PROSE MDC Master

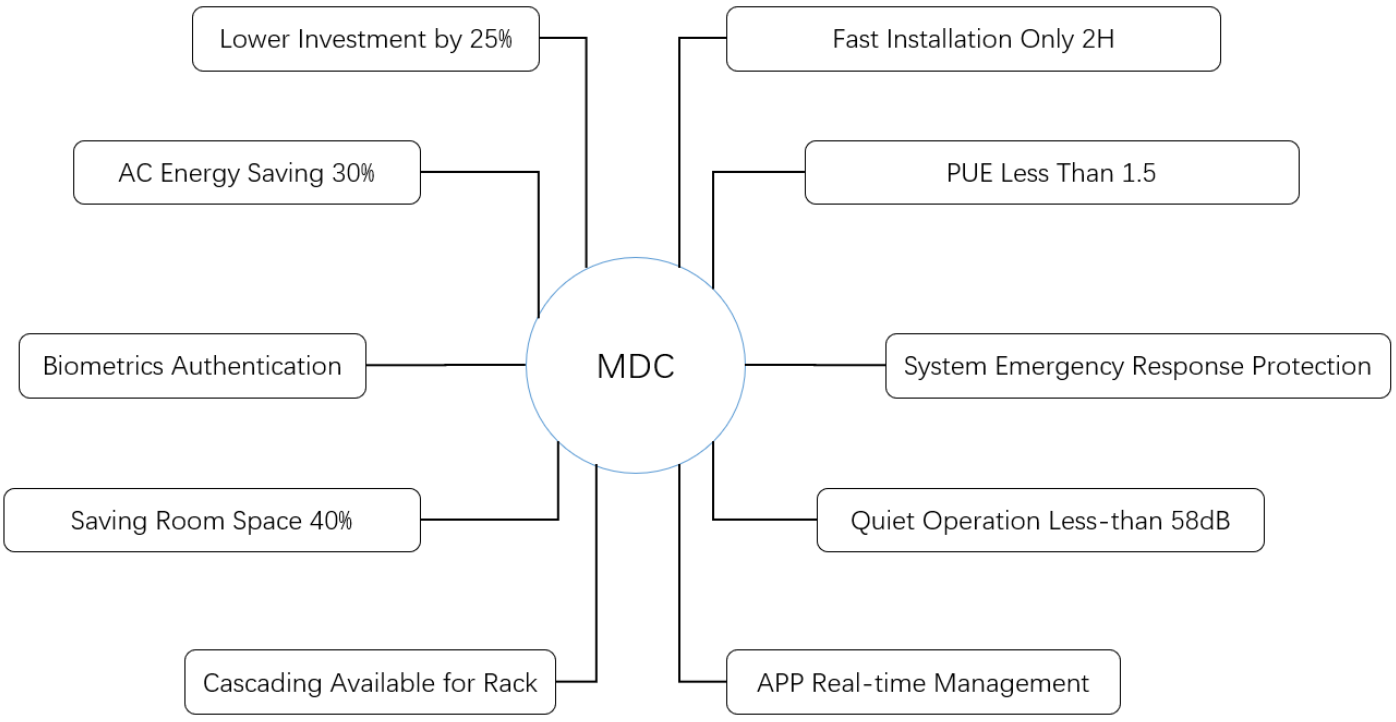
Software Manual

PROSE Technologies Co., Ltd.

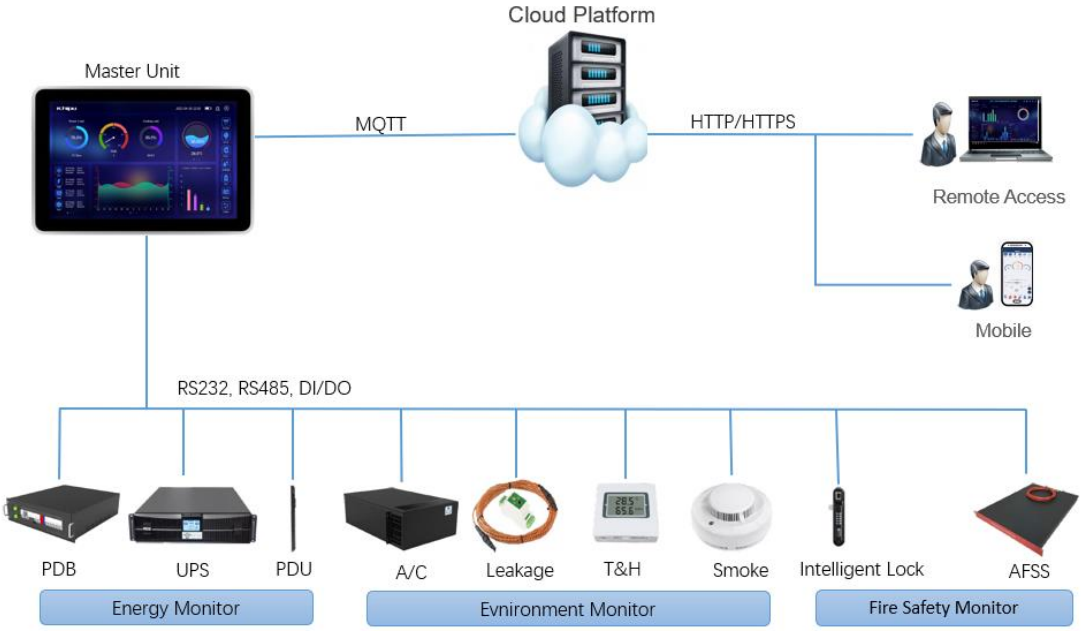
Introduction

PROSE MDC is Prose's micro data center solution which is used in micro data centers, office areas and other indoor environments. The main purpose of it is to cover the end of the company's branch offices, provide an integrated management solution, meet the demand of unified management, quick installation and simple maintenance in terminal branches of the group, and help customers quickly build a green and healthy micro data center. the MDC master manages the running status of infrastructure equipment in a data center and provides a comprehensive management platform for data centers by real-time monitoring system and equipment running status, recording and processing the relevant data, detect the fault in time, and the necessary remote control, remote regulating operation, timely notify ops staff on duty to deal with.IT serves as a bridge between the equipment room infrastructure and IT devices. IT helps O&M personnel manage data centers and improves the reliability of the equipment room and the security of communication devices. The purpose is to display the equipment room's few people, unattended, and centralized monitoring and maintenance management and improve the reliability of the power supply system and the security of communication equipment.

Benefits with MDC



System Architecture



Specification List

Items	Technical Specification
CPU	ARM Cortex A17 Quad-core, Max Frequency 1.2GHz
Memory	DDR3L 2GB
Flash ROM	8GB eMMC Flash
Display panel	10.1" Touch Panel LCD
Ethernet	1 Port RJ45 10M/100M/1000M
Wireless	WIFI 2.4GHz
Standard serial port	2 Ports RS232
Standard serial port	2 Ports RS485
Digital Input port	2 Ports DI
Digital Output port	2 Ports DO(for relay control)
Output supply	6 Ports 12V/1A
Operating voltage	12V DC
Max power	35W
Operating Temperature	-20℃~+60℃
Operating Humidity	10%~90%RH
MTBF	⩾100000H
ESD level	Contact: 8KV; Air: 15KV
Operating system	Android 5.1.1
Database	SQLite3

Product Features

1. Comprehensive Monitoring Capabilities:

- Support for integrating energy consumption, environmental, fire protection, and security equipment to form a complete monitoring system.
- Real-time monitoring and fast fault diagnosis capabilities, providing accurate fault localization and swift response.

2. Real-time Data Display:

- Key indicator data of MDC, sensor status, important parameters of environmental monitoring equipment, and alarm statistics are displayed in real-time on the main interface, allowing you to understand the working status of MDC without any operation.

3. Intelligent Adjustment and Linkage Control:

- Pre-set conditions can automatically trigger linkage commands, such as linkage open the FAN or magnetic door when the temperature exceeds the preset range, and adjusting precision air conditioning and other environmental control equipment.

4. Automatic Alarm Function:

- The platform supports real-time notification methods such as email and app alarms. Customizable alarm trigger conditions, monitoring parameter thresholds, and equipment status changes to meet the personalized needs of MDC management.

5. High Reliability Operation:

- 7*24 hours of trouble-free operation.

Functions Features

1.Dashboard

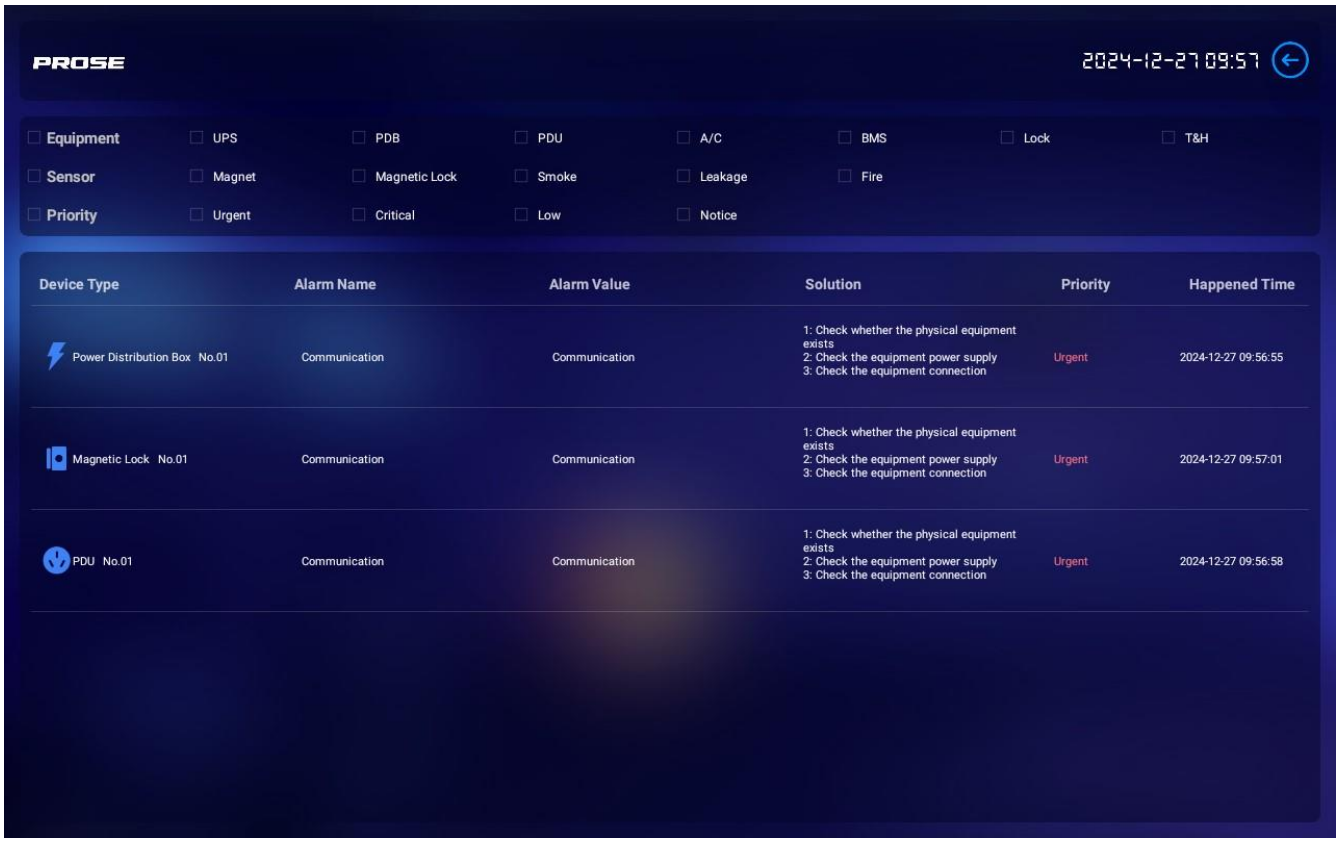
The dashboards provide efficient data visualization tools that present complex data information in an intuitive and understandable manner through graphical display methods. These charts are not only aesthetically pleasing and information-rich but also support comparative analysis across multiple dimensions, enhancing the effectiveness of data communication. They offer interactivity, allowing users to delve deeper into the data. They display important device parameters and sensor statuses in real-time, enabling an understanding of the cabinet's operational status without the need for manual operation.

- Status bar
- Power load, PUE, cooling load visualization
- Power & environment parameters
- Historical temperature and humidity curves
- Real-time alarms statistics
- Temperature and humidity sensor
- Sensor status panel

2.Real-time Alarm

The design of the real-time alert component is aimed at helping users to quickly respond to and troubleshoot potential

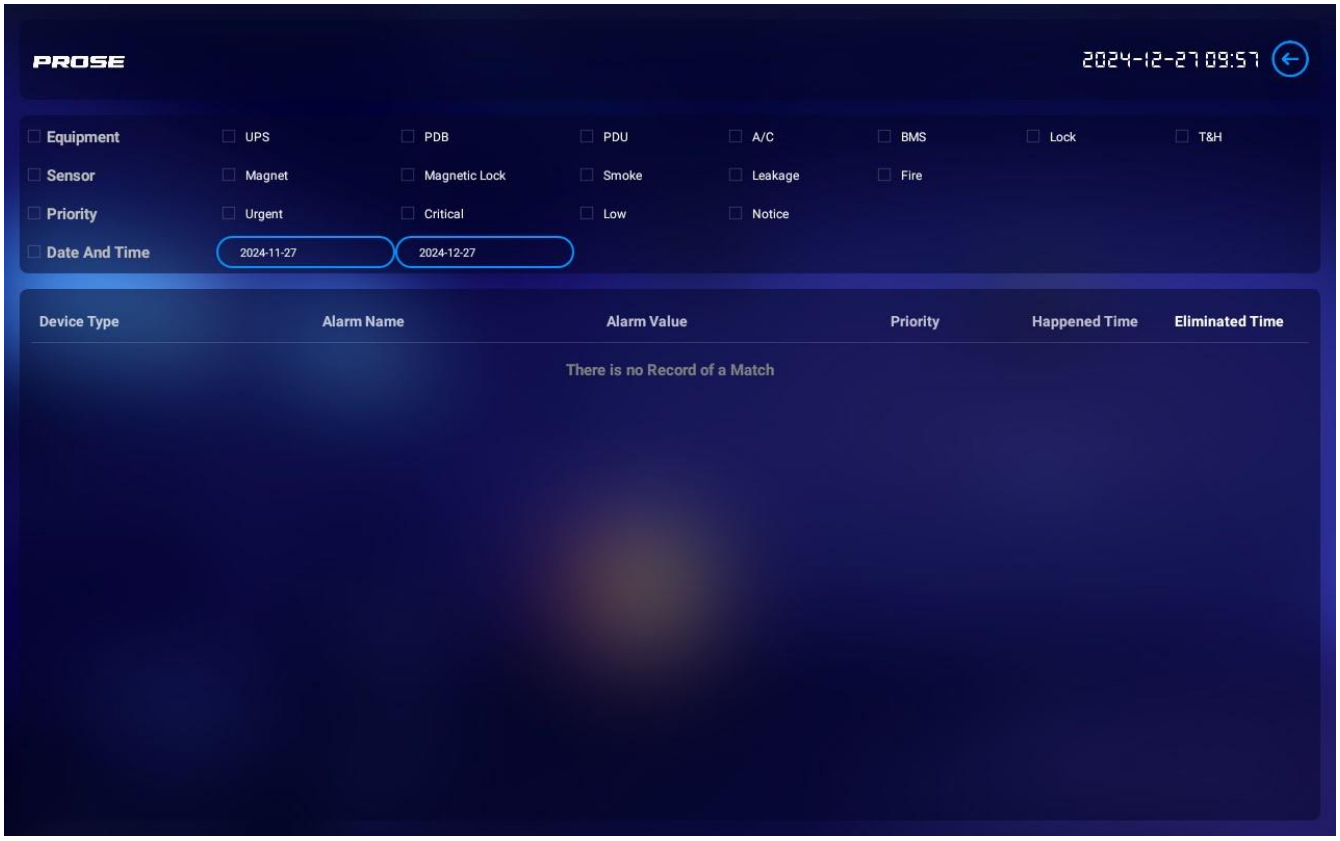
issues, reducing system downtime and enhancing the reliability and security of the system. The real-time alert module offers multi-dimensional filtering conditions, improving problem-solving efficiency through filtering by device type, sensor type, and priority.



- Filter alarms by equipment type.
- Filter alarms by sensor type.
- Filter alarms by priority.
- Filter alarms by all combined conditions.

3.History Alarm

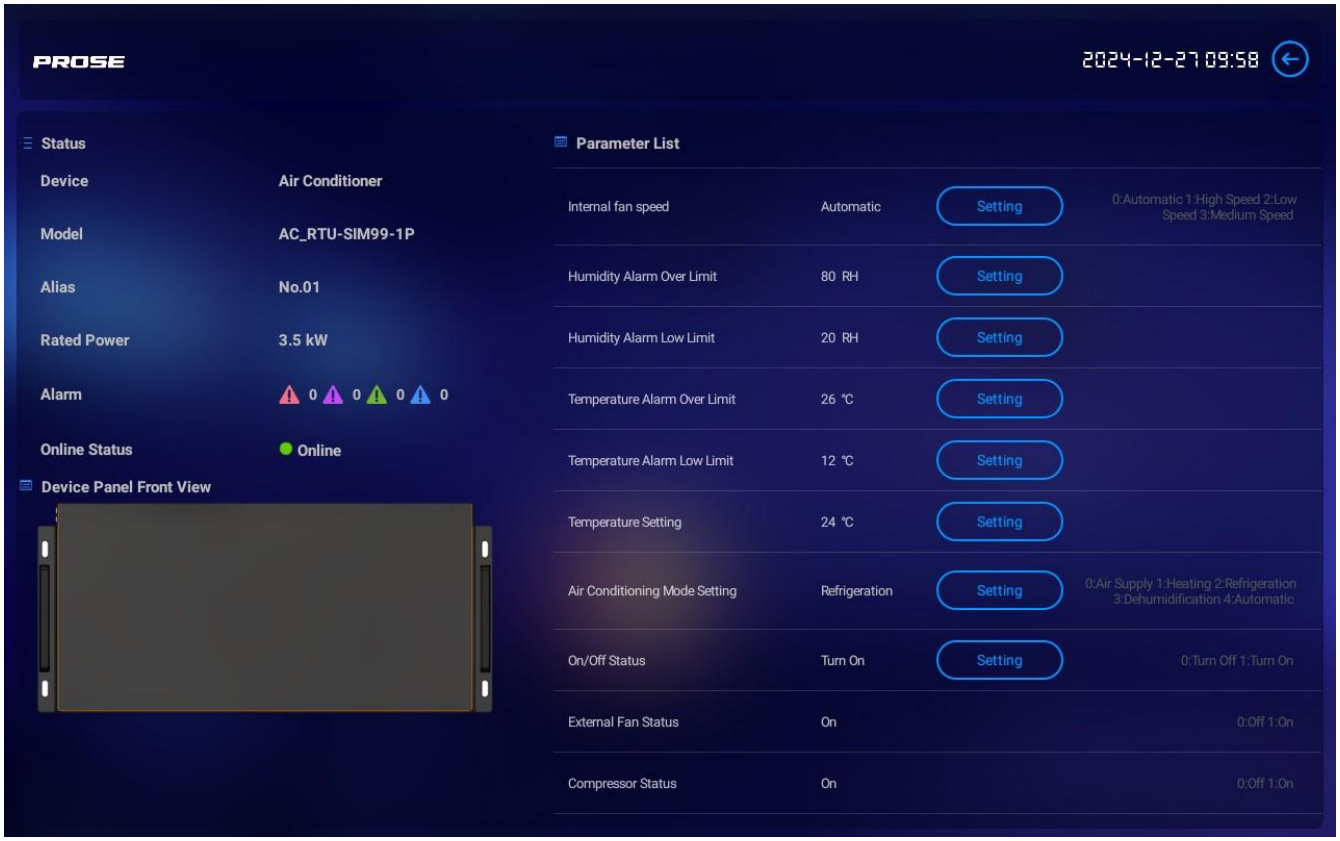
The design of the historical alarm component is aimed at helping users to search for historical alert data. By statistics processing and analyzing historical data, it provides basic data support for troubleshooting and maintenance, reducing system downtime and enhancing the reliability and security of the system. The historical alarm module offers multi-dimensional filtering conditions, improving problem-solving efficiency through filtering by device type, sensor type, and priority.



- Filter alarms by equipment type.
- Filter alarms by sensor type.
- Filter alarms by priority.
- Filter alarms by time period.
- Filter alarms by all combined conditions.

4.Device Parameters

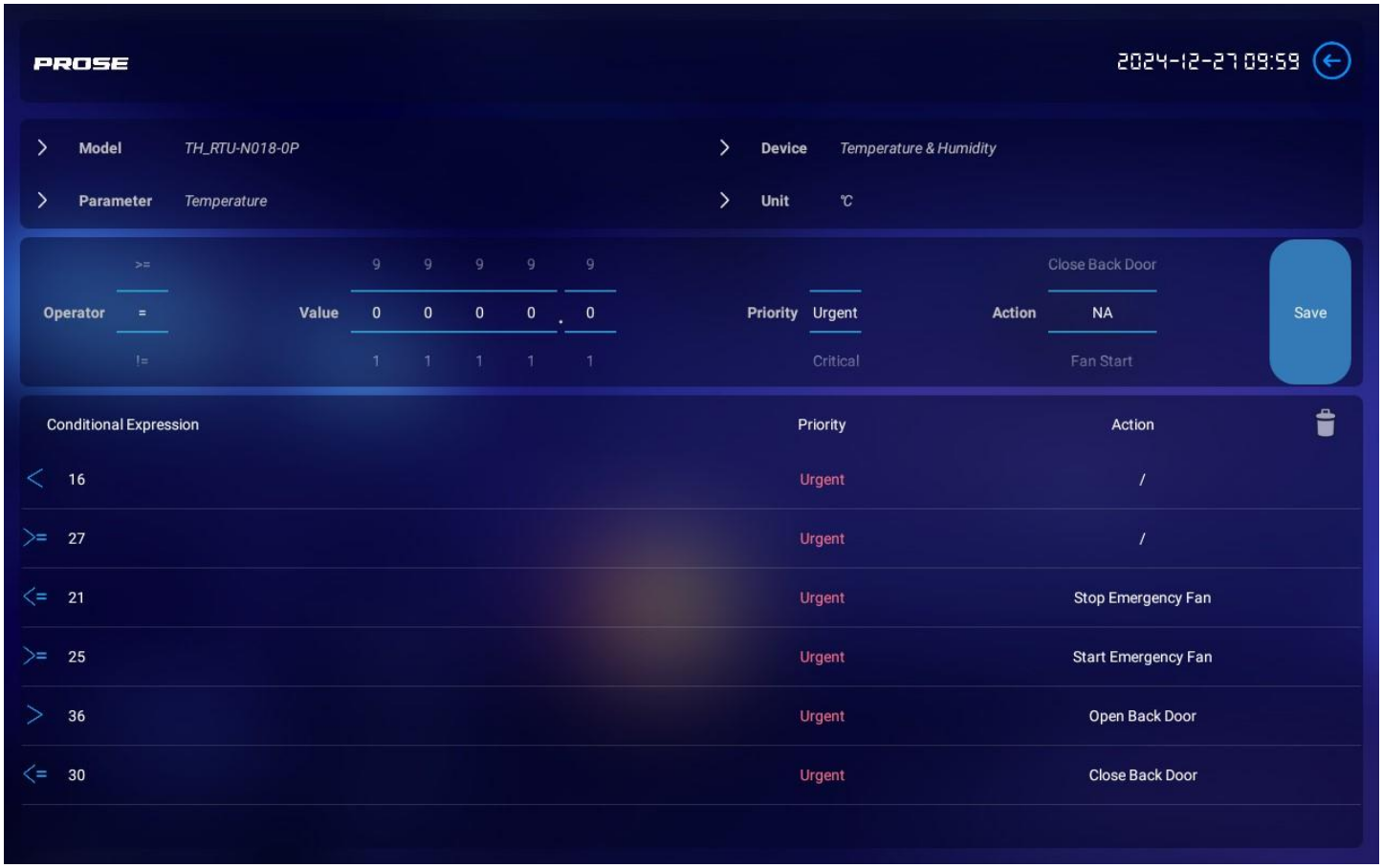
The device parameter component displays all parameters in detail and shows basic equipment information, presenting real-time alerts and operating status. It provides a parameter configuration interface, enhancing operability for engineering maintenance and parameter adjustments.



- Display device basic information.
- Display device alarm information.
- Display device running status.
- Display device parameters.
- Setting device parameters value
- Setting device alarm parameters threshold.

5.Linkage Configuration

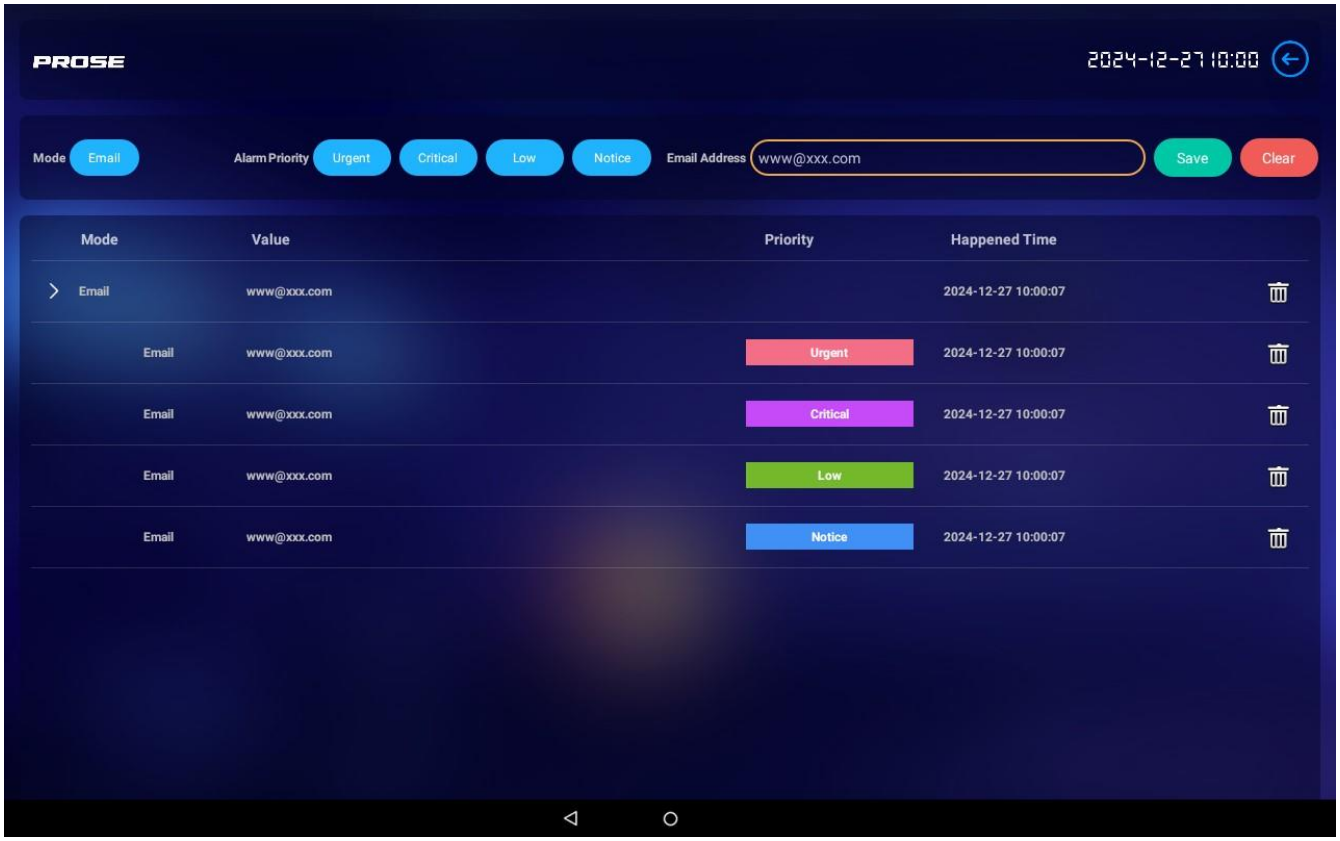
The linkage component can monitor the power distribution, environment, and security within the intelligent cabinet in real-time. by using data analysis and pre-processing mechanisms, it can predict potential future events and provide a closed-loop of "multi-end linkage and joint response," thereby improving the speed and efficiency of problem response and handling. For example, if the overall temperature rises, the module can analyze the temperature and trend to link and activate the fans. If the temperature continues to rise after the fans are activated, the linkage pre-processing mechanism issues an alarm and considers whether to open the cabinet door.



- Setting alarm threshold.
- Setting fan linkage condition.
- Setting back door linkage condition.

6.Notification Configuration

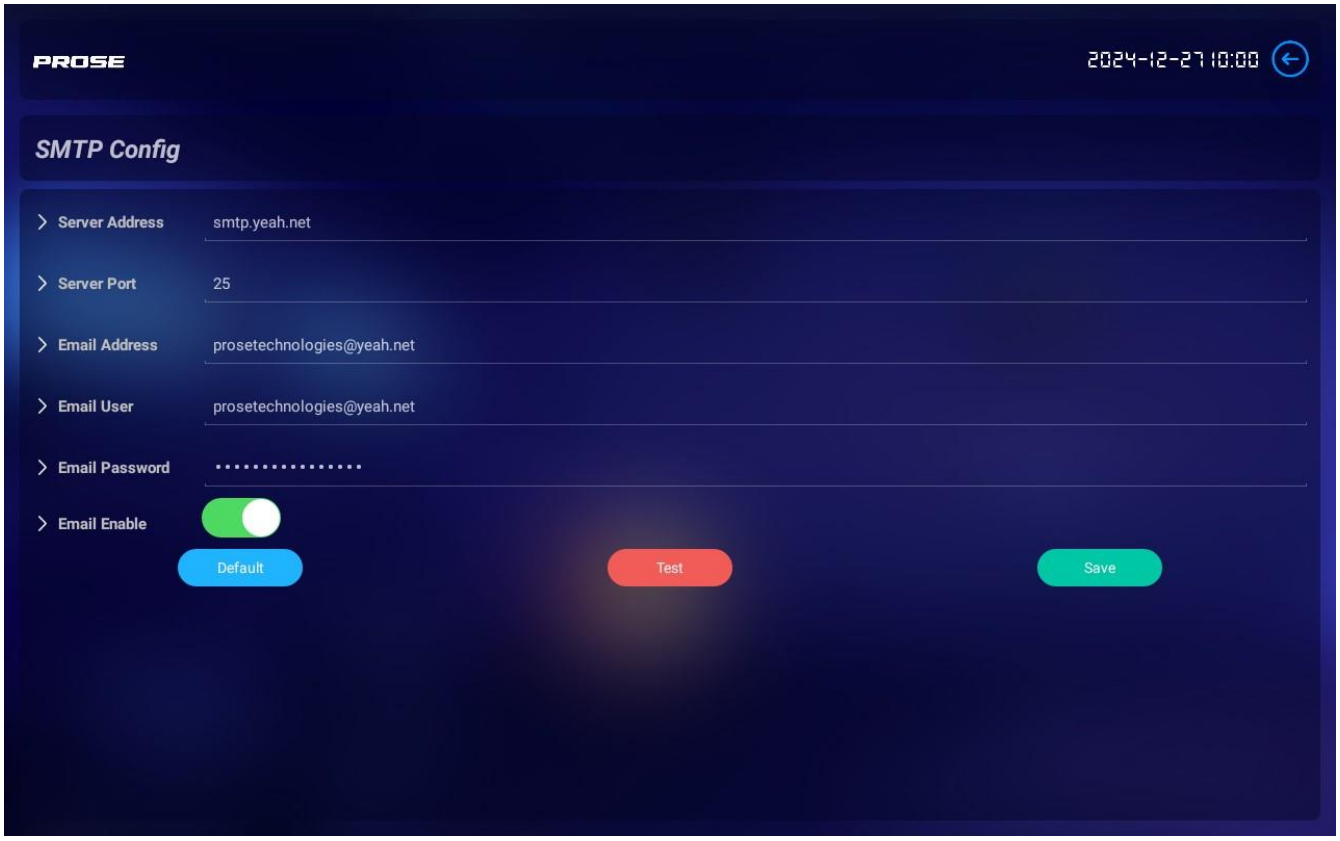
The notification module is primarily configured to receive email addresses, which are used to push alerts to maintenance personnel via email when an alarm is triggered. This allows them to be informed of the cabinet's operational status at the earliest opportunity, enabling timely processing and troubleshooting of issues.



• Setting alarm receive email by priority.

7.SMTP Configuration

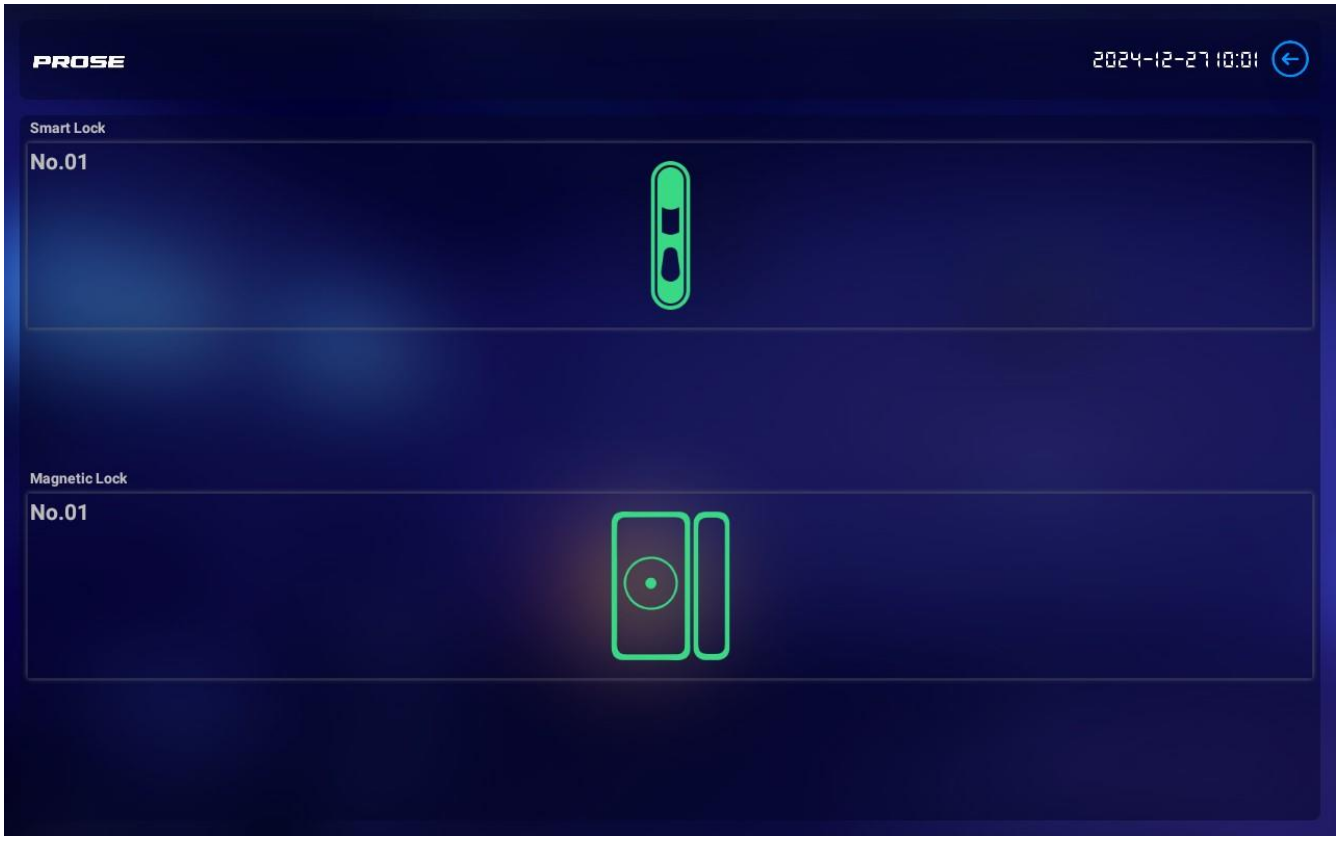
The SMTP configuration mainly involves setting up the mail server's address and port, as well as configuring the automatic email forwarding function. This allows users to send emails through a secure connection and automatically forward emails from one mailbox to another when needed, while ensuring the security and compliance of email sending.



- Configure email server information.
- Configure forward email account and authority password.

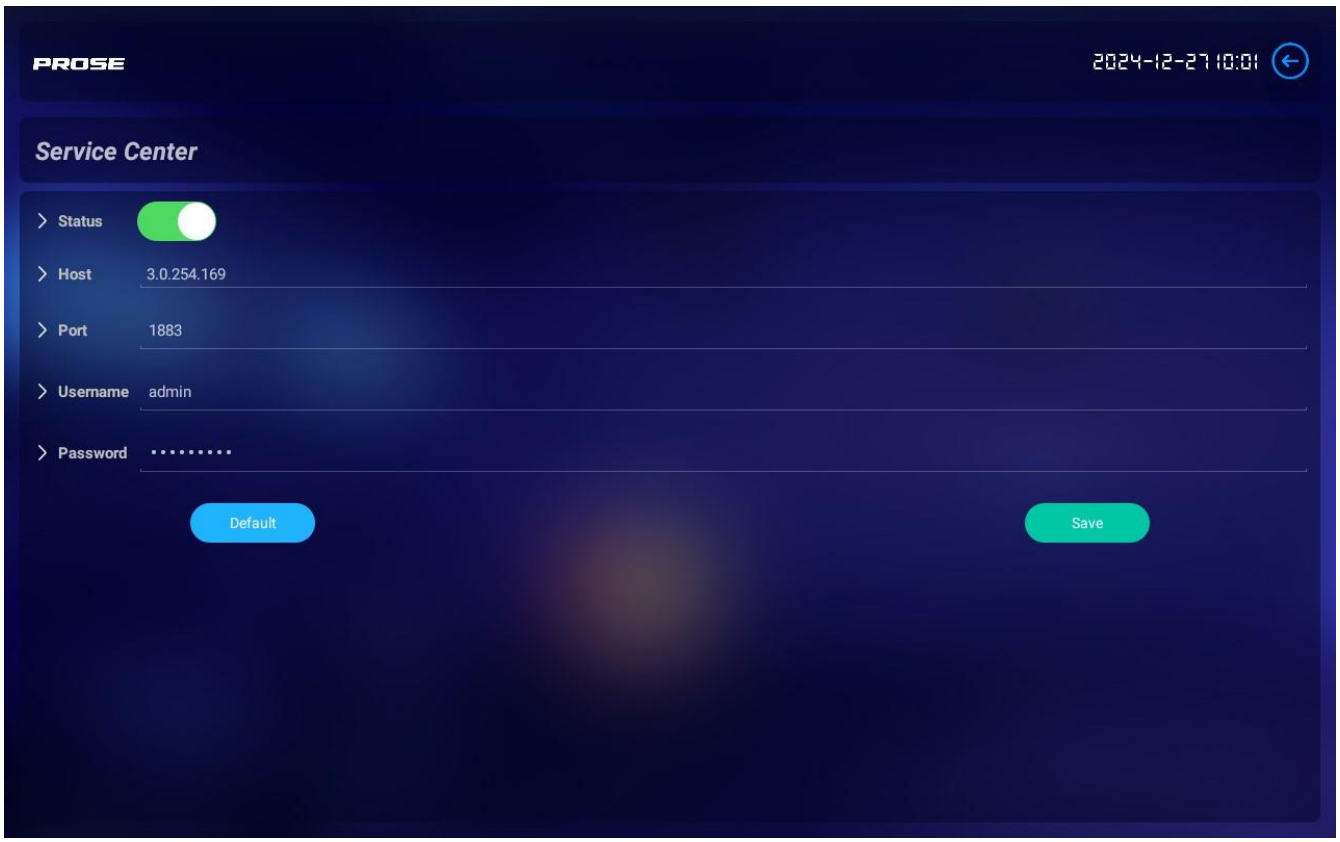
7.Intelligent Door Lock

This component primarily manages smart locks and smart door magnets, allowing remote activation of smart locks or smart door magnets by clicking on the icons.



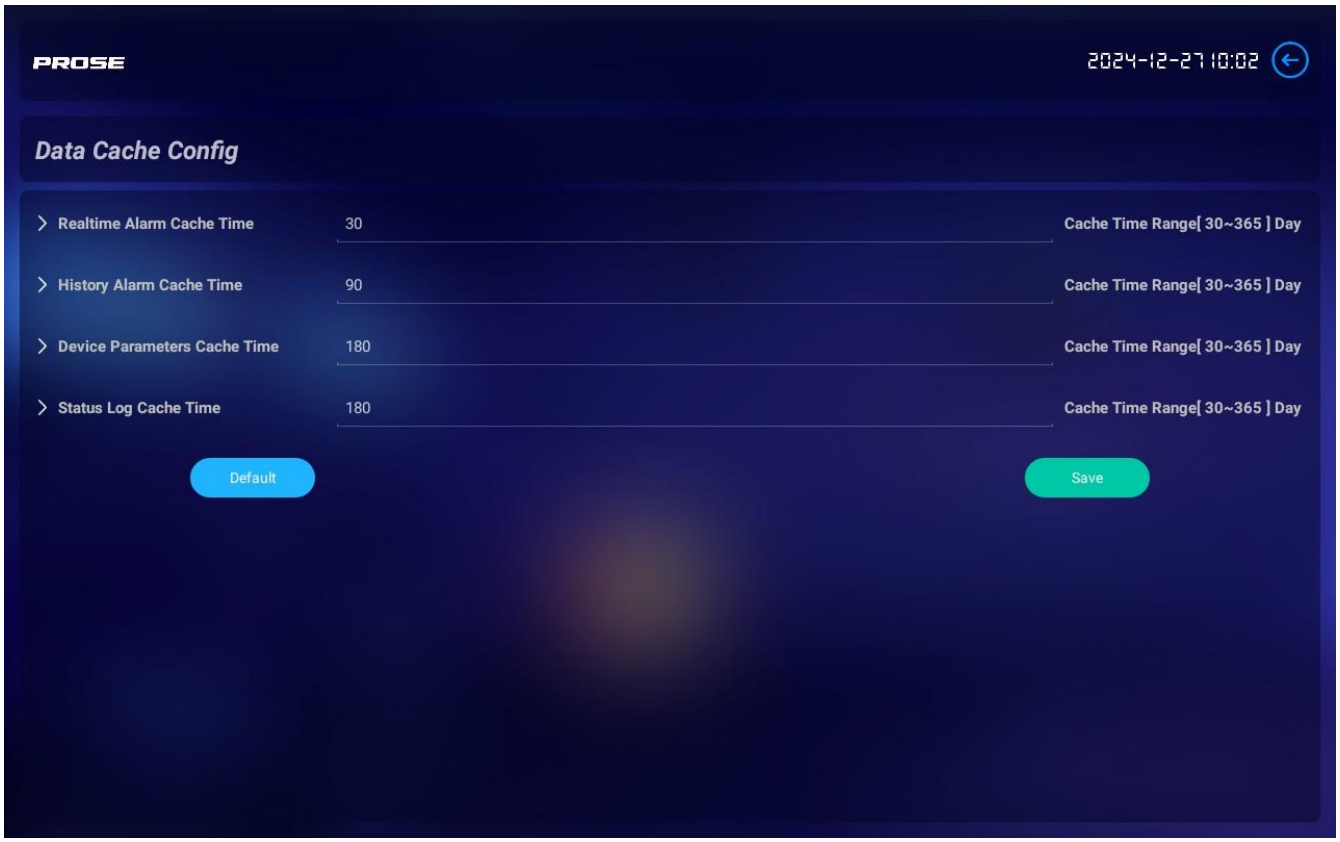
8.Service Center

The communication protocol between the master unit and the centralized monitoring platform adopts a lightweight, publish/subscribe-based message transmission protocol (MQTT). Its lightweight, low power consumption, high efficiency, long connection, real-time, and various security mechanisms make MQTT a very popular communication protocol in the fields of the Internet of Things and remote monitoring. Configure the MQTT server information and authorized accounts in the master unit, and actively subscribe to and publish topics to the server.



9.Data Cache Configuration

Configure the duration for which real-time alarms, historical alarms, device parameter and running logs are cached in the master unit, with automatic deletion upon expiration.



The MDC host is a feature-rich and user-friendly tool that allows users to efficiently manage and maintain intelligent cabinet systems. With its robust features and technical requirements, rich data display, and convenient one-click deployment capabilities, it has become an excellent solution for intelligent cabinet management.

Ordering Information

Part Number	Description
EV10G20-PLS-02	Dynamics & Environment Monitoring Master