Wireless Internet of Things System
无线物联网系统

TYPE：WIOT

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关于本文档

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使用安全须知

Safety instructions

下面是关于产品的正确使用方法、为预防危险、防止财产受到损失等内容，使用设备前请仔细阅读本说明书并在使用时严格遵守，阅读后请妥善保存说明书。

The following is about the correct use of the product, in order to prevent danger, to prevent property damage and other content, before the use of equipment please read this instruction manual carefully and strictly adhere to the use, after reading, please keep the instructions.

使用要求

Requirements

- 请勿将设备放置和安装在阳光直射的地方或发热设备附近。
  Do not place and install the device in direct sunlight or near the heating device.
- 请勿将设备安装在潮湿、有灰尘或煤烟的场所。
  Do not install the device in a damp, dusty or soot area.
- 请保持设备的水平安装，或将设备安装在稳定场所，注意防止本产品坠落。
  Keep the device installed horizontally or in a stable place, taking care to prevent the appliance from falling.
- 请勿将液体滴到或溅到设备上，并确保设备上没有放置装满液体的物品，防止液体流入设备。
  Do not drop liquid on or spill onthe the device and make sure that there are no items filled with liquid on the device to prevent it from flowing into the device.
- 请勿使异物进入设备内部，以防止设备故障。
  Do not allow foreign objects to enter the inside of the device to prevent equipment failure.
- 请将设备安装在通风良好的场所，切勿堵塞设备的通风
  Install the device in a well-ventilated place and do not block the ventilation of the equipment
- 仅可在额定输入输出范围内使用设备。
  Only use the device within the rated input and output range
- 请勿随意拆卸设备。
  Do not remove the device at will.
- 请勿将设备面板朝下倒悬搬运。
  Do not move the equipment panel upside down.
- 请在允许的湿度和温度范围内运输、使用和存储设备。
  Please transport, use and save storage devices within the allowed humidity and temperature range.
- 洗车时，请勿使设备遭到水淋或过度受潮。这会有造成短路、起火或者其他故障的危险。电路板上的灰尘受潮后会引起短路，影响设备正常工作甚至损坏设备，为了使设备能长期稳定工作，请定期用刷子对电路板、接插件、机箱等进行除尘。
  Do not expose the equipment to water or excessive moisture when washing the car. This can lead to a short circuit, fire, or other fault. Dust on the circuit board will cause a short circuit after moisture, affecting the normal operation of the equipment or even damage the equipment, in order to make the equipment can be long-term stable

operation, please regularly use a brush to the circuit board, plug-in, chassis, etc. to dust.

- 请保证设备水平固定安装，确保内部抗震部件正常工作。
  Make sure that the equipment is installed at a fixed level to ensure that the internal seismic parts are working properly.
- 设备线缆全部连接完成之后，用线扎将线缆扎起，以避免因线缆散乱而可能引起的短路、发热以及触电等危险。
  Once the equipment cables are fully connected, tie the cables with cables to avoid the risk of short circuits, heating and electric shock that may cause the cables to break up

电源要求

Power requirement

- 产品必须使用本地区推荐使用的电线组件（电源线），并在其额定规格内使用！
  The appliance must use the recommended wire assembly (power cord) in the area and use it within its rated specifications!
- 请小心完成电路的连接。违反相关连接程序将会造成设备损坏。
  Please carefully complete the connection of the circuit. Violations of the relevant connection procedures will result in damage to the device.
- 所有的外部接线部分，都必需防止短路现象的发生。
  All external wiring parts must prevent short circuits.
- 当所有的线路连接完成之后，才能进行电源线的连接。
  The power cord cannot be connected until all the wiring connections have been completed.
- 确保电源的正负极连接正确。ACC 信号线要和车辆的钥匙火连接，汽车电瓶的输出电压不得超过36V。
  Make sure that the positive and negative connections to the power supply are correct. The ACC signal line is connected to the vehicle's key fire and the output voltage of the car battery must not exceed 36V.

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　　Wireless Internet of Things System IPC

一、 无线物联网系统主机

一、Wireless Internet of Things System host

1.1产品概述

1.1 product description

　　无线物联网系统主机使用 PC1900+STM32F4-32 位主处理器，内置 4G 全网通模块（支持双 4G），支持 10 路 IPC 接入，支持 GPS/BD 定位是系统，支持 RS485/RS232 数据通信口，外部 IO 状态采集，CAN 数据采集，RFID,蓝牙，无线 433,WIFI,G-sensor,油路点火远程控制单元，可面对现场各类数据进行采集分析处理并上传数据平台等功能。

　　Wireless IoT system host using PC1900-STM32F4-32-bit main processor, built-in 4G full-net module (supporting dual 4G), support 10-way IPC access, support GPS/BD positioning is the system, support RS485/RS232 data communication port, external IO state acquisition, CAN data acquisition, RFID, Bluetooth, wireless 433, WIFI, G-sensor, oil road ignition remote control unit, can face all kinds of data in the field for acquisition and analysis processing and upload data platform and other functions.

产品图示

Product icon

电气性能及参数：

Electrical performance and parameters:

1，设备工作温度：-20 ~85 摄氏度

Operating temperature: -20 to 85 degrees Celsius

2，设备存储温度：-25~105 摄氏度

Equipment storage temperature: -25 to 105 degrees Celsius

3，电源输入接口电压值：DC9V--36V,

Power input voltage value: DC9V-36V

4，电源防反接最大保护电压：-DC36V

Power supply anti-reverse maximum protection voltage: -DC36V

5，ACC 接口电压值：DC9V--36V

ACC:DC9V-36V

6，IO 端口检测电压值范围：6 路输入，检测电压值 DC9-36V

IO port detection voltage value range: 6 inputs, detection voltage value
DC9-36V

7，CAN 接口性能：2 路

CAN interface performance: 2 way

8，RS485 接口性能：4 路

RS485 Interface Performance: 4 Way

9，RS232 接口性能：4 路，RS232 电平 1 路

RS232 interface performance: 4 channels, RS232 level 1 way

10，报警器接口：2 路

alarm interface: 2 way

11，支持对讲功能：话筒，听筒

support intercom function: microphone, receiver

12，状态指示：D12 三色运行状态灯

status indication: D12 tri-color running status light

13，SIM 卡制式支持：4G 全网通 支持双 4G

SIM card standard support: 4G full Netcom support dual 4 G

14，RFID 功能：支持

RFID function: support

15，小无线 433 功能：支持

small wireless 433 function: support

16，定位功能：支持 GPS+北斗双模式

positioning function: support GPS + Beidou dual mode

17，USB 接口：1 路 USB3.0

USB interface: 1 way USB3.0

18，防盗功能：供电，油泵断开控制功能。

Anti-theft function: power supply, oil pump disconnect control function.

19，远程升级功能：支持

Remote upgrade features: Support

20，复位功能：支持硬件复位操作。

Reset function: Supports hardware reset operations.

21，休眠模式：支持

sleep mode: support

22，支持 10 路 IPC 功能,可根据需要拓展，最高支持 16 路 4KIPC 接入

Support 10-way IPC function, can be expanded according to needs, up to 16-way 4K IPC access

23，内置陀螺仪，急加减速，急转向，倾斜判断等。

Built-in gyroscope, rapid deceleration, sharp steering, tilt judgment, etc.

26,千兆网口：1 路

Gigabit network port：1 way

27,内置 2.5 寸笔记本减振系统，支持一个 2.5 寸笔记本硬盘

Built-in 2.5-inch laptop shock reduction system, support for a 2.5-inch notebook hard drive

应用场景：

Application scenario:

　　本产品可广泛应用于长途客运、城市公共交通、校车、运钞车、公安系统、路政巡检、物流车等等车辆、 智慧水利，智慧环保，智慧楼宇等互联网+智能感知的行业智慧管理领域

　　This product can be widely used in long-distance passenger transport, urban public transport, school buses, cash trucks, public security systems, road inspection, logistics vehicles, smart water conservancy, intelligent environmental protection, smart buildings and other Internet and intelligent perception of the field of industry intelligence management

1.2 设备结构

1.2 Equipment structure

介绍设备的结构，包括前面板和后面板的指示灯，接口功能。
Describes the structure of the device, including the front and rear panel indicators, interface functions.

1.2.1 前面板

1.2.1 Front panel

介绍前面板的指示灯，接口功能。
This section describes the indicators on the front panel and the interface functions.
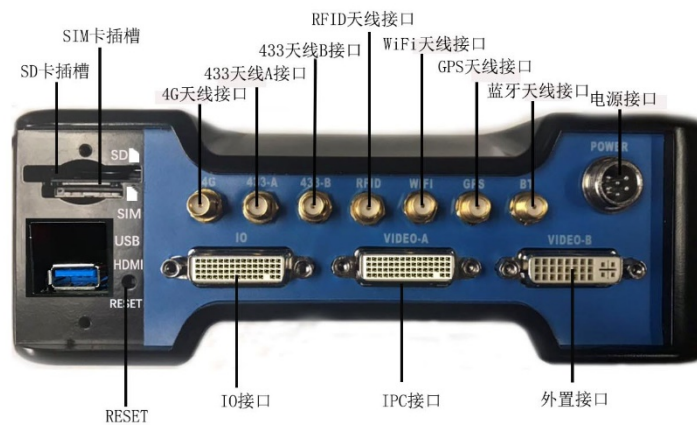

图示. 前面板
Illustration. front panel

说明：
Description：

1. 设备正常运行时，指示灯为绿色
   The light is green when the device is up and running
2. 传感器触发报警时，指示灯为红色
   When the sensor triggers an alarm, the light is red

1.2.2 后面板

1.2.2 Rear panel

介绍后面板的接口功能。
Beschreibt die Schnittstellenfunktionen der Rückwand.

说明：
Description：
    1.RESET 设备恢复出厂设置
     RESET device factory reset
    2.IPC 接口，
     IPC interface,
    3.外置接口-HDMI 接口-网络接口
     External interface - HDMI interface - network interface

1.3 设备安装

1.3 Device installation

1.3.1 安装注意事项

1.3.1 Installation Precautions

安装基本要求
Basic requirements for installation
- 所有的电气工作都必须遵守使用地最新的电气法规、防火法规及有关的法规。
  All electrical work must comply with the latest electrical regulations, fire prevention regulations and related regulations at the place of use.
- 安装时请务必关闭所有相关设备电源。
  Always turn off all relevant devices when installing.

线缆要求□
Cable requirements
- 建议安装线缆与原车电缆走向一致，沿车辆原线槽安装布线，与原车辆电缆绑扎固定。
  It is recommended that the installation cable is consistent with the original vehicle cable direction, and the wiring is installed along the original slot of the vehicle, and the original vehicle cable is tied to secure
- 做到布线整齐、隐蔽，以防止司机和乘客碰断。
  Do the wiring neatly and conceal to prevent drivers and passengers from breaking.

1.3.2 安装环境

1.3.2 Installation Environment

安装前准备
Preparation before installation
将设备从包装内取出，检查设备和配件无损坏、无缺失，再开始安装设备。
Remove the equipment from the package, check that the equipment and accessories are free of damage, no missing, and then start installing the equipment. □

注意：拆装、接线等操作时请务必断开电源，切勿带电操作。

Note: Please be sure to disconnect the power supply when disassembling, wiring, etc.

环境要求

Environmental requirements

设备安装前，需要先进行安装位置和线路的部署侦察、规划，以确保电源和线路安全稳定，同时需考虑布线的方便性和合理性。

Before the installation of equipment, the installation location and line deployment reconnaissance, planning to ensure the security and stability of power and line, at the same time need to consider the ease of wiring and reasonable. □
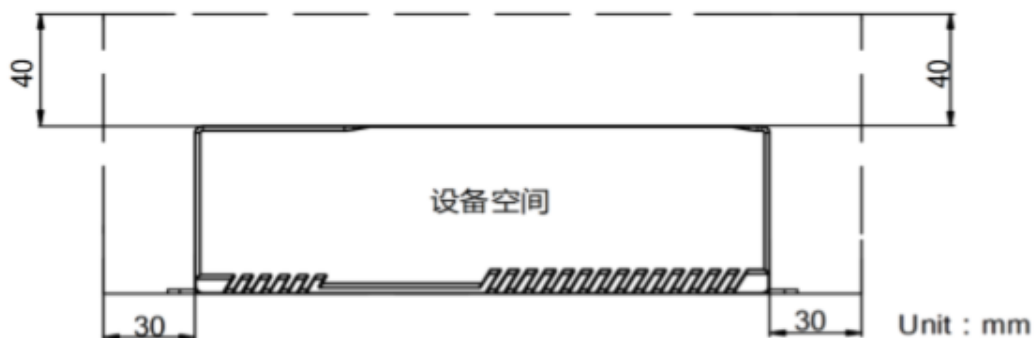
- 抗震：选择车辆振动较弱的部位（如驾驶员座位后方或副驾驶员座位后方），远离发动机。

  Seismic: Select areas where the vehicle vibrates less (e.g. behind the driver's seat or behind the co-pilot's seat) and stay away from the engine

- 散热：确保设备远离车辆上的热源，安装在通风良好的位置，利于散热。 □

  Cooling: Ensure that the equipment is away from the heat source on the vehicle and installed in a well-ventilated position for cooling.

- 空间：预留利于空气流通、散热、硬盘盒等插拔所需空间，

如下图所示：

  Space: Reserve space for air circulation, heat dissipation, hard disk box, etc., as shown in the following image:
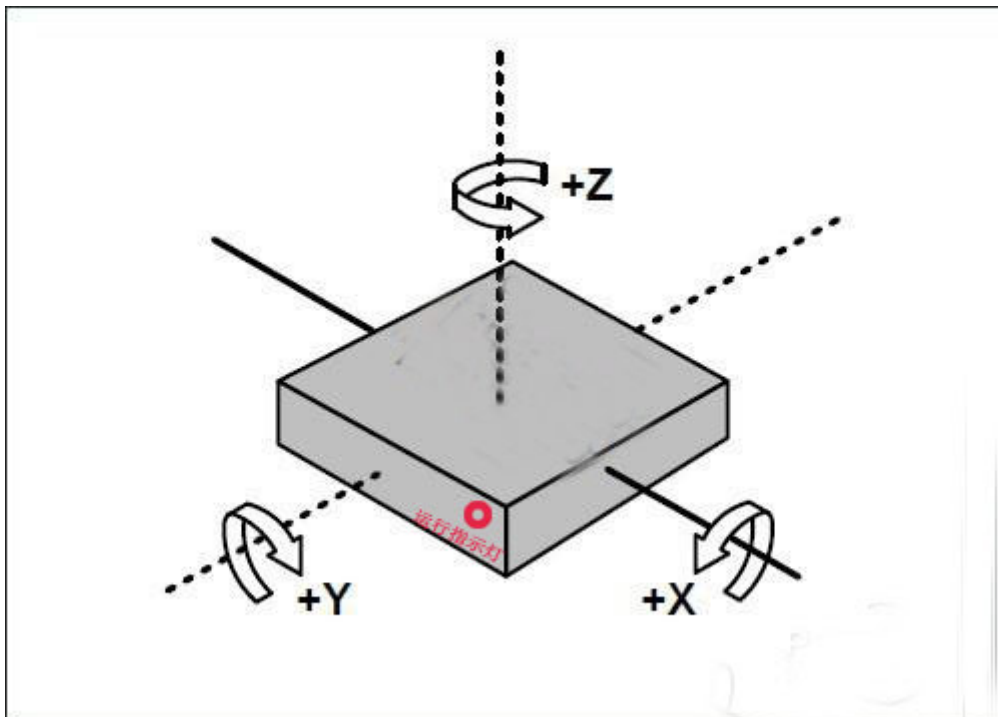

图示：建议预留空间

        Illustration: Reserved space is recommended

- 放置角度：水平放置取正主机，任何其它角度的安装方式可能会损坏设备。

  Placement angle: Place the pick-up host horizontally, and any other angle of installation may damage the device.

- 固定：推荐使用国标 M4 组合螺丝将其固定。所有固定螺丝必须紧固到位，避免长期 行车颠簸后发生松脱，导致设备掉落。

Fixing: It is recommended to secure it using national standard M4 combination screws. All fixing screws must be fastened in place to avoid looseness after long driving bumps, resulting in equipment falling.

1.3.3、无线物联网系统主机固定方向

1.3.3、Wireless IoT system host fixed direction

为保证 G-Sonser 传感器数据的准确性，主机安装需要注意：
In order to ensure the accuracy of the G-Sonser sensor data, the host installation needs to be aware of:
1、安装时，尽量将 X 轴的正半方向与车头方向重合。
When installing, try to coincide the positive half of the X-axis with the head.
2、设备应固定的水平面上。
The device should be fixed on a horizontal surface

FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different
   from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum distance between 20cm the radiator your body: Use only the supplied antenna.