



iVT-808WP  
Intelligent Tracker

INPUT/OUTPUT TERMINAL

- ADC [GREY]
- TEMP [VIOLET]
- IN 2 [BROWN]
- IN 1 [ORANGE]
- OUT 2 [BLUE]
- OUT 1 [GREEN]
- SDA [WHITE]
- SCL [YELLOW]
- GND [BLACK]
- BUZZ [RED]



MAIN TERMINAL

- RXD [BROWN]
- TXD [ORANGE]
- GPS LED [BLUE]
- NET LED [GREEN]
- PWR LED [WHITE]
- 3V DC [YELLOW]
- GND [BLACK]
- 7-7.5V DC [RED]

VER.1.3

# **Emergency Call System (eCall)**

## **iVT-808WP**

**iVT-808WP** is a knowledge-based device, and is part of the emergency call system (eCall) of iRoad Electronic Company. This system is designed for automatic and manual detection of vehicle accidents and fleet management, which includes a control center and a device in each vehicle.

The device has a precision GPS receiver to determine the position of the moving moment, an internal three-axis accelerometer for automatic crash detection, telephone call equipment (including speaker and microphone), as well as an emergency key for manual crash notification. On the other hand, a two-way wireless communication is established between the control center and the device, for the transmission of data, alarms and control commands. This makes it possible to supervise, control and data transfer between the control center and the vehicle. The device internal memory can store all the information of the traveled routes in detail. The device can also calculate and send the vehicle distance traveled even without GPS.

Development capability is possible in terms of communication with authorized and compatible centers. The device with internal battery can detect and send instantaneous events. On the other hand, the waterproof case of the device is designed in such a way that it does not allow access to the SIM card and the internal antennas of the device.

### **Certificates**

- Waterproof and Dustproof Certificate (IP67)
- Electromagnetic Compatibility Certificate (EMC)
- Knowledge-based approval from the Iran Vice-Presidency for Science and Technology

## Device Capabilities

- Internal GSM and GPS antennas
- Internal SIM card (inaccessible)
- Two-way communication via SMS and GPRS to control center
- Send position, speed, direction, altitude, time and date, input and output status
- Equipped with internal three-axis accelerometer sensor
- Advanced algorithm to calculate the distance traveled without using GPS
- Ability to automatically send GPS information based on time periods or vehicle direction (adjustable)
- Variety of digital and analog inputs
- Saving battery and SIM card credit in Sleep Mode
- Working with internal battery up to 5 hours
- Dedicated car switch monitoring input
- Support both UDP and TCP protocol
- Equipped with microphone, speaker and emergency button
- Up to 3 three control centers could be defined for reporting the follows alarm
  - ✓ Changing the status of sensors connected to the device
  - ✓ Turning the car switch ON or OFF
  - ✓ Low battery voltage level, and plug-in the power
  - ✓ Unauthorized speed

## Competitive capabilities of the system

- Wired connection of the microphone and speaker to increase the reliability of voice calls.
- Equipped with accurate three-axis accelerometer and accurate crash detection algorithm.
- It is Impossible to make error in calculating the distance traveled because independency from GPS.
- A lot of configurable data transmission scenarios based on time, vehicle direction and status.
- Fast recovery of network connection to the server

- Accurate and detailed data protocol and technical documents
- Various input/output ports for connecting external modules, sensors and outputs
- Small size dimension and the ability to be embedded into vehicle and motorcycles

## Technical Specifications

Power	
Input Voltage	DC: 7V~75V
Power Consumption	Typical: 0.6W Max: 2W
Internal Backup Battery	3.7V/250mAH, Li-Ion (more capacity: optional)
GNSS	
Satellite	GPS, GLONASS
Receiver type	<ul style="list-style-type: none"> <li>- 22 tracking /66 acquisition -channel</li> <li>- GPS L1 C/A code</li> </ul>
Sensitivity	<ul style="list-style-type: none"> <li>- Tracking: -165 dBm</li> <li>- Cold starts: -147 dBm</li> </ul>
Time-To-First-Fix	<ul style="list-style-type: none"> <li>- Cold starts: 30s (typ.)</li> <li>- Hot starts: 1s (typ.)</li> <li>- Warm starts: 28s (typ.)</li> </ul>
Accuracy	Horizontal position: <2.5m CEP
Cellular Communication	
GSM	<ul style="list-style-type: none"> <li>- Quad-band 850/900/1800/1900MHz</li> <li>- Class 4 (2 W @ 850/900MHz)</li> <li>- Class 1 (1 W @ 1800/1900MHz)</li> </ul>
GPRS	<ul style="list-style-type: none"> <li>- multi-slot class 12/10</li> <li>- mobile station class B</li> </ul>
GPRS Data Transfer	Max: 85.6 kbps @ GPRS class 12 (downlink/uplink)

USSD	Supported
SMS	Supported (Text Mode)
Certification	CE, A-TICK, TA, CCC
Bluetooth	Optional
Speaker & Microphone	Supported for eCall and Patrol Application
<b>I/O</b>	
Digital Inputs	up to 6 digital inputs (Dedicated:2)
Digital Outputs	Up to 5 digital outputs (Dedicated:2)
Analog Inputs	1
Ports	I2C, Serial RS232 Level
Emergency Push Button	Supported for eCall and Patrol Application
<b>Indicators</b>	
LED	3 External LEDs for GPS, Network, and Status
Buzzer	1 External
<b>Physical Specification</b>	
Dimension	87×62×33 mm (L×W×H)
Weight	135g
<b>Operating Environment</b>	
Operating Temperature (without battery)	-40°C ~ +80°C
Storage Temperature (without battery)	-50°C ~ +120°C
IP Rating	IP67 Water & Dust Proof
<b>Features</b>	
Communication Protocol	TCP/IP, UDP
Center Number for SMS	3
Technology	GSM/GPRS/GNSS/INS
Sensors	3 Axis Accelerometer

	Temperature Sensor (External, Optional) Analog & Digital Sensor Interface: I2C/ADC/UART
Configuration and Setting	via GPRS and SMS commands
Switch Status Detection	Supported
Switch Power Off Relay	Supported
Alarms (over 2G & SMS)	Low/High Input Voltage Normal Input Voltage Disconnecting Input Voltage Low/ Battery Voltage Over Speed Switch Status Change GPS Disconnect/Connect Input Change Go To Sleep Mode
Automatic Location Report Configuration	Time Intervals (different moving or stopped intervals) Vehicle Heading Change Sleep Mode Intervals
SMS Command Types	Configuration/Alarms/Debug/Events/Control
Flash Memory (Firmware)	64KB (default)/128KB
EEPROM Memory	2KB
Flash Memory (Records)	16Mb
Certificates	
IP	IP67 According to IEC 60529 2013
EMC	ETSI EN 301 489-1&3&17
Safety	ETSI EN 60950-1
Technology Level	<i>High Tech</i> Certified (by IRAN Vice-Presidency for Science and Technology)