



pure uninterrupted power



RECOGNISED AS LEADERS IN
STANDBY POWER SOLUTIONS



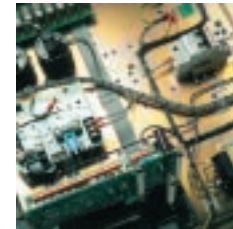
Helping to weather the storms at the UK's new meteorological centre

Our approach

Founded in 1979 PB Design is a specialist supplier of electrical standby power equipment, providing innovative, cost effective solutions with the very highest standards of service.

Our total commitment to customer care is reflected in an enviable level of repeat business from an ever-expanding customer base. Including the UK and Ireland, our products are in service throughout Europe, Africa, the Middle and Far East. Our equipment is used in every sort of business activity, from ships and oil rigs to railways, airports and leisure facilities.

Our total capability runs from design through production, testing, installation, commissioning and maintenance. Standard or custom built products, designed to meet specific needs, can be supplied within the tight deadlines normally associated with an off-the-shelf range.



Our business approach is simple:

- Produce a full range of traditional well engineered products
- Provide technical expertise for our customers
- Employ experienced engineers with a practical knowledge base
- Give a fast response to orders and enquiries
- Establish a proven track record of providing customised equipment whilst meeting customers' expectations in both quality and timescale
- Give our customers personal service, the foundation of a good working relationship
- Wherever practical, design and manufacture our own products
- Obtain and maintain all relevant regulatory and customer approvals



Down to earth advice, systems and service for the Eden Project

Our customers

As Health and Safety requirements become more stringent, emergency power back-up systems are increasingly the focus of attention - for the protection of staff as well as in the public domain where there is a statutory obligation.

Computer systems, Telecoms equipment and critical lighting are just some of the areas that demand seamless transfer to emergency power.

PB Design's sophisticated UPS systems and DC products satisfy this critical need and provide peace of mind to customers in every sort of business, industry and utility throughout the world.

Close to home, in Cornwall, the highly acclaimed Eden Project relies on PB Design's emergency back-up to ensure its forestations and rare plant life are never under threat because of a lack of power. And at the prestigious new Meteorological Centre we designed and installed the UPS systems as well as providing ongoing maintenance.



Further afield, we have been involved in a large number of railway electrification projects. As well as meeting specific demands that cater for the higher ambient temperatures of more equatorial climates, installation of our innovative low-maintenance, compact equipment has resulted in substantial cost savings for our customers.

As well as emergency lighting for theatres, hotels, airports and leisure parks - where aesthetic appearance is a high priority - such establishments also have a high public safety need. Air traffic controllers, for example, must perform at constant efficiency in perfect conditions - which is why the Civil Aviation's En-Route Centre at Swanwick incorporates extensive emergency lighting equipment from PB Design.

From the Channel Tunnel Rail Link, where we supplied and commissioned dual-redundant DC equipment for their HV and LV switch gear, to the Dounreay Nuclear Plant where our DC power supplies enable the safe operation of switch gear under normal and fault conditions, systems and equipment from PB Design provide the perfect solution.



Helping the Channel Tunnel Rail Link to see the light

Our capability

Our policy of putting the customer first means that we set ourselves the highest of standards. We meet and often surpass all of the tight legislation that applies to this safety-conscious field. Of course, to demonstrate consistent quality in all that we do, we have long since gained ISO 9001 approval.

The PB philosophy has been to produce a traditional well engineered product with reliability as standard. We do this by maintaining control of every aspect of our products from **development and design, through manufacture to testing and installation and commissioning on site**. Significant experience in the manufacture of our products in the UK allows us to focus on our key competencies of system, hardware and software design. We actually manufacture the individual PCB's that have enabled us to maintain an enviable reputation for reliability and quality.

We have a team of factory trained experienced service personnel who are able to repair, maintain and test all types of AC and DC secure power products. Our service operation also offers product training, upgrades, battery and system replacement programmes, product refurbishment, disposal and emergency lighting test programmes. With our ability to offer load bank testing and hire, system rental or loan facilities for disaster recovery of chargers, rectifiers, UPS or batteries we provide a one stop solution for facility managers.

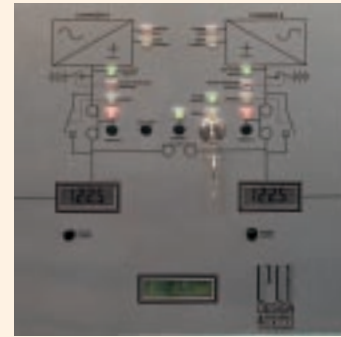


Our experience in both standard and custom-built equipment extends to the following applications:

- Power station rectifiers
- Safety and security systems
- Telecommunications
- Telemetry and instrumentation
- Emergency lighting
- Engine starting
- Tripping battery systems
- Military
- DC supplies for inverter systems
- Marine and offshore installations
- Fire alarm power supplies
- Public address power supplies
- Railway rectifiers
- Radar and navigation systems
- UPS
- Substations



Dual 110V charging system with segregated distribution for the rail industry



Microprocessor controlled mimic display with automatic changeover of the dual charger system



Standard modular chargers and switch trippers enable PB Designs to deliver to you faster.



Power Station dual 110V, 200A charger system with automatic controlled motorised distribution circuit breakers for Nigeria.

DC Products

PB Design was founded in 1979 and our first products were constant voltage battery chargers. Since then DC system design has been one of our core competencies. With one of the most comprehensive ranges of thyristor and switch mode based products available it's unlikely that we will not be able meet your needs with a standard design. However with a proven record of DC systems for rail, utility, industrial and construction markets, we are happy to design a product that meets your individual specification.

The many available options include a choice of construction, colour, IP rating, fuse or circuit breaker distribution, customised microprocessor based control, battery condition monitoring, transducer outputs, local/remote alarms, remote communication, battery type and level of autonomy.

Our range of DC products includes:

- Battery based standby power systems
- Battery switch tripping units
- Constant voltage battery chargers / power supplies
- Switch mode / Telecom power supplies
- Emergency lighting central battery systems
- Battery / standby systems



Power station 19 inch rack cabinet 100VA to 10kVA

Uninterrupted Power Supplies

PB Design specialises in the supply of off-line, line-interactive and on-line UPS. We have a full range of products available for both single and three phase applications from a simple 100VA unit to a fully customised 2.4MVA system with autonomy to suit your requirements. We can also supply specialist UPS & Frequency Converters for most applications. As with our DC products a full range of site support services is available and we can design and commission your UPS systems, advise and assist with your software implementation, including specification and installation, configuration and remote monitoring and management services.

Off-line - or standby - UPS are typically used for basic and economical protection of single-user workstations or similar less critical applications. They normally consist of a basic battery / power conversion circuit and a switch that senses the occurrence of a power cut. The load is usually connected directly to the mains and power protection occurs only when line voltage decays enough to be considered an outage - upon which the inverter is switched on and power drawn from the battery. This results in a delay of a few microseconds as power is transferred.

A line-interactive UPS is basically an off-line UPS with a better transfer time and enhancements to provide better power conditioning. In this topology, an interactive filter is permanently on-line, whereas the battery charger, battery and inverter only come on-line when the transfer switch senses a power cut.

On-line UPS provide the highest quality of power protection and are suitable for all



applications where consistent computer grade supply is required. The rectifier / battery charger, battery and inverter are constantly on-line. As a result, the incoming AC supply is continuously converted to DC and back to AC, thereby regenerating the waveform and removing all disturbances. This "double conversion" process offers by far the most effective power conditioning, to all intents and purposes regenerating the AC waveform. Because the batteries are constantly on-line, there is no break in power when the batteries take over the load in the event of an outage.

PB Design's comprehensive product range, together with our Simple Network Management Protocol (SNMP) and our Management Software, provide you with the most complete and effective answer to your UPS needs.

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