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Make enterprise material management



specification

KEY CABINET PRODUCT SPECIFICATION

Smart Weighing Grid Cabinet: ZSC-WL17

1. Product Image



II. Product Overview

The ZSC-WL17 is a weighing-based slot-type smart cabinet (hereinafter referred to as the "smart cabinet"), a new generation of intelligent storage management device developed by Zebra Information. This advanced material management solution integrates cutting-edge technologies such as gravity sensing, biometric authentication, IoT, and big data analytics, specifically designed to address key challenges in material requisition, inventory control, and cost accounting across various scenarios. Its core functionality involves using high-precision weighing modules to monitor real-time weight fluctuations, combining identity verification technology to enable self-service and standardized material usage, while leveraging a management platform for real-time data synchronization, analysis, and reporting.

As a new-generation intelligent material management terminal, the smart weighing cabinet eliminates the cumbersome process of traditional manual registration and distribution, enabling a fully automated closed-loop system for material procurement without human intervention. It significantly enhances procurement efficiency while providing visualized inventory status, traceable usage records, and accurate cost accounting. With its flexible hopper configurations, stable hardware performance, and comprehensive functionality, it has become the

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preferred solution for managing office supplies, production materials, medical consumables, and other related items.

Smart weighing cabinets are designed to free users from tedious tasks such as material distribution, registration, and inventory counting, reduce human errors and resource waste, and drive the transformation of material management toward digitalization, intelligence, and efficiency. They are suitable for large-scale material management needs across various industries and scenarios.

III. Application Scenarios

(1) Corporate administrative supplies management: Implement quota-based and on-demand distribution of consumables such as printing materials, office stationery, and welfare items; automatically track consumption data to optimize procurement planning.

(2) Medical Consumables Distribution: Designed for scenarios such as hospitals and health examination centers, this system enables self-service collection of medical consumables including masks, gloves, syringes, and reagents. It supports quota restrictions based on departments or positions, combined with inventory alert functionality to ensure timely supply and prevent waste.

(3) Production Workshop Material Management: Designed for

factory production environments, it enables centralized storage and on-demand issuance of components, tools, auxiliary materials, and other supplies. The system integrates with production planning systems to provide real-time material consumption statistics and replenishment alerts, ensuring production continuity.

IV. Product Features

(1) Refined Asset Management

1. Intelligent Quota Management: Supports customized quotas for individual employees, departments, or specific items. Exceeding limits triggers automatic blocking, ensuring controlled and manageable material usage.

2. Dynamic inventory management: When inventory falls below the preset threshold, automatic restocking alerts are triggered without manual periodic counting, reducing risks of stockoverstocking and shortages.

3. End-to-end data traceability: Automatically records details of each transaction — including personnel, time, item name, weight, and compartment number — and supports multi-dimensional queries and exports to generate asset usage statistics reports.

(2) Multimodal authentication: Supports four verification methods— face recognition, card swiping, QR code scanning, and

username/password entry — to meet diverse permission management requirements across scenarios, offering fast verification speed and high security.

(III) Security Protection and Monitoring

1. The cabinet is constructed from 1.2 mm cold-rolled steel plate, featuring a robust structure resistant to tampering. Each compartment is equipped with an independent electronic lock that responds in under 1 second and has a service life exceeding 1 million cycles.

2. Equipped with a 4-megapixel high-definition camera at the top, it supports automatic shooting triggered by door opening (with associated access data) and motion detection. It features infrared night-mode operation, allowing video footage to be viewed either on the cabinet's front panel or via the management interface, ensuring item security.

(IV) Flexible Expansion and Customization

1. Supports combined expansion of the main and auxiliary cabinets, allowing flexible adjustment of compartment sizes based on usage requirements: small compartments (325 × 480 × 180 mm) accommodate small items, while large compartments (325 × 480 × 260 mm) suit various items; custom-sized compartments can also be customized.

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.

(V) 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. An 8-inch high-definition capacitive touchscreen with a simple, 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	
product model	ZSC-WL17
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	Main cabinet: 1950 × 1200 × 550 mm ± 5 mm (height × width × depth); Sub-cabinet: 1950 × 1200 × 550 mm ± 5 mm (height × width × depth);
Case Material	1.2 mm cold-rolled steel plate
screen	8-inch capacitive touch screen
capacity	Main Cabinet: 17 independent compartments, including 6 small compartments and 11 large compartments; Sub-cabinet: 18 independent compartments – 6 small compartments and 12 large compartments; Small opening dimensions: 180*325*480 mm (height*width*depth); Large opening: 260*325*480 mm (height*width*depth);
Weight Sensing	Maximum range: 10 kg; weighing accuracy: 1 g
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	Bilateral live monitoring, supporting RGB + IR

(Optional)	
QR Code Reader	Reading accuracy ≥ 7 mil, effectively identifying codes on various media 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 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.



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