Network HD Positioning System

Quick Start Guide

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

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

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Chapter 1 Product Introduction

1.1 Introduction

Network HD Positioning System (hereinafter referred to as positioning system or device) integrates the functions such as image processing, smart analysis, storage, running status self-test, etc.
It is mainly applicable to various emergency, temporary armed, or unattended checkpoints or roads for video evidence collection, emergency video transmission, etc.

1.2 Key Feature

- 4 million 1/1.8" CMOS sensor, supporting ultra-low illumination night imaging for clearer shooting.
- 23 times optical multiplier and 12 times digital multiplier, supporting a focal length of 5.9 mm to 135.7 mm.
- Gyroscope electronic anti-shake with a hoop, supporting power off locking for the vehicle vibration scene.
- Built-in infrared fill light with photoresistors, supporting adaptive switching and light adjustment, with an effective fill light distance of no less than 200 meters.
- Adopting all-weather design and high-strength aluminum alloy casting housing with sunshades and wipers.

1.3 Cable Description

The positioning system is equipped with an all-in-one cable. Connect cables according to the cable description.

Note

The automobile battery voltage fluctuates in the process of vehicle start-up, shutdown, and running process. It is recommended to provide power to positioning system with voltage regulator. The power input of positioning system ranges from 8 to 36 VDC.

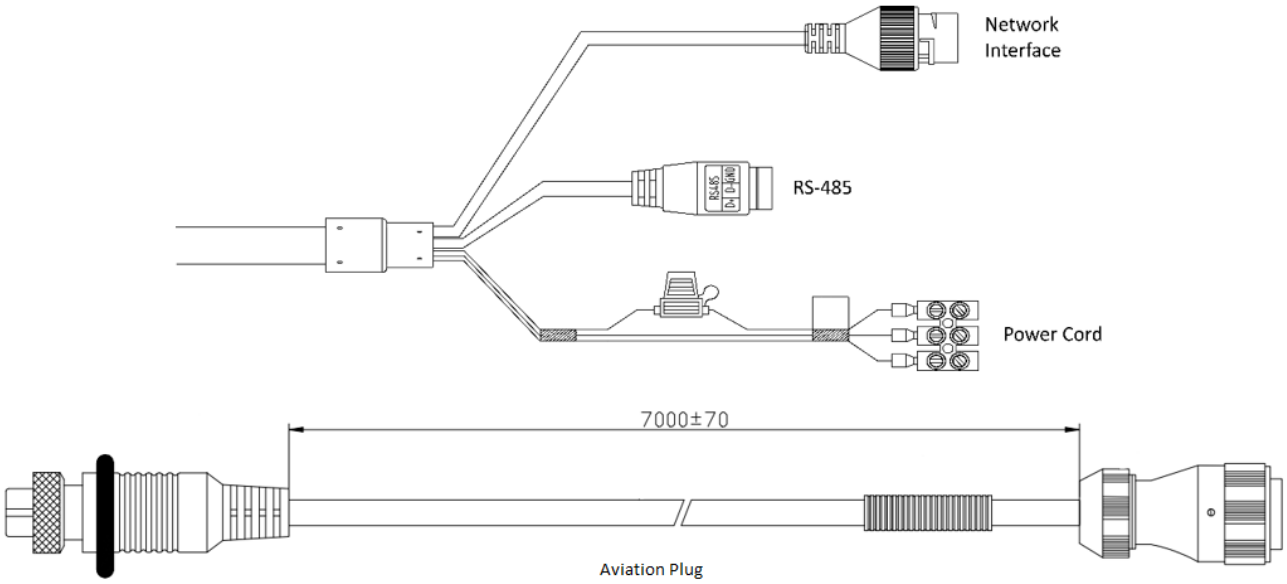

Figure 1-1 Cable Description

- RS-485: used to connect external controller to control PTZ, including RS-485+/- and GND.
- Power cord: used to connect power supply, including power positive VCC, power negative GND, and control signal KEY.
- Network interface: used to connect network cable.
- Aviation plug: used to connect mobile enforcement video recorder.

Chapter 2 Product Installation

2.1 Before You Start

2.1.1 Environment Requirements

- Ensure installation space.
  Ensure the installation space is large enough to hold the product and installation components.
- Ensure the construction strength of installation space.
  Ensure the vehicle roof for installing the positioning system can bear 8 times of the total weight of positioning system and installation components.

2.1.2 Tools

Before installation, prepare the tools, including expansion screws, electric hammer, electric drill, wrench, screwdriver, electroprobe, network cable, etc.

2.1.3 Cable Deployment

As the installation environment and position varies, you need to deploy, survey, and plan cables first. Check the installation environment, including the wiring distance, wiring environment, etc. Then arrange cables accurately to provide safe and stable power supply and wiring.

2.2 Install Positioning System: Vehicle Roof

2.2.1 Enhancement Kit Installation

In addition to the standard bracket, an enhancement kit should be installed to prevent the heavy positioning system from falling off.

Steps

1. Unfasten the 4 screws, nuts, flat washers, and spring washers from the bracket center.

Note

Keep the unfastend components safe and do not lose them.

2. Adjust the extended external hex nuts on the enhancement kit to loosen the rubber feet, and

retract the rubber feet to make the screws at least 10 mm above the surface.

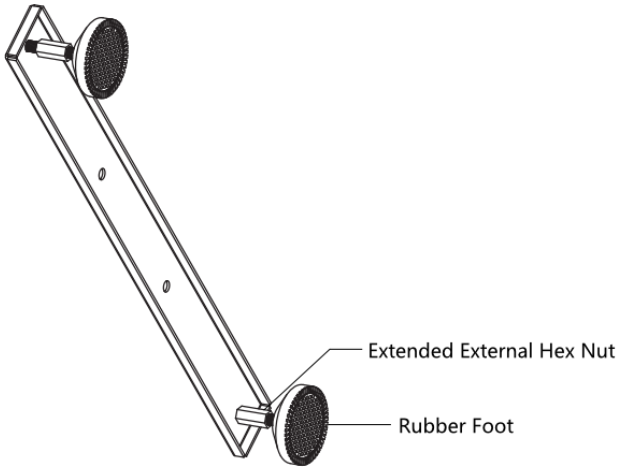

Figure 2-3 Adjust Extended External Hex Nut

3. Align the installation holes on the enhancement kit to the bracket holes, insert screws, and fasten them.

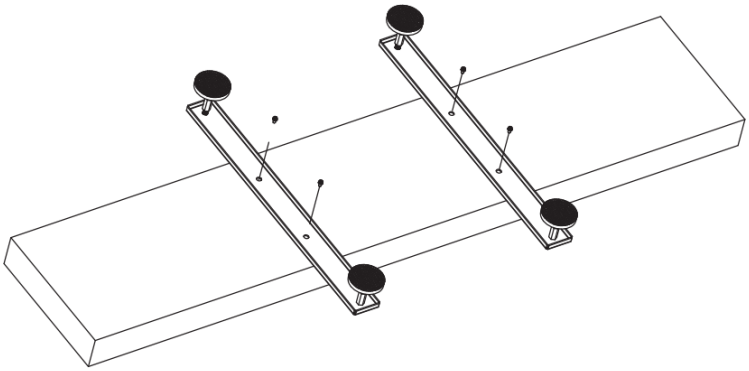

Figure 2-4 Install Screw

4. Flip the bracket over, place the flat washers, spring washers, and nuts on the exposed screws in sequence, and fasten the nuts.

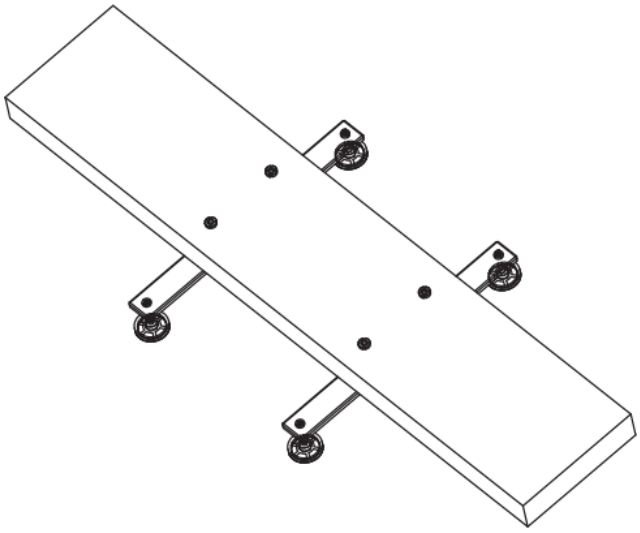

Figure 2-5 Install Kit and Bracket

2.2.2 Hook Mount

For the vehicle without luggage rack on roof, it is recommended to adopt hook mount.

Before You Start

Prepare the fixing bracket of positioning system.

Steps

1. Install the bracket stabilizer feet.

   1) Unfasten the nuts, spring washers, and flat washers from the bracket body back in sequence to expose the screws.

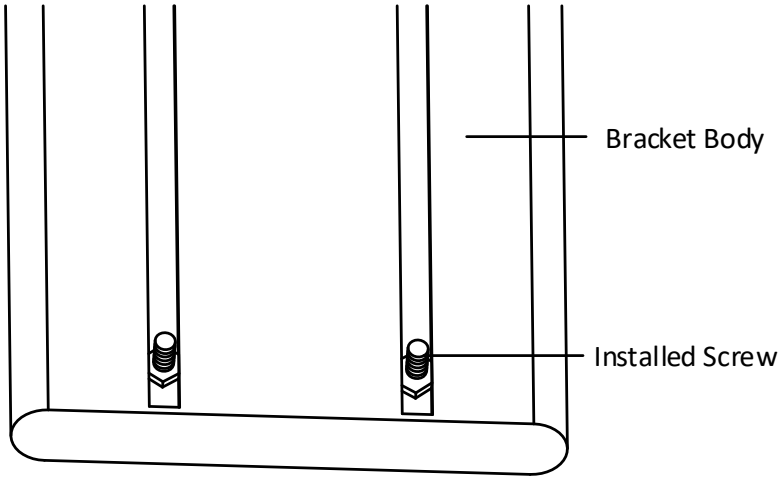

Figure 2-6 Unfasten Nut

Note

Keep the unfastend components safe and do not lose them.

   2) Align the installation holes on the bracket stabilizer feet to the screws, put the feet on the bracket, and place the flat washers, spring washers, and nuts on the screws in sequence.

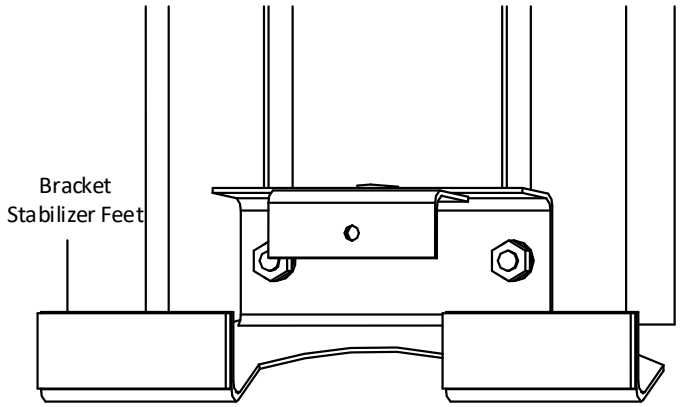

Figure 2-7 Install Bracket Stabilizer Feet

3) Adjust the position of the bracket stabilizer feet, align the outer edge of the feet to the bracket body cover, and fasten the nuts.

4) Unfasten the adjustment screws on the bracket stabilizer feet.

2. Install the bracket on vehicle roof.

Caution

The bracket must be put on vehicle roof center, or it may not be fixed properly.

1) Put the bracket on vehicle roof center.

Note

If there is an alarm lamp on the roof, the bracket needs to be put behind the lamp.

2) Hook the hook on the vehicle door.

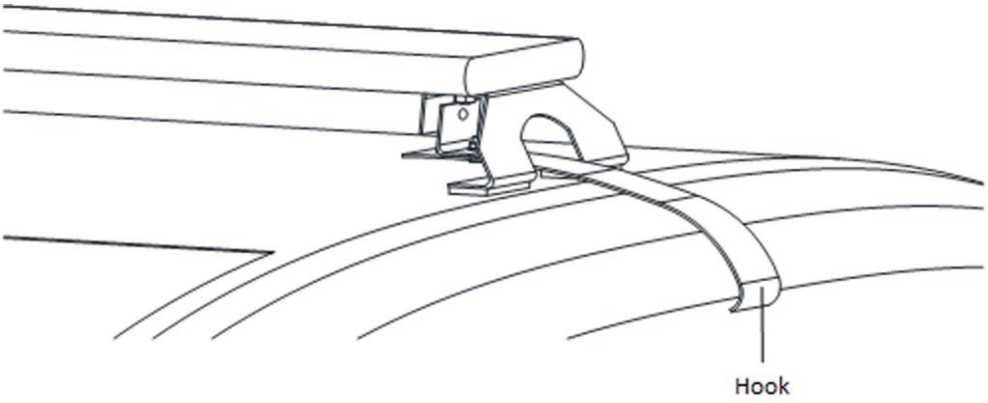

Figure 2-8 Hook

3) Adjust the position of the connector.

Note

Ensure that the connector is placed away from the nut of the bracket stabilizer feet (more than half the length of the adjustment screw, about 20 to 30 mm). You can first insert the adjustment screw to determine the position, and then remove the screw.

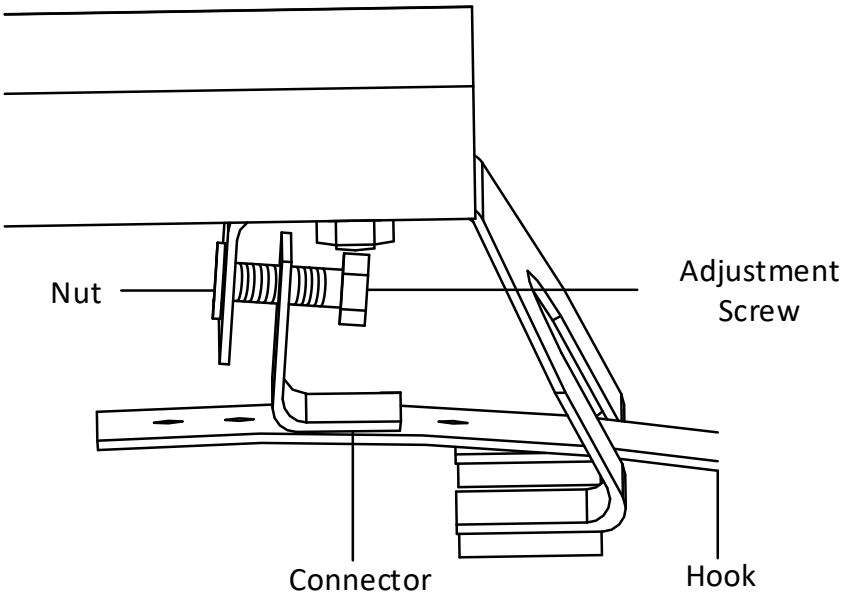

Figure 2-9 Adjust Connector

4) Fasten the screw to fix the connector to the hook.
5) On both sides, insert the adjustment screws through their corresponding holes of the connectors and the bracket stabilizer feet, and fasten the screws simultaneously to fix the hook to the vehicle.

Note

There should be an approximate 5 mm gap between the bracket stabilizer feet and the connector. If the two components are in direct contact, it indicates that you need to readjust the hole positions of the connector and the hook.

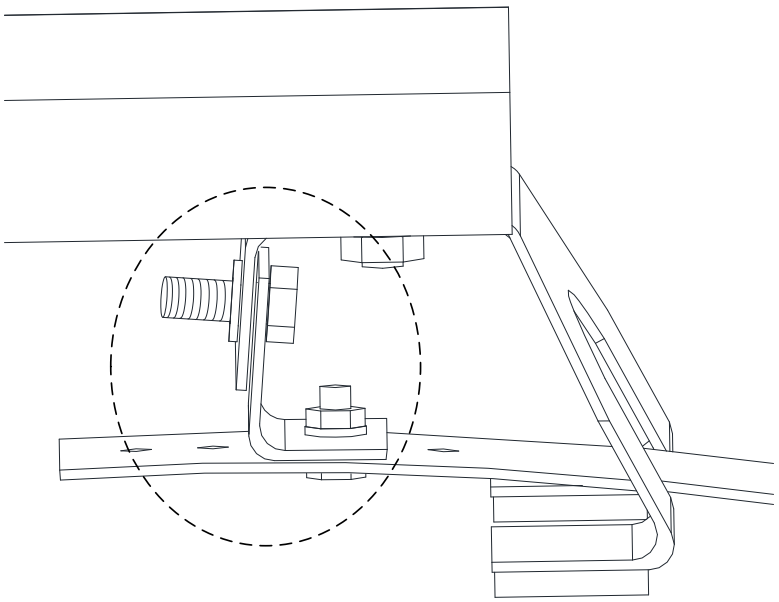

Figure 2-10 Install Bracket Stabilizer Feet and Connector

3. Install the damping base.

   1) Unfasten the 4 nuts, spring washers, and flat washers from the bracket center to expose the installation screws.

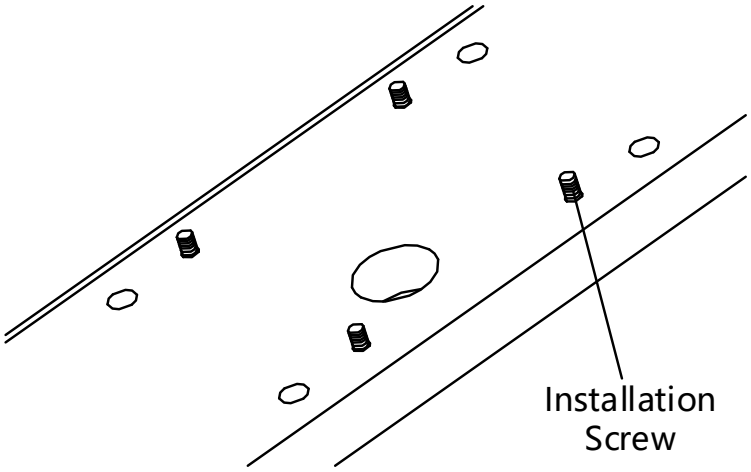

Figure 2-11 Unfasten Nut

Note

Keep the unfastend components safe and do not lose them.

2) Align the damping base to the bracket holes, and fasten screws to fix the base.

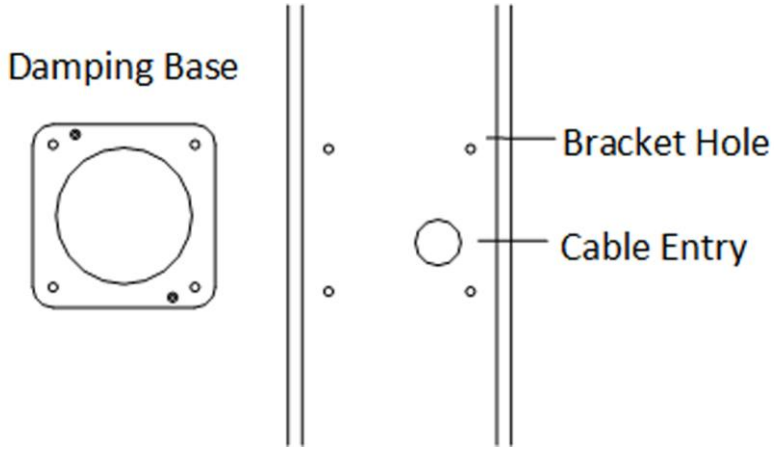

Figure 2-12 Install Positioning System and Bracket

Note

For positioning system of different models, the cable entry positions vary. Select appropriate wiring method according to the actual product. For example, for the model with the cable routed from the bottom, you need to route the cable through the bracket to connect to the positioning system.

3) Place on the flat washers, spring washers, nuts, fasten the nuts, and fix the damping base.

4) Route the cable through the damping base to connect the positioning system.

4. Place the rubber washer between the damping base and the positioning system, and fix the system to the base with 4 screws.

5. Adjust the enhancement kit.

1) Adjust the external hex nuts downward to fix the rubber washer to the roof.

2) Adjust the extended external hex nuts upward to fix the kit.

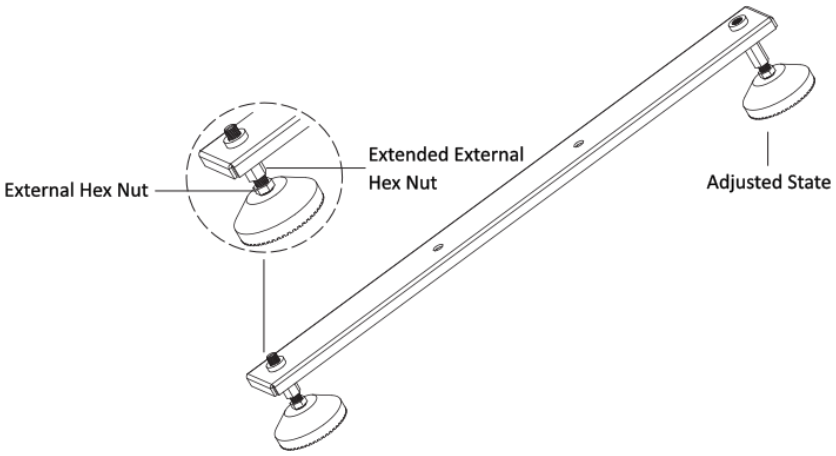

Figure 2-13 Adjust Enhancement Kit

6. Check stability.
   1) Hold the bracket with both hands, and shake it in all directions to test its stability.
   2) Check if there is any looseness at the connection points and between the two hooks and the vehicle. The components need to be disassembled and reinstalled if any looseness is found. If no looseness is found, the installation is completed.

2.2.3 Hoop Mount

For the vehicle with luggage rack on roof, it is recommended to adopt hoop mount. The description below takes example of the positioning system bracket of our company.

Before You Start

Prepare the fixing bracket of positioning system.

Steps

1. Put bracket on luggage rack.
2. Adjust the screws' position on bracket guide rail to make them place on both sides of the luggage rack respectively.
3. Install hoops on both ends of bracket, and fasten screws to fix the bracket on roof.

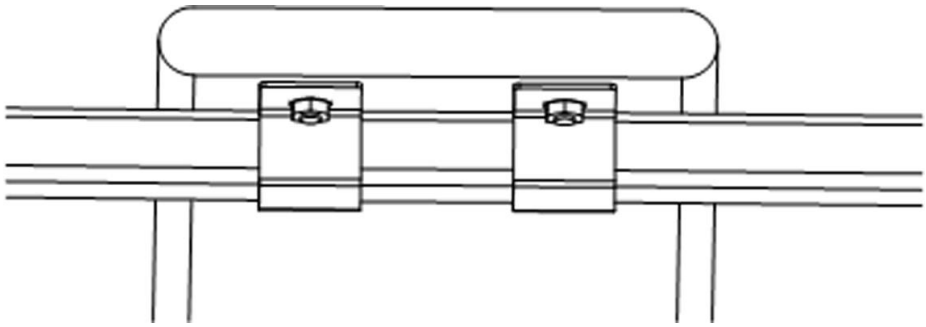

Figure 2-14 Install Hoop

4. Place the rubber washers, fix the positioning system, adjust the enhancement kit, and check stability. For details, see the steps described in section "**2.2.2 Hook Mount**".

2.3 Install Positioning System: Light Pole/Road Gantry

The positioning system can be installed onto a light pole or road gantry.

2.3.1 Horizontal Pole Mount

Steps

1. Install the hoop bracket onto the horizontal pole, and adjust the hoop to fit the diameter of the pole.

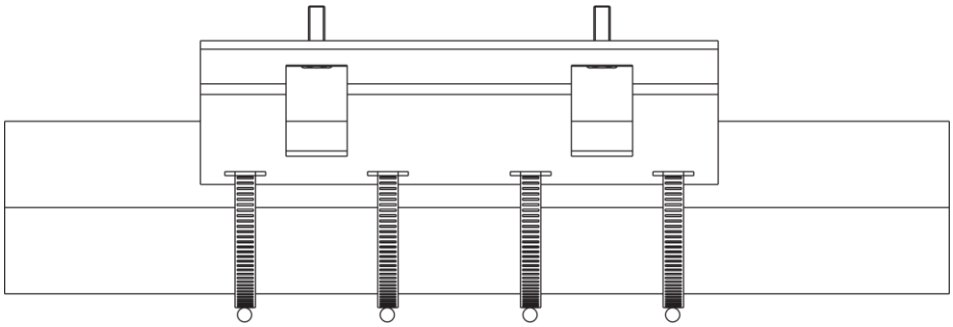

Figure 2-15 Install Hoop Bracket

2. Install the positioning system onto the hoop bracket, and fix the system to the bracket with 4 M8 nuts.

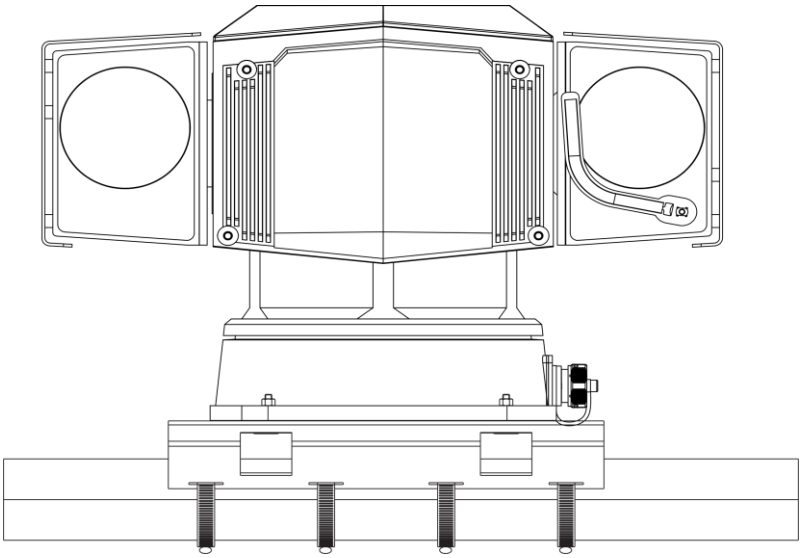

Figure 2-16 Install Positioning System

2.3.2 Vertical Pole Mount

Steps

1. Install the hoop bracket onto the vertical pole, and adjust the hoop to fit the diameter of the pole.

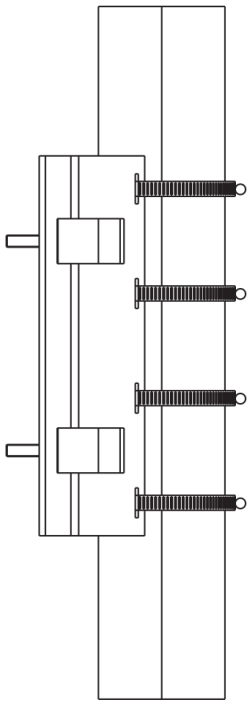

Figure 2-17 Install Hoop Bracket

2. Install the wall-mounted bracket onto the hoop bracket, and fix the wall-mounted bracket to the hoop bracket with 4 M8 nuts.

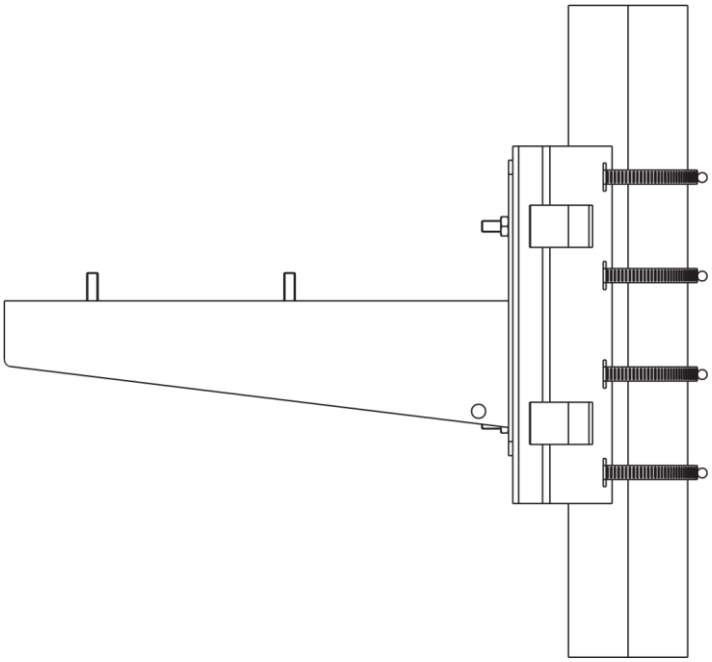

Figure 2-18 Install Wall-Mounted Bracket

3. Install the positioning system onto the wall-mounted bracket, and fix the system to the bracket with 4 M8 nuts.

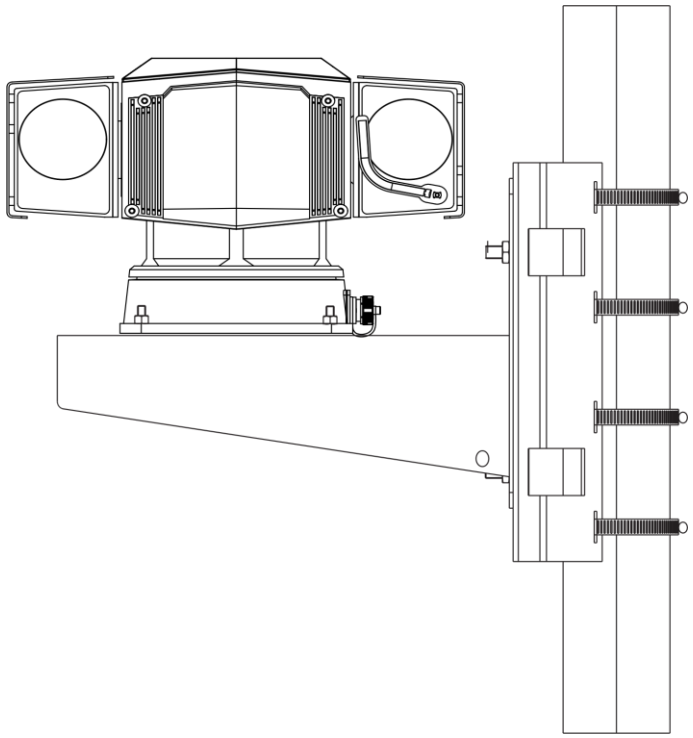

Figure 2-19 Install Positioning System

2.4 Power-on and Self-Test

After powering on the positioning system, it will start self-test automatically.

- Zoom self-test: The lens zoom in and then zoom out, and then zoom in again to finish self-test.
- Pan self-test: The positioning system pans to zero position, and then pan in reverse direction, and then stop.

Chapter 3 Detailed Configuration

Scan the QR code below to get the user manual for detailed configuration.

Figure 3-1 Network Positioning System User Manual QR Code

Appendix FAQ

4.1 Why does my device not move and have no image after powered on?

Question

Why does my device not move and have no image after powered on?

Answer

- Power supply is damaged or out of consumption. Change power supply.
- Wiring faults. Check wiring.

4.2 Why does my device make motor noise but the image is normal when self-test?

Question

Why does my device make motor noise but the image is normal when self-test?

Answer

- The device has mechanical faults. Return it to factory and repair it.
- The device installation position is tilted. Reinstall it and fix it well.
- Power supply is out of consumption. Change power supply confirming to the requirements.

4.3 Why dose my device have no image while self-test is normal?

Question

Why does my device have no image while self-test is normal?

Answer

- Video wiring is incorrect. Reconnect the video cables according to cable description.
- Video wiring is poorly contacted. Check the wiring.
- Device is damaged. Return it to factory and repair it.

4.4 Why does my device have unstable image after startup?

Question

Why does my device have unstable image after startup?

Answer

- Video wiring is poorly contacted. Check the wiring.
- Power supply is out of consumption. Change power supply confirming to the requirements.

4.5 Why does my device fail to control PTZ while self-test is succeeded?

Question

Why does my device fail to control PTZ while self-test is succeeded?

Answer

- The connection of signal control lines is incorrect. Reconnect signal control lines according to cable description.
- The protocols of PTZ and controller mismatch. Adjust the protocols match with each other and power on the device again.

4.6 Why is my device out of control?

Question

Why is my device out of control?

Answer

- Self-test is abnormal. Power on the device again.
- The control lines are poorly contacted. Check the wiring.


See Far, Go Further