



GLOBAL SENTINEL® (GS-6L)

ASSET VISIBILITY YOU CAN RELY ON

When asset visibility is essential to your organization, and it is vital for you to know the location and condition of your assets, then rely on the Global Sentinel-6L. The GS-6L is an adaptable device that does not require a fixed infrastructure to provide global monitoring and tracking of your valuable assets. It also serves as a mobile mesh gateway for mist® (mobile integrated sensing technologies). mist® sensor nodes monitor cargo and in-transit assets, reporting status and alerts via ad hoc mesh networks through the GS-6L. mist® position beacons at receiving sites and on designated personnel provide “Oracle Quality” location data to confirm change of custody for Blockchain transactions.

The GS-6L device mounted on a ship, truck or break-bulk cargo, reports the position of your assets, detects unplanned events and identifies variances. This provides you timely information on the status of your assets and allows you to respond to unexpected circumstances. Business rules on the device determine the least costly communication mode. The options include: satellite, cellular and mesh technology, allowing for two-way, encrypted, redundant wireless communications. With the GS-6L, you have continuous global positioning, status reporting, event alerting and remote configuration.

The advanced technology of RSAE Labs’ GS-6L keeps your organization informed on the security of your assets, and with an extended battery life of up to five years or 6,000 reports you can trust the device to maintain communications. When your assets are important to your organization, rely on the GS-6L to monitor position and environmental conditions including: temperature, humidity, and shock and motion state. If the device detects a situation outside of your pre-determined routing or sensor threshold, you will receive notification of the anomaly by web, text, SMS or e-mail.



Key Features and Benefits

- Global coverage through satellite, cellular and mesh communications
- Immediate reporting for event notification
- Data encryption delivering secure reporting
- Data storage for sensor event and position history
- Customized reporting based on time, event, or Geofencing transition (up to 2,000)
- Position status updates at timed intervals or driven by an event
- Remote reconfiguration for re-routing, cargo profile changes and firmware updates
- Requires no fixed infrastructure
- Self-sufficient device minimizes man-power costs
- Optional magnetic mount for easy installation

Physical Characteristics

- Body Dimensions 12.11" x 5.37" x 1.45"
- Weight.....2.9 lbs. (1.32 kg)

Environmental

- Temperature-40 C to +85 C
- Humidity 100% @ 40 C
- VibrationSAE J14552017
6 G RMS all axis
- Shock (survival)..... 1 meter drop 6-sided
- Ingress Protection Rating..... IP-67/NEMA-4

GNSS/GPS

- Constellations GPS/GLONASS/Galileo
- Channels.....72
- Sensitivity-146 dBm (cold start)
- Time to First Fix (typical)
Cold Start..... 26 sec
Warm Start 1 sec
Aided Start..... 2 sec
- Accuracy (SA Off)
Position (CEP, 2D).....<2.5 m (unobstructed)

Power (Internal Battery Only)

- Sleep/Operating..... 10 uA/250 uA
- Battery Type..... Lithium-thionyl Chloride
LS-17505 or equivalent
- Battery Quantity 12 ea
- Battery Life..... 6,000 reports 5+ yrs
- Optional NiMH Rechargeable .. 3000 reports 6+ months
- Optional External: 12 VDC – 48 VDC and AC adapters

Sensors

- Accelerometer ±0.004 – 16 G
Motion, shock, tilt, free-fall
- Humidity, ambient air..... 0 – 100% RH ±2% RH
- Temperature, ambient air -40°C - +85°C ±0.3°
- Light/Demount..... Phototransistor
- Wireless mist®: numerous sensors

Certifications

- FCC Part 15B
- CE/RED
- SAE J1455 2017, IP-67/NEMA-4
- US DoD: HERO, HERF, HERP (pending)

Indicators

- LED Red/Green/Orange

Functional

- Global Coverage..... SATCOM and cellular
- Low Latency Reporting..... <2 minutes
- Encryption..... AES-128/CCM
- Data Storage 1 Mbyte
- Reporting Timed, event driven,
Geofencing transition
- Geofencing..... 2,000 user-defined
zones on device
- Position..... Timed or event driven
- Configuration & Upgrade..... Remote via comm.

Satellite Radio

- Radio Type..... Iridium 9602
- Radio Standard Short Burst Data (SBD)
- Transmit/Receive 1616 MHz - 1626.5 MHz
- ERP +33 dBm
- SBD Message Size
Mobile Originated 340 bytes
Mobile Terminated..... 270 bytes

Global Cellular Radio

- 2G/3G SARA-U201
- LTE Cat-M1/2G..... SARA-R412

mist® Mesh Radio

- Radio Type..... Nordic nRF52840
- Radio Standard 802.15.4 Phy only
Ground-up new protocol
- Transmit 2402 MHz – 2480 MHz
- Receive 2402 MHz – 2480 MHz
- ERP 8 dBm
- Modulation DSSS
- DSSS Chip Rate 2 Mchips/sec
- Data Rate 250 Kbps
- Channels 16
- Channel Bandwidth 3 MHz

