

PowerStor™ Battery Range Standby Battery Systems

» Versatile » Performance » Long Life



In today's environment, battery systems must perform in the most challenging applications. The versatile PowerStor range of sealed lead acid maintenance free batteries has all the answers with a wide choice of capacity ratings in compact cases for both standard and extended design life suitable for both cyclic and float applications.

BPC is at the forefront of modern power protection technology and our expertise in the design, development and manufacture of special and custom battery systems enables us to meet the diverse needs of the leisure, industrial, commercial, emergency services, medical and defence markets.

- » Fire alarm and security systems
- » Industrial control systems
- » Emergency Lighting
- » Uninterruptible Power Supplies
- » Model and toy products
- » Sports and leisure equipment
- » Computer/network products
- » Mobility vehicles
- » Telecom equipment
- » Portable equipment

PowerStor Features and Benefits

Low Self Discharge – Allowing the battery to be stored for extended periods without permanent loss of capacity.

Electrolyte Suppression System – PowerStor’s unique construction and sealing technique ensures no free electrolyte can escape.

Operation in any Orientation – Design flexibility allows operation in any orientation with no loss of performance or concern for electrolyte leakage (exception of continuous use in the inverted position).

Compact PowerStor Design – Offers a high energy density, providing excellent power, volume and weight ratios.

Float or Cyclic use High Performance Design – Allows use for both cyclic and continuous float applications.

Wide Operating Temperature Range – PowerStor batteries can be operated in temperatures of -10°C to +50°C. However, continuous use at higher levels does affect service life.

Flexible Design – PowerStor batteries are manufactured using a range of terminals to suit most standard applications but custom designs are available.

Deep Discharge Recovery – Unique processes are used in the grid alloy and electrolyte providing easy recharge to normal levels after being deeply discharged.

The PowerStor range has a wide choice of technologies and capacity ratings for both standard and extended design life, suitable for engine starting, Cyclic and float applications. BPC extended battery range & accessories includes:

- » **Sealed Lead Acid AGM Batteries**
- » **Sealed Lead Acid Gel Batteries**
- » **Rackmount Front Access Sealed Lead Acid AGM Batteries**
- » **Rackmount Front Access Sealed Lead Acid Gel Batteries**
- » **Nickel Cadmium Vented Alkaline Batteries**
- » **Cycling Sealed Lead Acid Batteries for Electric Vehicle Applications**
- » **Battery Enclosures**
- » **Battery Options & Accessories**
- » **Battery Monitoring System**

NHS Hospital, UK



PowerStor Sealed Lead Acid Maintenance Free

PS (standard) Series

Utilising the latest advanced absorbed glass mat (AGM) and gas recombination technology, PowerStor valve regulated sealed lead acid (VRLA) batteries ensure maintenance free, reliable performance and outstanding service life with 5 years expectation in float standby applications.



PSL (long life) Series

For mission critical applications requiring longer in-service life the PowerStor PSL range is available with an enhanced grid and separator design. As a result of the largely increased battery life, up to 12 years in optimum float conditions, it is possible that electrical equipment can be supported throughout its own full service life without it being necessary to change the battery.



PSLIFR (2V- 15yr life) Series

The ultimate in reliability, quality, technology and safety, the PowerStor PSLIFR range of 2 volt single cell batteries has excellent service life up to 15 years in optimum float conditions. Each cell has a flame retardant case and lid as standard and meet BS6290 Part 4 specifications.



PowerStor Special Application Batteries

POWERSTOR – PSL RACK RANGE

The PowerStor PSLRACK range of sealed lead acid batteries is designed for mission-critical telecommunication and industrial applications requiring longer in-service life, up to 10 years in optimum float conditions. The batteries are designed to be compatible and able to fit in 19" telecom cabinets with ease. With a wide choice of capacity ratings in compact rackmount cases, the PSLRACK range can suit any autonomy requirements.



POWERSTOR – NICKEL CADMIUM RANGE

Nickel Cadmium Batteries are manufactured in basic ranges to match specific operating conditions and provide different performance characteristics. All nickel cadmium batteries use relatively expensive materials to combine maximum performance with minimum maintenance and optimum life of 20 to 25 years. Thus, the nickel cadmium battery may be more expensive in the initial cost than lead acid batteries but will be considerably more cost effective over the long term.



POWERSTOR – GEL RANGE

For mission critical deep cycle applications requiring longer in-service life, the PowerStor Gel range is available with an enhanced grid / separator design and a gelled electrolyte introduced to the cell by means of custom built vacuum filling machine technology. As a result, Gel batteries have many advantages over AGM such as full recovery from deep discharge, good tolerance to higher temperature applications, excellent performance over long discharges and improved charge acceptance due to low internal resistance so it is important to choose the right battery for your application.



POWERSTOR – EV RANGE

Cyclic sealed lead acid batteries for electric vehicle applications. The versatile PowerStor EV range of sealed lead acid batteries offers higher performance against deep discharge, repeat daily cycling, higher temperature and mobile type applications. With a wide choice of capacity ratings in compact cases we can offer solutions for the most challenging applications.



PowerStor Battery Analysis & Care System (BACS)



Civil Aviation Authority Installation, Europe

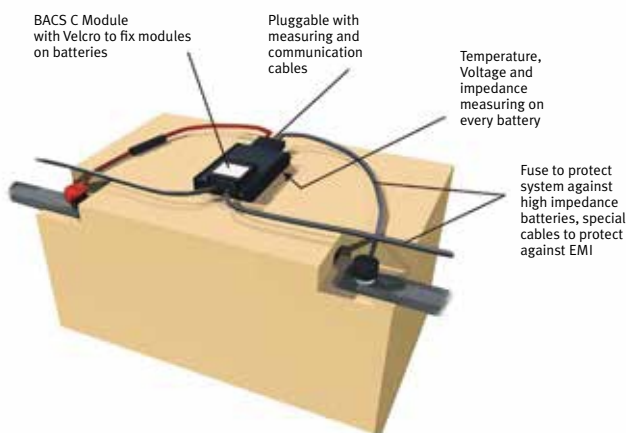
BPC BACS is the most advanced product of its kind on the market today. An Ethernet integrated battery monitoring and management system, BACS uses web management technology to monitor the temperature, internal resistance and voltage of every single battery in a given system.

In critical standby applications the battery can be a large integral part of the system and can also be an unpredictable element of the design. Battery condition can be invisible and not determined from its appearance making early diagnosis hard, especially if problems have been experienced in transit, storage, installation, poor site conditions or misuse causing failure of just one cell which can lead to open-circuit of a complete battery.

The analysis part is the continuous checking of the internal resistance, temperature and voltage of every single battery block. The care part is an equalisation process that corrects the charging voltage for each battery block as well as constant monitoring and controlling. In addition, it can manage environmental measurements such as temperature, humidity etc., as well as the UPS and Inverter system.

- » **Monitoring and regulating the charging process**
- » **Individual voltage regulation through the equalising process**
- » **Equalisation to avoid overcharging and undercharging**
- » **Indicators to alert battery problems**
- » **Protection of neighbouring batteries**
- » **Increase battery capacity**
- » **Early warning and alert system permits early treatment**
- » **UPS / Inverter power manager**
- » **MODBUS / PROFIBUS / LONBUS / SNMP compatible**
- » **Analysis software provided**
- » **Effectively extends the battery life expectancy**
- » **Reduces frequent site inspection and the need for manual measurements**
- » **Very efficient and economical method of testing**
- » **Intelligent battery disconnection**

BACS effectively mitigates the possibility of overcharging the batteries, helping to prevent gassing and drying, as well as alleviating the possibility of undercharging, preventing sulfation. Through the equalisation process, the batteries are kept at an optimal charging voltage and therefore, in an optimal state of health. By managing the batteries charging voltages, BACS vastly improves the durability and reliability of the system.



PowerStor Battery Analysis & Care System (BACS)

The web browser interface of the system is designed for easy configuration, displaying all system values and events and alarms through a flexible event manager.

The BACS WebManager acts as the central control unit by gathering, evaluating and storing all information on its internal flash memory. This can log all system data for a duration of at least 6 months up to 3 years dependent on the size of the system. All data can be downloaded and archived over the network in order to free-up storage capacity for further data logging and analysis using the BACS Viewer software or other graphical programmes.

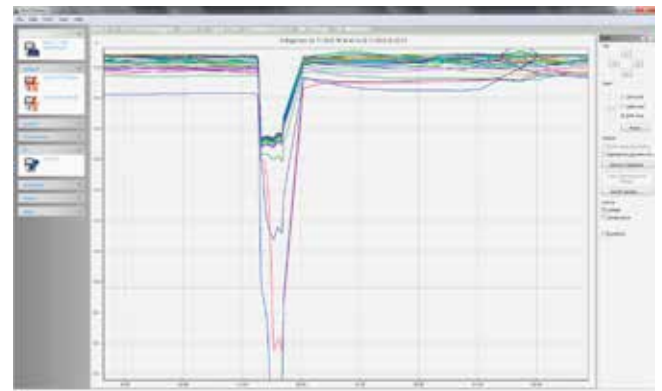
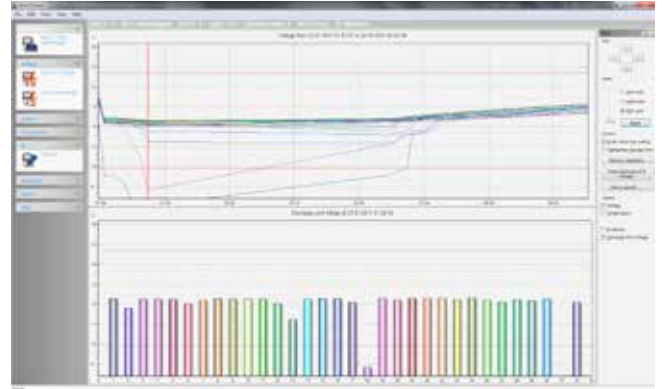
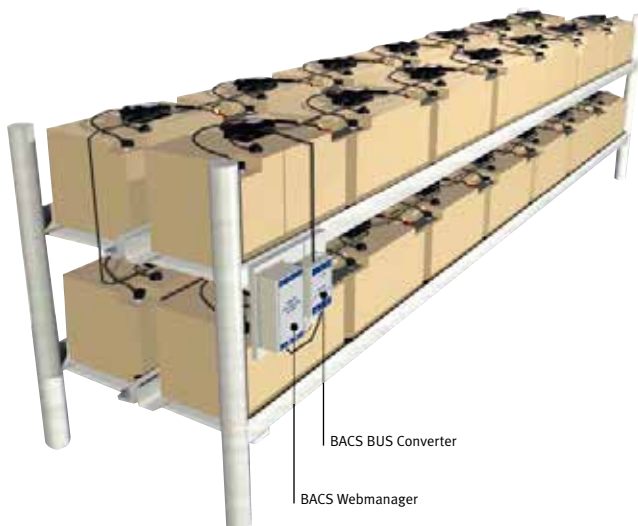
BPC BACS monitors key battery parameters and sets thresholds, therefore allowing advanced warnings, via audio, video and network messages, of a system event that requires attention.

ENHANCED MAINTENANCE

Typical battery problems like sulfation, gassing, dry-out and thermal runaway are easily detectable given proper monitoring.

The BPC BACS improves service quality by providing remote monitoring through the internet, VPN or any other network that allows downloading of real time data and battery history.

It is possible to test batteries without disconnecting them from the system meaning that testing and maintenance can take place under real operating conditions and requires no downtime.



EXTENDED BATTERY LIFE

The service life of a battery string depends on the weakest cell of the weakest battery in a string. The BACS equalising process allows each of the batteries within a string to be maintained at optimal voltage levels, eliminating the ill effects of improper charging. The constant care provided by the equalising process has been shown to increase service life by more than 30%.

BATTERY PROTECTION

The BPC BACS system can be the protective entity in the system by continuously monitoring each parameter, and a DC Isolator can be tripped if the batteries hit alarm levels in impedance, temperature or voltage. This helps eliminate and prevent thermal runaway of the battery.

ALERTING

The BPC BACS system continuously monitors high and low parameters of each individual battery block. It will send out warnings and then alarms when different limits are reached. These alerts are sent instantly to the person responsible for maintenance via email or any other compatible device.

Advanced Power Conversion Solutions

The BPC Group

BPC is an international company operating for 20 years globally, with partners and distributors located around the world.

These regions include:

EUROPE

UK, France, Germany, Gibraltar, Ireland, Netherlands, Malta, Norway, Portugal.

MIDDLE EAST

Bahrain, Jordan, Kuwait, KSA, Lebanon, Oman, Qatar, UAE, Yemen.

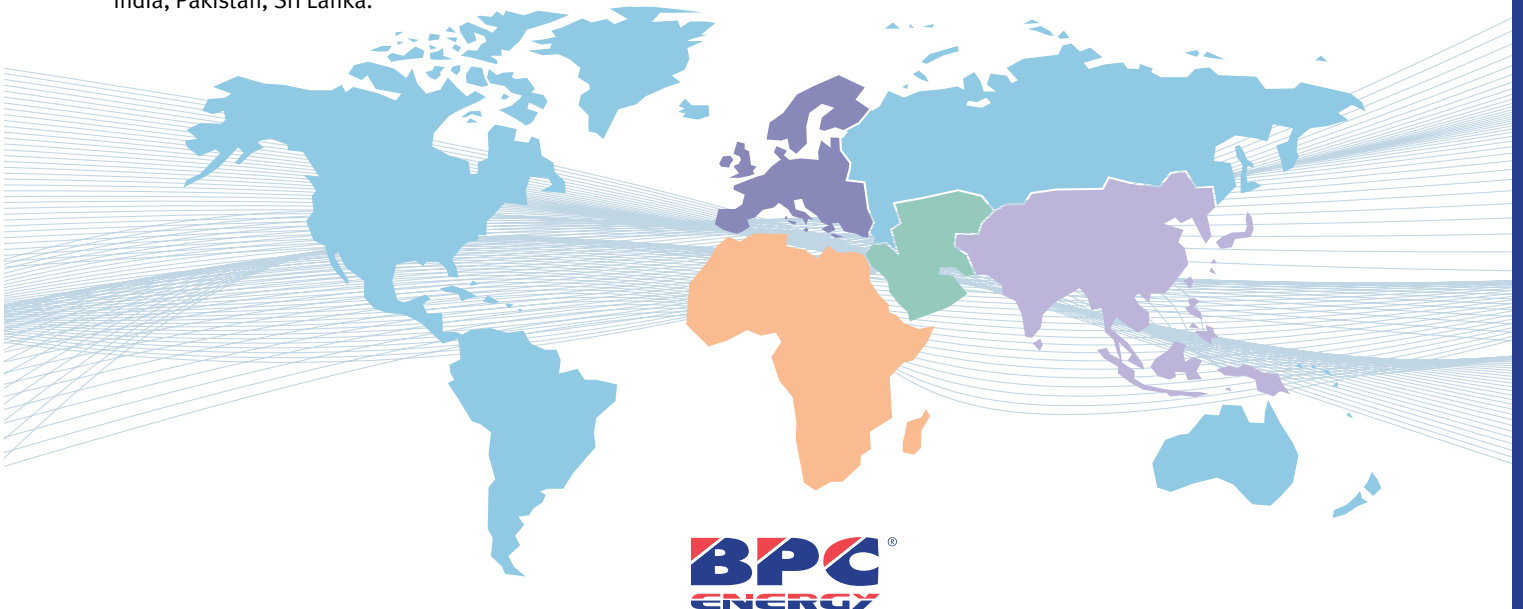
AFRICA

Burkina Faso, Democratic Republic of the Congo, Egypt, Ethiopia, Kenya, Ghana, Libya, Nigeria, Rwanda, Sierra Leone, Sudan, Tanzania, Uganda, Zambia.

FAR EAST & ASIA

India, Pakistan, Sri Lanka.

To ensure a high level of pre and post-sales support is offered, BPC work closely with distributors, providing key commercial and technical training whilst providing competitive costing structures tailored to specific region markets, ensuring the most suitable BPC products are offered. We pride ourselves on long standing relationships with our partners which is reflected in the ongoing support provided locally.



The British Power Conversion Company

Authorised Distributor