



Large RFID Cabinet



**LIBERATE YOURSELF FROM THE COMPLICATIONS OF AN OUTDATED
INVENTORY MANAGEMENT SYSTEM.**

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Introduction

Read this manual carefully before using the cabinet and follow the instructions for safe operation.

Terso Solutions does not guarantee safe operation if the cabinet is not used as intended as outlined in this manual.

Keep this manual in an easily accessible place to refer to as necessary.

The contents of this manual are subject to change without notice due to improvement in performance or functions.

Contact Terso Technical Support if a page of the manual is lost or page order is incorrect.

Contact Terso Technical Support if any point in this manual is unclear or if there are any inaccuracies.

Precautions for Safe Operation

It is imperative that the user complies with this manual as it contains important safety advice

Items and procedures are described so that you can use this cabinet correctly and safely. If the precautions advised are followed, this will prevent possible injury to the user and any other person.

Precautions are illustrated in the following way:



WARNING

Failure to observe WARNING signs could result in a hazard to personnel possibly resulting in serious injury or death



CAUTION

Failure to observe CAUTION signs could result in injury to personnel and damage to the cabinet and associated property

Symbol shows:



This symbol means an action is prohibited.

- This symbol means an instruction must be followed.

Be sure to keep this manual in a place accessible to users of this cabinet.



Caution, read all accompanying documents before operating the device.



This mark is labeled on the cover in which the electrical components of high voltage are enclosed to prevent electrical shock. The cover should be removed by qualified engineers or service personnel only.



This mark indicates the location of the protective earth conductor. Do not disconnect. Disconnection of the protective earth conductor may impair the protection provided by the device.




WARNING

- **Risk of shock is present inside the device.** The cover should be removed by qualified engineers or service personnel only.

 **Do not use the cabinet outdoors.** Current leakage or electric shock may result if cabinet is exposed to rain water.

- **Be sure to install the cabinet on a sturdy floor.** If the floor is not strong enough or the installation site is not adequate, injury may result from the cabinet falling or tipping over.

 **Never install the cabinet in a flammable or volatile location.** This may cause explosion or fire.

 **Never install the cabinet where acid or corrosive gases are present** as current leakage or electrical shock may result due to corrosion.

- **Make sure a dedicated power source is used** as indicated on the rating label attached to the cabinet.


- **Make sure to remove dust from the power supply plug** before inserting in a power source. A dusty plug or improper insertion may pose a hazard.




WARNING


- **Use a power supply outlet with ground (earth)** to prevent electric shock. If the power supply outlet is not grounded, it will be necessary to have qualified engineers install a ground.

- **When removing the plug from the power supply outlet, grip the power supply plug, not the cord.** Pulling the cord may result in electric shock or fire by short circuit.


 **Never damage or break the power supply plug or cord. Do not use the supply plug if its cord is loose.** This may cause fire or electric shock.


 **Do not touch any electrical parts such as power supply plug or any switches with a wet hand.** This may cause electric shock.

 **Never ground the cabinet through a gas pipe, water main, telephone line or lightning rod.** Such grounding may cause electric shock in the case of an incomplete circuit.

 **Do not insert metal objects such as a pin or wire into any outlet, vent or gap** for inner air circulation. This may cause electric shock.

- **If this cabinet is to be used for storing poisons, radioactive material or other harmful products, ensure that it is in a safe area.** Failure to do so may lead to an adverse effect on the health of personnel in the area and local environment. In this case, a request for repair or maintenance will necessitate a safety check sheet for maintenance personnel.

 **Never splash water directly onto the cabinet** as this may cause electric shock or short circuit.

 **Never disassemble, repair, or modify this cabinet yourself.** Any such work carried out by an unauthorized person may result in fire or injury due to a malfunction.

- **Disconnect the power supply plug if there is something wrong with the cabinet.** Continued abnormal operation may cause electric shock or fire.

- If the cabinet is to be stored unused in an unsupervised area for an extended period of time, ensure **that children do not have access and that doors cannot be closed completely.**



WARNING

- **Make sure to prepare a safety check sheet** when you request any repair or maintenance for the safety of service personnel.
- **Select a level and sturdy floor for installation.** This precaution will prevent the cabinet from tipping. Improper installation may result in injury from the cabinet tipping over.



CAUTION

- ⊘ **Do not disconnect the protective earth conductor.** Disconnection may impair the protection provided by the device.
- ⊘ **Do not place any switches or disconnect devices in the earth conductor.**
- ⊘ **Do not climb onto the cabinet.** This may cause injury by tipping or damage to the cabinet.
 - **Always hold the handle when closing the door.** This will reduce the likelihood of a trapped finger.
- ⊘ **Do not lean on the door.** This may cause injury if the cabinet tips over.
 - **Always disconnect the power supply plug before moving the cabinet.** Take care not to damage the power cord. A damaged cord may cause electric shock or fire.
 - **Be careful not to tip over the cabinet** during movement to prevent damage or injury.
 - **Always disconnect the power plug** when the cabinet is not used for long periods of time.
 - **Always disconnect the power supply to the cabinet prior to any repair or maintenance** of the cabinet in order to prevent electric shock or injury.
 - **Be careful not to overload the shelving** in the cabinet as this may cause the cabinet to become overbalanced and be prone to tipping.

Cautions for Usage

1. Never store corrosive materials such as acid or alkali unless the container is completely sealed up. Corrosion may lead to failure of the cabinet in time.
2. Always close the door firmly. The door open buzzer will sound after the door is open for five minutes unless configured otherwise. The buzzer will be canceled automatically when the door is closed.
3. Always open and close the door gently. Rough operation may lead to stored items falling down, incomplete closing, or damage of the door and/or locking mechanism.

Environmental Conditions

This equipment is designed to be safe at least under the following conditions:

1. Indoor use
2. 2000m / 6550ft altitude
3. 5° C to 40° C / 41° F to 104° F, ≤80% relative humidity

Components

Back Panel

1. AC On/Off Switch
2. AC Power Inlet
3. USB Interface Jack
4. WAN Ethernet Jack
5. Hardware Reset
6. Emergency Door Release
7. Buzzer Mute Switch

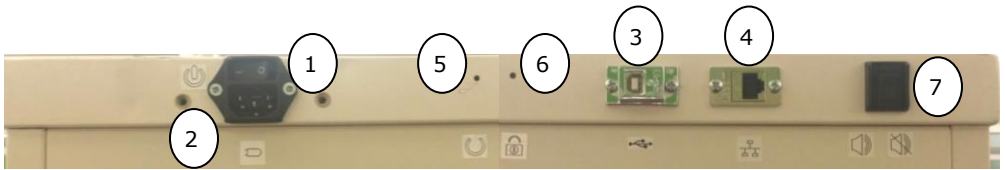


Fig 1: Cabinet Back Panel

Cabinet Front

1. Proximity Badge Reader
2. Cabinet Doors
3. Door Handle



Fig 2: Cabinet Front

Installation

Site

To operate this cabinet properly and to obtain maximum performance, install the cabinet in a location with the following conditions:

- **A location with a sturdy and level floor**

Install the cabinet on a sturdy floor to ensure proper door alignment



WARNING

Be sure to install the cabinet on a sturdy floor. If the floor is not strong enough or the installation site is not adequate, this may result in injury from the cabinet falling or tipping over.



CAUTION

Select a level and sturdy floor for installation. This precaution will prevent the cabinet from tipping.

- **A location not prone to high humidity**



WARNING

Do not use the cabinet outdoors. Current leakage or electric shock may result if the cabinet is exposed to rain water.

Never install the cabinet in a humid place or a place where it is likely to be splashed by water. This may result in current leakage or electric shock.

Do not install the cabinet under water pipes or steam pipes. This may result in current leakage or electric shock.

- **A location without a flammable or corrosive gas**



WARNING

Never install the cabinet in a flammable or volatile location. This may cause explosion or fire.

Never install the cabinet where acid or corrosive gases are present as current leakage or electric shock may result due to corrosion.

Installation

Inspection

With packaging in place, inspect the cabinet for any damage that may have occurred during transit. If any damage is present, please contact Terso Technical Support at +1 (888) 376-0257 in the US or +49 621 8501 233 in Europe.

Unpacking

- Cut the banding and remove all packaging. Gently position the cabinet in place on the ground. Once in place, ensure all feet are in solid contact with the ground. Also lock the front wheels by pushing the wheel locks downward into the locked position.
- **Remove accessories from inside the cabinet.** Items included are a **Power Cable and Ethernet Cable.** Other items may also be included such as an Ethernet Hub or other cabinet specific items.

Proper Handling

Move the cabinet to the installation site. There are four wheels on the cabinet to aid in positioning. Roll the cabinet by firmly pushing on the upper section of the body or the handle on the side. Carefully roll the cabinet into position leaving at least a 3"/76mm gap between the cabinet and the wall.

Connecting AC Power

Plug the square end for the power cord into rear top panel; plug other end into a grounded wall outlet (see figure 1).

Power outlet must be within 3m / 6ft of the cabinet and must be easily accessible.

Connecting Communications

Plug the Ethernet cable into the rear panel and then into the appropriate wall data jack. *Details on the network requirements can be found in the Terso Device Compendium DOC#00057.

Access Verification

Present a pass to the proximity badge reader in the right cabinet door. The badge reader area should then illuminate white indicating that the cabinet doors are now unlocked. The doors can be closed at any time and will be locked upon doing so. This can be verified by gently pulling on a door handle.

Operating Instructions

Basic Access Process

The user will present an LF access badge to the proximity badge reader on the cabinet. The badge needs to be presented within 1" of the proximity reader. The proximity reader area will illuminate white if access is granted or blink red and beep twice if access is not allowed.

The doors will unlock for a predetermined time period, normally about 10 seconds. Otherwise the user will need to present a pass to unlock the doors again. Desired products may be added or removed as needed. The cabinet will produce an audible alarm if the doors are left open for longer than the present alarm time – typically five minutes.

Close the cabinet doors once products have been added/retrieved. The cabinet will automatically lock the doors and begin its inventory process. The updated inventory results will then be transmitted to a backend server for processing. The cabinet will not be accessible during the inventory process. Typically the inventory process will take about one minute to complete. Access will then be restored and the access process can be repeated.

Alarms

All cabinet alarms are automatically transmitted to Terso Solutions. Terso Solutions staff may contact on site staff to assist in correcting any potential problem.

Alarm Types

Door Ajar

When cabinet's doors are left open for longer than five minutes (or present time) an audible alarm will sound until the doors are closed. If the doors appear to be closed verify nothing is obstructing the doors and attempt to re-close.

Power Outage

In the event of a power outage an audible alarm will be sounded. The alarm will continue until AC power has been restored or the onboard backup system runs out of power. Once power has been restored the cabinet will perform an inventory scan and then return to normal use. Please allow several hours for the UPS system to fully recharge.

Temperature

The cabinet continuously monitors its internal temperature. If the temperature exceeds the high or low threshold Terso Solutions staff will contact on site staff to attempt to troubleshoot and/or move temperature sensitive products to a safe location. The cabinet may also prevent access if the inventory items have become compromised.

Hardware Failure

The cabinet will automatically attempt to correct any hardware errors preventing the cabinet from functioning correctly. However in the event that a hardware component fails the cabinet may enter lockdown and prevent user access. Terso Technical Support will be in contact with on site staff if this is the case.

Door Breach

If the cabinet doors are forced open or opened with an access badge an alarm will be sent to Terso Solutions. Any products removed in this state will be reported. The doors should never be forced open and damage to the cabinet may result.

Maintenance

There are no user serviceable parts in the cabinet. Please contact Terso Solutions for any service related inquiries.



WARNING

Always disconnect the power supply to the cabinet prior to any repair or maintenance in order to prevent shock or injury.

Cleaning

Use a dry cloth to wipe off small amounts of dirt on the outside and inside of the cabinet and all accessories. If the outside panels are dirty, clean them with a diluted neutral dishwashing detergent. (Undiluted detergent can damage the plastic components. For the dilution refer to the instruction of the detergent.) After cleaning with diluted detergent, always wipe off the same areas with a wet cloth. Then wipe off the cabinet or accessories with a dry cloth.

Never pour water onto or into the cabinet. Doing so can cause electric shock or short circuit.

Do not clean the cabinet with scrubbing brushes, acid, thinner, solvents, powdered soap, cleanser or hot water. These agents can scratch the paint or cause it to peel. Plastic and rubber parts can be easily damaged by these materials. Especially never use any volatile solvent to clean the plastic or rubber parts. When a neutral dishwashing detergent is used to clean the cabinet, wipe it up thoroughly with a cloth soaked in clean water.

Troubleshooting

If the cabinet appears to not be operating correctly, check to ensure that it is plugged in to a wall outlet and powered on. If further support is needed, contact Terso Technical Support at +1 (888) 376-0257 in the US or +49 621 8501 233 in Europe. Support can also be contacted by visiting <http://support.tersosolutions.com>.

Disposal

Terso Solutions will handle the disposal of the cabinet and its components. Please contact Terso Solutions at +1 (888) 376-0257 in the US or +49 621 8501 233 in Europe to arrange for cabinet disposal.

Specifications

Attribute	Specification (Imperial)	Specification (Metric)
External Dimension	80H x 36W x 26D in	2032H x 914W x 660D mm
Internal Dimension	65H x 14W x 24D in x2	1651H x 356W x 610D mm x2
External Space	80H x 41W x 50D in Place 3" from back wall and 21" from front wall	2032H x 1041W x 1270D mm Place 76mm from back wall and 534mm from front wall
Volume	25 ft ³	717 L
Unit Weight	265 lbs	120 kg
Maximum Weight Capacity - Bin	40 lbs.	18 kg
Maximum Weight Capacity - Shelf	40 lbs.	18 kg
Electrical Input Rating	120VAC, 60Hz, 2A 240VAC, 50Hz, 1A	
Power Consumption	84W max	
Battery	12VDC, 1.3A, Sealed lead acid, qty. 2	
Security Device	Electromagnet	
Access Control	EM4102/EM4200 Proximity Reader	
Environmental Protection	IPX0	
Communications	Ethernet based LAN DSL optional Cellular optional	

Model Specifics

Model	Country	RFID Frequency	Plug Style	Door Style
TS030	US	902-928 MHz	NEMA 5-15	Glass
TS030-CN	CN	920.5-924.5 MHz	Type I / Chinese	Glass
TS030-JP	JP	916.7-920.9 MHz	JIS 8303	Glass
TS056	EU	865-868 MHz	CEE 7/7	Glass
	SA	865-868 MHz	SS 145	Glass
	MY	919-923 MHz	BS 1363	Glass
TS059	BR	915-928 MHz	NBR 14136	Glass

Note: Design or specifications are subject to change without prior notice

Safety Check List



CAUTION

Please fill out this form before servicing

Provide this form to the service engineer to keep for safety purposes.

Safety Check List

Cabinet Contents:

Risk of infection	Yes	No
Risk of toxicity	Yes	No
Risk of radioactive sources	Yes	No

Please list any potentially hazardous materials that have been stored in this cabinet:

Contamination of the Cabinet

No contamination	Yes	No
Decontaminated	Yes	No
Contaminated	Yes	No