



**Low Illumination BSD
Vehicle-Mounted Camera**

User Manual



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About this Manual

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 use this Manual with the guidance and assistance of professionals trained in supporting the Product.

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Regulatory Information

FCC Information

FCC compliance: This equipment has been tested and found to comply with the limits for 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 Low Voltage Directive 2014/35/EC, the EMC Directive 2014/30/EC, 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.

Foreword

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss. Before using, please read the manual carefully and keep it properly for further reference.

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 important operations or potential hazardous situation that could result in damage or property loss.
 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 Instruction

- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region. Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with AC 24V or DC 12V according to the IEC60950-1 standard. Refer to technical specifications for detailed information.
- Keep the camera away from liquid while in use.
- Do not drop the camera or subject it to physical shock.
- Do not touch sensor modules with fingers. If cleaning is necessary, use clean cloth with a bit of ethanol and wipe it gently. If the camera will not be used for an extended period, replace the lens cap to protect the sensor from dirt.
- To avoid heat accumulation, good ventilation is required for operating environment.
- Do not aim the camera at the sun or extra bright places. Blooming or smearing may occur otherwise (which is not a malfunction), and affect the endurance of sensor at the same time.
- The sensor may be burned out by a laser beam, so when any laser equipment is in using, make sure that the surface of sensor will not be exposed to the laser beam.
- Do not place the camera in extremely hot, cold, dusty or damp locations, and do not expose it to high electromagnetic radiation.
- While in delivery, the camera shall be packed in its original packing, or packing of the same texture.
- If the product does not work properly, contact your dealer or the nearest service center. Never attempt to disassemble the camera by yourself. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)

1 Package Check

1.1 Before You Begin

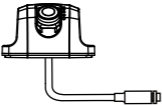


Before unboxing, please check whether the package is intact. Unbox and refer to the list to make sure that all the assembly parts are included.

If there is no problem, the device is ready for installation.

1.2 Packing List

The packing list of the vehicle-mounted camera is shown below.

Table 1-1 Packing List

No.	Picture for Illustration	Name	Quantity
1		Camera	1
2		User Manual	1
3		Screw Pack	1

NOTE

The assembly parts may vary according to different camera models. Refer to the actual device for details.

2 Introduction

2.1 Product Features

This series of camera adopts new generation sensor with high sensitivity and advanced circuit design technology. It features high resolution, low image distortion and low noise, etc., which makes it suitable for surveillance system and image processing system.

The main features are as follows:

- High performance CMOS sensor for accurate capture of moving subjects
- High resolution image (up to 1080p)
- Low illumination, 0.01 Lux @(F1.2, AGC ON)
- Auto white balance
- Supports IP68, IP69 water-proof
- Supports IK10
- Adapts shock-proof design and aviation plug

2.2 Overview

2.2.1 Overview of Camera

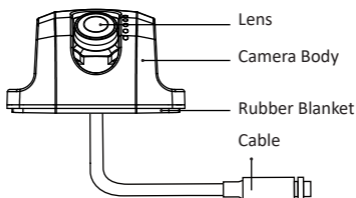


Figure 2-1 Overview

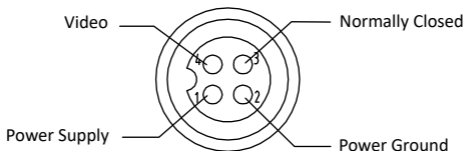
2.2.2 Cables

Aviation Plug Interface

The camera is designed with an aviation plug to ensure shock-proof, as shown below. Make sure your cable matches with the plug.

It supports 9V to 16 V DC power supply.

Cable A



Cable B

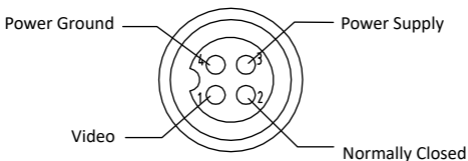


Figure 2-2 Interfaces of Aviation Plug

3 Installation

Before you start, please make sure that the device in the package is in good condition and all the assembly parts are included.



CAUTION

Make sure the part, which is used to install the camera, is strong enough to withstand four times the weight of the camera and the mounting.

Step 1 Choose a suitable mounting location to ensure the camera catches the driver properly.

Step 2 Pre-drill holes in the center of the mounting location. The hole diameter is determined according to the size of the wire harness, so that the wire harness can be passed through the car. (If the structure of this section is a side outlet, there is no need to punch holes and go directly to step 4).

Step 3 Install the camera to a proper mounting place. Insert the cable through the cable hole in the vehicle.

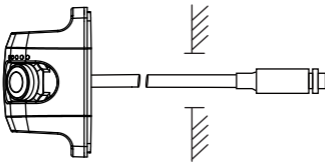


Figure 3-1 Install the Camera in Vehicle

Step 4 Fix the camera with screws to make sure it is secured.

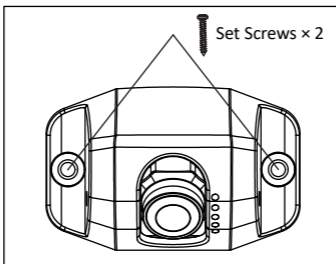


Figure 3-2 Fix with Screws

Step 5 Adjust the camera to a desired angle to make sure it catches the driver properly. Fix the camera angle with screws using a hex screwdriver to complete installation.

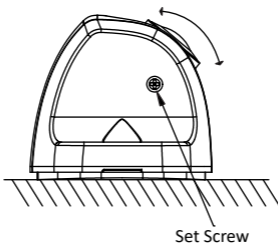


Figure 3-3 Adjust and Fix the Camera Angle