issue I, method III (a)
- Acoustic Noise: < 60dBA at 100% fan speed
- I/O terminals: 0.08-2.5mm²/28-12 AWG
- Relay terminals: 0.14-0.5 mm²/26-20 AWG

Dimensions (with xd):

- 300 x 44.5 x 283mm/11.83 x 1.75 x 11.1" - assembly/
- 482.5 x 44.5 x 283mm/19 x 1.75 x 11.1" - ETSI assembly/
- 548 x 44.5 x 283mm/21.5 x 1.75 x 11.1"
- Weight: 3kg (6.6lbs)

Applicable standards

- 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)
- Harmonics: EN 61000-3-2
- Environment: ETSI EN 300 019-2, ETSI EN 300 132-2

Approvals

CE-marked

50

SMPS 200



Description

The SMPS 200 is a rectifier and battery charger for parallel operation with redundancy as part of a power rack system controlled by the AL 175NT alarm module. The SMPS 200 is based on a "hot plug-in" design using convection cooling technology. As a result of the "hot plug-in" capability, installation and service are easy to perform.

Switchmode technology with high switching frequency is used to mimimize volume and weight, and to obtain fast output voltage regulation. The

module accepts large variations in the input voltage and draws sinusoidal current with a soft start power-up. When working in parallel, the rectifiers provide active current sharing.

Typical applications

The rectifier is used in the MPSU 200 Power Systems, typically powering equipment such as:

- Point of Presence (POPs)
- Digital Loop Carrier (DLC)
- Fiber Repeater
- E911 (Public Safety)
- Small Microwave
- Digital Subscriber Line
- Micro Cell Base Station



KEY FEATURES

Input

- Input operating voltage: 230 VAC ± 20% single phase
- Frequency: 45 to 65 Hz
- Power factor: 0.7 typical

Output

- Voltage: 48 VDC nominal, adjustable between 45 to 58 VDC
- Output power: 200 W
- Max. current: 3.8 Amps at 53.5 VDC
- Current share: ±5% of full load current
- Efficiency time: 88 10 ms

General

Volt free alarm: common output operated under one of the following conditions

- Module failure,
- Low input voltageHigh output voltage shut down
- Visual indication: Green LED: Unit healthy
- Operating temperature: -10 to + 55°C
- (+14 to +131°F)Storage temperature: -25 to +85°C
- (-93 to +185°F)
- Cooling: convection
- MTBF: > 700 000 hours
- Dimensions (wxhxd):
- 35.5 x 128.4 (3U) x 220 mm/1.4 x 5 x 8.7" • Weight: < 1.5kg (< 3.3lbs)

Applicable standards

• Safety: EN 60950

- EMC:
- EN 61000-6-3 (emission, light industry)
- ETS 300 386-2 (emission)
- EN 61000-6-2 (immunity, industry)
- ETS 300 386-2 (immunity)
- Harmonics: EN 61000-3-2

Approvals

• CE-marked

SMPS 1000



Description

The SMPS 1000 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 AL 175NT monitoring/control unit. The SMPS 1000 is used in a wide range of Eltek Power systems and is proven to be a highly reliable rectifier module with natural convection cooling.

Switchmode 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 in the input voltage and draws sinusoidal current with a soft start power-up. For measuring the output current, LED indicators, voltage adjustment and test bushings are available on the rectifier's front panel.

Typical applications

The rectifier is used in the MPSU 4000, 5000, 6000 and PRS 700 Power systems, typically powering equipment such as:

- Point of Presence (POPs)
- Digital Loop Carrier (DLC)
- Fiber Repeater .
- E911 (Public Safety) Small Microwave
- Cellular base stations
- 3G
- TFTRA
- Amplifier Sites



KEY FEATURES

Input

- Input operating voltage: - 150-205 VAC, 730 W - 205-275 VAC, 1000 W
- Frequency: 45-66 Hz, single phase
- Max. current: 5.5 Amps Power Factor: > 0.99

Output

- Voltage: 24 VDC/11 VDC to 30 VDC adjustable,
- internal over voltage protection: 30 VDC
- 48 VDC/40 VDC to 58 VDC adjustable, internal over voltage protection: 59.5 VDC
- 60 VDC/Voltage: 50 VDC to 72 VDC adjustable, Internal over voltage protection: 73.5 VDC
- Max. current:
- 24 VDC/37 Amps (920 W +/-20 W at 26.8 VDC)
- 48 VDC/21 Amps (1000 +/-20 W at 54 VDC)
- 60 VDC/16.7 Amps (1000 +/-20 W at 66.9 VDC)
- Hold-up time: > 10ms Efficiency: > 91%

Operation

- Automatic over temperature derating for increased reliability
- Input for external shutdown signal
- Constant output power and current limitation for fast battery recharge and safe operation
- Visual indications:
 - Green LED: Power ON/OFF Red LED: Module alarm
- Yellow LED: Current limit operation Rectifier alarm output, activated by internal failure Plug-in connection facilitating easy service and
- maintenance without load interruption Power factor corrected input providing reduced
- harmonics and minimal input power requirements MTBF: 433,944 Bellcore IIIb, +25°C (77°F)
- Cooling: convection
- Operating temperature: -10 to +70°C (+14 to +158°F), output power derating occurs at approx. +40°C (+104°F) depending on the airflow inside the cabinet
- The SMPS 1000 supports the following control functions: - Remote output voltage adjust for temperature
- compensation, boost charging and battery testing - Active current sharing for increased reliability in
- parallel operation
- Comprehensive alarm and control facilities for remote and local monitoring

General

- Dimensions (wxhxd):
 - 66.8 (6U) x 264 x 220 (excl. handle)/
 - 2.63 x 10.4 x 8.66"
 - 66.8 (6U) x 264 x 240mm (incl. handle)/ 2.63 x 10.4 x 9.45"
- Weight: < 2.8 kg (< 6.2 lbs)

Applicable standards

- Safety: EN 60950 EMC:
- EN 61000-6-3 (emission)
- EN 61000-6-2 (immunity, industry) - EN 300 386-2 (immunity)
- Environment:
 - ETSI EN 300 019-2-1
- ETS 300 019-2-2 ETS 300 019-2-3

Approvals

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CE-marked UL- Recognized UL 60950

SMPS 1000



Description

The TwinPack Plus® rectifier (TWPP) is a modular, switchmode rectifier. This rectifier offers a high output (3000 W) rating. Each rectifier accepts AC input voltage ranging from 176 to 264 VAC, 45 to 65Hz single phase, and include the following outputs: -48 VDC/50 Amps, +24 VDC/100 Amps, and -24 VDC/100 Amps. Rectifiers with lower output (1500 W) ratings are also available. These rectifiers will accept AC inputs ranging from 85 to 264 VAC, and include the following outputs: -48/25, +24/50, -24 VDC/50 Amps, and +12 VDC/100 Amps. All rectifiers will operate and

produce full output power in an environment of -40°C to +65°C (-40°F to +149°F) with no de-rating of the output capability.

The new remote control (RC) -48 VDC TWPP works with the Flatpack MCU. The new RC version is still backwards compatible with all SSD type of control panels.

The TwinPack Plus® is offered in a choice of 584mm (23") wide, or 482mm (19") wide mounting shelves. The 584mm (23") wide shelf will accept a maximum of four modular plug-in rectifiers; the 482mm (19") wide shelf will accept a maximum of three. The shelves accept individual

AC feeds for each rectifier.

Typical applications

The rectifier is used in the TwinPack Plus® Power System, typically powering equipment such as:

- Remote site to central office applications
- Point of Presence (POPs)
- Large Fiber Repeater
- Telephone Switches
- Data Center
- Internet Hubs
- Optical Switches
- Co-location
- Cellular base stations



KEY FEATURES

Input

- 176-264 VAC, 45 to 65 Hz, single phase for 3000W Units
- 85-264 VAC 45 to 65 Hz, single phase for 1500 W Units
- Peak in-rush current at 176 VAC input is less than 25 Amps maximum
- Power Factor Correction:
 - 0.98 Power factor from 50% load to 100% load
 - 0.995 Power factor at full load and nominal input
- Total/hastownic future/diationation and with a state of the state of t
- Meets IEC-1000-3-2 (Limits for harmonic current)

Output

- Output voltage range:
 - 47 to 56 VDC (float) and 51 to 60 VDC (equalize) -48 VDC rectifiers
- 22 to 28 VDC (float) and 24 to 30 VDC (equalize) +24 VDC rectifiers
- 11 to 14 VDC (float) and 12 to 15 VDC (equalize) +12 VDC rectifiers

Operation

- Rectifier and shelf comply with the seismic requirements of Telcordia Technologies GR-63-CORE Zone 4. Complies with applicable portions of Telcordia Technologies GR947
- Load sharing (current sharing) for parallel operation
- Current walk-in feature (0 to 90% output in 8 seconds)
- Voltage regulation: +/-0.5% from no load to full load and under all line and environmental conditions
- All units are less than the values stated below:
 26 dBrn-C-message weighting
 - 19mv rms between 0 and 1MHz
 - 5mv rms between 0 and 100kHz
 - 100 mV peak-to-peak from 0 to 20MHz
- Available Alarms:
 - Rectifier Failure
 - AC Failure
 - Fan Failure - High Temperature Shutdown
 - Output High Voltage Shutdown
 - Open DC Output Breaker
- Operating temp: -40 to +65°C (-40 to +149°F)
- Dimensions (wxhxd):
 - the four-across shelf/
 - 584 x 267 x 610mm/23 x 10.5 x 24"
 - the three-across shelf/
 - 610 x 482 x 267mm/24 x 19 x 10.5"
- Weight:
 - Rectifier/11.3kg (25lbs)
 - The four-across shelf/22.7kg (49lbs)
 - The three-across shelf/20.45kg (45lbs)

Approvals

53

- CE-marked
- UL-recognized UL 60950
- NEBS Level 3 certified

TwinPack Plus®

SMPS 4000



Description

SMPS 4000 is a battery charger and power supply for stand-alone or parallel operation in the AEON 4000 DC Power systems. Soft switching technology is used to minimize volume and weight and to obtain fast voltage regulation. The module accepts wide input voltage variations and draws sinusoidal current with a soft start power up. When working in parallel the rectifiers provide active current sharing. The SMPS 4000 represents a high quality power source for critical telecom equipment where the power demand can go all the way up to 384 kW.

Typical applications

The rectifier is used in the AEON 4000 Power System, typically powering equipment such as:

- Telephone Switches
- Data Center
- Internet Hubs
- Optical Switches
- Co-location
- Fixed Net Backbone Sites



KEY FEATURES

Input

- Input operating voltage:
- single phase 100-300 VAC
- 48 VDC/100-185 VAC: Power limitation
- 24 VDC/100-150 VAC: Power limitation
- 60 VDC/100-185 VAC: Power limitation Input current: < 25 Amps
- Input current: < 25 P
 Power Factor: 0.99

Output

- Output power
 - 48 VDC/4000 W, constant power down
 - 50 48294000 Wincumstant Potwer Amps
 - to 60 VDC, maximum current 70 Amps
 - 24 VDC/3350W, maximum current
- 125 Amps • Efficiency: > 91%

Operation

- Connections: rear, hot swappable
- Output Fuse: 160 Amps
- Active Current Sharing Accuracy: +/- 2.5% of nominal current
- Cooling: fan assisted (3 redundant fans)
- Communication interface:
 - Customized LCD display and keypad
 - CAN-bus for rectifier and control unit
 - communication
- Available information:
 - Input Voltage, Output Voltage
 - Output CurrentInternal Temperature
 - Power limit
 - Address
 - Software version
- Available alarms:
 - Low Mains
 - High Mains
 - High Temperature
 - Output Fuse
 - Output High Voltage Shutdown
 - Internal FailureCommunication Error

General

- Dimensions (wxhxd):
- 80 x 2647.5kg (16.5bs) × 10.4 × 17.7"

- CE-marked
- UL-recognized UL 60950
- NEBS Level 3 certified

Description

The RM14400 is a modular, switchmode rectifier for high power applications. It is the core element used to build up large 24 VDC, 48 VDC and 60 VDC Power systems. The RM 14400 rectifier can be used in closed cabinets as well as in open 23" racks. The number of RM 14400 rectifiers used in parallel is almost unlimited. This means that the RM 14400 rectifier can be used for power plants with output currents of thousands of Amps. Large power plants with output currents of more than 10 000 Amps can easily be realized.

Our standard product range offers several power supply systems from between 750 Amps and 2500 Amps. Other sizes can be customized and designed upon request. The highly modular system allows great flexibility, with outstanding performance and powerful remote monitoring capabilities such as modem, SNMP, TCP/IP solutions.

The basic RM14400 rectifier operates in three phase 400 VAC mains without neutral. The input voltage ranges from 184/320 VAC to 264/457 VAC.

Typical applications

The RM 14400 is used in SVS Power systems, typically powering equipment such as:

- DSL and SDH Networks
- Telephone Switches
- Large Fibre Repeaters
- Data Centre and Internet Hubs
- Optical Switches

RM 14400

KEY FEATURES

Input

- Input voltage: 230/400 VAC
- Frequency: 45 to 65 Hz per phase
 Max. Current: 28 Arms maximum at 184/320
- VAC and 250 ADC output
 Power factor: > 0.93 at 90% load or more
- Input protection: External fuses, 32 Amps per phase

Output

- Voltage: 24 VDC/48 VDC/60 VDC (range: 22.2-73.5 VDC)
- · Myter :250 A kys

General

- Efficiency: > 93%
- Rectifier Alarm: Different alarms on LCD, Mains fault and rectifier fault on volt free contacts
- Visual indications: LCD display, LED for operation, LED for fault
- Operating temperature: -10 to + 45°C full power (+14 to +113°F), +60°C with derating (+140°F)
- Storage temperature: -40 to +85°C (-40 to +185°F)
- Cooling: forced cooling
- MTBF: > 250 000 hours
- Acoustic Noise: < 55dBA
- Dimensions (wxdxh):
- 483 x 440 x 272mm (6U)/19 x 17.3 x 10.7" Weight: 43.5kg (100lbs)

Applicable standards

- Safety: EN 60950, class 1
- EMC:
 - EN 61000-6-3 (emission) (EN 55022, class B)
 - EN 61000-6-2 (immunity)
- Environment:
 - ETSI EN 300 019-2
 - ETSI EN 300 132-2
- Protection class: IP20, EN 60529

Approvals

CE-marked

Flatpack DC/DC converter



Description

The Flatpack DC/DC 24/48 is a modular hot plug-in DC/DC converter prepared for stand-alone use, or for working in parallel as part of a DC/DC rack system. The converter is specially designed to provide a high quality and highly reliable DC output voltage.

Switchmode technology with soft switching and high switching frequency is used to minimize volume and weight, and to obtain fast output voltage regulation. The module has a soft start power-up. When working in parallel,

the converters provide active current sharing. An internal blocking diode allows hot plug-in and isolates any faults in the converter output from the DC-bus.

Several internal protection circuits ensure safe operation, even outside specified limits for normal operation. A module failure alarm is given if the module shuts down due to high/low input voltage, high output voltage (selective), or in case of an internal failure.

Converters connected in parallel will exhibit active load sharing, even without a Monitoring and Control Unit. Front LEDs show power ON/OFF

and alarm status in addition to a LED bargraph for output current indication.

Flatpack DC/DC converter



KEY FEATURES

Input

- Input operating voltage: 19.8-32 VDC
- Max. current: 73 Amps at 19.8 VDC input
 Protection: Soft start, Surge protection, Internal fuse, Automatic shutdown for input voltages < 19.5 VDC and > 30 VDC

Output

- Voltage: 55 VDC
- Output power: 1250 W
 Output current: 23 Amps
- Output current: 23 Amps
 Current Share: ±1 Amp
- Static voltage regulation: ±0.5% from 0 to full load
- Dynamic voltage regulation: ±1.0% for 10-90% or 90-10% load variation
- Protection:
 Or-ing diode
 - Non-destructive short circuit operation
 Selective high output voltage shutdown
- (59.5 VDC)
- Efficiency: 90% at full load

General

- Converter alarms:
- No output voltage,
- Over voltage shutdown
 Fan failure
- High temperature shutdown
- Short circuit/fold back activated
- Converter warnings:
- DC input voltage out of range
- Single fan failure
- High temperature/derating activated,
 Current limit
- Visual indications:
 - Green LED: ON, no faults
- Red LED: No output, converter failure,
 Yellow LED bargraph: measuring output
- current (0-100%) Operating temperature:
- Operating temperature: -40 to +65°C (-40 to +149°F) full power, +65 to +75 °C (+149 to +167°F) derating
- Storage temperature: -40 to +85 °C (-40 to +185°F)
- Cooling: speed controlled fans
- MTBF: > 200 000 hours Telecordia issue I, method III (a)
- Acoustic Noise: < 60dBA
- Dimensions (wxhxd):
- 218 x 43 x 240mm/8.58 x 1.69 x 9.45" • Weight: < 3kg (< 6.6lbs)

Applicable standards

- Safety: EN 60950, UL 60950
 - EMC:
 - EN 300 386 (telecommunication network)
 EN 61000-6-3 (emission, light industry)
 - EN 61000-6-2 (immunity, industry)
 - Environ ment:
 - ETSI EN 300 019-2
 - ETSI EN 300 132-2
 - Telcordia GR-63-CORE Zone 4
 - ETSI EN 300 753 (acoustic noise)

- CE-marked
- UL-recognized
 NEBS Level 3 certified



System monitors

This section outlines our standard monitoring and control units. The products in this range include: integrated system health monitoring solutions, stand-alone monitoring devices, monitoring of DC power supplies and distribution and battery support.

Eltek is committed to achieving and maintaining technological excellence of not only our DC Power and Distribution products, but also our Monitoring and Control solutions. We are able to offer monitoring products that are easily integrated into an existing telecommunications network infrastructure using proven, inter-operable, stable and secure technologies and globally accepted communications protocols. These products provide real-time feedback of critical system parameters and alarm events. This data can be applied toward statistical analysis of preventive maintenance schedules. Increased DC Power system reliability is a direct result of this enhanced intelligence.



For **small and medium systems** we offer the AL 175NT and Flatpack MCU product lines. These monitoring and control units provide visual display of system and battery parameters and remote capability with a serial/modem connection. Using Eltek's WinPower software, a user can connect directly to the power plant with a PC for graphical user interface support. If needed, an SNMP device can be connected to the AL 175NT or Flatpack MCU alarm modules to provide an Ethernet connection with the SNMP agent capability.

For **large systems** we offer the AEON Gold that provides a graphical display of system and battery parameters and remote capability over a serial or modem connection. The sophisticated WinPower solution is also available with the AEON Gold, with extensive battery monitoring and testing capabilities. An SNMP agent option is also available for the AEON Gold.

Remote Monitoring provides the industry with reduced Total Cost of Ownership for DC Power systems, primarily by reducing the need for technicians to travel to remotely located sites. This reduced TCO can easily offset the initial investment in Remote Monitoring equipment by

directly reducing operating and maintenance costs associated with technical support vehicles and staff. Additional savings are realized by reduced system downtime.

From low cost embedded digital system monitors to advanced webenabled remote monitors, Eltek provides the monitoring and control solutions for today's telecommunications DC power needs.

SYSTEM MONITORS

SMALL AND MEDIUM

Flatpack MCU	60
TWPP/MCU panel	61
AL 175NT	62
LARGE	
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REMOTE MANAGEMENT	
SNMP adapter	65

Flatpack MCU



Description

The Eltek monitoring and control units have been specifically developed to provide indication and management for DC standby power systems used in telecommunications and industrial applications.

The Flatpack MCU is the Monitoring and Control Unit used in Eltek's Flatpack Power systems. The unit allows both local and remote monitoring/ control of the DC Power system via front keypads and LCD or an RS-232 serial interface either via serial cable, modems or SNMP agent.

Typical applications

The Flatpack MCU is used in the Flatpack Power systems.

Flatpack MCU

KEY FEATURES

Communications

- RS-232 interface for PC connection, modem or other remote monitoring (SNMP, Web-browser, TCP/IP, etc)
- 6 11 user programmable relay outputs for traditional remote monitoring (6 as standard)
- 5 user programmable inputs for monitoring of other equipment on site
- Modem Callback functionality

Features

- Front panel LCD and keypad for on-site service
- Menu apperation via WinPower Silver
- Battery monitoring and testing without site attendance (history up to 10 previous tests)
 Advanced or simple battery test
- Temperature Compensated Charge Voltage for increased battery lifetime
- Hot Plug-in MCU unit
- Slow current walk-in
- Password protected access levels
- Alarm/event log with time and date (up to 255 events)
- Site text/ID for identification of each individual system
- Output Voltage Measurement
- Load Current Measurement
- Battery Current Measurement
- Rectifier Current Measurement
- Battery Temperature Measurement
- Load/Battery Disconnect
- Real Time Clock
- Battery Boost Charging
- Battery Cable Voltage Drop Compensation

Alarms

- Battery High/ Low Voltage (multi level)
- Battery/ load fuse
- Symmetry alarm
- Rectifier Fail Alarm (critical and non critical)
- Temperature Compensated Charging
- Low temperature
- Rectifier capacity with programmable level
- Low temperature with programmable level
- Temperature probe
- Battery discharge

General

- System voltage: 24 VDC/48 VDC/60 VDC
- Dimensions (wxhxd): 123 x 43 x 177mm/4.85 x 1.7 x 6.97"
- Weight: 0.7kg (1.55lbs)

Applicable standards

- EMC and Safety: EN 300 386-2 and EN 60950
- ETSI EN 300 019-2 (environmental tests for transportation, storage and operation)

- CE-marked
- UL-recognized UL 60950
- NEBS Level 3 certified

Description

The TWPP/MCU is a single rack space (1U) panel that connects TWPP RC rectifiers to the Flatpack MCU, providing updated features of the Flatpack rectifier systems to those who prefer the TWPP rectifier power solutions. The TWPP/MCU device is available as an integrated component in TWPP rectifier systems.

These units have been specifically developed to provide indication and management for DC standby power systems used in telecommunications

and industrial applications. TWPP rectifier output voltage is under MCU control and does not require periodic re-adjustment. Individual rectifier adjustments are no longer necessary.

The MCU controller is hot swappable in a live system without affecting the system's ability to deliver charge and load current. Intelligent LVD contactor drive circuitry prevents spurious operation of the LVD contactor(s) in the system upon system controller failure or removal. Integrated temperature compensated charge control and battery symmetry monitoring serve to maximize battery life and protect against battery damage.

TWPP/MCU panel

KEY FEATURES

- Three LVD contactor drive outputs, configurable for battery and/or load disconnect unit
- Hot-swappable Flatpack MCU monitoring unit
 LVD memory (Flatpack interface will lock LVD when MCU is removed)
- Front access alarm relay connections (ten software configurable Form C relays)
- Battery symmetry and temperature monitoring, front access to user connections
- Battery EPO/remote disconnect capability via front access terminals
- Local monitoring and control of the DC Power
- Reflect Yie from he wather the hold access RS-232 serial interface.
- Direct serial connection, modem or WebPower/ SNMP agent is supported.

General

- Dimensions: single 44mm (1.75") mounting height (1U)
- Mounting brackets available for 482mm (19") and 584mm (23") rack mounting
- Weight: 1kg (2.1lbs)
- Operating temperature: -40 to +70°C (-40 to +158°F)

AL 175NT



Description

The Eltek range of monitoring and control units has been specifically developed to provide indication and management for DC Power systems used in telecommunications and industrial applications. The AL 175NT plug-in monitoring and control unit is used in Eltek's small and medium range power systems, such as MPSU 200, MPSU 4000, MPSU 5000, MPSU 6000 and PRS 700. The AL 175NT offers a comprehensive range of features through the utilization of microprocessor technology. The RS-232 serial interface provides connectivity for remote monitoring, either via serial

cable, modems or SNMP agent.

Remote monitoring options

- With the Windows-based WinPower communication program installed on a remote computer, the system can be monitored and controlled via modems. WinPower provides a user-friendly interface (GUI) for remote control and supervision. The modem callback functionality can be used to minimize the traffic on the public telephone network.
- From a Network Management System (NMS) via Ethernet. Simple Network Management Protocol (SNMP) with an external SNMP agent connected to AL 175NT.
- Six internal failsafe alarm relays provide voltage free contacts that can be connected to equipment used for traditional alarm monitoring

Typical applications

The AL 175NT is used in systems incorporating the SMPS 200 and SMPS 1000 rectifiers.



KEY FEATURES

Communications

- RS-232 interface for PC connection, modem or other remote monitoring (SNMP, Web-browser, TCP/IP, etc)
- 6 user programmable relay outputs for
- traditional remote monitoringModem Callback functionality

Features

- Front panel LCD and keypad for on-site service (local operation)
- Menu driven operation via WinPower Silver
- Battery menitoring and testing without site
- Temperature compensated charging for increased battery lifetime.
- Hot plug-in
- Password protected access levelsAlarm/event log with time and date
- (up to 255 events)Site text/ID for identification of each
- individual systemControls LVD units based on voltage or internal
- timer
- High/Low Battery Voltage Alarm
- Battery boost charging
- Load/Battery Disconnect Alarm

Alarms

- Battery High/Low Voltage
- Battery/Load Fuse
- High Battery Temperature
- Symmetry Failure (option)
- Battery Test failure
- Mains Failure
- Rectifier Failure

General

- System voltage: 24 VDC/48 VDC/60 VDC
- Dimensions (wxhxd):
- 70.7 x 133 (3U) x 169mm/2.8 x 5.25 x 6.7" • Weight: approx. 1kg (2.2lbs)
- MTBF: 203 658 hours (Bellcore I, group III (a) +40°C (104°F))

- CE-marked
- UL-recognized UL 60950

AEON Gold Monitoring and Control Unit



Description

AEON Gold is a control and monitoring unit for the AEON 4000 high power DC system. The unit offers advanced control functions, which include both remote and local surveillance. Digital communication buses are available for communication with rectifiers, PCs and other communication devices. A front panel with keypad and graphical display provides local control and monitoring facilities while connection to PC through RS-232 outputs enables the use of WinPower Gold.

The RS-232 serial interface provides connectivity for remote monitoring, either via serial cable, modems or SNMP agent. The unit incorporates highly advanced functionality, which makes it the preferred choice in applications where high reliability and demanding control functions are required.

Typical applications

The AEON Gold unit is used in the AEON 4000 and High Current AEON Systems.

AEON Gold display unit



AEON Gold controller unit



KEY FEATURES

Communications

- Rectifier interface: CAN-bus
- PC communication: RS-232 pComm protocol
- PC user interface: WinPower Gold
- Remote interface via RS-232: SNMP, TCP/IP, modem, etc

Operation

- Alarm logging in non-volatile memory
- Language selection
- Software upgrade through PC and serial port
- Ten configurable alarm outputs
- Fight digital inputs em setup
- Temperature Compensated Charging
- Boost Charging
- Battery Test with capacity calculation
- Individual Rectifier Control

General

- AC input voltage: 100-300 VAC
- DC supply voltage: 20-60 VDC
- Maximum alarm relay current: 8 Amps
- Dimensions (wxhxd):
 - Display unit/
 - 490 x 89 x 33mm/19.3 x 3.5 x 1.3" - Controller unit/
 - 557 x 128 x 103mm/21.9 x 5.04 x 4.1"
- Weight: 2.4kg (5.3lbs)

Applicable standards

- CE-marked
- UL-recognized
- NEBS Level 3 certified

WinPower



Description

WinPower is the computer software developed by Eltek for communication with our DC Power systems. WinPower is available in two versions: WinPower Gold for applications with AEON Gold systems, and WinPower Silver for applications with AL 175NT and Flatpack MCU control and monitoring units.

Typical applications

WinPower Silver covers systems having small to medium power require-

ments to applications where the power requirement is up to approximately 60 kW. WinPower Silver can be used with Eltek products like MPSU 200, MPSU 4000, MPSU 5000, MPSU 6000, PRS 700 and the Flatpack systems range.

WinPower Gold covers the high power requirements and goes along with the AEON 4000 Power Systems. Sites with several hundreds of kW can be monitored and controlled using WinPower Gold.

WinPower



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KEY FEATURES

WinPower represents an easy way of understading and setting up the configuration of the power system.

Windows based menus and dialogues give the operator an excellent tool for controlling the power system.

WinPower is divided into three access levels where the lowest level does not require a password.

At user level all system information is available

but nothing can be changed.

The next level, service level, requires a password. Here it is possible to change the system settings and turn the system on and off.

The third level, factory menu, is normally programmed during factory test and contains basic parameters like system voltage and contactor configuration.

WinPower can be used on a remote computer with e.g. modem connection to the site. In addition to remote access to all functions in the system it is also possible to get automatic callback on alarms.

In system deliveries where WinPower Silver or WinPower Gold is required the software will be included on CDs. The CD will after being installed into the CD-ROM drive, auto start the installation program.

- PC requirements: runs on Win95, Win98, Windows NT, Windows 2000 and Windows XP
- Communication link: pComm protocol through RS-232 link
- Communication speed: 9600 baud (selectable) special pin out on communication cable required

SNMP Adapter



Description

Eltek has developed SNMP (Simple Network Management Protocol) adapters to interface our most common control and monitoring units to a LAN or to the Internet. Two versions are available, one for the AL 175NT and Flatpack MCU and one for the AEON Gold monitoring and control unit. The SNMP adapters translate the pComm protocol, transferred from the control units through RS-232, to SNMP. The SNMP is available on the Ethernet port of the adapter.

Typical applications

SNMP is widely used within the computer and telecom business for remote monitoring and control of equipment. For DC Power systems it is becoming more and more common and represents an easy way of connecting the DC Power system to the Internet for remote monitoring and control.

SNMP adapters are available throughout Eltek's product range and can be installed together with DC Power systems like MPSU 200, MPSU 4000, 5000, 6000, PRS 700, Flatpack and AEON 4000 systems.



KEY FEATURES

The SNMP adapter offers an interface to a Network Management System (NMS) via Ethernet connection.

Common NMSs like HP OpenView, SNMPc and MGSoft can communicate with the adapters as long as they have the MIB information.

The MIB is a file that contains information about the parameters available through SNMP and is delivered along with the adapter.

There are types of messages transferred

- "Get" messages are sent by the NMS to get status messages from the DC Power system.
 "Get" messages are cent by the NMC to
- "Set" messages are sent by the NMS to change the system settings or operational status.
- "Traps" are initiated by the DC Power system when alarms occur and are sent directly to the NMS.

Each site is identified by an IP address. The IP address needs to be allocated and entered into the SNMP adapter during installation. To maintain security the SNMP adapter can be configured to respond to only a few IP addresses. By using SNMP communication nationwide or even worldwide, sites with Eltek power systems can be easily monitored through one control center.

Description

The Eltek WebPower is the perfect interface between the Eltek DC Power system and your network. WebPower includes the highly reliable SNMP traps for alarm messages combined with easy access over HTML (using any web-browser). E-mail and SMS functionality is also included making the Eltek WebPower suitable for most Network Management Systems.

Typical applications

- Remote or limited access telecommunications sites
- Locations requiring connectivity to a centralized SNMP Network Management Station
- Mission-critical power systems requiring real time data access from diverse locations

WebPower

KEY FEATURES

- Provides a simple yet comprehensive Graphical User Interface (GUI) via an embedded web server. The interface is derived from the WebPower PC interface, so WinPower users will find WebPower easy and intuitive to use.
- Remote Access reduces the Total Cost of Ownership of DC Power systems - primarily by reducing the need for technicians to travel to remotely located sites. All sites can be monitored from a single location.
- Real-time Data Feedback of critical system parameters and alarm events can be achieved from virtually anywhere on the planet.
- Remote Control of the DC Power system enables power system administrators to perform advanced troubleshooting methods and avoid disastrous system downtime.
- Simple Network Management Protocol (SNMP) support. SNMP is a widespread industry standard for the management of networked devices.
- Platform independence the monitoring PC can be Windows, Macintosh, UNIX, Linux – any modern operating system and hardware platform that supports a standard web-browser supporting dynamic page content. This includes many handheld devices such as PDAs and tablet PCs.
- Freedom from software installation and version control issues at the PC.
 No software other than a web-browser needs to be installed on the user's computer. All data is exchanged using standard HTTP Internet protocol, and the WebPower interface is loaded automatically by the web-browser as required.
- Remote upgrades of the WebPower firmware are possible over the network connection, without any special hardware. Updating of all
 - sites is possible from a single location.
- Multiple concurrent browser connections allow for cooperative troubleshooting efforts and user training sessions.
- Access security is provided to restrict unauthorized attempts to alter system settings. Group level access control is provided, with three access levels defined.

Other products and services

OTHER PRODUCTS AND SERVICES Remote powering of broadband/DSL 69 Extensive service offer 70

Outdoor cabinet solutions



Description

Outdoor cabinets for site support UMTS and GSM base stations are designed for different climate conditions, being equipped with custom designed heaters and thermal management suitable for a specified temperature range and humidity. Outdoor cabinets are suitable for 19" mounting of Flatpack DC Power systems up to 12 kW and provide space for microwave radio units and batteries. Detailed design of size and cable management are tailored to customer needs.

Typical applications

Site support cabinets for UMTS and GSM Base Stations

KEY FEATURES

- Dimensions large cabinet (example) (wxdxh):
 External/
 - 770 x 805 x 1940mm/30.3 x 32 x 76.4"
 - incl. roof 152mm (6") and plinth 30mm (1.2") - Internal/
- 635 x 730 x 1650mm (37U)/25 x 28.7 x 65" Dimensions small cabinet (example) (wxdxh): - External/
 - 770 x 800 x 1300mm/30.3 x 31.5 x 51.2"
 - incl. roof 152mm (6") and plinth 20mm (0.8") Internal/
 - 635 x 730 x 1075mm (24U)/25 x 28.7 x 42.3"
- Weight: excinet/2006gt(44195)/nit - Small cabinet/150kg (330.7lbs)



Outdoor cabinet solution with Flatpack MPSU 9000



Remote powering of broadband/ DSL



Description

Remote powering is a concept for distributing DC power over existing twisted pairs. The concept is typically for use in broadband applications, where telecom equipment is located closer to the end user and requires power (DSLAM). What makes Remote Powering attractive is the independence from the local power utilities and the centralized back-up system (batteries).

The Flatpack Remote Power Systems are designed to provide ±190 VDC

or ± 130 VDC from a 48 VDC source for remote powering of telecom equipment. The power system consists of DC/DC converters, VA limiters providing a safe distribution of the power over existing twisted pairs, and a remote end DC/DC converter converting the high DC voltage down to 48 VDC for powering the DSLAM equipment. The Flatpack VA limiter unit is designed to protect the Remote Feeding Telecommunications Circuits (RFT) from overvoltage, overcurrent and leakage current to ground, and the design is based on the IEC 60950-21, IEC 60950 and GR-1089-CORE safety standards.

The VA limiter is designed for ±190 VDC and ±130 VDC system voltage,

RFT-V and RFT-C circuits. The module has 12 outputs of up to 100 W each (RFT-V). The central office systems vary from 2U/ 24 outputs to complete cabinets with up to 432 VA limiter outputs. The remote end converter consist of parallel DC/DC converters specifically designed to work from a limited power source (VA limiter) fed over a high impedance line and incorporates high energy surge protection. The modules can be paralleled to meet the power requirement

at the remote end.

Typical applications

Operators can introduce personalized

- multimedia services such as Video On Demand
- Interactive Gaming
- Video Conferencing
- Real-time Broadcast TV
- Internet

Mini RPS OTHER DATE: NO. 1 P. Land Prove supplice Sector Dates



Base COPS

KEY FEATURES

Systems

Mini RPS

- Two DC/DC converters 48/130 VDC or 48/190 VDC
- Two VA-limiters with a total of 24 output channels
- Dimensions (wxhxd):
- 482.6 x 48.9 (2U) x 300mm/19 x 1.96 x 11.8"
- Weight: 14kg (30.9lbs) incl. converters and
- VA limiters Base COPS
 - 36 DC/DC converters 48/130 VDC or
 - 38/189 initers with a total of 432 output channels
 - Dimensions (wxdxh):
- 600 x 600 x 2000mm/24 x 24 x 79"
- Weight: 300 kg (661.4lbs) excl. converters and VA limiters

Modules

- DC/DC converter
- Input: 48 VDC (40-60 VDC)
- Output:
- 130 VDC: (125-139 VDC)/6.6 Amps 90 VDC: (160-199 VDC)/6.6 Amps
- Dimensions (wxhxd):
- 218 x 43 x 240mm/8.58 x 1.69 x 9.45"
- Weight: 3kg (6.6lbs)
- VA Limiter
- Input: ±130 VDC or ±190 VDC
- Output: 12 channels of ±130 VDC or ±190 VDC
- RFT-V: max. 100 W
- RFT-C: max. 50mA
- Dimensions (wxhxd):
- 214 x 41.5 x 243mm/8.4 x 1.6 x 9.6"
- Weight: 1.5kg (3.3lbs)

Remote End Converter

- Input: 100-400 VDC, 2 to 10 channels per module
- Output: 54 VDC (48-55 VDC)/1.5 Amp per channel

Approvals

- EN 60950 (pending)
- EN 60950-21 (pending)
- Telcordia NEBS GR-63-CORE (pending)
- Telcordia NEBS GR-1089-CORE (pending)

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Extensive service offer



Installation and Commissioning

The installation and full test of the equipment on site after delivery is vital to assure future trouble-free operation. Eltek engineers and our specialist partners are the most qualified people to perform these types of services.

Preventive Maintenance

A regular check on your equipment often prevents expensive repairs by identifying any default or weakness as early as possible. A full report follows each visit. This gives you an update on the condition of your

equipment and helps you plan upgrading, expansion or renewal. Our standard preventive maintenance service includes full test, visual check, real and simulated alarm checks, alarm history check and a full report with recommendations.

Battery maintenance

In addition to system maintenance, Eltek is able to perform battery maintenance. This includes supplying all of the measuring tools and load equipment necessary to operate a controlled discharge of the battery bank and test each individual cell. All measurements are recorded and listed in a report presented at the end of the operation.

24 hours emergency service

For total peace of mind, our 24 hour emergency service provides you with the assistance of an experienced engineer at all times over the phone and on-site visits within pre-defined times according to location. It is also possible, depending on system configuration, to establish a modem connection between the power systems on site and Eltek, ensuring direct access to control the system from a remote location.

On site service

On site service is available both as part of a service contract and on an

"ad hoc" basis.

Product repairs

All product repairs are based on fixed prices and are guaranteed for one year.

Training

A comprehensive range of training courses is available and can be customized to meet specific customer needs.



Our dedicated team of engineers and officially certified partners can perform a wide range of services on our products: 24 hours a day, 7 days a week.

Abbreviations



3G	 Third generation mobile cellular networks
AC	- Alternating Current
AM	 Product configured for requirements of
	North and South America
Ah	 Abbreviation for ampere-hours
Amp	 Abbreviation for ampere
Arms	- Abbreviation for ampere root mean square
AWG	– American Wire Gauge
BDU	 Battery Distribution Unit
CDMA	- Code Division Multiple Access
CE	 European mark of conformity
COPS	- Central Office Power Supply
DC	– Direct current
DCD	- DC Distribution
DLC	- Digital Loop Carrier
DSL	 Digital Subscriber Line
DSLAM	- Digital Subscriber Line Access Multiplexer
EMC	 Electromagnetic Compatibility
EN	– European Norm
ETSI	 European Telecommunications
	Standards Institute
EPO	 Emergency Power Off
FMA	 Flatpack Monitoring Alarm module
Form C	 A relay contact set description consisting
	of a make, break and a common connection
GSM	– Global Standard for Mobile Communications
GUI	 Graphical User Interface
HTML	– Hyper Text Markup Language
HTTP	 Hyper Text Transfer Protocol
I/O	– Input/ Output
IEC	- International Electrotechical Commission
IP	– Internet Protocol
ISDN	 Integrated Services Digital Network
LAN	– Local Area Network
LCD	– Liquid Crystal Display
LED	 Light Emission Diode
LVBD	 Low Voltage Battery Disconnect
LVD	 Low Voltage Disconnect
LVLD	 Low Voltage Load Disconnect
MCB	– Miniature Circuit Breaker
MCCB	 Molded Case Circuit Breaker
MCU	 Monitoring and Control Unit
MIB	 Management Information Base

MPSU	 Modular Power Supply Unit
ms	 Abbreviation for millisecond
MTBF	 Mean Time Between Failure
NEBS	 Network Equipment-Building Systems
NMS	– Network Management System
PABX	- Private Automatic Branch Exchange
PC	– Personal Computer
pComm	- Binary master-slave communication
	protocol
PDA	– Personal Digital Assistant
PDU	 Power Distribution Unit
PIDU	 Plug-in Distribution Units
POPs	 Points of Presence
PR	– Power Rack
PRS	 Power Rack System
PRSB	 Power Rack System with Battery
RC	– Remote Control
RFT-V/-C	 Remote Feeding Telecommunications
	Circuits
RM	 Rectifier Module
RPS	 Remote Powering System
SDH	 Synchronous Digital Hierarchy
SMPS	 Switch Mode Power Supply
SMS	 Short Message Service
SNMP	– Simple Network Management Protocol
SSD	– System Status Display
тсо	- Total Cost of Ownership
TCP/IP	- Transmission Control protocol/
	Internet Protocol
TDMA	 Time Division Multiple Access
TETRA	- Terrestrial Trunked Radio
THD	 Total Harmonic Distortion
TWPP	 TwinPack Plus® power system
TWPP/MCU	 Monitoring and Control Unit in
	TwinPack Plus® power system
U	– Height unit (44.45mm (1.75"))
UL	- Underwriters Laboratories Incorporated
UMTS	- Universal Mobile Telecommunications
	System
VA	 Abbreviation for volt-ampere
VAC	 Abbreviation for alternating current
VDC	 Abbreviation for direct current
W	 Abbreviation for watt

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