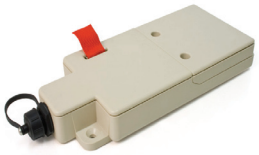
Numerex™

1877 - M2M - XTRA
www.numerex.com

GLOBAL SX1 TRACKING TAG

RUGGEDIZED SATELLITE GPS TRACKER

Cost-Effective Tracking and Remote Monitoring Solution



Global Asset Tracking

The SX1 represents a breakthrough in satellite-based asset monitoring and tracking technology. Operating on Globalstar's Low Earth Orbit (LEO) simplex satellite data network, the SX1 provides GPS visibility, event monitoring and remote asset data on a near global basis. Ideal for low volume messaging with mission critical data, the SX1 provides commercial and government customers with the most cost-effective satellite solution available for both fixed and mobile applications such as intermodal shipping containers, trailers, buoys and barges.

Innovative, Compact, Rugged Design

The SX1 will carry the highest environmental ratings available for any satellite or terrestrial tracking device, by receiving HERO (Hazards of Electromagnetic Radiation to Ordnance) Certification and meeting or exceeding 16 methods within the MIL-STD 810F requirements, making it the most rugged satellite tracking tag available today. It's compact size makes it ideal for almost any container or asset since it is only 8.25 x 3.25 x 1 inch (184 x 83 x 25 mm) and weighs only 13 ounces (369 g).

Long-Life, Low Maintenance, Easy Install

Delivering years of uninterrupted service on a single and easily field-replaceable lithium battery, the SX1 can be installed, activated and operational in less than one minute. The SX1 is able to track and monitor any asset nearly instantly. The SX1 is the product of choice for applications requiring low-maintenance, long-life solutions.

Reliability, Expansion, Integration

The pinpoint accuracy of the SX1 GPS chipset and satellite communications provides more reliable tracking of remote assets than cellular Location Based Systems or proximity RFID tags because it communicates dependably via satellite extending its range far beyond cellular and RFID coverage.

For expansion, the functionality of the SX1 is enhanced through the USB port. Supporting external sensors, the SX1 provides additional capabilities to meet the demands of real-time security, alarm reporting and asset conditions. The internal motion sensor and highly configurable event alarms help customers manage their security concerns when high-value assets are at risk. The open architecture allows complete and secure data integration and is compatible with virtually any legacy supply chain, logistics or tracking application.

Cost-Effective Global Coverage

Satellite communications provide near-global coverage and the Simplex Data Network provides the most cost-effective solution available for monitoring assets from continent to continent and across urban and remote areas. Not only are LEO satellite communications more reliable for data transmission than terrestrial systems, they also offer substantial benefits over Geostationary Earth Orbit (GEO) satellites. The advantages include lower power requirements, reduced latency, less shadowing from buildings or stacked containers and increased reliability due to redundant satellite network.

Total Asset Visibility

The SX1 with its associated satellite network offering and optional web-based mapping and asset management software allows customers to obtain Total Asset Visibility from any internet connection worldwide. The web-based solution requires no downloads and provides mapping, display, and management tools for tens of thousands of assets.

"Just over a year ago, we went with the SX1 from Numerex, and believe that it remains one of our better decisions in strengthening our disaster program. We've not only tracked our units rendering service in larger incidents, such as Hurricane Ike in '08, but witnessed the devices sending consistent messages through the early '09 ice storms in Kentucky and Tennessee. To date, we are very pleased with the technology, in a culture where new and exciting devices are a dime a dozen, but many of which fail to meet expectations. Furthermore, the staff and technical assistants at Numerex are readily available to assist in any way that they can, knowledgeable, and committed to making the integration of their technology into our program a success, not just in the initial weeks of installation, but for the long haul."

CHRISTINE SUTTON,
CEM OPERATIONS MANAGER,
EMERGENCY DISASTER SERVICES,
THE SALVATION ARMY

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SX1 PRODUCT SPECIFICATIONS

PHYSICAL	
Dimensions	• 8.25" x 3.25" x 1" (184 x 83 x 25mm)
Weight	• 13 ounces (369g)
APPROVALS	
Radiated Emissions	• FCC Part 15 and verified ESD, Industry Canada, COFETEL, CE Notified Body Mark
ESD Compliance	• EN61000-4-2
Safety Approval	• U.S. UL913, Class 1, Division 1 (Groups A, B, C, D) INTRINSIC SAFE OPERATION
Ordnance	• HERO Certification in progress
ENVIRONMENTAL	
Temperature	• Testing per SAE J1455 4.1.3.1 and MIL 810F 4.5.2
Humidity	• 100% at 50 C, Salt, Fog Testing per MIL STD 810
Vibration & Shock	• Testing per MIL STD 810, SAE J1455, and EIC 60521
Type	• Exceeds IP68 and NEMA 6P
TRANSMITTER	
Frequency	• 1611.25 to 1618.75 MHz
Protocol	• Simplex
Modulation	• Direct Sequence Spread Spectrum (DSSS)
Maximum Tx Power	• 22dBm EIRP
Maximum Tx Time	• 1.4 Seconds/9 bytes
Antenna	• Dual Mode (Satellite--GPS)
Packet Size	• 9 Bytes
UNIT OTA IDENTIFICATION	
Electronic Serial Number	• Each unit uniquely serialized
DIGITAL COMMUNICATIONS	
Programming Interface	• USB HID Device
SENSOR INFORMATION	
Motion	• Internal
Sensor Interface	• USB HID
Integrated	• Dry Contact
POWER	
Battery	• Internal, Ultrasonically Welded Lithium Pack - Primary 3200mAHr 6VDC
Battery Life	• Up to 4000 messages
Replacement	• Field replaceable without device removal from asset
Line Power Capable	• Standard, via USB Interface
MOUNTING OPTIONS ACCESSORY TYPES	• Tape, Windshield, Mounting Sled, Screw • Programming Tools and Cables, Mounting Accessories, Sensor Cables, Line Cables Security Screw and Tools

KEY FEATURES

- Small compact profile
- Rugged design for extreme environments
- Exceeds IP68 and NEMA 6P T
- Multiple mounting options available
- Open data architecture for easy OEM integration
- Operates globally out of the box
- Optional "Total Asset Visibility" application

Totally self-contained unit includes:

- Satellite transmitter with dual-mode antenna
- Motion detector
- Multi-year battery
- USB HID interface
- Line power capable
- Magnet reed switch (on/off alarm)

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