



Digital Video Recorder

Installation Guide

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User Manual

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About this Manual

This Manual is applicable to Digital Video Recorder.

The Manual includes instructions for using and managing the product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version in the company website

(<http://overseas.hikvision.com/en/>).

Please use this user manual under the guidance of professionals.

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

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

Note: This product 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 product 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 product 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.

This equipment should be installed and operated with a minimum distance 20cm between the

radiator and your body

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.



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.
WARNING	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.

Safety Instructions

- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.
- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region. Please refer to technical specifications for detailed information.
- Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with 9 to 32 VDC according to the IEC60950-1 standard. Please refer to technical specifications for detailed information.
- Do not connect several devices to one power adapter as adapter overload may cause over-heating or a fire hazard.
- Please make sure that the plug is firmly connected to the power socket.
- If smoke, odor or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.

Preventive and Cautionary Tips

Before connecting and operating your device, please be advised of the following tips:

- Ensure unit is installed in a well-ventilated, dust-free environment.
- Keep all liquids away from the device.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the device in conjunction with an UPS if possible.
- Power down the unit before connecting and disconnecting accessories and peripherals.
- A factory recommended HDD should be used for this device.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.
- Ensure the device is well grounded.

Chapter 1 Panel Introduction

Refer to the following figure and table for the panel description.

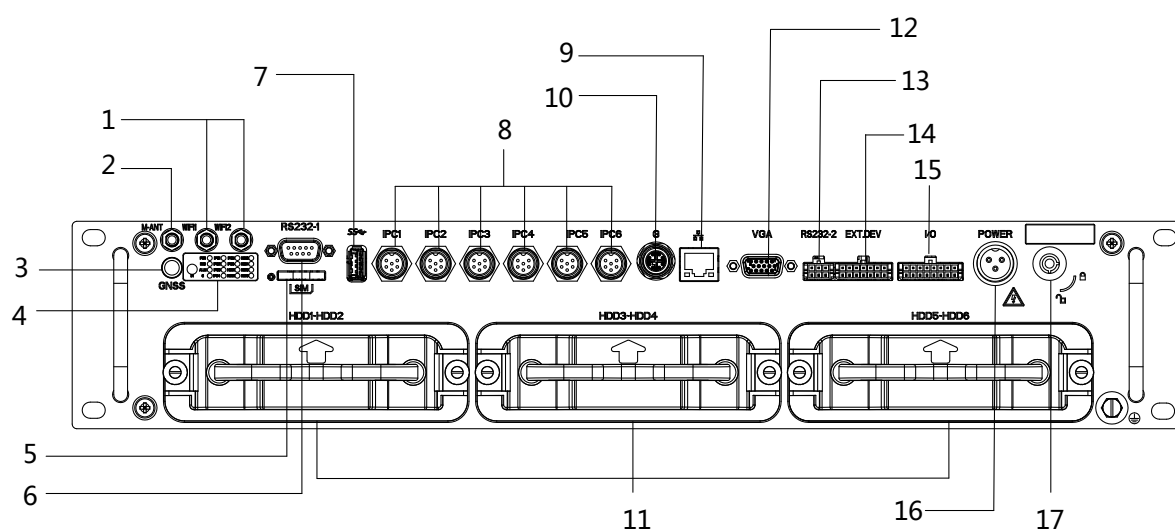


Figure 1-1 Front Panel

Table 1-1 Interface Description

No.	Name	Description
1	Wi-Fi antenna interfaces	Reserved.
2	M-ANT	Reserved.
3	GNSS	GNSS antenna interface.
4	PWR	Power indicator: ● Solid green: Device is powered on. ● Solid red: Device is standby.
	IPC	Camera indicator: ● Flashing green: Camera is connected and data are transmitted. ● Unlit: Camera is offline. Check power supply and wiring.
	REC	Recording indicator Solid green: Device is recording normally.
	G	Network interface indicator (G):

		● Flashing green: Network transmission is normal. ● Unlit: No network. Check network cable connection and IP address.
	HDD	HDD indicator (HDD): ● Solid green: HDD is working normally. ● Unlit: No HDD. Check HDD installation.
	ALM	Alarm indicator Red: Alarm occurs.
5	SIM card slot	Reserved.
6	RS-232-1	For debugging.
7	USB interface	USB 3.0 interface.
8	IPC1 to IPC6	6 video inputs. Connects to cameras.
9	100M network interface	RJ45 10M/100M Ethernet interface.
10	1000M network interface	Connects to switch and network camera.
11	Dummy HDD	For HDD installation.
12	VGA	VGA video output interface.
13	RS-232-2	Connects to external devices.
14	EXT.DEV	RS-422 communication interface, two-way audio interface, and CVBS video output.
15	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.
16	Power	3-pin aviation plug for power supply.
17	Dummy HDD lock	Lock/Unlock the dummy HDD.

Chapter 2 Installation and Connection



Device pictures in following sections are only for reference. In condition that product pictures conflict the real device, the later prevails.

Before you start:

Take out the device from the package. Check the device and accessories status. Please contact us if something is missing or damaged.

2.1 Environment

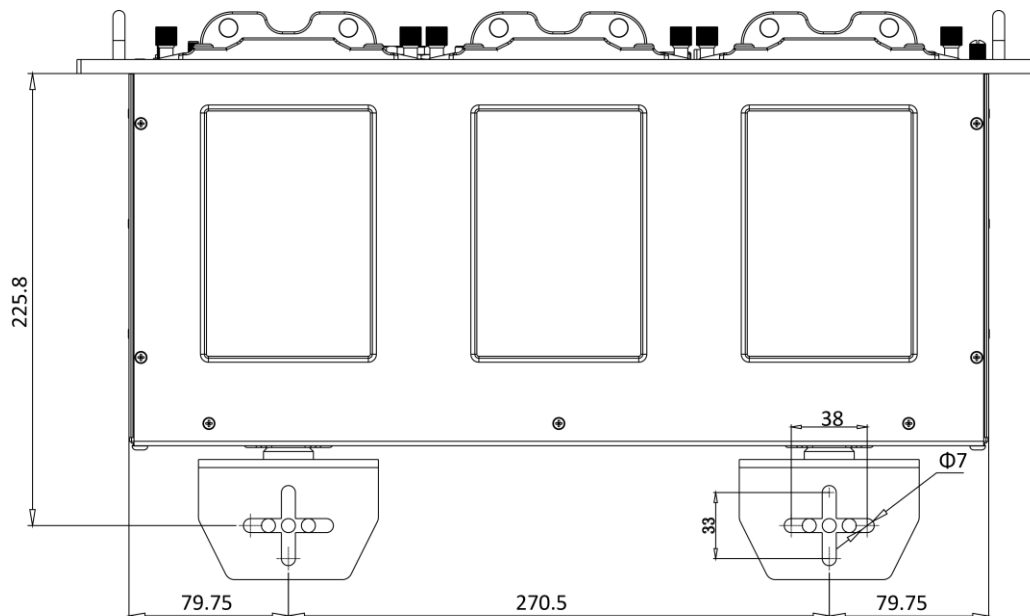
Consider the following environment conditions when installing the device.

- Anti-vibration

Normal vehicle: Install the device on the part with weak vibration (such as the part behind the driver seat, the part behind the passenger seat, etc.) and far away from the engine.

Rail traffic: It is recommended to install the device in the electric cabinet.

Anti-vibration bracket is needed for the device installation. The dimension of the bracket installation hole is shown as below.



Unit: mm

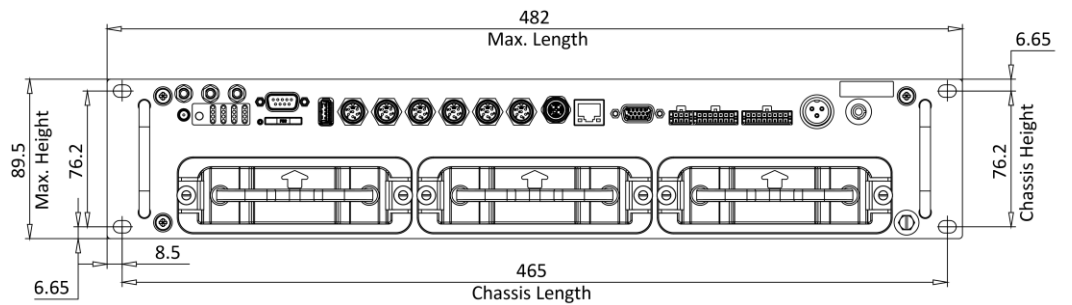
Figure 2-1 Anti-Vibration Bracket Installation Hole Dimension

- Heat dissipation

Install the device in the position far away from heat and ventilates well for good heat dissipation.

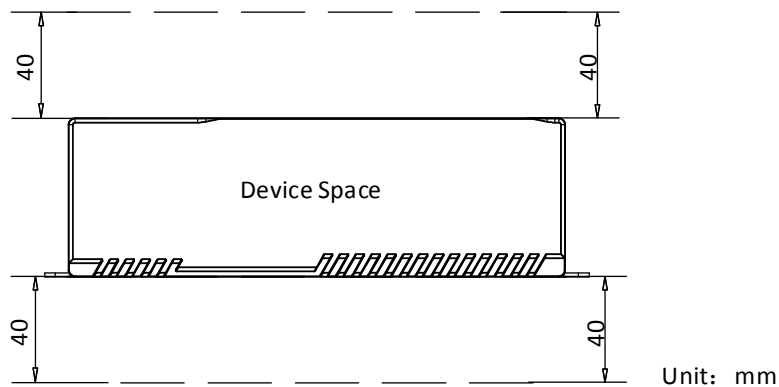
- Enough space

Leave enough space for the device chassis as shown in Figure 2-2. Leave enough space for ventilation, heat dissipation, plugging or unplugging dummy HDD, etc. as shown in Figure 2-3 and Figure 2-4.



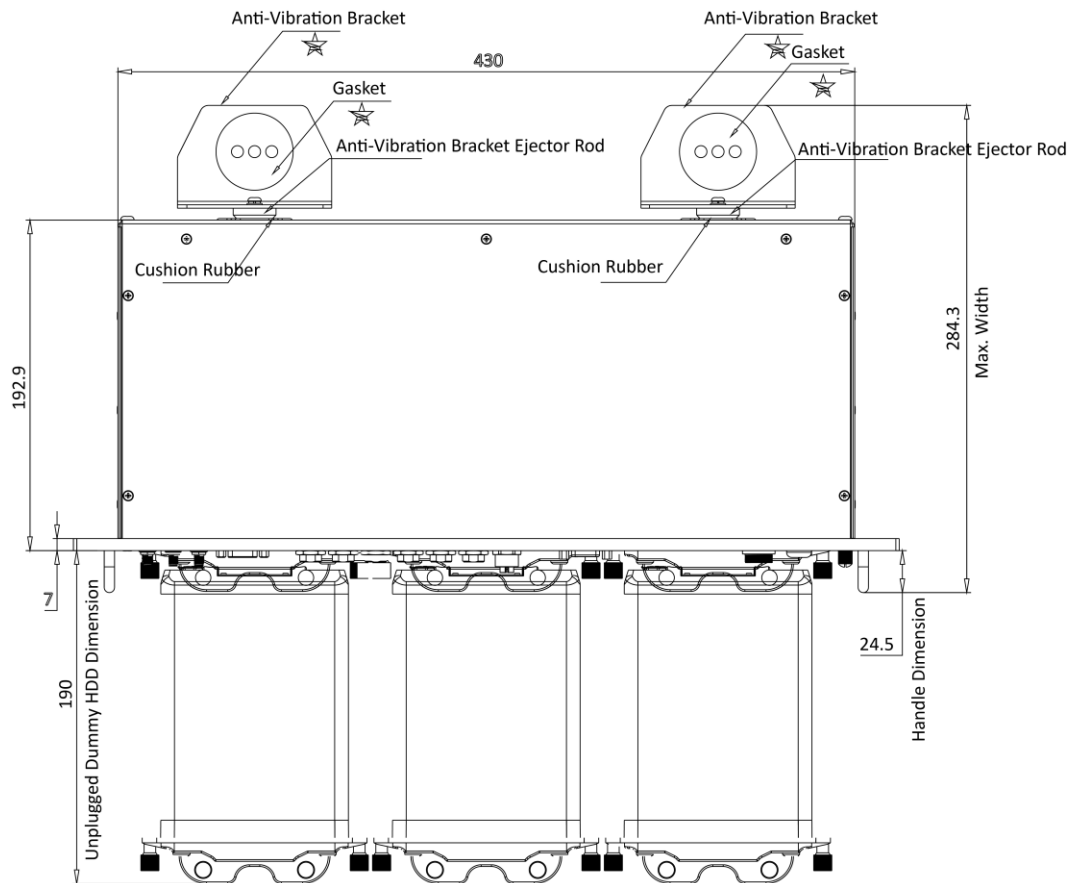
Unit: mm

Figure 2-2 Device Chassis Installation Dimension



Unit: mm

Figure 2-3 Recommended Installation Space (1)



Unit: mm

Figure 2-4 Recommended Installation Space (2)

- **Placing angle**

Place the device horizontally. The other placing angles may damage the device.

- **Fixing position**

All the screws in the fixing positions must be fastened tightly to avoid device falling during the vibration in driving.

2.2 Install HDD

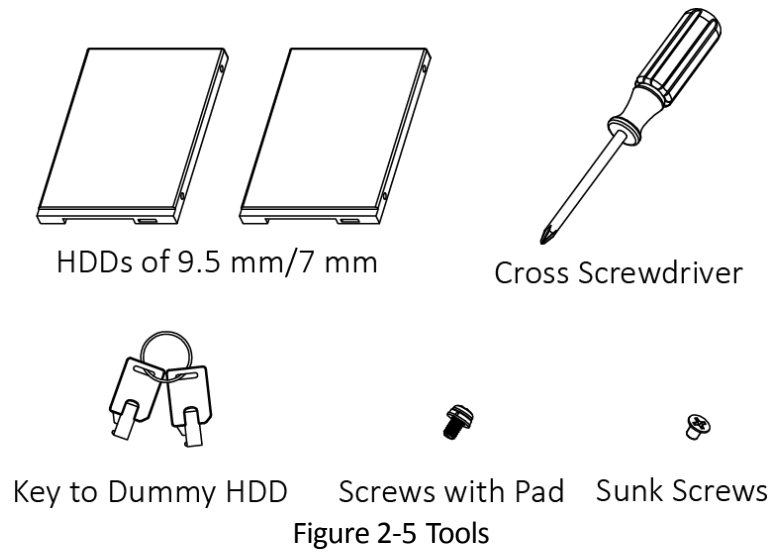
The device leaves factory with HDD. If you need to change HDD, follow the steps below to install HDD.

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).

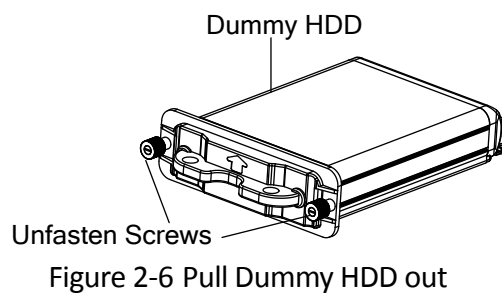
- Cross screwdriver.
- Screws (delivered with device).



Step 1 Wear antistatic gloves.

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

Step 3 Unfasten the two screws of dummy HDD and pull dummy HDD out of device.



Step 4 Use cross screwdriver to loosen the two screws and remove them, and then take the dummy HDD apart.

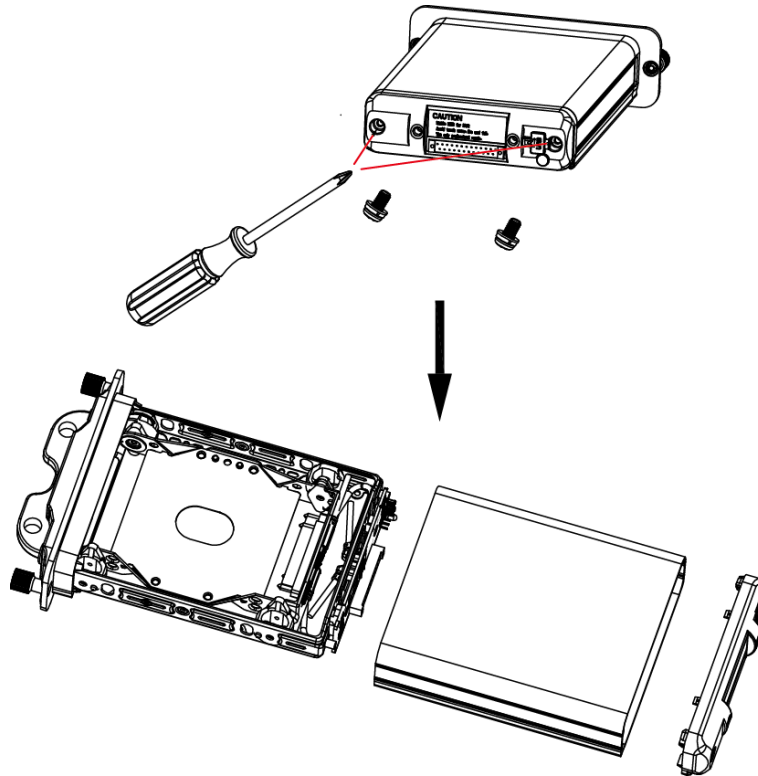


Figure 2-7 Take Apart Dummy HDD

Step 5 Place the HDD into the dummy HDD, with the PCB facing down.

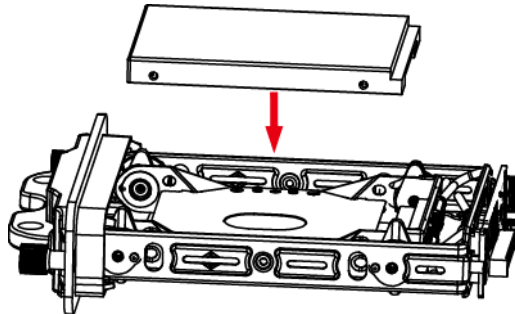


Figure 2-8 Place HDD

Step 6 Push the HDD along the direction shown in Figure 2-9 to connect HDD with socket of dummy HDD.

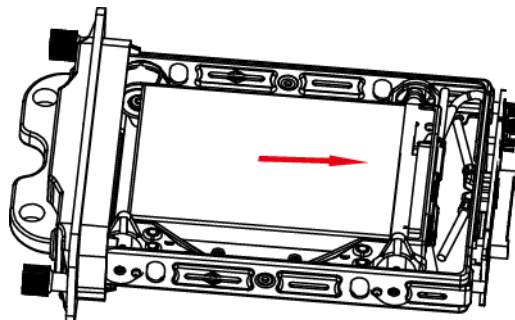


Figure 2-9 Push HDD

Step 7 Use four sunk screws to fix HDD with dummy HDD.

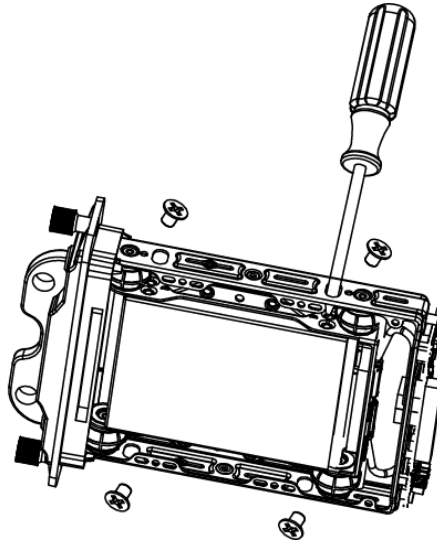


Figure 2-10 Fix HDD

Step 8 Repeat step 4 to 7 to install more HDDs.

Step 9 Reassemble the dummy HDD.

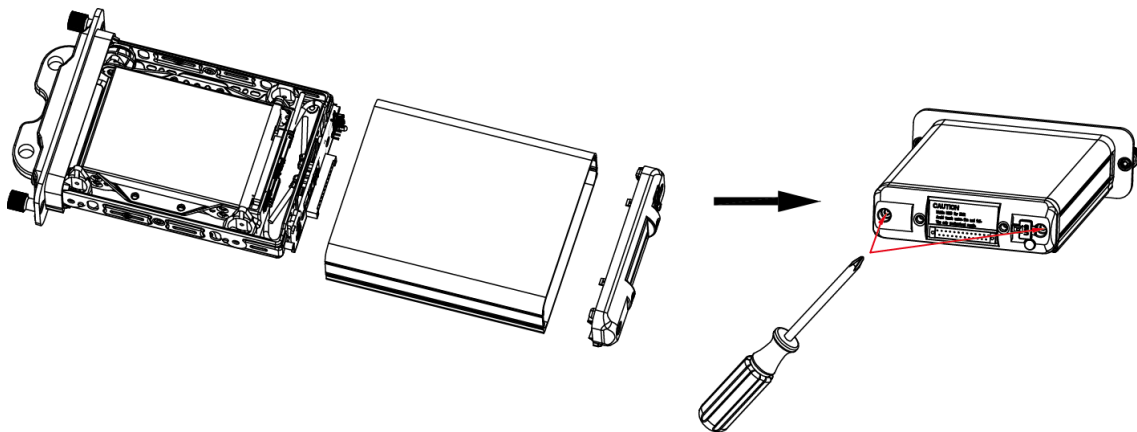


Figure 2-11 Reassemble Dummy HDD

Step 10 Plug the dummy HDD back to the device and then tighten the screws clockwise.

Step 11 Turn the key clockwise to lock dummy HDD.

2.3 Install Positioning Antenna

- Connect positioning antenna to GNSS interface.
- Place antenna vertically with its signal receiving end facing upward.
- If the cable is too long, you can roll them up to prevent signal receiving from being affected.
- Vertically install positioning antenna on the automobile roof with no shelter.

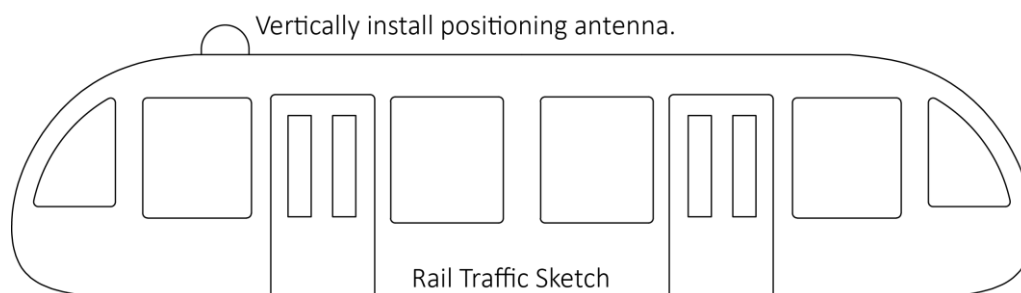


Figure 2-12 Install Positioning Antenna on Automobile Roof

- Follow the instructions below in case that you need to install positioning antenna inside your automobile.
 - Install antenna on platform under the front windshield.

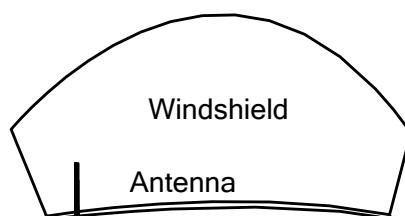


Figure 2-13 Install Positioning Antenna Inside Automobile

- Fix antenna with neutral silica gel.
- 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.

2.4 Fix Device

Purpose

The device is recommended to fix in the cabinet.

Before you start

Prepare the cabinet which is designed according to the device dimensions and reserved space.

Step 1 Punch holes on the appropriate positions of the cabinet according to the positions of bracket holes in the package.

Step 2 Align the holes on the bracket with those on the device panel, and tighten screws to fix the bracket on the device panel.

Step 3 Push the device into the cabinet slowly to align the holes on the bracket with those on the cabinet.

Step 4 Tighten screws to fix the device on the cabinet.

Result

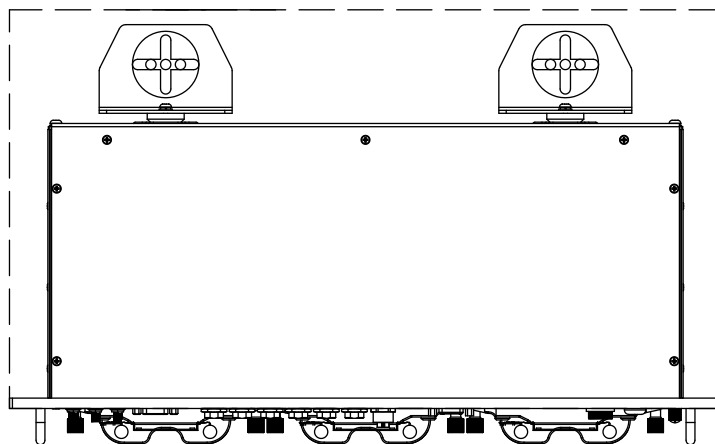


Figure 2-14 Fix Device

Chapter 3 Device Wiring

3.1 Power Cord Wiring



WARNING

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.

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.

Ignition switch is connected to the positive pole 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 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.

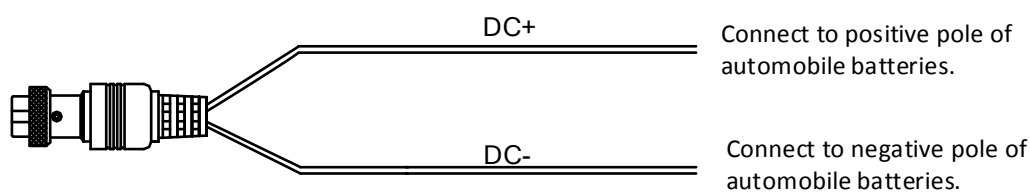


Figure 3-1 Power Cord

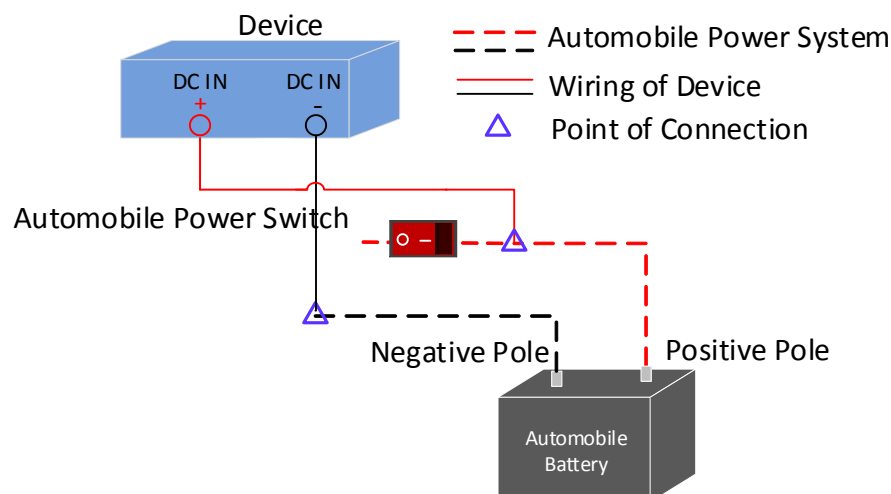


Figure 3-2 Wiring

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.

3.2 Alarm Input Connection

The device adopts the high/low-level electrical signals triggering (high level: 6 to 36 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.

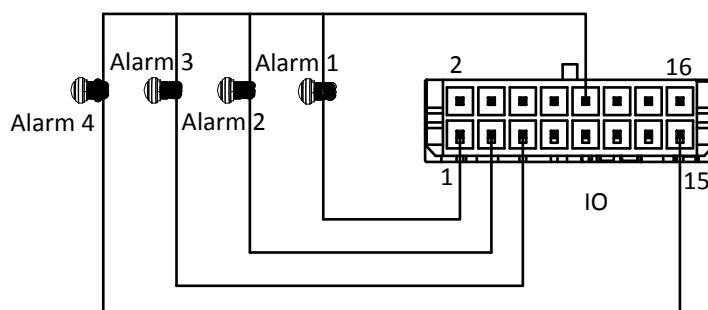


Figure 3-3 Alarm Input Connection

3.3 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.

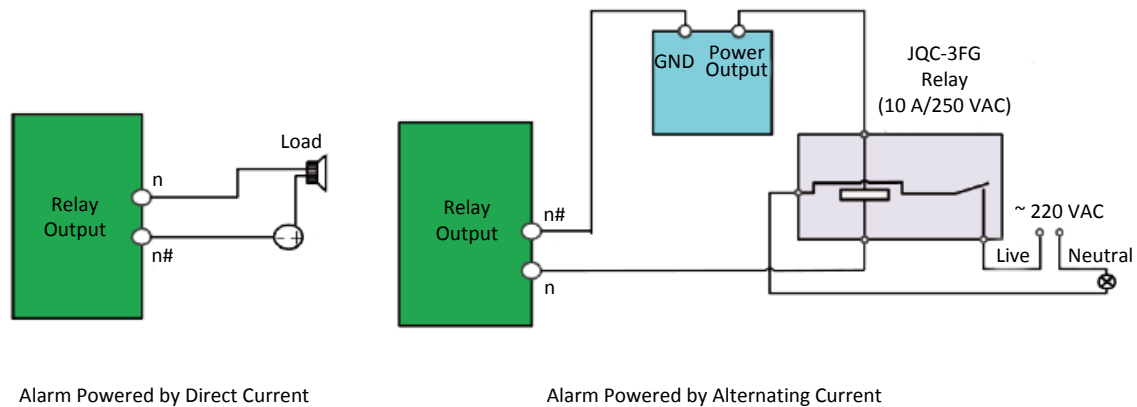
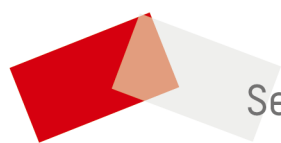


Figure 3-4 Alarm Output Connection

3.4 Power on Device

Turn on the power supply after all the above installation and connection are finished.

You can view the indicators to get knowledge about the device status. For details, refer to Table 1-1.



See Far, Go Further