



Collect

Connect

Control

mLOCK™

The mLOCK is an electronic lock that integrates security, tracking, and bi-directional communications into one unit for remote mobile assets. The mLOCK is detachable and may be used on any number of conveyance types including trucks, rail cars, and ocean containers. Its integrated GPS and on-board memory ensure location determination and waypoint identification. The mLOCK features an adaptive, multimode communications design that makes both local and remote interrogation and control of the device easy and secure. Onsite personnel have access to the mLOCK data via the front-panel LCD, wireless keyfobs, and handhelds. For remote visibility, integrated long-range radio and cellular communications transmit data back to a globally available web server. This provides intransit configuration changes of alert thresholds, upload schedules, waypoints, and other operational modes. The mLOCK is the one device you need to ensure your cargo moves effortlessly and securely through the supply chain.



Remote Control and Data Acquisition via the Internet



Features

Security

- Programmable "Trusted Zones" of gateways and geo-waypoints
- Provides auto-lock when exiting zone as a backup to driver locking device with remote
- Sends alarm if lock opened outside of zone
- Stainless steel enclosure without external fasteners prevents dismantling
- Anti-tamper hasp detects and alarms if cut
- Device-specific keyfob, miKEY, unlocks/locks mLOCK quickly and securely
- Autonomous GPS provides location and tracking on programmable schedule or event-based triggers
- Embedded sensors used to detect motion, shock, and temperature
- Remotely configurable set points and schedules for data collection and upload flexibility
- Onboard memory allows up to 2000 stored records between data uploads

Communications

- Front-panel button toggles LCD to display user-defined fields, e.g. license plate, and alarms
- Local interrogation via wireless miKEY keyfob or miGATE handheld
- Bi-directional communications to IVIEW web server
- 2.4GHz LAN for cost-effective upload via iGATE
- Embedded WAN for In-transit direct uploads

Power

- Rechargeable battery
- Solar-assist and cradle chargers
- Optimized power usage through adaptive, multimode onboard logic



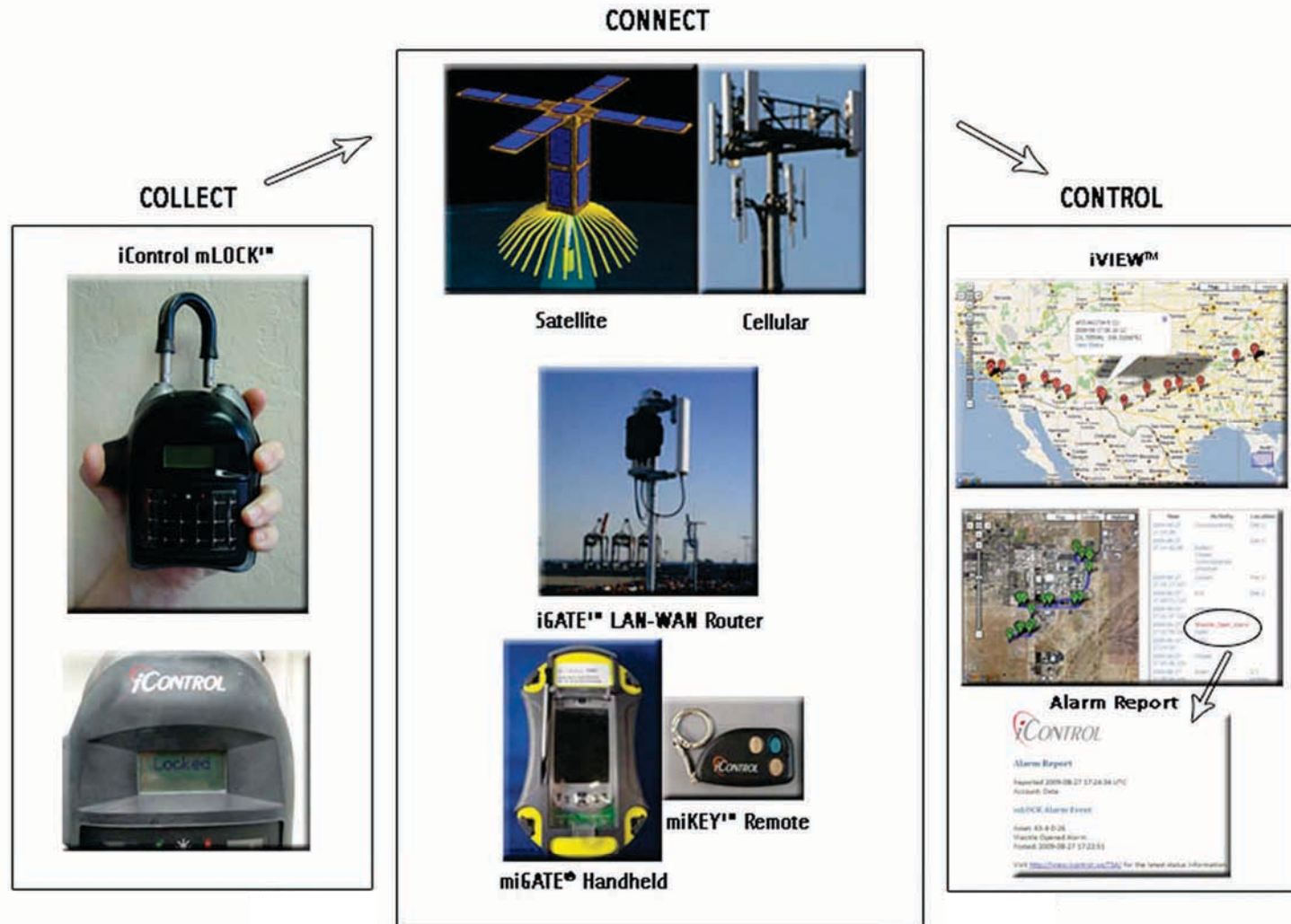
Industries

- Cargo Security
- Supply-Chain Management
- Logistics and Shipping
- HazMat Tracking

Common Applications

- Intrusion Detection
- Real-time Alerts
- Location Determination
- Remote Access and Control
- Secure, Worldwide Communications
- Interoperability with 3rd Party Sensors and Enterprise Solutions

iControl Solution



How it Works

The mLOCK is provisioned with information specific to the trip, such as license plate numbers, geo-waypoints, alarm thresholds, and estimated time of arrivals. The provisioning process is done either remotely using the iControl web server, iVIEW, and network gateway, iGATE, or locally using the iControl handheld, miGATE. Once provisioned, the mLOCK is attached to the conveyance, e.g. truck, container, pallet, and the shackle is closed. The driver uses a device-specific keyfob called the miKEY to secure the lock. The concept of a "Trusted Zone" is used to identify authorized areas based upon the locks vicinity to a geo-waypoint or the locks range to an iGATE. If the driver forgets to secure the lock, then upon exiting the Trusted Zone, the mLOCK will automatically lock. This feature also provides in-transit security, so if the lock is opened outside of a Trusted Zone, an alarm is generated and automatically sent to authorities via email or text messaging. The mLOCK will also display an "Alarm" status on its LCD screen. Upon arrival at the final destination, the authorized agent is able to inspect the lock status on the screen or interrogate using the miGATE. The lock is unlocked and removed from the conveyance and put into the charging cradle to be decommissioned, recharged, and available for the next trip.

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Technical Specifications

Category	Component Description	Specification
Physical	Characteristics <ul style="list-style-type: none"> • Dimensions • Weight 	16.5 cm H x 10.8 cm W x 4.4 cm D 1.3 kg
	Power <ul style="list-style-type: none"> • Battery • Chargers 	3.6 V Li-Ion rechargeable USB cradle charger; solar assist
Environmental	Temperature Range	-40 – 80 Celsius
	Shock	Tested to 3600 g's
Data	Storage: Waypoints Logging for: <ul style="list-style-type: none"> • Alarms • Locations • Events 	Up to 32 MB
	Location and Tracking <ul style="list-style-type: none"> • Autonomous GPS • iGATE Locations 	Unobstructed accuracy: ~10m Programmable waypoint checking Logs network locations and ID's
Communications	LAN <ul style="list-style-type: none"> • Radio • Certifications 	2.4 GHz 802.15.4 FCC, Japan T-66, EU
	WAN <ul style="list-style-type: none"> • GSM-SMS/GPRS • UMTS-SMS 	Quad-band 850/1800/1900 MHz Penta-band GSM + 2100 MHz
	Liquid Crystal Display	Programmable, 2-line, 16 characters

The mLOCK is patent pending

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