Ct-AVL668

FM (Fleet Management) Vehicle Unit

GPRS + GPS

Features and Specifications

Dimension:85(L) x 70(W) x 25(H) mm

Ct-AVL668 is a GPRS based vehicle unit for vehicle positioning, fleet management application. It is 100% compliant to GPRS Class 10 communication speed and provides all necessary interfaces and options for GPRS application domain. Major features and specifications are summarized as below:

1 Major Features

1.1 Working Voltage: 10V ~ 35V

With this voltage range, switching power source and surge protection, it is suitable for 12V or 24V batteries vehicle.

1.2 GPS receiver module included

It is based on the latest GPS chip that provides high sensitivity, accurate position, speedy position fix, low power consumption, and etc.

1.3 Automatic GPS antenna fail detection

With a special feedback loop design, the system will check the antenna

automatically and report its status, when the unit turns on. Auto-checking function also provided under normal operation.

1.4 Two sets of IP and PORT provided

Two sets of IP and Port can be burned on the unit so that when the first set can not be connected, the system will switch to the second set automatically. Also, the default IP value can be changed through GPRS or SMS channels at Head quarter (HG.).

1.5 Unique ID for each set

Every unit has its unique ID code. The maximal number of ID code is 2^{16}. This unique ID will be transmitted automatically along with other data at every transmission so that HQ can identify the unit uniquely. This implies an extra convenience for changing SIM card without required special registration.

1.6 1 Mb Flash Memory included

Default is 1 Mb flash memory for data storage (8000 records). When the GPRS signal loss, the unit status and position information will remain on the flash memory. The Flash Memory can retain information almost permanently with more than 100,000 time write/erase capability.

1.7 Advanced RISC Microcontroller

With the enhanced RISC CPU, it has multi-tasking capability. The speed of the CPU could reach 16MIPS (1 million instructions per second). Its EEPROM stores the unit parameters and Unique ID for best protection.

1.8 Log-in registration

The unit performs self-diagnosis after it turns on, and provides the external and internal status to the back-end operation centre for registration.

1.9 Remote modification of unit parameters

Through GPRS channel, more than 25 unit parameters can be modified remotely. (Please refer to the technical data of parameter setting.)

1.10 One RS-232 port

It provides one asynchronous RS-232 Level interface port, standard DB-9 male connector, non-hand shaking modes. The transmission speed parameter can be set through direct connection or through GPRS channel.

Data transmission through RS-232 is transparent. If necessary, special instructions can be embedded in the transmitted data. This interface can be treated as an endless extension of the standard, physical RS232.

When user performs interactive data transmission, transmission response time of GPRS should be considered. The wait time for interactive transmission may need to adjust accordingly. In general, GPRS will need 5 second to respond. However, it may vary depending on the local GPRS service provider.

1.11 Panic button

It provides a single isolated interface port. When it is grounded, an emergency message together with the positioning data will be uploaded automatically.

1.12 5 user definable input dry ports for trigger

It provides 5 independent ports. For each port, user could set:

- Whether normal voltage status is high or low,
- When status changes, whether it is a trigger or need to change status and maintain it.
- If status needs to maintain, how long it should need.

1.13 5 user definable output dry ports for control

It provides 5 independent ports. For each port, user could set:

- Whether normal voltage status is high or low,
- When status changes, whether it is locked in that status, or maintain for some time.
- The time it should maintain is user defined.

Control the output of the independent dry port can be done by the unit or the HQ remotely

1.14 Instant report engine turn off event or Delay shutdown the unit after engine turning off

It provides the capability to turn off the unit based on ACC signal. The user can set that when ACC signal disappears (engine turns off), report this event to back-end centre and shutdown the unit immediately or with a delay. During the delay time, the unit can continue to work normally. The maximal delay is 255 minutes.

1.15 Turn off settings

Depending on the wiring of power and the ACC signal wires, the turn-off settings can be:

1 If power wire is connected to the battery, and ACC detection wire is connected to the “positive” connector of the battery, then the unit will not turn off even when engine turns off. The engine turn-off message is not sent. This is applicable to vehicle that requires stopping at a location for a longer time to work.

2 If the power wire is connected to the battery, and ACC detection wire is connected to the “ACC connecting point”, the unit will be controlled by ACC signal and could send engine turn-off message. This connection is suitable for most vehicles.

3. Both power and ACC detection wires are connected to ACC connecting point, the unit’s on-off is controlled by ACC signal and will not transmit engine-off message. The connection is suitable with vehicles having small battery capacity or needing occasional position uploading.. ◦

1.16 Build in rechargeable lithium battery (option item)

It provides an optional function of add a rechargeable battery. When driver turns off the engine, the build-in rechargeable battery can support normal operation of the unit and enable the function of shocking detection.

1.17 Digital, shocking detection loop

Once it equipped with a rechargeable battery, the function of shocking detection will enable when the engine turn off. User can set the time of periodical send back the GPS positioning data when the vehicle suffer any crashing, collision event. The sensitivity of shocking detection accepts setting locally or through remote.

2 SPECIFICATION

2.1 General Spec.

Working Voltage	DC 10V ~ 35V
Power consumption	peak value 2.1A standby <250 mA
Outside dimension	85 mm/L x 70 mm/W x 25 mm/H
Ambient Temperature	
Interface ports	RS-232 x 1
Data Buffer	32K bytes
Internal storage	4K EEPROM
Flash Memory	1Mb Flash Memory (Max. 8K GPS records & working mode data) -10℃~ 55℃
Input	HI Level 3V ~ vehicle voltage
Output	N/O or N/C max 25V

2.2 GPRS Spec.

General features

Quad-Band: 850/900/1800/1900 MHz

GPRS multi-slot Class 10

GPRS mobile station Class B

Compliant to GSM phase 2/2+

Power output Class 4 (2 W @ 850/900 MHz)

Class 1 (1 W @ 1800/1900MHz)

SIM application toolkit: Supports SAT class 3, GSM 11.14 Release 98

2.3 GPS Spec.

General	Frequency	L1,1575.42MHz
	Code	C/A code
	Channels	20 channel
all-in-view	tracking Sensitivity	-159 dBm
Accuracy	Position	10 meters, 2D RMS
		5meters, 2D RMS, WAAS enabled
	Velocity	0.1m/s
	Time	1us synchronized to GPS time
Datum	Default	WGS-84
Acquisition Time	Reacquisition	0.1sec., average
	Hot start	1.5 sec., average
	Warm start	38sec., average
	Cold start	42sec., average
Dynamic Conditions	Altitude	18,000 meters (60,000 feet) max
	Velocity	515 meters/second (1000 knots) max

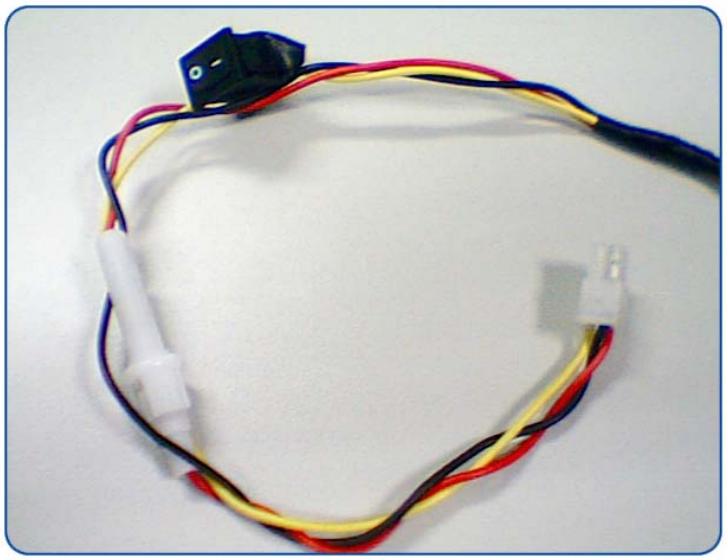
2.4 Contents of Packing:

- Main unit (Alum. Housing showed as picture)
- GPS Ant. with cable
- GPRS Ant. with cable
- Power cable
- Tech. manual
- Comm. Protocol, parameter setting, I/O definition relate data available upon request / contract.

3 Accessories

GPS Antenna

GSM Antenna



Power cable