



# Lock & roll

## Hybrid monitoring solution for dry & refrigerated containers

Lock & roll tracks the status of dry and reefer containers from the moment they are sealed until they are opened at their final destination. Combining **satellite** and GSM connectivity, Lock & roll is always on the lookout, always monitoring, even in remote areas or far away at sea.

Real-time tracking information is presented according to user preferences and is sent as email and/or text message, keeping you up to speed with your containers conveniently at every moment.

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## The monitoring solution for ensuring safe delivery of containers from origin to destination

Especially designed for refrigerated cargo, Lock & roll integrates multiple sensors, including highly sensitive temperature, humidity and light, that monitor and immediately report status at any desired time interval. Unexpected or significant event occurrences that deviate from pre-defined settings trigger information alerts that are sent in real time to all interested parties.

### Information available

- Position of the container provided by GPS and shown as a map landmark, address or coordinate
- Door open/closed
- Battery-charge level
- Lighting level in the container (may indicate that the container door is open or break-in attempt)
- Temperature and humidity (significant for sensitive shipments)
- Impact (to warn about possible force or impact events especially during loading and unloading)

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## Key Features

- Standalone tracking unit operated by rechargeable batteries
- Fast and easy installation by attaching the unit to the container door frame with a magnet
- Flexibility - fully configurable to meet customer requirements
- Reliability - when the unit is out of GSM coverage, information is automatically transmitted via satellite
- Audit trail tracks the entire journey on a map and includes a detailed report of all recordings
- Geo-fencing function raises notifications when a container has entered or departed a location
- Security - protocol encryption to protect data transmissions
- Web-based tracking available from anywhere

## Benefits

- **Competitive edge** in customer service; with real time information at your fingertips at all times, Lock & roll increases operational efficiency and keeps your customers satisfied
- **Reliable, built-in** sensors operate constantly, collecting data regarding important aspects of your cargo's position and condition, allowing you to stay well informed about your containers' status
- **Real-time alerts** of all significant and unusual situations allowing you to react swiftly and confidently during any part of the container's journey
- **User-friendly** with complete solution and fast-and-easy installation. In only a few simple steps via the online interface, you define the alerts, reports and destinations you need, and you can change them anytime
- **Long-term usability** with capability to upgrade the unit over the air with new features and settings

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## Specifications

Supply	Voltage	3.7V
Temperature	Operational Storage	-20°C to +60°C
		-40°C to +85°C
Operating Humidity		Up to 90%
Dimensions		40 x 25 x 4 cm (15.7 x 9.8 x 1.6 inch)
Iridium Satellite Communication	Frequency Range	1616 to 1626.5MHz
	Multiplexing Method	TDMA/FDMA
	Supply Input Voltage Range	5.0V+/-0.2V DC
	Idle Current (average)	45mA
Cellular Communication	GSM/GPRS - default	Quad Band (850, 900, 1800, 1900)
	Optional Modems	UMTS/HSPA+, CDMA/1xRTT/EV-DO, LTE
Location	Antenna type	Built-in (concealed)
	Data channels	SMS & TCP/IP
	Protocol	Proprietary – encrypted
CPU Capacity	Type	GPS, GLONASS (optional)
	Time to First Fix (TTFF)	2 sec (hot start)
	Positioning Accuracy	10m CEP (50%)
	Velocity	0.2m/s (50%)
	Antenna type	Built in (concealed)
Sensors	Static RAM	128 Kb
	Nonvolatile memory	34 Kb
	Flash Memory	2048 Kb
Temperature	Range	-45°C to +125°C
	Accuracy	± 0.2°C
Humidity	Range	0% RH to 100% RH
	Accuracy	± 1.8 % RH
Accelerometer	Scale	± 8g
	Accuracy	± 2.5%
Light	Resolution	0.025 LUX
	Sensitivity	0 - 104,448 LUX (Sunlight)
Inputs	Push-button	1
	Door Switch	1
Battery Pack	Type	Li-Ion
	Capacity	5200 mAh
Power Consumption	Sleep/Idle	0.05mAh
	GPS only	75 mAh
	GPRS only	100mAh
	GPS and GPRS	165 mAh
Access Port	Type	TTL

Industry Certifications   

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