

spidertracks the details

The Hardware

The spider is injection moulded, sealed to IP67, containing an Iridium SBD modem, a SiRF Start III GPS engine board by Navman, and proprietary hardware including a satellite and a GPS antenna.

The spider is powered by a DC power supply of between 10 and 32 V DC, and is supplied with a 1.5 metre power lead. The spider plugs into a standard cigarette lighter socket so can be moved between aircraft or vehicles. The optional keypad enables communication between the pilot and the operations base, enables the pilot to change or suspend the update rate during flight or send pre-programmed TXT and email messages, including emergency alerts, to nominated recipients.

The spider mount is fixed into the aircraft or vehicle with the adhesive strips supplied. Additional mounts are available. The spider can then be moved easily between aircraft or vehicles. Alternatively, mounting holes are available for permanent installations.

The spider can be mounted in any position where a sufficient view of the sky is available. GPS and Iridium frequencies can transmit through fibreglass, glass and plastic.

Communications

Spidertracks spider's can be programmed to automatically report GPS position data as frequently as one minute intervals.

The GPS position data is transmitted to secure Australian and New Zealand-based servers via the global Iridium satellite network. With 66 satellites in the network, there are generally at least four satellites

in view at any one spot on earth, ensuring global cover and no storing of data. Data is uploaded and delivered to the server in real-time and is generally available on the website within thirty seconds.

The spidertracks system has automatic validation activating every 2 minutes (a heartbeat) providing 24/7 health monitoring of the system. Redundant backup servers provide continuous backup of spidertracks data. In the event of an unforeseen incident transmission of data would continue to the back up servers, ensuring near seamless continuity of operations.

Spidertracks uses industry standard 128 bit SSL encryption with Extended Validation to ensure security of the data.

Reporting and Tracking

www.spidertracks.com

The spidertracks tracking service offers a web-based solution that provides secure access to the tracking information by any number of users, from any location in the world by logging into the secure spidertracks.com website. Information can be served to external servers (such as the forestry service operations centers) via xml/https.

Spidertracks uses two high quality data centers, one in New Zealand and one in Australia, to provide a reliable and secure tracking service. Our servers are guaranteed to have 99.999% uptime, and in the event that one server does go offline, the backup server will provide service.



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Key Features

- Satellite Network - Iridium
- Purpose-built hardware and software solution
- Web-based access to tracking information
- No user licenses
- Truly portable - no external antenna required
- Powered via cigarette lighter or portable power pack
- Two-way communication between pilot and operations base with keypad
- Monitoring/reporting rate can be updated during flight by the pilot with keypad
- Pilot can send pre-programmed TXT and email messages during flight with keypad
- Emergency alert function with keypad
- Guaranteed server reliability with multiple servers
- 24/7 monitoring of the system
- AFF compliant

Pricing

- Monthly Iridium subscription of US\$19.95
- GPS position/data rate US\$0.10 per message

Technical Details

- Indicator Lights:
 - Green: to indicate GPS fix acquisition
 - Red: to indicate power
- Physical Characteristics:
 - Dimensions: 130 x 65 x 32 mm
 - Weight: 360 g
 - Materials: Injection moulded plastic
- Environmental Characteristics:
 - Operating Temperature: - 25 C ~ + 70 C
 - Storage Temperature: - 25 ~ + 85 C
 - Sealed to IP67
- Electrical Characteristics:
 - Iridium SBM Modem: 9601, 1625 MHz
 - Input Voltage: +10 VDC ~ +32 VDC
 - Power Consumption:
 - Operating \leftarrow 100 mA at 12 VDC
 - Reverse Polarity Protection
- GPS Characteristics:
 - Type: SiRF star III GPS
 - Manufacturer: Navman
 - Frequency: L1, 1575.42 MHz
 - Tracking Sensitivity: -159 dBm
 - Protocol: NMEA0183
 - Channels: Up to 20 simultaneously
 - Position Accuracy: within 10 meters
 - TTFF: Hot \leftarrow 1 second, Warm \leftarrow 35 seconds, Cold \leftarrow 42 seconds
 - Signal strength: Approx. 1600W

