

RFID for Healthcare Inventory Management

FSN provides automated inventory management solutions for tracking high-value medical and scientific products in healthcare and life science. The RFID-Enabled Intelligent Enclosure portfolio from FSN has secure credentialed access and automated inventory reporting with a hosted and managed business model. Ideal for both hospital owned inventory and supplier consignment inventory. Each inventory transaction is automatically captured and processed-in real-time. Alerts and integration with automated replenishment assure no stock-outs as well as usage security and accountability. 24/7 Temperature monitoring.

RFID-Enabled Intelligent Enclosures provide users a strategic competitive advantage

The integration and deployment of RFID Intelligent Enclosure systems is helping healthcare providers to offer better patient care and automating regulatory compliance by optimizing work flow, offering more efficient services, automation of temperature control and records and ensuring that the correct medical supplies needed for surgeries are ready and waiting in the OR and Patient Care areas. Pharmaceuticals, biologics, blood and other temperature and time-sensitive medical devices are being tagged with RFID tags and labels that confirm specific identity as well as SKU and that they have been stored in the proper temperature range and are not about to expire when they are called on for use. Alerts may be programmed into the software to enable proactive management of upcoming expiry dates and replenishment requirements. For Pharmaceutical companies with inventory on consignment, continuous real time data and compliance audit trail is provided in terms of cabinet access, inventory status and storage conditions. No longer is staff required to travel to the healthcare site just to check, 'true-up' and rationalize inventory from a pen and clipboard. For Life Sciences organizations, the exact freezer location of specific tissue samples, DNA, specialized serums, etc. is now automatically reported and web accessible by authorized users. With every inventory transaction captured in real time, you can always know who took what, and when.

Summary of RFID-Enabled Products and Services from FSN

RFID	Products	Applications	Business Models
	Smart Storage Cabinets	Consignment Inventory Mgmt.	Outright purchase or continuous managed service model with no initial capital outlay
	Smart Store Rooms	Stockroom Inventory Mgmt.	
	Refrigerators 2C to 8C	Laboratory Inventory Mgmt.	
	Freezers -4C, -20C, -50C to -85C	Hospital Inventory Mgmt.	
	Mobile Asset & Staff and Patient Tracking	Location & Inventory	

- Available in FCC(902-928 MHz) or European(865-868MHz) RFID allocated frequencies

FSN-TS032 RFID Storerooms and Cabinets

Model FSN- TS032 7.9 cubic foot RFID Cabinet can be used to control high value products in a wide range of markets, including clinical labs, clinical trials, life science, medical and biotechnology. The FSN-TS032 RFID-enabled cabinet offers the best combination of value and flexibility. With 7.9 cubic feet of storage, flexible shelf configurations, and secure access, you can rest assured that your product inventory will be taken care of 24/7. The TS032 is designed for storing orthopedic supplies, cardiovascular products, pedigree bio-samples and reagents, among others. As with all our Intelligent Enclosures, it's backed by 24/7 pro-active monitoring and support, which ensures you'll always have the right product at the right time.

Specific applications include:

- Reagents
- Pedigree bio-samples
- Class II pharmaceuticals
- Cardiovascular products
- Orthopedic supplies
- Hazardous materials



FSN-TS029 RFID Refrigerator

The Model FSN-TS029 RFID Refrigerator can be used to control high value products in a wide range of markets, including life science, medical, and clinical trials. Temperature control range is 2°C to 8°C.

The FSN-TS029 RFID-enabled refrigerator offers 5.5 cubic feet of storage space, and includes open shelves or sliding divider trays. With 24/7 temperature monitoring and proactive support, you can ensure product integrity. And our integrated alarm system can notify you when doors are left open or product is about to expire. The FSN-TS029 will help eliminate paper work and reduce costs through automation and smarter purchasing.

Our item level RFID solutions help control healthcare costs. They make inventories and regulatory compliance reporting more automated and intelligent with specific identity visibility, authentication and location awareness, usage, storage temperature, expiry tracking, and preventing loss.



Perfect for use in:

- Pharma Consignment Inventory
- Hospitals
- Research labs
- Healthcare Providers
- Universities
- Crime Labs
- Police Departments



- > **Control inventory management costs**
 - Increase product visibility and reduce shrinkage
 - Eliminate inefficient manual reconciliation processes
- > **Improve regulatory compliance**
 - Generate policy compliance
 - 24/7 remote temperature monitoring
- > **Manage product expiration dates**
 - Ensure product integrity
 - Proactive alarms for expiring products
- > **Maximize revenue**
 - Drive revenue growth through new sales channels
 - Usage tracking improves charge capture rates
 - Prevent stock outs



FSN-TS036 RFID Freezer (Small)

This RFID-enabled freezer offers 5.7 cubic feet(161 L) of flexible, usable storage space, perfect for tissue samples, bio-samples, reagents, biologics, and adhesives. FSN's secure access system captures inventory transaction in real time, allowing you to better manage product expiration dates, monitor temperature to ensure product integrity, and control inventory management costs. Control Range of -25°C to -15°C.

FSN-TS031 RFID Freezer (Large)

The model FSN-TS031 Biomedical freezer gives you all the benefits of automated inventory management without the headaches. This RFID-enabled freezer offers 9.7 cubic feet(274L) of flexible storage space, perfect for tissue samples, biosamples, reagents, biologics, and adhesives. Terso's secure access system captures inventory transaction in real time, allowing you to better manage product expiration dates, monitor temperature to ensure product integrity, and control inventory management costs. Temperature Control Range is -30°C to -20°C.

FSN-TS057 Ultra Low Temperature RFID Freezer

The model FSN-TS057 Ultra Low Temperature RFID freezer gives the ultimate solution for protecting high value samples and specimens. Quick freezing and security controlled, this RFID-enabled freezer offers 14.9 cubic feet(421 L) of flexible storage space. With built in expiration date and temperature monitoring, you can always be sure your samples are viable. And with every inventory transaction captured in real time, you can always know who took what, and when. Temperature Control Range is -50°C to -86°C.



UNDER THE HOOD

A wide variety of industry standard UHF tags and labels are available from FSN. Optimum Selection will depend on a number of factors including environment, material tagged(plastic, metal, cardboard, etc) as well as form factor and size).

RFID Reader Hardware is integrated on two levels. One using industry-standard Proximity access which normally leverages the use of existing staff ID Badges for authenticated cabinet access. The other using UHF Reader/Antenna manufactured by industry leading Impinj. The Impinj Reader automatically takes a new inventory count of cabinet or freezer contents when the door is closed and assigns the product inventory difference to the authorized staff member who opened the cabinet door. This functionality would also track if items are subsequently returned to the cabinet as well as at the restocking time.

Back-Up Sealed Lead Acid Batteries are provided in the event of a power outage. Network connectivity is via Ethernet LAN or optionally DSL or Cellular GPRS. Power Consumption is 1.9 kW max. Also includes a LN2 or CO2 Back Up System.

RFID SECURITY, AUTHENTICATION AND E-PEDIGREE

Legislative serialization options include the use of 2D Data Matrix, which can be easily duplicated. In contrast, UHF RFID offers the manufacturer the option of a permanently locked, factory commissioned unique serial number (referred to as the UTID) embedded within the electronic RFID silicon chip. The unique UTID signature, in addition to an optionally locked drug identification serial number, assigned by the manufacturer, provides the consumer with yet an additional level of authenticity, as drug manufacturers record the UTID and assign their unique product identifiers, shipment contents are aggregated and e -Pedigrees are used to record pertinent information.

HOSTED AND MANAGED AS A CONTINUING SERVICE

We've made the acquisition and implementation of our Intelligent Enclosures as easy and seamless as possible. No upfront capital outlay is required and therefore no delays in waiting for scarce capital budget allocations, so benefits can start accruing immediately for all users. In this business model, a complete managed service is provided. The ownership of the cabinets stays with us as does the maintenance and support. (Outright cabinet purchase is available as an option).This managed service offering integrates RFID enabled Intelligent Enclosures with Data Management and 24/7 Support Services to provide effective inventory monitoring any time of the day or night. Our secure access system automatically captures and processes each inventory transaction in real time. Transaction data can then be analyzed to track product usage, and improve workflows.

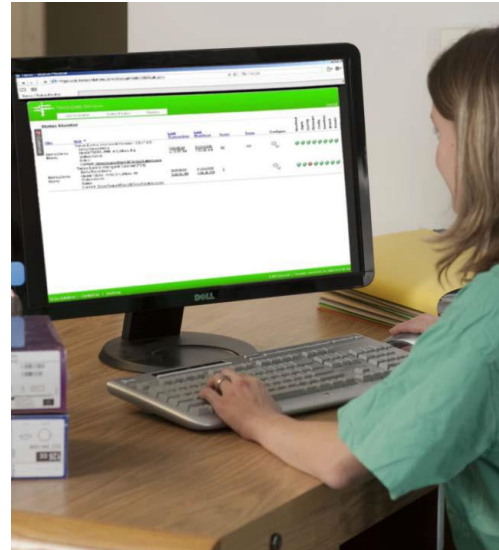
*Over 1000 RFID-Enabled
Intelligent Enclosures
Deployed globally*



Global Inventory Visibility

Users access the web-based system for global visibility, 24/7 operation, and remote access to individual units

The system offers global inventory visibility and item level transaction traceability through an easy to use web-based user interface. In addition, the cabinet is monitored 24/7 by the FSN support staff to identify issues such as items nearing expiration date or doors left open.



Key benefits of FSN's Hosted and Managed Data Services software include:

- Zero software download required, easy access with a web browser
- Item-level inventory visibility at your customer sites
- Detailed information on who removed inventory and when
- Global expiration date management that includes reporting and alerting
- Temperature reporting, alerting, and logging
- Easy RFID integration to automate business processes

FSN Inventory Data Services provides quick and easy access to information about inventory distributed throughout the world.



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