



simpler, smarter, and more efficient

Make enterprise material management



specification

KEY CABINET PRODUCT SPECIFICATION

Smart Storage Cabinet: ZSC-L33

1. Product Image



主柜



副柜

II. Product Overview

The ZSC-L33 Intelligent Grid Cabinet is a smart storage and management solution that integrates cutting-edge technologies such as IoT, biometrics, and big data analytics, designed to address common challenges of traditional storage systems—including low space utilization, cumbersome operational procedures, data silos, and inefficient management. This product supports various applications for item storage, exchange, asset management, and consumable distribution, enables 24/7 uninterrupted operation, and delivers digital, visualized management of the entire enterprise asset flow process through a user-friendly interface and precise permission controls.

Compared to traditional storage cabinets, smart compartment cabinets overcome the limitations of fixed space allocation and enable resource sharing; they diversify access methods to meet various needs such as item exchange, storage, and distribution; leveraging a management platform, they synchronize data in real time and generate statistical reports, providing data-driven support for business decision-making. Widely applicable to various enterprises and specific public scenarios, they help enhance management efficiency and resource utilization.

III. Application Scenarios

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(1) Corporate Office Environment

1. Employee Item Management: Temporary storage of personal items, exchange of work documents, and cross-departmental document transmission require no dedicated personnel coordination, enhancing office collaboration efficiency.

2. Administrative Asset Management: Management of the issuance, return, and registration of office equipment and supplies; precise tracking of asset movement trajectories to prevent asset loss.

3. Self-service consumables distribution: Allow fixed-amount or on-demand collection of printed materials, office supplies, and promotional items; automatically track consumption data to optimize procurement planning.

(II) Production and Manufacturing Scenarios

1. Production Material Management: Temporary storage and on-demand issuance of components and auxiliary materials required for the production line, ensuring precise material distribution and consumption traceability.

2. Tool borrowing and returning management: Record the borrowing and returning of production tools and testing instruments, track usage duration, ensure standardized circulation of tools, and minimize idle waste.

3. Temporary storage of finished/semi-finished products: Temporary storage of semi-finished products in the workshop and cross-process transfer and handover shall have clearly defined responsibilities to ensure smooth production flow.

(III) Public Service Scenarios

1. Industrial Park/Office Building: Facilitates document exchange between enterprises, temporary storage and retrieval of parcels, providing convenient logistics transfer services for businesses within the park.

2. Research Institutions: Management of experimental equipment, sample storage, transfer, and handling; strict control of access permissions to ensure the safety of experimental materials and compliance with data standards.

3. Government Service Hall: Facilitates the transfer of application materials and approval documents, reduces public waiting time, and enhances the efficiency of government services.

IV. Functional Features

(1) Core Functions

1. Item Storage and Exchange: Supports flexible allocation of single or multiple compartments for self-service storage, retrieval, and cross-user item exchange. The operation process is streamlined with full traceability throughout the entire workflow.

2. Asset Management: Features integrated modules for the entire lifecycle management of assets—including registration, issuance, return, repair reporting, and disposal—with unique asset identifiers, real-time status updates, and generation of asset ledgers and flow reports.

3. Consumables Distribution Management: Supports categorized storage, fixed-quantity distribution, and on-demand requisition of consumables; enables inventory warning thresholds with automatic restocking alerts at low levels, achieving refined consumables management.

(II) Interaction Functions

1. Multi-factor authentication: Integrates various verification methods including facial recognition, card swiping, QR code scanning, and username/password authentication to meet diverse usage needs and ensure operational security.

2. Intelligent Interaction Interface: Equipped with a large-capacity capacitive touchscreen featuring high-definition resolution, a simple and user-friendly interface design, and clear operation instructions that require no professional training to use.

3. Remote Control and Monitoring: Supports remote monitoring of device status, handling of anomalies, and real-time tracking of port occupancy and operation logs via the management platform.

(III) Management Functions

1. Precise permission control: Supports assigning operation permissions to user roles, clarifies responsibilities, and prevents unauthorized access to sensitive items.

2. Data Statistics and Analysis: Automatically collects and stores data on storage usage, requisition, exchange, and consumable consumption, generates multi-dimensional statistical reports, and supports data export and sharing.

3. Customizable configuration: The number and size specifications of compartments can be flexibly adjusted according to actual usage requirements, catering to storage and management needs for items of various sizes and types.

(IV) Safety and Reliability

1. High-security locking system: Equipped with an independent electronic lock featuring rapid unlocking response, extended service life, and anti-pry and anti-tap designs to ensure secure item storage.

2. Abnormal Alarm Mechanism: In cases of exceptions such as overdue retrieval or equipment failure, the system automatically triggers audio-visual alarms and simultaneously sends alert notifications to the management platform and the administrator's mobile device.

(V) Flexible Expansion and Customization

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1. Supports combined expansion of the main cabinet and auxiliary cabinets, allowing you to adjust the number of compartments according to usage requirements or customize compartments with special dimensions.

2. Flexible communication options include standard WIFI and RJ-45 wired networks, with optional 4G modules to meet wireless or mobile deployment needs.

3. The management platform provides open APIs with annotation support, enabling integration with enterprise OA, ERP, and HR systems for seamless data interoperability and sharing.

(6) Efficient and convenient operation

1. 24/7 uninterrupted service that transcends time and space constraints, allowing employees to self-service item retrieval at any time without the cumbersome traditional approval or registration procedures.

2. A 10-inch high-definition capacitive touchscreen with a resolution of 1920×1080 and a 16:9 aspect ratio, featuring a simple and intuitive interface that supports multi-touch and offers rapid response.

3. The cabinet base is equipped with casters for easy mobility and stability, allowing flexible adjustment of placement according to requirements.

V. Product Parameters

Main Specification Parameters

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product model	ZSC-L33
operating system	Android 11
CPU	A quad-core 64-bit Cortex-A55 processor with a maximum clock speed of 2.0 GHz
Industrial Control Configuration	RK3568
internal storage	2G
capacity	16G
Overall dimensions (Height * Width * Depth)	1950 × 1200 × 500 mm ± 5 mm (excluding the light box and decorations)
Case Material	1.2 mm cold-rolled steel plate
screen	10-inch capacitive touchscreen, resolution 1280×800
capacity	Main cabinet: 33 compartments; Secondary cabinet: 36 compartments
Storage compartment opening dimensions	180 × 260 × 480 mm ± 2 mm (height × width × depth);
Electric Lock	Independent electronic lock with unlocking time <1 second and a service life exceeding 1 million cycles.
communication interface	WIFI, RJ-45, 4G (optional)
Work Environment Requirements	temperature -20°C ~ 60°C
Fix/Move Method	Omni-directional wheel
Card Reader (Optional)	Operating frequency: 13.56 MHz; Card reading range: 0–30 mm

Face Camera (Optional)	Bilateral live monitoring, supporting RGB + IR
QR Code Reader	Reading accuracy ≥ 7 mil, capable of recognizing mobile phone screen codes, paper codes, and plastic codes.
power requirement	Single-phase AC 220 V, 50–60 Hz

VI. Precautions

The device must be installed in a flat, dry, and well-ventilated indoor environment, avoiding direct sunlight, humid conditions, or areas with severe dust exposure.

Power supply must strictly adhere to the rated parameters to prevent equipment failure caused by voltage instability or overload.

Perform regular cleaning and maintenance of the cabinet, inspect components such as locks, sensors, screens, and communication interfaces to ensure proper equipment operation.

Administrators must regularly back up data and update system versions promptly to ensure device functionality stability and data security.

Prohibit violent lock-breaking or cabinet impact; such actions will shorten equipment lifespan and result in losses that must be borne by the user.