

iMAT

Real Time Temperature Monitoring



iMAT – Internet Monitoring and Tracking

Cargo Data has designed **iMAT** to provide a full spectrum of cold chain monitoring solutions.

Adaptable and flexible, **iMAT** can be configured to monitor multiple facets of perishables handling operations. Starting with inbound perishables at your Receiving dock, to warehouse storage, then to outbound distribution, all temperature data is captured and transmitted automatically to the secure Cargo Data server. Authorized personnel can access the data in real time 24/7 - 365.

With alerts for out of range and other custom criteria, **iMAT** is invaluable. QA personnel and perishable product handlers can take corrective actions to minimize temperature abuse, before damage and loss can occur.



Depending on application, **iMAT** can monitor temperature, humidity, door open/close events, and even GPS location. These features and more are available in this single, cost effective, off-the-shelf system.

Features:

- Accommodates up to 16 wireless sensors (temperature and/or humidity)
- Email alerts sent based on custom criteria
- All components housed in robust, moisture resistant enclosures
- Fully featured, highly adaptable, simple to install
- Battery backup/rechargeable
- Wireless sensors can be placed up to 300 feet (line of sight) from the terminal which allows for monitoring inside controlled atmosphere or other storage facilities (Banana rooms, etc.)



Check out these other
Cargo Data products:



Boomerang Reusable



Select RF



Express

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iMAT

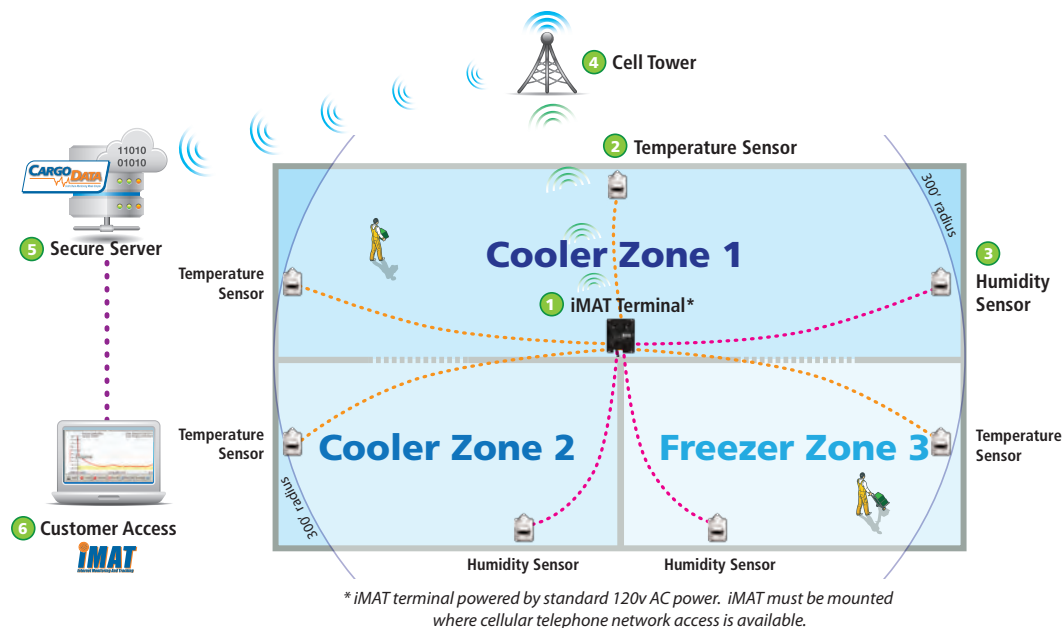
Real Time Temperature Monitoring

iMAT Warehouse Easy to Install, Simple to Use

Cold Storage And Retail Storeroom Applications:

iMAT can be used to monitor temperature/humidity conditions using up to 16 wireless sensors in multiple zones. Alerts can be customized to various criteria. Real time conditions and historical data can be accessed 24/7, 365. iMAT automates and simplifies archiving temperature data for third party audits, etc.

iMAT installation is simple and can be accomplished quickly. iMAT provides real time monitoring for approximately \$2.00 per day.



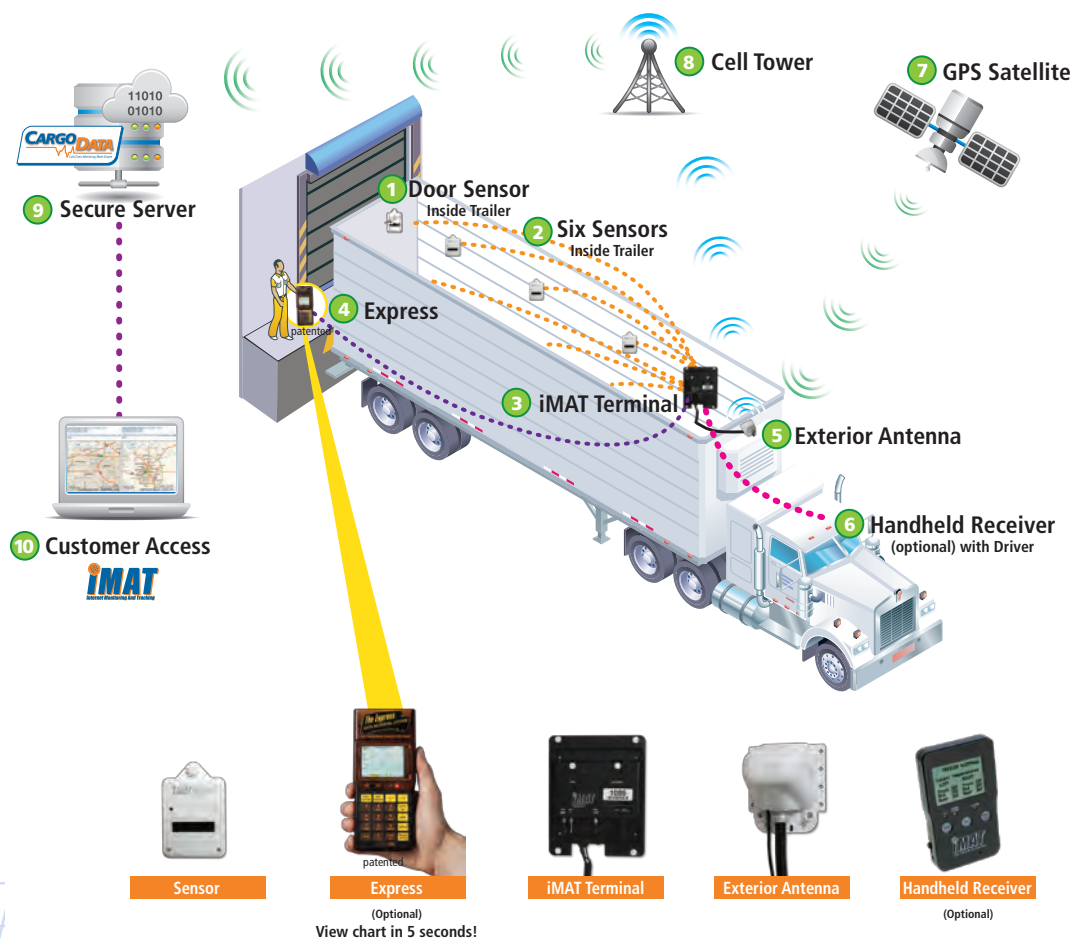
iMAT Mobile

Truck/Trailer Applications:

iMAT Mobile provides real time monitoring of temperature, humidity, door open/close events, and full suite of GPS features. All data is instantly transmitted to the server and archived. Authorized personnel can access real time and historical data online at any time. Alerts can be sent for many user configurable criteria.

iMAT offers the ability to set up "trips" to monitor between shipping & receiving locations, or for distribution routes. Using a special **QUIKSTART** version of our handheld **EXPRESS** unit, iMAT "trips" can be started at the shipping dock with no PC required. Upon arrival at the receiving dock, Express can display iMAT trip data. The familiar chart and tabular data can be viewed as soon as the truck backs into the dock.

iMAT Mobile is a low cost, high value real time monitoring system in an easy to install package.



iMAT Receiving Dock

Perishables Receiving Dock Applications:

iMAT is the perfect automated "temperature data collector." Combined with use of **Select RF** (Radio Frequency) in-transit temperature recorders, ALL incoming time and temperature data is automatically wirelessly captured by iMAT. This allows inbound temperature recorder data to be archived without any staff input or expense. Receiving and QA staff can also view the chart and tabular data quickly using the patented handheld **Express**. Use of the onboard keypad on **Express** allows purchase order, carrier, and other documentation to be added to the record during the Receiving process.

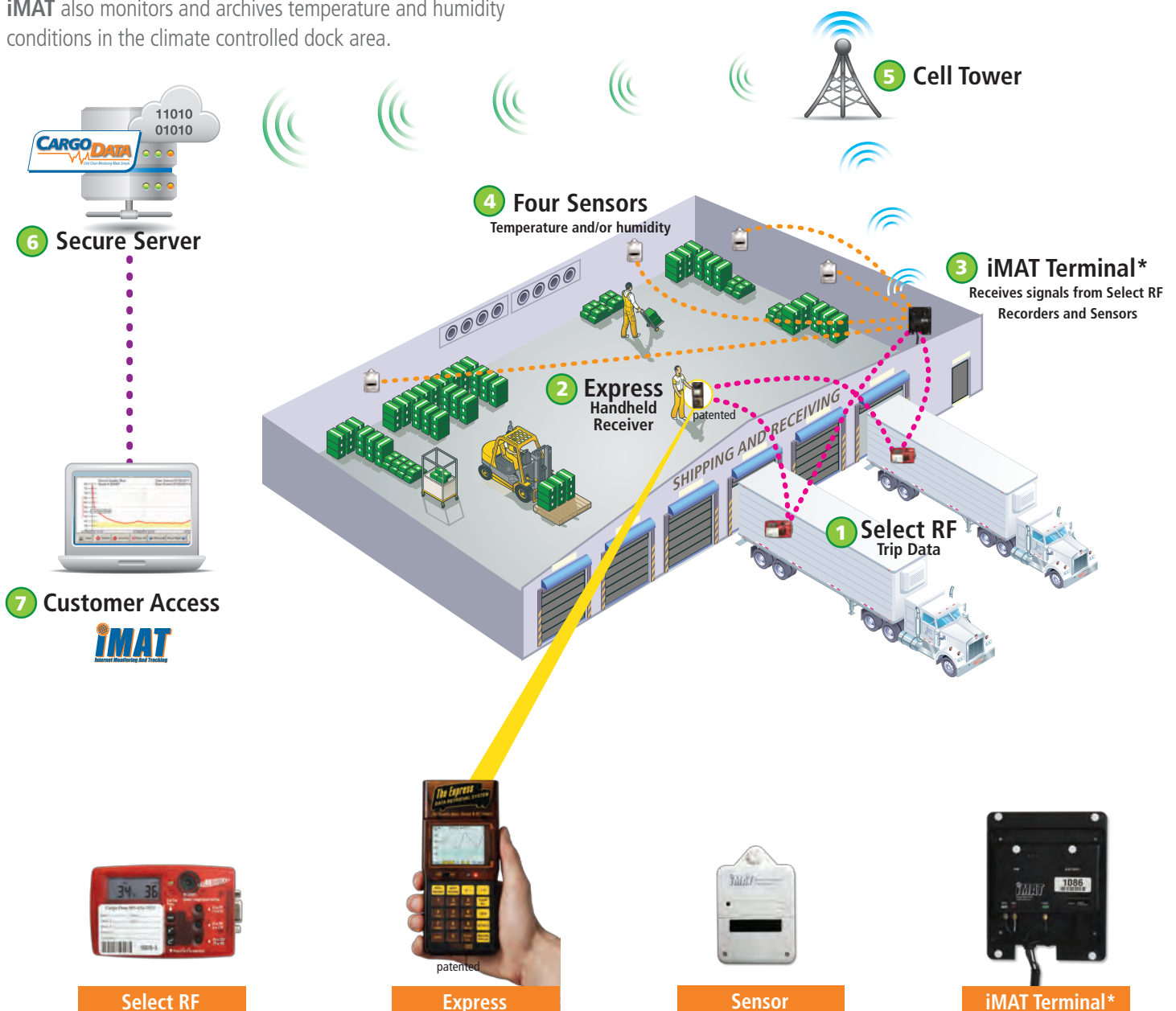
iMAT also monitors and archives temperature and humidity conditions in the climate controlled dock area.



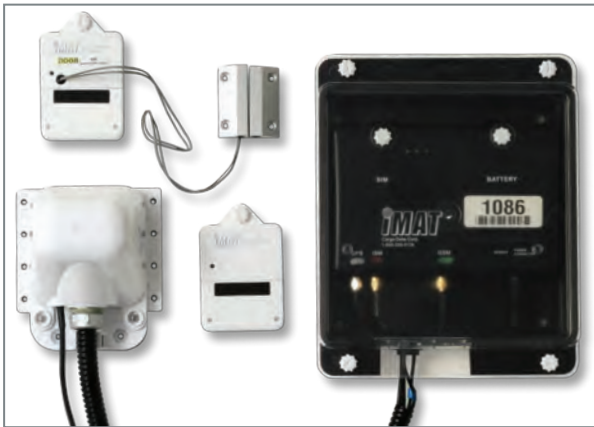
Rebate Programs Available
Cargo Data encourages and rewards recycling our temperature recorders.

The easily installed iMAT system is offered free of charge to operators who exclusively specify **Select RF** temperature recorders for inbound product.

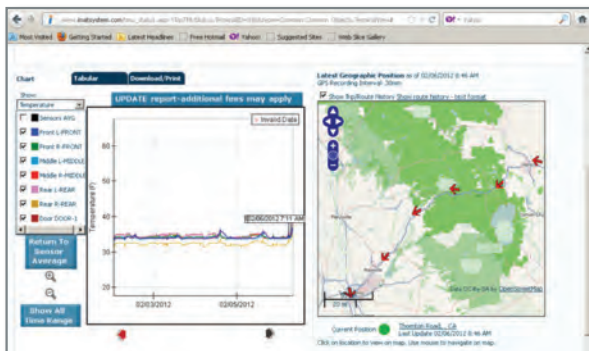
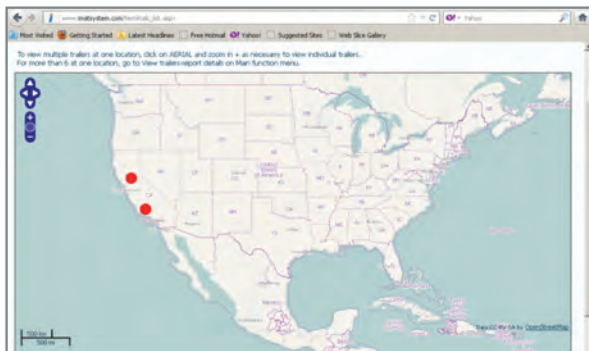
Cargo Data offers a generous rebate program for returned recorders. Add up the advantages: **Select RF** full featured digital recorders PLUS iMAT automatic data archiving PLUS immediate chart viewing on the handheld **Express** EQUALS highly efficient and cost effective Receiving Dock operations.



*iMAT terminal powered by standard 120v AC power. iMAT must be mounted where cellular telephone network access is available.



Actual iMAT System Screenshots:



iMAT System Specification:

- Rapid response temperature and humidity sensors
- Calibrated – N.I.S.T. traceable
- Temperature range: -20° to 120° F (-28.8° C to 49° C)
- Accuracy: $\pm .5^{\circ}$ F ($.3^{\circ}$ C)
- Internet connectivity: Simcard wireless or always-on internet connection via PC
- USB Port: Use standard mini USB 2.0 cable
- Backup Battery
- Interference: Signal does not interfere with passive RFID labels
- Receives data from wireless sensors and **Select RF** recorders from up to 300' away (line of sight)
- 914 mHz (for USA) or 868 mHz (for use in Europe/Asia)
- Manufactured in Certified ISO9002 **CE** Facilities

iMAT Terminal Specifications:

- Real time clock – automatically synchronized with server
- Real-time operation system
- Automatic over-air firmware updates
- Temperature & Humidity Data Collection
 - Data checked against pre-set ranges and generate instant alert to driver/server
 - Based on up to 16 sensors
- GPS Data
 - Automatically detects trailer departure/arrival based on geo-fencing algorithms.
- Data Storage
 - Reliable, non-volatile Flash memory data store 1 MByte
- Physical Characteristics
 - Low profile terminal box-approx. 5" X 7" X 1.4"
 - Protective Outer case-approx. 10" X 8" X 1.75"
 - Scratch-resistant, non-porous, waterproof material
- Power
 - External: Standard operation on refrigeration unit battery
 - Auto Select: 12.2-18.5 V DC for 12V system
24.4-32 V DC for 24V system
 - Or plug in power supply for warehouse application
 - Back-up rechargeable battery pack included- auto charge & control of battery
 - Battery life -72 hours tracking mode, Idle mode-up to 240 hours

Antenna:

State of the art, certified communication module

- For exterior installations:
 - Approx. 5" x 5" X 6"
 - Scratch-resistant, UV-resistant, Waterproof non-porous material
 - Secure enclosed connections
 - Sturdy cables/wires/weather protected
- **Communications:**
 - 4-band GSM Network (AT&T, T-mobile or other)
 - Data sent over GPRS network
 - Requests from server using SMS

Wireless Sensors:

Capable of ambient temperature only or ambient/humidity combination.

- Sensor type: thermistor
- Temperature accuracy $\pm .5^{\circ}$ F
- Temperature resolution $.1^{\circ}$ F
- Temperature range -33° F to + 127° F (-34 C to +54 C)
- Relative humidity absolute accuracy $\pm .7\%$
- Relative humidity resolution 1%
- Relative humidity measure range 0 to 100%
- Physical characteristics:
 - Small & low profile: 2.7" X 4.14" X .83"
 - Scratch-resistant, non-porous, waterproof material
 - Wireless (except for door sensor/contact or extended thermistor option)
 - Recessed or surface mounted brackets.
- Power:
 - Lithium battery for long life, 3.6V 3200 mAh
 - 12-24 month operation (less in sub-zero)
 - Automatic message if low battery to server/ with location
 - User accessible battery for easy replacement
- Communication:
 - Unlicensed ISM Industrial/Scientific/Medical band: 915 MHz (USA, Canada, etc)
868 MHz (Europe)
 - Reliable communication with terminal 24 hr/day.

Drivers RF Handheld

- Functionality:
 - Full color TFT 2.4" LCD with Backlight, high contrast and brightness.
 - Loud beeper for alerts
 - Protective case
 - Battery charger (12V) included
 - Provides purchase order (single trip) and appoint time on LCD (if available)
 - Update at any time to see most current data in 7 or more locations,zones, etc.
- Power:
 - Operates on battery or external power from USB port – 12V power adapter
 - Rechargeable Lithium battery 3.6V 1200 mAh
 - Automatic charging and control of battery
- Communication
 - Unlicensed ISM Industrial/Scientific/Medical band: 915 MHz (USA, Canada, etc)
868 MHz (Europe)

All product features, specifications and appearances may vary due to technical advances.

CARGO DATA
Cold Chain Monitoring Made Simple

Check out these other
Cargo Data products:



Orange Wedge



FliProbe



Express

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