

# RFID Refrigerator and Freezer Retrofit



23 cu. Ft. Configuration



5.2 cu. Ft. Configuration

## Perpetual Inventory in a Refrigerated Enclosure

Venture Research has pioneered the development of Refrigerated Enclosure RFID retrofits to accommodate the needs of the pharmaceutical industry and other industries where critical items need to be tracked in a refrigerated enclosure. With off the shelf configurations of 23, 12, 7, 2.5 and 1.7 Cu. Ft., with the Venture Research Refrigerator retrofit kit virtually any refrigerated enclosure can be made into an RFID tracking solution.

## Standalone and Collection only Implementations

The Standalone configuration incorporates a powerful Android computer with provided software to manage the peripherals, take reads and collect information but also provide user interfacing and prompting to gather information and deliver information through the integrated touch screen LCD panel. The Collection only implementation does not have a bezel but still can perform badge reads, perpetual inventory reads and manage the secure lock.

## Integrated Secure Lock

Each configuration incorporates the ability to manage a secure lock and with the integrated badge reader allow only approved personnel access to the Refrigerator. The lock is Fail Secure allowing it to remain locked even in a power outage.

## Built in Badge Reader

The integrated badge reader can be either UHF or HF (iClass or Prox) and the badge reader is embedded in the bezel or lock to allow a touch point for authorization.

## Designed for the Cloud

Whether running in Standalone mode or Collection Only, all transactions and refrigerator access is queued in a store and forward fashion ready to deliver information to the cloud.

## Prebuilt or Retrofit Kit

Venture Research provides completed solutions using off the shelf refrigerated enclosures but built under our strict quality standards or in kit form. The kit provides the exclusive Venture Research RFID backwall antenna array and reader but also a bezel, power supply, lock assembly and cabling harness to allow customer retrofits if required.

## Domestic or International Usage\*

The product has been shipped all over the world and Venture Research maintains the current regulatory, power and certification requirements to allow the units to be shipped and received in over 26 countries.

## 24 x 7 x 365 Support

Venture Research maintains a world class support organization that can provide real time monitoring and alerting of system operability. All hardware products from Venture Research contain automatic self-diagnosis and alerting. Connecting the product to the remote Venture Research monitoring system called SiteWatch, allows non-stop read point sensing for mission critical applications.

## Product Features

Features	Benefits
Automatic perpetual inventory of RFID tagged material	Eliminates the need to manually track replenishment and consumption
Standalone mode with integrated touch screen computer and display	Allows user interaction with the refrigerator
Integral store and forward capability for all transactions	Ready for the cloud
RF Shielding on manufactured units	Keeps the RF inside the refrigerator to eliminate spurious reads outside the refrigerator
Glass front or sealed front refrigerators	Provides flexibility in the application where visibility is required
Remanufactured high strength RF friendly shelving	Replaces metal shelves for best RF coverage
Built in remote temperature monitoring	Allows remote monitoring of refrigerator/freezer temperature for temperature critical applications

## Applications

- Medical Supplies Tracking
- Drug movement tracking
- Chemical storage needing refrigeration
- Personnel access
- Consumption Monitoring

# Specifications



## RFID Refrigerator - Electrical Specs

Model	VR_FRIDGE_HEAD_XX-XX=Size
Model	VR_FRIDGE_HEADLESS_XX-XX=Size
RFID Reader	1 Watt (30 dBm) Class 1 Gen2 (ISO 18006c) reader, US (902-928 Mhz) (European frequencies ETSI - 865-868 Mhz 1 1/2 Watt also available)
Refrigerator Type/Power	Compressor Style - 23,12,7 Cu. Ft. Models - 220v/110v 50/60 Hz Thermo Electric - 2.5, 1.7 Cu. Ft. Models 220v/110v 50/60 Hz
RFID Antennas	Exclusive Venture Research Array antennas in a backwall configuration
Badge Reader	UHF or HF (HID iClass or prox)

## Interfacing

Connection	WiFi (802.11 a/b/g/n), BLE, CAN Bus, Optional Cellular Serial Console - Ethernet10/100, USB-A
Storage	Removable SD Card up to 64 GB
Secure Lock	CAN Bus Secure Lock with administrator override
Protocol	SSH for direct interaction, transactions delivered to REST interface built in, Telnet for configuration, standard Venture Research 5.1.15 API Support
Cloud Computing	Store and Forward with all filtering/aggregation being performed in the reader. Direct Web Service update capability using HTTP Post
Additional Sensors	Biometrics, HF Badge, Facial Recognition Floor mat sensor, motion sensor, Thermal/Humidity sensor, door sense
I/O	4 In/8 Out Conditioned, CAN Bus
Secure Lock	CAN Bus Secure Lock

## Operator Alerting

Bezel LEDs	R,G,B continuously variable programmable LEDs for operator feedback and custom usage
Annunciator	96 db programmable for over temp or door open

## Software/OS

Operating System	Android 4.X(Headed), Linux Open Distribution (Headless)
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Headed Configuration



Headless (lock only) configuration

## Mechanical

Dimensions: 23 cu. Ft. - 79H" x 30"Wx34D" - Glass Front  
7 cu Ft. - 38"H x 25"W x 21D" - Glass Front  
2.5 cu Ft. - 25" H x 17"W x 20"D - Sealed  
1.7 cu Ft. - 20" H x 17" W x 20"D - Sealed

## Options

Power	Part Number
Battery Backup	FRIDGE-OPT-BATT-PACK
Battery Charger - Single Battery	FRIDGE-OPT-BATT-CHRG1
Battery Charger - Quad Battery	FRIDGE-OPT-BATT-CHRG4
Spare Battery	FRIDGE-OPT-BATT
POE Injector	FRIDGE-OPT-INJECT

## Communications

4G LTE Module	FRIDGE-OPT-CELL
Carrier Service - 1 Year	FRIDGE-OPT-CELL-CARRIER

## Sensor

Mat Sensor - 3'x1.5'	FRIDGE-OPT-MAT
External Input (PIR Motion Sense)	FRIDGE-OPT-PIR
Facial Recognition	FRIDGE-OPT-FACEREC
HID iClass - HF Badge Reader	FRIDGE-OPT-HID-ICLASS
LEGIC - HF Badge Reader	FRIDGE-OPT-LEGIC

## Operating System

Open Embedded Linux	FRIDGE-OPT_OS-LINUX
Android 4.0	FRIDGE-OPT_OS_Android4

## Cabling

CANBUS Interconnect Cable 15'	FRIDGE-OPT_CAN_15
Serial Interface Cable to USB	FRIDGE-OPT-USB-SER

## Applications

Perpetual inventory for pharmaceuticals tracking, chemical tracking, specimen tracking that requires refrigeration, Alcoholic consumption monitoring

## Notes:

- Cellular requires yearly service contract
- Specify service provider at time of order(AT&T, Verizon, T-Mobile, Sprint)
- ETSI/EU - 865-868 MHZ Version available at extra cost
- Specify Refrigerator size at time of order
- Specify badge reader requirements at time of order
- Additional Sensors are optional

## Warranty

- 1 year parts and labor