Tenrony Independent R&D The "Power 3000 Electric Cloud Operation and Maintenance Management Platform"

I. Product Overview

The "Power 3000 Electric Cloud Operation and Maintenance Management Platform" is an information-based electric operation and maintenance management platform independently developed by Tenrony, with independent intellectual property rights and software copyrights. It is a remote cloud management platform based on the technology of "Electric Cloud Operation and Maintenance Management Platform" for the operation data of power transmission and distribution equipment of electricity users. It has complete management functions such as asset management, operation and maintenance management, remote monitoring, energy efficiency management, health management, monitoring and early warning, electronic archives, and dispatching statistics.

Tenrony adheres to innovation-driven development and has devotedly crafted the "Power 3000 Electric Cloud Operation and Maintenance Management Platform". This platform optimizes the operation mode of the power distribution system, conducts remote fault diagnosis and intelligent operation and maintenance for equipment, enhances the operational efficiency of power distribution, and achieves energy conservation, emission reduction, and compliance with the "dual carbon" goals.
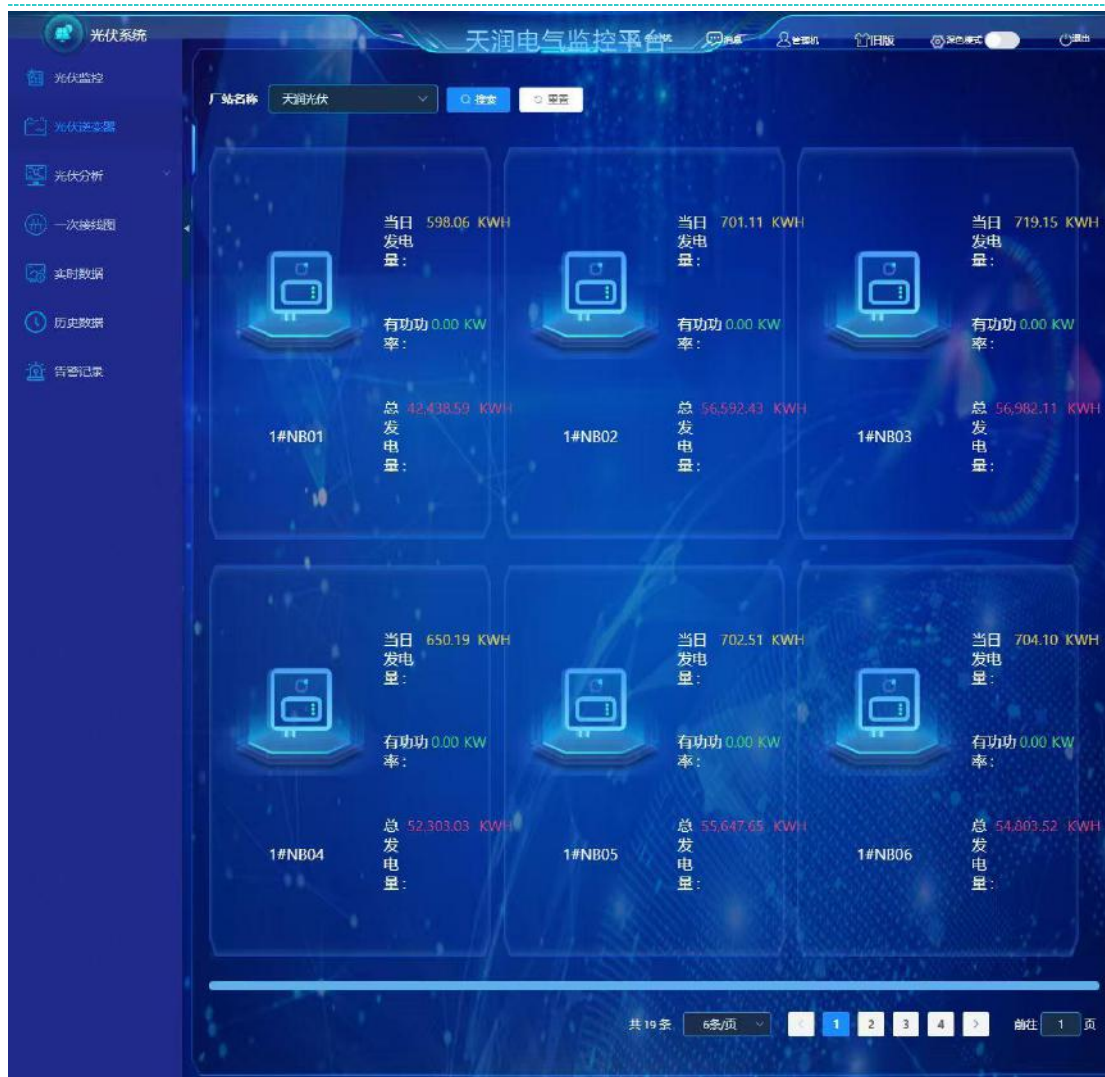
The platform adopts the distribution Internet of Things architecture and starts from the perspective of deepening the application of intelligent devices, status perception, and data collaboration, providing overall solutions for application scenarios such as digital substation, smart power supply and distribution, and smart power consumption. It includes six functional clusters and can provide safe, efficient, and sustainable functional services. Through digital large screens, PC terminals, mobile APPs, and other terminals, it can comprehensively enhance users' equipment operation and maintenance capabilities and provide customers with convenient visual services.

The platform adopts the distribution Internet of Things architecture, starting from the perspectives of intelligent devices, status perception, data collaboration, and deepened application, providing overall solutions for application scenarios such as digital substation, smart power supply and distribution, and smart power consumption. It includes functions such as digital factory brand, mobile intelligent control, VR operation and maintenance, operation monitoring, energy efficiency analysis, and operation and maintenance management, capable of offering safe, efficient, and sustainable functional services. Through digital large screens, PC terminals, mobile APPs, and other terminals, it can comprehensively enhance users' equipment operation and maintenance capabilities and provide customers with convenient visual services.

II. Technical Highlights

♦ Enables real-time multi-point and multi-user management with 24/7 uninterrupted operation.

♦ Power Operation and Maintenance Manager provides continuous cloud-based equipment monitoring to eliminate user concerns.

♦ Intelligent automation reduces manual management complexity through proactive maintenance.

♦ Seamless user experience: The client-side APP synchronizes with backend systems and operational status, featuring anomaly detection, early warning alerts, alarm notifications, and data archiving.

♦ Comprehensive cloud data storage with scalable expansion capabilities.

III. Platform Architecture

The platform adopts a power distribution IoT architecture, providing comprehensive solutions for digital substation systems, smart power supply/distribution networks, and intelligent electricity consumption applications through smart devices, status monitoring, data collaboration, and advanced application development. It features digital signage, mobile smart control, VR maintenance, operational monitoring, energy efficiency analysis, and O&M management functions, delivering secure, efficient, and sustainable services. Through digital dashboards, PC terminals, and mobile apps, the platform enhances users' equipment maintenance capabilities while offering convenient visualized services to customers.
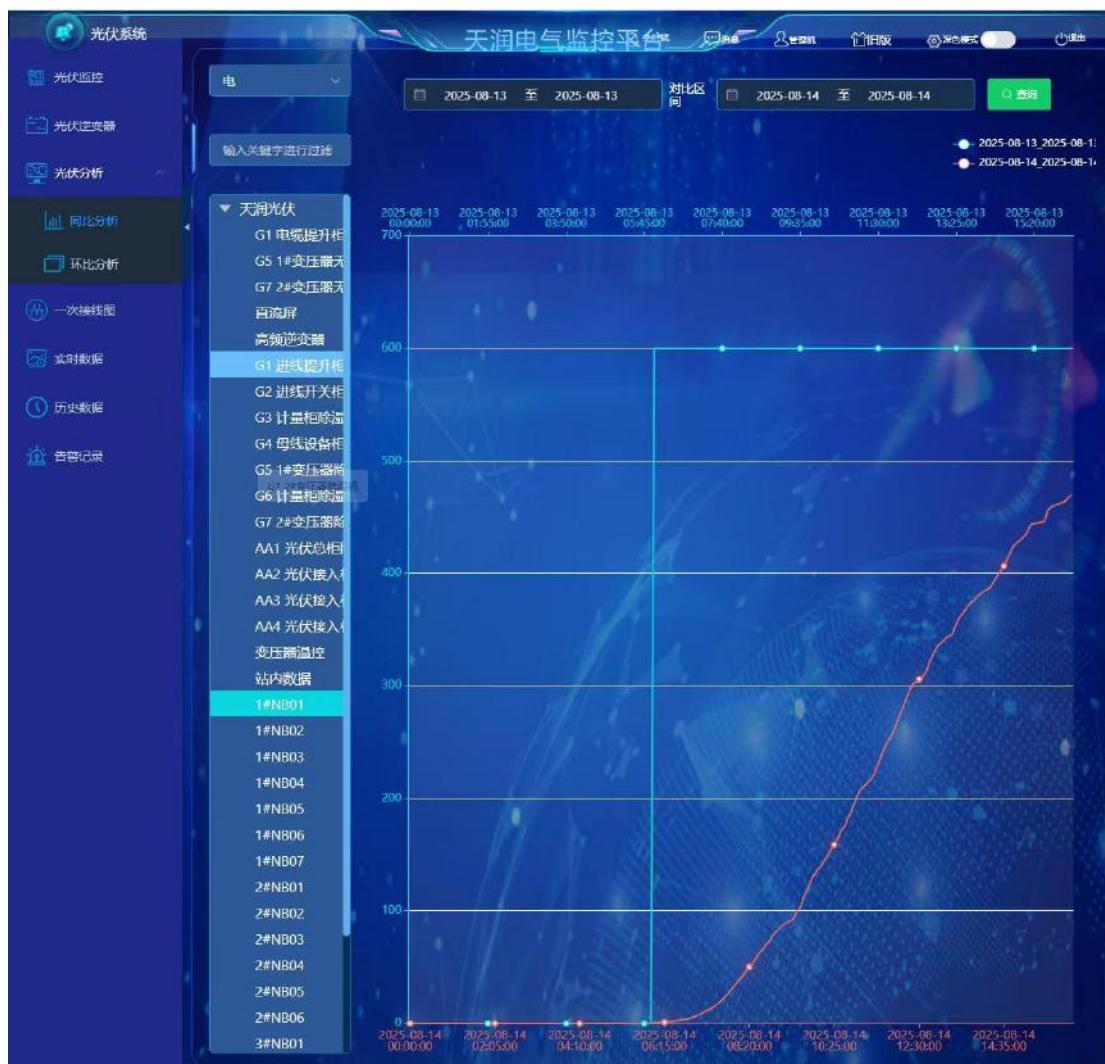
IV. Core Features

1.Power Usage Overview: Monitor real-time power consumption, daily electricity usage, online status, communication status, daily power curves, real-time electricity consumption, monthly peak-valley averages, latest alerts, and bar charts comparing monthly electricity consumption.

2.Grid Monitoring

a)Primary Circuit System: Real-time data including total output/injection power, daily (generation), monthly (generation), annual (generation), and total (generation) for all arrays.

b)Real-time Power: Displays equipment names with current power values, daily power curves, and historical power data tables.

c)Video Surveillance: Enables precise monitoring of on-site equipment.

d)Real-time Data: Shows equipment lists including names, operational status, real-time/historical data, tables, and daily historical data line charts.

3. Alarm Records: Displays alarm content and timestamps for each device, with filtering,

output, and printing capabilities.

4. Data Analysis: Automated data aggregation and big data management.

5. Multi-Device Management: Supports VR management on devices, enabling simultaneous PC and mobile terminal operations without interference.

6.Comprehensive Reports: Provides data from all measurement points across devices during specific time periods. Users can perform combined queries and print reports using equipment names, measurement point names, and time filters.