2.PCS

Pcs:Power Control System

Energy Storage Converter The Power Control System (PCS) controls the charging and discharging process of the battery for AC/DC conversion.

, it is possible to supply power directly to the AC load without grid.

The PCS consists of a DC/AC bidirectional converter, a control unit, and so on.

The PCS controller receives the background control command through communication, and controls the converter to charge or discharge the battery according to the symbol and size of the power command, thereby realizing the adjustment of the active power and the reactive power of the power grid.

The PCS controller communicates with the BMS through the CAN interface to obtain the battery pack status information, which can realize the protective charging and discharging of the battery and ensure the safe operation of the battery.

Centralized PCS

Product description:
The centralized intelligent energy storage converter adopts a three-level topology with high efficiency and low harmonics. The erected plug-in structure design has high reliability and simple maintenance.
Three-phase three-wire / four-wire output, suitable for 100% unbalanced load applications; compatible with AC315V/AC380V two voltage levels.
It can be applied to new energy limiting, peak shaving; industrial and commercial energy storage; microgrid and other fields.

Features:

Integrated machine design, compact structure and high power density

Exclusive air duct, reliable operation at -30°C+60°C wide temperature

Can meet the application of ultra-high altitude 5000 meters

Three-level topology, high efficiency, low harmonics

With energy management function, no one, no EMS autonomous operation;

Upright plug-in power module, easy to install and maintain

Modular single-stage isolated PCS

Product description:
The modular intelligent energy storage converter forms a series of models of 50kW~500 kW with 50KW and 60kW modules.
The number of independent battery channels that can be connected to the DC side is 1~8. Suitable for battery applications with different voltage levels, different types, and different charge and discharge requirements.
Three-phase four-wire output for three-phase 100% unbalanced load applications. It can be applied to new energy limiting, peak shaving; industrial and commercial energy storage; microgrid and other fields.

Features:
Multi-channel input of different types of batteries, which is beneficial to battery ladder utilization.
Three-phase 100% unbalanced load operation.
Three-level topology, integrated isolation transformer, DC side voltage range is wider, can reduce the number of battery strings.
Seamless switching between grid-connected and off-grid operating modes.
DC side supports photovoltaic access, multiple working modes can be flexibly set.
Modular design, convenient engineering construction, operation and maintenance, each module can work independently and centrally manage.
Multiple parallels for easy expansion.

Modular single-stage non-isolated PCS

Product description:
The modular intelligent energy storage converter forms a series of models of 50kW~400 kW with 50KW modules. The number of battery channels that can be connected to the DC side is 1~8. Suitable for battery applications with different voltage levels, different types, and different charge and discharge requirements. Three-phase four-wire output for three-phase 100% unbalanced load applications. Can be applied to new energy limiting, peak shaving; industrial and commercial energy storage; microgrid and other fields。

Features:

Multi-channel input of different types of batteries, which is beneficial to battery ladder utilization.

Three-phase 100% unbalanced load operation.

Three-phase three-wire and three-phase four-wire output, flexible selection according to application scenarios.

Support seamless switching between grid-connected and off-grid operating modes.

DC side supports photovoltaic access, multiple working modes can be flexibly set.

Modular design, convenient engineering construction, operation and maintenance, each module can work independently and centrally manage.

Multiple parallels for easy expansion.

Modular bipolar PCS

product description:
The modular intelligent energy storage converter forms a series of models of 50kW~240 kW with 50KW and 60kW modules. The number of independent battery channels that can be connected to the DC side is 1~4. Suitable for battery applications with different voltage levels, different types, and different charge and discharge requirements. Three-phase four-wire output for three-phase 100% unbalanced load applications. It can be applied to new energy limiting, peak shaving; industrial and commercial energy storage; microgrid and other fields.

Features:
Multi-channel input of different types of batteries, which is beneficial to battery ladder utilization.
Three-phase 100% unbalanced load operation.
Three-level, two-stage topology with a wider DC-side voltage range to reduce the number of battery strings.
Seamless switching between grid-connected and off-grid operating modes.
DC side supports photovoltaic access, multiple working modes can be flexibly set.
Modular design, convenient engineering construction, operation and maintenance, each module can work independently and centrally manage.
Multiple parallels for easy expansion.

3、EMS

Ems:energy management syetem

The energy management system is a general term for modern power grid dispatching automation systems (including hardware and software). Its main function consists of two parts: basic function and application function. The basic functions include: computer, operating system and EMS support system.

Application features include: Data Acquisition and Monitoring (SCADA), Automatic Generation Control (AGC) and Planning, and Network Application Analysis.

Features:

Cutting peaks and filling valleys, precise control.

Smart energy management, real-time control of electrical start and stop according to demand, reducing energy consumption.

Intelligent operation and maintenance, big data analysis, unattended power station, reduce operation and maintenance costs, improve system efficiency.

Real-time monitoring of line load and user load, intelligent analysis, and safe use of electricity

The power station data is automatically uploaded to achieve seamless data docking, reduce the workload of manually reporting data, and reduce the probability of false positives, false positives, and false negatives.

Operate with process management practices to improve operational efficiency.

Power station unattended, intelligent fault location, APP orders, improve operation and maintenance

Features of Sermatec EMS:

- The energy management system is the central system of energy dispatching, including energy management controller, data acquisition device, local monitoring system, intelligent cloud monitoring platform and off-line simulation analysis. The energy management system not only ensures the reliability of the technology during the system operation, At the same time, the economic benefits are maximized.
- Energy management and monitoring for applications such as microgrids
- Support various communication protocols, standard power dispatch interface, meet grid scheduling requirements
- Support multiple networking modes, multiple power backup switching control, support time-sharing mode control, battery automatic charge and discharge control
- Real-time display of operating parameters of various devices

Online access and monitoring

Online data collection

Remote control

Self-learning system/ prediction

Demand management

Smart family demand response

Virtual power plant corresponding