AVL-75 3G
Data Sheet

Waterproof Vehicle/Motorcycle Tracking Device

The AVL-75 3G is a compact waterproof GPS tracker designed for a wide variety of vehicle tracking applications. It has multiple I/O interfaces that can be used for monitoring or controlling external devices. Its built-in GPS receiver has superior sensitivity and fast time to first fix. Its triple band WCDMA subsystem supports UMTS/HSDPA 850 (Band V)/1900 (Band II)/2100 (Band I) MHz and quad band GPRS/GSM subsystem supports 850/900/1800/1900 MHz allowing the AVL-75 3G's location to be monitored in real time or periodically tracked by a backend server and mobile devices. Its built-in 3-axis accelerometer allows motion detection and extends battery life through sophisticated power management algorithms. System integration is straightforward as complete documentation is provided for the full featured @Track protocol. The @Track protocol supports a wide variety of reports including emergency, geo-fence boundary crossings, driving behavior, low battery and scheduled GPS position.

Highlights

- Waterproof IP67 Compliant
- Wide Operating Voltage Range 8V to 32V DC
- GARMIN FMI/Multiple Sensors Support

Advantages

- Wide operating voltage range 8V to 32V DC
- Internal u-blox chipset
- Low power consumption, long standby time with internal battery
- Triple band frequencies UMTS/HSDPA 850 (Band V)/1900 (Band II)/2100 (Band I) MHz and quad band GSM/GPRS 850/900/1800/1900 MHz
- Embedded full featured @Track protocol
- Internal 3-axis accelerometer supporting driving behavior monitoring, power saving and motion detection
- Internal UMTS/HSDPA and GSM antenna
- Internal GPS antenna
- CE and FCC certified

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Vehicle/Motorcycle Tracking Device

RF Specification

Frequency	GSM: 850/900/1800/1900 MHz UMTS: 850/1900/2100 MHz
Transmitting Power	Class 4 (33$\pm$2 dBm) for GSM 850 and EGSM 900 Class 1 (30$\pm$2 dBm) for DCS 1800 and PCS 1900 Class 3 (24+1/-3 dBm) for UMTS 850/1900/2100
GSM/GPRS Data Features	GPRS: Support GPRS multi-slot class 12 (10 default) Coding scheme: CS-1, CS-2, CS-3, and CS-4 Maximum of four Rx time slots per frame
Transmission Data	HSDPA R5: Max 3.6 Mbps (DL) WCDMA R99: Max 384 kbps (DL)/Max 384 kbps (UL) GPRS: Max 85.6 kbps (DL)/Max 85.6 kbps (UL)
HSDPA and WCDMA Features	HSDPA data rate corresponds with 3GPP R5. 3.6 Mbps on downlink WCDMA data rate corresponds with 3GPP R99/R4. 384 kbps downlink and 384 kbps uplink Support both 16 QAM and QPSK modulation

GPS Specification

GPS Chipset	56-channel u-blox All-In-One GPS receiver
Sensitivity	Autonomous: -147 dBm Hot start: -156 dBm Reacquisition: -160 dBm Tracking: -162 dBm
Position Accuracy (CEP)	Autonomous: < 2.5m SBAS: < 2.0m
TTFF (Open Sky)	Cold start: 27s average Warm start: 27s average Hot start: 1s average

Interfaces

Digital Inputs	Two digital inputs One positive trigger for ignition detection One negative trigger input for normal use
Digital Outputs	One digital output, open drain, 150 mA max current drain
Latched Digital Outputs	One digital output with internal latch circuit, open drain, 150 mA max current drain
GSM Antenna	Internal only
GPS Antenna	Internal only
Indicator LED	CEL, GPS and power
Serial Port	One RS232 serial port on 8 wire cable, for external devices (GARMIN protocol support)
USB Port	One USB port on 11 pin cable, for upgrade

General Specification

Dimensions	102mm*46mm*20.5mm
Weight	About 122g
Backup Battery	Li-Polymer 1100 mAh
Standby Time	Without reporting: 110 hours 5 minutes reporting: 45 hours 10 minutes reporting: 51 hours
Operating Voltage	8V to 32V DC
Waterproof	IP67 compliant
Operating Temperature	-30℃ ~ +70℃ -40℃ ~ +80℃ for storage

Air Interface Protocol

Transmit Protocol	TCP, UDP, SMS
Scheduled Timing Report	Report position at preset time and distance intervals
Geo-fence	Geo-fence alarm and parking alarm, support up to 20 internal geo-fence regions
Low Power Alarm	Alarm when backup battery is low
Power On Report	Report when the device is powered on
Tow Alarm	From internal 3-axis accelerometer
Driving Behavior Monitoring	Aggressive driving behavior detection, e.g. harsh braking and acceleration
Crash Detection	Accident data collection for reconstruction and analysis
Special Alarm	Special alarm based on the digital inputs
Remote Control	OTA control of outputs

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