



## AVL-55 Series Data Sheet



### Compact Integrated Vehicle Trackers

The AVL-55 Series are a set of mini GPS trackers designed for a wide variety of vehicle tracking applications. The Series include two models based on either quad band GPRS/GSM subsystems or both GPRS/GSM and UMTS subsystems, allowing their locations to be monitored in real time or periodically tracked by a backend server or mobile device. The Series boast multiple I/O interfaces that can be used for monitoring or controlling external devices. Their embedded GPS receiver has superior sensitivity and fast time to first fix. The built-in 3-axis accelerometer allows motion detection and extends battery life through sophisticated power management algorithms.

### Highlights

- Extremely compact enclosure 63mm\*50mm\*21.8mm
- Small size allowing easier installation
- Driving behavior monitoring and incident notification
- Designed for insurance and car leasing applications
- Multiple I/O interfaces for monitoring and control
- Internal u-blox chipset
- Internal 3-axis accelerometer supporting driving behavior monitoring, power saving and motion detection
- Embedded full featured @Track protocol

Model No.	Technology	Operating Band	Certificate
AVL-55	GSM/GPRS	Quad band: 850/900/1800/1900 MHz	CE/FCC/E-Mark certified
AVL-55 3G	GSM/GPRS/UMTS	Quad band for GSM: 850/900/1800/1900 MHz Triple band for UMTS: 850/1900/2100 MHz	

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### RF Specification

	AVL-55	AVL-55 3G
GSM Frequency	Quad band: 850/900/1800/1900 MHz Compliant to GSM phase 2/2+ -Class 4 (2W @ 850/900 MHz) -Class 1 (1W @ 1800/1900 MHz)	
GPRS	GPRS multi-slot class 12 (10 by default) GPRS mobile station class B	
UMTS Frequency		Triple band: 850/1900/2100 MHz UMTS: Class 3 (0.25W@850/1900/2100 MHz)
Data Transmission		eMTC (DL) 300kbps eMTC (UL) 375kbps NB1 (DL) 34kbps NB1 (UL) 66kbps

### GNSS Specification

GPS Chipset	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
TTFB (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
Cellular Antenna	Internal only
GPS Antenna	Internal only
LED Indicators	GSM, GPS, power
Mini USB Port	Mini USB port for upgrading and debugging

### General Specification

	AVL-55	AVL-55 3G
Dimensions	63mm*50mm*21.8mm	
Weight	50g	
Backup Battery	Li-Polymer 250 mAh	
Operating Voltage	DC 8V to 32V	
Operating Temperature	-30°C ~ +80°C -40°C ~ +80°C for storage	-30°C ~ +70°C -40°C ~ +80°C for storage
Standby Time	Without reporting: 59h 5 minutes reporting: 35h 10 minutes reporting: 45h	Without reporting: 51h 5 minutes reporting: 23h 10 minutes reporting: 19h

### Air Interface Protocol

Power Supply Monitoring	Alarm status reporting of the external power and backup battery of the device
Scheduled Report	Report position at a preset time interval, distance, mileage or combination of these values
Geo-fence	Geo-fence alarm and parking alarm, support up to 20 internal geo-fence regions
Tow Alarm	Alarm report for movement when ignition is off
Speed Alarm	Flexible speed monitoring for unusual speed alarm
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 digital outputs
Jamming Detection	Alarm based on jamming detection
Power Supply Monitoring	Alarm status reporting of the external power and backup battery of the device



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