

GV-LPR2800-DL Camera

Installation Guide



Thank you for purchasing GV-LPR2800-DL Camera. This guide is designed to inform users of certain installation guidelines and tips before installing the camera. For advanced information on how to use GV-LPR2800-DL, please refer to GV-LPR2800-DL Camera User's Manual.



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Note: No memory card slot or local storage function for Argentina.

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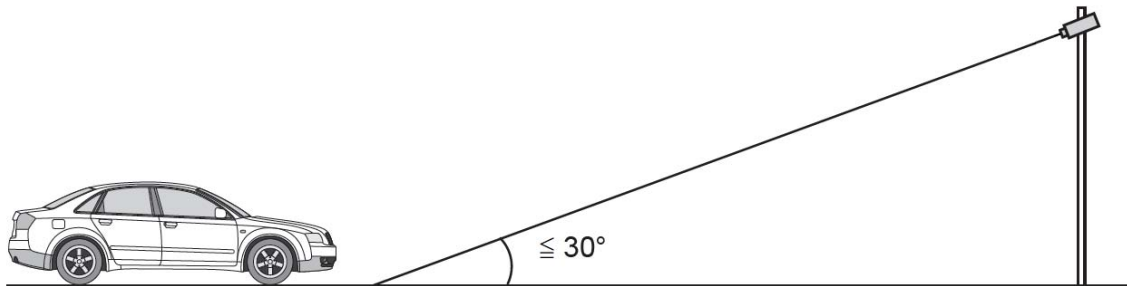
- 1. **Installation and Recognition Parameters**2
- 2. **Overview & Wiring**5
 - 2.1 Internal Wiring5
 - 2.2 External Wiring6
 - 2.3 Disconnecting Built-in IR Lights and Connecting to External IR Lights.....7
- 3. **Common Problems**8

Before installing **GV-LPR Cameras**, please read through this document carefully to ensure the captured images are suitable for license plate recognition.

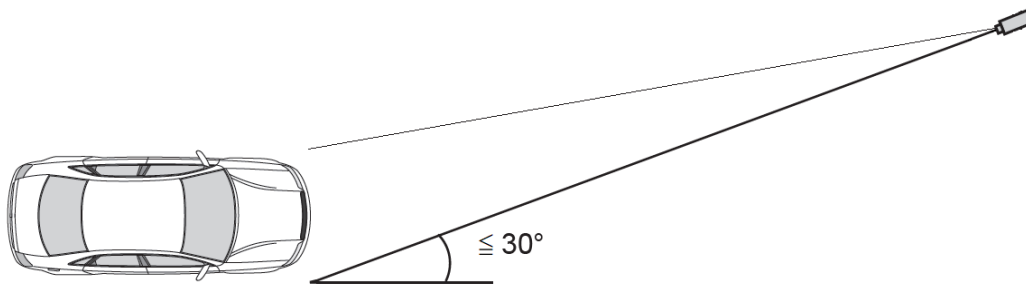
1. Installation and Recognition Parameters

View Angle

- **Vertical View Angle $\leq 30^\circ$:** The vertical view angle of the camera shall be within 30 degrees to the ground.



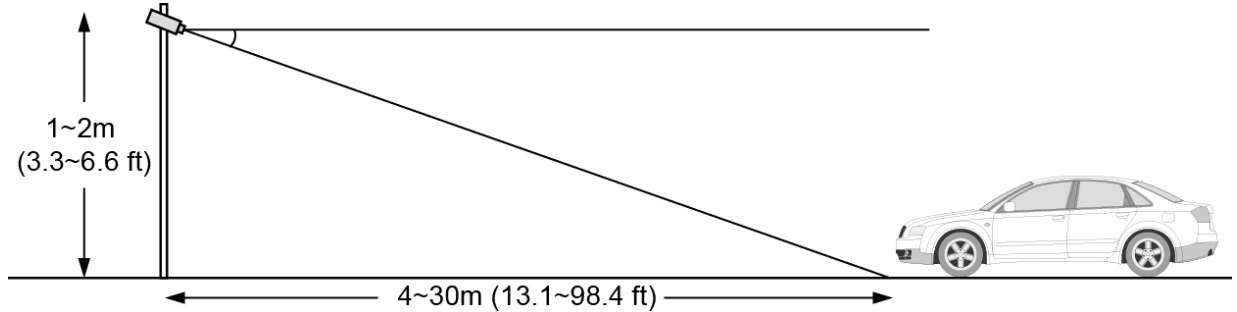
- **Horizontal View Angle $\leq 30^\circ$:** The horizontal view angle of the camera shall be within 30 degrees relative to the recognition target.



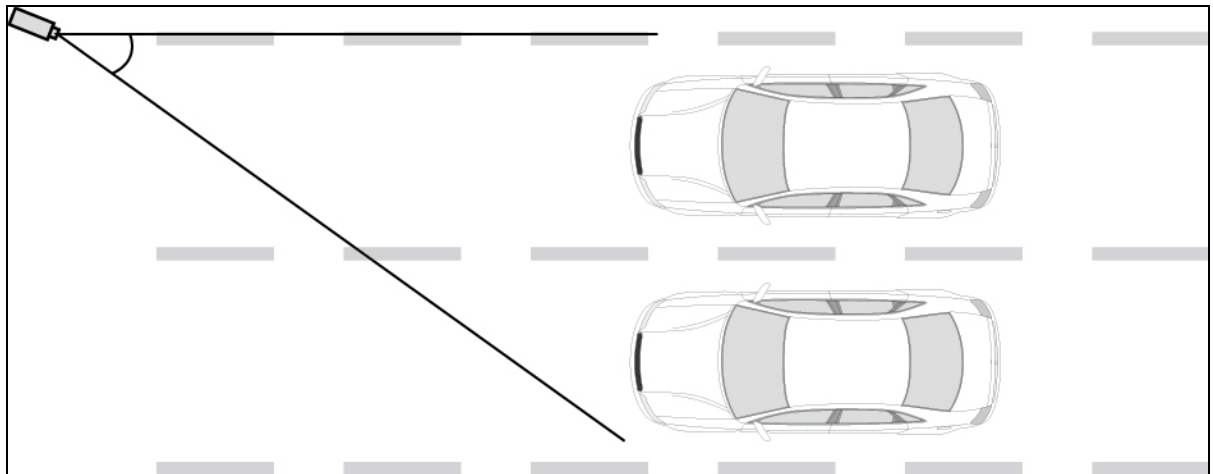
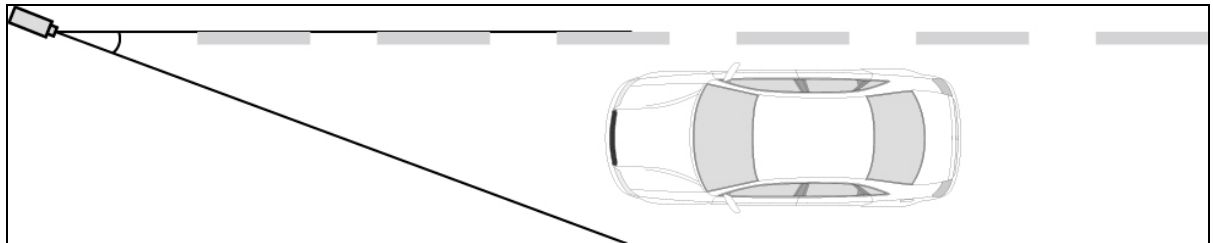
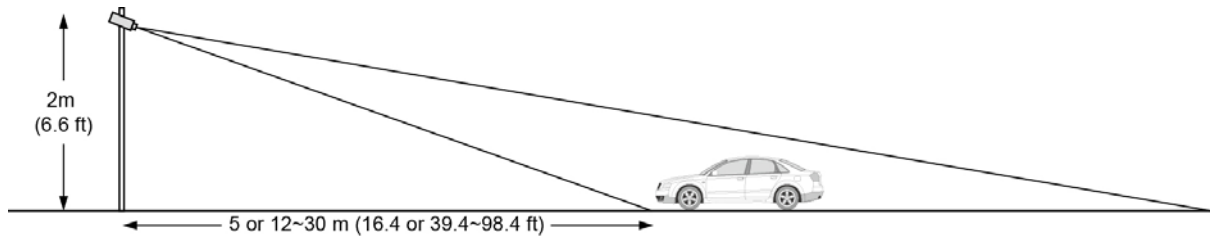
Camera Position

Installation Scenario		Recommended Height in m (ft)	Recognition Distance in m (ft)	Maximum Speed in km/h (mi/h)
Parking Entrance/Exit		1 ~ 2 (3.3 ~ 6.6)	4 ~ 30 (13.1 ~ 98.4)	30 (18)
Roadside	1-Laned	~ 2 (~ 6.6)	5 ~ 30 (16.4 ~ 98.4)	100 (62)
	2-Laned		12 ~ 30 (39.4 ~ 98.4)	60 (37)
Centered-Top	1-Laned	4 ~ 6 (13.1 ~ 19.7)	9 ~ 30	100 (62)
	2-Laned		(29.5 ~ 98.4)	60 (37)

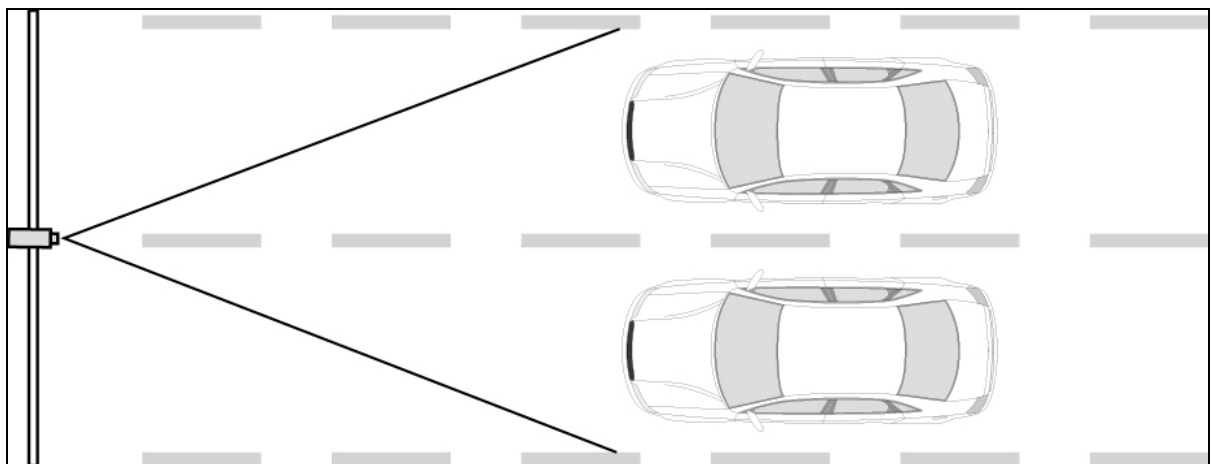
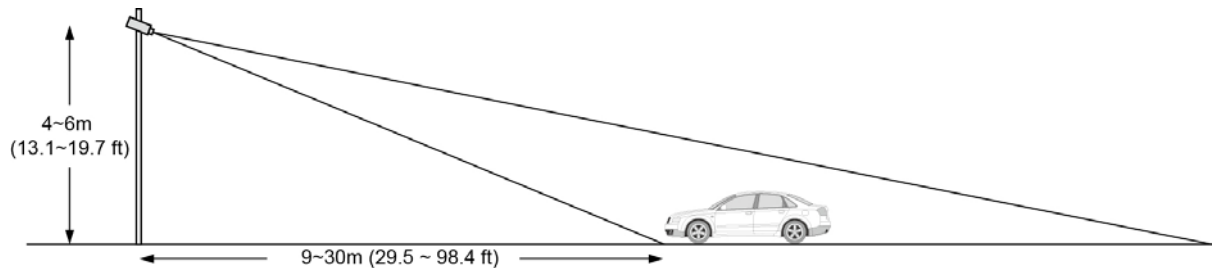
- Parking Entrance/Exit:** For installing at a parking entrance/exit, the camera shall be mounted at a recommended height of 1 ~ 2 meters (3.6 ~ 6.6 ft) with an optimal recognition distance of 4 ~ 30 meters (13.1 ~ 98.4 ft) while the speed of the target vehicle cannot be more than 30 km/h (18 mi/h).



- Roadside:** For installing at the side of a road, the camera shall be mounted at a recommended height of around 2 meters (6.6 ft), with an optimal recognition distance of 5 or 12 ~ 30 meters (16.4 or 39.4 ~ 98.4 ft), respectively for single-laned and dual-laned roads, while the speed of the target vehicle cannot exceed 100 or 60 km/h (62 or 37 mi/h).



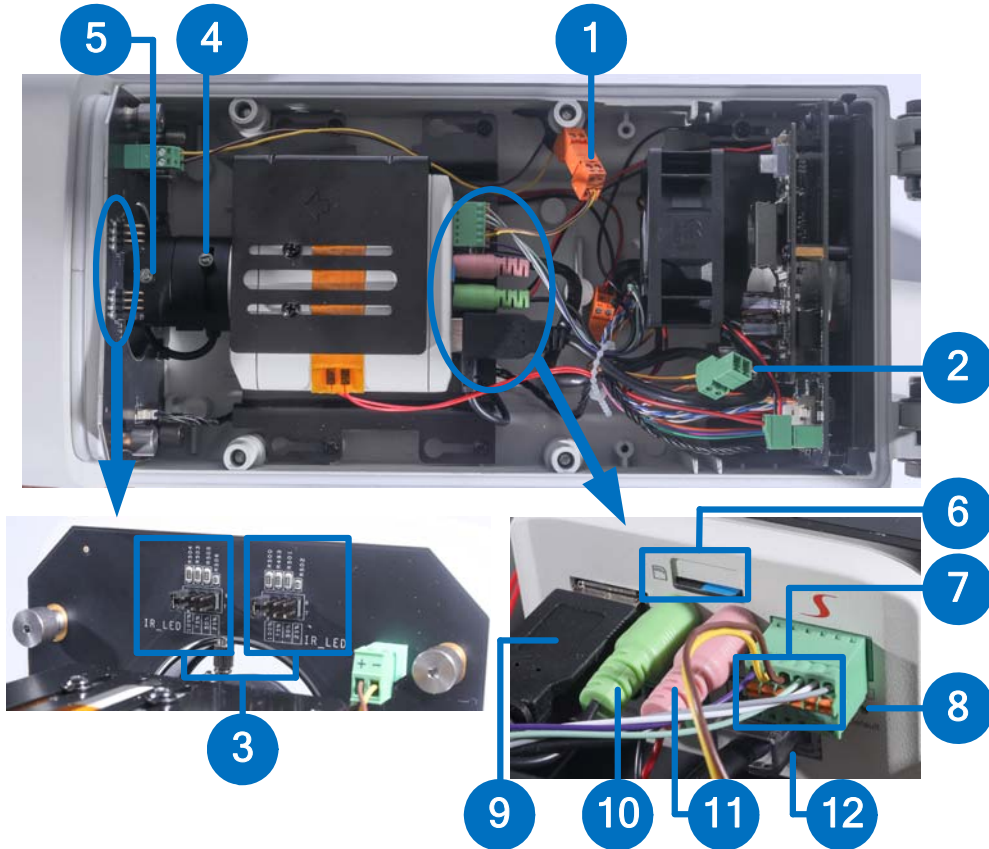
- Centered-Top:** For installing at the top of the center of a road, the camera shall be mounted at a recommended height of 4 ~ 6 meters (13.1 ~ 19.7 ft), with an optional recognition distance of 9 ~ 30 meters (29.5 ~ 98.4 ft), while the speed of the target vehicle cannot exceed 100 or 60 km/h (62 or 37 mi/h), respectively for single-laned and dual-laned roads.



Note: The captured plate should be no less than 50 pixels in height. To check the height, copy the license plate image, open and paste into Paint, and save it in BMP format. Right-click the BMP file, select **Properties** and click the **Summary** tab to find the height information.

2. Overview & Wiring

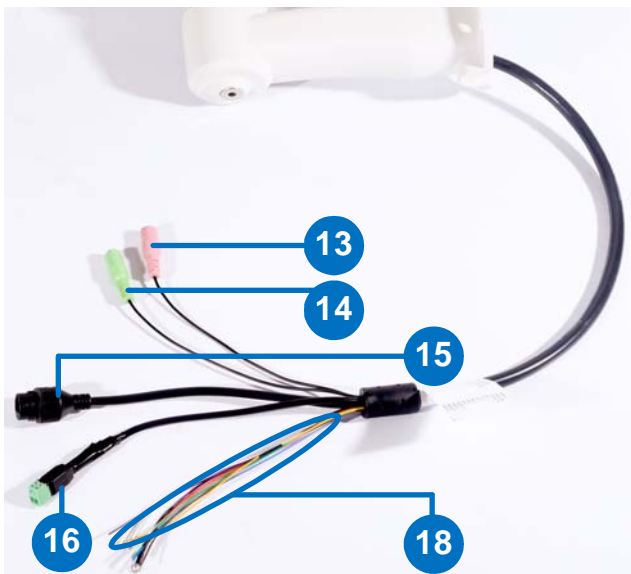
2.1 Internal Wiring



No.	Name	Description
1.	Built-in IR Light Wiring	Connects to the built-in IR lights.
2.	External IR Wiring Pin	Optionally disconnect the wiring from the built-in IR lights to connect it to user-supplied external IR lights.
3.	L/R IR Intensity	Adjusts the maximum intensity of the left and right built-in IR lights
4.	Zoom Screw	Adjusts the zoom of the camera.
5.	Focus Screw	Adjusts the focus of the camera.
6.	SD Card Slot	By default, a 32GB Micro SD card is already inserted and formatted. When replacing the SD card, make sure the newly-inserted SD card is formatted, see 3.6.2 <i>Disk Management</i> in <i>GV-LPR2800-DL User's Manual</i> .
7.	Internal I/O Wiring	Connects to the external I/O wiring of GV-LPR2800-DL.
8.	Default Button	Resets the camera to factory default settings.
9.	RS-485 USB	Connects to the external RS-485 wires.
10.	Internal Audio-out	Connects to the external audio-out wire.
11.	Internal Audio-In	Connects to the external audio-in wire.
12.	Internal PoE / Ethernet port	Connects to the external Ethernet / PoE connector.

IMPORTANT: By default, all the internal wiring, including Internal I/O, Fan USB, Internal Audio-out, Audio-In and PoE / Ethernet port (No. 7, 9, 10, 11 & 12), are already connected when supplied. Do not fiddle with them as it may hinder certain functions of the camera.

2.2 External Wiring



No.	Name	Description	
13.	External Audio-In	Connects to a microphone.	
14.	External Audio-Out	Connects to a speaker.	
15.	External Ethernet / PoE Connector	Connects the camera to a network and PoE power supply via Ethernet.	
16.	2-Pin Terminal Block	Optionally connect to a user-supplied power adapter.	
17.	Silica Gel Bag placement	Must replace the original silica gel bag and attach a new one to one of the locations indicated every time after opening the camera.	
18.	I/O Wires	Bright Green	DI 1
		Purple	DI 2
		Gray	DO 1
		Brown	DO 2 [External IR Light Wiring]
		White	GND
		Yellow	GND
		Orange	RS-485 1+
		Pink	RS-485 1-
		Blue	RS-485 2+
Green	RS-485 2-		

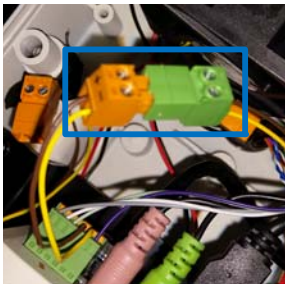
2.3 Disconnecting Built-in IR Lights and Connecting to External IR Lights

Follow the steps below to connect to any user-supplied external IR lights in place of the camera's built-in IR lights:

1. First, turn off the camera.
2. Disconnect **Built-in IR Light Wiring** (see No. 1, *2.1 Internal Wiring*).



3. Then connect it to **External IR Wiring Pin** (see No. 2, *2.1 Internal Wiring*), as illustrated below.



4. Connect the user-supplied external IR lights to **DO2 [External IR Light Wiring]** (see No. 18 — Brown wire, *2.3 External Wiring*) of the camera.

3. Common Problems

- **Low Image Contrast:** Adjust the image contrast and/or improve lighting conditions of the recognition site.



- **Large Roll, Yaw and Pitch Angles:** Adjust the angle and direction of the camera.



- **Overexposed Images:** Reduce the illumination or adjust the angle/direction of the camera.



- **Blurry Images:** Adjust the focus or the shutter speed of the camera.



- **Hollow Characters:** Reduce the illumination.



- **Plate Covered in Shadow:** Avoid placing the camera where it is subjected to direct sunlight, reflections or shadows, which may limit recognition performance.

