

IZ600SP4G Installation Guide

4G Solar-powered AI Camera



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1. Related Documents and Software

Table 1. Related Documents and Software

Doc. No.	Title
IZ600SP4G-REV-x-TDSHEET	IZ600SP4G Technical Data Sheet
End User Agreement	Inex Technologies End User Agreement
NDAA-NB-COC-001	NDAA Section 889 Certification of Compliance

2. Training and Support

2.1. Training

This document does not take the place of training by Inex Technologies' certified specialists. Contact Inex Technologies to schedule training.

2.2. Support

If you have any questions, please contact our support team via our [Inex Technologies Website](#).

3. Checklist

- ✓ Prepare components and tools
- ✓ Plan your installation
- ✓ Install the pole
- ✓ Prepare the camera
- ✓ Prepare the solar panel
- ✓ Install the solar panel
- ✓ Install the camera
- ✓ Power up the camera
- ✓ Connect components
- ✓ Camera configuration and calibration
- ✓ Verify system operation

4. Prepare Components and Tools

4.1. Package Contents

Carefully unpack the contents of the camera package.

i NOTE

If any parts are missing or damaged, please contact Inex Technologies.

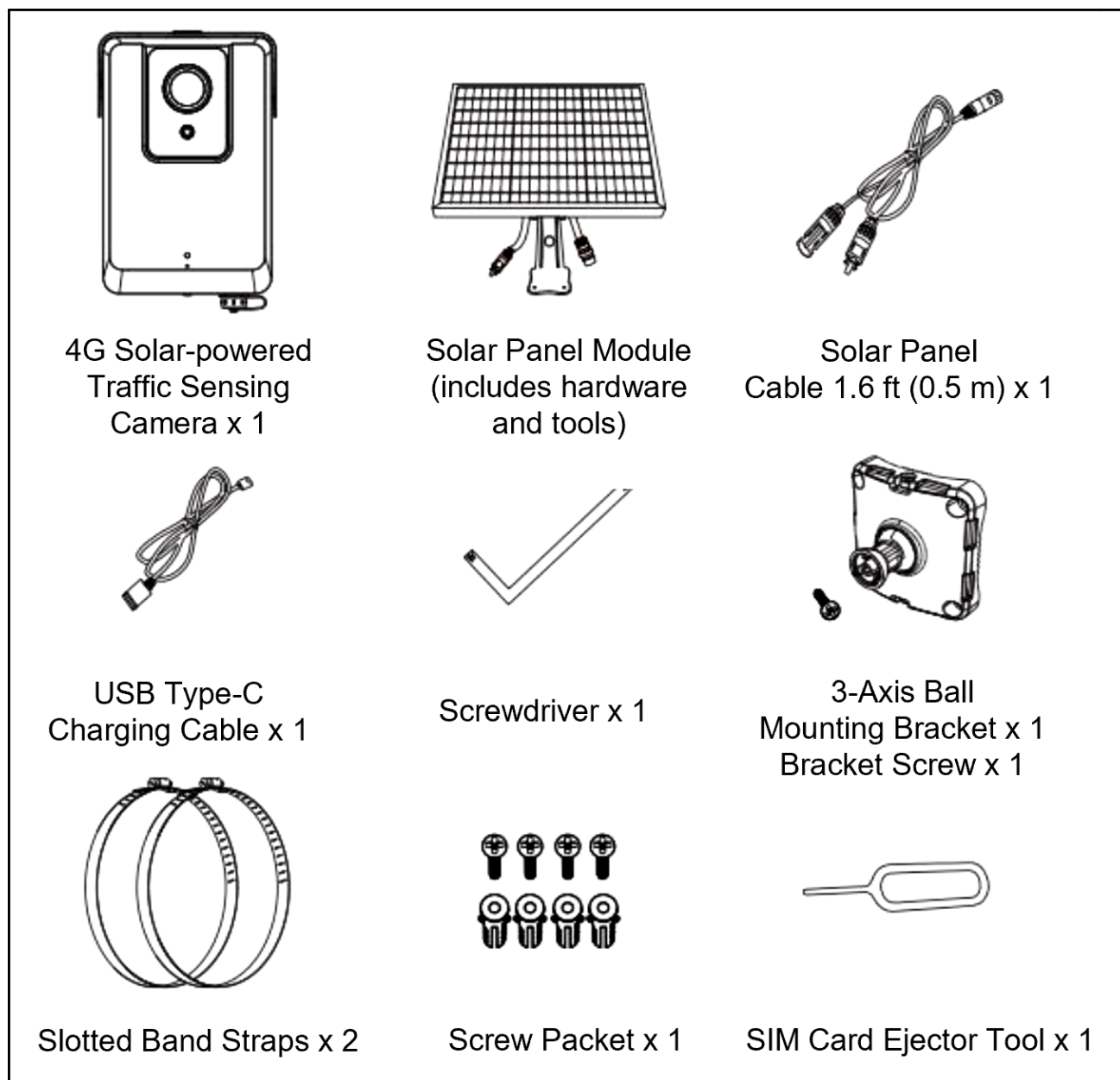


Figure 1. Package Contents

4.2. Required Accessories

- A device for configuration - laptop with a browser or smartphone (configuration is typically done by Inex).

If the laptop will be used outdoors, the screen must be able to be seen in strong sunlight.

- A mini-SIM card for wireless communication (according to your local provider's requirements)
- A MicroSD/SDHC/SDXC SD card for data storage (maximum 256 GB recommended)
- A ladder approximately 10 ft (3 m) high
- A vehicle with a typical rear-mounted license plate for checking images

4.3. Optional Accessories

- (Optional) A smartphone app to help you determine the best solar panel orientation - for maximum charging efficiency (see Section 5.4). Possible apps are:
 -  Lumos (for iOS)
 -  Sun Position (for Android)

5. Plan Your Installation

5.1. Camera Orientation

- Determine the camera's position and orientation for capturing rear-mounted vehicle plates.

5.2. Installation Heights

The camera and solar panel should be able to be mounted using the following recommended spacing and heights.

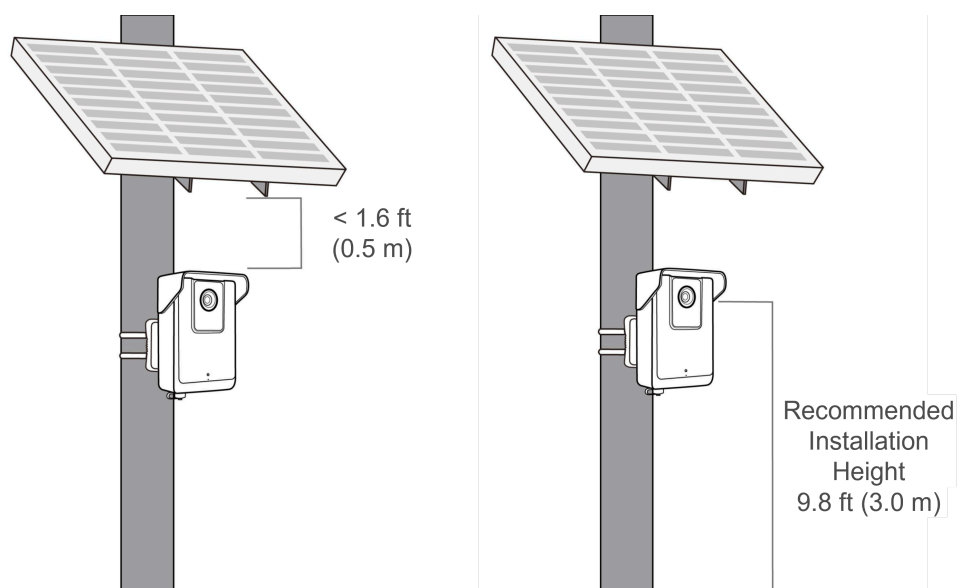


Figure 2. Camera/Solar Panel Spacing and Heights

5.3. Angles and Distances

i NOTE

The angles and distances in this section are provided as suggestions. Final adjustments should be made based on the actual image results during calibration (see Section 13).

- The camera should have a clear view of license plates at the following distances:
 - 6 mm lens (short capture distance) - 10-33 ft (3-10 m)
 - 16 mm lens (long capture distance) - 33-66 ft (10-20 m)
- For single lane coverage, approximately 1.5 to 2 car lengths should be visible in the field of view, with some buffer space both in front and behind the vehicles (see next listed items and Figures).



Figure 3. 1.5 to 2 Car Lengths Visible in Field of View

- For multiple lane coverage, try to evenly distribute the paths of the license plates over all the lanes (see next listed items and Figures).



Figure 4. Multiple Lane Coverage

- The smaller the angle between the direction the camera is pointing at, and where vehicles pass on the road, the better the IR illumination will be for nighttime capture. In the following example, angle "b" (preferred) is less than angle "a". For this reason, it is recommended to install the camera at road curves if possible.

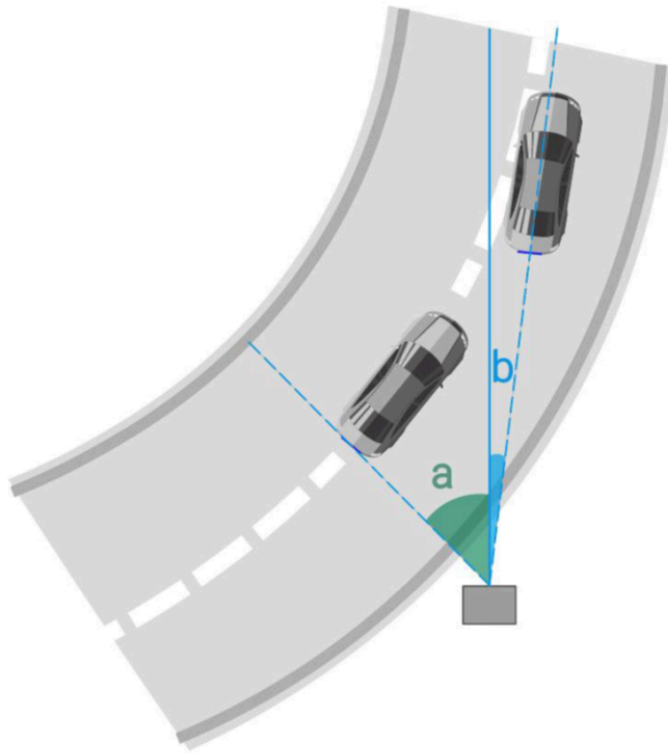


Figure 5. Camera Installation Angles on a Curve

- For multiple lanes, "A" is the angle between the camera's direction and the road, and "L" is the distance from the camera to the outermost lane:

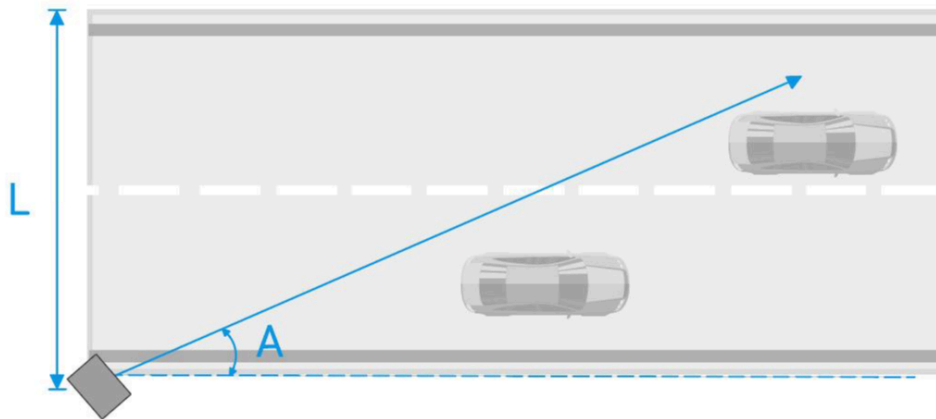


Figure 6. Camera Angles and Distances for Multiple Lanes

- 6 mm lens (short capture distance):
 - Angle "A" at 15-25 degrees (25 degrees maximum)
 - Distance "L" ≤ 26 ft (8 m)
- 16 mm lens (long capture distance):
 - Angle "A" at 14 degrees (30 degrees maximum)
 - Distance "L" ≤ 26 ft (8 m)
- Tilt (vertical angle): The camera should be tilted downward (see Figure 22 in Section 10), where "T" represents the tilt angle, and "C" is the optimal capture distance range:

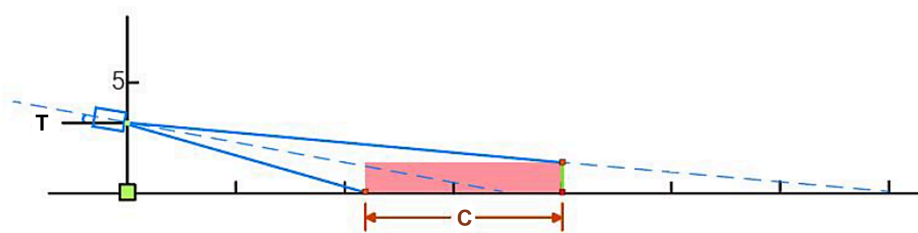


Figure 7. Tilt Angle and Capture Distance Range

- 6 mm lens (short capture distance):
 - Angle "T" at 15-25 degrees (25 degrees maximum)
 - Distance "C" 10-33 ft (3-10 m)
- 16 mm lens (long capture distance):
 - Angle "T" at 10 degrees (15 degrees maximum)
 - Distance "C" 33-66 ft (10-20 m)

5.4. Ample/Maximum Sunlight for the Solar Panel

- When mounted on the pole, the solar panel must receive ample sunlight without obstruction from trees or buildings. Obstructions can affect the solar panel's charging efficiency.

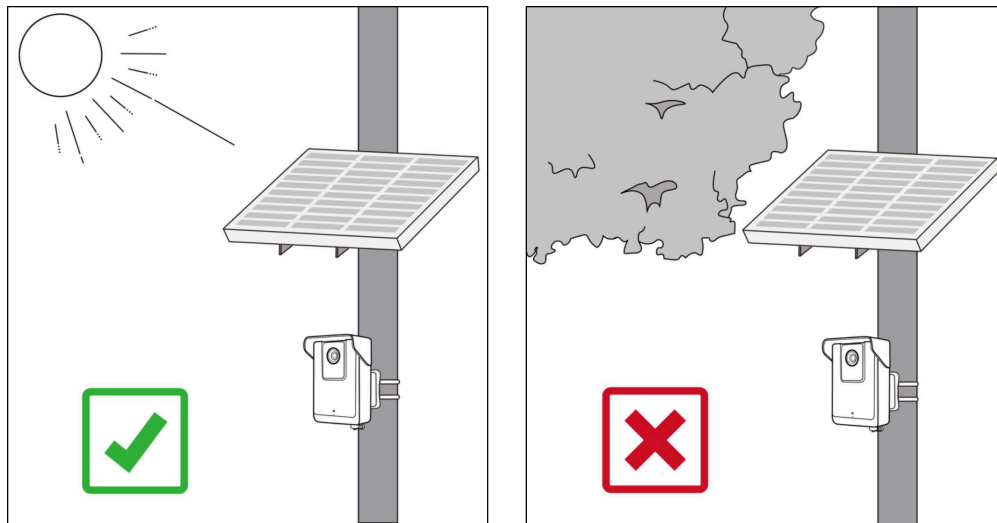


Figure 8. Unobstructed Sunlight for Solar Panel

- The panel must be oriented to receive the most possible sunlight from 10 A.M. to 6 P.M. This will maximize charging efficiency. (You can use a smartphone app to help you determine the best solar panel orientation; see Section 4.3).

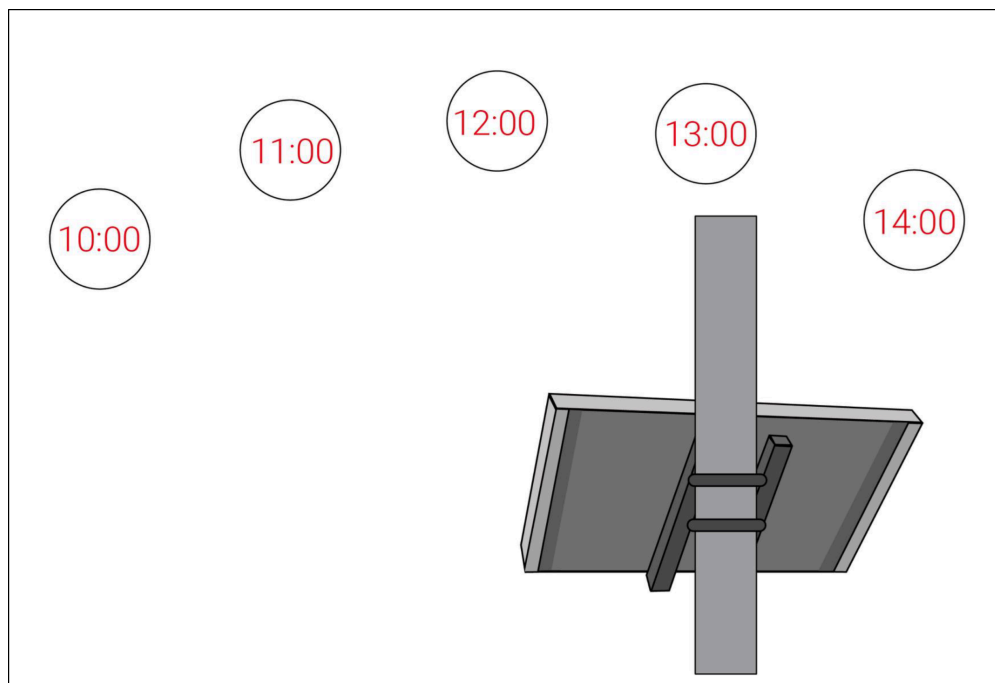


Figure 9. Solar Panel Position for Maximum Sunlight

5.5. Position of the Sun in Relation to the Camera

The camera should not be positioned so that the rays of the sun behind the camera shine along the line of sight from the camera to the plate. Reflective plates will cause severe glare to be reflected back to the camera, obscuring the image of the plate's characters.

The camera is typically mounted under the solar panel, whose shadow may shield it from this direct rear sunlight (see Section 5.2). However, if this is not the case, you may need to re-orient the camera and solar panel.

5.6. Additional Installation Considerations

Table 2. Additional Installation Considerations

Item	Considerations
Rear Capture	• Country requirements • Vehicle types • Protruding parts that obscure plates (such as rear hooks) • Recessed plates
Objects with character-like appearances (interpreted as characters on a plate, resulting in false reads); avoid having these items in the camera's field of view	• Fences with patterns • Barriers • Signs
Obstructions (blocking FOV)	• Entry gates • Trees and bushes (even before fully grown) • Bright light (sun/artificial) shining directly into camera's lens or anywhere within the camera's field of view. • Reflective surfaces too close to camera lens • Weather - snow, heavy rain, dust storms • Dirt on lens

6. Install the Pole

After selecting a location for the camera and solar panel based on the considerations in the previous sections, arrange for a pole to be installed.

Verify that the installed pole is:

- In the correct location, and high enough to fulfill your site's requirements for camera and solar panel placement
- Clean of impurities or rust
- Sturdy enough to bear the weight of the camera and solar panel
- Stable enough not to vibrate during windy or stormy conditions, or due to ground vibration from vehicles on the adjacent road

7. Prepare the Camera

1. Remove the camera and screwdriver from the package.



Figure 10. Camera and Screwdriver

2. Remove the screws holding the interface panel cover in place.



Figure 11. Removing the Interface Panel Cover

3. When the interface panel is exposed:

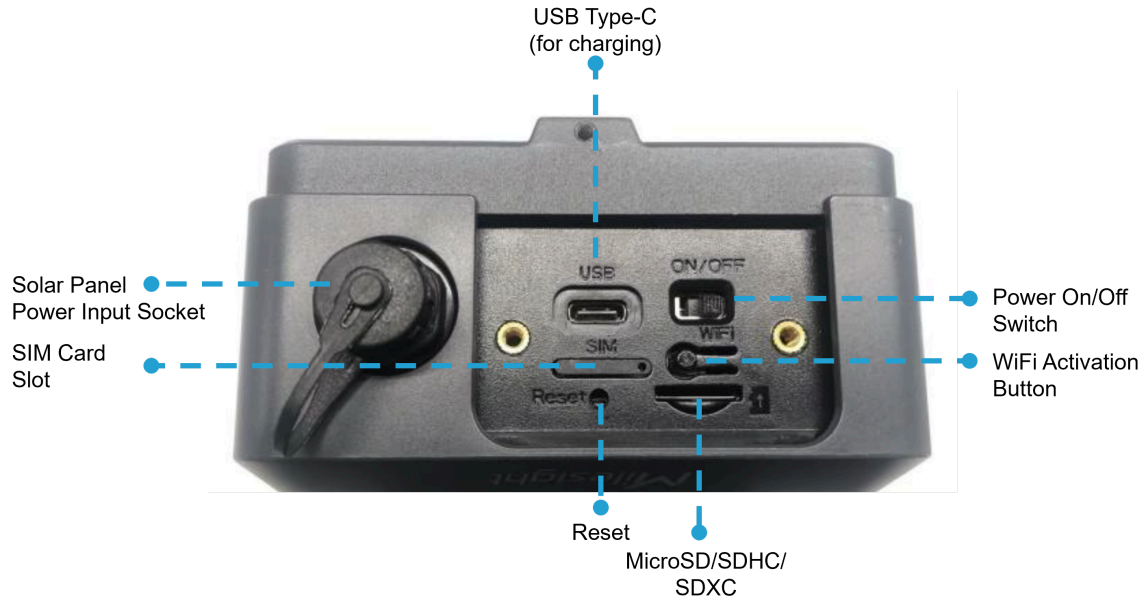


Figure 12. Interface Panel Elements

- a. Use the SIM card ejector tool to eject the SIM card tray. Insert the SIM card.
 - b. Insert the SD card.
4. Use the SIM card ejector tool to move the ON/OFF switch to the ON position.
- The indicator light on the front of the camera should flash green, then stay on. This indicates that the WiFi is on.
 - If the indicator light on the front of the camera turns red, you will need to charge the internal battery first using the the Type C USB cable provided. A full charge typically takes 7.5-8.5 hours.
5. If you will be installing the camera in the next few hours, long-press the WiFi button. This puts the camera into sleep mode to conserve energy until it is installed. Otherwise, turn off the camera.

NOTE

To perform a hardware restart/reset:

- To restart the camera, use a thin item (such as the pin of the SIM card ejector tool) to press the Reset button for about 1 second.
- To reset the camera, long-press the Reset button (for about 8 seconds or less) until the indicator light steadily red ("on"), then release the button.

6. Replace the interface panel cover with the screws you removed (see Figure 11).

7. Remove the screw that attaches the back panel to the camera. Slide the back panel to align the 4 mounting screws with the larger mounting holes in the back panel, and remove the panel.

NOTE

Put the screw and back panel aside in a safe place for use in later installation steps.



Figure 13. Removing the Back Panel

8. Take the 3-axis ball bracket out of the package. Be sure that the adjustment screws are slightly tightened (see Figure 14). This will keep the back panel stable when sliding the camera back on to the bracket (see Figure 20 in Section 10).



Figure 14. Ball Bracket Adjustment Screws

- Align the three holes around the back panel's center with the corresponding three pins on the ball bracket, then use the bracket screw provided to secure the back panel to the bracket.

i NOTE

Be sure the protruding flange at the bottom of the back panel (the part previously secured by the screw) is facing away from the ball bracket.



Figure 15. Aligning Back Panel with Bracket Pins

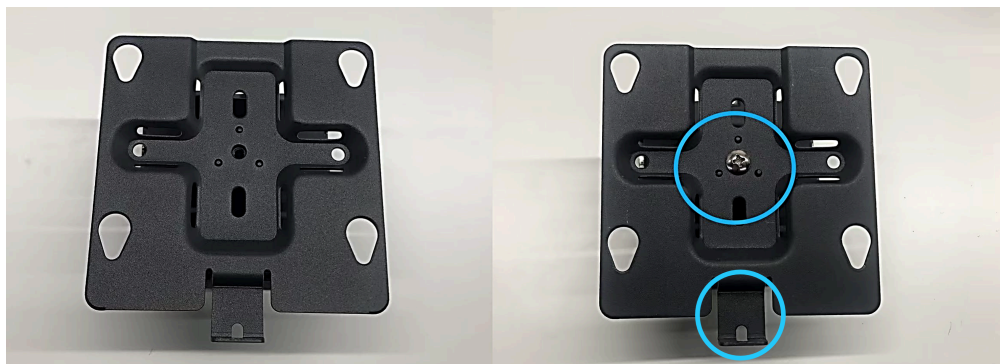


Figure 16. Attaching Back Panel to Bracket

8. Prepare the Solar Panel

1. Unpack the solar panel and associated hardware
2. Assemble the solar panel bracket by lifting it upward as shown in the following Figure. Use the screws and hex wrench to secure both ends of the bracket in place.

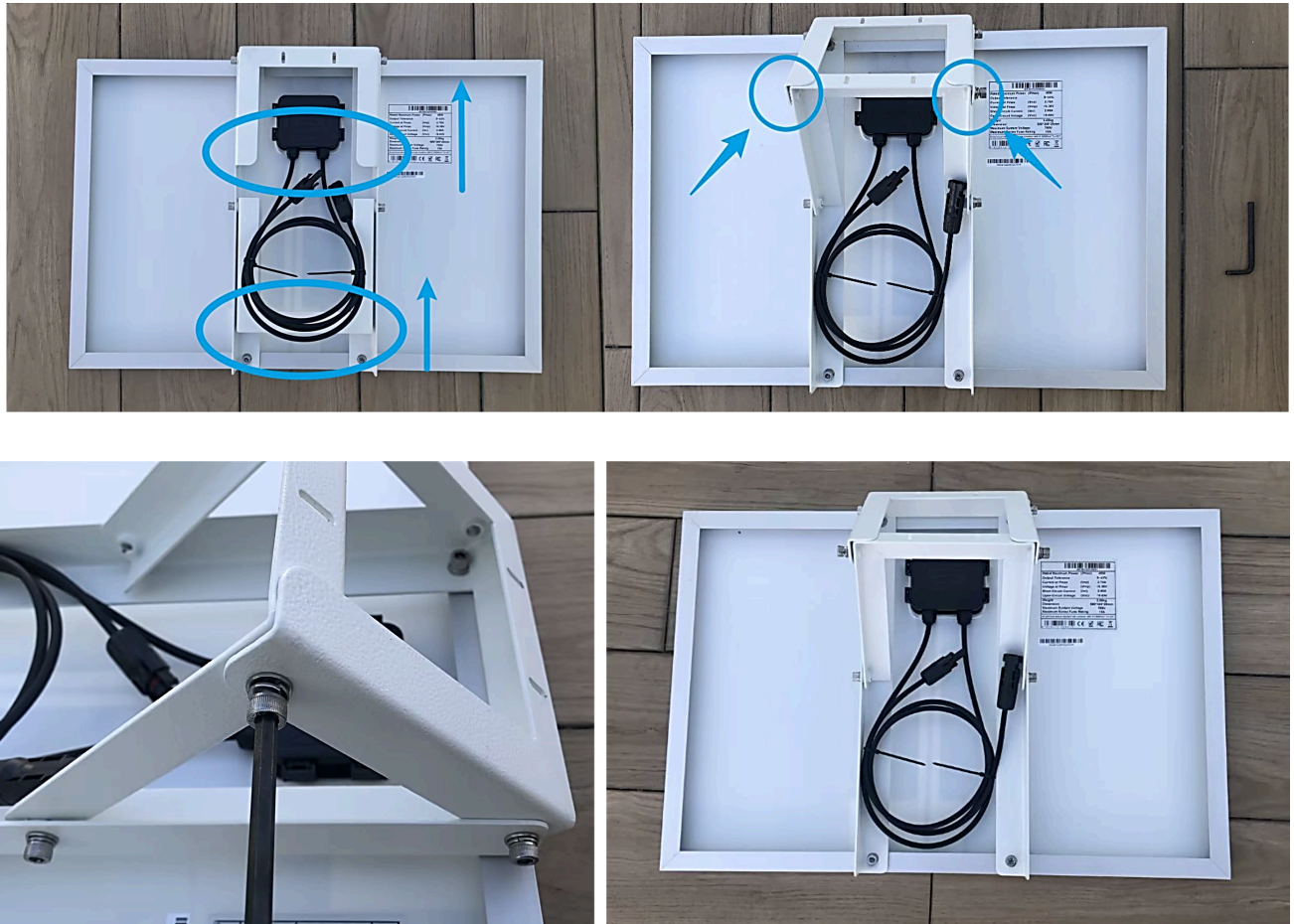


Figure 17. Assembling the Solar Panel Bracket

9. Install the Solar Panel

1. Thread slotted bands through the slots in the solar panel bracket.
2. Place the solar panel at the desired height and position (see Section 5). Wrap the bands around the pole, and tighten them.



Figure 18. Attaching the Solar Panel to a Pole with Bands

10. Install the Camera

i NOTE

If the camera will be configured immediately, you may want to power up the camera (see Section 11) before mounting it on the pole.

1. Thread the slotted bands (provided with the camera) through the slots in the 3-axis ball bracket.
2. Place the bracket at the desired height and horizontal position towards the road (see Section 5) and tighten the bands.
 - Be sure the protruding flange at the bottom of the back panel (the part previously secured to the camera by a screw) is facing out, pointing away from the ball bracket.
 - Be sure that the adjustment screws (see Figure 14 in Section 7) are accessible from the top and bottom of the bracket.



Figure 19. Bracket Attached to Pole

3. Align the camera with the back panel's four mounting holes, and hang the camera on the back panel.



Figure 20. Hanging Camera on Back Panel/Bracket

4. Reattach the screw that fixes the camera to the flange of the back panel.



Figure 21. Reattaching Camera to Back Panel

5. Loosen both bracket adjustment screws to adjust the pan/tilt/roll of the camera. Make a preliminary tightening of one of the screws.

i NOTE

Make adjustments according to your site's requirements (see Section 5).

Adjustments should be treated as temporary until final configuration and calibration are complete (see Section 13).

Tightening either screw will fix the bracket position in place. For maximum stability, it is recommended to tighten both screws when the position is finalized.



Figure 22. Preliminary 3-Axis Adjustment

11. Power Up the Camera

1. Take the screwdriver and SIM card ejector tool with you before you mount the ladder to work on the camera and cables.
2. Remove the interface panel cover with the screwdriver (see Figure 11 in Section 7).
3. Power up the camera:
 - a. If the camera was put into sleep mode (see Section 7), press the Wifi button to re-enable the WiFi. The indicator light on the front of the camera should flash green, then stay on. This indicates that the WiFi is on.
 - b. If the camera was off, use the SIM card ejector tool to move the ON/OFF switch to the ON position.

12. Connect Components (Wiring)

1. Unscrew the cap protecting the solar panel charging input socket (see Figure 12 in Section 7).
2. Connect the single-wire end of the solar panel cable to the input socket and screw firmly in place.
3. Connect each of the double-wire ends of the solar panel cable to the power cables attached to the solar panel. Match male to female connectors, and screw firmly.



Figure 23. Connecting Camera-to-Solar-Panel Wires

13. Camera Configuration and Calibration/Positioning

Configuration is typically done for you by Inex.

You may be asked to assist in calibration by moving a vehicle into the capture area. (This is the position at which the camera's radar sensor should signal that a vehicle is present.)

To aim the camera, loosen the adjustment screws. Use the 3-axis bracket to adjust the pan/tilt/roll as needed (see Figure 22 in Section 10).

i NOTE

Tightening either screw will fix the bracket position in place. For maximum stability, it is recommended to tighten both screws when the position is finalized.

13.1. Correct Installation Illustrations

- Single-lane Coverage:



Figure 24. Single-lane Coverage - Typical Correct Installation Image

- Multiple-lane Coverage:



Figure 25. Multiple-lane Coverage - Typical Correct Installation Image

13.2. Incorrect Installation Illustrations

- The angle between the camera and the road is too large:



Figure 26. Angle Between Camera and Road - Too Large

- The distance covered in the field of view is less than 1.5-2 car lengths:



Figure 27. Distance Covered in Field of View - Less Than 1.5-2 Car Lengths

- The distance covered in the field of view is greater than 1.5-2 car lengths:



Figure 28. Distance Covered in Field of View - Greater Than 1.5-2 Car Lengths

- The camera's height is too low:



Figure 29. Camera's Height Too Low

- Characters appear in the field of view, and the camera is facing toward the front of the vehicle (instead of the rear):



Figure 30. Characters in Field of View/Camera Facing Vehicle Front

14. Verify System Operation

Verify that the license plates are being read correctly.

15. Maintenance

15.1. Checking Mounting and Adjustment Screws

It is recommended to check all mounting and adjustment screws for proper tightness once every two years.

15.2. Cleaning the Camera

Do not use solvents or strong abrasive detergent when cleaning the camera. Use a soft dry cloth to clean the camera's front lens glass when it is dirty. If the dirt has hardened, remove it using mild soap and water, and then wipe the glass gently.

16. Notices

16.1. Inex Technologies End User Agreement

Be sure to read the following document that explains important information about your agreement with Inex. [Inex Technologies End User Agreement](#)

16.2. Safety Precautions

CAUTION

WHEN INSTALLING THE UNIT IN YOUR SYSTEM, BEWARE OF RISK OF ELECTRICAL SHOCK.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

IMPORTANT

This product must be used in compliance with local laws and regulations.
All network cable extensions and repeaters must be shielded.
Power undervoltage, overvoltage and/or incorrect polarity will damage the unit and will void the warranty.

- Read this guide carefully before installation, and keep it for future reference.
- Do not disassemble the camera or external illuminator units. Repair or replacement of parts for this camera and its external illuminator units should be supplied by Inex Technologies, and installed by qualified service personnel.
- Handle and store the camera and external illuminator units with care.
- You must provide adequate protection to prevent water (e.g. rain) from entering the camera.
- Do not use the camera or external illuminator units outside of their temperature, humidity and power source ratings as noted in their respective technical specifications.
- To avoid heat accumulation/overheating, use sufficient ventilation in the unit's operating environment.
- It is your responsibility to ensure that all wires connected to Inex Technologies' products have appropriate surge protection. Any damage due to electrical spikes (for example, lightning) is not covered by the warranty.
- Do not connect several devices to one power adapter since adapter overload may cause overheating or a fire hazard.
- Stop using the unit immediately if it emits smoke, or if you notice an abnormal smell or sound. In such cases, please contact us. Do not attempt to repair the unit by yourself!

16.3. Regulatory Notices

-  **FCC Conformance:**

This device complies with Part 15B 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.

-    **EU/AUS/NZ Conformity Statements:**

This product and - if applicable, the supplied accessories - comply with CE-EMC (EN 55032, EN 55035), CE-ROHS (Directive (EU) 2015/863 amending 2011/65/EU), and RCM (AS/NZS CISPR 32).

-  **IP66 Ingress Protection:**

This product conforms to the IP66 standard.

16.4. Documentation Notices

Inex Technologies reserves the right to improve and enhance its product offerings. Thus, the illustrations and descriptions presented in this manual may differ in some respect from the products you receive.

Technical specifications are subject to change without notice.

In addition, please note that some figures are not drawn to scale, in order to illustrate the addressed issue more effectively.

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17. Document Change History

Date	Change
2026-08-12	Initial version

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