fox™

AUTOMATIC VEHICLE LOCATION SYSTEM

Fox AVL (Automatic Vehicle Location) system enables vehicle remote locating, tracking and centralized management of fleet using the Global Position System, GPRS service and Internet. Besides, it makes possible to automatic control vehicle's devices, voice communicate and navigate. Vehicle location is identified by GPS receiver installed in a vehicle, which collect GPS data (Latitude, Longitude, Speed, Heading) for real-time vehicle tracking. Due to integrated GPRS modem, data on vehicle positions and status is sent to monitoring center, where customer can monitor employees and vehicles, get alerts and analyse reports by Internet or intranet-connected computer. The system is designed to automatic send alerts about a vehicle diverting from its designated route, excessive speed, or other user-defined events and statuses occurring, such as the ignition, fuel level, engine RPM, accumulator voltage level, alarm activation, door opening, etc.

Application

The system is primarily designed for road carriers, shippers and enterprises with own fleet. But the system can use anyone who wants to enhance fleet supervision, improve service quality and vehicle safety. With Fox tracking system customer can identify the nearest available vehicle, coordinate service calls, allocate resources to align on demand, and increase job loads. By vehicle locating in real time, Fox system helps to increase on-time performance and proactively address potential delays. Furthermore, this application improves transportation efficiency owing to short reaction time in unexpected situations as traffic jam, vehicle failure or accident. With the time spent at each site clearly documented, you can resolve service disputes professionally and ensure accurate billing. There is also an opportunity to optimize timetable owing to vehicles movement analysis and the history of vehicle routes.

Customizable solutions

Fox software has intuitive user interface and makes fleet management simple. Fox system is configured in a way that the customer him self can define parameters to be controlled. Vehicle status data transfer in optimal time intervals or immediate 'on demand'. Expenses optimization of GPRS traffic is achieved by double adjustment of parameters for data transfer in home and visited network. GSM network choice in roaming is provided automatically as per predefined provider lists and their tariffs. Fox system provides data about vehicle position, speed, vehicle's devices statuses, important events, route and speed compliance, and other data about history of vehicle routes with convenient showing on maps and tables. Customizable reports are easily exported for archival or post processing use.

Increased safety and security

Link to embedded vehicle alarm system and optional 'panic' key improves safety level for both the workers and vehicles. Besides, Fox tracking system monitors drivers' performance and encourages accountability to a great extent. Managers can immediately identify off-route or unauthorized activity as well as excessive speed and take corrective action. Additionally, Fox system assists in discovering stolen vehicles instantly.

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Technical specifications

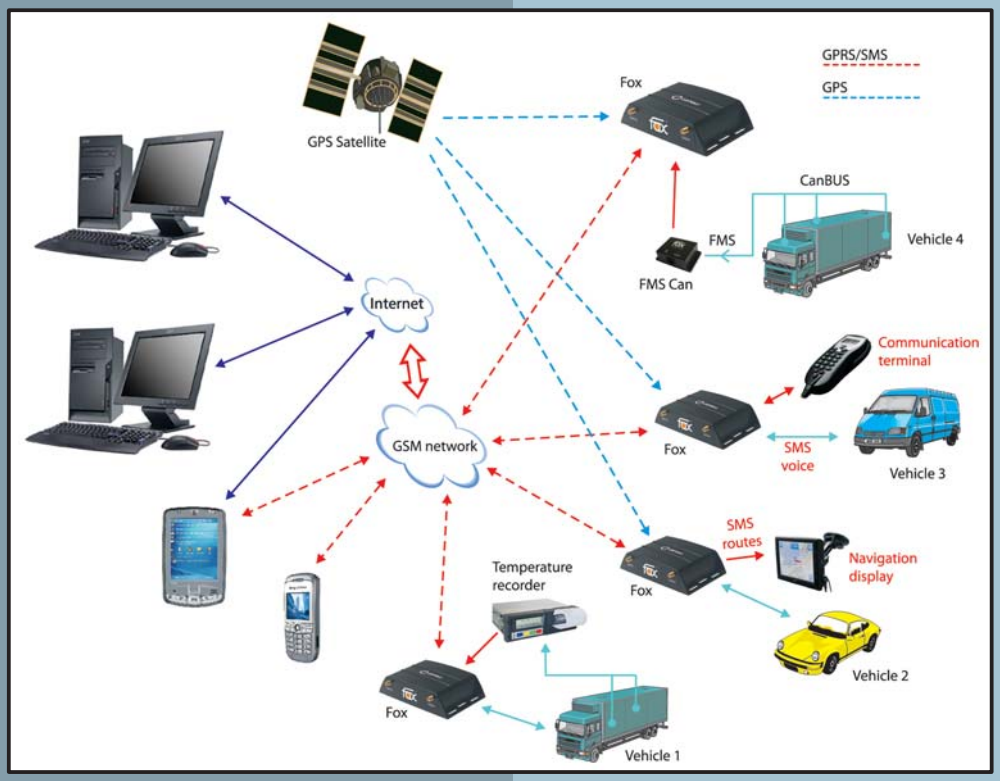
GSM/GPRS MODULE	Siemens TC65, Quad band - GSM 850/900/1800/1900MHz, GPRS Multislot Class 12
GPS MODULE	SiRFstarIII based solution, 20 channels
Hot start	1 s
Cold start (open sky)	42 s average
Tracking sensitivity	-159 dBm
Position/speed accuracy	5 m, 2 D RMS
Internal memory	up to 30.000 records
Power supply	9 V to 40 V; 220 mA/40 mA (Normal/Power Save mode), back up batt. embedded, over voltage protection
Working temperature	-20°C to +65°C
Dimensions (WxDxH)	126 x 82 x 31 mm
Weight	280 gr
MULTIFUNCTIONAL INPUTS/OUTPUTS	• Up to 8 digital outputs • Up to 11 digital inputs • 1 impulse input (for engine RPM) • Up to 4 analog inputs • Acceleration sensor on board • Connector for voice comm. • Serial RS232 port – GPS data output for external device (PC, PDA...) in standard NMEA protocol – Device parameters set up – Device operation testing

Features

- Continuous connection of central server with all vehicles regardless their number
- Periodical or instant 'on demand' GPRS and SMS data transfer
- Optional navigation display and communication terminal
- Optional temperature recorder and thermal sensors for temperature monitoring in the freight area
- Expenses optimization of GPRS traffic in home and visited networks
- Automatic choice of most competitive accessible GSM roaming networks
- Firmware update 'over the air'
- Very simple and quick installation and easy to use

Main functions

- Satellite vehicle locating, tracking and mapping in real-time
- Automatic monitoring of vehicle route and important events, and reporting
- Alarming about irregular and critical vehicle status and emergency
- Voice communication
- CAN (FMS) bus connectivity (optional)
- Centralized fleet management
- Remote commanding and parameter change



Functional characteristics

GPRS and SMS data transfer
- GPS data
- Vehicle statuses and events

- Automatic GPRS data transfer based on:
  - Time interval [s]
  - Distance [m]
  - Vehicle direction change [deg]
  - Vehicle speed change [km/h]
  - Vehicle situation change (start or hang-up)
- 'On demand' GPRS and SMS data transfer
- Data logging option while the vehicle in roaming
- Separate setting of sending parameters for data transfer in home and visited networks
- Automatic choice of most competitive GSM roaming networks
- Data transfer in real time or postponed
  - periodically after set time expiry
  - According to times set during the day

Automatic SMS alert
'Panic' button
Driver identification
Voice communication over GSM network by comm. terminal
Detecting and measuring all vehicle parameters accessible on CAN (FMS) bus
Detection and measuring of vehicle statuses using digital and analog inputs:
- Ignition
- Fuel level
- Engine RPM
- Speed over limit
- Vehicle 'built in' alarm indications
- Indication of sensor state (warning and alarm)
- Door opened/closed
- Vehicle accumulator voltage
- Temperature monitoring, recording, reporting & report printing

- Navigation using navigation display
- Sleep mode
- Easy system parameters change via serial port, GPRS and SMS
- Firmware update 'over the air'

CE certified

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