VIVOTEK

IP816A-LPC
License Plate Capturing Solution
Quick Installation Guide

2MP • WDR Pro • Remote back Focus • Snapshot Focus

Ordering part no.:
180000600G - IP816A-LPC(Street)

Rev. 1.1

Document part no.: 625030101G

SUPREME

CAUTION:
TO REDUCE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT REMOVE COVER.
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

UNPACKING:
Unpack carefully. Electronic components can be damaged if improperly handled or dropped. If an item appears damaged in shipment, place it properly in its carton and notify the shipper.

⚠ **IMPORTANT!:**
1. Read and follow Instructions: All operating and user instructions should be read and followed before the unit is to be operated.
2. Electrical Connections: Only a qualified electrician is allowed to make electrical connections.
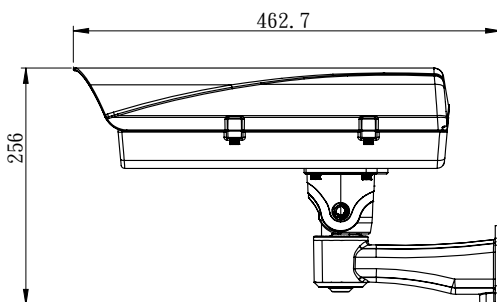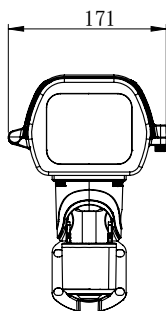
Ⅰ Specifications

Model Number	IP816A-LPC enclosure
Power Input	24VAC (+/-10%)
Rating Current	3.5 A
Heater Control	15°C (ON) / 25°C (OFF)
Blower Control	35°C (ON) / 25°C (OFF)
Environmental Operation Temp.	AE-237 Single heater: -20°C ~ +50°C When temperature reaches -10°C, camera is powered on)
Protection Level	IP66, IK10
Temper Glass thickness	4mm
Mounting Bracket	Fully-cable Management
Construction	Die-cast Aluminum Alloy
Coating	White epoxy powder coating
Dimensions	400 (L) x 130 (W) x 108 (H) mm
Net Weight	2900g

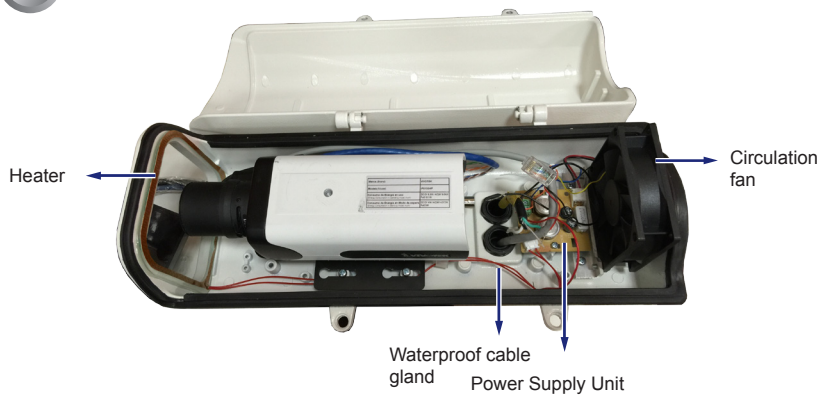| IR light angle of beam (different IR light units)	AI-104-010 Street: 10º

II Mounting Configuration & Dimensions

Swivel Positions and Directions

171

462. 7

256

III Component Description

Heater

Circulation fan

Waterproof cable gland

Power Supply Unit

IV Installation Suggestions

If you plan to install this camera enclosure into a tropical, sea coastal, or an environment where salt water or corrosive industrial waste water/moist are present, please seal each stainless steel screws and fittings with a silicon grease compounds. This will help prevent electrolysis to occur and extend the life span of the camera and housing.

> ⚠️ **IMPORTANT:**
> 1. Disconnect devices: A readily accessible disconnect device in the building installation wiring should be incorporated.
> 2. Electrical Connection: Only a qualified electrician is allowed to make electrical connections.
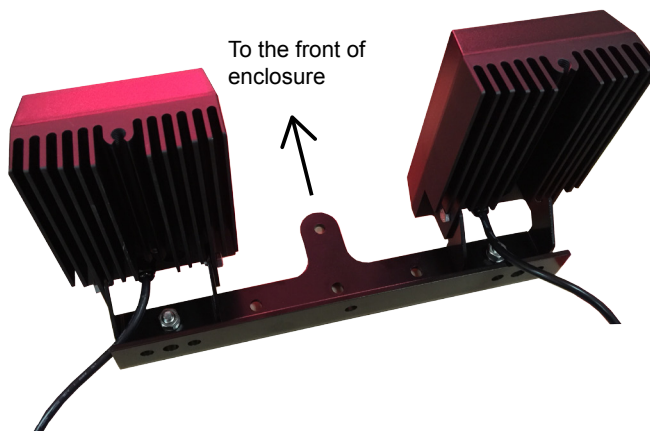
V Installation

**1.** Loosen the socket screws using the included L-type hex key wrench, and open the cover.

2. Secure the IR light units to the included iron brackets using a crescent wrench and a socket wrench.
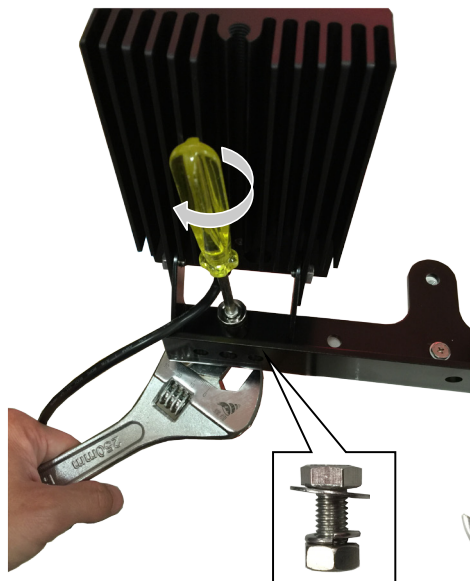
Secure both IR light units to the included iron bracket in the orientation shown below.

To the front of enclosure

3. Secure the IR light bracket to the bottom of th enclosure. Secure one screw only at this stage of installation.
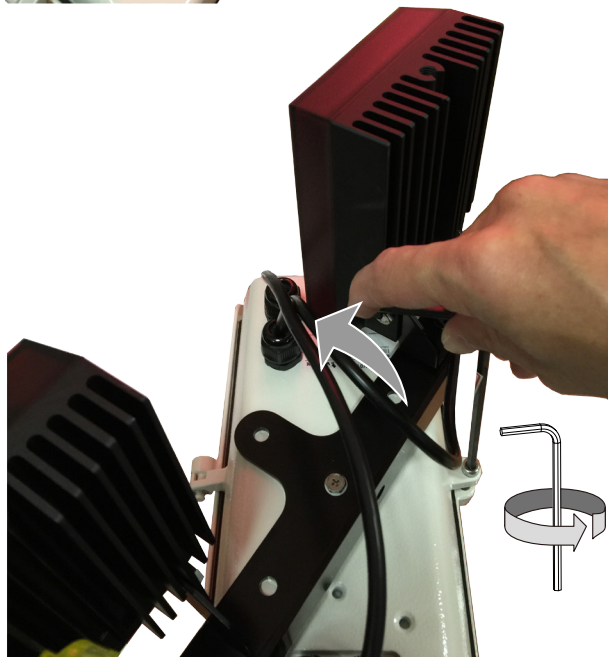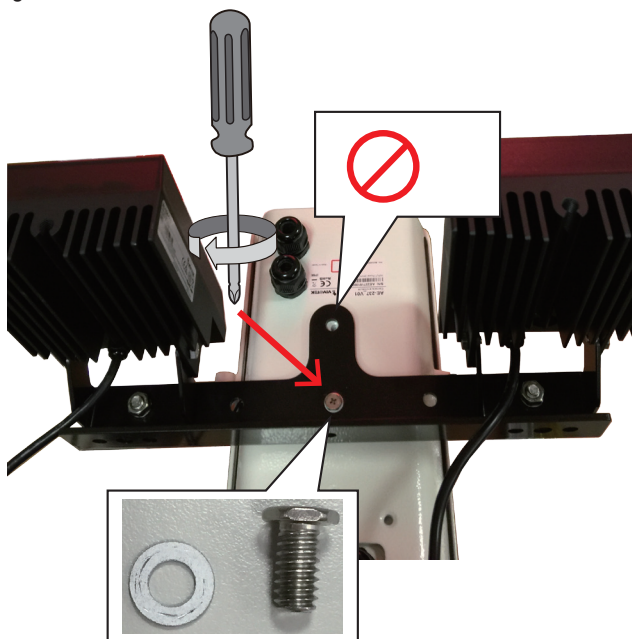
4. Adjust the IR lights' shooting direction and tighten up the mount screws. You may need to adjust the shooting angles later.


5. Pass the IR light units' signal wires through the waterproof connectors on the front.

6. Loosen the retention hex screws of the enclosure. To access the screws, you can push the IR bracket to the side.
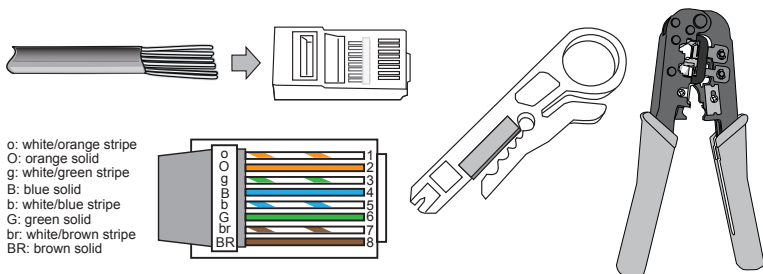
7. Check the inside of the enclosure to make sure the I/O wires can reach the power supply unit inside. An approximate of 25cm cable length is required. Install and tighten up the waterproof connectors.
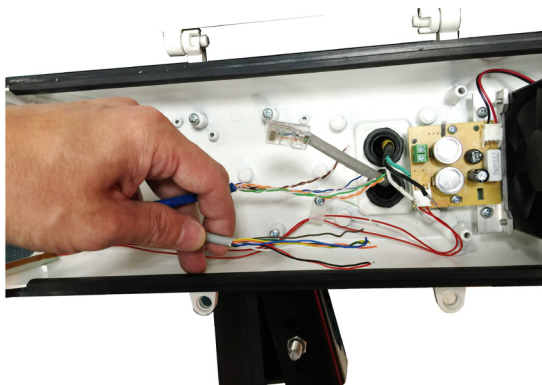
8. Prepare the AC24V power wires and a CAT5e Ethernet cable. Pass them through the waterproof connectors.

You may need to remove the RJ45 connector, and use a crimping tool to connect the Ethernet wires to an RJ45 connector inside the enclosure. Use an Ethernet cable of the width of 5 ~ 6.5mm.


o: white/orange stripe
O: orange solid
g: white/green stripe
B: blue solid
b: white/blue stripe
G: green solid
br: white/brown stripe
BR: brown solid

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9. When done, tighten up the waterproof connectors.

10. Assemble the camera components, e.g., the CS ring and lens module. Align the buffer pad with the mounting hole at the bottom of the camera (the label side).
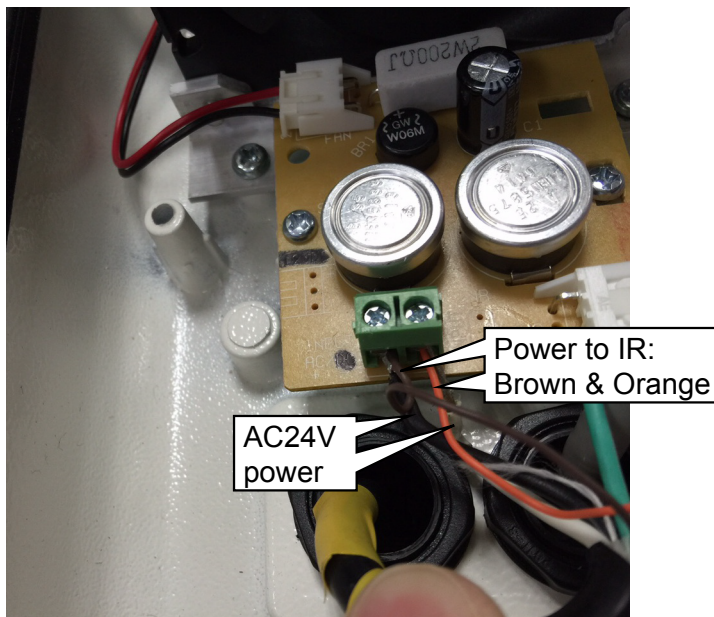

11. Place the mounting plate on top of the buffer pad and then secure it to the camera. You may need adjust its position so that the lens module can flush align with the tempered glass.
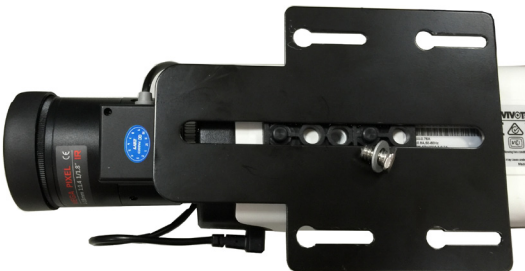
**12.** Secure the camera to the enclosure by securing screws through the keyhole slots.

13. Attach the AC24V power wires and power inputs from the IR light units to the terminal connector. Connect the Brown and Orange (20AWG-thicker lines) wires from both IR units to the terminal. Since AC 24V is polarity free, Connect AC 24V from outer source, 24V inputs for IR (2 pairs), and 24V inputs for camera, all to the same terminal connector.

Power to IR: Brown & Orange
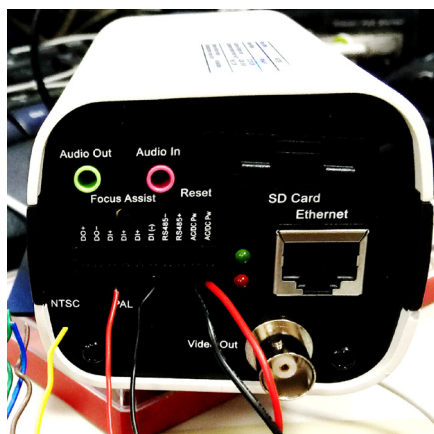
AC24V power

Refer to the cabling diagram below.
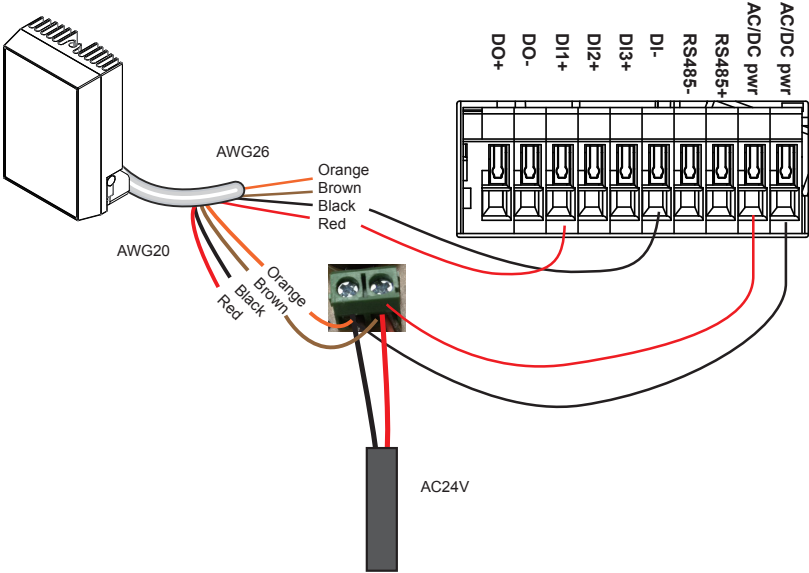
Connect the power inputs from another IR light unit to the same terminal connector.
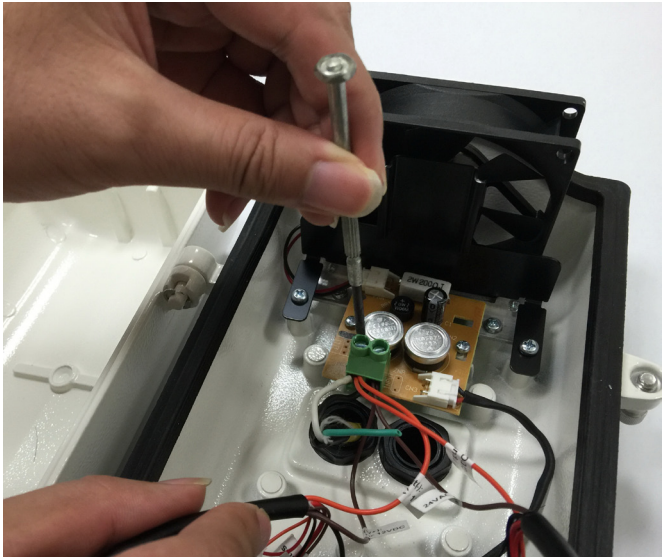
Listed below is the color scheme for wires coming fom the IR light units.

Name	Color	Gauge	NOTE
IR status DO-	Orange	(26AWG)	Connect these two lines to camera DI pins. You can then configure a camera event to notify users if the IR unit should fail and this status DO goes off.
IR status DO+	Brown	(26AWG)	
LED ON/OFF mode DO-	Black	(26AWG)	
LED ON/OFF mode DO+	Red	(26AWG)	
Input(V-): 24V AC/DC or 12V DC	Orange	(20AWG)	
Input(V+): 24V AC/DC or 12V DC	Brown	(20AWG)	
Output(V-): Volts same as input	Black	(20AWG)	These output lines are used for cascading and powering multiple individual IR units, and may not apply in this application.
Output(V+): Volts same as input	Red	(20AWG)	

14. Prepare two power lines as the 24V inputs for the camera. Connect the input lines from the enclosure's terminal to that on the camera. Also connect the DO- (black) and the DO+ (red) lines from the IR unit to the camera's DI pins on the terminal connector. You only need to connect one pair of day/night mode DO wires to the camera (the other unit will automatically turn on when light level reaches the preset threshold).
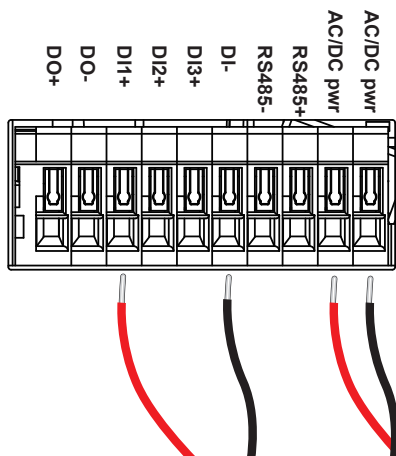
The day/night mode DO connection enables the synchronization of IR light and the automated day/night switching mechanism on the camera.

15. Having the wiring done inside the enclosure, you can install the enclosure bracket to a preferred location at your installation site. Drill mounting holes and a cable routing hole (if preferred) on a wall. Install the bracket.
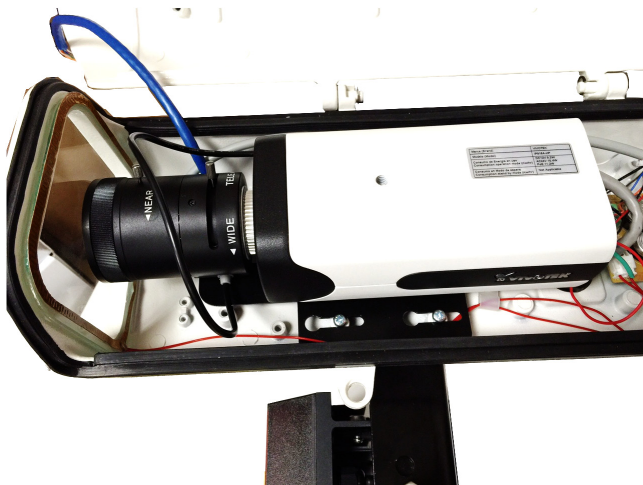

16. Lift the whole enclosure up to the installation position, and pass the 24V power wire and the Ethernet cables through the bracket.
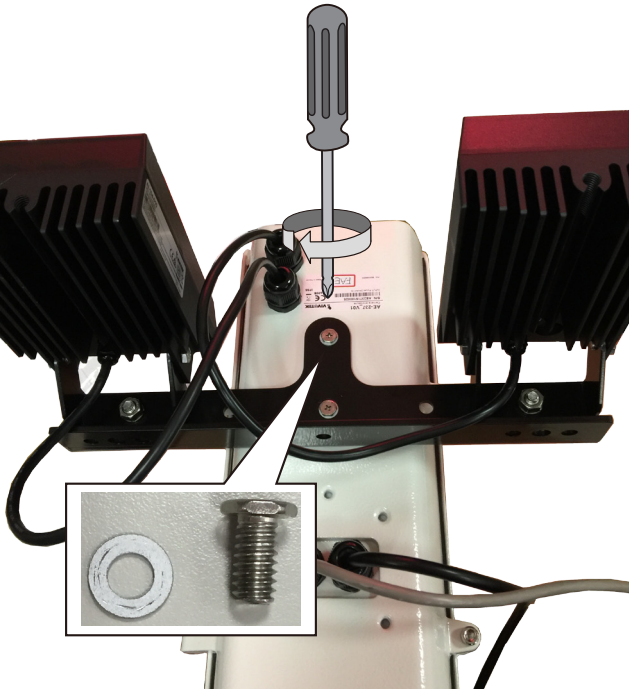
17. Mount the enclosure on to the installed bracket, and secure the connection by tightening the 4 socket screws. Due to the weight of the enclosure (5.5kg), it is best to have two men mounting the enclosure.

18. Adjust zoom and focus and open a web session with the camera to tune for the best image. When zoom and focus is done, Close the top cover and fasten the top cover screws.

19. Close the top cover of the enclosure, tighten the screws,and secure another screw to the IR bracket.

20. Firmware configurable options:

Open a web session with the camera. Make sure that external IR is turned on in the night mode, and that the IR cut filter option is synchronized with the digital input you connected (default is DI1).

Use the Media > Focus function to tune for a best image focus on your target area.

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In the Configuration > Media > Image settings page, select an application scenario, LPC street or LPC parking lot. Related parameters, such as shutter time, will be automatically change for the scenario.

Electronic image stabilizer

☐ Enable electronic image stabilizer

Scene mode

☑ Enable scene mode

Mode: | LPC-street
        | LPC-parking lot

| Profile | Restore | Save |

When the LPC-street is enabled, the following functionality will be limited.
WDR Pro will be disabled.
Measurement window will be full.
Exposure mode will be manual.

If preferred, e.g., shooting fast moving vehicles, select the 60fps frame rate.

Media > Video

System	**Mode**	Stream
Media	
Image	⦿ Dual Stream (Max. 30fps)
Video	○ Video Rotation (Max. 30fps)
Audio	○ Single Stream (Max. 60fps)
Network	
Security	
PTZ	
Event	
Applications	
Recording	
Local storage	

In the night mode, check if the input signals are correctly detected. You may simulate the night mode by blocking the IR unit's light sensor. Change the triggering parameters when necessary.

If your target area is a stretched out field of view, such as shooting a part of a highway, finding the best focus can be a problem. You can use the Snapshot Focus utility to make sure you acquire clear images of the license plates of passing vehicles.

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Operation Procedure:

1. Press the Snapshot Recording button, e.g.,

   when a car is passing the field of view. A short, 2.5 seconds of video recording will be available (including 1 second of pre-recording and another second of post-recording).

2. The recording takes place on Stream 1 with a focusing result calculated from the full of the

   current field of view.

3. The Snapshot Focus comes with an embedded Quick time player. Users can review the current focusing results on a viewing window. Users can also use **the left arrow key** on their keyboard to go through the recording in a frame-by-frame manner (after the video is played once).

   In this way, an installer can immediately examine whether the focus is optimal when a fast going car is captured by video. If not, he can tune the focus again and review the imaging result until satisfied.

4. Users can also download the short recording clip to a PC. Note that if the Snapshot Focus page is refreshed or the web session is closed, the recording will be erased.

   Note that you can use the arrow buttons on the sides of the Focus tuning bar to find the best focus.