

ES412

1. General Description

ES412 is a low-cost Cat.1 GPS Tracker for vehicle. It is supporting 2G&4G. It reports location information via TCP/UDP/MQTT with configurable intervals. ES412 has max 4 inputs for various types of sensors, max 4 outputs, and UART (or RS232C) for communicating with other complicated sensors.



2. Main Functions

- **Tracking:** Send GPS information to server with configurable report interval
- **Power Saving Mode:** Device enters sleep mode when vehicle engine is OFF
- **Digital Inputs:** Ignition detection, door on/off detection, flow meter
- **Digital Outputs:** Buzzer, relay, enable/disable engine starter
- **Analog Input:** Temperature sensor, fuel level, TDS meter, breathalyzer
- **Uarts:** Camera, RFID reader, iButton, temperature/humidity sensor, driver license
- **RS232C:** Modbus, temperature sensor
- **Engine on/off Detection:** Detect engine on/off via ignition input or detecting method by vibration
- **Driving Behavior Detection:** Report harsh braking, harsh acceleration and impact
- **Trip Start and Trip End Detection:** Report trip start and trip end
- **Tamper Alert:** Send tamper alert if the power supply is disconnected
- **Storing Messages:** Store messages if out of cellular coverage
- **Geofence:** It supports circle and polygon setting
- **OTA (Over the Air):** Firmware can be remotely upgraded

3. Specification

Physical and Electrical

Dimensions: 90mm*55mm*18mm

Weight: 65g

Battery Capacity: 300mAh

Supply Voltage: 6VDC ~ 42VDC

Power Consumption:

-Active Mode: < 40mA @12VDC

-Deep Sleep Mode: < 5mA @12VDC

Operation Temperature: -20°C to 65°C

Storage Temperature: -20°C to 65°C

LTE Module: SIM A7600

Antenna: Built-in cellular and GPS antenna

LED Indicators: 2 for GPS and cellular

SIM Card: Micro SIM(3FF)

Comprehensive IOs

Max 4 inputs and 4 outputs

Max 2 A/D inputs and 3 UARTs

GPS Specifications

Sensitivity Tracking: -157dBm

Position Accuracy (CEP 50): <2.5m(Open Sky)

Cellular Communication

Cat.1:

LTE-FDD: B1/ B3/ B5/B8

LTE-TDD: B34/ B38/ B39/ B40/ B41

Protocol

HTTP/TCP/UDP/SMS/MQTT/DNP3