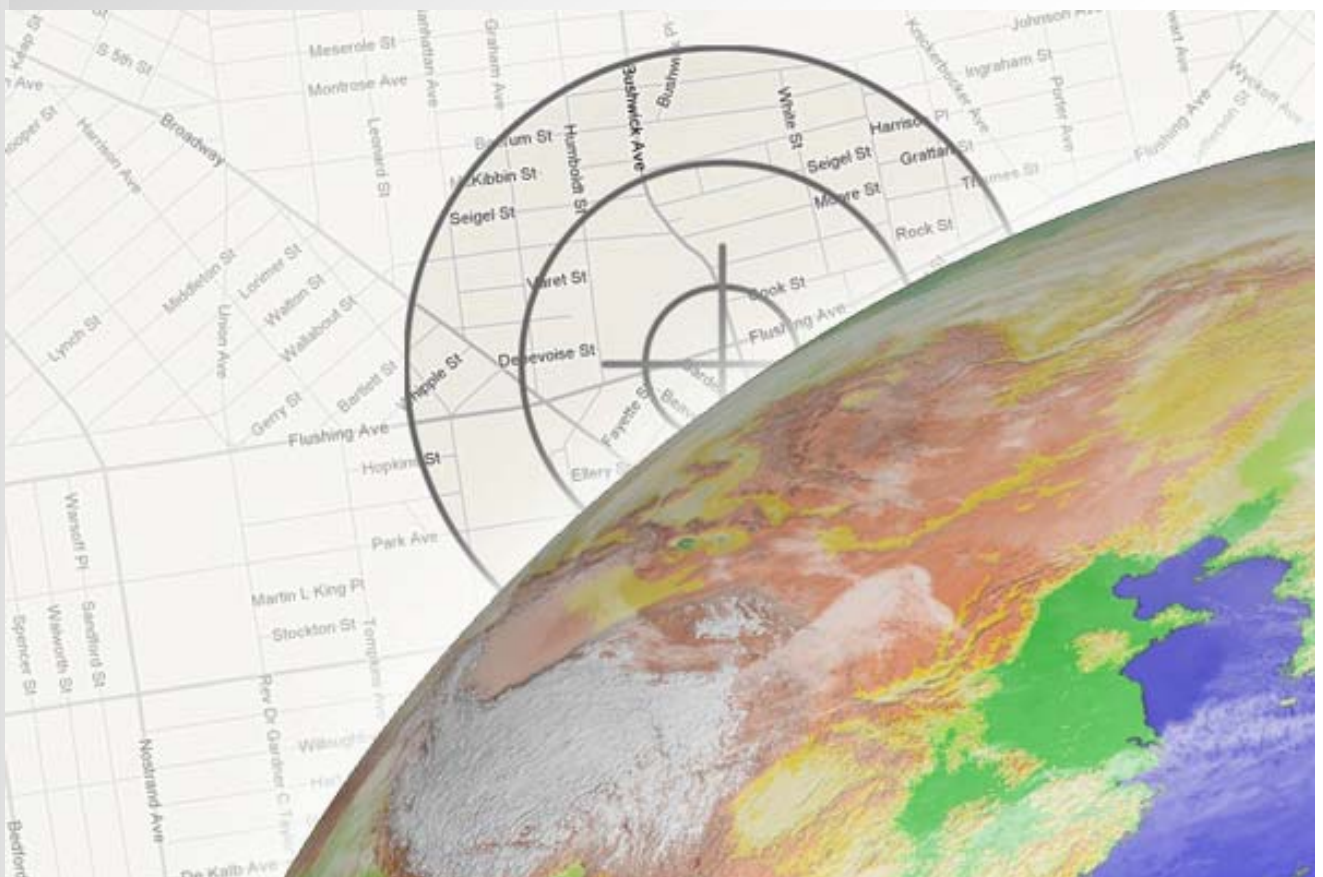




- Vehicle or Personal Position Tracking
- Vehicle Status and Speed Tracking
- Auto Accident Report
- Global Position System (GPS)
- Navigation System
- Anti-theft Alarm System

Overview

1. GPS data tracking via GSM SMS / GPRS
2. GPS data logging in internal memory
3. Alarm alert via GSM SMS / Dialing / GPRS
4. Alarm/Panic Button triggered GPS data report via GSM SMS / GPRS
5. Automatic report of GPS data on accident
6. Automatic emergency call on accident
7. Continuous operation for 15~20 hours with optional backup battery





Special

- High precision in location (within 3 meters) and speed (meter per minute)
- Logging interval and Upload interval are independent and user programmable
- Support international standard NMEA interfacing with other GPS Navigation or Tracking System
- Interface with Google Earth and displayed on PDA or Notebook
- Server/Client Application Software allows global application with regional services

Alarm Detection

1. **Over speed alert**

Automatically send alerts when driving speed exceeds user defined speed

2. **Position Lock**

Automatically send alerts when the vehicle is moved apart from its parking position



3. **Fencing In (min. 0.18m), multiple points**

Alert (SMS/Dial/GPRS) when moving into security zone

4. **Fencing Out (min. 0.18m), multiple points**

Alert (SMS/Dial/GPRS) when moving out of security zone



5. **Panic Button**

Emergency report with position information for both personal and vehicle alarm

6. **Idle time monitoring**

An early warning security feature when vehicle is idle longer than predefined period

7. **Alarm Dry Contact**

External alarm detecting devices e.g. shock detector, triggered air bag

8. **Analog Input High or Low Alarm**

External sensor devices e.g. temperature transducer alerts user with GPS data



Sample Application

Tracking:

It keeps users (max. 4 mobile phone & 1 centre) notified of GPS data via both GSM SMS and GPRS network in a user-defined interval

Automatic Accident Report:

Not only alarm is reported by dialing, control centre is informed of the accident location via both GSM SMS and GPRS network instantly.

Position Lock:

User activates the "Position Lock" on leaving the car in the car park. When the car is moved out of its position, it will alert user and send the GPS data via both GSM SMS and GPRS network instantly.

**Features****Interface**

Digital Input/Output, Analog Input

- * 4 alarm input, 1 panic button
- * 2 analog input [GS902 only]
- * 1 power input voltage alert
- * 2 relay output
- * 1 USB port

Audio monitoring

GSM network clock synchronization

Continuous global position update via GSM SMS and GPRS IP

GPS Navigation System interface via USB port

15 hours rechargeable battery operation for emergency report (Optional)

Tracking & Logging

GPS information notified via GSM SMS and GPRS IP

On-line GPS tracking software is bundled free

GPS data upload interval—user configurable

GPS data logged in 64KB internal memory & logging interval —user configurable

Alarm triggered response: (1) relay output (2) alert SMS (3) Dialing (4) GPRS IP

Support both Metric (meter/minute) and US (mile/hour) measuring systems

Configuration

Setup via SMS & USB

Remote Configuration via GSM SMS

Setup software is bundled free

Local Configuration via USB port

Alarm

Each alarm is associated with independent SMS text

Max. 130 characters each alarm SMS text

Arm/Disarm control via GSM SMS or Panic Button

Allow audio monitoring from registered phone numbers

Instant hang up of any non-registered phone number dial in

Connectivity

GPRS Data

Both fixed IP and Domain Name (DNS) support in Server

TCP data protocol

Fast and continuous data transmission

Reliable control of digital output e.g. relay

GSM SMS

Reliable and fast command in configuring the device

Manual check of GPS data by mobile phone

**Intelligent Operation**

- All operations are user pre-programmed, scheduled or alarm triggered
- No human interaction is necessary to avoid any disturbance to the driver
- Small pocket size (100 x 60 x 18 mm), 92g good for both portable and hidden installation
- Low power consumption (<55mA, max. 0.2W) for portable and power loss emergency application
- Optional backup battery supports 15~20 hours operation when external power is lost
- Pass in vibration test for vehicle installation



How to get the GPS data?

- GSM SMS: Using mobile phone or GSM modem to receive GPS data via SMS
- Internet: Using PC to receive GPS data via Internet
- USB port: Using devices with USB port to retrieve GPS data via USB cable



How to integrate with other Navigation System?

USB Port: GPS data can be retrieved via USB port



When will GS902 send out the GPS data?

- Schedule: GPS data upload in programmable interval
- Manual Request: GSM SMS command, GPRS IP command, PC software command via USB
- Alarm Triggered: 4 x alarm dry contacts, Panic Button, 2 x analog inputs [GS902]
- Analog Input: Analog Input is higher or lower than user programmable value e.g. temperature
- Pre Programmed Alarm: Fence In, Fence Out, Position Lock, Idle Time, Over Speed, Low Voltage



How to program/configure the GS900?

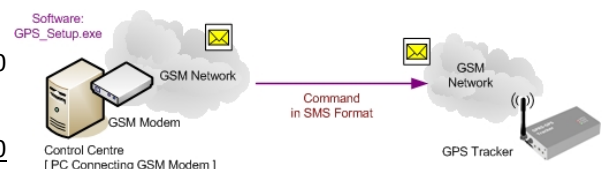
GSM SMS:

Using mobile phone to program GS900 via SMS
[Command List is provided]



GSM SMS:

Using PC and GSM Modem "GS300" to program GS900 via SMS
[Windows based Setup Software is bundled with GS300 GSM Modem]



USB port:

Using PC to program GS900 via USB cable
[Windows based Setup Software is bundled free]





GPS Tracker

It is a designed for vehicle or boat tracking and automatic emergency report.

- * programmable to send position information via GSM and GPRS automatically only in accident
- * programmable to keep sending the position information via GSM and GPRS
- * armed in lock position or security zone
- * Anti-vibration design and I/O connectors for vehicle installation

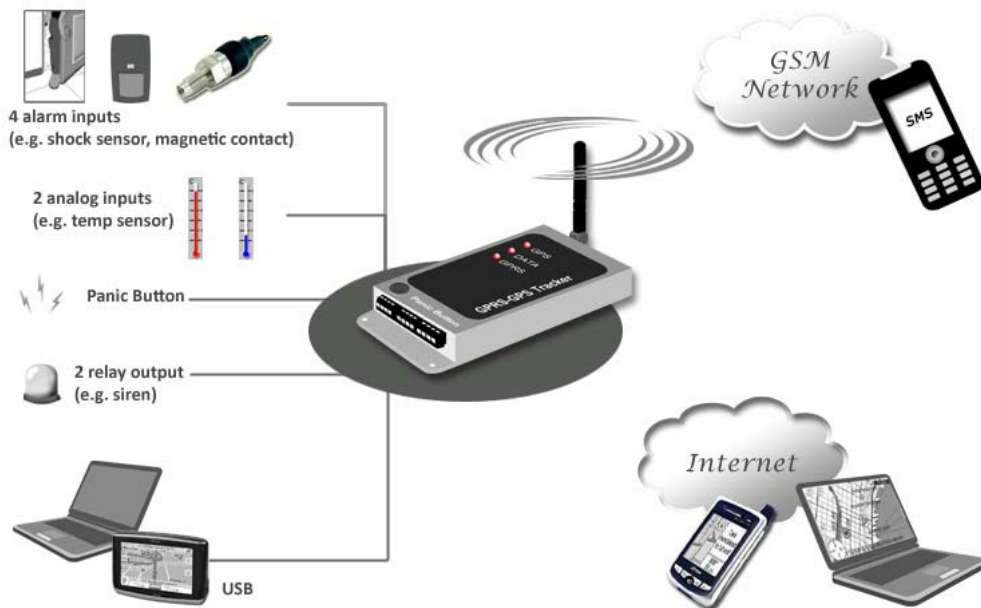


Reactive Response on Alarm

1. GPS data report via GSM SMS
2. GPS data report via GPRS
3. Dialing to control centre
4. Audio monitoring via microphone connected
5. Relay on/off control



Schematics



Sensors

It is built with 2 x Analog Channels for data measurement.

- * Industrial standard AD input type 4~20mA is accepted as direct connection
- * Level transducer can be integrated for measuring the oil or water tank loading
- * Additional temperature sensor can be installed to measure outside condition
- * Humidity sensor can be installed for measuring the transportation storage environment
- * Vibration sensor is to be integrated for checking the vehicle condition



Specification

Operating Temp:	-30°C ~ +70°C
Standby Temp:	-50°C ~ +80°C
Power Input:	DC 9 ~ 24V (recommended DC12V)
Rating:	55mA @12VDC, max. 0.2W
Enclosure:	PVC or Zinc Metal Case
Dimension:	100 x 60 x 18 mm
Weight:	92 g

Optional

Recharge Time:	2 hours Full Charge
Battery Backup:	15~20 hours



GPRS & GSM

GPS Chip:	GSTAR GS-89
GPS Antenna:	External
GPS Accuracy:	3~5 meters
Response Time:	max. < 120s, the least < 20s
Start Up Time:	Power Up: 20~45s Standby Mode Wakeup: 15~25s Normal Mode Resume: 5~8s

GSM Band:	850/900/1800/1900 MHz
GPS Band:	1575.42 MHz
GPRS/GSM Chip:	Tri / Quad Band
GPS Standard:	+NMEA protocol

GSM/GPRS Module

GS900B, GS902B, GS902S

- * Siemens MC55
- * 900/1800/1900 MHz
- * [fixed IP & domain name]

Internal Memory: 512KB

Multiple Programmable I/O

Alarm Input :	4 x Dry contact 1 x Panic Button 2 x Analog Input, 4~20mA [GS902]
Audio Input:	1 x microphone jack
Relay Output:	2 x Relay Output, (max. 1A, 24VDC)
Data Interface:	1 x USB Port

Accessories

- * GPS Antenna
- * GSM Antenna,
- * USB Cable
- * Power Connector
- * Microphone Connector
- * I/O Connectors
(vehicle installation type)





Which model is for you?

Functions	GS902B	GS902S
Alarm Input	4	4
Relay Output	2	2
Panic Button	✓	✓
Analog Input	2	1
Fixed IP support	✓	✓
Domain Name & fixed IP support	✓	✓
Schedule GPS data upload	✓	✓
Logging and Upload Interval	✓	✓
Alarm GPS by SMS	✓	✓
Alarm GPS by GPRS	✓	✓
GPS Data via USB	✓	✓
Position Lock	✓	✓
Security Zone Fence	✓	✓
Auto Accident Report	✓	✓
Voice Monitoring	✓	✓
GSM Module	MC55	MC55
Temperature Sensor Built-in	-	✓

Tools for user development

SDK Software

1. GPS_Server SDK
2. GPS_Client SDK
3. GPS_Client_demo

GPS Database

1. Live Data
2. Historical Data
3. mdb and xml database



GS902-B Auto GPS Tracker [GPRS+GSM GPS + 2 x analog inputs]

It is designed with additional features.

- * 2 analog inputs
- * Tracking vehicle status
- * Tracking surrounding status e.g. Temperature & Speed

GS902-S Auto GPS Tracker [GPRS+GSM GPS + built-in Temperature Sensor]

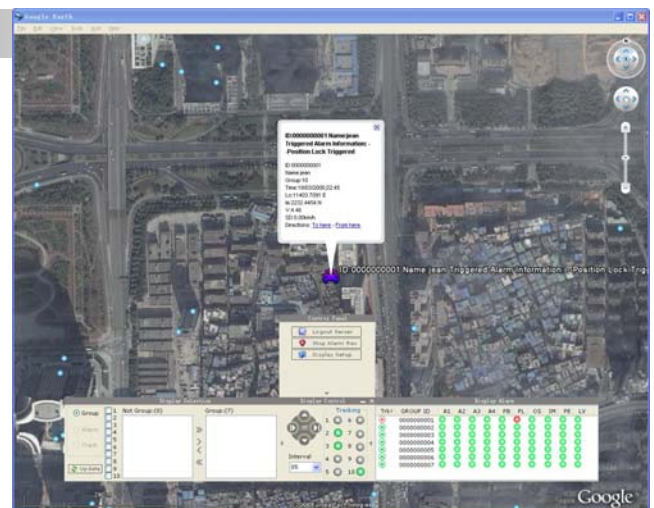
It is designed with additional features.

- * 1 analog input + 1 temperature sensor built-in
- * Tracking vehicle status
- * Tracking surrounding status e.g. Temperature



Tracking Software

- 1) GPS_Server Software
 - * support both SMS and GPRS data
- 2) GPS_Client Software
 - * support Google Earth
- 3) GPS_Setup Software
 - * support both USB and SMS
- 4) USB Driver for GPS Tracker





Software Comparison

Edition	Standard	Premium
[A] Server Software		
Receive Data via SMS	—	Yes
Receive Data via GPRS Data	Yes	Yes
Receive Data via USB Port	—	Yes
Live Data Display	Yes	Yes
Database	txt	MySQL/SQL/Oracle
XML	—	Yes
Data Export to Excel	—	Yes
Remote Command via SMS	—	Yes
Remote Command via Internet	—	Yes
Schedule Command	—	Yes
Batch Command	—	Yes
Temperature & AD Alert	—	Yes
Send Alarm Alert via TCP network	—	Yes
Send Alarm Alert via email	—	Yes
Send Alarm Alert via SMS	—	Yes
Alert Users Grouping	—	Yes
Alert Emails Grouping	—	Yes
Client Software support	—	Yes
Max. trackers simultaneous support	99	9999
Trackers Management	—	Yes
User Authentication & Management	—	Yes
Network Client Authentication & Management	—	Yes
Web Based Access support	—	Yes
SDK for user development	—	Yes
[B] Client Software	N.A.	Bundled
Google Earth Support	—	Yes
Live Data Display	—	Yes
Alarm Alert	—	Yes
Graphic Display of Temperature & Humidity	—	Yes
Temperature & AD Hi/Low Alert	—	Yes
Historical Data Access	—	Yes