Sierra Wireless® AirLink® GX450 Mobile Gateway

Rugged, reliable 4G mobile communications

The AirLink® GX450 is a rugged, secure mobile gateway designed to deliver mission-critical communications for in-vehicle applications. With LTE coverage on major global networks, the GX450 extends broadband connectivity to a wide range of devices and applications. It extends the enterprise network and management to the fleet, ensuring reliable, secure broadband data access for mobile users in the field.

- Consolidate all communications over single data plan
- Rugged design for vehicle environment
- Collect vehicle events, diagnostics and workforce status

- Configure, monitor and manage gateways remotely
- Set alerts for critical events and prevent downtime
- Centrally manage software upgrades

FEATURES

- State of the art LTE coverage spanning 11 LTE frequency bands
- Provides in-vehicle network connectivity via Ethernet, Serial, Wi-Fi and USB
- Supports automatic switching to Wi-Fi networks at station/depot
- Rugged vehicle design exceeds MIL-STD-810G specifications for shock and vibration
- Integrated events engine to track vehicle status and workforce safety
- Reliable GPS report store and forward to multiple redundant servers
- Up to 5 VPN tunnels to support secure communications over cellular networks
- Remote configuration, software update, and monitoring with AirLink Management Service (ALMS)
- Integrated by industry leading solution partners in the Solution Exchange
- Industry leading warranty, including free software maintenance and accelerated hardware replacement
- Collects and transmits OBD-II vehicle diagnostics data

AIRLINK GX450 MODELS

MODEL	HARDWARE INTERFACES
GX450 base	1 Ethernet, 1 RS-232 serial, 1 digital I/O, 1 USB, 2 cellular and 1 GPS antenna connectors
Wi-Fi option	Adds 802.11 b/g/n Wi-Fi hotspot with simultaneous client mode for cellular offloading
I/O option	Adds 4 digital I/O, 4 analog input, and a second RS-232 Serial port
Ethernet option	Adds 2 more Ethernet ports for a total of 3

VEHICLE AREA NETWORKING: CONSOLIDATE CONNECTIONS

The GX450 is available in four configurations to provide vehicle-area connectivity tailored for each application environment. The base model provides connectivity for wired Ethernet, Serial and USB devices in the vehicle; an Ethernet option provides additional Ethernet ports. With the Wi-Fi option, the GX450 also includes an 802.11 b/g/n mobile access point for wireless devices and a Wi-Fi client for depot/station communications. An I/O option provides 4 digital input/outputs and 4 analog inputs to monitor external system events and sensor inputs. Consolidating all devices according to your requirements at the vehicle reduces the number of modems, antennas and subscriptions otherwise needed.

RUGGED DESIGN FOR DEMANDING VEHICLE APPLICATIONS

The GX450 is designed from the ground up to withstand the harsh environmental conditions of vehicle use. The die cast aluminum housing is sealed to meet IP64 levels of resistance to dust and water ingress. The product is tested to meet and exceed the MIL-STD-810G specification for shock, vibration, temperature and humidity. Immunity to harsh electrical transients is covered to meet international vehicle use standards.

SECURE MOBILE COMMUNICATIONS

The GX450 is loaded with features to secure your critical data. With up to 5 concurrent VPN sessions, you can ensure secure communications to multiple back-end systems. Remote authentication management allows you to use enterprise grade systems to manage access to devices in the field. Finally, port filtering and trusted IP protect the devices connected to your GX450 from unwanted access.

SIERRA WIRELESS®

BENEFITS

- Supports present and future high-speed LTE networks
- Proven reliability, over 1 million AirLink devices deployed
- Secure communications from vehicle to enterprise
- Advanced situational monitoring for the mobile workforce
- Powerful remote management solution
- Lower operating costs by monitoring vehicle health

REPORT AND ALERT: DON'T JUST COMMUNICATE

As a fleet manager, you need more than just communications. You need to monitor the safety of your mobile workforce and the state of your vehicles. For example, you need to know if a worker has set off a man-down alert or if a police car has engaged the lights and siren. For this, you need the AirLink integrated events engine. This powerful tool allows you to develop custom event triggers and create tailored reports that communicate what's happening in the vehicle to third party server platforms - all without any programming. An optional OBD-II Telemetry Accessory Kit allows you to collect engine diagnostic and performance data to monitor the health of your vehicles. Best of all, through the Sierra Wireless Solution Exchange, you have access to a catalogue of world class solution partners that have already integrated this functionality into their AVL and mobile workforce solutions.

MANAGEABILITY: MANAGE, MONITOR AND ADMINISTER YOUR FLEET REMOTELY

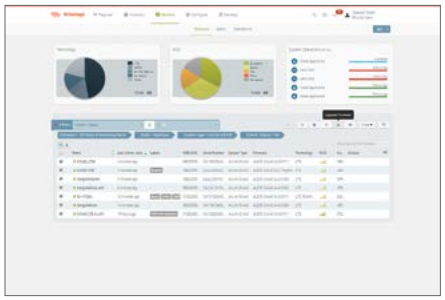
Managing a fleet of mobile gateways is a demanding task. You need to maintain multiple device configurations, update device software, and remotely diagnose reported issues. AirLink Management Service (powered by AirVantage®) is the industry's leading device management solution. This highly advanced application supports over-the-air device registration, configuration and software updates. Dashboards display up-to-date views of the entire fleet, and custom reports can be set-up to monitor critical events and prevent downtime.

ABI Research has ranked ALMS as "Best in Class" among competing device management services.

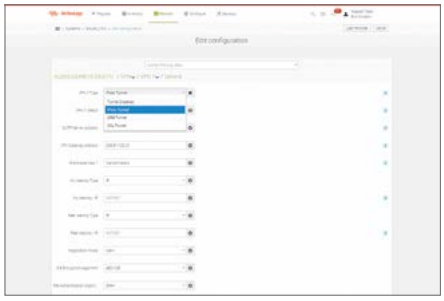
DASHBOARD

MONITOR CONNECTIVITY

SOFTWARE UPGRADES/UPDATES



SECURITY CONFIGURATION



SIERRA WIRELESS®

Sierra Wireless
AIRLINK GX450

	Specification
CELLULAR WAN	North American Model (Sierra Wireless MC7354) • Carrier Approvals: Verizon, AT&T, Sprint, T-Mobile USA, US Cellular, Rogers, Bell, Telus • Supported Frequency Bands - LTE: 1900(B2), AWS(B4), 850(B5), 700(B13), 700(B17), 1900(B25) - WCDMA: 2100(B1), 1900(B2), AWS(B4), 850(B5), 900(B8) - EV-DO/CDMA: 800(BC0), 1900(BC1), 1700(BC10) - GSM/GPRS/EDGE: Quad-band • Industry Approvals: FCC, IC, PTCRB International Model (Sierra Wireless MC7304) • Supported Frequency Bands - LTE: 2100(B1), 1800(B3), 2600(B7), 900(B8), 800(B20) - WCDMA: 2100(B1), 1900(B2), 850(B5), 900(B8) - GSM/GPRS/EDGE: Quad-band • Industry Approvals: CE, RCM, GCF, R&TTE • Automatic SIM based network operator switching
HOST INTERFACES	10/100 Base-T RJ45 Ethernet port (Ethernet option includes 3 ports) RS-232 Serial Port on DB-9 Connector (I/O option includes additional Serial Port) USB 2.0 Client (Micro-B Connector) 3 SMA antenna connectors (Primary, Secondary/Diversity, GPS) Active GPS antenna support
INPUT/OUTPUT	Configurable I/O pin on power connector • Digital Input ON Voltage: 3.3 to 30 VDC • Digital Input OFF Voltage: 0 to 1.2 VDC • Digital Output > 200mA @ 30VDC I/O Model Only • 5 configurable digital I/O • 4 configurable analog input (input voltage 0 to 30 VDC) Vehicle Telemetry • OBD-II with Telemetry Accessory Kit (requires Serial Port)
LAN (ETHERNET/USB)	DNS, DNS Proxy DHCP Server IP Passthrough VLAN Host Interface Watchdog PPPoE
SERIAL	TCP/UDP PAD Mode Modbus (ASCII, RTU, Variable) PPP Reverse Telnet Garmin FMI
WI-FI	On Wi-Fi Model Only • IEEE 802.11 b/g/n • Adjustable output power (Max:15dBm) • Access point for up to 8 clients • Simultaneous access point/client mode • WEP, WPA-PSK, WPA2-PSK Security
NETWORK AND ROUTING	Network Address Translation (NAT) Port Forwarding Host Port Routing NEMO/DMNR VRRP Reliable Static Route Dynamic DNS
VPN	IPsec, GRE, and SSL VPN Client Up to 5 concurrent tunnels Split Tunnel Dead Peer Detection (DPD) Multiple Subnets VPN Failover
DIMENSIONS	142 x 98 x 41 mm (5.6 x 3.9 x 1.6 in) 397g (14oz.)

	Specification
SECURITY	Remote Authentication (LDAP, RADIUS and TACACS+) DMZ Inbound and Outbound Port filtering Inbound and Outbound Trusted IP MAC Address Filtering PCI DSS V3.0 compatible
SATELLITE NAVIGATION (GNSS)	12 Channel GPS and GLONASS Receiver Acquisition Time: 1s Hot Start Accuracy: <2m (50%), <5m (90%) Tracking Sensitivity: -145dBm GNSS Watchdog Reports: NMEA 0183 V3.0, TAIP, RAP, XORA Multiple Redundant Servers Reliable Store and Forward
EVENTS ENGINE	Custom event triggers and reports Configurable interface, no programming Event Types: Digital Input, Network Parameters, Data Usage, Timer, Power, Device Temperature Report Types: RAP, SMS, Email, SNMP Trap, TCP (Binary, XML, CSV) Event Actions: Drive Relay Output
AIRLINK MANAGEMENT SERVICE	Secure cloud-based device management application Remote provisioning and airtime activation Gateway configuration and template management Configurable monitoring and alerting Over the air software and radio module firmware updates Auto configuration
MANAGEMENT INTERFACES	Web-Based User Interface Device Configuration Templates Over-the-air software and radio module firmware updates AT Command Line Interface (Telnet/SSH/Serial) SMS Commands SNMP
APPLICATION FRAMEWORK	ALEOS Application Framework (AAF) LUA Scripting Language Eclipse-based IDE Integrated with AirVantage®
POWER	Analog Ignition Sense and Power Management Input Voltage: 9 to 36 VDC Low Power mode triggered on low voltage, timer delay (ignition sense), or periodic timer
ENVIRONMENTAL	Operating Temperature: -30°C to +70°C / -22°F to +158°F Storage Temperature: -40°C to +85°C / -40°F to +185°F Humidity: 90% RH @ 60°C Military Spec MIL-STD-810G conformance to shock, vibration, thermal shock, and humidity IP64 rated ingress protection
INDUSTRY CERTIFICATIONS	Safety: IECEE Certification Bodies Scheme (CB Scheme) UL 60950 Vehicle Usage: E-Mark (2009/19/EC), ISO7637-2 Hazardous Environments: Class 1 Div 2 Environmental: RoHS, REACH, WEEE
SUPPORT AND WARRANTY	3 year standard warranty Optional 2 year warranty extension Unrestricted device software upgrades 1-day Accelerated Hardware Replacement available through participating resellers

About Sierra Wireless

Sierra Wireless is building the Internet of Things with intelligent wireless solutions that empower organizations to innovate in the connected world. We offer the industry's most comprehensive portfolio of 2G, 3G, and 4G embedded modules and gateways, seamlessly integrated with our secure cloud and connectivity services. OEMs and enterprises worldwide trust our innovative solutions to get their connected products and services to market faster.

For more information, visit www.sierrawireless.com.

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