DEAKIN

DAVENSET®

RECTIFIERS

SECURE DC POWER SUPPLIES

Applications include

Telecoms
Oil Rigs
Emergency Lighting
Power Generation
Power Transmission
Industrial & Process Control
Remote Control Equipment
Security Systems
Switchgear Tripping & Closing
Hospitals & Airports

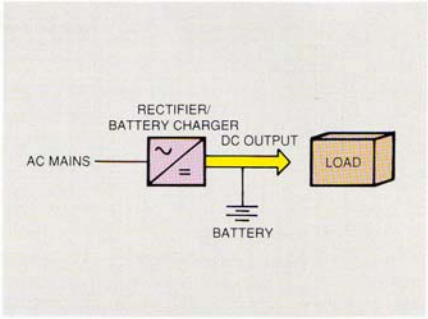
DDR SECURE DC POWER SUPPLIES

What is a secure DC power supply?

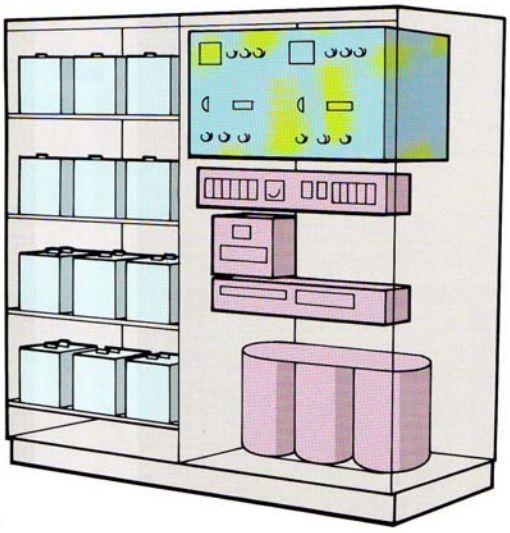
A secure DC power supply is installed between the mains power supply and the load and:

- Whilst mains power continues it provides the load with controlled DC power.
- If mains power fails it provides an uninterrupted DC supply to the load.

It consists of two main components, a rectifier/battery charger converting mains AC into regulated DC supply and maintaining the second main component, a battery, at full charge. If mains failure occurs the load is supported by the battery without interruption.



The Components and Technology of secure DC power supplies



The rectifier/battery charger

The rectifier/charger converts incoming AC mains into DC to provide a stable, constant voltage output with automatic current limiting. The rectifier/charger automatically float and boost charges the battery simultaneously providing the required DC output to the load.

Control and distribution

Distribution panels typically provide several fused outlets, monitoring of busbar voltage and current, earth fault status together with busbar and interbusbar controls. Depending upon application, the control and distribution equipment may be contained within the charger cubicle (as shown) or may be housed in a separate matching enclosure.

The Battery

The battery is a key element in a secure power supply and must be selected with care. The type of battery selected will depend on many factors including: reliability, operating temperature, cost, life, standby time required, maintenance parameters, ventilation and available space. Depending on the type of battery, it can be supplied on a stand or in a ventilated cabinet. The battery should always be located as close as possible to the DC power supply to minimise line voltage drop.

Deakin Davenset Rectifiers (DDR) have associations with all leading battery manufacturers and can advise and assist with the selection of the appropriate battery. The main types of battery used are:

- Valve regulated lead acid: minimal gassing so can be used in electronics enclosure, maintenance free, relative installed cost medium, typical life 10 yrs.
- Flat plate lead acid: gas, with adequate ventilation and periodic maintenance required. Relative installed cost low, typical life 10-15 yrs.
- Plante lead acid: gas, with adequate ventilation and periodic maintenance required. Highest levels of reliablility. Relative installed cost high, typical life 20-25 yrs.
- Nickel Cadmium: gas, with adequate ventilation and periodic maintenance required. Ideal for arduous conditions. Relative installed cost very high, typical life 20-25 yrs.

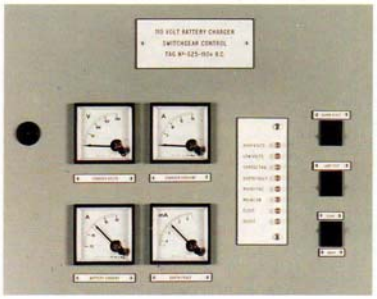
DDR SECURE DC POWER SUPPLIES

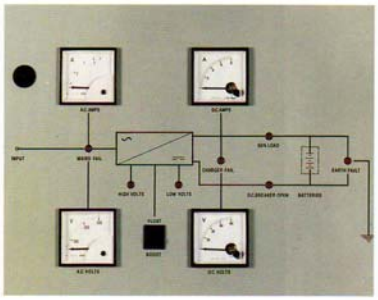
Standby Systems

Many secure DC power supply problems can be solved by our DCVF standard range of systems. However we have long recognised that many applications, for example telecoms and power transmission, have special requirements which can only be satisfied by producing custom built systems. **Deakin Davenset Rectifiers have many years experience in designing and producing these systems to comply with the most stringent specifications, including transmission plant standards (TPS).** TPS are not always appropriate however so we are experienced in providing full compliance with customer specifications for both UK and overseas projects.

A brief outline of our capabilities is as follows:

Input Voltage:	Single phase 110, 220, 240; Three Phase 380, 415, 440V AC, 50 or 60Hz.
Output Voltage:	24, 50, 110, 220V standard.
Output Power:	1 to 300kW DC.
	Other AC/DC voltages supplied as required.
Distribution:	Fuses and fuse links, circuit breakers, switch fuses integrally or in separate cubicle.
Instrumentation:	Instruments, alarms and monitoring equipment according to customer specifications.





System Engineering: A custom design service is available using our in house CAD system, ensuring that customer requirements are addressed and routinely observed. Both AC and DC equipment up to 300 kVA can be fully tested in house. We design and manufacture wound components (100 VA – 250 kVA), rectifier assemblies (controlled and uncontrolled), printed circuit boards, wire looms, and sheet steel enclosures.

Reliability: Reliability is an essential part of our products whether standard or custom built. A normal life expectancy would be 25 years.

Standards: BS, IEC, TPS or other national or international standards can be met as appropriate and specified.

Production and Quality: Secure DC power systems must, by their very nature, be extremely reliable. Our 25,000 sq. ft. (2350 m^2) facility is dedicated to producing products of the highest quality and reliability, with all equipment and components built using BS5750 Part 1 (ISO 9001) systems on our fully computerised production control and management system.

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Installation and Commissioning

Deakin Davenset Rectifiers (DDR) operate a worldwide site survey, installation, commissioning and maintenance service using our own team of engineers.

Project management can be undertaken with full support services including supply definition, planning and programming, subcontract procurement, quantity surveying, progress information monitoring and main contractor liaison as necessary.

DDR are committed to providing any and all services that ensure complete customer satisfaction at all stages in contract fulfilment.

Training

DDR can provide detailed training courses which explain standby power systems in depth, provide fault finding exercises and ensure that users are fully conversant with their new equipment. Courses can be held at locations to suit participants or at our manufacturing site in Rugby.

About DDR

Deakin Davenset Rectifiers is the trading name of K H Deakin (ES) Ltd, a family owned firm which has been trading for almost 20 years. Operating from purpose built factories in Rugby, UK, and Malta, DDR design and manufacture standby power systems as part of an extensive range of electrotechnical products and services.

Some of Our Customers.

Shell	ICI	GEC	Yuasa	BP	Lucas
National Power	Vickers	British Rail	Marconi	CEGELEC	Scottish Power
UK MOD	Nuclear Electric	Pakistan Railways		Hawker Batteries	

A reference list is available on request.

General Product Range

Standby power systems, switch tripping and control equipment, electric vehicle battery chargers, vehicle battery chargers, DC power supplies, military battery charging systems, mine winder control systems, GEM 80 sets, cathodic protection systems, electrical and electronic subcontracting.

In accordance with the company's policy of continuous product improvement, we reserve the right to make amendment to the product specifications.

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K.H. Deakin (ES) Ltd.
Hunters Lane, Rugby, CV21 1EA England
☎ (+44) (0788) 541326 Fax:(0788) 540937

Deakin Eng. (ES) Ltd.
RL, 22a Ricasoli Industrial Estate, CSP11 Malta
☎ 010 356 692898 Fax: 692897

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