Acrel-2000ES

Acrel-2000ES Energy Storage （EMS)

Acrel Electric Co., Ltd.

Innovation Efficiency Unity Integrity

Company Introduction

Acrel Electric Co., Ltd. was founded in 2003 and listed on the Growth Enterprise Market in 2012. It is a high-tech enterprise and software company that provides solutions for enterprise microgrid energy efficiency management and energy use safety. Acrel currently has over 500 R&D engineering and technical talents, focusing on user-side energy efficiency systems and the energy internet. It offers one-stop services from cloud platform software to terminal components, forming a "cloud-edge-end" energy internet ecosystem. Currently, there are more than 14,000 sets of system solutions operating across the country.

22 nos
Invention Patents

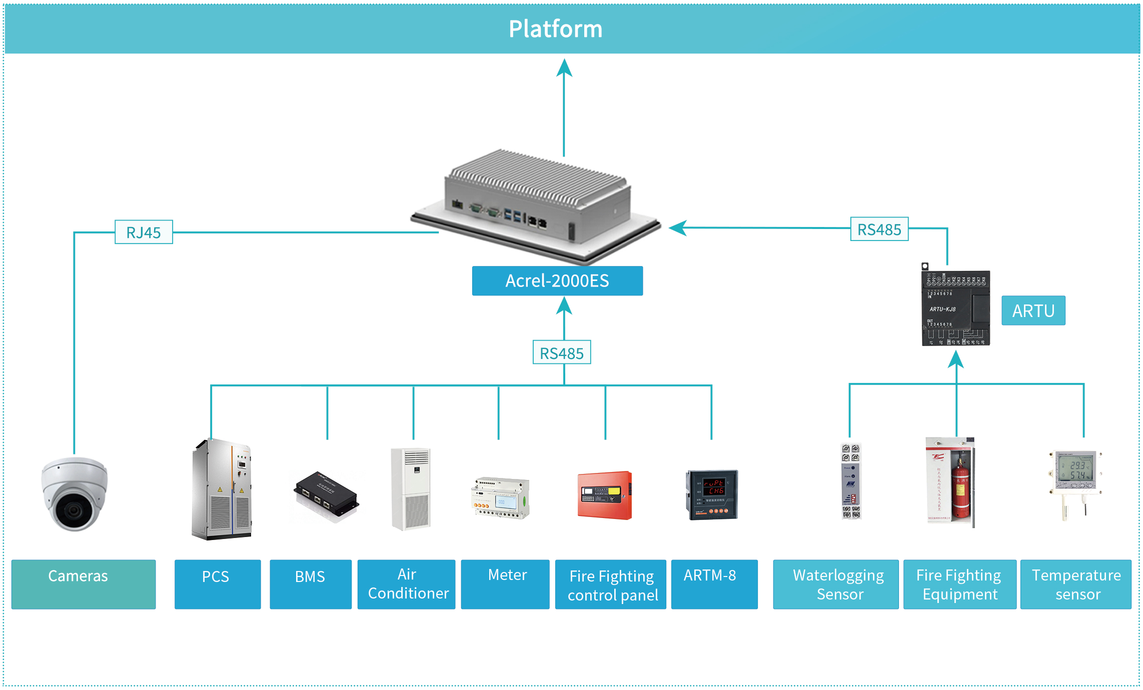
251 nos
Software Copyrights

150 nos
Design Patents

132 nos
Utility Model Patents

System Introduction

The Acrel-2000ES Energy Storage Management System has comprehensive energy storage monitoring and management functions, covering detailed information of energy storage system equipment (PCS, BMS, meters, fire protection, air conditioning, etc.), achieving data acquisition, data processing, data storage, data query and analysis, visual monitoring, alarm management, and statistical reporting. In advanced applications, it supports energy dispatching, with control functions such as planned curves, peak shaving and valley filling, demand control, and backup power. It can be used for both energy storage integrated cabinets and energy storage containers, serving as a dedicated software system platform for equipment management.

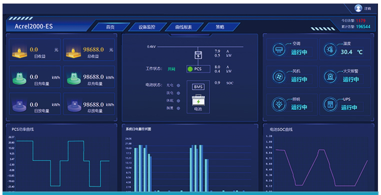


Product Specifications

Acrel2000-ES

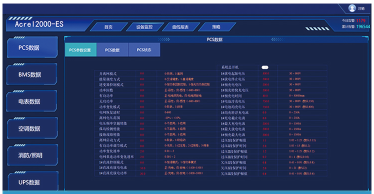
System Parameters	CPU: Intel Celeron 5205U Memory: 8G Hard Drive: 512G Operating System: Windows
Touch Screen	Capacitive Size: 13.3 inches, other sizes customizable Resolution: 1920x1080
Supported Interfaces	2xCOM (RS232/422) 4x RS485 4x USB3.0 2x LAN 1x HDMI
Supported Protocols	Supports communication protocols such as IEC101, IEC103, IEC104, MODBUS RTU/TCP, and private protocols
Other Parameters	Power Supply: 12~24VDC Installation: Embedded Structure: All-metal structure Cutout: 327X204mm
Operating Environment	Operating Temperature: -10~50°C Storage Temperature: -20~60°C Relative Humidity: 5~90% non-condensing

Functions



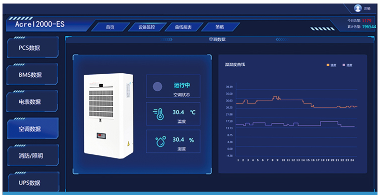
dashboard

Display key information of energy storage, such as charge/discharge status, revenue, environment, etc.; variable display in bar chart, curve, or table format; customized requirements for clients.



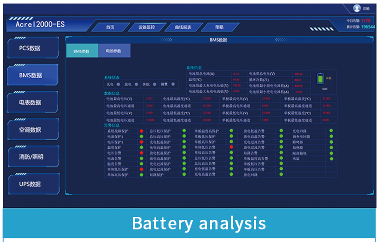
operation configuration

Energy storage PCS grid-connected and off-grid modes, operating modes and power, voltage limit settings; energy storage BMS SOC, voltage, temperature limit settings; environment temperature and humidity, lighting, air conditioning parameter settings



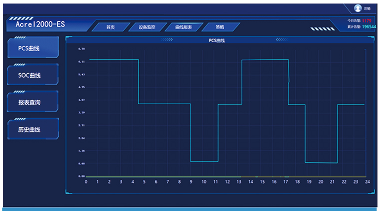
Status monitoring

Four remote I/O information of the energy storage system; operating conditions of the energy storage system; operating conditions of auxiliary energy storage equipment (such as fire protection, lighting, environment, air conditioning, etc.)



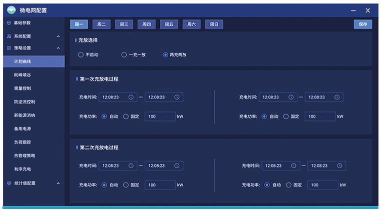
Battery analysis

Manage the status and data of energy storage battery stacks/clusters/cells, monitoring the highest or lowest voltage, temperature, current, and related channel positions.



Curves&reports

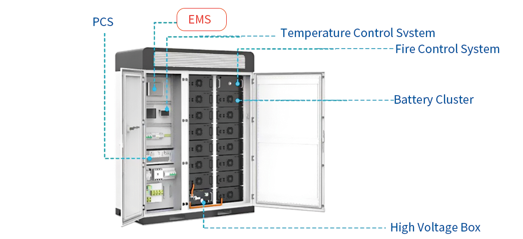
Display charge/discharge power curves, SOC change curves based on energy storage operating status, support for customized business curves. Supports statistical reports on battery temperature, voltage, and power with different granularities, revenue reports, and supports custom queries, export, and printing



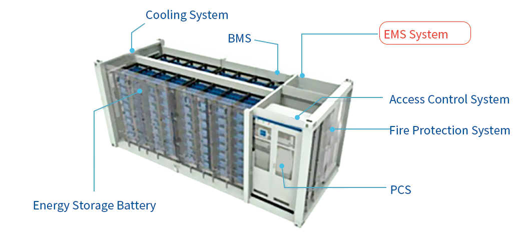
Strategy configuration

Supports manual strategies for PCS start/stop, grid-connected and off-grid operations, and charge/discharge operations. Supports preset strategies: peak shaving and valley filling, reverse power protection, demand control, etc. Supports intelligent strategy dynamic planning of charge/discharge strategies

Application



Energy Storage cabinet



Energy storage container

Supporting Products

No.	Equipment	Model	Image	Description
1	Energy Management System	Acrel-2000ES		Data collection and monitoring of internal equipment, consisting of communication management machine, industrial tablet PC, serial server, remote signaling module, and related communication accessories. Data collection, upload, and forwarding to server and coordinated control devices. Strategy control: planned curves, demand control, peak shaving and valley filling, backup power, etc.
2	Industrial Tablet PC	PPX-133L		1) System software undertaking 2) Visual display: displaying system operating information
3	AC Energy Meter	DTSD1352		Integrated power parameter measurement and energy metering and assessment management, providing statistical data of various energy for the past 48 months. Detects 2nd to 31st harmonics and total harmonic content, with switch input and output for "remote signaling" and "remote control" functions, and alarm output. Equipped with RS485 communication interface, MODBUS-RTU or DL/T645 protocol can be selected.
4	DC Energy Meter	DJSF1352		Measures voltage, current, power, and bidirectional energy in DC systems;Equipped with infrared communication interface and RS-485 communication interface, supporting both Modbus RTU protocol and DLT645 protocol; Can be equipped with relay alarm output and switch input functions.
5	Real-time Temperature Monitoring Device	ARTM-8		Suitable for multi-channel temperature measurement and control, supports 8-channel Pt100 temperature measurement, with optional channel shielding; each channel temperature measurement corresponds to 2-stage alarm, relay output can set alarm direction and value.
6	IoT Gateway	ANet-2E8S1		Capable of data collection and aggregation for water meters, gas meters, electricity meters, microcomputer protection, and other device terminals according to different collection protocols; Provides multiple functions such as protocol conversion, transparent forwarding, data encryption and compression, data conversion, edge computing; Real-time multitasking parallel processing of data collection and forwarding, with multi-link platform data upload;
7	Serial Server	Aport		1) Air conditioning switch, temperature adjustment, and complete power-off (achieved by secondary switch) 2) Uploading air switch signals from distribution cabinets 3) Uploading UPS internal power information, etc. 4) Connecting to meters, BSMU and other devices
8	I/O Remote Signaling Module	ARTU-KJ8		1) Feedback the status of each device, and send the related data to the serial server; 2) Read fire protection 1/0 signals and forward them to the upper layer (shutdown, event reporting, etc.) 3) Collect water immersion sensor information and forward it to the upper layer (water immersion signal event reporting) 4) Read access control sensor information and forward it to the upper layer (access control event reporting)