Mobile Video Recorder

Quick Start Guide

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Regulatory Information

FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU, RE Directive 2014/53/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 Note	Provides additional information to emphasize or supplement important points of the main text.
 Caution	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

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Chapter 1 Panel Introduction

1.1 Front Panel

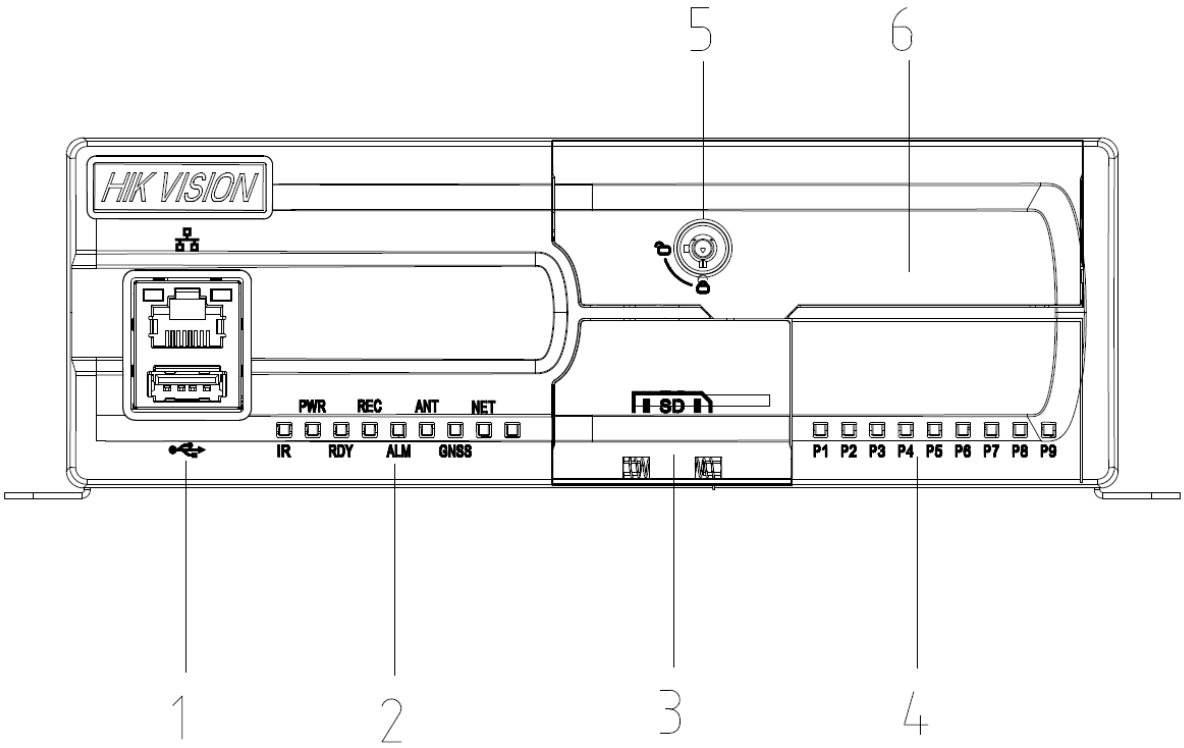

Figure 1-1 Front Panel

Table 1-1 Front Panel Interface Description

No.	Name	Description
1	Network interface and USB 2.0	10M/100M/1000M ethernet interface and USB interface.
2	PWR indicator	Power indicator ● Solid green: Device is powered on. ● Solid red: Device is standby.
	REC indicator	Recording indicator ● Recording indicator. ● Solid green: Device is recording normally.
	ANT indicator	ANT indicator ● Unlit: Dialing module is abnormal.

		● Solid green: Device is dialing. ● Flashing green: Dialing up succeeded.
	NET indicator	● Flashing green: Internet connection succeeded.
	IR indicator	● For receiving infrared signal
	RDY indicator	Ready indicator ● Solid green: Device starts up normally.
	ALM indicator	Alarm indicator ● Red: Alarm occurs.
	GNSS indicator	GNSS indicator ● Unlit: Positioning module is abnormal. ● Solid green: Device is positioning. ● Flashing green: Positioning succeeded.
3	SD Card Slot	Slot for SD card
4	IPC Indicators	Indicates IPC Status
5	Dummy HDD/SSD lock	Lock/unlock the dummy HDD.
6	Dummy HDD/SSD box	For HDD installation.

1.2 Rear Panel

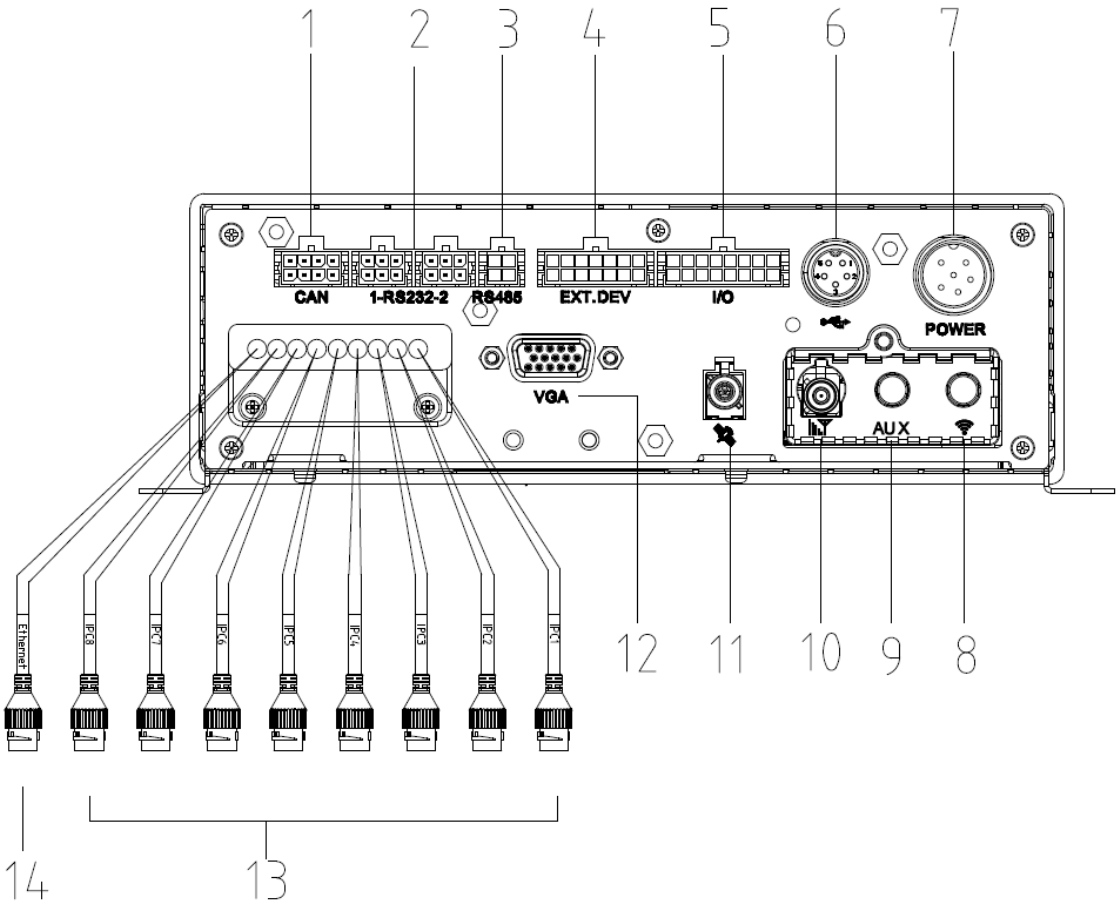

Figure 1-2 Rear Panel (RJ45)

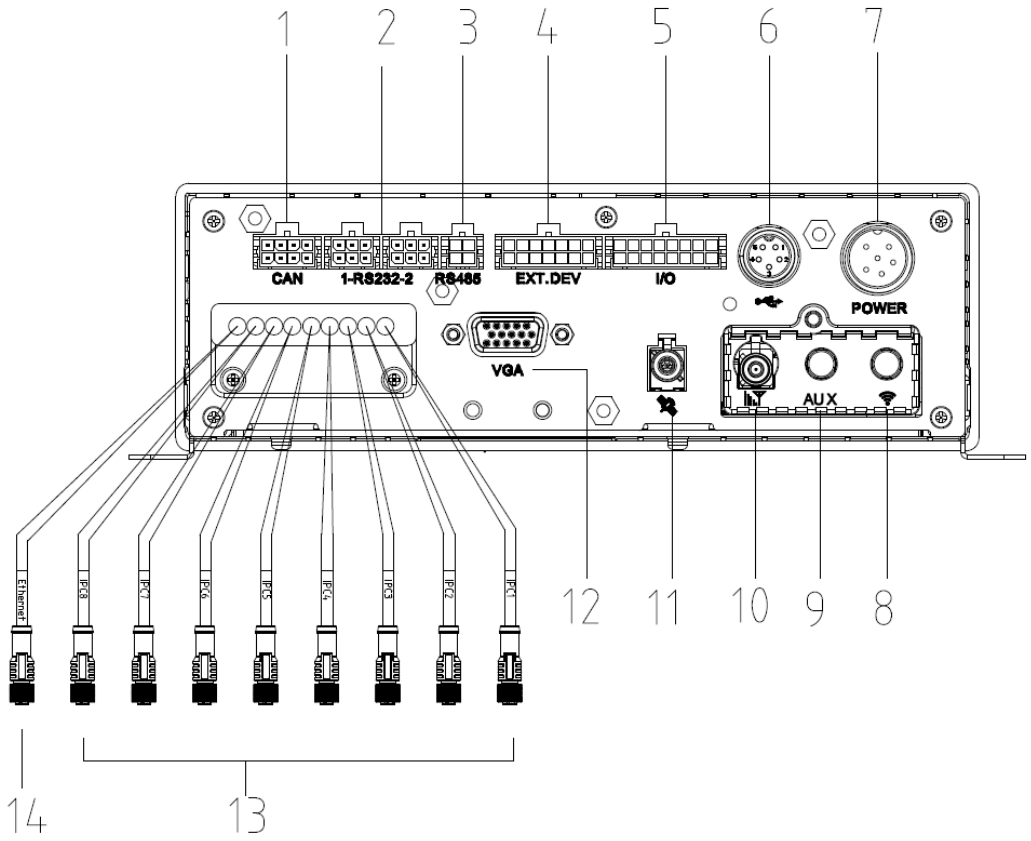

Figure 1-3 Rear Panel (M12)

Table 1-2 Rear Panel Interface Description

No.	Name	Description
1	CAN interface	--
2	RS-232 Interface	RS232-1 interface for debugging.
3	RS-485 Interface	RS485-1 interface for debugging.
4	EXT.DEV	RS-422 communication interface, two-way audio interface, and CVBS video output
5	I/O	● ALARM IN: Connects to vehicle high/low level signal as alarm signal source. ● ALARM OUT: ALARM OUT n and ALARM OUT n# are one pair of alarm output interfaces to control peripheral devices. ● Sensor-In: Connects to the automobile braking, reversing, left-turn, and right-turn signals.

6	Disaster Box Interface	For disaster box installation
7	Power	6-pin aviation plug for power supply.
8	Wi-Fi	Wi-Fi antenna interface.
9	AUX	Aux Wi-Fi antenna interface.
10	4G	4G dialing antenna interface.
11	GPS	GPS positioning antenna interface
12	VGA	VGA video output interface
13	IPC Interface	IPC connection
14	IPC Interface	IPC extended connection

Chapter 2 Installation and Connections

2.1 Environment

To ensure the device can ventilate well, find a position with enough space. Recommended installation space is shown in Figure 2-1.

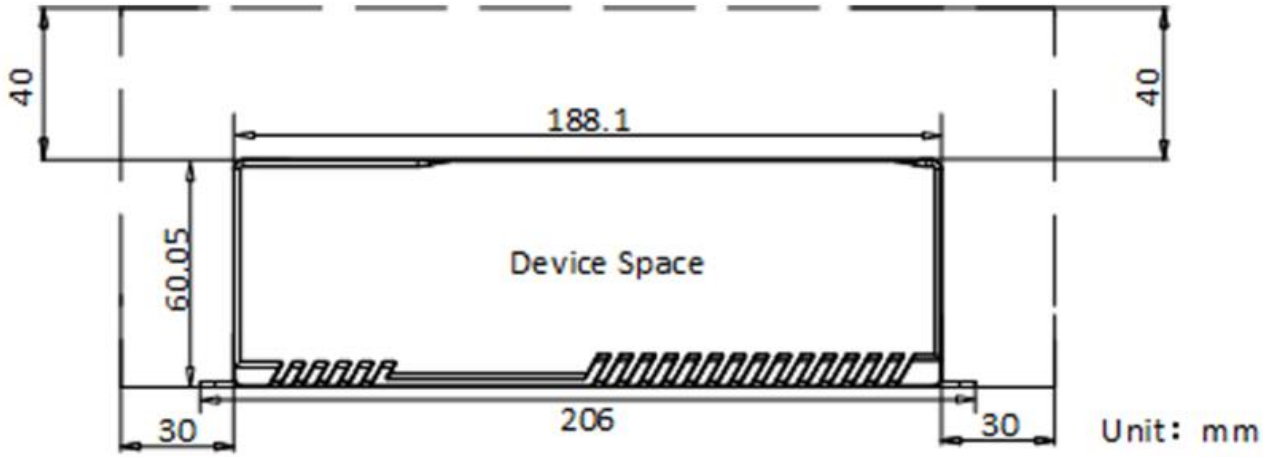

Figure 2-1 Recommended Installation Space

2.2 Install HDD

Before You Start:

Prepare the tools and components for installation:

- Factory recommended 2.5-inch HDD.
- Antistatic gloves.
- Key to dummy HDD (delivered with device).
- Cross screwdriver.
- Screws (delivered with device).

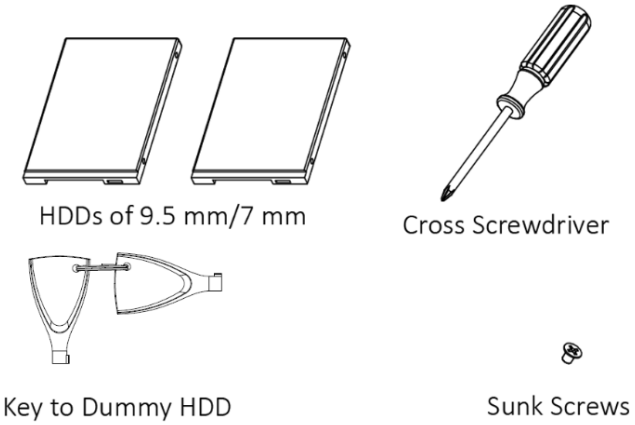

Figure 2-2 Tools

Purpose:

Perform the following steps to install the HDD on the device. Figures in following steps are only for reference.

Step 1 Wear antistatic gloves.

Step 2 Insert the key and turn 90° counterclockwise to unlock dummy HDD.

Step 3 Use the sunk screw to fix the dummy HDD to the dummy HDD box.

Step 4 Insert the dummy HDD box to the device, as shown bellow and flip the dummy HDD lock.

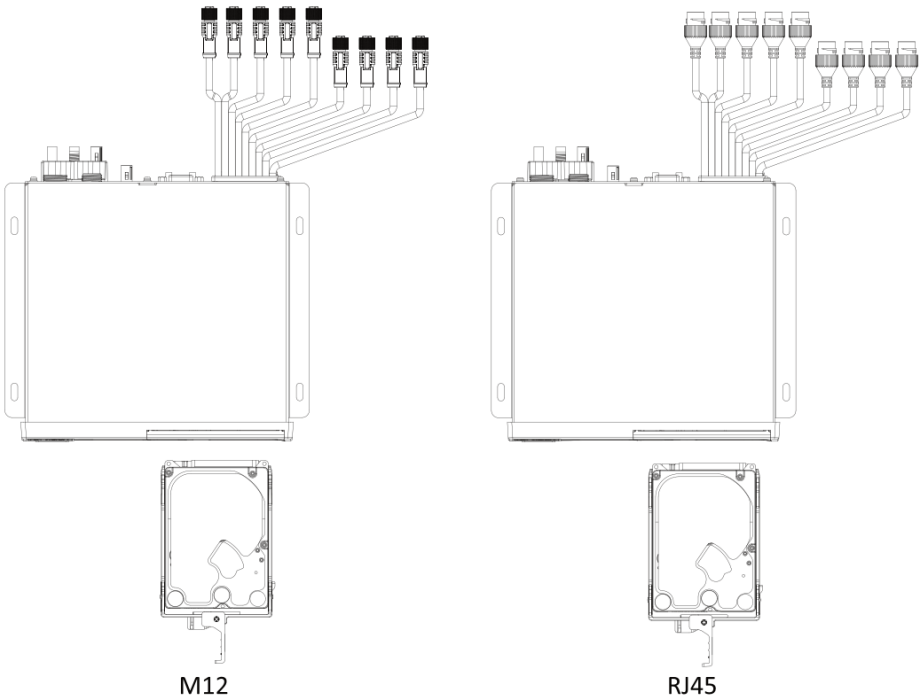

Figure 2-3 Insert the dummy HDD box

Step 5 Close

2.3 Install SIM Card

Purpose:

Pluggable 3G/4G wireless communication module is designed for the device and you should install the SIM card to realize the wireless communication function.

Before You Start

Prepare the tools and components for installation:

- SIM card
- Wrench

Figure 2-4 Tools

Step 1 Wear antistatic gloves.

Step 2 Use wrench to unfasten and remove the two screws fixing the 3G/4G and Wi-Fi module.

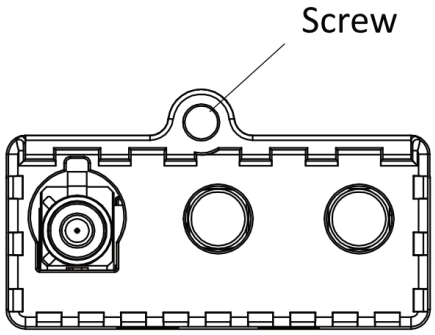

Figure 2-5 Unfasten Screws

Step 3 Pull out the 3G/4G and Wi-Fi module.

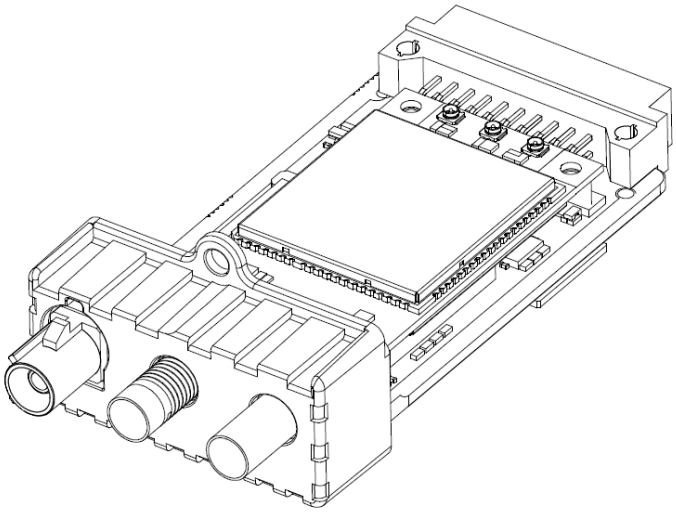

Figure 2-6 3G/4G and Wi-Fi module

Step 4 Press the yellow button at the back of the module on the 3G/4G slot and then pull the SIM card tray out.

Step 5 Place the SIM card on SIM card tray with the metal side facing upwards.

Step 6 Insert the SIM card tray back to SIM card slot.

Step 7 Install the 3G/4G module back to the device and tighten the set screw.

2.4 Install SD Card

Before You Start

Prepare the tools and components for installation:

- Key to dummy HDD (delivered with device)
- SD card

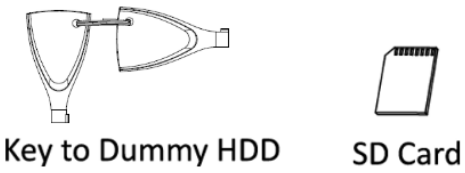

Figure 2-7 Tools

Step 1 Wear antistatic gloves.

Step 2 Insert the key and turn counterclockwise to unlock dummy HDD.

Step 3 Open the cover of SD card slot.

Step 4 Insert SD card into SD card slot with gold contacts facing down till you hear a click.

Step 5 Plug the dummy HDD back to the device, close the cover of SD card slot, and then tighten the screws clockwise.

Step 6 Turn the key clockwise to lock dummy HDD.

2.5 Install Antenna

Note

This section is only applicable to the device supporting 3G/4G and Wi-Fi.

Step 1 Connect antennas to corresponding antenna interfaces.

Table 2-1 Antenna Interface

Interface	Corresponding Antenna
M-ANT/	Main 3G/4G antenna
AUX	Aux Wi-Fi antenna
WIFI/	Main Wi-Fi antenna
GNSS/	Positioning antenna

Step 2 Place antenna vertically with its signal receiving end facing upward.

Step 3 If the cable is too long, you can roll them up to prevent signal receiving from being affected.

Step 4 Install 3G/4G antenna in car windshield, seat backrest, or other non-metallic objects. Keep away from metal objects for at least 50 cm.

Step 5 Vertically install positioning antenna on the automobile roof with no shelter.

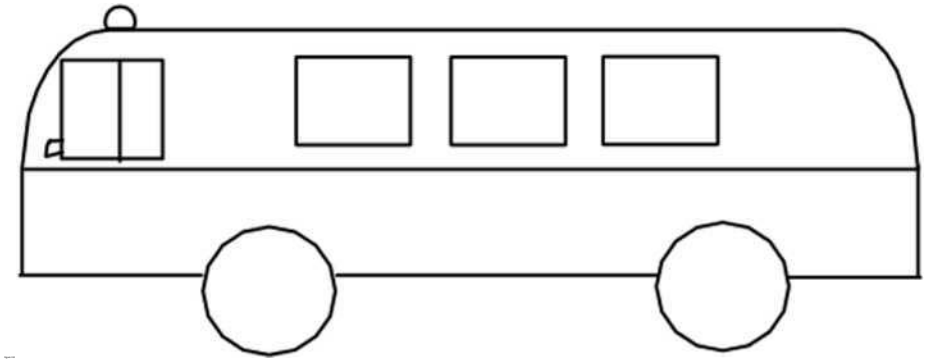

Figure 2-9 Install Positioning Antenna on Automobile Roof

Step 6 Follow the instructions below in case that you need to install positioning antenna inside your automobile.

1) Install antenna on platform under the front windshield.

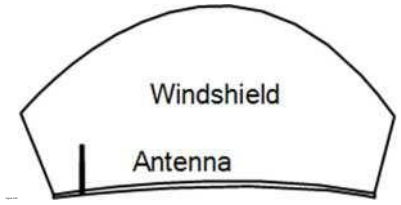

Figure 2-11 Install Positioning Antenna Inside Automobile

2) Fix antenna with neutral silica gel.
3) When adjusting the antenna position, ensure that at least 4 satellites have a signal strength above 35 dB. You can go to **Configuration** > **Vehicle** > **Position Settings** > **Location Status** to view positioning signal status.

Chapter 3 Device Wiring

3.1 Power Cord Wiring

Note

In order to ensure the safety of your automobile and device, a fuse is required for wiring of automobile power and device power.

Do not connect the power cord to the device before all the cables are connected.

3.1.1 Shutdown Delay

Purpose:

The device starts up when your automobile ignites and shuts down after automobile is off. Automobile ignition startup and shutdown are realized by automobile positive pole ignition switch (providing high level signal when the switch closes). The wire connection of the device varies with the automobile ignition models.

Note

Ignition switch is connected to the positive pole of +12/24 VDC of automobile batteries. Make sure that the connection is correct, and then perform the following steps:

Step 1 Connect the **DC IN +** of the device to the positive pole of automobile batteries, jumping over the switch of normal automobile power.

Step 2 Connect the **DC IN -** of the device to the negative pole of automobile batteries.

Step 3 Connect the **ACC** of the device to the automobile ignition switch.

Step 4 Place the fuse into the fuse holder.

What to do next: For detailed time settings of time-delay shutdown, see Chapter “Configure Delayed Shutdown” in user manual.

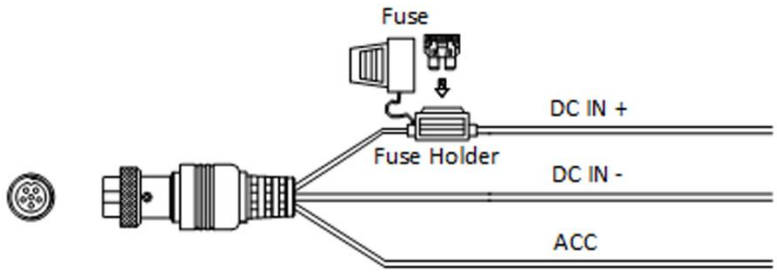

Figure 3-1 Install Fuse for Power Supply

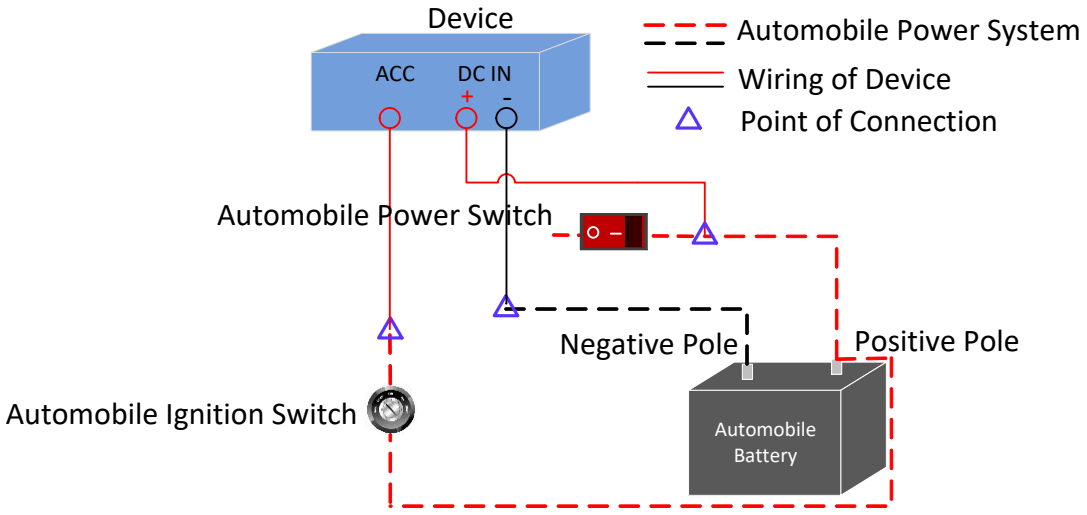

Figure 3-2 Shutdown Delay

Note

- Please contact the automobile manufacturer for the connection information of starting switch.
- The automobile ignition switch, also called car key, controls the startup and shutdown of your automobile. Most of automobiles adopt positive pole ignition switch currently.
- The normal automobile power refers to the main power of the automobile power supply system. After the automobile is off, the normal automobile power still provides direct-current source for the other devices inside and generally a main switch is used to turn on/off it.

3.1.2 Scheduled Shutdown

Step 1 Connect the **DC IN +** and **KEY +** of the device to the positive pole of automobile batteries.

Step 2 Connect the **DC IN -** and **KEY -** of the device to the negative pole of automobile batteries.

Step 3 Place the fuse into the fuse holder.

What to do next: For detailed time settings of time-delay shutdown, see Chapter Enable Scheduled Startup/Shutdown in user manual.

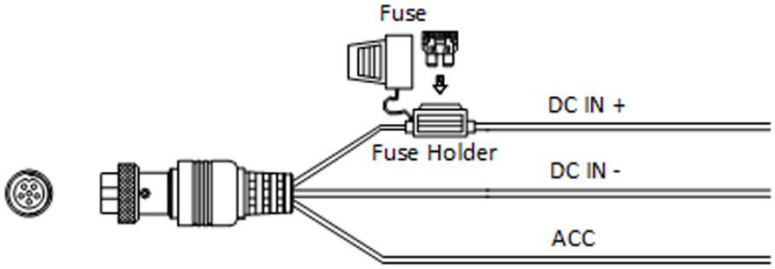

Figure 3-3 Install Fuse for Power Supply

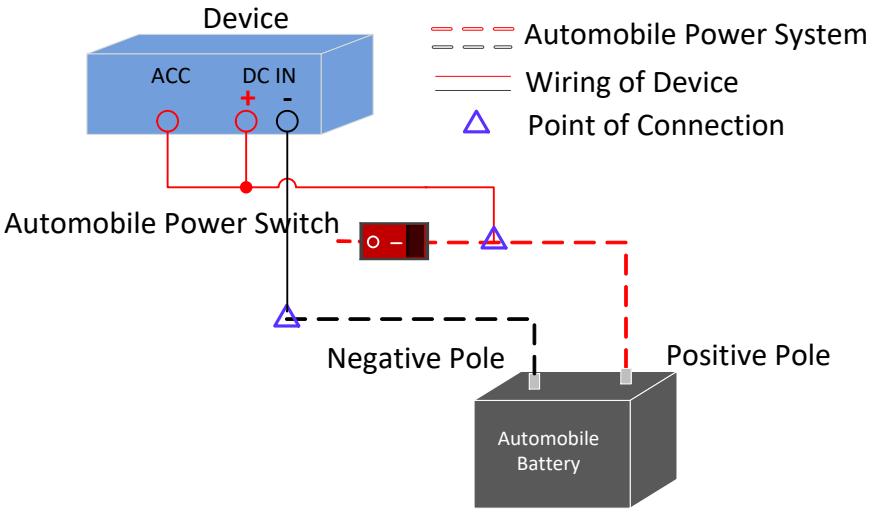

Figure 3-4 Scheduled Shutdown

3.2 Alarm Input/Output Connection

3.2.1 Alarm Input Connection

The device adopts the high/low-level electrical signals triggering (high level: 6 to 32 VDC; low level: 0 to 5 VDC) to realize alarm input. And in order to avoid error report caused by voltage fluctuation, no alarm will be triggered by voltage ranging of 5 to 6 VDC.

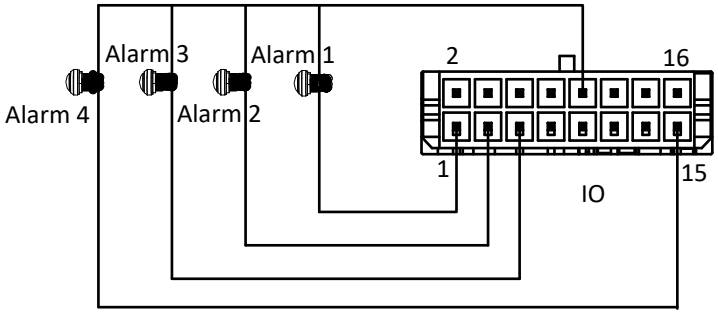

Figure 3-5 Alarm Input Connection

3.2.2 Alarm Output Connection

Follow the figure bellow to wire alarm output.

n and n# are a pair of alarm output. You can connect them with a relay alarm device. When the voltage of connected alarm device exceeds the valid alarm output range, you need to connect a relay to protect alarm output.

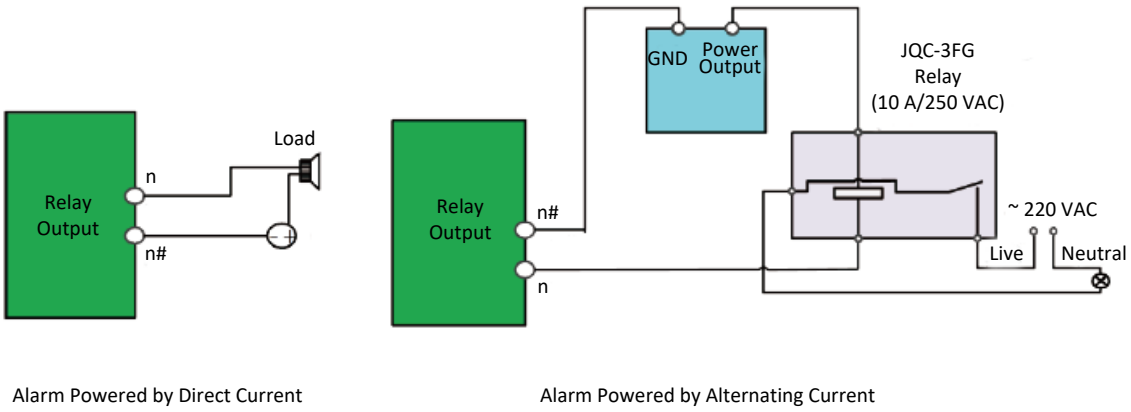

Figure 3-6 Alarm Output Connection

3.3 Sensor-in Wiring

Step 1 Connect the delivered extension cable to I/O interface.

Step 2 Connect the automobile braking, reversing, left-turn, and right-turn signals to sensor-in interface.

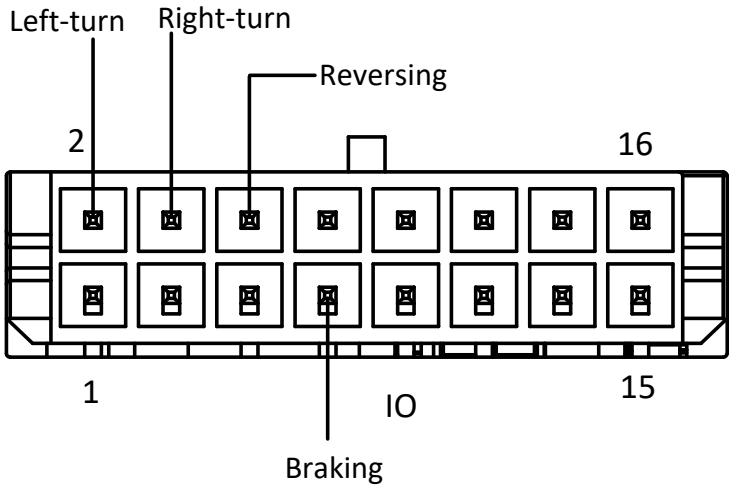

Figure 3-7 Sensor-in Wiring

3.4 Power-on

Note

The indicator types vary with different models. Here the most comprehensive indicators are introduced.

Connect the device to power supply after all the installations above are finished. You can view the indicators to get knowledge of the device status. For details, see descriptions in Table 1-1.

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