AOVX V Series

Assets Tracker Specification

V series asset tracker is an intelligent vehicle monitoring terminal. The device integrates CAT.1/CAT.M/GSM/NBIOT, GNSS, Wi-Fi, Bluetooth, a variety of sensors and extended GPIOs. It contains several variants covering different regions and networks around the world.

The vehicle's position, movement, and state are monitored, which encrypted (TEA, AES or RSA) into a package and uploaded to the cloud platform in real time. In case of over speeding, jamming, excessive Idling, unplug and crash, alarms will be reported and displayed on the platform. If necessary, with our device, it's possible to turn off the engine remotely through the platform. so asset transportation scheduling and analysis can be managed through the cloud platform visually, which improves transportation efficiency and reduces risks and costs.

The device is compact that easy to be hidden in the vehicle. It is directly connected to the car power supply for power supply. At the same time, the built-in small battery is used as an external power failure alarm. It can be used as a Bluetooth gateway to bind to multiple Bluetooth tags. For details, please refer to the E series Bluetooth sensor products. It can monitor multiple assets in parallel in real time. Stable connection and flexible configuration are ideally for cost sensitive vehicle management applications.

Key Benefits

◆ Integrate GNSS, Wi-Fi, LBS Multi-positioning technology, can quickly and accurately locate the vehicle, and support Bluetooth positioning indoors.

◆ Worldwide LTE CAT.1/CAT.M/, NBIOT and GSM/GPRS/EDGE coverage.

◆ Integrate multiple sensors to realize Unplug detection, Towing detection, Crash detection, Vibration detection.

◆ Support multiple peripheral interfaces, Digital input/output, RS485/TTL, etc. Digital input can be used for ignition (ACC), door or alarm button status monitoring. The digital output can be used to remotely control engine to turn off.

◆ The visualized cloud platform supports the full-scene status monitoring of vehicles and goods. At the same time, it also supports FOTA.

CAT.1/ CAT.M/ GSM/ NBIOT	Multi-constellation GNSS	Wi-Fi 2.4G
Bluetooth 5.0	Multiple sensors	Speeding alarm
Remotely control engine to turn off	Cloud-Platform Service	Firmware Upgrade OTA

Rev.: V1.2| Status: Released

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Assets Tracker Specification

18mm
82mm
40mm

Variant for the Global
VM300-GL (Cat M3):
LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B14/B18/B19/B20/B25/
B26*/B27/B28/B66/B71/B85
GSM: 850/900/1800/1900MHz

VL300-GL* (Cat 1):
LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/
B26/B28
GSM: 850/900/1800/1900MHz

VG300-GL(GSM only)：
GSM: 850/900/1800/1900MHz

Variant for China/India
VL300-CN (Cat 1):
LTE FDD: B1/B3/B5/B8
LTE TDD: B34/B38/B39/B40/B41
GSM: 900/1800MHz

Variant for EMEA
VL300-EM (Cat 1):
LTE FDD: B1/B3/B5/B7/B8/B20/B28
GSM: 850/900/1800/1900MHz

Variant for Latin America
VL300-LA (Cat 1):
LTE FDD: B2/B3/B4/B5/B7/B8/B28/B66
GSM: 850/900/1800/1900MHz

Variant for North America
VL300-NA* (Cat 1):
LTE FDD: B2/B4/B5/B12/B13/B25/B26

VM300-NA (Cat M1):
LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B14/B18/B19/B20/B25/
B26*/B27/B28/B66/B71/B85

Data
LTE (Cat 1):
LTE FDD: Max 10Mbps (DL)/Max 5Mbps (UL)
LTE TDD: Max 8.96Mbps (DL)/Max 3.1Mbps (UL)
LTE (Cat M):
LTE FDD: Max 588Kbps (DL)/Max 1119Kbps (UL)
GSM:
GPRS: Max 107Kbps (DL)/Max 85.6Kbps (UL)
EDGE: Max 296Kbps (DL)/Max 236.8Kbps (UL)

Hardware Features
Wiring Sequence:
VCC, GND, Digital input (ACC), Digital output (Relay),

Power Out, RS485-A, RS485-B, RS485-GND
USB: × 1, Micro
UART: × 1, Multiplex RS485 port
(U)SIM Interface: × 1, 1.8V, Nano SIM card
Cellular Antenna: internal
GNSS Antenna: internal, GPS/GLONASS/BeiDou
LED: × 3, Power Light, Network Light, GNSS Light
WLAN: 2.4G (VG300-GL no support)
Bluetooth: 5.0 (VG300-GL no support)
Battery Capacity: 100mA (lithium polymer battery, optional)

GNSS Features
Horizontal Position Accuracy:
Autonomous: <2.5m CEP
Velocity Accuracy:
Without Aid: <0.1m/s
Acceleration Accuracy:
Without Aid: <0.1m/s²
Reacquisition Time: <1s
TTFF @-130dBm with EASY™:
Cold Start: <15s
Warm Start: <5s
Hot Start: <1s
TTFF @-130dBm without EASY™:
Cold Start: <35s
Warm Start: <30s
Hot Start: <1s

Electrical Characteristics
Supply Voltage: 9V~ 40V (9V~ 100V optional)
Stand-by Current: ≤10mA

General Features
Operating Temperature: -20°C ~ +70°C
Dimensions: 82mm × 40mm × 18mm
Weight: Approx. 56g (VG300), 80g (VM300), 88g (VL300)
Firmware Upgrade: USB interface, OTA
Data Encryption: TEA, AES or RSA

* Under Development

AOVX