



## KNOWING THE LOCATION AND STATUS OF FIELD CREWS MEANS SAFER OPERATIONS

Guardian Mobility™ offers a new generation of innovative wireless data communications platforms that can help forestry managers direct firefighting operations more safely and effectively. Compact, rugged and easily transported, Guardian Sentinel™ and Guardian Sentinel GPS data devices enable fire management teams to accurately locate their people, equipment and supplies in remote and often dangerous environments, helping to ensure their safety as well as to rapidly deploy critical resources where they are most needed.

### FINDING PEOPLE AND RESOURCES QUICKLY

Ideal for areas where terrestrial wireless or wireline infrastructure and external power are unavailable or unreliable, Guardian Mobility Sentinel products can be installed in minutes on a backpack, vehicle or structure. Using a simple Windows-based configuration tool and self-contained power supply, Sentinel units can automatically transmit low volumes of data in near-real time. They can be configured so that data transmissions are triggered at regularly scheduled intervals or by specific events such as pressing a panic button.

As the most cost-effective tracking and reporting solutions available, Guardian Mobility Sentinel products are attractive to both large and small firefighting organizations with the lowest total cost of ownership among satellite transmission based devices.

### PRODUCT FLEXIBILITY

Two Sentinel models are available. The highly accurate Guardian Sentinel GPS can track the location of fire-crew members and mobile assets, such as ground vehicles and bulldozers, within six metres 95 percent of the time. The low-power, cost-effective Guardian Sentinel (without GPS) is well suited for monitoring fixed assets including water and fuel supply tanks, weather stations or other unattended facilities.

Sentinel units are easily transferable from one person or location to another. Power, antenna, external housing and mounting options are available to meet a wide range of installation and environmental requirements. In addition, many other sensors can be integrated with both models, enhancing their usability.

### KEY FEATURES

- Compact, portable, lightweight
- Rugged, self-contained, maintenance-free
- Low power consumption
- Simple to install, simple to use
- Near-real time and automatic data transmission
- Low price, low maintenance costs

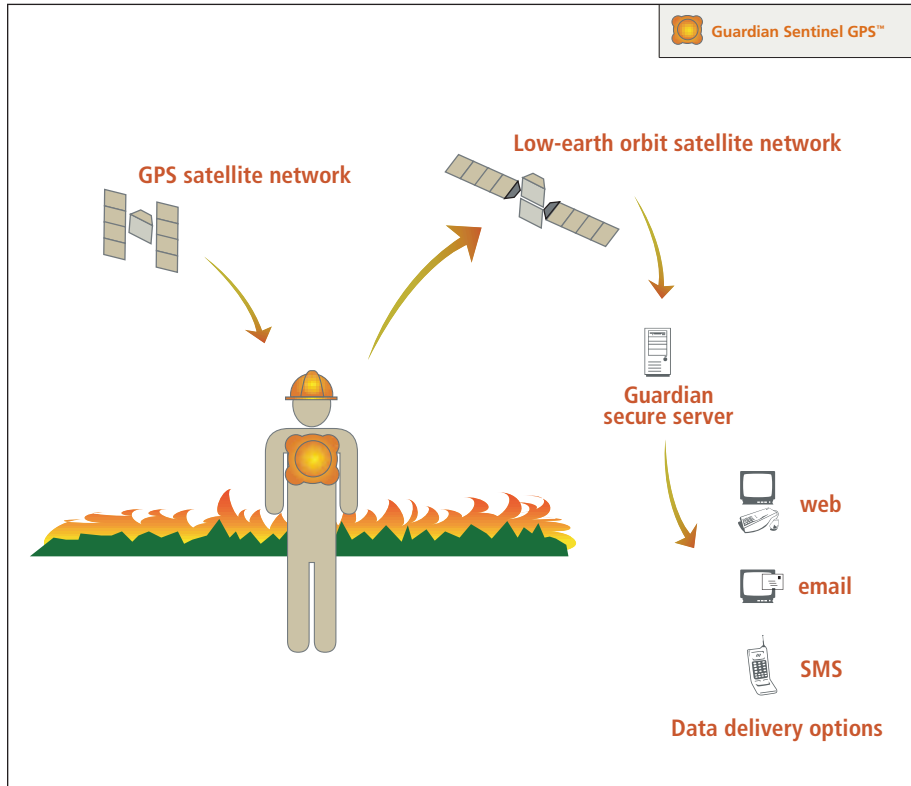
### KEY BENEFITS

- Ideal for remote and harsh environments
- Fast and easy installation virtually anywhere
- Cost-effective for large and small organizations
- Up-to-date location information on fire crews, equipment and supplies
- Better operational decision-making and allocation of essential resources

Guardian Sentinel GPS™—the low-cost, dependable, turnkey satellite communications platform for monitoring and locating people and assets.

**HOW DOES GUARDIAN SENTINEL WORK?**

An end-to-end tracking and reporting solution, Guardian Sentinel takes advantage of the Globalstar low-earth orbit satellite communications network. Using an uplink-only connection, data from the Guardian Sentinel units is transmitted to the satellite network, which in turn is transmitted to secure servers at Guardian Mobility. Command and control personnel



can then connect to a secure web server to view data transmissions while field-based fire-fighting crews can automatically receive notifications of transmissions via email, cell phone or fax. In addition, Guardian Mobility offers carrier-class BackOffice and Network Operation Centre (NOC) monitoring and event response capabilities, which can be seamlessly integrated with existing operations and systems.

As a result, firefighting organizations can dynamically determine where their resources are, safeguarding personnel as well as valuable equipment and supplies in often hazardous and isolated areas. Giving firefighters better tools to track and monitor their people and resources means that they can combat wildland fires more safely and effectively.

**Please contact us for more information on complete solutions for remote resource management.**

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**ELECTRICAL**

**Input voltage:** 9 V to 15 V  
**Power consumption:** ~350 mA at 12 V on transmit; ~25 mA on GPS acquisition; 1.5 mA on standby  
**Battery type (Option 1):** 6 AA cells, lithium disulphide, 2900 mAh capacity  
**Battery type (Option 2):** 7 C cells, alkaline, 8350 mAh capacity

**SATELLITE TRANSMITTER**

Packet data transmitter (uplink only) running on Globalstar network  
**Frequency range:** 1611.25 to 1618.75 MHz  
**Transmit power (max.):** 156 mW (+22 dBm)  
**Antenna:** 25 mm integrated internal patch antenna, passive  
**Optional antenna:** external, passive  
**Satellite visibility:** 25° to 90° inclination angle from latitudes 70°N to 70°S  
**Message format:** 136-bit packet; max. 16 packets/message (144 bytes total "payload")

**GPS (Sentinel GPS only)**

Ultra-low power consumption, high-sensitivity receiver module  
**Receiver:** 1575.42 MHz (L1)  
**Channels:** 12 parallel  
**Time To First Fix (TTFF):** 45 s (cold); 35 s (warm); 8 s (hot)  
**Accuracy:** 6 m 2dRMS (position)  
**Power consumption:** 130 mW @ 2.7 V (acquisition)  
**Sensitivity:** -137 dBm (acquisition); -150 dBm (tracking)  
**Antenna:** 25 mm integrated internal patch antenna, passive  
**Optional antenna:** external, active

**PHYSICAL**

**Size:** 175 mm (length) x 175 mm (width) x 50 mm (thickness). Small base version 130 mm x 90 mm x 40 mm  
**Weight:** 500 g (without batteries)  
**Mounting:** adaptable base plate for strap or screw mounting

**ENVIRONMENTAL**

**Operating temperature range:** -30° to +60°C  
**Enclosure:** compliant to NEMA Type 4X and Type 8 for use in hazardous locations (Class I, Division 1, Groups C and D)

**I/O CONFIGURATION**

**Digital:** up to 8 input ports and 4 output ports (custom configured by manufacturer)  
**Analogue:** up to 3 input ports (custom configured by manufacturer)  
**RS232:** up to 2 ports (custom configured by manufacturer)  
**External interface:** 2 8-pin circular connectors supporting 1 serial port, 2 analogue inputs and 2 digital inputs  
**Configuration application:** Windows-based; supports up to 4 unique time settings defined hourly, daily, weekly or monthly

GMC Guardian Mobility Corporation is a leading developer of location-aware wireless data communications solutions for monitoring and tracking people and assets. Guardian Mobility solutions incorporate innovative satellite-based wireless communications and highly accurate GPS positioning technologies to deliver mission-critical and life-saving information from remote locations where wireline or terrestrial wireless networks are not readily available. Guardian Mobility products can be integrated with feature-rich, customizable, carrier-class Back Office monitoring and event response systems to provide end-to-end solutions.