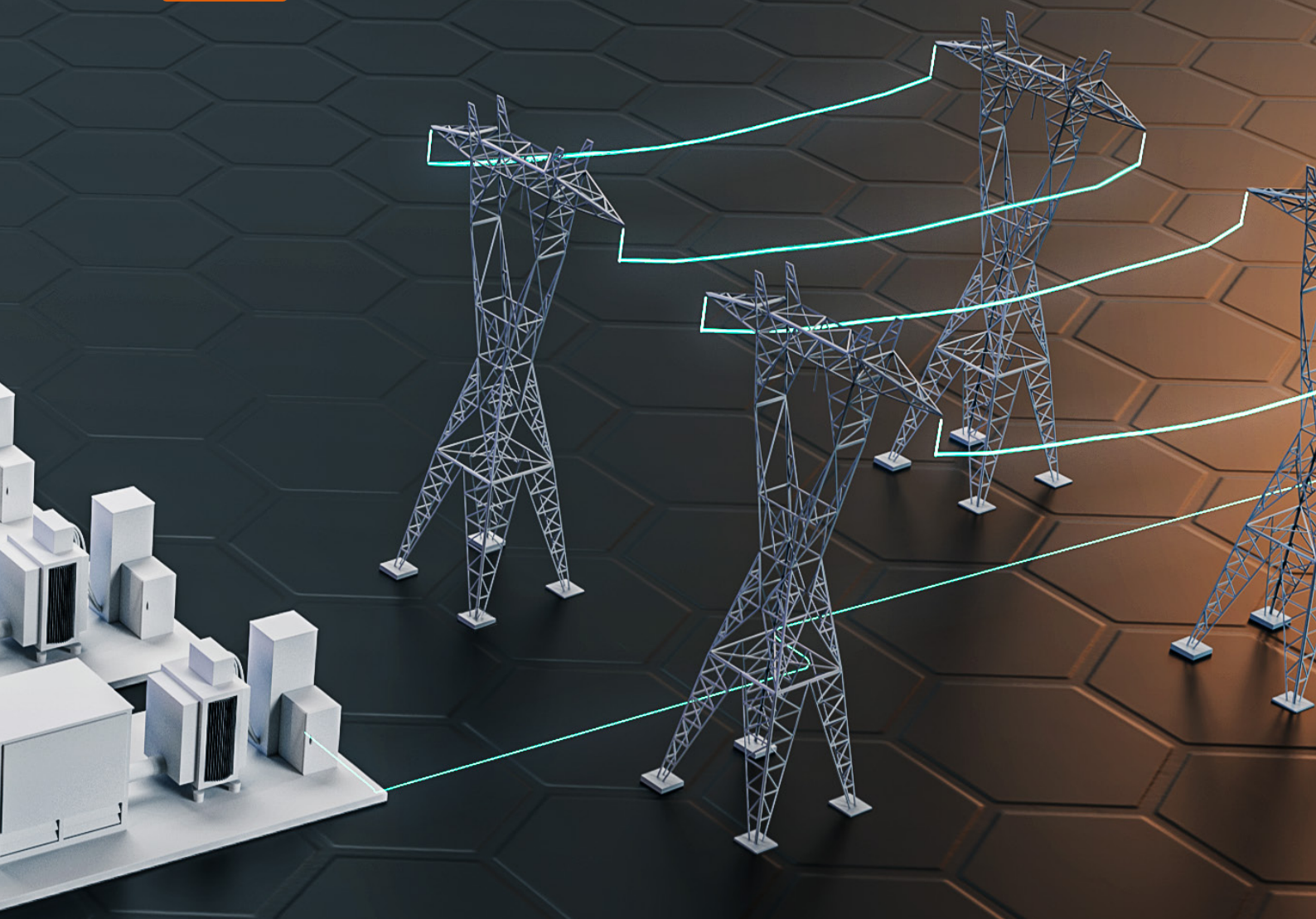
PSW POWER & AUTOMATION



Stationary energy solutions

Energy Storage Solutions

BQ is a modular energy storage system (ESS) with an integrated energy control solution that maximises the revenues from solar production, energy trading and frequency regulation.

BQ-G Modular battery pack is poised to play a key role in the transition to a more sustainable and renewable energy future.

Advantages of BESS grid-scale

- Highly flexible and scalable
- Provides grid stability and balance.
- Prevents fluctuations and maintain stable power supply.
- Stores excess energy and release when needed.
- Reduce greenhouse gas emissions.

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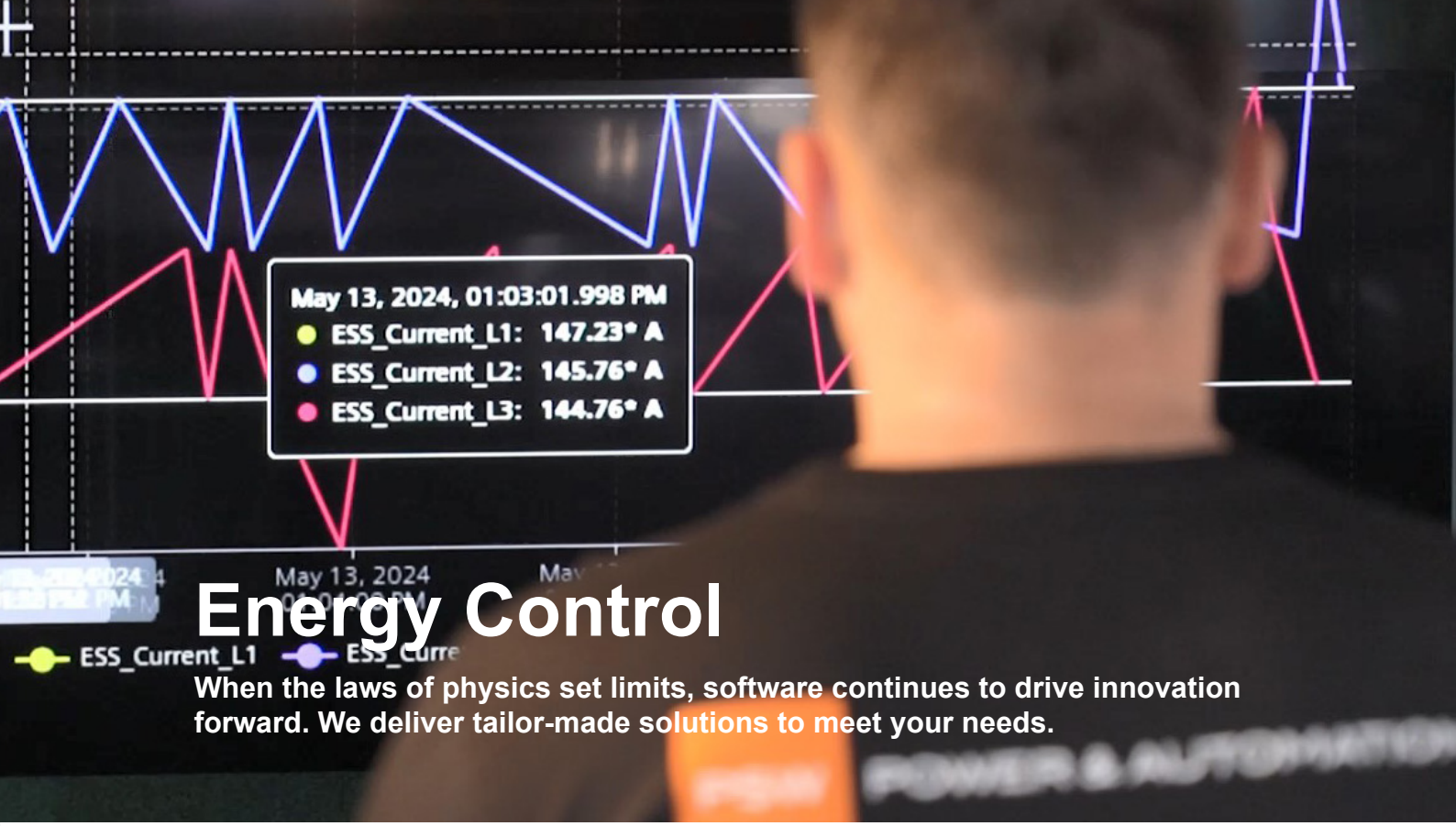


Energy Control

When the laws of physics set limits, software continues to drive innovation forward. We deliver tailor-made solutions to meet your needs.

Energy Management System

Our Energy Management System can integrate individual entities or large complex systems, all depending on the energy infrastructure. Essentially, EMS provides safe and reliable operation in all modes while balancing energy produced, stored, and consumed.

With its data insight, the EMS fulfills the operational requirements and primary objectives of the designed energy system, enabling limited or prioritized power transfer to EV-charging units, peak-shaving, reducing demand from a weak grid or to keep energy tariffs low. For systems with energy production and storage, the EMS, with the help of its market insight, can act accordingly to leverage the best economic beneficial outcome between store, trade, or use.

When price arbitration and/or balancing services are a secondary endeavour and preserving battery life for its primary objectives is key, the EMS monitors and regulates the secondary activities (through communication with the AMS), ensuring that the use of batteries does not exceed given thresholds that will compromise their life, thus securing the batteries for its primary purposes and maximizing its lifetime for an optimal return on the investment.

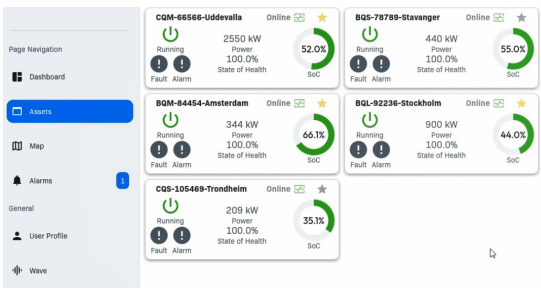
Asset Hub

Asset Hub is an asset dashboard customised for your asset collection. This user interface displays key figures for asset status and health, and for some applications, market data and revenue are visualized to give a total overview.

Layout and data-fields will vary and depend on the type of assets and application. This is adapted to best suit the user-case.

The scheduling table enables users to control the time and day of market participation. Alternatively, this can be handled from the AMS automatically.

The Asset Hub is web-based, so no software installation is required. If desired, an Asset Hub API is available for customers who wish to integrate this into their own systems.



Energy module overview

The product range of the BQ-G Modular battery pack is designed to store excess energy generated by renewable sources such as solar and wind power and release it into the grid as needed.

BQ-G is suitable for small and large scale energy storage projects.

BQ-G solutions can be installed at different locations on the grid, including at the point of generation, at substations, or at the distribution level. The optimal location depends on the specific needs of the grid and the desired grid services to be provided.

All-in-one-inverter + Battery low voltage solution

BQ-XS Low voltage 400V

200kW/233kWh 1 hr Application
100kW/233kWh 2hrs Application

The all-in-one design is easy for installation and O&M. Meanwhile, the safety design of the system ensures a better battery performance and longer service life.

Multiple sets of cabinets can be directly connected in parallel.

BQ-G Battery modules

1500VDC Battery cabinet

379kWh 1hr Application
407kWh 2hrs Application

The battery cabinet is a modular fully integrated product, consisting of rechargeable lithium-ion batteries, with the characteristics of high energy density, long service life and high efficiency. The energy storage product is capable of various on-grid applications, such as frequency regulation, voltage regulation, arbitrage, peak shaving/valley filling, and demand response. Furthermore, the battery cabinet can be used for PV storage integration and wind storage integration. The system can also operate as a microgrid to support backup and islanded systems.

1500VDC Battery container

3,79MWh 1hr Application
4,07MWh 2hrs Application
6,25MWh 4hrs Application

The container is a modular fully integrated product, consisting of rechargeable lithium-ion batteries, with the characteristics of high energy density, long service life and high efficiency.

The energy storage product is capable of various on-grid applications, such as frequency regulation, voltage support, arbitrage, peak shaving/valley filling, and demand response. Furthermore the container can also be used in black start, backup energy, congestion management, microgrid or other off-grid scenarios.

BQ-G Modular battery pack is poised to play a key role in the transition to a more sustainable and renewable energy future.

Grid-scale energy storage solutions provide several benefits:

- Highly flexible and scalable solution.
- Provides grid stability and balance.
- Prevents fluctuations and maintain stable power supply.
- Stores excess energy and release when needed.
- Reduces number of traditional power plants run by fossil fuel.
- Reduce greenhouse gas emissions

BQ-G LV Inverter modules

Low voltage inverters up to 690VAC

0.6-5MW 1500VDC

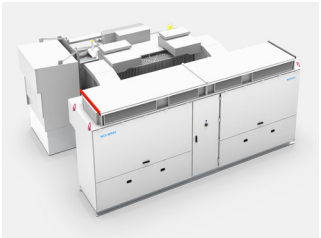
- Fast response time below 100ms and communication speed up to 10ms.
- Water cooled IGBT and inductance combined with air to air heat exchanger.
- Hermetically closed cabinet (no dust, sand or rain inside).
- Ambient conditions -40ºC up to 60ºC, up to 5000m altitude.
- Supply of up to 100% leading/ lagging reactive power.
- Efficiency up to 99.0%.

BQ-G MV Transformer + Inverter modules

Medium voltage skid up to 36kV

0.6-5MW 1500VDC

- Compatible with APS outdoor series.
- All-in-one solution, transformer, cables, switchgear (RMU).
- Wide range of MV transformers available up to 36kV.
- HV HRC fuse versions with outdoor enclosure.
- Compact, fast and easy to install.
- Transformer with reduced inrush current available.
- Midel oil available. Optional.
- Oil containment available. Optional.
- WSTECH MV-skid - shortended version except switchgear available. Optional.
- Warranty extension available. Optional.



Medium voltage skid up to 36kV

3.130-7.5MW 1500VDC

- Compatible with APS outdoor series.
- All-in-one solution, transformer, cables, switchgear (RMU).
- Wide range of MV transformers available up to 36kV.
- HV HRC fuse versions with outdoor enclosure.
- Compact, fast and easy to install.
- Transformer in ECO Standard available.
- Transformer with reduced inrush current available.
- Midel oil available. Optional.
- Oil containment available. Optional.
- WSTECH MV-skid - shortended version except switchgear available. Optional.
- Warranty extension available. Optional.
- Project specific Protection logic available (RMU/Hemetic protection). Optional.

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