DRAGON BRIDGE (SZ) TECH CO., LTD

Application :Rental cars, insurance cars, trucks, buses

Wireless Fleet management Solution Invator

GSM/GPRS/GPS Tracker

User Manuel

G-M200

ROADRAGON®
路特龙

Contents

1 Introduction

1.1 product description

The G-M200 series is an automotive intelligent OBD terminal that complies with the OBDII/EOBD standard.
Integrated 2G network communication module, high-precision GPS module or Beidou /GPS dual-mode module, high-performance three-axis gravity sensor and vehicle ECU computer communication module. Compatible with 9-18V wide voltage models, it can upload vehicle running status, vehicle condition data and driver control data to the vehicle network management platform through network module to realize positioning track query, vehicle data monitoring, vehicle physical examination and driving behavior statistics.

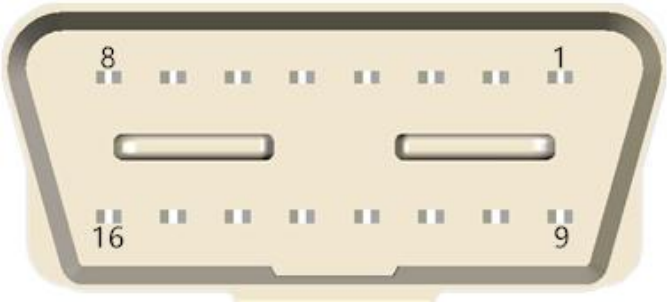
2 Product Overview

2.1 Parts List

Item	Photo
Main product	
3M sticker	
hidden install OBD cable (Optional)	

2.2 Interface Definition

2.2.1 Host interface



Property	description
16	VCC
4/5	GND
6	CAN_HIGH
14	CAN_LOW
7	K-LINE
15	L-LINE

2.3 Parameters

2.3.1Structural parameters

Property	description
Product size	60*49*27mm
Weight	57g
Shell material	plastic
Product renderings	

2.3.2 Characteristic parameter

Property	description
Working voltage	9-18V DC
Average operating current	<100mA@12V
Sleeping current	<8mA@12V
Working temperature	-30℃～+70℃
Storage temperature	-40℃～+85℃
SIM card	can be replaced
GPS antenna	built-in

GSM antenna	built-in
Master chip	STM32F103RET6

2.3.3 Communication module

Property		description
Network standard		2G or 4G(for 4G version)
Chip model		SIM800L
Support band	GSM:	850/900/1800/1900MHz

2.3.4 Positioning module

Property	description
Chip model	N303-3
Positioning mode	BDS B1 /GPS L1 /GLONASS L1
positioning accuracy	<10m
GPS frequency range	1575.42MHZ
Cold start time	<30s
Hot start time	<5s
Receiving sensitivity	<-161dBm
Speed accuracy	<0.1 m/s

2.3.5 OBD module

Property	description
agreement type	ISO-15765 500K ST
	ISO-15765 500K EX
	ISO-15765 250K ST
	ISO-15765 250K EX
	ISO-14230 FAST
	ISO-14230 SLOW
	ISO-9141-2

2.4 Function

2.4.1 basic functions

Feature item	description
2G network	Supports quad-band 2G network. Modules in foreign countries can be replaced with corresponding frequency bands to adapt to local networks, compatible with mobile phone cards and IoT cards.
Positioning	Support GPS/Beidou dual mode
OBD data	Supports protocol data such as OBDII/EOBD
Driving behavior	According to the vehicle data and status, it is analyzed whether the driver has a bad driving behavior such as rapid acceleration, sudden deceleration, sharp turn, etc. during the trip.

2.4.2 Optional features

Property	description
The alarm of pulling out	Can be installed with battery support the alarm function of pulling out

2.4.3 Detailed description of each function point

It can be adapted to vehicles that meet the OBD standard of more than 90%.

Communication Management Function	Sleep	After the vehicle is turned off for a while, it goes to sleep and reduces power consumption
	The network is disconnected and reconnected	Network dropped calls can be automatically reconnected.
	letter of agreement	Data information and platform interaction using TCP protocol
	parameter settings	The IP address, port number, and APN settings are directly made to the terminal through the platform, and password protection is provided.
GPS	Positioning data	Includes latitude and longitude, time, satellite number, speed, direction, ACC status, battery voltage, OBD speed.
	Base station positioning function	Contains network base station LAC and CellID information, carrier code.
	Intelligent track	The terminal automatically judges the trajectory route, realizes the intelligent reporting of the GPS point, and realizes the trajectory butterfly shape effect.
	Report by time interval	The monitoring platform sets the manner and frequency parameters of the transmitting terminal to return the positioning information.
Reminder alarm function	Ignition reminder	The vehicle ignition reports the ignition alarm, including the alarm time and GPS information.
	Flameout reminder	The vehicle is turned off and the fire alarm is reported, including the alarm time and GPS information.
	Vehicle low voltage alarm	The vehicle voltage is lower than the settable voltage threshold, and the low voltage alarm is reported, including the alarm time and GPS information.
	Idle speed alarm	The vehicle idling time exceeds the settable time threshold, and the idling time is too long, including the alarm time and GPS information.
	Water temperature alarm	For vehicles that support OBD water temperature data, the water temperature exceeds the settable temperature threshold, and the water temperature alarm is reported, including the alarm time, GPS information, and the current water temperature value.
	Speed alarm	The vehicle travel speed exceeds the settable speed threshold, and the over speed alarm is reported, including the alarm time and GPS information.
	Collision alarm	During the running of the vehicle, the acceleration is greater than the settable threshold. After the front and rear speed filtering, it is defined as a serious collision scene, and the collision alarm is reported, including the collision time, GPS information, and collision acceleration.
	Trailer alarm	The vehicle is towed and reported to the trailer for warning, including trailer time and GPS information.
	Fatigue driving reminder	The vehicle travels for too long and automatically recognizes the fatigue driving reminder.
	Device insertion alarm	The terminal device is inserted and the alarm is reported.
	Device pull-out alarm (optional)	The terminal device is pulled out, and the alarm is reported and pulled out (when the backup power is available).

	Long positioning time	In the case of vehicle ignition, the positioning time exceeds the set time threshold, and the alarm time is too long, including the alarm time and GPS information.
Driving behavior	Driving behavior	Including driving cycle start terminal time, driving cycle total mileage, average speed, maximum speed, overspeed duration, overspeed times, idle duration, rapid acceleration, rapid deceleration, sharp turn information.
	Driving behavior event	During the running of the vehicle, sudden acceleration, sudden deceleration, and sharp turn events are generated, and the incident is reported separately.
OBD data function	Vehicle data flow	The vehicle's critical data stream is typically reported every 30 seconds. The number of specific data items varies slightly depending on the vehicle data support.
	Reading vehicle failure	The terminal identifies the vehicle fault information, and reports the platform when the vehicle fault state changes.
	Clear vehicle breakdown	Clear the vehicle fault by issuing instructions from the platform.
Remote control management function	Remote upgrade	The terminal software can be remotely upgraded through the mobile network and upgraded through the FTP server.
	Remote restart	The device is restarted by sending a command in the data channel mode.
	Remote query	The platform remotely queries terminal information, vehicle type, GPRS communication parameters, heartbeat parameters, GPS/CAN return parameters, SIM card information, GPS information, CAN data stream, and current faults through the mobile network. Various alarm parameters, rapid acceleration and rapid deceleration sharp turn parameters.
	Remote setting	The platform remotely sets terminal information, vehicle type, GPRS communication parameters, heartbeat parameters, GPS/CAN return parameters, clear vehicle faults, control restart, factory reset, clear blind zone data, various alarm parameters, and rapid acceleration and deceleration through the mobile network. Sharp turn parameters.
	Version report	The version information is reported every time ACC ON. The platform checks the car version information by instruction.
	SIM card information reporting	Each time ACC ON reports information such as the IMEI number of the SIM card. The platform checks information such as the IMEI number of the SIM card through instructions.
	Module self-test	Terminal status self-test: Check whether each function module (positioning module, bus module, FLASH, 3D module) works normally and alarms occur when a fault occurs (not related to wireless communication)

2.4.4 OBD common data items

Battery voltage	Intake manifold pressure	Accelerator pedal position
Total mileage category	Fault light status	Engine running time
total mileage	Number of fault codes	Fault mileage
Total fuel consumption	Coolant temperature	Remaining oil

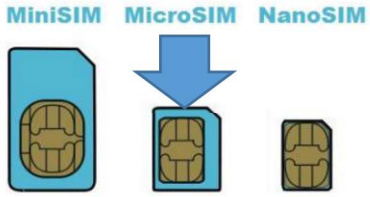
Engine speed	Vehicle ambient temperature	Engine load
Vehicle speed	Fuel pressure	Long-term fuel correction (group 1)
Air flow	Atmospheric pressure	Ignition advance angle
Intake air temperature	Throttle position	Total vehicle running time

The information of various models is different, and the number of supported data items is also different, which is subject to the actual support of the vehicle.

3 Getting Started

3.1 Installation

3.1.1 Installing a SIM Card



	长（mm）	宽（mm）	厚（mm）
SIM卡	25	15	0.76
Micro SIM卡	12	15	0.76
Nano SIM卡	12	9	0.67

3.1.2 device installation guide

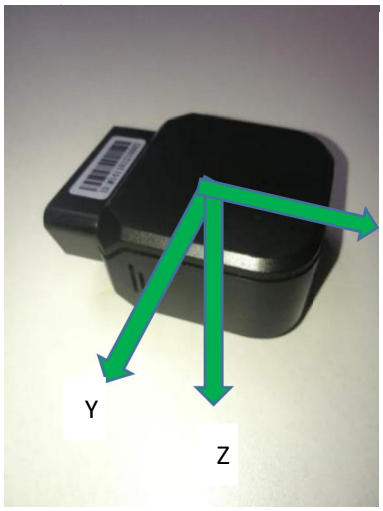
a. First, the installation location description:：

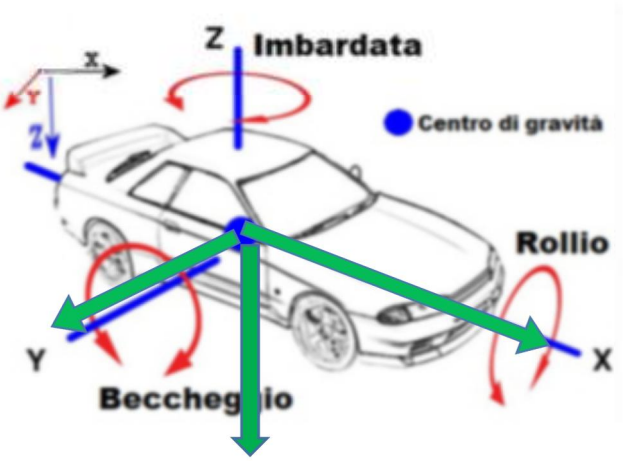
1. when install in the car , The smooth surface (with barcode) side needs to face up (let GPS module locate well), as shown below:

b. After the device is installed and fixed, there should be no large-area metal piece directly above it to prevent the GPS signal from being disturbed, resulting in the problem of not being able to locate.

c. The fixed direction of the device, considering the XYZ axis needs to report the corresponding acceleration value, the correct installation direction is as follows：

The direction of the X-axis is the direction of from center of the vehicle to car head, the direction of the Y-axis is the direction of the center of the vehicle to car side door , and the direction of the Z-axis is the direction of the center of the vehicle to the Bottom direction.





3.2 Precautions

3.2.1 Meaning of the indicator

Color of the lamp	Flashing frequency	Description
red (GSM module)	Constantly lit (5 seconds)	GSM module is online (connected to the server)
	1 second	GSM module is logging in to the network
	10 seconds in 1 second	GSM module is not inserted into SIM card
	Often off (5 seconds)	GSM module is in hibernation
green (GPS module)	Constantly lit (5 seconds)	GPS module is positioned
	1 second	GPS module is not positioned
	10 seconds in 1 second	GPS module is abnormal
	Often off (5 seconds)	GPS module in hibernation
blue (OBD module)	1 second	OBD module communication succeeded
	Often off (5 seconds)	OBD module is not communicating or sleeping
Firmware upgrade	Red, green and blue three colors simultaneously (similar to white), the frequency is 1 second 1 time	
Note: The lights are switched in 5 second intervals according to the order of "red-green-blue".		

3.2.2 installation instructions

1 Find the vehicle OBD diagnostic seat, refer to the common interface position;

2 Open the side strip of the device and insert the MICRO-SIM card (3FF medium card) accordin g to the direction of the label;

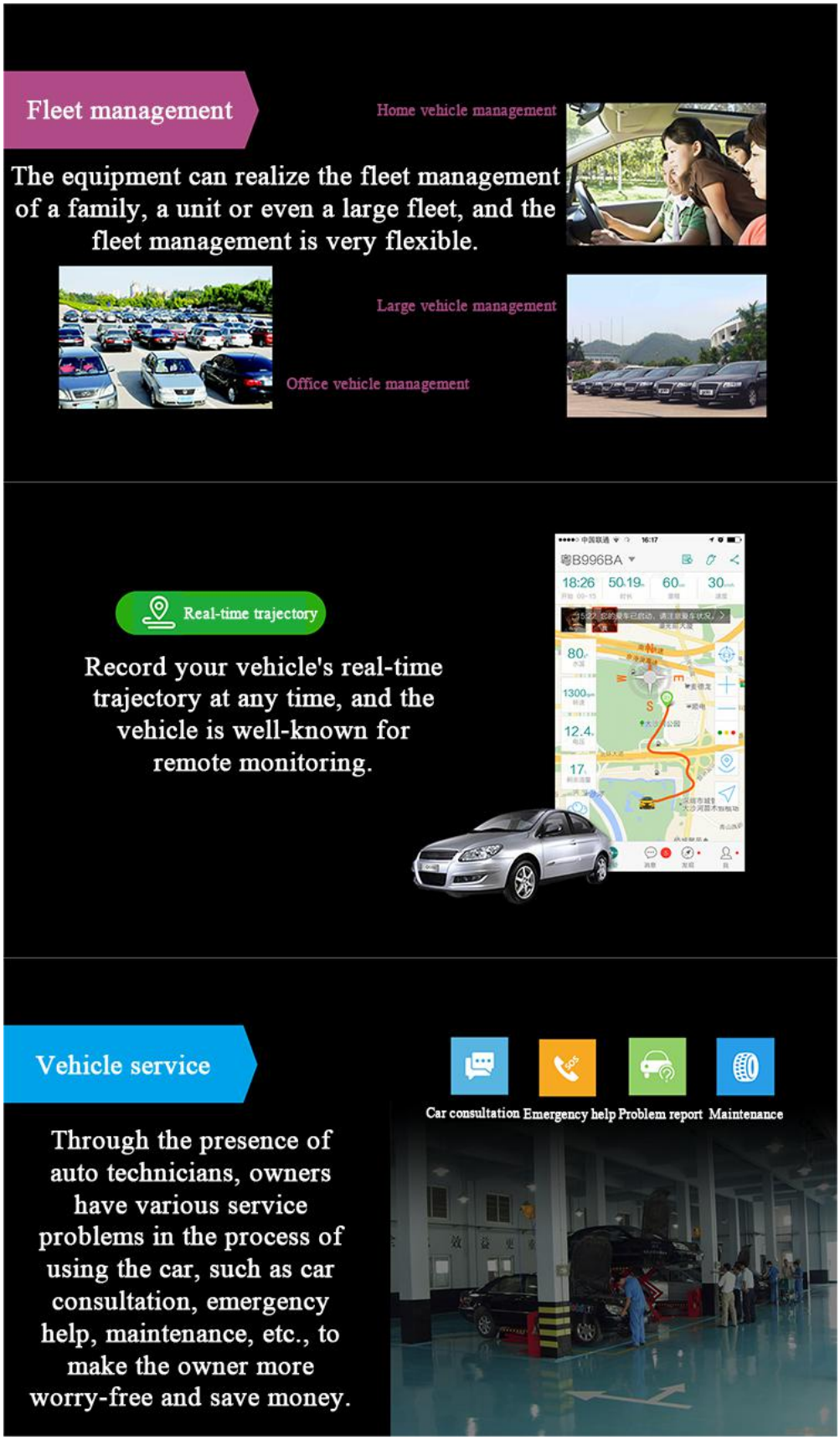
3 Connect the terminal directly to the OBD diagnostic interface of the vehicle to power on. The i ndicator light is on and observe whether the indicator blinks normally. Until the device is online and positioned normally, the time for first online and positioning will be slightly longer.

4 When the vehicle is started, the device will automatically communicate with the vehicle to obtai n the data it supports;

5 Equipment with battery is generally recommended to start the engine to charge the battery for more than 2 hours, to ensure that the alarm and other data are released.

Note: Parameters such as gateways are pre-set as needed before leaving the factory.

3.3 Scenario


Fleet management
Home vehicle management
The equipment can realize the fleet management of a family, a unit or even a large fleet, and the fleet management is very flexible.
Large vehicle management
Office vehicle management
Real-time trajectory
Record your vehicle's real-time trajectory at any time, and the vehicle is well-known for remote monitoring.
Vehicle service
Car consultation
Emergency help
Problem report
Maintenance
Through the presence of auto technicians, owners have various service problems in the process of using the car, such as car consultation, emergency help, maintenance, etc., to make the owner more worry-free and save money.