



simpler, smarter, and more efficient

Make enterprise material management



specification

KEY CABINET PRODUCT SPECIFICATION

RFID Smart Cabinet: ZSC-R01

1. Product Image



II. Product Overview

The ZSC-R01 smart cabinet is an intelligent storage management device developed using RFID-based automatic identification technology, integrated with advanced technologies such as the Internet of Things, big data analytics, and biometric recognition. Its core design complies with the ISO 18000-6C (EPC C1 G2) standard protocol, enabling automatic item identification, information collection, and data synchronization via contactless radio frequency signals, thereby revolutionizing traditional manual registration and distribution methods for items.

This product effectively addresses key challenges in traditional management systems—including low efficiency, high error rates, opaque inventory visibility, significant item loss, and difficult cost control—by enabling automated and refined management throughout the entire process of item requisition, return, inventory counting, and tracking. Users can complete storage, retrieval, or borrowing operations with simple procedures, while administrators can monitor real-time inventory levels and requisition details via the backend platform, receive stockout alerts, and generate data reports. This significantly reduces labor costs, enhances management efficiency and accuracy, and provides a scientific and reliable solution for enterprise asset management.

III. Application Scenarios

The RFID smart cabinet is widely applicable across various industries and scenarios due to its efficient, secure, and user-friendly management features.

(1) Industrial manufacturing sector: Used in power plants, automobile factories, and mechanical processing plants for the storage and management of tools, components, and spare parts, ensuring precise allocation of production materials and preventing production delays caused by tool shortages.

(2) Transportation sector: Facilities such as subways, high-speed railways, aviation systems, and ports store maintenance tools, testing equipment, emergency supplies, etc., to meet the demands for rapid access and traceability of materials in mobile scenarios.

(3) Corporate office scenarios: Suitable for various enterprises, institutions, and office buildings for borrowing and managing office equipment, streamlining the requisition process, and enabling real-time tracking of office equipment.

(4) Healthcare Sector: Hospitals, clinics, and research institutions store medical devices, high-value consumables, pharmaceuticals, etc.

Strict control over the circulation and requisition statistics of these items must be implemented to ensure traceability and safety of medical supplies.

(5) Public Service Sector: Government agencies, schools, libraries, etc., for the management of official supplies, teaching equipment, and library materials, aiming to enhance the efficiency of public resource utilization and standardize management practices.

(6) Security and emergency response sector: Departments such as public security, fire control, and emergency rescue store security equipment, emergency tools, and rescue supplies to ensure rapid access to resources during emergencies and enhance emergency response capabilities.

IV. Functional Features

(1) Comprehensive Intelligent Management Throughout the Entire Process

1. Full lifecycle tracking of items: Supports various operations such as item collection, borrowing, and return, with each transaction recorded in real time to establish a complete traceability chain, effectively preventing risks of item loss or misappropriation.

2. Automated Inventory Management: Automatic updates to inventory levels occur during item storage and retrieval, with real-time data synchronization in the backend. The system includes an inventory alert feature that automatically sends shortages notifications when stock

levels fall below predefined thresholds, preventing both overstocking and

网址: www.zebrastation.cn 电话: 020-3999 6976 邮箱: guoyuhao@ibanma.net Website:

www.zebrastation.cn Phone: 020-3999 6976 Email: guoyuhao@ibanma.net

Address: Room 1401, Building 16, Tianan Headquarters Center, No.555 North Panyu Avenue, Donghuan Street, Panyu District, Guangzhou City

shortages.

(II) User-friendly Operation Experience

1. Multi-method authentication: Integrates various authentication methods including facial recognition, card swiping, QR code scanning, and account passwords to accommodate diverse user preferences.

2. Simple Listing and Binding: When adding new items, simply enter the information and link them to an RFID tag. The process is straightforward and requires no specialized training.

3. Human-centric interaction design: Equipped with a large-capacity capacitive touchscreen featuring clear display, responsive operation, a simple and intuitive user interface, and enhanced interactivity, significantly reducing the operational threshold.

(III) Flexible Expansion and Adaptation

1. Customizable space adjustment: The interior features a multi-layer board design with adjustable shelf heights, significantly improving space utilization and accommodating storage of items of various sizes.

2. Cabinet Expansion Configuration: Utilizes a "one primary + N secondary cabinets" configuration, allowing flexible addition of secondary units based on storage requirements to enhance capacity and meet management needs as the enterprise grows.

3. Customizable Functional Modules: The system supports optional

features such as lightbox advertising, 1080P high-definition video surveillance, and 4G communication modules, allowing users to flexibly configure them according to specific needs for enhanced product versatility.

(IV) Safe and Reliable Operation

1. High-strength cabinet design: Constructed from premium cold-rolled steel plates, the cabinet features a robust and durable structure with excellent anti-theft performance, ensuring effective protection for stored items.

2. High-performance electronic lock: Equipped with an independent electronic locking system, featuring a response time of <1 second and a service life exceeding 1 million cycles. The lock ensures stable performance and reliable security for item storage.

3. All-weather stable operation: Supports 24-hour unattended operation with strong environmental adaptability, capable of functioning stably across a temperature range of -20 °C to 60 °C, meeting diverse application requirements.

4. Multiple data protection mechanisms: enables real-time data transmission via communication interfaces such as WIFI and RJ-45.

(V) Data-driven Analysis for Decision-Making

1. Precise data statistics: Automatically records all operational data

网址: www.zebrastation.cn 电话: 020-3999 6976 邮箱: guoyuhao@ibanma.net Website:
www.zebrastation.cn Phone: 020-3999 6976 Email: guoyuhao@ibanma.net
Address: Room 1401, Building 16, Tianan Headquarters Center, No.555 North Panyu Avenue,
Donghuan Street, Panyu District, Guangzhou City

including item issuance, return, and inventory changes, generating detailed reports such as issuance summaries, borrowing/return records, and inventory statements with accurate data to provide reliable support for cost accounting.

2. Scientific Data Analysis: The backend management platform features big data analytics capabilities, enabling in-depth analysis of item flow efficiency and consumption trends. This provides data-driven support for optimizing procurement plans and allocating resources efficiently, freeing managers from tedious inventory counting and statistical tasks.

V. Product Parameters

Main Specification Parameters	
product model	ZSC-R01
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 (High * Width * Depth)	Main cabinet: 1970*1000*550 mm $\pm$ 5 mm; Sub-cabinet: 1970 $\times$ 1000 $\times$ 550 mm $\pm$ 5 mm;

Case Material	1.2 mm cold-rolled steel plate
screen	15.6-inch capacitive touchscreen with a resolution of 1920×1080
RFID	840MHz-960MHz ,ISO 18000-6C (EPC C1 G2)
capacity	Five layers (with freely adjustable shelves)
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	Foma Universal Wheel
Light Box (Optional)	Supports light boxes; light box advertisements are interchangeable
Video Surveillance (Optional)	1080P with 24-hour motion detection; ultra-high-definition CMOS6 sensor (2.5K resolution, 4 million pixels); infrared fill light with 850 nm wavelength for enhanced nighttime recognition
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 mils enables effective recognition of codes on various media surfaces, including mobile phone screens, paper labels, and plastic labels.

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 electrical 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.